

PRESERVERS OF NATURE

Protecting Natural Areas in the North Okanagan



North Okanagan Naturalists' Club
May 2020



This report was written in May 2020 on behalf of the North Okanagan Naturalists' Club with the goal of informing local government of the objectives of the club and its members with respect to the preservation and protection of natural areas in the region.

The goal is to see more of our signature ecological and geographical areas protected, in a natural state, for perpetuity.

The report's author was Harold Sellers, Past-President and Director of the North Okanagan Naturalists' Club and member of the Greater Vernon Trails and Natural Spaces Advisory Committee.

COVER PHOTO: A view of Commonage lands.

TABLE OF CONTENTS

Page	
1	Executive Summary
2	Recommendations
3	Positional Statement
3	Purpose
4	Definitions
7	Natural Areas in the North Okanagan
10	Table 1: Alphabetical List of Natural Areas with Descriptions
21	Table 2: Other Properties Recommended for Status of Natural Area
24	Table 3: Natural Areas and Their Significant Natural Assets
33	Zoning
33	References
51	Natural Areas Opportunities

EXECUTIVE SUMMARY

The North Okanagan Naturalists' Club (NONC) envisions a robust network of natural areas as a key part of responsible land management and stewardship.

The Quality of Life Survey Results, a Report to Regional Growth Management Advisory Committee, 4 Nov 2013, revealed that citizens gave only a fair to good rating for the protection of our undisturbed and sensitive natural environment.

Working together we can give our citizens reason to feel better about this.

As this report shows, all municipal jurisdictions have made attempts, through publications such parks master plans, official community plans, and others, to describe specific properties as natural areas and even provide a definition of a natural area.

The recommendations made in this report centre upon two important facts: (1) current zoning bylaws and municipal policies do not adequately provide for natural area protection and (2) there is no consistent definition and description of “natural area”, for all municipal jurisdictions in the North Okanagan.

A key component to that definition concerns the management of natural areas. This is a foundational purpose behind this report.

North Okanagan municipalities are lacking legal means to ensure a property can be protected to the degree advocated in their own policies and reports.

Natural areas in the North Okanagan are treated similar to parks, permitting a great range of community and recreational uses, to the detriment of the natural area as a preserver of nature. The inadequacies of municipal management can be seen by a review of existing zoning bylaws (page 33).

The North Okanagan Naturalists' Club is committed to working with our municipal partners in the North Okanagan to find a path to strong environmental management and stewardship for generations to come.

RECOMMENDATIONS

The North Okanagan Naturalists' Club believes there is an urgent need and current opportunity to revitalize and accelerate natural area protection, building on existing efforts and assembling a network of natural areas before opportunities are lost.

NONC therefore makes the following recommendations to all municipalities in the North Okanagan.

- in consultation with stakeholders, determine the objectives for a “natural area” designation
- create a single definition and description of “natural area”
- update zoning bylaws to provide for natural area protection
- update the regional Natural Areas inventory
- protect large areas in provincially and regionally important ecosystems
- set goals for lands to be protected for ecological and geological purposes, with targets in hectares as well as number of properties in each municipal jurisdiction
- identify current properties and areas that should receive protection
- identify properties and areas for future designation, through acquisition or covenants
- institute a volunteer warden program, similar to the Ecological Reserves Wardens program of BC Parks
- expand the review of natural areas beyond Greater Vernon (City of Vernon, District of Coldstream, Electoral Areas B & C) to other jurisdictions

POSITIONAL STATEMENT

Having an area designated as a Natural Area provides the best opportunity for it being protected in its natural state. That designation should be supported by a clear definition and strong management.

PURPOSE

The purpose for writing this report was to encourage a more dedicated, consistent and organized effort, by all municipal jurisdictions, to protect natural areas within the North Okanagan.

The report reviews definitions used, site and property lists, tools and methods available for protection, and recommendations made, in a number of publications and documents produced by local municipalities, the province and environmental organizations within recent decades.

The report looks at each natural area and suggests the natural features to be protected for each.

The North Okanagan Naturalists' Club believes that the natural areas of our region have not been adequately protected to conserve the ecosystems and landscapes that are valued by residents and visitors alike. In short, our actions have not matched our words.



The Coldstream Valley Range, with its south-facing grassland slopes, has no significant protected natural areas.

DEFINITIONS

Natural Areas might also be referred to as Natural Spaces or Open Spaces.

The following are some definitional statements extracted from various local publications.

Greater Vernon Natural Area/Features Inventory, November 1993

Natural areas and features are described as areas, which:

- provide habitat for a diversity of wildlife;
- have rare plant or animal species, or habitats,
- have unique landforms or geology, and/or
- represent elements of the natural Okanagan landscape.

Keeping Nature in Our Future

A Biodiversity Conservation Strategy for the Okanagan Region, 2014

Sensitive ecosystems refer to natural areas that are relatively unmodified, ecologically fragile, and/or recognized as being at risk in the provincial landscape, due to their limited natural occurrence, combined with loss or degradation from human activities.

RDNO Sub-regional Open Space and Trails Policy, 2018

A sub-regional open space is generally of a size and function between a municipal park and a provincial park and provide green space in urban, suburban and rural settings. Sub-regional open spaces protect regionally important natural areas for conservation, nature appreciation, and outdoor nature-based recreation.

Development Guidelines and Standard Specifications Landscape Construction, Greater Vernon Area, Regional District of North Okanagan July 2013

Natural Areas have been acquired by the GVPRC to protect environmentally significant areas and features in the form of environmental reserves as well as, where appropriate, to provide outdoor recreation opportunities. The natural areas include ponds, wetlands, riparian and forested areas, prominent slopes, and other natural features.

The Commonage is a very large area south of Vernon. Still mostly ranch lands and large private holdings. Despite its size, important history to the region and its acknowledged value as Okanagan grassland eco-system, it has surprisingly few natural areas that might be considered somewhat protected. The list is short: Rose's Pond, Allan Brooks Nature Centre and Carlson Park (Plantation Forest).

Regional Growth Strategy, 2011

...some of our most vulnerable ecosystems, our hillsides and our viewsapes...
...protection of ecological features and corridors, including floodplains, shorelines, stream and river systems, aquifers, wetlands and forested watersheds...

City of Vernon Parks Master Plan, 2015

The main purpose of Natural Area parks is to protect and preserve critical habitats while connecting Vernon residents to nature.

District of Coldstream Parks Master Plan, 2016

Open Space consisting of natural, undisturbed landscape set aside for the purpose of preservation or conservation of natural resources, natural features or scenic/aesthetic values.

This classification may include: native vegetation, geological landforms, historic/cultural sites, water bodies/wetlands/riparian areas, wildlife habitat, hillside slopes, ridgelines & view sheds, scenic buffer areas, agricultural & rangelands, trails.

Sensitive Ecosystem Inventory (SEI), Coldstream-Vernon, Volume 1, 2008

A systematic plan for prioritization and protection, and stewardship of local sensitive and other important ecosystems should be developed.

Recognizing and protecting environmentally sensitive areas early in the community planning process provides the best chance of protecting environmental values.

Management Recommendations

Avoid Direct and Indirect Impacts

- Manage access. All motorized vehicles should be restricted to existing roads. Mountain bikes should be restricted to existing or carefully planned trails that are free of invasive plants, and not subject to erosion; otherwise, these trails should be closed until invasive plant problems have been controlled. Trails can create erosion problems, disturb fragile vegetation, and spread or introduce invasive alien species. Existing trails with erosion problems need to be rehabilitated and restored.

Online research in the preparation of this report revealed this definition from the City of Edmonton. It could provide a model for the North Okanagan.

"We define a natural area as an area of land and/or water especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.

Areas such as groomed parks, recreational areas for sports, and schoolyards are not included in this definition.” (City of Edmonton)



Middleton Mountain has a natural area on the summit as well as McGergow Meadows and Mud Lake on the west slope. However, the slopes are quickly being developed, dramatically changing the appearance and appeal this well-known natural landmark.

NATURAL AREAS IN THE NORTH OKANAGAN

According to the varying definitions and classifications for natural areas, the following are lists of such areas and properties in the North Okanagan, as documented in the referenced publications.

Greater Vernon Natural Area/Features Inventory, November 1993

Thirty-two sites were documented in this inventory:

Abbott Creek Woodland
Adventure Bay Bluffs
Bella Vista Range
Black Rock
BX Creek
Coldstream Creek
Commonage
Cools Pond
Deep Lake/Devils Gorge
East Vernon Road Seepage
Glacial Erratic
Goose Lake and Range
Grey Canal Road
Hartnell Lane
Herry Road Ravine
Irish Creek
Middleton Mountain
North Arm, Okanagan Lake
O'Keefe Pond
Pottery Road Ravines
Silver Star Foothills
Swan Lake
Tillicum North Face
Turtle Mountain
Vernon Arm, Okanagan Lake
Vernon Creek
Vernon Creek Escarpment
Vernon Heronry
West Kalamalka Slopes
Wildwood Gully

Coldstream Creek is an important kokanee spawning stream, but there are very few natural areas along its course. Restrictive covenants exist on one or two private properties, but otherwise there is only the Coldstream Cemetery property.

