CASCADE ENVIRONMENTAL
RESOURCE GROUP LTD

# REGIONAL DISTRICT of OKANAGAN-SIMILKAMEEN REGIONAL TRAILS MASTER PLAN

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# Executive Summary

In pursuit of a vision for a comprehensive strategy for planning, maintenance, protection and promotion of the trail network in the Okanagan and Similkameen Valleys, the Regional District of the Okanagan Similkameen (RDOS) retained Cascade Environmental Resource Group Ltd. to prepare a Regional Trails Master Plan (RTMP). The purpose of the RTMP is to define future direction, policies, priorities, standards and actions for the Regional District and its partners with respect to existing and potential future linear parks and trails and support of a regional trail network. The RTMP is a strategic plan that will provide the basic framework to define and guide a Regional Trails Program for the RDOS over the next 10 years (2012-2021). This document was prepared based on a variety of planning exercises, including review of legislation and documentation, trail inventory, public consultation, stakeholder working group meetings, and information and data analysis; and is presented in twelve sections. Throughout the document, Action Items are identified as 'place holders' for recommendations related to a given section of text. A list of ranked and consolidated Action Items can be found in Section 12. Action Items are also listed at the end of the summary.

**Section 1** provides an overview of the RTMP process, including the definition of *trail* adopted by the RTMP Working Group and taken from the Trail Strategy for British Columbia (2008):
*A recreation trail is a path or route solely or partly used for one or more recreation functions.*
According to the Provincial Trail Strategy (2008), *"This definition is intended to embrace the broad range of trails that may be used primarily for recreation but also function as transportation / commuting corridors and as tourism and economic assets. Such an inclusive approach is consistent with developing and maintaining an integrated network of trails across the Province to achieve the strategic vision."*

This definition allows for consideration and inclusion of resource roads, roadway commuter connections, and non-established recreation trail routes in this Master Plan. For the purposes of this plan, because it relates to trail construction, maintenance and development, a trail is further defined as a modification or disturbance of soil or ground. Backcountry travel routes and snow-based activities with little or no ground disturbance are not included in this plan. The first section also covers goals and guiding principles and Working Group mission and vision.

**Section 2** of the Master Plan identifies and provides an overview of the primary trail user types and groups addressed in the plan, including trail stewardship groups, non-motorized activities such as hiking/walking/running, cycling, horseback riding (equestrian) and commuting, and motorized recreation activities such as ATV and dirt bike use.

**Section 3** of the Master Plan contains an overview of all legislation relevant to the plan. This provides context for the discussions related to land use planning, user group conflict and jurisdiction throughout the document. It includes discussion of the following:

- Regional Policy.
- BC Provincial Policy.
- Government of Canada Policy.
- Additional relevant local and regional policies.

**Section 4** provides an economic context to the plan, including the benefits of trail use and the role of a well-planned trail system as a significant economic driver within a tourism economy such as the RDOS. A well planned trail system boosts an area's economy through growth of tourism related businesses, a positive impact on property values, added value in new business improvement, and decreased health care costs to individuals and governments. By providing opportunities for commuting by alternative modes of transportation, well-constructed trails can also help to mitigate pollution-related costs, and can also preserve linear parks and corridors for tourism and infrastructure needs. A well-planned trail network is an inexpensive, high-value investment compared to other recreational infrastructures such as playing fields, community centres, swimming pools and ice rinks.

**Section 5** outlines the impacts of trail users on the natural environment and provides guidelines for compensation and mitigation of environmental damage, as well as trail construction specifications to ensure properly-constructed, environmentally responsible trails are built and maintained throughout the region. The level of adverse environmental impact on a given trail or network is affected by three key factors: design and location of the trail, intensity of use, and the type of trail users. The impacts can include localized damage to the immediate area of the trail surface or widely spread impacts to downstream water quality, displacement of wildlife populations or modification of movement corridors. The extent to which a trail or related facility negatively impacts the environment is highly variable and can be minimized by adhering to basic, established trail planning and construction guidelines, as well as implementing trail management strategies and best management practices (BMPs). This section also provides specifications for construction and maintenance of safe, ecologically sound trails by outlining recommended surface type and width, setting forth the RDOS Trail Standards accepted by the Working Group.

**Section 6** addresses user group conflicts and risk management. From a master planning and trail management perspective, trail users are grouped into two general classes; non-motorized and motorized. The conflict resolution framework presented is based on a respect-based model and includes a hierarchy of strategies ranging from conflict identification and dialogue, to design and construction strategies for management, to enforcement as a last resort.

The discussion surrounding risk management is based on the principle that the practice of risk management does not intend to eliminate risks, but instead to diligently identify, reduce and manage them in order to decrease both risk to the user and potential liability to land managers or partners.

**Section 7** outlines the stakeholder engagement process on which the recommendations found within this document are based. Stakeholder engagement opportunities included a RTMP Working Group comprised of local trail stakeholders and government representatives, a series of public open houses, and an online survey.

This section also introduces the regional breakout into 17 discreet management units. Management delineation was driven by geographic and terrain features, existence of defined networks, electoral district and type of use. Jurisdictional features and land ownership are identified for each unit. Trails are separated into four categories:

1. Non-motorized: Trails used by self-propelled recreationalists, no use by off road vehicles (ORVs).
2. Mixed use: Trails actively used by both motorized and non-motorized recreationalists.
3. Motorized: Trails used almost exclusively by motorized vehicles, primarily resource roads and double track trails.
4. Cycling network: Road and commuter routes designated as part of a formal cycling strategy.

**Section 8** provides an analysis and planning framework, including a review of the current trail inventory data provided by the RDOS, Working Group members, and the general public. The current inventory review includes an assessment of the region's trails with special consideration given to major corridors, community connections, and access to popular recreation areas. The analysis of protected area management involved identifying and evaluating emerging trends in trail and protected area management, as related to supporting a regional trails system within the Regional District. Also identified are potential short and long term issues affecting implementation of the plan. Finally, the framework includes a more detailed overview of the trail classification system introduced in Section 5.

**Section 9** includes the results of the data analysis, including a trail network Gap and Flow Analysis and an Opportunities and Constraints Analysis using Geographic Information Systems (GIS), with priority given to high-use corridors and community connections. Also included is an analysis of each Management Unit, including use hierarchy, trail inventory, land ownership, highlights, constraints, conflict areas, opportunities and management directives.

**Section 10** identifies opportunities for marketing and promotion of the region's trail system. This includes potential partnerships, strategies and opportunities including recommendations related to the RDOS' Click, Hike, Bike™ website. Opportunities for growth in specific sport-based tourism are also presented, including a signed road cycling network.

**Section 11** presents strategies for implementing the recommendations including the role of a regional Trails Advisory Committee, as well as a decision making framework, potential funding and development partnerships and volunteer management

**Section 12** contains conclusions and recommendations, ranked by priority. The Action Items presented throughout the document are consolidated and ranked by priority. Action Items are listed within the text in the following order:

**Action Item 1** Designate a pedestrian trail between the Naramata Creek Park / Arawana and the Naramata townsite as recommended in the OCP for Area E: Naramata.

**Action Item 2** Limit motorized use along the Kettle Valley Railway (KVR) corridor within populated areas in Area E: Naramata. This can be accomplished through capital projects like gates, signage and paving or resurfacing key sections of the trail.

**Action Item 3** Establish a trail network using the CPR right of way in the Kaleden / Apex area as recommended by the OCP for Area D1: Kaleden / Apex.

**Action Item 4** Build on the City of Penticton's Cycling Network Plan by identifying and signing cycling routes that link to the corridors identified by the City. Where the City is successful in lobbying the provincial agency responsible for transportation to enhance cycling opportunities on public roadways, the RDOS should work with the City and the provincial government to ensure those enhancements are expanded to include connecting rural roads.

**Action Item 5** Promote economic and environmental responsibility by creating and supporting trail connection opportunities with a focus on connecting communities within the RDOS.

**Action Item 6** Ensure trail inventories are accurate, then provide trail inventories to the appropriate authorities (e.g. Okanagan Shuswap Forest District) undertaking industrial activities within the strategy area.

**Action Item 7** Implement a respect-based conflict resolution framework for issues and ensure that trails are appropriately signed so users are aware of rules, restrictions and codes of conduct.

**Action Item 8** Ensure that all new trail projects abide by the Recreation Trails Strategy for British Columbia and that capital projects, particularly on provincially managed trails (i.e. KVR) are completed in consultation and partnership with the Province.

**Action Item 9** Work with Provincial Recreation Sites and Trails staff to evaluate the Crown land trail network, and prioritize trails and trail areas for establishment under FRPA.

**Action Item 10** Encourage user groups to obtain appropriate authorization for trail construction, maintenance or rehabilitation by making 'how to' information available on the Click, Hike, Bike™ website.

**Action Item 11** Install Heritage Protection signage at all motorized access points to restored Heritage Trails.

**Action Item 12** Trail users should communicate with agricultural operators, landowners and bodies as a group to ensure solutions work for all trail user groups. A collective voice amongst trail users will also be more effective in dispute resolution with organized agricultural bodies.

**Action Item 13** Implement a respect-based Code of Conduct.

**Action Item 14** Engage with provincial and federal agencies and begin the process of trail approval through the protected area on the west side of Vaseux Lake. Consider and implement wildlife protection measures in consultation with Environment Canada.

**Action Item 15** Trail design and development should follow adopted standards (see Section 5.1.1) and provincial best management practices appropriate to trail use types to minimise the impact on the environment.

**Action Item 16** When developing new trails, assessment of SEI, TEM and Species at Risk should be considered in the process.

**Action Item 17** Source materials for trail construction in a way which minimizes the impact on the local environment. Consider onsite and offsite sources for trail material.

**Action Item 18** The RDOS should create a terms of reference for and strike an Advisory Trails Committee with representation across all major trail user groups. Membership on the Committee should be restricted to local resident participation. The mandate of this committee is to ensure the trail network is developed and managed for the use of all sectors wherever possible.

**Action Item 19** Develop a risk management strategy that focuses on eliminating unreasonable 'hazards' from the trail (including large ruts, deadfall and unsafe or unsound bridges) and proactively reducing the exposure of land managers, partners or private land owners to liability arising out of lawsuits.

**Action Item 20** Starting with the most frequently used trails and trail systems, identify trails that trespass on private land and begin the process of systematically entering into agreements with landowners; providing landowner incentives or purchasing or otherwise acquiring lands with trespassing trails.

**Action Item 21** Contract experts in trail construction and design for both concept and completion of any publically funded trail, features, or facilities.

**Action Item 22** Carry out regular, periodic inspections and include a public input element on the Click, Hike, Bike™ website to receive maintenance comments for trails, features, or facilities.

**Action Item 23** The RDOS should lobby the Province to introduce Inherent Risk Legislation that places more responsibility on individuals taking part in guided and non-guided recreation activities rendering them unable to sue for obvious inherent risk.

**Action Item 24** The RDOS should adopt the provincial signage standards set out in the Signage Strategy for the Spirit of 2010 Trail for use on the regional trails.

**Action Item 25** Undertake a complete inventory of trails in the region, starting with large, known trail networks prior to launching Click, Hike, Bike™ as a source of trail data information. Trail data can be gathered by volunteers or through entering into data sharing agreements with clubs, companies and groups already possessing data.

**Action Item 26** Develop a marketing strategy that runs in parallel to the development of new trails and other facilities, promoting the RDOS as an established destination for trail-based recreation.

**Action Item 27** Conduct surveys on trails, install automated counters on key trails, track lodging statistics, work with equipment rental and tour providers to develop meaningful indicators of success (and challenges) to assist in developing additional marketing materials.

**Action Item 28** Build community support for trail-based tourism by emphasizing the economic benefits and encourage a better understanding of all trail-based recreation activities.

**Action Item 29** Support businesses in providing information to visiting trail users on where to access trails, lodge, eat and shop. Informed and prepared staff can meet the needs of visiting recreationalists and make visitors feel welcome.

**Action Item 30** Identify and apply for available grants.

**Action Item 31** Further investigate the use of volunteer trail wardens on regionally or environmentally significant, high-conflict, and high-traffic trail systems.

**Action Item 32** Capitalize on the expertise and manpower of volunteer clubs by engaging local trail organizations to assist with planning, fundraising and delivery of trail capital projects.

**Action Item 33** The Trails Coordinator and Trail Advisory Committee should be responsible for volunteer oversight and for allocating available funds to volunteer groups for specific projects recommended by this plan.

**Action Item 34** The Trails Coordinator and Trail Advisory Committee should recognize and designate certain volunteer groups as maintainers of specific trail networks.

**Action Item 35** The RDOS should make available training opportunities and / or resources for volunteer groups. This will help ensure that approved activities are carried out in the safest, most constructive manner possible.