RDNO considers the current inventory under the *Sub-regional Open Space and Trails Policy*, to be:

Swan Lake Nature Reserve, Ranchlands Open Space, Crane Road Open Space, Goose Lake Range, Rocky Ridge Open Space, BX Ranchlands Trail, and Middleton Mountain Open Space (i.e. Farnsworth Nature Reserve)

Development Guidelines and Standard Specifications Landscape Construction, Greater Vernon Area, Regional District of North Okanagan July 2013

11 parcels of land are classified as natural areas, and these are generally small for this type of land. Some examples are Becker Park, Black Rock, CEC Young, Cools Pond, McKergow Meadows, and Webster Park.

City of Vernon Master Parks Plan

In the Plan the following are listed as Natural Areas:

33 Avenue Creek (Vernon Creek)
Airport Lands
Becker Park
Bella Vista, Lot A Lot 11, 3097 Davison Rd
BX Creek (under RDNO)
CEC Young
Clerke Nature Reserve
FB Jacques Park
Foothills Hitchcock Road Park
Foothills Ravines/Park
Grahame Park
Grey Canal Trail (under RDNO)
Kimura Tot Lot/Pottery Ravine Park, 1604 18 Ave.
Kokanee Rd NE, 9235 Kokanee Rd.
Kokanee Rd SW, 9312 Kokanee Rd.
Laker's Clubhouse and property
Waterfront Trail Park, Lot 4 Plan KAP58651
Marshall Wetlands
Mt. Grady Park
North Vernon Park
Pleasant Valley Rd.
Rocky Ridge Park (under RDNO)
Tavistock Property, 9010 Tronson Rd.
Park at 851 Mt. Ida Dr.
Vernon Creek, Fulton rd.
Anderson Ranch Property, 5975 Lefoy Rd.

Birdie Lake, Predator Ridge
Crest Park, Predator Ridge
Rise Park, Predator Ridge
The Rise
Village Meadows, Predator Ridge
Vista View, Falcon Point Way, Predator Ridge

Electoral Areas B and C OCP, 2014

Pottery Road Ravines;
Black Rock;
East Vernon Road Wetland (seepage) near BX Ranch;
Portions of Bate and Brookside Creeks above Dixon Dam Road;
Wildwood Gully upslope from Hitchcock Road;
Abbott Creek Woodlands from Rogers Road eastward;
Cools Pond;
Herry Road Ravine east of Pleasant Valley Road;
Rose's Pond;
Commonage Grasslands; particularly the slopes overlooking the west shore of Kalamalka Lake;
Thompson [sic] (Thomson) Lake; and
All wetlands not covered by Riparian Areas Regulation.

District of Coldstream Parks Master Plan, 2016

Aberdeen *
Braeburn South & West
Grey Canal Trail **
Glacial Erratic Rock
Jestef Parkland *
McKergow Meadows
Mud Lake
Ranchlands **
Ravine Drive
Upland Heights
Webster
Whisper Ridge

* re-designated as Neighbourhood Park

** transferred to Regional District

TABLE 1: Alphabetical List of Natural Areas (as listed above) with Descriptions

The following properties have been described as “Natural Area” in at least one of the publications listed above.

Natural Area Name	Location & Description	Protection Value
33 Avenue Creek	City of Vernon park, 33 Ave west of 34 St, known as Hidden Park, BX Creek flows thru	nil
Aberdeen	Coldstream, designated as Neighbourhood Park, located at Hwy 6 and Ab reddon Rd, west of RDNO offices, includes ponds and marsh	Birds-Breeding & Migratory; Waterbody/ Wetland
Abbott Creek Woodland	Mid-elevation forest and creeks. Rogers Road area, off Silver Star Road, may be in area of Fairhaven Leadership Retreat Centre; private lands.	Forest; Riparian; Native Plants; Wildlife Habitat
Adventure Bay Bluffs	In City of Vernon. Hills and slopes located between the North and Vernon arms of Okanagan Lake. Grasslands, Ponderosa forest, rattlesnake habitat and other significant environmental importance. Adventure Bay residential neighbourhood has large P5 Private Park areas. Some hiking trails. Also see Tavistock site below.	Birds-Breeding & Migratory; Forests; Grassland; Hillsides & Steep Slopes; Native Plants; Wildlife Corridor; Wildlife Habitat
Airport Lands	Vernon Regional Airport	nil
Anderson Ranch	5975 Lefoy Road. Between Hwy 97 and Pleasant Valley Rd, south of Stickle Rd. Development underway. Hilltop on property will be a park.	unknown
Bate & Brookside Creeks	see Tillicum North Face	

Natural Area Name	Location & Description	Protection Value
Becker	Becker Park and Centennial Hill ridgeline. City of Vernon, main access from curling club parking lot off 39 Ave.	Wildlife Habitat; Native Plants; Hillsides & Slopes
Bella Vista	City of Vernon, 3097 Davison Road “Davison Rock”, rocky hill, on Bella Vista Rd west of Davison Orchard. City of Vernon leases to Davison Orchard for fruit growing on part of property. Zoned as agricultural land.	Plants; Hillsides & Slopes
Bella Vista Range	Range of hills from Adventure Bay to Stepping Stones Estates. Extensive and quality grasslands on south and southeast facing slopes.	Birds-Breeding & Migratory; Grassland; Hillsides & Steep Slopes; Native Plants; Wildlife Corridor; Wildlife Habitat
Birdie Lake	Predator Ridge, City of Vernon. Small lake with two ponds and surrounding marsh. Trail and observation platform. P5 Private Park designation, same as golf course.	Birds-Breeding & Migratory; Waterbody/ Wetland
Black Rock	Electoral Area C park at 721 35th Ave.	Hillsides & Slopes; Historic/Cultural
Braeburn South	Coldstream, Zoned Residential Estate 2 but includes Middleton Mountain trails.	unknown
Braeburn West	Coldstream, Zoned Residential Estate 2 but includes Middleton Mountain trails.	unknown

Natural Area Name	Location & Description	Protection Value
BX Creek	Originating at Silver Star Mountain and ending at Swan Lake, BX Creek passes through five biogeoclimatic zones. Important wildlife corridor and recreational area. BX Creek flows through other areas mentioned in this report, e.g. North Vernon Park, Swan Lake Nature Reserve. The section most likely intended for consideration would have been between the waterfalls at Tillicum Road and Pleasant Valley Road.	Birds - Breeding & Migratory; Forests; Geological Landforms; Native Plants; Riparian; Waterbody/ Wetland; Water Management; Wildlife Corridor; Wildlife Habitat
BX Ranch Lands Trail	Electoral Area C. RDNO-acquired BX Ranch, specifically the severed trail corridor on three sides of property. Currently trail construction is pending.	Wildlife Habitat; Wildlife Corridor; Wetland; Grassland
CEC Young	City of Vernon natural area at 3909 Argyle Ave., west of 39 St. Wetland and creekside on Vernon Creek. An undeveloped site.	Wildlife Habitat; Riparian; Wetland; Water Management
Clerke Nature Reserve	City of Vernon, 3497 Alexis Park Dr. Conservation covenant held by Nature Conservancy of North Okanagan (NCNO). Zoned as residential.	Plants; Hillsides & Slopes
Coldstream Creek	Coldstream Creek is an important kokanee spawning watercourse.	see Coldstream Cemetery, Table 2
Commonage Grasslands	A very large area, comprised of several privately owned properties and included water bodies such as Rose's Pond, Tompson Lake and MacKay Reservoir..	Grasslands; Wildlife Habitat; Wildlife Corridor; Birds - Breeding & Migratory; Native Plants; Waterbody/ Wetland; Hillsides & Slopes; Water Management; Historic/Cultural

Natural Area Name	Location & Description	Protection Value
Cools Pond	Electoral Area B, corner of L&A Road and Rimer Rd. Kettle pond, marsh and open field. Interpretive signage and observation area.	Wildlife Habitat; Birds - Breeding & Migratory; Waterbody/ Wetland
Crane Road	RDNO-acquired property on east shore of Swan Lake at north end of Crane Road. Former radio station site. Site development still pending.	Wildlife Habitat; Waterbody/ Wetland; Native Plants
Deep Lake/Devils Gorge	Small lake and wetlands, bounded by cliffs and steep slopes, in Coldstream Ranch property. Geography contributes to a particular micro-climate.	Geological Landforms; Hillsides & Steep Slopes; Wildlife Habitat; Wildlife Corridor; Native Plants; Forest; Riparian; Waterbody/ Wetland
East Vernon Road/East Vernon Road Seepages	Wetland and seepage area near BX Ranch, on East Vernon Road. Privately owned.	Wildlife Habitat; Waterbody/ Wetland; Native Plants
Farnsworth Nature Reserve	North half of Middleton Mountain parkland. Acquired from Farnsworth family. See Middleton Mountain below.	Wildlife Habitat; Birds - Breeding & Migratory; Grasslands; Native Plants; Hillsides & Slopes
FB Jacques	City of Vernon park. Rocky hill between Schubert Centre and Centennial Drive, west side of 35 St. Access was lost when Catherine Gardens residence was built.	Native Plants; Hillsides & Slopes
Foothills Ravines	Ravines in the Silver Star Foothills community. Some have pedestrian trails through them.	Wildlife Habitat; Wildlife Corridor; Native Plants; Hillsides & Slopes

Natural Area Name	Location & Description	Protection Value
Glacial Erratic Rock	Coldstream-owned property. Undeveloped. Accessed by laneway off Gray Road.	Geological Landforms; Native Plants
Goose Lake and Range	West side of lake is Indian Reserve. East side is privately owned. To the north a property was acquired between Goose Lake and Stepping Stones sub-division for future park and Grey Canal Trail development. No public access yet.	Wildlife Habitat; Wildlife Corridor; Native Plants; Hillsides & Slopes; Grasslands; Waterbody/ Wetland; Historic/ Cultural
Grahame	City of Vernon park area east of Fulton High School running from Vernon Creek to Okanagan Ave. Adjoins and forms part of the sports and athletic fields in Grahame Park.	Riparian; Waterbody/ Wetland; Wildlife Corridor; Wildlife Habitat
Grey Canal Road	no supporting documentation found	nil
Grey Canal Trail	Various sections in electoral areas and Coldstream. Managed by RDNO.	nil due to human activity in narrow corridors
Hartnell Lane	see Tillicum North Face	
Herry Road Gully	A forested gully or ditch parallel to Herry Rd as it runs east-west from its connection with Pleasant Valley Road. Ravine contains cottonwood trees and shrubs. Assumed to be partly private orchard property and partly road allowance.	Wildlife Habitat
Irish Creek	Originating west of Vernon and flowing into the North Arm of Okanagan Lake, the creek is an important riparian area, but also with significant forest and grassland areas.	Forest; Grasslands; Native Plants; Riparian; Waterbody/ Wetland; Wildlife Habitat; Wildlife Corridor
Kokanee Rd NE	9235 Kokanee Road Appears to be a residence. ???	unknown

Natural Area Name	Location & Description	Protection Value
Kokanee Rd SW	9312 Kokanee Road Private residence. ???	unknown
Lakers	Clubhouse and park. Includes ponds and wetlands which are designated to protect Spadefoot Toads.	Wildlife Habitat; Wildlife Corridor; Waterbody/ Wetland; Birds - Breeding & Migratory
Marshall Wetlands	Man-made wetlands between Okanagan Landing Road and sports fields. City of Vernon.	Water Management; Wildlife Habitat;Waterbody /Wetland
McGergow Meadows	Coldstream owned parkland. Between Middleton Way and Mt. Ida Drive. Includes trails.	Grasslands; Native Plants; Waterbody/ Wetlands; Birds - Breeding & Migratory; Hillsides & Slopes
Middleton Mountain	Hilltop park is managed by RDNO as a sub-regional park. Includes original south half and more recently added Farnsworth Nature Reserve. Walking trails and interpretive signage.	Wildlife Habitat; Birds - Breeding & Migratory; Grasslands; Native Plants; Hillsides & Slopes
Mt. Grady Road	City of Vernon park land. A small vegetated gully forming part of a natural corridor to/from Middleton Mountain parkland. Connects to Mt. Ida Drive natural space.	Wildlife Corridor; Wildlife Habitat
Mt. Ida Drive	City of Vernon park land. A small vegetated gully forming part of a natural corridor to/from Middleton Mountain parkland. Connects to Mt. Grady Road natural space.	Wildlife Corridor; Wildlife Habitat

Natural Area Name	Location & Description	Protection Value
Mud Lake	Part of McGergow Meadows.	Waterbody/ Wetlands; Birds - Breeding & Migratory
North Arm, Okanagan Lake	Shallowest section of Okanagan Lake. Important bird area. Extensive stands of Black Cottonwood trees.	Birds-Breeding & Migratory; Native Plants; Riparian; Waterbody/ Wetland; Wildlife Habitat
North Vernon	City of Vernon north of Deleenheer Rd and east of 20 St. Wetlands and BX Creek. Trail is part of RDNO-managed BX Creek Trail system.	Wildlife Habitat; Wildlife Corridor; Waterbody/ Wetland; Riparian; Water Management
O'Keefe Pond	Small kettle lake. Privately-owned. Also known as St. Anne's Pond. Located at Hwy 97 and St. Anne's Rd.	Birds - Breeding & Migratory; Wildlife Habitat; Waterbody/ Wetland
Park Crest	A park at Predator Ridge.	TBD
Park Rise	A park at Predator Ridge.	TBD
Pleasant Valley Road	might be same as Herry Road Ravine	TBD
Pottery Road Ravines	City of Vernon. Vegetated ravines from junction of Hwy 6 & Pottery Road to field east of 15 St. The ravine between Pottery Rd and 18 Ave. to the south is zoned Parks & Open Space and is undeveloped. Other ravines are in Rural Small Holdings zoning.	Wildlife Habitat

Natural Area Name	Location & Description	Protection Value
Ranchlands	In Coldstream, a sub-regional park managed by RDNO. Vernon hill slopes above Ravine Drive and Ranchlands Place. To east is rangeland used by Coldstream Ranch and to the north is Crown Land. Unsanctioned trails exist, but currently no recreational development approved.	Wildlife Habitat; Wildlife Corridor; Grasslands; Birds - Breeding & Migratory; Native Plants; Hillsides & Slopes
Ravine Drive	Coldstream owned park, adjacent to Ranchlands. Undeveloped.	Grasslands; Native Plants; Wildlife Habitat; Birds - Breeding & Migratory; Hillsides & Slopes
Rocky Ridge Park	On Turtle Mountain and in Vernon but managed as a sub-regional park by RDNO. Connected to Grey Canal Trail.	Native Plants; Hillsides & Slopes
Rose's Pond	Commonage Road opposite regional composting facility. Believe it is DND-owned land, leased to City of Vernon and sub-leased to RDNO. TBD. Large pond with an adjoining small, shallow pond.	Birds - Breeding & Migratory; Waterbody/ Wetland; Wildlife Habitat
Silver Star Foothills	Significant residential development has taken place, however, see Foothills Ravines and, in Table 3, Foothills Park.	Grassland; Hillsides & Steep Slopes; Native Plants; Wildlife Corridor; Wildlife Habitat

Natural Area Name	Location & Description	Protection Value
Swan Lake Nature Reserve	Located at south end of Swan Lake. Grasslands (west) area owned by RDNO. Marsh area owned by Ducks Unlimited Canada. RDNO manages entire property. NONC is a steward by agreement. Trails, interpretive signage. Important area for migratory and breeding birds. Swan Lake itself is now a Wildlife Management Area, but this includes only the lake and shoreline up to high water mark.	Wildlife Habitat; Wildlife Corridor; Birds - Breeding & Migratory; Native Plants; Grasslands; Waterbody/ Wetland; Riparian; Water Management
Tavistock	9010 Tronson Road. City of Vernon owned undeveloped parkland (zoned Pi) on west side of Tronson Rd and north from Tavistock Rd.	Forest; Hillsides & Slopes; Native Plants; Wildlife Habitat; Wildlife Corridor
The Rise	Part of the The Rise Golf Course. Small, undisturbed area of rock outcropping and trees, located between club facilities and pond.	Native Plants; Wildlife Habitat
Tompson Lake	Privately-owned property (Tompson family) with this small lake on Commonage Road, south of Predator Ridge. Located in Area B.	Wildlife Habitat; Birds - Breeding & Migratory; Waterbody/ Wetland
Tillicum North Face	Mid-elevation, transitional forest area with creeks. Includes Bates & Brookside creeks and Hartnell Lane (above). Mostly large private holdings, many with estate homes.	Forests; Native Plants; Riparian; Wildlife Corridor; Wildlife Habitat
Turtle Mountain	Much of this location is now residential housing, although some hilltops, slopes and ravines remain and could be preserved. Grey Canal Trail and Rocky Ridge Park are located here. P1 zoned parkland is the cliff face above the Grey Canal Trail, as well as the small ravine beside the parking lot on Turtle Man Blvd.	Geological Landforms; Grassland; Hillsides & Steep Slopes; Native Plants; Wildlife Corridor; Wildlife Habitat

Natural Area Name	Location & Description	Protection Value
Upland Heights	Coldstream-owned. Does not show on zoning map. Status TBD.	TBD
Vernon Arm, Okanagan Lake	Lake provides important habitat for many bird species, particularly in winter. Mouth of Vernon Creek also attracts numerous birds. Site includes beaches and lakefront parkland, as well as housing and seasonal camping. Some of the area is Indian Reserve. Remainder is City of Vernon, including Kin Beach Park and Lakeshore Park.	Birds-Breeding & Migratory; Riparian; Wildlife Habitat
Vernon Creek	A variety of habitats along this creek's course from Kalamalka Lake to Okanagan Lake. Other sites listed in this report cover specific protection targets. City of Vernon has secured some small riparian areas beside Vernon Creek. Most are not yet connected.	see other sites
Vernon Creek Escarpment	Land west of Vernon Creek, between Kalamalka Lake and Polson Park. Includes DND property, Kalamalka Forest and Seed Orchard and above Vernon Golf & Country Club.	nil mostly developed now
Vernon Creek, Fulton	This site is probably the same as Grahame.	-
Vernon Heronry	Great Blue Heron rookery in area of 24 St and 50 Ave. Covenant held by City of Vernon protects this as a bird sanctuary. Property is zoned A3 Rural Small Holdings.	Birds - Breeding & Migratory
Village Meadows	Predator Ridge park	TBD
Vista View	Falcon Point Way, Predator Ridge park	TBD

Natural Area Name	Location & Description	Protection Value
Waterfront Trail	Lot 4 Plan KAP58651. City of Vernon owned section of shoreline adjacent to The Strand residences. Part of future Waterfront Trail connecting Lakeshore Park and Paddlewheel Park. More land would need to be acquired to complete.	nil at this time
Webster	Coldstream parkland, south side of Middleton Way and south of Mt. Ida Dr intersection. Rocky hill and slopes. Middleton Mountain connector trail passes through.	Native Plants; Hillsides & Slopes; Grasslands
West Kalamalka Slopes	Part of the Commonage. Hill slopes and ravines on the west side of Kalamalka Lake between Kekuli Bay Provincial Park and the Lookout at the border with Coldstream.	Birds-Breeding & Migratory; Geological Landforms; Grassland; Hillsides & Steep Slopes; Native Plants; Wildlife Corridor; Wildlife Habitat
Whisper Ridge	Whisper Ridge strata development off Brewer Road. Includes Coldstream parkland, undeveloped, and Whisper Ridge Trail right-of-way.	Forest; Wildlife Habitat; Wildlife Corridor
Wildwood Gully	A gully or ravine, thickly forested, between Silver Star Rd and the junction of Wildwood Road & Hitchcock Rd. Assumed to be privately owned.	Wildlife Habitat

Bella Vista Range is another very large area, stretching from the Adventure Bay hills to Turtle Mountain. Above the Grey Canal Trail and lower residential areas there are no protected natural areas of significance. Today, when we look at the area from the valley, we see The Rise estates and golf course and a new winery. There are still large private holdings that hold potential for protecting grasslands, wildlife habitats, and sagebrush-covered slopes.