**Prioritized Recommendations include:**

1. Create a budgetary line item for trails management.
2. Strike a Regional Advisory Trail Committee to advise the RDOS to trail related matters.
3. Engage with First Nations and Private Landowners wherever possible.
4. Prioritize routes that connect communities.
5. Promote designation, restoration and marketing of Heritage Trails.
6. Adopt and manage RDOS trail standards as recommended in the RTMP.
    - Develop and implement a comprehensive signage program.
    - Assist municipalities with trail signage and designation.
    - Promote popular cycling routes including Ironman, GranFondo and Half Iron courses through signage.
7. Recognizing that the Province and the RDOS have agreed that the KVR will be managed as a primarily non-motorized trail, the KVR should be designated by the Province as non-motorized where parallel routes for motorized use exist.
    - If in the future, if ORV licensing regulations are implemented that allow travel by ORVs on Forest Service Roads and other rural roads managed by the Province, revisit mixed use designations on the KVR where a viable alternative route exists and establish road crossings where applicable.
    - If no parallel route exists, implement the conflict resolution framework to seek agreement amongst trail user groups.
    - Alternative routes to current mixed use sections of the KVR should be identified and constructed where possible.
8. Continue to develop and maintain user type specific trails to provide a more targeted offering; reducing the existing “mixed use” category toward more specific trail user targets.
9. Identify and inventory all abandoned rail beds in the RDOS, including linkages on private land and acquire rail beds as they come available.
10. Conduct trail impact audits to encourage sector responsibility for maintenance according to trail standards.
11. Engage local ATV clubs for stewardship assistance on motorized networks.
12. Develop an RDOS trails awareness program and educate through schools, clubs and community associations.

13. Work with Provincial Ministry responsible for road construction and transportation to make road bike networks more cycle-friendly through wider shoulders, signage, and replacing cattle guards with newer versions with flat slats.
14. Continue to expand the GIS trail inventory through citizen GPS contribution.
    - Refine the attribute table as a planning and management tool.
    - Populate the attribute tables with trail standards information and conduct an inventory of major trails for trail classification.
15. Work with Provincial Ministry responsible for road construction and transportation to develop road bike pullouts and roadside amenities such as water and washrooms.
16. Develop and market the "Wine Route" concept with winery and culinary opportunities linked by cycling routes. Including signage and partnership with tourism organizations and businesses to promote routes and transport wine and other purchases.
17. Post trail-related projects and pending permit applications to the Click, Hike, Bike™ for public information and input.
18. Encourage tenured operators to further develop the adventure tourism sector within the RDOS.
19. Work with Central Okanagan Regional District to develop and program a cycle route around Okanagan Lake.

**Specific Trail Project Recommendations**

**First Priority**

1. Designate the KVR non-motorized from Penticton boundary to Arawana, eventually to Smethurst Road.
2. Designate KVR non-motorized between Summerland boundary and Faulder.
    - Determine location of motorized staging area in the Faulder vicinity.
    - Close Rodeo Grounds staging area to motorized users, promote as non-motorized staging area.
    - Install signage at Rodeo Grounds directing motorized users to Faulder staging area.
3. Explore opportunities for establishing motorized recreation corridors, independent of the KVR, between the following areas:
    - Princeton and Coalmont.
    - Tulameen and Coalmont.
    - Summerland and Osprey Lake.
    - Osprey Lake and Princeton.
    - Immediate area of Osprey Lake.
    - Smethurst and Little Tunnel.
4. Initiate conflict resolution framework and continue discussions with local trail groups regarding motorized re-route in areas without established parallel trail opportunities.
5. Develop and install safety signage and promote respect-based trail use in mixed use and conflict areas.
6. Area D (Kaleden/Okanagan Falls) KVR trail improvements; surfacing, brushing, invasive plant removal, poison ivy, rock bollards and signage.
7. Upgrade wayfinding / route signage for motorized users in Naramata area.
8. Develop staging areas on either side of Osprey Lake (Chain Lake and Link Lake).
9. Develop staging area and signage for Three Blind Mice.
10. Develop Crown land staging area for Golden Mile.
11. Work toward formalizing and establishing Brigade Trail.

**Second Priority**

1. Seek Area Based tenure for management of China Ridge.
2. Work with landowners to establish right-of-way or beachfront connections through Locatee lands on west side of Skaha Lake.
3. Improve wayfinding signage and safety information on the KVR from Faulder to Crump.
4. Apply to establish the Three Blind Mice trail network with the Province of BC through Section 56 (*FRPA*) agreements. Support local stewardship groups or commercial operators to provide trail maintenance and stewardship.
5. Designate a route on the eastern edge of the trail network for dirt bikes accessing the Above the Mice area.
6. Formalize and sign the following road connections:
   - Highway 97 via Road 22.
   - KVR north of Oliver to Okanagan Channel Trail.
   - End of KVR south of Osoyoos to U.S. Border.
   - Osoyoos to Airport Trail.
7. Secure a lease with Province of BC over Okanagan River Dike and formalize non-motorized road connections to create a viable commuter route.
8. Support stewardship by Osprey Lake Ratepayers Association.
9. Improve signage at Carmi.
10. Improve signage at Rock Oven.
11. Investigate and develop protective measures to ensure motorized vehicles do not encroach on the riparian zone (30 m setback) at Garnet Lake.
12. Develop an alternate hike / bike trail to KVR through Osprey Lake that is separated from the mixed-use trail by vegetation.
13. Improve and coordinate signage, staging and facilities for the Apex trail network.
14. Separate motorized from non-motorized use through an educational signage program near Garnet Lake, in conjunction with alternate trails or improved signage.
15. Work with stewardship groups to maintain trails to an acceptable standard for appropriate user types.
16. Upgrade access routes from KVR to Chute Lake.
17. Formalize the non-motorized Trout Creek Dyke trail KVR connection with signage.
18. Protect Trout Creek riparian (municipal water source).
19. Encourage active cooperation in trail stewardship in the Summerland area between Summerland ATV Club, Summerland TCT Society and the South Okanagan Dirt Bike Club.
20. Establish a non-motorized Summerland – Penticton waterfront route.
21. Improve motorized and non-motorized accesses from Apex community to Nickel Plate.
22. Conduct a thorough inventory of Carmi Mountain Bike trails to ensure conformity with RDOS trail standards.
23. Engage the Penticton Indian Band to establish non-motorized Summerland Northwest lakeside route.

**Third Priority**

1. Designate specific routes and trail user types within Drenzi area to protect big horn sheep.
2. Install signage and develop maps for Coalmont area.
3. Negotiate stewardship agreement with SODC for McLean Creek Area.
4. Establish permanent outhouse at Arawana.
5. Develop motorized staging areas at:
   - Coalmont Campground.
   - End of proposed bypass on Princeton side.
   - Coquihalla at KVR RDOS Boundary.

- East of Tulameen.
- Between Tulameen and Coalmont.
- Coalmont.

6. Improve surface of Okanagan Channel Trail.
7. Upgrade non-motorized connection trail from Apex to Sheep Rock and Brent Mountain.
8. Explore connection to Hedley from Nickel Plate via Hedley Creek Trail.
9. Formalized non-motorized connection from Cathedral to Manning Park.
10. Formalize access to Fire Mountain trail system.
11. Explore opportunities for non-motorized connection to Penticton from Carmi.
12. Explore opportunities for development of a non-motorized trail connecting Keremeos and Cawston.
13. Complete the link in the KVR with Penticton from Wright's Beach Camp to the Channel Parkway trail on the west side of the Okanagan River Channel.
14. Separate and develop non-motorized access to Rattlesnake / Wildhorse Mountain.
15. Explore opportunities for (re)development of non-motorized Centennial Trail between Cathedral Park and Keremeos.
16. Investigate non-motorized connection from Three Blind Mice to Campbell Mountain.
17. Commence regulatory and consultation process to formalize non-motorized trail access along Vaseux Lake.
18. Explore opportunities for connecting Golden Mile trail with Town of Oliver.
19. Explore options for resurfacing Strawberry Creek Trail.
20. Work with RTSBC to restore the Centennial trail connecting Cathedral and Manning Park.
21. Determine locations of washed-out trail water crossings on 20 Mile Creek in Keremeos area and reconstruct bridges.

The recommendations presented in this document were developed and prioritized in consultation with the RDOS and the Working Group. The following conclusions were drawn from of the RTMP process:

- The RDOS possesses a very diverse and attractive trail network that has the necessary attributes to attract both local and international recreationalists and tourists. It complements the existing spectrum of recreational opportunities that the region has to offer.

- The trails inventory, while extensive, remains incomplete. Several trail user groups are hesitant to contribute their trails data to the public domain. As a result, this information was not available for analysis in this report and is not considered in the recommendations of the RTMP. In the future, entering into data sharing agreements with trail organizations or conducting a trail inventory will be important to ensuring the comprehensiveness of the RDOS' mapping files, particularly those being distributed for public consumption.

- The RTMP Working Group settled on a four group trail use type system for the GIS Analysis; Motorized, Mixed, Non-motorized and Cycling, with non-motorized use trails comprising the majority of the inventory (49%). Management of the mixed use trails (12%) will be an ongoing challenge into the future.

- Trails represent a widely used, cost effective recreational opportunity with broad based participation across the full demographic spectrum. As with all infrastructures, trail networks are maintained, managed and improved.

- The composition and role of a Trails Advisory Committee will also be critical to this plan's success. The committee should be comprised of local stakeholder's representative of the groups

conducting trail work on the ground. The committee should be empowered to make decisions regarding the implementation of this plan.

- Partnerships, particularly as they relate to trail project funding and regional marketing play a significant role in the implementation and management of the RTMP.

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# 1.0 Introduction

The Regional District of Okanagan- Similkameen (RDOS) engaged the consulting firm of Cascade Environmental Resource Group Ltd. to develop a Regional Trails Master Plan (RTMP).

The purpose of the RTMP is to define future direction, policies, priorities, standards and actions for the Regional District and its partners with respect to existing and potential future linear parks and trails and support of a regional trail network. The RTMP is a strategic plan that will provide the basic framework to define and guide a Regional Trails Program for the RDOS over the next 10 years (2012-2021).

This is a living document, designed to be amended by the RDOS as conditions including legislation, demographics, and the physical characteristics of the trail network change over time.

One of the key objectives of the RTMP is to establish a framework and clear direction for both the local and provincial government regarding roles and responsibilities over the next ten years.

To ensure that the objectives, strategies, and recommendations outlined within are in support of the Province of British Columbia's trails mandate, the Working Group responsible for this Master Plan has chosen to use the definition of 'trail' or 'recreation trail' from the document *Recreation Trails Strategy for British Columbia* (BC MTSA*, 2007).*

***A recreation trail is a path or route solely or partly used for one or more recreation functions.***

According to the Provincial Trail Strategy (2008), *"This definition is intended to embrace the broad range of trails that may be used primarily for recreation but also function as transportation / commuting corridors and as tourism and economic assets. Such an inclusive approach is consistent with developing and maintaining an integrated network of trails across the Province to achieve the strategic vision."*

Within the RDOS, this definition allows for consideration and inclusion of resource roads, roadway commuter connections, and non-established recreation routes in this Master Plan. For the purposes of this plan, because it relates to trail construction, maintenance and development, a trail is further defined as a modification or disturbance of soil or ground. Backcountry travel routes and snow-based activities with little or no ground disturbance are not included in this plan.

The RDOS' trail marketing function is the website www.clickhikebike.com (Click, Hike, Bike™). The Click, Hike, Bike™ website seeks to be the go-to destination for trail related information for residents of and visitors to the region. This RTMP will make recommendations related to Click, Hike, Bike™, including opportunities for improvement, expansion and promotion.

For ease of reading, "Action Items" are interspersed throughout this document. These are recommendations stemming from specific background, policy or planning information. A consolidated list of Action Items can be found in Section 10.4 of this document.

**Role of the Regional District**

The RDOS is responsible for the governance and management of trail networks in which they hold tenure. The Province and the Regional District entered into a Partnership Agreement for the management and maintenance of the Kettle Valley Railway. To support the partnership agreement, the Regional District will coordinate, prioritise and administer an annual management

and maintenance program, liaise with stewardship groups and local stakeholders, determine annual priorities, and provide input and advice to the Province for educational programs, risk management programs, marketing initiatives and other activities associated with the development of the KVR as a world class recreation trail. ***To this end the Province and the RDOS have agreed that the KVR will be managed as a primarily non-motorized trail.*** The RDOS will also communicate with the Province on an on-going basis regarding trail management and maintenance activities undertaken, and provide input to the Province to assist in the delivery of a strategic management approach for the trail, consistent with the vision for a world class primarily non-motorized recreation trail.

A key goal of this plan is to identify and prioritize trail projects, particularly those related to access to Crown land trail networks, community connection and major trail corridors; and to give the local government a strategic framework for financial and human resource allocation toward trail projects.

**Background**

Trails are an important component of the culture within the RDOS. A wide variety of users recreate and commute on the region's trails daily. Local area residents use the trail system for activities ranging from an evening stroll along the KVR, to commuting to work from one community to another, to active motorized and non-motorized trail-based recreation. Visitors also frequent the region's trails to participate in a wide range of activities from walking and back-country hiking to cycle touring or off road vehicle (ORV) recreation. The importance of trails to the region's culture cannot be overstated. The need for this RTMP was compelled by the demand for trail resources and by the large volume of proposed trail projects. This document seeks to address those concerns by developing a set of priorities for future projects and providing a decision making framework.

A multi-use trail system assists in the protection of environmental corridors, fosters awareness of protecting public access to natural areas, and, when coordinated with an urban transportation strategy, contributes to a reduction in motor vehicle use and therefore greenhouse gas emissions. In addition, continuous improvements to trail infrastructure will create showcase trails that can be promoted as part of a tourism marketing strategy.