TABLE 2: Other Properties Recommended for Status of Natural Areas

The following properties were not listed in any of the publications used for Table 1, but are presented here as candidates for “Natural Space” designation. Some are located in Greater Vernon (Vernon, Coldstream, Areas B & C), while others are in other jurisdictions.

Name	Location & Description	
Allan Brooks Nature Centre	Allan Brooks Nature Centre, Mission Road, Vernon. Land owned by DND, leased by ABNC Society.	Grasslands; Birds - Breeding & Migratory; Wildlife Habitat; Wildlife Corridor; Native Plants; Historic/Cultural
Ann Tchvyl Conservation	Nature Conservancy of North Okanagan (NCNO) covenant. Private property. No public access.	Birds - Breeding & Migratory; Riparian; Wildlife Corridor; Wildlife Habitat
Bailey Road Pond	Private land at corner of Commonage Road and Bailey Road.	Birds - Breeding & Migratory; Waterbody/ Wetland
Bishop Wild Bird Sanctuary	Owned by Bishop Wild Bird Foundation. Coldstream Creek Road at Kalamalka Lake east shore.	Birds - Breeding & Migratory; Wildlife Habitat; Wildlife Corridor; Native Plants; Historic/Cultural
Carlson Park	a.k.a. Plantation Forest City of Vernon owned, on Benchrow Road. Forest and trails. Dog-walking park. Adjacent to Commonage grasslands (private lands).	Birds - Breeding & Migratory; Wildlife Habitat; Wildlife Corridor; Native Plants; Forest
Coldstream Cemetery	Coldstream-owned cemetery and adjacent riparian property. Coldstream Creek passes through. Wetland and forest.	Wildlife Habitat; Wildlife Corridor; Native Plants; Forest; Riparian

Name	Location & Description	
Foothills Park	Future sub-regional park site, when private properties are sold for development. Also known as “Jackass Hill”.	Wildlife Habitat; Wildlife Corridor; Native Plants; Forest; Hillsides & Slopes
Hitchcock Road	City of Vernon park property west of Hitchcock Rd, north side of Silver Star Road. Not yet improved or open.	TBD
Kaminski	Land Trust of BC owned property on east shore of Swan Lake, north of Stickle Road and RV Park.	Wildlife Habitat; Wildlife Corridor; Native Plants; Riparian; Waterbody/ Wetland
Longacre	City of Vernon owned-property including trail. Off Longacre Drive in Okanagan Landing area. Grassland.	Wildlife Habitat; Wildlife Corridor; Native Plants; Grassland
MacKay Reservoir	City of Vernon wastewater reservoir located in the Commonage area.	Birds - Breeding & Migratory; Waterbody/ Wetland; Water Management; Wildlife Habitat
North Commonage	In early 2010 decade RDNO acquired land south of landfill for future landfill expansion, but also including area to be set aside for preservation and possible recreational trails. Not yet developed.	Wildlife Habitat; Wildlife Corridor; Native Plants; Grassland
Otter Lake	Privately-owned shorelines. One public access via privately-maintained park at north end. Important migratory bird area.	Birds - Breeding & Migratory; Waterbody/ Wetland; Riparian

Name	Location & Description	
Phina Tassie Conservation Area	Nature Conservancy of North Okanagan (NCNO) covenant. Private property. No public access.	Birds - Breeding & Migratory; Riparian; Wildlife Habitat
Pottery Road Landfill	Decommissioned landfill site acquired for park, off French Road, east of hydro sub-station. Not yet developed.	TBD
Thomas Hayes Ecological Park	Provincial owned land in Spallumcheen Township, managed by Township. Armstrong Spallumcheen Trail Society have a stewardship arrangement. Trails. Forest ecosystems, meadow.	Wildlife Habitat; Wildlife Corridor; Birds - Breeding & Migratory; Native Plants; Forest
Windfalls Nature Conservancy	Nature Conservancy of North Okanagan (NCNO) covenant. Private property. No public access.	Forest; Birds - Breeding & Migratory; Native Plants; Wildlife Habitat; Wildlife Corridor
Woodland Haven Bird Sanctuary	Nature Conservancy of North Okanagan (NCNO) covenant. Private property. No public access.	Forest; Birds - Breeding & Migratory; Wildlife Habitat

Turtle Mountain is another geological landmark known to everyone in the North Okanagan. Most of the non-agricultural area has been developed for housing. There are no protected natural areas preserving eco-systems on this volcanic vista.

TABLE 3: Natural Areas and Their Significant Natural Assets

text in black = sites from Table 1

text in pink = sites from Table 2

Natural Asset	Properties from Tables 1 and 2
Birds - Breeding & Migratory	Aberdeen Adventure Bay Bluffs Bella Vista Range Birdie Lake BX Creek Commonage Grasslands Cools Pond Farnsworth Nature Reserve Laker's McGergow Meadows Middleton Mountain Mud Lake North Arm, Okanagan Lake O'Keefe Pond Ranchlands Ravine Drive Rose's Pond Swan Lake Nature Reserve Tompson Lake Vernon Arm, Okanagan Lake Vernon Heronry Allan Brooks Ann Tchvyl Conservation Bailey Road Pond Bishop Wild Bird Sanctuary Carlson Park MacKay Reservoir Otter Lake Phina Tassie Conservation Area Thomas Hayes Ecological Park Windfalls Nature Conservancy Woodland Haven Bird Sanctuary

Natural Asset	Properties from Tables 1 and 2
Forest	Abbott Creek Woodland Adventure Bay Bluffs BX Creek Deep Lake/Devils Gorge Irish Creek Tavistock Tillicum North Face Whisper Ridge Carlson Park Coldstream Cemetery Foothills Park Thomas Hayes Ecological Park Windfalls Nature Conservancy Woodland Haven Bird Sanctuary
Geological Landforms	BX Creek Deep Lake/Devils Gorge Glacial Erratic Rock Turtle Mountain West Kalamalka Slopes
Grassland	Adventure Bay Bluffs Bella Vista Range BX Ranch Lands Trail Commonage Grasslands Farnsworth Nature Reserve Goose Lake Range Irish Creek McGergow Meadows Middleton Mountain Ranchlands Ravine Drive Swan Lake Nature Reserve Turtle Mountain Webster West Kalamalka Slopes Allan Brooks Longacre North Commonage

Natural Asset	Properties from Tables 1 and 2
Hillsides & Steep Slopes	Adventure Bay Bluffs Becker Bella Vista “Davison Rock” Bella Vista Range Black Rock Clerke Nature Reserve Commonage Grasslands Deep Lake/Devils Gorge Farnsworth Nature Reserve FB Jacques Foothills Ravines Goose Lake Range McGergow Meadows Middleton Mountain Ranchlands Ravine Drive Rocky Ridge Park Tavistock Turtle Mountain Webster West Kalamalka Slopes Allan Brooks Foothills Park
Historic/Cultural	Black Rock Commonage Grasslands Goose Lake Range Bishop Wild Bird Sanctuary

Natural Asset	Properties from Tables 1 and 2
Native Plants	Abbott Creek Woodland Adventure Bay Bluffs Becker Bella Vista “Davison Rock” Bella Vista Range BX Creek Clerke Nature Reserve Commonage Grasslands Crane Road Deep Lake/Devils Gorge East Vernon Road Farnsworth Nature Reserve FB Jacques Foothills Ravines Glacial Erratic Rock Goose Lake Range Irish Creek McGergow Meadows Middleton Mountain North Arm, Okanagan Lake Ranchlands Ravine Drive Rocky Ridge Park Swan Lake Nature Reserve Tavistock The Rise Tillicum North Face Turtle Mountain Webster West Kalamalka Slopes Allan Brooks Bishop Wild Bird Sanctuary Carlson Park Coldstream Cemetery Foothills Park Kaminski Longacre North Commonage Thomas Hayes Ecological Park Windfalls Nature Conservancy

Natural Asset	Properties from Tables 1 and 2
Riparian	Abbott Creek Woodland BX Creek CEC Young Deep Lake/Devils Gorge Grahame Irish Creek North Arm, Okanagan Lake North Vernon Swan Lake Nature Reserve Tillicum North Face Vernon Arm, Okanagan Lake Ann Tchvyl Conservation Coldstream Cemetery Kaminski Otter Lake Phina Tassie Conservation Area

Black Rock is a volcanic mound in the BX Ranch area.