Among the ten most popular physical non-motorized activities of Canadians are: walking (84%), bicycling (44%) and jogging (24%). Walking has consistently been the top ranked activity for both sexes and across all age groups (CFLRI, 1996). No similar statistics were identified for motorized recreation, but it should be noted that many trail users who participate in the above non-motorized activities participate in motorized recreation as well.

An important aspect of the RDOS trail system is a mix of urban and rural trail networks. Urban trails are closer to population centres, are generally non-motorized, with the exception of electric wheelchairs, and are designed for heavy use by individuals residing in or visiting the area. Rural trails are further from population centres, cover long distances and are often old resource roads. They are generally used by motorized recreationalists, equestrians and cyclists on multi-day trips. For major trail corridors, those that connect communities and serve as access routes for other trail networks, this distinction is particularly important, especially as it relates to the conflicts between motorized and non-motorized use. The conflict resolution framework within this plan will focus primarily on conflicts occurring on urban corridors, because those areas have the highest concentration of users, and because the bulk of trail improvement projects, signage requirements, conflict resolution strategies and their associated costs are best directed to high-use trails near densely populated areas.

Research on the economic impacts of trail use indicates that the sports of hiking, biking, ORV recreation, horseback riding, and other activities taking place on trails are significant income generators, attracting both tourists and locals alike. Teton County, Wyoming conducted an economic impact assessment of the area's trail system in the spring of 2011. The Teton County trail system generated an estimated $18 million in economic activity in 2010, with $1.1 million spent by local trail users and $17 million by non-local trail users. "*Employment and wages relating to the trail system in Teton County totalled $3.6 million with approximately 213 workers employed in the summer and fall of 2010" (McDonald, 2011).*

Teton County shares many similar features to the RDOS, including an already active tourism market, a mix of urban and rural trail communities, and a number of significant parks. Compared to other public recreation facilities such as gyms, pools, or ice rinks, trails are a low cost and easily maintained public amenity with considerable public health benefits. Many trail-based recreation studies cite decreased medical care costs as an economic benefit of trails. This is a difficult metric to quantify, but the positive impacts of physical activity and the role of easily accessed recreation opportunities in creating healthy communities are undeniable. Throughout this Regional Trails Master Plan document, action items corresponding to the issue being discussed will be noted in bold. Consolidated action items are listed in Section 10.4.

### 1.1 Goals and Guiding Principles

The RTMP shall provide clear direction and a list of priorities and actions for regional linear parks and trails that support trail networks in the Regional District for the period of 2012 to 2022 on the following items:

- Planning Framework.
- Vision and Philosophy.
- Regional Interest and Acquisition.
- Analysis, Recommendation, Implementation.
- Trail Partnerships.
- Bike Network Strategies.
- Marketing and Promotion.
- Ensure sustainable development of the trail network.
- Ensure adequate trail opportunities for all user groups.
- Ensure management of the trails occurs in a way that ensures recreation use and tourism growth in a sustainable way and in accordance with RDOS' vision and philosophy.
- Ensure that RDOS has considered its due diligence in regards to:
    - Environmental management.
    - Risk management.

### 1.2 Vision and Philosophy

A vision statement for the RDOS creates an inspirational framework that captures the manner in which trail use in the area will be developed, supported, managed and maintained. The RDOS Regional Trails Master Plan Working Group developed the following vision statement to summarize their goals for the outcome of the RTMP process:

***To foster locally-valued and world-renowned trails which provide exceptional opportunities for recreation, community linkage, health and wellness, environmental stewardship and economic benefits***

### 1.3 Working Group Mission

The mission of the Working Group informs the vision of the Master Plan. RDOS Regional Trails Master Plan Working group developed the following mission to guide their decision making and recommendations:

***To create a Regional Trails Master Plan that serves the diversity of Trail users***

# 2.0 South Okanagan Trail User Overview

The South Okanagan provides diverse recreation opportunities for a range of trail users. The primary user types discussed in this document are hikers / walkers / runners, road / mountain bikers, equestrians, commuters, and ORV users.

Trail user types are classified into two general groups; non-motorized and motorized. Use of these two groupings has evolved over time to become the generally accepted convention for the purpose of master trail planning and management. In addition to grouping the self-propelled and those making use of motors for transport, the classification also groups activities that share a range of common values. This grouping will be used and more fully clarified over the course of this plan.

### 2.1 Trail Stewardship Groups

Trail Stewardship Groups are vital to any trail network. Groups *"are formed to act as liaisons between government and private citizens in order to facilitate trail development. Usually formed to address a need for a recreational path in their area, stewardship groups have also become [increasingly] important as the general public begins to realise the importance of seeing [trails] as recreation and transportation" (One Green City, 2012).* They provide trail maintenance and construction, identify and report issues and hazards, fundraise for trail projects, and champion the value of trails within the community. These organizations are volunteer-driven and provide opportunities for targeted and organized trail projects. Trail stewardship is not limited to organized groups. A great deal of trail stewardship is conducted by informal work parties.

### 2.2 Non-Motorized

#### *2.2.1 Hiking / Walking / Running*

Hiking, walking and running on trails constitutes the most popular activity among trail user types and is accessible to all age groups and activity levels. There are seven hiking and walking organizations (including trail stewardship groups) represented on the RTMP Working Group:

1. Naramata Woodwackers.
2. Summerland Trans Canada Trail Society.
3. Vermillion Trails Society.
4. Area D (Kaleden and Okanagan Falls).
5. China Ridge.
6. Adventurer's Club.
7. Similkameen Trails Society.

**Photo 1: Trail use by cross country runners. Photo: Kelley Cook**

The hiking / walking / running sector uses a wide range of trail types ranging from rough, single-track nature trails to paved, double track urban trails. The preferred type of trail is dictated by the goals and objectives of the participant. For example, a naturalist may prefer a remote, unimproved nature trail and this preference may be shared by a trail runner or mountain biker. However, a runner, road biker, or a person with a disability may prefer a paved or machine graded and surfaced trail. Each sector's trail preference is tempered by their level of fitness, expertise and risk aversion. For the purposes of discussion, tables 1 and 2 are presented showing comparative trail characteristics, trail surface types, and user preferences.

Organized hiking / walking clubs and societies conduct trail maintenance and construction, organize group hikes, and raise funds for trail related projects. The hiking / walking group also covers diverse users, including advanced hikers, trail runners, trail users with disabilities, families walking with small children, and individuals hiking to access climbing areas or other recreational opportunities. Generalized issues and concerns within the hiking and walking community include private land concerns and access to trails; conflicts with motorized users; facilities, wayfinding and interpretative signage; and trail maintenance issues including fundraising, fund allocation, project prioritization and damage caused to trails by other user groups.

While hiking occurs across the landscape of the RDOS, there is a popular preference for trails within the provincial parks and protected areas because motorized use tends to be restricted. Popular hiking areas include Cathedral Provincial Park, Snowy Protected Area, Manning Park, Brent Mountain, Skaha Bluffs and the Rock Oven. Trail runners tend to prefer trails with the same characteristics favoured by mountain bikers including Three Blind Mice, Carmi, Campbell Mountain and Giant's Head.

### *2.2.2 Road / Mountain Biking*


**Photo 2: Cyclists enjoying the Centennial Trail. Photo: Bob Wicks**

For the purposes of this process, "mountain biking" refers to anyone who cycles on the region's trail system. Road bikes generally make use of the road systems but may occasionally use paved trails that can accommodate the greater rate of speed at which they tend to travel. Trail cyclists are an extremely diverse group, ranging from families and seniors using the KVR and other gentle trails, to commuters using trails to travel between destinations, to expert mountain bikers constructing and using natural surface trails or those with jumps and other Trail Technical Features (TTFs). There is one organized mountain bike club in the region: The Penticton and Area Cycling Association (PACA). There are also private enterprises such as Bush Pilot Biking, a local bike guiding company and mountain bike trail steward. Mountain bike trail stewards organize group rides and maintain and construct trails. Mountain biking is for the most part compatible with the hiking / walking user type, with both users enjoying many of the same trails and sharing the same concerns, including trail maintenance. However, conflict can occur between hikers and bikers. The biking community was represented on the RTMP Working Group by the following organizations:

1. Bush Pilot Biking.
2. Penticton and Area Cycling Association.

It should be noted that the representative for the Penticton and Area Cycling Association did not attend the Working Group after the second meeting. Mountain bikers tend to prefer trails with looping networks, varied grades and hardened surfaces. Popular mountain biking areas include Three Blind Mice, Carmi, Campbell Mountain and Giant's Head.

Road biking has seen increased popularity in recent years and events such as the Axel Merckx GranFondo and the Ironman Canada Triathlon have helped to grow the sport's popularity in the RDOS area and to establish the region as a road biking destination.

### *2.2.3 Equestrian*

**Photo 3: Grant pond trail. Photo: Backcountry Horsemen of BC**

Equestrian users represent a smaller portion of the region's total trail user types, but the equestrian community has its own unique set of needs, issues and concerns. Horses can travel over a wide range of terrain for long distances and represent a traditional mode of travel in B.C. As such, and for the purposes of this document, they have a special status in trail management and planning. While classified as non-motorized, equestrians are not self-propelled and because horses are easily spooked, any encounter with another trail user type can potentially result in conflict. Generally, equestrians prefer soft surfaced trails and avoid pavement or exposed bedrock. The equestrian community was represented on the RTMP Working Group by the following organization:

1. Horse Council of BC.

Equestrian use is wide ranging throughout the regional district but also shows a preference for parks and protected areas, including Cathedral Provincial Park, Snowy Protected Area, Manning Park and Mount Hawthorne.

### *2.2.4 Commuter*

Commuters are non-motorized, generally consisting of cyclists and pedestrians who use trails for a portion of their commute. The main consideration for the commuter user groups is seamless connections between the trail and road system, and that features such as bike lanes and sidewalks are available after major corridor trails terminate. With commuter trails, safety and ease of flow tends to take precedence over adventure, although viewsheds and aesthetics are key factors. Additionally, community connections via the trail system are important for attracting new commuters and improving the experience for those currently commuting via the trail system. No organization represents this user group; however, the interests of that sector fall under the mandate of the RDOS and each municipality.

The main commuter corridors identified include Summerland to Penticton, Keremeos to Cawston and the Penticton-Okanagan Falls-Osoyoos corridor.

## 2.3 Motorized (ORV)

**Photo 4: ATV use on old FSRs in the backcountry. Photo: Canadian ATV Adventures**

The motorized off road vehicle (ORV) community consists of two main user types; dirt bikes, including dual sport riders, and all-terrain vehicles (ATV), including utility terrain vehicles (UTV). These varied uses share a number of access trails, but otherwise maintain and use their own preferred trail systems. ORV users either access the trails directly from their residence or trailer their ORVs to the trailheads. As a result, the latter group is heavily dependent on access points and associated facilities. ORV riders use trails ranging from singletrack to double track to resource roads. Users have varied interests, from touring ATV riders who use resource roads and double track trails to travel hundreds of kilometres in a given day, to trials bike riders who access steep and technical singletrack.

### *2.3.1 ORV - Dirt Bike*

Dirt bikers consist of two groups: traditional dirt bike users who use off road trails, and dual sport users who have street legal bikes that are used to travel between communities or areas on and off road. Within the dirt bike category there are a number of distinct subgroups including trials, motocross (MX) and endure. The major concern for the dirt bike community is loss of access in key areas. The dirt bike community is represented on the working group by:

1. BC Off-road Motorcycle Association.
2. South Okanagan Dirt Bike Club.

Popular dirt biking areas include “Above the Mice” and “Above the KVR”, as well as Christie Ridge.

### *2.3.2 ORV - All Terrain Vehicles*

With a requirement for a wider trail than dirt bikes, All Terrain Vehicle (ATV) users are generally concentrated on resource roads, wilderness trails and specific portions of the KVR. ATV activity in the region generally exists on double track trails and rural resource roads. The most significant ATV user group for this plan are touring riders, who cover long distances in a single day on

resource and wilderness roads and double track trails. Like their motorized counterparts in the dirt bike community, the key concern for ATV users is loss of access to key riding areas. Trail management issues associated with ATV use are noise, the degradation of trail surfaces and the creation of fugitive dust caused by the wide balloon tires. The ATV community is represented on the working group by:

1. Quad Riders ATV Association of British Columbia (ATV/BC), representing the Penticton ATV Club, Summerland ATV Club, Osprey Lake Snowwheelers ATV Club, and the Similkameen Valley Trail Riders ATV Club.

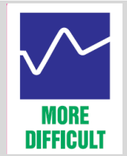
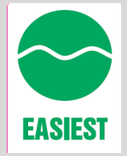
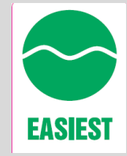
ATVs make wide use of existing forest service and resource roads in the regional district as well as showing a preference for Eneas Lake Provincial Park, the Dark Lake to Osprey Lake corridor, the Coalmont to Tulameen corridor and the Whipsaw area.

**Table 1:** Recommended trail characteristics for different users.

| | | Trail Difficulty Range | | |
|---|---|---|---|---|
| Designed Use | | Infrequent Use / Challenging | Moderate Use / Moderately Challenging | Heavy Use / Low level of difficulty |
| Pedestrian / Hiking | Target Grade | 5%-25% | 3%-18% | 2%-5% |
| | Short Pitch Maximum | 40% | 25% | 5% |
| | Turn Radius | No minimum | 0.6 m-1.8 m | 1.8 m-2.4 m |
| Cycling | Target Grade | 5%-20% | 3%-10% | 2%-5% |
| | Short Pitch Maximum | 30%<br>Up to 50% on downhill segments only | 15% | 8% |
| | Turn Radius | 0.6 m-1.8 m | 1.0 m-2.4 m | 2.4 m-3.7 m |
| Horseback | Target Grade | 5%-20% | 3%-12% | 2%-10% |
| | Short Pitch Maximum | 30% | 20% | 15% |
| | Turn Radius | 1.2 m-1.5 m | 1.5 m-2.4 m | 1.8 m-3.0 m |
| ATV | Target Grade | 0%-12% | 0%-10% | 0%-8% |
| | Short Pitch Maximum | 35% | 25% | 20% |
| | Turn Radius | 2.4 m-3.0 m | 4.6 m-6.1 m | 7.6 m-15.2 m |

Modified from multiple design parameter tables in Forest Service Handbook 2309.18 – Trails Management Handbook, Chapter 20 – Trail Development, US Forest Service National Headquarters, Washington, DC.

**Table 2:** Amalgamated summary of trail classification systems currently in use in the RDOS

| Trail Type: Trans Canada Trail (TCT) Standards | Low Impact Nature Trail | Unsurfaced Singletrack (hand built) | Unsurfaced Single / Double Track (machine built) | Gravel Trail (singletrack) | Gravel Trail (double track) | Paved Trail | Cycle Lanes / Sidewalks | Gravel Road | Paved Road | Undeveloped Rail Bed | Water Route |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trail Type: Whistler Trail Standards** | **Type V** | **Type IV** | **Type III** | **Type II** | **Type II** | **Type I** | | | | | |
| **Trail Difficulty Rating: IMBA** |  Most Difficult to Very Difficult |  Most Difficult to Very Difficult |  Very Difficult to More Difficult |  More Difficult to Easy |  Easy to Easiest |  Easy to Easiest | | | | | |
| **Alberta Trail Classification:** | Primitive | Primitive | Semi-developed | Developed | Primitive to Semi-developed | Developed | Developed | Semi-developed to Developed | Developed | Primitive | |
| **Trail Difficulty Rating: BCORMA** | |   |   |   |   | | |   | |   | |
| **Category (TCT)** | Greenway Trail | Greenway Trail | Greenway Trail | Greenway Trail | Greenway Trail | Greenway Trail | Greenway Trail | Roadway | Roadway | Yellow Trail[1] | Blueway Trail |
| **Overview** | Remote, hiking-only trails | Describes many of Canada's hiking and biking trails | Rustic trails for heavier use by less skilled trail users | Widest potential user group on rough surface trail | Widest potential user group on rough surface trail | Popular non-motorized routes | Popular non-motorized routes | Resembles a forest service or wilderness road – Motor Vehicle or Highway Traffic Act dictate use | Usually public roads, may require connection | Surface is large crush – can be developed into Type II Gravel Trail (double track) | Established lines of travel along a water course |
| **Appropriate Uses** | Hikers only<br>Winter activity not expected | Experienced trail users, including hikers, mountain bikers, equestrians | Similar to hand built unsurfaced track<br>Winter activity not expected | All non-motorized modes of transportation | Summer and winter motorized or non motorized | Pedestrian and non-motorized wheeled transportation, equestrian access | Pedestrian and non-motorized wheeled transportation | Appropriate for multiple users with few restrictions in summer or winter | All users subject to "motor vehicle code", "highway traffic act", etc | Summer and winter motorized use | All users subject to relevant legislation or regulations, including the Navigable Water Protection Act |
| **Material** | Anything found in natural landscape | Anything found in natural landscape | Anything found in natural landscape | Compacted gravel or other suitable material | Compacted gravel or other suitable material | Asphalt or chip-seal coast surfacing | Moderate engineering.<br>Asphalt or chip-seal coat surfacing | Engineered for motorized use.<br>¾ minus crushed gravel | Highly engineered.<br>Asphalt, cement, pavers | Rail and sleepers removed | Water, with sections of singletrack trail for portages |
| **Grade** | No grade restrictions | Average grade <8%, short sections may be >10% | Average grade <8%, short sections may be >10% | Maximum grade 10%, short sections may be ≥15% | Maximum grade 10%, short sections may be ≥15% | Maximum grade 10%, short sections may be ≥15% | Maximum grade 10%, short sections may be ≥15% | Maximum grade ~16% | Maximum grade ~16% | Maximum grade 3.3% | Portage trail <10%<br>River grade <Class 1 or 2 white water |
| **Tread Width** | 0.3 - 0.5m | 0.3 - 0.5m | 0.5 - 0.7m (1 way)<br>0.7 – 1.5m (2 way) | 1 – 2.5m | 2.5 - 3m (1 way)<br>3 - 4.5m (2 way) | 2 - 3m | 2 - 3m | 6 - 8m (3 - 4m per lane) | | 3 - 4m | Portage trails 0.5 - 0.7m |
| **Cleared Width** | No requirements for cleared width | Tread width plus 0.5m either side | Tread width plus 0.5m either side | Tread width plus 0.5m either side (plus 1m if equestrian) | Tread width plus 0.5m either side (plus 1m if equestrian) | Tread width plus 1m either side | Tread width plus 1m either side | | | Minimal | Tread width plus 0.5m either side |
| **Cleared Height** | 2 - 3m | 2 - 3m for hikers/bikers 4m for equestrian | 2 - 3m for hikers/bikers 4m for equestrian | 2 - 4m | 2 – 4m | 3m | 3m | | | | 2 - 3m |
| **Maintenance Consideration** | Low maintenance: possible erosion or fallen / overgrown vegetation concerns | Erosion mitigation and regular inspection necessary | Erosion mitigation and regular inspection necessary | Low maintenance; occasional grading / smoothing | Low maintenance; occasional grading / smoothing | Regular inspection, immediate repair of damaged sections | Regular inspection, immediate repair of damaged sections | Regular grading / resurfacing | At discretion of agency in charge of maintenance | Little maintenance needed | Low maintenance: possible erosion or fallen / overgrown vegetation concerns |

1. Any trail type may be categorized as Yellow Trail if motorized use occurs.

# 3.0 Policy Context

There are several agencies and legislative acts that regulate and / or manage trails in BC, including the provincial agency responsible for lands and natural resource operations, BC Parks, Regional Districts, Parks Canada, and provincial acts including the *Forest and Range Practices Act, Land Act, Local Government Act, Canada National Park Act, Wildlife Act, Water Act, Occupiers Liability Act, Motor Vehicle (All Terrain) Act*, and the federal *Fisheries Act*. The specific details of how each of the above affects trails and trail management is outside the scope of this document, however it should be noted that the extensive trail network covered by the study area may be affected by one or several regulatory agencies if industrial activities (e.g. forestry) become active.

Of the above acts, the *Forest and Range Practices Act* is most likely to affect the future management of trails in the study area. In particular, section 56 (establishing a trail management agreement) and section 57 (authorizing a trail) involve forming partnership agreements between local trail user groups and the provincial agency responsible for land management, including partnerships for ongoing management of specific trails. Management is likely to entail adopting trail standards for construction, erosion control, maintenance and signage.

Within the RDOS, development and formalization of trails on public land is subject to Official Community Plans (OCPs) for the relevant electoral area, the Okanagan Shuswap Land and Resource Management Plan (LRMP), and to the South Okanagan Regional Growth Strategy.

### 3.1 RDOS Official Community Plans

Trails exist over a large range of land designations within the RTMP area. See Map 1 for an overview of the Electoral Areas within the study area. Trails within the boundaries of RDOS Rural Electoral Areas A, C, D, E, F and H are subject to the OCP policies, priorities and designations of the given Electoral Area. The OCP documents referenced for this study are all accepted RDOS Bylaws. This strategy seeks to meet the objectives set forth in the relevant OCP. Table 3 identifies those policies as they relate to trails.

RDOS - Municipal Boundaries
Trails

**RDOS - Ownership**

**OWNERSHIP**

- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

Osprey Lake
Okanagan Mountain PP
Electoral Area E
Electoral Area F
Electoral Area
Electoral Area
Penticton
Brent Mountain PA
Electoral Area
Princeton
Electoral Area H
Hedley
Electoral Area D
OK Falls
Electoral Area G
Cascade PP
Keremeos
Electoral Area C
Electoral Area
Oliver
Manning PP
Cathedral PP
Snowy PA
Electoral Area A
Electoral Area
Osoyoos
Electoral Area B

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

CASCADE ENVIRONMENTAL
RESOURCE GROUP LTD

N
W E
S

0 10 20 30 40 50
Kilometers

**Regional District - Overview**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

**Table 3**: OCP Summary by Electoral Area

| | |
|---|---|
| **Area A: Osoyoos Rural** | |
| **3.0 Broad Goals** | (3.1 Social) Maintain access to and enjoyment of community parks and recreation areas with an emphasis on new development being required to provide green space and connectivity to public areas. |
| | (3.2 Economic) Support development of activities that have an added tourism value. |
| **12.0 Parks and Natural Environment** | (12.2.1 Parks Objectives) To provide local parks, trails, and other outdoor recreation opportunities in the locations and in sufficient quantity to be available and accessible, where possible, to all members of the community. |
| | (12.2.2 Parks Policies) Considers the following criteria for establishing park land:<br>• The need for trail connections<br>• Supports the creation and extension of a connected network of trails and recreation corridors to access community parks, recreation areas, public open space and amenities.<br>• Recognizes the various interests in the future use of the abandoned irrigation canal right-of-way, and designates it Public Corridor in order to protect options for future use as a recreation and / or utility corridor.<br>• Requires that park and trail corridors within the ESDP Area are incorporated where possible, and where the impacts on the ESDP Area can be mitigated to the satisfaction of the relevant Provincial agency, the Department of Fisheries and Oceans, and / or the Technical Environmental Advisory Committee. |
| **14.0 Transportation** | (14.3 Transportation Policies) Supports the enhancement of cycling and pedestrian systems in new and existing developments, and the improvement of safety for walking and cycling along roads. |
| **Area C: Oliver Rural** | |
| **12.0 Parks and Natural Environment (Repeated in 14.0 Transportation)** | (12.2.2 Policies) Recognizes the various interests, in particular those of the Province, in the future use of the Kettle Valley Railway right-of-way:<br>• The right-of-way is designated as 'Public Corridor (PC)' on the Official Community Plan Map in order to protect options for future use as a continuous traffic, utility and / or recreation corridor.<br>• The context for review and referrals for future use of the Kettle Valley Railway will be the 'Management Strategy for Abandoned Right-of-way of Kettle Valley Railway', KVR Planning Committee, 2000.<br>• The abandoned irrigation canal right-of-way is also designated 'PC' in order to protect options for future use as a continuous utility and / or recreation corridor. |

| | |
|---|---|
| **Area D1: Kaleden Apex Southwest Sector** | |
| **14.0 Parks and Natural Environment** | (14.2.1 Parks Objectives) Establish a trail network utilizing the CPR right-of-way<br>• Encourage the CPR right-of-way to be preserved, acquired, and utilized as a linear park and recreation corridor between Kaleden and Okanagan Falls;<br>• Work with the Provincial government to establish appropriate uses including a trail linkage along the abandoned CPR trail corridor and encourage that measures are taken to reduce the impact of a trail on agricultural operations, such as: maintaining and enhancing fencing; and ensuring there is no loss of farm access across the right-of-way |
| **Area E: Naramata** | |
| **6.0 Broad Goals** | (6.3 Environmental) Maintain public access to parks and recreation areas, with new development required to provide green space and connectivity to public areas |
| **7.0 Growth Management** | (7.3 Policies) Provision of parks, open space, and public corridors that are consistent with community needs, fit with existing infrastructure, and maintain environmental integrity |
| **15.0 Parks and Natural Environment** | (15.2 Parks Guidelines) Community Green Ways, Linking Communities to Country and People to Nature |
| | (15.2.1 Parks Objectives) To provide local parks, trails, and other outdoor recreation opportunities in the locations and in sufficient quantity to be available and accessible, where possible, to all members of the community |
| | (15.2.1 Parks Objectives) To ensure that recreation activities are compatible with the rural character of the Plan area.<br>• outdoor recreational and neighbourhood park opportunities;<br>• size, topography and configuration of the land;<br>• the need for trail connections |
| **17.0 Transportation** | (17.2 Objectives) To achieve a coordinated open space system incorporating cyclists and pedestrians, and to encourage non-vehicular accessibility, respecting ESAs. |
| | (Objectives) To designate a pedestrian route between the Arawana residential area and the Naramata townsite. |
| | (Policies) Recognizes the following policies concerning the Kettle Valley Railway (KVR) corridor:<br>• Designates the KVR corridor as a Public Corridor. This corridor is an integral component of the Trans-Canada Trail and the Naramata Area Road and Trail Network Plan. The Board recognizes that there will be growth in the Naramata area, and that the Province maintains interest in utilizing the KVR corridor for transportation purposes if development needs in Electoral Area 'E' are such that a secondary road is required. The community strongly discourages the development of any portion of the KVR for transportation purposes since it is a valued public recreation resource.<br>• Encourages the Province to ensure efficiency of the existing transportation system, prior to any development of the KVR corridor (e.g. investing in transit, providing safe places to walk, cycle, and access transit, and |