Natural Asset	Properties from Tables 1 and 2
Waterbody/Wetland	Aberdeen Birdie Lake BX Creek BX Ranch Lands Trail CEC Young Commonage Grasslands Cools Pond Crane Road Deep Lake/Devils Gorge East Vernon Road Goose Lake Range Grahame Irish Creek Laker's Marshall Wetlands McGergow Meadows Mud Lake North Arm, Okanagan Lake North Vernon O'Keefe Pond Rose's Pond Swan Lake Nature Reserve Tompson Lake Bailey Road Pond Kaminski MacKay Reservoir Otter Lake
Water Management	BX Creek CEC Young Commonage Grasslands Marshall Wetlands North Vernon Swan Lake Nature Reserve MacKay Reservoir

Natural Asset	Properties from Tables 1 and 2
Wildlife Corridor	Adventure Bay Bluffs Bella Vista Range BX Creek BX Ranch Lands Trail Commonage Grasslands Deep Lake/Devils Gorge Foothills Ravines Goose Lake Range Grahame Irish Creek Lakers Mt. Grady Road Mt. Ida Drive North Vernon Ranchlands Swan Lake Nature Reserve Tavistock Tillicum North Face Turtle Mountain West Kalamalka Slopes Whisper Ridge Ann Tchvyl Conservation Bishop Wild Bird Sanctuary Carlson Park Coldstream Cemetery Foothills Park Kaminski Longacre North Commonage Thomas Hayes Ecological Park Windfalls Nature Conservancy

Natural Asset	Properties from Tables 1 and 2
Wildlife Habitat	Abbott Creek Woodland Adventure Bay Bluffs Becker Bella Vista Range BX Creek BX Ranch Lands Trail CEC Young Commonage Grasslands Cools Pond Crane Road Deep Lake/Devils Gorge East Vernon Road Farnsworth Nature Reserve Foothills Ravines Goose Lake Range Grahame Herry Road Gully Irish Creek Laker's Marshall Wetlands Middleton Mountain Mt. Grady Road Mt. Ida Drive North Arm, Okanagan Lake North Vernon O'Keefe Pond Pottery Road Ravines Ranchlands Ravine Drive Rose's Pond Tavistock The Rise Tompson Lake Tillicum North Face Turtle Mountain Vernon Arm, Okanagan Lake West Kalamalka Slopes Whisper Ridge Wildwood Gully Allan Brooks Ann Tchvyl Conservation Bishop Wild Bird Sanctuary

Natural Asset	Properties from Tables 1 and 2
<i>Wildlife Habitat continued</i>	Carlson Park Coldstream Cemetery Foothills Park Kaminski Longacre MacKay Reservoir North Commonage Phina Tassie Conservation Area Thomas Hayes Ecological Park Windfalls Nature Conservancy Woodland Haven Bird Sanctuary

Coldstream's glacial erratic rock, located north of Highway 6, west of Gray Road



ZONING

A review of the zoning bylaws for the City of Vernon, the District of Coldstream and Regional District North Okanagan found that none of these jurisdictions have a zoning designation for natural areas.

In the City of Vernon there are two park zonings: P1 Public Park (or Parks & Open Spaces) and P5 Private Park. P1 zoning is a catch-all for all types of parks and natural spaces. There is no zoning or bylaw that would protect a natural area from excessive or inappropriate human intrusion.

In the District of Coldstream the P2 Parks and Open Space Zone is the only designation available. As with Vernon, it is a catch-all for all types of parks and natural spaces. There is no zoning or bylaw that would protect a natural area from excessive or inappropriate human intrusion.

In the Regional District North Okanagan there is again a single zoning: S3 Community Parks and Public Use. This designation covers cultural and recreational buildings and facilities, golf courses, schools, libraries, and parks. RDNO has no zoning that specifically mentions “natural area”.

REFERENCES

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Extracts from relevant publications are presented below.
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REFERENCE — A

Greater Vernon Natural Area/Features Inventory, November 1993
Debbie Clarke, Malcolm Martin, Chris Siddle, were three of the four authors
Credit was also given to the NONC Land for Nature Program

An inventory of the Greater Vernon area has shown that there are many natural areas and features which possess special ecological, recreational, and aesthetic values, including grassland slopes, shrubby ravines, watercourses, large and small lakes, wetland areas, forests, and prominent landform features. The primary focus of this inventory is ecologically important areas, or those areas which support plant or animal species which are rare, threatened, sensitive and/or vulnerable; provide

habitat for a wide diversity of species; or represent elements of the natural Okanagan landscape. Areas which contain unique landforms or geology are also included.

Thirty natural areas or sites received an on-site inventory, and files on each site have been provided to G.V.P.R.D. Based on the information gathered in the inventory, the sites were assessed for their relative importance, using established criteria, in order to establish priorities for management action. Sites which rated of greatest importance in general had high or moderate significance for rare species or communities, and level of urgency for protection (were immediately threatened by actions which would destroy, degrade or seriously compromise the long-term viability of a site). Other assessment criteria which were considered included diversity of species/habitats, ecological viability, significance of physical features, community values, and management urgency.

To manage for the important natural values of these areas, a broad spectrum of strategies are proposed ranging from new philosophies for planning and growth management to site-specific recommendations. Key recommendations are:

- Increased involvement of provincial agencies where areas or features are of provincial importance.
- Proactive green space planning in a broad and long-term framework.
- Evolution of a G.V.P.R.D. mandate and philosophy for management of nature parks.
- Use of a hierarchy of protection, including parks and nature preserves, planning designations such as Development Permit Areas and Natural Areas, Conservation Covenants, and means to encourage private land stewardship.
- Implementation of effective, well-defined planning designations and preparation of detailed site-specific guidelines for development around environmentally sensitive areas.
- Allowance for creativity and flexibility in applying management tools for conservation objectives.
- Encouragement of community support and involvement for management of natural areas and features.
- Provision and encouragement of opportunities for public education and awareness.

The primary purpose of this inventory is to provide an information base to assist in planning for future growth and development. In no way does this report propose to preserve all areas studied.

1.2 What is a Natural Feature or Area?

"Natural areas" and "natural features" have different meanings to everyone, both in the way they interpret the description, and how they appreciate the resource.

For the purpose of this study, natural areas and features are described as areas, which:

- provide habitat for a diversity of wildlife;
- have rare plant or animal species, or habitats,
- have unique landforms or geology, and/or
- represent elements of the natural Okanagan landscape.

Other values, such as recreation, aesthetics, cultural heritage, education and research are also considered.

REFERENCE — B

Keeping Nature in Our Future
A Biodiversity Conservation Strategy for the Okanagan Region
by Okanagan Conservation Collaborative Program, 2014

The Okanagan region is an exceptional place with some of the greatest concentrations of species and ecosystems in Canada. Many are found nowhere elsewhere in the country and in some cases the world. Wildlife and natural areas in the Okanagan region are in trouble because of impacts from our towns and cities, agriculture, and other human activities on the land and water. By investing in “Keeping Nature in our Future”, we can help to protect our rich natural assets as a legacy for future generations. As the region’s population continues to grow, this strategy provides the necessary information to ensure that stewardship of the natural environment is considered in all decisions on urban, suburban, resource, recreational, and rural development.

A conservation strategy for the future, *Keeping Nature in Our Future* identifies why we should conserve and restore natural areas, which natural areas should be protected and restored, who can contribute, how and when conservation and enhancement of these natural areas can be achieved, and the role of natural areas in protecting regional biodiversity. The strategy provides a “big-picture” view of the region and a framework for considering conservation options for ecosystems, watersheds and all land tenures. Our vision for the Okanagan region is an area rich in biodiversity that provides valuable habitat for plants and animals. Healthy ecosystems and networks of natural areas are valued and conserved by decision-makers, communities and citizens.

...protect our rich natural assets as a legacy for future generations...

Guiding Principles

Protect representative core habitat areas. Large natural areas as well as a variety of other habitat patches (habitat reservoirs and habitat refuges) are essential to species and ecosystems in our region. Habitat areas closer together are better than areas that are far apart.

Protect habitats that are characteristic of our region. The Okanagan region is one of the most biologically diverse regions in Canada. Habitats including key species like Antelope-brush, that occur nowhere else in Canada, are vitally important to the survival of species at risk. Slowly but surely, local landscapes are changing and these habitats are disappearing. Seniors and elders remember what used to be here. There are historical pictures, but if remaining natural landscapes are not protected, the unusual biodiversity of the Okanagan will be lost.

Connect habitat areas. Connect parks and conservation lands by conserving or protecting linear corridors between them. Watercourses, riparian areas, and other greenways offer good opportunities for wildlife to travel between areas needed for their survival, such as seasonal ranges. They also allow healthy populations of animals and plants to move and be distributed among various habitat areas, thereby improving the viability and resilience of the ecosystems they inhabit.

Maintain a matrix of lands outside of core areas and corridors. Retaining natural areas is a critical part of biodiversity conservation, but areas modified by human use can also provide habitat for some species. Backyards, old fields, greenways, and other vegetated areas can also be important to biodiversity. Matrix lands can contribute to the overall health of ecosystems.

Maintain diversity of ecosystems, species, and genetics. The diversity of an ecosystem generally depends on the characteristics of the physical environment, the diversity of species present, and the interactions of these species with the environment and each other. Maintaining wildlife populations and a variety of landscapes at different stages of their lifecycles, improves long-term biodiversity and helps ecosystems to withstand and adapt to natural, or human caused disturbances.

Look at biodiversity from a regional perspective. Consideration of human influences on biodiversity is often limited to identifying site-level impacts from specific development activities and devising mitigation measures to address them.

However, the cumulative or “snowball” effects of numerous activities may eventually hurt ecosystem health and limit its capacity to provide ecosystem services. Looking at impacts and effects on a larger scale (e.g. region or sub-region) helps provide perspective about what problems are particularly significant and found throughout the region. For example, habitat loss and fragmentation is easier to see at a regional level.

Sensitive Ecosystems

‘Sensitive ecosystems’ refer to natural areas that are relatively unmodified, ecologically fragile, and/or recognized as being at risk in the provincial landscape, due to their limited natural occurrence, combined with loss or degradation from human activities.

Sensitive ecosystems were categorized into groupings of ecosystems that share similar characteristics, such as vegetation and soils. These include:

- Wetlands including marshes, swamps and wet meadows
- Riparian areas occurring beside streams and rivers, as well as floodplains, gullies and beaches
- Old forest, broadleaf woodlands, and coniferous forests including large old coniferous trees, aspen copses, and opens stands of Douglas-fir or ponderosa pine
- Antelope-brush and sagebrush shrub lands
- Grasslands
- Sparsely vegetated lands with rock, talus and cliffs
- High-elevation alpine areas of dwarf shrubs, grasses, herbs and parkland/clumped forests
- Other ecosystems that are important include mature forests and seasonally flooded fields that are cultivated but may flood part of the year and provide important habitat.

The Okanagan region contains more than 225,000 ha of conservation lands (10.4%) and more than 39,000 ha of dedicated open space (1.8%). Conservation lands in the region are dominated by provincial parks and protected areas. These lands are concentrated in the South Okanagan-Similkameen. The land management analysis also identifies the extent to which Class 1 and 2 lands overlap or protect high conservation ranked lands. Collectively, conservation lands and dedicated open space help conserve approximately 14.9% of the region’s very high and high biodiversity habitats. The percentage of conservation lands and dedicated open space is highest in the South Okanagan (18.9% or 116,476 ha). Not all parks are dedicated to biodiversity. Some are focused on recreation (playgrounds and sports

fields), and set aside areas for parking, facilities and ornamental landscaping. Class 2 (dedicated open space) captures these modified but protected landscapes.

REFERENCE — C

RDNO Sub-regional Open Space and Trails Policy, 2018

Regional Open Space Definition and Types

A sub-regional open space is generally of a size and function between a municipal park and a provincial park and provide green space in urban, suburban and rural settings. Sub-regional open spaces protect regionally important natural areas for conservation, nature appreciation, and outdoor nature-based recreation.

The following are the proposed types of sub-regional open space under the jurisdiction of the RDNO:

Conservation Area

Managed for the protection or enhancement of important ecosystems and landscapes. Low-impact recreation may occur but is subordinate to habitat values. Natural processes may take their course, and management practices may occur save when hazards are created to adjoining properties. Restoration activities and management practices may occur with potential for partnerships with local conservation groups.

Size Variable +/- 40 ha or 100 ac

Natural Open Space

Managed for the preservation conservation, protection, or enhancement of sensitive ecosystems and ecologically valuable lands / landscapes. The focus is on conservation and protection of natural values. This could include areas such as steep slopes that provide aesthetic value. Outdoor activities and experiences may occur, along with opportunities for increasing awareness and knowledge of the natural environment.

Size Variable +/- 40 ha or 100 ac

Greenway

Greenways are linear corridors with the primary purpose of supporting trails and associated infrastructure while providing a major spine for municipal or local trails to connect with. The trails governed by the RDNO are

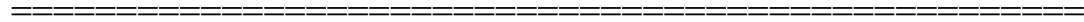
The focus is on conservation and protection of natural values.

long connector trails that often pass through multiple jurisdictions or trails that are regional in nature.

Generally greenways are comprised of a 15m wide corridor to accommodate for buffering and amenities and are flexible to reflect topographical constraints.

Greenways can also be associated with pockets of conservation and natural areas, and play a role as a wildlife/nature corridor. They are also essential in protecting the long term integrity of natural area.

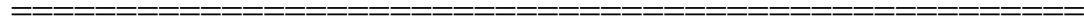
Current Inventory: Swan Lake Nature Reserve, Ranchlands Open Space, Crane Road Open Space, Goose Lake Range, Rocky Ridge Open Space, BX Ranchlands Trail, and Middleton Mountain Open Space.



REFERENCE — D

Development Guidelines and Standard Specifications Landscape Construction, Greater Vernon Area, Regional District of North Okanagan July 2013

Natural Areas have been acquired by the GVPRC to protect environmentally significant areas and features in the form of environmental reserves as well as, where appropriate, to provide outdoor recreation opportunities. The natural areas include ponds, wetlands, riparian and forested areas, prominent slopes, and other natural features. There is no standard for acquisition of these areas. 11 parcels of land are classified as natural areas, and these are generally small for this type of land. Some examples are Becker Park, Black Rock, CEC Young, Cools Pond, McKergow Meadows, and Webster Park.



REFERENCE — E

Regional Growth Strategy, 2011

The North Okanagan is home to many diverse ecosystems, including wetlands, forests, lakes, rivers and grasslands. These ecosystems and the features they contain are valuable in their own right. They also provide important benefits. In addition to filtering pollutants, preventing erosion and controlling crop pests, many natural areas provide habitat for our plant and animal species. Open spaces and the

natural environment make possible the many recreational activities and opportunities our citizen enjoy, the success of the tourism industry and the quality of life of residents. Growth over the last 20 years has impacted some of our most vulnerable ecosystems, our hillsides and our viewscapes. Healthy landscapes and watersheds protect the quality and quantity of our water supplies, aquatic ecosystems and our recreational opportunities.

The natural environment is one of the reasons that the North Okanagan is such a popular destination. When we asked the public what was the most important thing they valued about the North Okanagan, the overwhelming response was ‘the natural environment and landscape, and the lifestyle and opportunities it provides’ Local and regional governments have tremendous opportunities for environmental stewardship and providing a park system that is the best in British Columbia. However, the need to coordinate local and regional environmental initiatives and parks planning in the face of strong growth presents many challenges.

Growth over the last 20 years has impacted some of our most vulnerable ecosystems, our hillsides and our viewscapes.

The communities of the North Okanagan agree to work as partners and individually to:

ENV-1.1: develop consistent, integrated environmental policy that will protect water ecosystem function, our drinking water sources and conserve and enhance biodiversity and ecological services through the protection of ecological features and corridors, including floodplains, shorelines, stream and river systems, aquifers, wetlands and forested watersheds.

ENV-2.1: in collaboration with the appropriate agencies and organizations, identify, prioritize and map all ecosystems and important habitat features in the North Okanagan and ensure this information is used in local, regional and provincial land use processes

ENV-2.2: expand sensitive ecosystem mapping to complete a regionally consistent North Okanagan ecosystem inventory.

ENV-2.3: support data sharing, mapping, and consolidation of existing information into an inventory of Southern Interior ecologically sensitive areas and biodiversity values.

ENV-2.4: identify a system of linked wildlife corridors and areas of habitat connectivity, in partnership with the province and relevant parties, which will inform planning decisions with the goal of avoiding further fragmentation.

ENV-2.5: develop a regionally consistent policy approach to ecosystem and species protection.

ENV-2.6: encourage the sustainable management of parks and natural areas.

ENV-2.7: engage the community through stewardship and education to improve environmental awareness.

ENV-2.8: coordinate on the establishment of regionally significant open space networks and linkages across jurisdictional boundaries that will compliment local parks planning.

ENV-2.9: support opportunities and partnerships that promote environmental conservation and ecosystem protection.

ENV-2.10: designate and protect significant open spaces and environmentally sensitive areas in Official Community Plans and through other planning mechanisms.

ENV-2.11: explore funding mechanisms to support regionally significant open space and parkland acquisitions.

ENV-2-12: consider supporting partnership initiatives that would undertake the development a regional biodiversity strategy.

REFERENCE — F

*“It Starts in Your Parks”
District of Coldstream Parks Master Plan, 2016*

There are two classifications of Open Space :

- Natural Open Space
- Developed Open Space

Natural Open Space:

Open Space consisting of natural, undisturbed landscape set aside for the purpose of preservation or conservation of natural resources, natural features or scenic/aesthetic values. This classification may include:

- native vegetation
- geological landforms
- historic/cultural sites
- water bodies/wetlands/riparian areas
- wildlife habitat
- hillside slopes

- ridgelines & view sheds
- scenic buffer areas
- agricultural & rangelands
- trails

Developed Open Space:

Open Space consisting of enhanced or developed landscape set aside for the purpose of active or passive recreation. This classification requires improvements necessary to accommodate and promote higher levels of use.