| | |
|---|---|
| | supporting initiatives which reduce the need to travel).<br>• Encourages the KVR corridor to be maintained as a Public Corridor. Where there is no other alternative for transportation purposes, Provincial and local government agencies will embark on a management planning exercise, with community input and support. It is encouraged that the KVR corridor be maintained where possible, and where not possible, be a separate route from the road surface.<br>• Discourages motorized use along the KVR corridor, with the exception of emergency vehicles.<br>• Investigates alternate road links between the KVR corridor and Naramata Road. |
| **Area F: Okanagan Lake West / West Bench** | |
| **12.0 Parks and Natural Environment** | (12.2.1 Parks Policies) The Regional Board will encourage the Kettle Valley Railway right-of-way to be preserved and utilized as a linear park and recreation corridor. |
| **Area G: Keremeos Rural / Hedley** | |
| | No trail-related provisions |
| **Area H:Princeton Rural** | |
| **11.0 Parks and Natural Environment** | (11.2 Parks Policies) The Province is encouraged to complete the Recreation Subunit Inventory, Landscape Inventory and Analysis for the Rural Planning Area. Furthermore, the Province's efforts to expand the range of recreational opportunities in the Planning Area including facilities such as, the China Ridge Cross Country Ski Trails, are supported. |
| **City of Penticton** | |
| **Introduction** | Recognizes the following policies concerning trails:<br>• Construction of a walkway on a portion of the KVR right-of-way.<br>• Continued development of trails, walkways and paths. |
| **4.0 Transportation Infrastructure** | (4.1.2 Trails, Paths and Walkways). The City of Penticton developed a Cycling Network Plan in 1998, which included:<br>• Enhanced cycling travel choices<br>• Cycling and hybrid lanes<br>• "Off Street Facilities" or multi-use pathways |
| **5.0 Improve Alternate Transportation Amenities** | Places a high priority on a plan for inter-regional transit between local communities and municipalities. A key asset in the region for alternative transportation is the Regional Trail Network, including the KVR and the Trans Canada Trail (TCT). |
| **Table 7 Climate Actions for Penticton** | Education & Outreach<br>• Distribute information about locally available transportation alternatives<br>• Communicate the lifestyle and financial benefits of public transit and active transportation<br>Incentives<br>• Improve pedestrian, cycling and public transit infrastructure and amenities<br>• Explore creating an alternative transportation infrastructure reserve fund<br>Policy & Regulation<br>• Establish pedestrian and biking-friendly standards |

| | |
|---|---|
| | • Revise the zoning bylaw to include bike and scooter parking standards<br>• Lobby the Ministry of Transportation to include wide or separated lanes for safe pedestrian and cycling access |

There is considerable variation between jurisdictions regarding the acknowledgment of trail infrastructure requirements and the provision of trail policies. For the purposes of this plan, current and future trails and sections of trail mentioned in the OCP will be treated as high priority issues or improvements.

The following action items are identified as action items by the Naramata OCP:

**Action Item 1 Designate a pedestrian route between the Arawana residential area and the Naramata townsite as recommended in the OCP for Area E: Naramata.**

**Action Item 2 Limit motorized use along the KVR corridor within populated areas in Area E: Naramata. This can be accomplished through capital projects like gates, signage and paving or resurfacing key sections of the trail.**

The Province has jurisdiction on the KVR corridor, and OCP designations for areas with provincial jurisdiction are treated as community recommendations by the Province. Given that the Naramata trail is in a populated area, particularly the stretch between Penticton and Naramata, the non-motorized OCP designation is consistent with provincial policy.

The following action item is identified by the Kaleden / Apex OCP:

**Action Item 3 Establish a trail network using the CPR right of way in the Kaleden / Apex area as recommended by the OCP for Area D1: Kaleden / Apex.**

The City of Penticton mentions cycling and commuter networks as part of its OCP. The 1998 Cycling Network Plan identifies cycle routes within and connecting to the City.

**Action Item 4 Build on the City of Penticton's Cycling Network Plan by identifying and signing cycling routes that link to the corridors identified by the City. Where the City is successful in lobbying the provincial agency responsible for transportation to enhance cycling opportunities on public roadways, the RDOS should work with the City and the provincial government to ensure those enhancements are expanded to include connecting rural roads.**

As part of the consultation process for Area H, Princeton Rural OCP, the RDOS conducted a Recreation Objectives survey. Full results can be found in Appendix 5. Area H residents overwhelmingly support parks and recreation planning and infrastructure, including trails. They also support (56% in favour versus 29% opposed) restricting certain uses on recreational land, including restrictions on motorized vehicles.

### 3.2 Regional Growth Strategy

The South Okanagan Regional Growth Strategy (RGS) was enacted as RDOS Bylaw (2421) in 2007. The Vision and Approach for the RGS is:

*South Okanagan residents value living in a region that celebrates a sense of community that supports a positive quality of life, where people can enjoy sustainable development with environmental integrity while meeting the social and economic needs for present and future generations.*

Key elements of the regional vision include respect for agricultural land; strategies for maintaining biodiversity; urban population base; higher density development; employment opportunities and even distribution; reduction in single occupant vehicle transportation; additional recycling and waste reduction opportunities; and best practices for development to ensure resource conservation. The strategy also outlines a prescription for growth management though the following actions:

1. Promoting economic diversification.
2. Ensuring healthy ecosystems.
3. Promoting inclusive and accountable governance.
4. Carefully directing human settlement.
5. Maximizing the efficient use of infrastructure.
6. Creating safe, culturally diverse and healthy communities.

A comprehensive, well managed trail system is vital to many of these goals. As discussed below, trails promote healthy communities and improve quality of life for visitors and residents. Trails are relatively inexpensive and provide long-term health and economic benefits for residents and visitors alike.

**Action Item 5 Promote economic and environmental responsibility by creating and supporting trail connection opportunities with a focus on connecting communities within the RDOS.**

### 3.3 Okanagan – Shuswap Land and Resource Management Plan

Trails exist over a range of land tenures within the RDOS, including Crown, Regional District, Municipal, First Nations and private land. While this document focuses primarily on trails and staging areas within the RDOS' jurisdiction, access to trails on Crown land is an important concern. Many trails and trail-related features, like signage and staging areas, exist in support of access to trail-based recreation opportunities on Crown land. The Okanagan – Shuswap Land and Resource Management Plan (LRMP 2001) provides direction for the management of Crown land and resources. The LRMP 2001 provides policy direction and clarification on resource use and development and was developed as part of a collaborative public process. In the event of a conflict between the LRMP's strategies and statutes or established regulations within a given jurisdiction, then the statutes or regulations will govern in the absence of higher level plans.

Appendix A provides a table that reviews the LRMP in its entirety as it relates to existing or potential trail usage on Crown land. The two primary specified issues within the LRMP's Objectives and Strategies that may have a direct impact on trail-based recreation activity on Crown land within the study area of this RTMP are user group conflict and tension, and loss of recreation values or opportunities caused by development.

The goals of the LRMP 2001 for recreation are:

- Maintain and / or enhance a diverse range of opportunities for outdoor recreation.
- Maintain the features that provide for the diverse range of quality recreational experiences.
- Recreation activities should be pursued in a safe manner.

*"Proponents to provide alternate trails for public recreation if existing trails become unusable or dangerous as a result of industrial activities" (REC 3-3, 2.4).*

**Action Item 6 Ensure trail inventories are accurate, then provide trail inventories to the appropriate authorities (e.g. Okanagan Shuswap Forest District) undertaking industrial activities within the strategy area.**

*"Where conflicts emerge, user groups are encouraged to work out solutions on their own using interest based negotiation. Where these conflicts cannot be resolved, the Ministry of Forests and / or other appropriate agencies should be consulted for assistance...Encourage public awareness and education on appropriate use of recreation areas" (REC 3-5, 3).*

**Action Item 7 Implement a respect-based conflict resolution framework for issues and ensure that trails are appropriately signed so users are aware of rules, restrictions and codes of conduct.**

## 3.4 BC Provincial Agency Responsible for Trails

### *3.4.1 Trails Strategy for British Columbia*

The Province completed a Recreation Trails Strategy for British Columbia in 2009. The vision of the Strategy is to create a *multi-phased approach to developing a trails strategy in the Province.* The key components of the strategy are Collaborative Planning, Good Governance, Sustainable Resources, Effective Management, Comprehensive Information and Strategic Marketing.

The goal of the Strategy is *a world renowned network of sustainable trails accessible to all, which foster social, cultural, health, economic and environmental benefits for trail users, communities and the Province.* The strategy provides a framework for a collaborative planning approach followed by a specific implementation plan, which includes prioritization of recreational activities on crown land and mitigation of conflicts with other land uses.

**Action Item 8 Ensure that all new trail projects abide by the Recreation Trails Strategy for British Columbia and that capital projects, particularly on provincially managed trails (i.e. KVR) are completed in consultation and partnership with the Province.**

As mentioned in section 1.0 of this document, the Provincial Trails Strategy uses a broad definition of 'recreation trail' to ensure that the strategy applies to the diverse range of trail uses.

*A recreation trail is a path or route solely or partly used for one or more recreation functions.*

By consensus with the Working Group, this definition will also be used for this RTMP to maintain consistency with the Province's strategy.

### *3.4.2. Forest and Range Practices Act*

**Establishing a trail by Ministerial Order through Section 56 ('established trails')**
Section 56 of the Forest and Range Practices Act (FRPA) enables the designation of trails by:

- Establishing a recreation trail by Ministerial Order ('established trails').

Established trails are managed by the provincial agency responsible for trails and fall into one of three categories:

- User maintained without fees.
- Managed without fees (frequently in partnership with volunteers).
- Managed with fees that address services provided through partnership agreements, usually with a not-for-profit group or organization.

Established trails managed in partnership with a group or organization are subject to a signed agreement specifying the roles of both the Province and the group, and in most cases, the agreement holder is eligible for third party liability insurance provided at no cost by the Province. The provincial agency responsible for trails may establish objectives for each trail that have a legal effect on forest and range tenure holders.

**Authorizing trail construction, rehabilitation or maintenance in writing through section 57 ('authorized trails')**

Upon application by an individual or organization, authorization to construct rehabilitate or maintain a trail on Crown land can be granted under Section 57 of the *Forest and Range Practices Act*. Authorization to conduct works on a trail under section 57 is specific to the named organization or individual and does not imply any formal or legal land status designation of the trail.

The process of authorization includes an accepted proposal that trail construction, maintenance or rehabilitation will not cause significant risk to public safety, unacceptable damage to the environment, or unacceptable conflicts with other resource values or users. Subsequent to providing authorisation, applicants and provincial staff may work cooperatively to establish a trail according to section 56 and enter into a partnership agreement that specifies the obligations of the proponent and the Province. Section 57 authorization is sometimes a tool or a step toward establishing a trail under section 56.

**Action Item 9 Work with Provincial Recreation Sites and Trails staff to evaluate the Crown land trail network, and prioritize trails and trail areas for establishment under FRPA**

**Action Item 10 Encourage user groups to obtain appropriate authorization for trail construction, maintenance or rehabilitation by making 'how to' information available on the *Click, Hike, Bike*™ website**

The *Forest and Range Practices Act* has recently been amended to include penalties for mud bogging, the practice of riding ORVs in muddy, often sensitive aquatic and wetland areas.

### *3.4.3. Land Act*

The *Land Act* applies on Crown lands outside of parks and protected areas. Under the *Land Act*, the provincial agency responsible for trails has the obligation to authorize Crown land for commercial recreation purposes through tenures and licenses or occupation. Tenured 'commercial recreation trails' are generally recognized under a license of occupation.

The Adventure Tourism Policy outlines the recreation tenure process. The Province requires that commercial recreation operators submit a management plan as part of their tenure application. The management plan outlines the activities proposed within the proposed tenure area. Commercial recreation operators are required to adhere to the activities listed in an approved management plan as a condition of maintaining tenure. Tenured commercial recreation trails

must be accessible by the general public and must be maintained by the commercial operator holding the tenure.

Section 7.1 of the *Land Act* allows for land use authority, and is generally employed as a means to help implement an approved LRMP or other land use plan. Land use objectives can also be established for recreation and could apply to a recreation trail.

### *3.4.4. Heritage Conservation Act*

The *Heritage Conservation Act* applies to all private, park and Crown lands within the Province. Lands, including heritage trails, can be designated as a heritage site through an Order-in-Council under section 9 of the act. Section 13 allows for designation of heritage sites and heritage features in use before 1846. There are currently 9 designated heritage trails in BC.

Within the RDOS the *Dewdney, Dewdney Historic 5532, Hope Pass, Hudson Bay (1849) Brigade, Rice Historic Trail, Grants Pond, Vuich, Colins Gulch, Owl's Head* and *Whatcom / Blackeyes* trails all have heritage designation.

Volunteer groups have been restoring these trails outside of BC Parks over the past five years. Maintenance within park boundaries is the responsibility of BC Parks. The table below summarizes the work completed on these restoration projects to date.

**Table 4:** Summary of Heritage Trails

| Trail Name | Km Within Manning Park | Km Within RSTBC (Cascades) | Total Distance | Trail Condition Restored Sections |
|---|---|---|---|---|
| Dewdney | 36 | 17.2 | 53.2 km | 17.2 km RSTBC 2009, 36 km plan 2012 needs funding |
| Hope Pass | 26 | 2 | 28 km | 2 km RSTBC 2010 Parks needs major restoration work |
| Whatcom | 13.5 | 4 | 17.5 km | 4 km RSTCBC 2011 Parks needs brushing |
| Hudson Bay Co. 1849 Brigade | 0 | 25 Cascades FD<br>25 Chilliwack FD | 50 km | Ongoing restoration efforts needs funding |
| Centennial | 45 | 26 | 71 km | 26 km RSTBC burnt 2006, needs major rehab / RSTBC plan 2012 |
| Rice / Vuich / Owls Head / Collins Gulch | 0 | 23.5 | 23.5 km | On-going maintenance since 2008 RSTBC |
| TOTALS | 120.5 | 122.7- 25= 97.7 | 243.20 | |

**Action Item 11 Install Heritage Protection signage at all motorized access points to restored Heritage Trails.**

### *3.4.5. Motor Vehicle (All Terrain) Act*

The *Motor Vehicle (All Terrain) Act* was established in the early 1970s and applies to snowmobiles only, though there has been a recent push for including ORVs such as ATVs and dirt bikes under this regulation, and a review is currently underway.

According to the *Trails Strategy for British Columbia (2009)*, the Province has identified the need for improved legislation. The strategy notes that improved legislation can:

- Optimize economic and community benefits from motorized use.
- Minimize environmental impact and non-motorized user displacement.
- Result in early conflict resolution.

It is also noted that legislative improvements will ensure B.C. is competitive with other jurisdictions that have comprehensive motorized legislative policies. There is much support within the motorized community for a licensing scheme for motorized vehicles similar to those existing in other jurisdictions. Such a program would allow ORVs to use roadways in designated ways and would significantly reduce motorized use of mixed use access trails. Licenses would also allow for easier enforcement through unique identification of users (licence plate). The provincial government is aware of this issue, but there is currently no existing legislation for ORV licensing. An ORV Implementation Committee was established in January 2010 to oversee the implementation of the proposed framework. Members include provincial ministers from several relevant Ministries. Proposed legislation is titled the *Off-Road Vehicle Management Framework* and is expected to be implemented by fall 2012. The framework includes:

- Registration:
    - Mandatory registration for all ORVs.
    - License plates or identification decals to assist with compliance and enforcement of trail regulations.
    - A more comprehensive definition of ORVs. Examples of ORVs under this undrafted definition will include: ATVs, off highway motorcycles, snowmobiles, utility vehicles, recreational vehicles, amphibious argos and dune buggies.
- Public Road Crossings:
    - ORV users will be able to cross public roads in designated locations with the purchase of optional annual vehicle license and insurance.
- Safety:
    - Helmets will be required for all ORV users. Other safety equipment (seatbelts) will be required if installed by the ORV manufacturer.
    - Youth under 16 years of age will require adult supervision, appropriately sized machines, and reduced speed limits.
- Environment:
    - ORV manufacturers will be required to comply with improved muffler standards for noise reduction and will be required to install spark arresters to reduce the risk of forest fires.
    - British Columbia will officially support the Federal Government's proposed emission standards for ORVs under the Marine Spark-Ignition Engine and Off-Road Vehicle Regulations. These standards will apply throughout Canada once approved.
- Compliance and Enforcement:
    - The Province will develop an ORV compliance and enforcement strategy, which will include voluntary compliance and education.

### *3.4.6 Natural Resource Road Act Project*

Many trail enthusiasts use resource roads for access and recreation. Resource roads are constructed by resource extraction companies (forestry, mining, etc.) for access to remote sites. Resource roads do not include public roads (highway, municipal, federal), roads covered by a *Mines Act* permit, or private roads. Often when resource extraction companies are ready to leave an area, they decommission roads that have positive recreation values. Under the proposed Natural Resource Road Act (NRRA), trail user groups and commercial recreation operators will be able to obtain 'Designated Maintainer' status to keep resource roads open for recreational uses. It also means that roads must be available to all users except in cases where

environmental damage or safety issues become concerns. Designated maintainers will not be required to maintain a road to any standard requested by a third party, and can establish their own preferred road condition. For example, an ORV club would not be required to maintain a forestry road to a standard suitable for logging trucks, but would be able to let the road become rutted and to be partially taken over by vegetation, creating conditions more suitable for ORVs.

The goals of the proposed legislation are (MOF, 2011):

- (Promote a) more efficient business environment.
- Fairness for those sharing the land base.
- Maintain environmental standards.
- Safety provisions focused where the decisions are made.

"Temporal road and trail management for recreational use in periods of no industrial activity" and "Access Management to achieve resource management and economic objectives" (MOF, 2011) are identified as key policy challenges. The policy framework includes the levels of use of a given road that will trigger the obligation to perform maintenance and will provide mechanisms for disagreement resolution between parties and will define activities requiring cost sharing. Additionally, open resource roads are required to be open to the public except as designated by the government. Any user causing damage to a road will be responsible for that damage. Further to this, the Province will work to limit third party liability to acts of misfeasance. The act will include standards for features such as bridges and structures and for qualified construction and maintenance personnel. The targeted implantation of this proposed legislation is summer / fall 2013. This act has significant implications for trail planners and the process should be followed closely.

### 3.5 BC Ministry of Agriculture Guide to Using and Developing Trails in Farm and Ranch Areas

The Ministry of Agriculture (MOA) *Guide to Using and Developing Trails in Farm and Ranch Areas* was developed in 2005 to provide trail builders and stewards with guidelines to mitigate trail-related impacts on BC's agricultural land base, specifically in terms of relationship building opportunities with the agricultural community. The Guide's development recommendations focus on:

- Ensuring that trail users are the most appropriate for the type of trail and trail location.
- Locate trail routes that go around, rather than through, farm and ranch lands and when not possible consider alternative routings to accommodate seasonal needs of the agricultural use.
- Leave visual and physical barriers between the trail and the agricultural use (fencing, physical separation, water features, vegetation and elevation).
- Install a well designed and coordinated sign system that provides information about trail use.

**Photo 5: Adjacent farmland viewed from the Naramata KVR. Photo: Cascade**

The guide also provides recommendations that align with other provincial efforts to mitigate user group conflicts though the following measures:

- Develop a code of conduct to inform trail users about responsible use in agricultural areas.
- Enforce trail closures during sensitive farm operation periods.
- Facilitate volunteer use and management to ensure trail safety.
- Maintain open communications between land owners or agricultural operators and trail users regarding trail planning, design and management.
- Establish long-term management and / or enforcement and communication between communities.
- Establish a planned and developed maintenance program to minimize impacts.

**Action Item 12 Trail users should communicate with agricultural operators, landowners and bodies as a group to ensure solutions work for all trail user groups. A collective voice amongst trail users will also be more effective in dispute resolution with organized agricultural bodies.**

**Action Item 13 Implement a respect-based Code of Conduct**

### 3.6 BC Agricultural Land Reserve

The BC Agricultural Land Reserve (ALR) was established in 1974 to prevent loss of agricultural land to other uses. A commission, appointed by the Province, established the ALR a zoning designation for agricultural land. The ALR includes 4.7 million hectares of land in BC. Special permits are required by the ALR under sections 2 and 3 of the Agricultural Land Reserve Use,

Subdivision and Procedure Regulation. An individual or group must file an application with the office of the Commission for any of the following uses:

- Widening of an existing road right of way.
- Construction of a road within an existing right of way.
- Dedication of a right of way or construction of any of the following:
    - A new or existing road or railway.
    - A new or existing recreational trail.
    - A utility corridor use.
    - A sewer or water line other than for ancillary utility connections.
    - A forest service road under the *Forest Act.*
- The new use of an existing right of way for a recreational trail (BC ALC, 2011).

### 3.7 BC Environmental Guidelines

The BC agency responsible for provincial parks maintains that trailbuilders take into consideration environmentally sensitive areas, parks and protected areas, species at risk, and flood protection areas when constructing or improving a trail. Environmentally sound trailbuilding guidelines are readily available from a number of sources. The BC agencies responsible for water stewardship, fish and wildlife are mandated to preserve and maintain natural biodiversity and fish and wildlife habitat. This includes biodiversity and habitat within parks and recreation sites. Several of these agencies have developed policies relevant to the RTMP:

***Ecosystems Branch –*** The RDOS is a large region that includes a number of environmentally sensitive areas, many of which are designated parks. The Ecosystems Branch of the provincial government is the first point of contact for development that may disrupt natural areas and / or habitats. This branch considers development proposals in accordance with land use planning directions (LRMP), overall protected area strategic plans, and a broad range recreation and conservation values. It then determines if development activities, including trail construction, have a negative impact on protected areas / *Land Act* reserves.

A recent project of the provincial government, the Sensitive Environmental Inventory, provides general management directions relating to future trail development as follows:

- Delineate buffers and corridors around sensitive ecosystems.
- Avoid or mitigate impacts of new trail development on the ecosystems.
- Restrict trail users to trails.
- Closely monitor trails for invasive plants.
- Restrict recreational access through trail designation, signage, seasonal use restrictions, etc.
- Ensure fences limit access but do not obstruct wildlife movement.
- Design trails in accordance with best management practices.

***Environmental Stewardship –*** This branch includes management and development of ecological reserves, protected areas and parks. Under the *Protected Areas of British Columbia Act; Park Act; Ecological Reserve Act and Environmental and Land Use Act,* all trail construction and development within these areas must be conducted in consultation with the relevant provincial agency.

***Parks and Protected Areas Division (BC Parks) –*** There are 26 provincial parks and protected areas within the RDOS boundaries. While each park has its own rules and regulations regarding trails, there are some broad applications within the provincial legislation that support specific rules regarding motorized recreation, dogs off leash, and other concerns. Trails within parks are either

historic or were established by BC Parks as a result of recreational needs and trends, conservation values and cultural heritage issues. BC parks has its own trails policy for trails within parks, and trails are maintained and constructed under BC Parks' *Park Design Guidelines and Data* (BC Parks, 1996). This RTMP will identify potential linkages to parks, but will not consider trail recommendations within park boundaries.

***Water Stewardship –*** This division protects community water supplies and regulates flood protection and dike and dam safety. Their mandate includes sustainable use of water resources to ensure human and environmental safety. Several trails within the RDOS are partially located along dikes. Maintenance, development and legitimization of these trails will require consultation with water stewardship authorities.

## 3.8 Government of Canada

### *3.8.1 Parks Canada*

*"National parks are established to protect and present outstanding representative examples of natural landscapes that occur in Canada's distinct natural regions." (Parks Canada, 2011)* The area of the South Okanagan – Lower Similkameen was identified as a candidate site for a national park. In 2003, the Government of Canada and the Province of British Columbia signed a Memorandum of Understanding (MOU) that committed the two governments to a feasibility study on the creation of a national park reserve in the provincial Protected Area known as the South Okanagan Grasslands.

According to the Parks Canada website established for the project, the rationale for establishing a national park in the South Okanagan and Lower Similkameen is based on the uniqueness and fragility of the region's ecosystems:

*"This dry landscape also includes small wetlands, and natural habitat alongside lakes and rivers which provide essential habitat to many species from birds to amphibians. It is also an essential corridor for movement of species between arid lands to the south into the interior of B.C.*

*The South Okanagan-Lower Similkameen is one of Canada's richest areas of natural biodiversity, including many rare species, but also among the most at risk.*

*A national park reserve would expand and enhance conservation efforts in the region by connecting the existing network of protected areas and by establishing partnerships and collaborative work with First Nations, ranchers, range professionals and scientific researchers. A national park reserve would bring certainty for long term protection of this unique area. (Parks Canada, 2011)"*

In January 2012, the Province of BC withdrew its support for the South Okanagan – Lower Similkameen National Park. Parks Canada has stated on its website *"Parks Canada respects the position of the Province of British Columbia regarding the creation of a national park in the South Okanagan – Lower Similkameen Valley and recognizes that it cannot proceed without the support of the Government of British Columbia. If the province changes its position and indicates it is prepared to proceed, Parks Canada would resume work in this area. In order to respect the province's perspective, Parks Canada will not publicly engage stakeholders at this time"* (Parks Canada, 2012).

### *3.8.2 Canadian Wildlife Service*

Environment Canada maintains a number of protected areas in the region, with the most critical to the scope of this plan along the east side of Vaseux Lake. "The National Wildlife Area (NWA) was established in 1979 to protect habitat for species deemed, at the time, to be special and important including the charismatic California bighorn sheep, which was considered endangered. The Vaseux-Bighorn NWA provides significant habitat to species at risk as well as many species of migratory birds and other wildlife. The NWA is a dynamic natural system influenced by erosion, flooding, fire, grazing, and other natural processes. The NWA is important not only as habitat for local wildlife but also is part of an important habitat corridor for migratory species" (Environment Canada, 2012).