Park sites in the District of Coldstream classified as Natural Areas include:

- Aberdeen *
- Braeburn South & West
- Grey Canal Trail *
- Glacial Erratic Rock
- Jestef Parkland *
- McKergow Meadows
- Mud Lake
- Ranchlands **
- Ravine Drive
- Upland Heights
- Webster
- Whisper Ridge

* re-designated as Neighbourhood Park

** transferred to Regional District

REFERENCE — G

City of Vernon Parks Master Plan, 2015

Natural Areas and Open Space: 41% of existing supply (85 hectares)
Parks contribute to the protection and connection of natural areas, sensitive ecosystems and wetlands. The system should aim to protect and enhance biodiversity. The main purpose of Natural Area parks is to protect and preserve critical habitats while connecting Vernon residents to nature. These parks contribute to the ecological resilience of the community, preserve the natural environment and protect natural ecosystem functions. Though all parks should have an ecological function, the main purpose of these parks is to contribute to the

natural health of the environment and the community. Natural Areas and Open Space make up the largest category in the parks supply; however, the existing inventory categorizes lands in their existing state, and many are natural areas with minimal improvements except trails. Some natural areas may lend themselves to additional improvements, where appropriate, to facilitate new uses and user groups. Connectivity is perhaps the most important aspect of habitat protection and preservation, something many parks currently lack. To better achieve connectivity, Natural Area parks should ideally be integrated with privately protected land to protect sensitive ecosystems and habitat, riparian areas along waterways and provide wildlife corridors. During the development process, the Official Community Plan and the Environment Management Areas Strategy aim to provide and facilitate protection measures, such as covenants, for sensitive areas.

New Parks

Grassland Park

The O’Keefe rangelands and the Commonage have been identified specifically as two of the top priority preservation areas by the public. To support the protection of sensitive and rare Okanagan grasslands through the creation of a park, the City would need to work in partnership with other organizations and agencies, including RDNO and other levels of government. A park of this nature would benefit the entire region economically, socially and environmentally and the land area required for such a park would likely require sub-regional involvement. Park uses would focus on limiting public access to protect sensitive areas, with trail systems provided for recreational use.

Natural Areas and Open Space:

General Recommendations:

- Encourage environmental protection in natural areas through park design, management and monitoring

- Continue to work with local environmental organizations on park stewardship initiatives

- Enhance community awareness about the natural environment through interpretive signage

- Protect natural drainage systems and wetland areas to enhance ecological and wildlife habitat throughout the community

- Continue to work collaboratively with other levels of government to protect sensitive areas and endangered species, such as establishing environmental stewardship on City owned lands where protection measures are desired

Continue to work with the Okanagan Collaborative Conservation Program (OCCP) to share information and expertise that leads to further preservation of sensitive areas

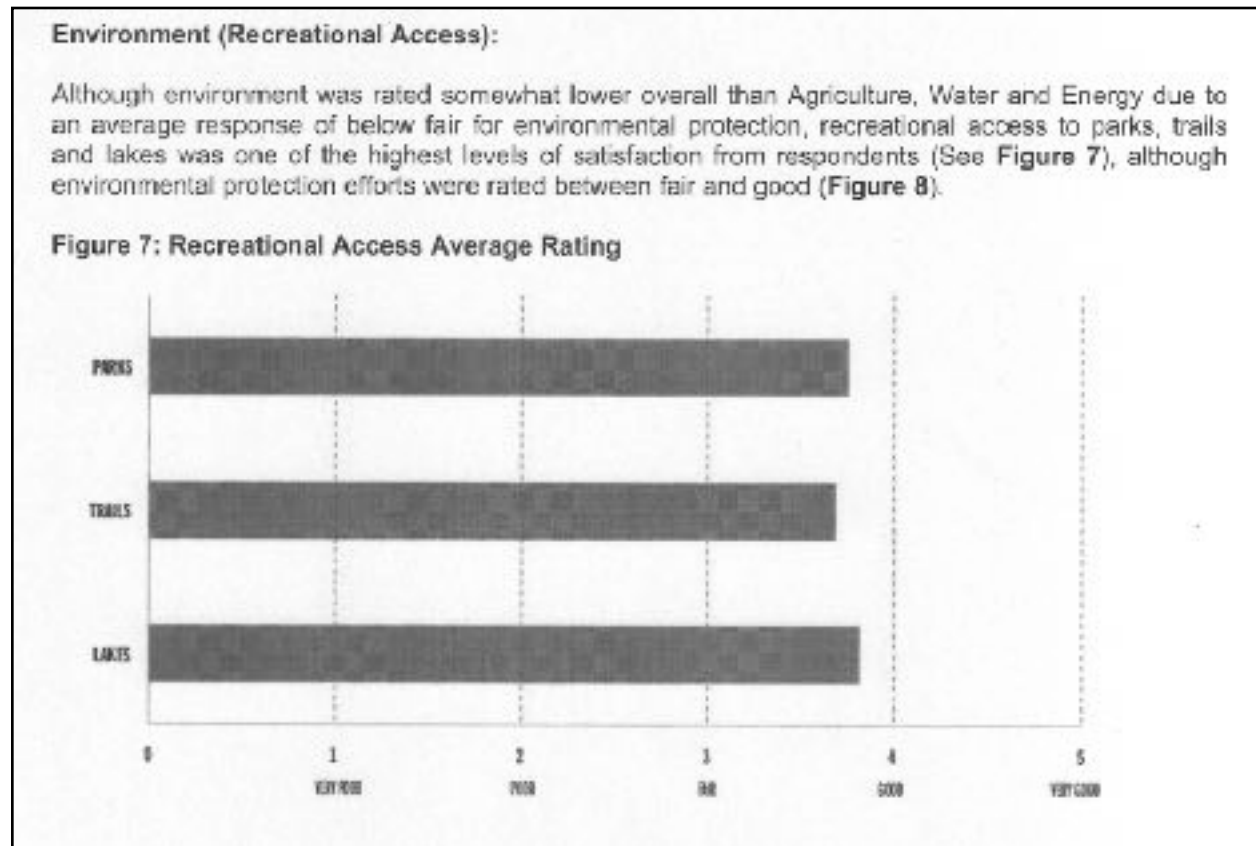
Continue to strive to protect and connect sensitive areas through parkland acquisition and private land protection mechanisms

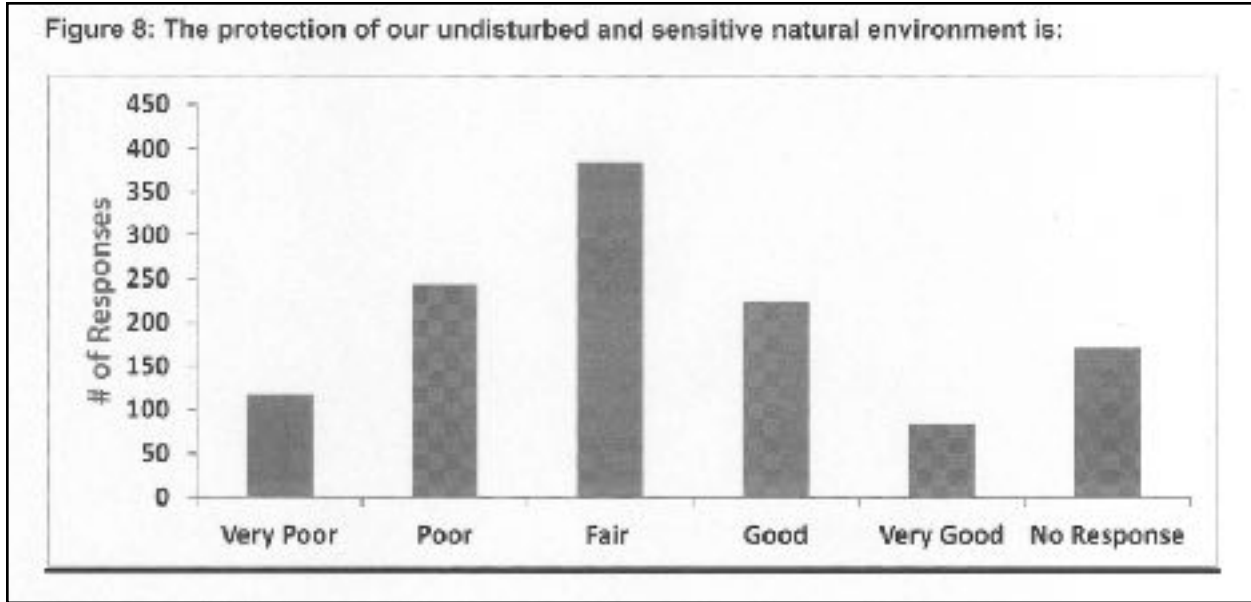
Lakers Park is considered a Natural Park due to the sensitive habitats that are located on the property. Currently, the amenities that can be found at this park are natural walking trails, wetlands, ponds, Lakers Clubhouse, a small playground, and a parking lot.

REFERENCE — H

Quality of Life Survey Results

Report to Regional Growth Management Advisory Committee, 4 Nov 2013





REFERENCE — I

Electoral Areas B and C OCP, 2014

**11.1 ENVIRONMENT AND NATURAL AREA OBJECTIVES
ENVIRONMENTAL VALUES AND HABITATS**

Electoral Area “B” and “C” contain a rich source of wildlife due to the diverse landscape and ecosystem structure. This aspect of the local wilderness can sometimes cause conflicts. The increasing popularity of this region for relocation has required settlement expansion and development. This pressure has unfortunately contributed to the degradation and often the loss of habitat for some of our native flora and fauna as well as increasing the susceptibility of the land to invasive species. The Vernon Forest District contains a number of rare, endangered or threatened species as well as rare plant associations which are found in either the Ponderosa Pine Bunchgrass zone or the Interior Douglas fir zone. This data suggests that the local environment in the North Okanagan is in a fragile state and should be carefully considered in the planning and decision-making process to ensure its beauty and biodiversity are maintained.