At the provincial level, the conservation status of plant and ecological communities is described through a **Red** and **Blue** list ranking status. The **Red** list includes indigenous species, subspecies and ecological communities considered to be endangered or threatened. Endangered species / communities are facing imminent extirpation / extinction whereas threatened taxa / communities are likely to become endangered if limiting factors are not reversed.

The **Blue** list includes taxa / communities considered to be vulnerable because of characteristics that make them particularly sensitive to human activities or natural events. Although they are at risk, they are not considered endangered or threatened. The area is home to the following red and blue listed species (BCMOE, 2012).

**Table 5:** Red and Blue Listed Species

| **Reptiles** | |
|---|---|
| Red | Desert night snake; restricted to very hot and rugged slopes and den in talus slopes and crevices in rock outcrops, they also use creek corridors and lake margins to hunt amphibians |
| Blue | Western painted turtle; requires shallow ponds, lakes, marshes and slow-moving streams; threatened by habitat loss from bank erosion and loss of wetlands, and road density |
| | Racer; prefers hot grasslands or open shrubby areas, hibernates in fractured rock openings and talus slopes |
| | Western rattlesnake; hibernate in kin group in sheer faces of rocky outcrops, uses diverse habitat; threatened by humans killing them out of fear, urbanization, agriculture, roads |
| | Gopher snake; live in grasslands and open forests, threatened by loss of habitat and humans killing them out of fear (they resemble rattlesnakes) |
| | Western skink; grassland species that hibernates is rock fissures and talus slopes near south-facing slopes; threatened by habitat loss (urbanization), feral cats, pet trade, recreation |

| Mammals | |
|---|---|
| Red | Pallid bat; a desert-obligate species often near rocky outcrops and water, feed on large invertebrates on the ground, biggest threat is from habitat loss (antelope brush ecosystem is critical) |
| | Great basin pocket mouse; lives in grassland and shrubland and will survive in old agricultural fields, may be threatened by habitat fragmentation caused by urban development |
| | Merriam's shrew; grassland shrew adapted to hunt large and hard-bodied prey, threatened by habitat fragmentation caused by urban development |
| | Preble's shrew; grassland shrew that hunts invertebrates, threatened by habitat fragmentation caused by urban development but little is actually known about this animal |
| | American badger; grassland or open forests required where it digs small rodents out of burrows |
| Blue | Townsend's big-eared bat; feed's on flying insects near shrubs and trees, broad distribution but populations declining, vulnerable due to pesticide use and human disturbance at colonies and hibernacula |
| | Spotted bat; primarily use open and scrub habitat, feeds within 2 meters of the ground |
| | Western small-footed myotis; forages for insects close to the ground near cliffs and rocky outcrops |
| | Fringed myotis; forages in and near scrub vegetation often for beetles |
| | Bighorn sheep; grasslands are critical winter range, as is standing water near escape terrain (rocky outcrops) |
| | Western harvest mouse; uses vole runways in grasslands, open forest, scrubland and old agricultural fields |
| | Nuttal's cottontail; associated with shrub-steppe with Antelope-Bush and Big Sage. Sagebrush and the presence of rocky outcrops are also important, does not use old agricultural fields |

The KVR runs through this reserve land, but there is currently no bridge connecting the reserve to the rest of the trail. During consultation with Ken Brock of the Environment Canada Wildlife Service, Mr. Brock indicated that while the agency would prefer no human access to the area, use continues regardless of legality. Mr. Brock identified the following concerns:

- Potential for cyclists to go off trail, which spreads invasive species and increases disturbance.
- Potential for trail users to venture to the cliffs or the lakeshore as that is where many of the threatened species are more likely to be found.
- If the area is opened for non-motorized recreation, it will be important to construct fences to prevent off-trail human use and culverts and overpasses for wildlife movement, though construction can also be damaging to a wildlife area.
- The gate at the north end does not currently prevent people from accessing the area.
- Recreation activities are not allowed in National Wildlife Areas.

- It is a criminal offense to harm species listed under the species at risk act and to destroy their critical habitat.

  In a 2007 email communication with RDOS staff, Laura Worsley-Brown of the Ministry of Environment identified the following required elements of a proposal to the Minister regarding a trail along Vaseux Lake:

- Establish a trial period of 5 years.
- Present the proposal to the public during a town hall meeting (or other suitable forum).
- Ensure that First Nations groups are adequately consulted and involved in the process.
- Ensure that CWS's concerns regarding impact on wildlife and plant life are mitigated.
- Allow for adequate signage and warnings at the start, finish, and along the trail as needed, alerting the public to the sensitivity of the area and any dangers they may face (rattlesnakes, etc.).
- In terms of funding, the Regional District would bear all costs.
- Related to establishing and maintaining the trail, including costs for any improvements such as bridge construction, etc. The Regional District would also take responsibility for any liability.

In order to establish the trail through the area and to construct a bridge at its south end, extensive consultation with Environment Canada is required, including completion of the multi-year Canadian Environmental Assessment Act (CEAA) process and agreement on conditions; possibly including measures such as wildlife fences, underpasses, signage, etc. There are a number of mitigation opportunities relevant for protecting the above species from harm caused by trail users:

- Seasonal closures to protect sensitive habitat ranges and breeding periods.
- Decommissioning of redundant trails and prevention of the creation of new trails in the direction of the slopes (important hibernacula for bats and snakes) and escape terrain for bighorns.
    - Example of signage: *Redundant and unnecessary trail segments have been permanently closed for restoration. Please respect trail closures to avoid damaging restoration efforts. The property is managed as a Wildlife Preserve first and recreational use is a privilege (Chelan County, undated).*
- Noxious weed control.
- If a trail is to be surfaced, consider having the crush lighter in colour than the surrounding habitat to reduce heat retention and therefore discourage snakes from basking on the trail.
- Construction and monitoring of bat houses in or adjacent to the protected area. Bat houses have been shown to be successful in attracting the red-listed Pallid bat (Tatarian, 2011).

**Action Item 14** **Engage with provincial and federal agencies and begin the process of trail approval through the protected area on the west side of Vaseux Lake. Consider and implement wildlife protection measures in consultation with Environment Canada.**

## 3.9 Additional Policy Documents

### *3.9.1 Oliver Trails Master Plan*

The Oliver Trails Master Plan (OTMP) was completed in March 2009 and provides a comprehensive strategy to establish well-connected trail and recreation corridors for residents

and visitors within the Oliver area. The OTMP focuses on non-motorized activities. The study area for the OTMP includes all of Electoral Area "C" of the RDOS and identifies key connections beyond the study area to ensure that Oliver area trails are integrated into the rural areas and the region as a whole. The OTMP identified the following goals for the area's trails:

- Be a multiuse system.
- Provide an experience that is safe, secure and simple to use.
- Showcase the aesthetic and recreational character of the community.
- Complement and enhance local businesses.
- Ensure a positive interface with agriculture.
- Offer a multigenerational experience.
- Enhance and not compromise the natural environment.
- Provide educational and interpretative opportunities.
- Have strong community support.
- Be constructed to be sustainable over time.
- Connect to other communities.
- Provide a long term implementation plan.
- Complement recreational programs and sporting events.

The OTMP identified a number of specific trail opportunities and specific use area zones, as well as visitor trail and road routes linking the area's wineries. The RDOS Board of Directors endorsed the OTMP in July 2009 and implementation began in 2010.

### *3.9.2. Memorandum of Understanding between the Province of British Columbia and the RDOS*

In December 2011, the RDOS and the Province of BC entered into a Memorandum of Understanding (MOU) for shared management and maintenance of the Kettle Valley Rail Trail (KVR). ***This agreement states that the KVR will be managed as a primarily non-motorized trail.*** The agreement also includes funding obligations from both parties and acknowledgment of their shared vested interest in the KVR. The Ministry is still the owner of and final authority on the KVR.

### *3.9.3. Rails to Trails and Parks Committee*

Regional District of Okanagan-Similkameen's Rails to Trails & Parks Committee have adopted the following Terms of Reference:

*The Rails to Trails & Parks Committee will secure tenure on the portions of the Kettle Valley Railway that are within the boundaries of the Regional District. Through public input, develop a comprehensive linear park strategy that provides links between the region's communities, parks, schools, shopping areas, and open spaces.*

**Photo 6: Paved section of the KVR. Photo: Mark Woods**

The Committee's goals include:

1. Identify all sources of funding.
2. Establish consensus upon an equitable funding formula among participating members.
3. Determine priorities of constituents via on-line survey.
4. Development terms of reference for stewardships.
5. Identify short term and long term trail routes.
6. Establish trail construction guidelines.
7. Establish trail signage guidelines.
8. Establish a construction and acquisition program with associated cost estimates.
9. Establish trail use guidelines.
10. Establish guidelines for resolving conflicting uses of trails and bylaws for encroachment.
11. Establish guidelines for acquiring existing trails and associated compensation.
12. Establish guidelines for fostering volunteerism.
13. Establish guidelines for developing relationships with the agricultural, winery, and tourism industries.
14. Establish guidelines for developing relationships with First Nations.

### *3.9.4 City of Penticton 2005 Transportation Study – Phase 2*

The City of Penticton Transportation Study (Earth Tech, 2005) identifies alternative modes of transportation, including cycling, walking and inline skating, as key alternatives to auto travel. The study builds on the City's 1998 Cycling Network Plan by identifying the following connections:

1. Atkinson Street / KVR Trail connection.
2. Railway Street / Highway 97 bicycle lane expansion.
3. Power Street bicycle lane development.
4. Skaha Beach connection.
5. Duncan Avenue bridge construction.
6. Manitoba Street, Leir Street, Camrose Street signed bicycle routes.

The plan also identifies opportunities for secure bicycle storage and expanded signage for cyclist wayfinding and safety.

# 4.0 Socio-Economic Context

Research on the economic impacts of trail-based recreation indicates that trails are a significant income generator attracting both tourists and locals alike. A well planned trail system boosts an area's economy through growth of tourism related businesses, a positive impact on property values, added value in new business improvement, and decreased health care costs to individuals and governments. By providing opportunities for commuting by alternative modes of transportation, well-constructed trails can also help to mitigate pollution-related costs; and can also preserve linear parks and corridors for tourism and infrastructure needs.

Tourism BC markets the Province as *Super, Natural British Columbia*, promoting the Province's natural environment and the opportunities therein. Tourism BC (2005) tracks 'nature-based' tourism, and found this sector attracted approximately 966,000 tourists annually who spend approximately $900 million in BC, generating roughly $550 million in wages and salaries, in turn yielding $200 million in tax revenues. Additionally BC's Tourism Action Plan for Doubling Tourism Revenues by 2015 identifies the following prescriptions for increasing trail-based tourism:

- Ensuring public infrastructure is in place to support tourism and outdoor recreation.
- Providing access to Crown land for tourism and recreation development.
- Coordinated approach to the promotion and marketing of parks and outdoor recreation.

The Province of British Columbia also recognizes recreation-based tourism as an opportunity for economic diversification for communities traditionally supported by the forestry sector that have been affected by the mountain pine beetle (MOFR, 2005). This strategy has proven successful in other areas where the major economic driver is no longer viable. For example, in 1999 the mine near Leadville, Colorado closed down, resulting in high unemployment and economic recession. The community decided to rebrand itself as a tourism destination and worked to convert an abandoned rail bed into a multi-use trail. Following the trail's opening, the City of Leadville reported a 19% hike in sales tax revenues (IHRTOC, 2010). While no metrics were available for tourism's impact on mitigating some of the economic losses caused by the mountain pine beetle, many of the resource and forest service roads (FSRs) constructed by the logging industry create valuable access for recreational activities.

According to the Recreation Trails Strategy for British Columbia Background Report (2007), consumer trends related to trails in British Columbia show increases in recreation demand across all user groups, age groups, and other demographic sectors. The report also indicates that trails are increasingly being recognized as drivers of economic development and that global competition for quality recreation trails is increasing. The aging population base is also prominently identified in the report. Trail use by people over 55 is increasing; along with it, the need for accessible and gentle multi-use trails, and those supporting gentle hiking, walking and cycling.

A survey conducted in the United States by the Indian Head Rail Trail Outreach Committee (IHRTOC) identified multi-use trail enthusiasts as individuals who enjoy hiking, walking or cycling on trails and paths accessible for all levels of fitness and mobility. This demographic is a key target demographic for trail-based tourism. The average age for multi-use and rail trail users is 45 with significant numbers of retirees; most are college educated with an average annual income of over $100,000; and there is an even split between men and women (IHRTOC, 2010). These

statistics are significant for many reasons, most notably that this demographic fits seamlessly into the tourism strategy for other industries in the region, including wine and food tourism.