...the local environment in the North Okanagan is in a fragile state and should be carefully considered in the planning and decision-making process to ensure its beauty and biodiversity are maintained.

The Province of British Columbia has introduced legislation that requires local governments and Regional Districts, to protect streams and their associated riparian areas. Refer to Section 16.2 for the Riparian Area Development Permit Area Guidelines.

SENSITIVE ECOSYSTEM INVENTORIES

In recent years, the Regional District, Alan Brookes Nature Centre, provincial, and federal agencies have conducted inventories of rare ecosystems in Vernon and Electoral Areas “B” and “C”, in part to determine the range of rare and endangered species and to manage for the health of these populations. There has been habitat loss from urban settlement and uses, agriculture, forestry, and the introduction of plants and animals not native to the Okanagan.

The Vernon Commonage, Bella Vista – Goose Lake Range and Coldstream-Vernon Sensitive Ecosystem Inventories (SEI) are intended to provide a summary overview of rare and fragile ecosystems within Vernon and Electoral Areas “B” and “C”. The SEI information is derived from aerial photography, biogeoclimatic data and supported by selective field checking of the data. SEI is a tool that provides scientific information for policy development that supports the efforts of local government and other organizations that work toward the protection of rare and unique ecosystems and maintain biodiversity. This information provides a useful basis for private land stewardship and land use planning, forming the basis for Development Permit Areas.

NATURAL AREA POLICIES

- 11.2.1 Land within the Environmentally Sensitive Land Development Permit Areas as designated on Schedule ‘C’ shall not be altered or developed, or subdivision approval granted, unless a Development Permit is issued in accordance with the guidelines in this plan.
- 11.2.2 Continue to collaborate on the inventorying, mapping, and conservation of sensitive ecosystems with other levels of government, non-governmental organizations and adjacent municipalities.
- 11.2.3 All development within the Regional District shall be undertaken in compliance with the provincial *Riparian Areas Regulation*.
- 11.2.4 Wetlands must remain free of development.
- 11.2.5 The Regional District supports additional groundwater mapping and monitoring that will assist in planning within neighbourhoods that experience potable water quality or quantity challenges.
- 11.2.6 Encourage the voluntary protection of natural features.

- 11.2.7 Encourage the protection, preservation, enhancement and management of sensitive ecosystems or land contiguous to sensitive ecosystems of private lands through the following methods:
 - a. Donation of areas to the Regional District or provincial government;
 - b. Donation of areas to a Land Trust or conservation organization;
 - c. Creation of conservation covenants in favour of municipal, provincial government, private conservation organizations;
 - d. Establishment of statutory right of ways under the *Land Title Act* for affected areas;
 - e. Establishment of long-term leases for sensitive areas;
 - f. Land stewardship and participation in conservation initiatives by the private landowner;
 - g. Consideration of alternative development standards, such as clustering.
- 11.2.8 Areas with a high capability rating as wildlife habitat should remain in as large a parcel as possible to protect these habitat areas.
- 11.2.9 Areas with a high capability rating as waterfowl habitat should be protected by retaining the foreshore in its natural state.
- 11.2.10 The Regional District supports and will encourage and participate in new planning initiatives by the Province of British Columbia to consider the possible designation of Swan Lake as a ‘Wildlife Management Area’.
- 11.2.11 The following locations within the Plan area are considered as *Natural Areas* as identified in the “*Greater Vernon Natural Areas and Features Inventory*” (Greater Vernon Parks and Recreation District, 1993) and the Regional District considers that these areas are environmentally sensitive to development and the Regional District will have due regard for the significance of these locations when reviewing a land development proposal in their general vicinity:
 - a. Pottery Road Ravines;
 - b. Black Rock;
 - c. East Vernon Road Wetland (seepage) near BX Ranch;
 - d. portions of Bate and Brookside Creeks above Dixon Dam Road;
 - e. Wildwood Gully upslope from Hitchcock Road;
 - f. Abbott Creek Woodlands from Rogers Road eastward;
 - g. Cools Pond;
 - h. Herry Road Ravine east of Pleasant Valley Road;
 - i. Rose’s Pond;
 - j. Commonage Grasslands; particularly the slopes overlooking the west shore of Kalamalka Lake;
 - k. Thomson Lake; and
 - l. all wetlands not covered by Riparian Areas Regulation.

11.3 STEEP SLOPES

Hillsides are important, visually dominant features in Electoral Areas “B” and “C”, especially within the BX, Commonage and Westside. Hillside locations can be subject to hazards and adverse impacts from land clearing, alteration, subdivision, construction and road building. It is important that future subdivision or proposed major changes in the topography of steep slopes be undertaken sensitively, in consideration of environmental and visual impact, slope stability and natural hazards. Development on hillsides should also consider the potential impact on neighbouring properties.

Hillside development is more difficult to construct on and can have more prominent environmental, physical and visual impacts than on flatter areas. All these factors mean that hillside development must be carefully designed and sensitive to its location.

STEEP SLOPE POLICIES

11.3.1 Development on slopes greater than 30% carry inherent geotechnical risks, access and safety concerns and therefore it is recommended that if possible development is accommodated elsewhere on the site and steep slopes are encouraged to be left as natural or open spaces.

11.3.2 The Regional District may require a geotechnical site evaluation for development on steep slopes. The assessment should take into consideration site design as it relates to substrates, natural contours, natural gradients and ensure site stability for the subject and neighbouring properties. The recommendations of this evaluation may be required to be incorporated into a Section 219 Restrictive Covenant.

REFERENCE — J

A Protected Areas Strategy for British Columbia
Resource and Recreation Use Guidelines for Protected Areas Province of British Columbia, August 1995
BC Parks

Wherever possible, protected areas should combine natural, cultural heritage and recreational values. Where it is not possible to combine these in a common area, they may be represented separately. Where it is not possible to represent all values, the natural values will be given priority.

Many protected areas will be set aside primarily to protect rare or vulnerable features. Others will combine protection with giving people the opportunity to appreciate and enjoy the intrinsic values of the areas. Others will be protected to attract people to experience and appreciate their natural or cultural heritage.

REFERENCE — K

Sensitive Ecosystem Inventory (SEI), Coldstream-Vernon, Volume 1, 2008

City of Vernon, District of Coldstream and North Okanagan Regional District Planning

Develop a 'Local Ecosystems Plan'

A systematic plan for prioritization and protection, and stewardship of local sensitive and other important ecosystems should be developed. The conservation analysis provides priorities for conservation. The local ecosystems plan should consider known gaps in the system of provincial and regional protected areas, and be integrated across the study area, and within the City of Vernon, Regional District of North Okanagan, and District of Lake Country to ensure landscape level connectivity.

Recognizing and protecting environmentally sensitive areas early in the community planning process provides the best chance of protecting environmental values.

- Highly threatened: Grasslands commonly occur on sites that are very amenable to development – both for agriculture and housing – and many grasslands have already been lost to agricultural or urban development. Overuse by domestic livestock and invasive plants also threaten remaining grasslands. Grasslands are recognised as one of British Columbia's most threatened ecosystems. Only 8% of the grasslands in the province are protected.

Grassland ecosystems covered 12% (2582 hectares) of the study area. The majority of these were disturbed grasslands (1660 ha), with some grasslands (691 ha) and a smaller area of shrublands (230 ha).

All grassland ecosystems are a high priority for conservation considering that many have been lost to agricultural and urban settlement.

Management Recommendations

General management recommendations for all sensitive ecosystems are found in Section 7.4

(page 33). Below are additional management recommendations specific to grassland ecosystems.

Avoid Direct and Indirect Impacts

- Manage access. All motorized vehicles should be restricted to existing roads. Mountain bikes should be restricted to existing or carefully planned trails that are free of invasive plants, and not subject to erosion; otherwise, these trails should be closed until invasive plant problems have been controlled. Trails can create erosion problems, disturb fragile vegetation, and spread or introduce invasive alien species. Existing trails with erosion problems need to be rehabilitated and restored.
- Protect large old trees and snags. Scattered trees or snags are extremely important for wildlife in grassland areas. These trees can be isolated structures in grassland areas.
- Manage livestock use. Livestock grazing needs to be carefully managed to ensure that ecological values associated with grassland ecosystems are maintained. Bunchgrasses are damaged by season-long grazing. Careful monitoring should be implemented to ensure that grazing levels and timing meet management objectives for the site.
- Remove encroaching trees. Large old trees are important habitat features that should be protected where they occur in grassland areas, but young trees should be removed by cutting, or other mechanical means. Prescribed fire can also be used to remove encroachment, but it must be planned and conducted by a qualified professional and requires careful management of invasive plant species to prevent their spread.

NATURAL AREA OPPORTUNITIES

The North Okanagan Naturalists' Club proposes the following.

CURRENT NATURAL AREAS
in
PUBLIC OWNERSHIP
that should be given
INCREASED PROTECTION

Adventure Bay
Crane Road
Middleton Mountain
Goose Lake
Ranchlands Park

SIGNATURE ECO-SYSTEMS
and
LANDSCAPES
that should have
OPPORTUNITIES PURSUED

Bella Vista Range
BX Creek
Coldstream Valley
Commonage
Goose Lake Range
Okanagan Lake North Arm
Silver Star Foothills
West Kalamalka Slopes