The KVR attracts many visitors from all user groups mentioned in this document to the RDOS area. There were over 300,000 registered visitors to the region in 2008, with over two thirds (68%) of the parties visiting between June and September (Tourism B.C., 2010). Numerous websites promote the Kettle Valley Railway as an attraction for tour companies and the general public, and the KVR is an ideal destination trail for the hiking and gentle cycling demographics, often referred to as multi-use trail recreationalists. The KVR has many unique characteristics that separate it from other rail trails in North America. Not only does the KVR connect communities in the region, providing opportunities for commercial guiding and accommodation, it also links major tourist attractions such as lakes, fruit farms and wineries. This combination of urban and rural characters differentiates it from other rail trail experiences. *"The rural trail that passes through town centers may perhaps enjoy the largest economic impact of all the trail types. The rural trail tends to have fewer road crossings than other trail types, following the course of a rail corridor that frequently skimmed the edge of a creek or farmer's hedgerow...the rural trail that passes through or stops and ends in small town centers and becomes a focal point may appear to have greater economic impact...(IHRTOC, 2010).*

**Photo 7: Cyclists enjoy the KVR. Photo: BC Parks.**

While the hiking and gentle cycling multi-use trail users represent the largest number of trail visitors, other user groups are vital to the success of the RDOS as a trail destination. Many trail users participate in a number of trail related sports, and sport-specific travel in certain recreational sectors carries a significant economic impact. A study conducted at the University of Cincinnati found that trails can have significant, positive effects on nearby property values. Using the Little Miami Scenic Trail in Hamilton County, Ohio as a case study, researchers found that housing prices increased by nine dollars for every foot closer to the trail entrance. Moreover, the study concluded that homeowners were willing to pay an additional $9,000 to be 300 m closer to the trail (Holfe and Parent, 2011). It should be noted that proximity to trails has a positive effect until trails begin to encroach on private property. There was no distinction in this study for trails existing on property lines or on right-of-way designations through private property.

There are an estimated 4.5 million Canadian hikers and backpackers, with one third having an annual income of over $60,000 and an average age of 39 years. According to the Canadian Tourism Commission, the estimated 4.5 million Canadians in the hiker / backpacker demographic

will increase to 5.1 million by 2026. Additionally, Canadian hikers and backpackers who are 55+ years of age will increase from 13% to 22% by 2026 (Rogers, 2003).

There are an estimated 6.7 million American hikers / backpackers, with 33% of those individuals living immediately adjacent to the Canada / USA border. The American hiker / backpacker demographic is generally older and more affluent than the Canadian, with about half having an annual income of over $60,000, and with an average age of 43 years. 35% of American hikers and backpackers have visited British Columbia (Rogers, 2003).

Mountain biking is rapidly growing in popularity amongst all age groups. There are an estimated 3 million leisure cyclists in Canada, with one million of those users classifying themselves as 'mountain bikers'. Regionally, those in British Columbia are most likely to participate in cycling activities. According to Statistics Canada, 2.5 million adult Canadians cycle while on a vacation, with 753,000 Canadians reporting participation in mountain biking (CRA, 2010).

Mountain bike tourists tend to visit a destination for several days (4.6 nights on average), while riding a number of the area's trails during their stay. Mountain bike visitors require accommodation, meals, guiding services and equipment. Mountain biking is growing as a destination sport, with 80% of mountain bikers having been on a destination bike trip and 30% have visited the well-known trail destination of Moab, Utah (Green, 2003). It should also be noted that the best riding in the area is in May-June and September-November, times that are traditionally slow for many local businesses.

Road biking has grown in popularity in recent years, and the RDOS area is an attractive road bike destination. Events like the GranFondo Axel Merckx Okanagan, Subaru Ironman Canada, and the Oliver Half Iron Triathlon have raised the profile of road biking in the region and have brought large numbers of visitors to the region for the purposes of pre-race training, competing and viewing the event.

The commuter cycling sector is generally comprised of local residents. 1.3% of Canadians commute by cycling. A study published in the journal *Local Environment* summarized the Nottingham Cycle Friendly Employers Project in England. "The main influences [in the decision to commute by bike], about equally, were providing workplace cycling facilities, a house or job move making cycling more attractive, and heightened awareness of the importance of regular exercise for health. The most welcomed and best used measures were secure cycle parking, showering and changing facilities, and cycle purchase loans" (Cleary and McClintock, 2000). The most important element of a cycle commuting strategy, for the purposes of this plan, is a well connected cycle network that allows for safe and enjoyable rides between communities.

Motorized (ORV) tourism is also growing, with the Princeton/Osprey Lake area being a major destination. ATV/BC currently represents 40 clubs (4 within the RDOS) and 3,000 registered members, which is about 3% of the estimated 95,000 recreational ATVs in BC (ATV/BC, 2011). The ATV community is growing in membership and organization and there are large concentrations of ATV owners in neighbouring states and Provinces who travel to the RDOS to recreate. There are roughly 975,000 operating ATVs in Canada with 24,000 Canadians directly employed or self-employed serving ATV users.

Dirt biking is also an economic driver, with the BC Off Road Motorcycle Association (BCORMA) representing roughly 40,000 riders. Dual sport riders are an emerging trend in the dirt bike market, often travelling long distances on their motorcycles to recreate within the RDOS and 'travelling light', frequently using local accommodation and restaurants as part of a multi-day trip (BCORMA, 2011).

There are a number of examples of areas where successful ORV marketing and trail construction strategies have been positive for the local community, most significantly the Hatfield-McCoy Trail System in West Virginia. "For the State of West Virginia the total economic impact of the Hatfield-McCoy Trail System was an increase in output of $7,776,116, an increase in income of $2,789,036 and the generation of 146 new jobs...West Virginia also experiences increases in State revenue from the Hatfield-McCoy Trail System. The total amount from all sales taxes that is created by the system is $622,752...The tax return on [the Legislature's] investment is 125 percent...The total public investment provides a tax return of 80 percent which is considered excellent for a new public project. When the returns to the state for additional output and income are considered the pay-off to public investment is 1,037 and 373.1 percent respectively" (Thorburn, 2008).

**Photo 8: ATV group ride. Photo: Canadian ATV Adventures.**

Haliburton County in Ontario is pursuing an ORV trail initiative modelled on the Hatfield-McCoy system. Like the Hatfield-McCoy system, the recommendation is that these trails follow a user-pay model. This might be difficult to achieve on crown land in BC, but there are a number of opportunities for connections between existing ORV trails in the region that can be pursued at the local club level with support from the RDOS. The Haliburton County study found that "it [is] important to site ORV looped trails where they will not disturb other tourists, and to market the system in a manner that will not alienate other tourists" (Thorburn, 2008).

The RDOS is fortunate to have an extremely large land base. It benefits all users to create designated routes and staging areas for ORV use where possible to ensure a high quality trail experience for all users. The major distinction between the above mentioned networks and the RDOS is that the Haliburton and Hatfield-McCoy systems follow a user-pay model, which generates funds for trail maintenance and construction. It will be important for the RDOS to engage local ORV clubs and organizations for assistance with fundraising and trail projects. Engaging these volunteers also ensures that any capital projects are constructed with input from the end users. Any future proposals for user-pay trail systems should be explored in consultation with the local ORV organizations.

Trail users across all sectors consider a number of factors when choosing a destination. These include the reputation of a destination, the number and variety of trails, scenery, and other activities to compliment the trails experience. With a thriving wine tourism market and summer water sport opportunities, the RDOS is in a unique position to attract trail users, not only because of the region's exceptional trails, but also because of its wide range of other activities, facilities and opportunities.

While improvements to trails located within the boundaries of BC Parks are not within the scope of this plan, destination visitors to BC Parks in the region also frequently access other recreational opportunities and visit local restaurants, accommodation providers, shops and tourist attractions. 19.7 million people visited a park in British Columbia in 2010-11. 3,195,259 people visited parks in the Okanagan, with 425,444 of those people staying in provincial campgrounds. Manning Park alone saw 63,486 visitors (BC Parks, 2011). A number of these visitors are destination hikers and climbers, accessing challenging trails within parks. Regardless of the type of recreation practiced within parks, their economic value for the region is undeniable.

# 5.0 Trail User Groups and the Natural Environment

The creation of trails can adversely impact the natural environment by removing ground cover vegetation, exposing mineral soils, and introducing human activity to a natural area. Exposed mineral soils subjected to traffic can result in erosion of soil and introduction of transported sediment into receiving watercourses (affecting water quality). Introduction of human activity into previously undisturbed areas can stress or displace wildlife as a result of proximity and encounters with humans. Predators will take advantage of trails, using them as efficient movement corridors allowing them to hunt over a wider range while expending less energy to the detriment of the prey base. Trails can also serve as vectors for introduction and spread of invasive plants.

The level of adverse impact is affected by three key factors: design and location of the trail, intensity of use, and the type of trail users. The impacts can include localized damage to the immediate area of the trail surface or widely spread impacts to downstream water quality, displacement of wildlife populations or modification of movement corridors. The extent to which a trail or related facility negatively impacts the environment is highly variable and can be minimized by adhering to basic, established trail planning and construction guidelines, as well as implementing trail management strategies and best management practices (BMPs).

**Potential Trail Recreation Impacts on the Environment**

**Vegetation**

Vegetation is primarily affected by trampling and removal during the trail construction phase. Hiking and biking trail impacts are not significantly different for the indicators (plant density, diversity, soil exposure) researchers measured (Marion & Wimpey 2007). Impacts are restricted to the trail centerline, for both hikers and bikers.

Off-trail use by motorized vehicles affects vegetation directly, by trampling, as well as indirectly. The loss of moisture-retaining vegetation through trampling decreases the soil's ability to retain moisture. Indirect effects also include soil compaction, which makes it difficult for plants to establish and alters the soil moisture regime by reducing absorption of surface water. Trails open up access to areas not designated for motorized use; vegetation in these often previously undisturbed areas can take decades and sometimes longer to return to their original state following disturbance. Damage to vegetation by all users can be mitigated by ensuring trail users stay on established trails and avoid straying from the trail, especially in sensitive areas.

Trail users can also potentially transport the seeds of invasive species between areas, enabling

them to spread and out-compete native vegetation species. A study on invasive plant management found 47 invasive plant species in the RDOS (Scott, 2008, see Appendix 7 for a draft copy of this study). Invasive plants impact agriculture lands, interfere with recreation, reduce property values, increase fire hazard, and can alter the structure and function of natural ecosystems. Weed invasion is considered the second most serious threat to natural habitats, after habitat fragmentation and loss (Scott, 2008).

Impacts from invasive plants can be minimized through a number of preventative and awareness measures. These measures include cleaning trail building / maintenance equipment before entering invasive plant management areas, immediately re-vegetating disturbed or bare soils with a suitable seed mix, educating trail users about the invasive plant situation, and encouraging trail users and stewardship groups to identify and report invasive species (Scott, 2008).

**Soils**

Organic soil removal and compaction are unavoidable parts of trail building. Post-construction soil displacement, erosion, and muddiness (with potential water quality effects) can be mitigated with appropriate trail design and management intervention.

Comparative studies (Marion & Wimpey 2007) assessing the relative impacts of ORVs, horses, hikers, and cyclists found cyclists to have the least impact with regards to soil loss and ATVs the highest. Likewise equestrian use is considered to be a passive, low impact trail use and in dry conditions erosional losses are similar to hiking and biking (Quinn, 2008).

Trail grade (design), especially steeper, fall-line alignments with grades over 16%, was found to contribute most to soil loss. Additionally wet soils amplify soil losses across passive user types, appearing to increase proportionally with weight of user (DeLuca *et al*. 1998).

**Water resources**

Trail use activities can affect water resources in a variety of ways. Soil erosion can introduce sediment and nutrients, and pathogenic organisms (e.g. *Giardia lamblia*) can enter water supply systems through inadequate sanitation services. A key element to protecting water resources is the avoidance of trails that create channels due to a lack of water bars or poor drainage features (e.g. grade reversals). Trails can also interfere with natural drainage patterns; hence the need to maintain riparian buffers and use built structures to elevate trail users above the ground when crossing watercourses.

Any works "in and about a stream", such as stream crossings or alteration of riparian vegetation, will require compliance with both the BC *Water Act* and the federal *Fisheries Act*.

Many trail construction guidelines, including those referenced in this document, outline how to construct trails to avoid water damage to the greatest extent possible.

**Wildlife**

Impacts on wildlife from recreation stem from increased human use in an area, especially if species sensitive to disturbance occur. Negative effects may be intentional or unintentional, as even activities such as hiking, cycling, skiing and wildlife-viewing can negatively impact wildlife sensitive to human activity. Hiking and mountain biking increase wildlife energy expenditure as wildlife flee from trail users, and may cause habitat abandonment near trails (Taylor and Knight 2003). This may be especially harmful during sensitive times of the year or in sensitive habitat (e.g. critical winter ranges). Negative impacts from non-motorized recreation are increased when users are accompanied by dogs (Manor and Saltz 2004, Pelletier 2006). Wildlife viewing and wildlife photographers in particular can have significant negative impacts, as they are more likely than other user groups to approach wildlife on foot, which invokes a particularly high stress response (Klein 1993).

Motorized recreation can also have both direct and indirect negative effects on wildlife. Direct effects involve wildlife disturbance or deaths from harassment and collisions. Indirect effects can stem from habitat alterations, increased human use from improved access, and pollution. Motorized vehicles allow people to penetrate further into the backcountry than is possible with self-propelled travel, and the noise associated with motorized recreation increases the footprint of the impact. ATVs have become a key tool for hunters and trappers; using trails to extend their effective range further into the backcountry. While some wildlife are less sensitive to human activity and will habituate to motorized recreational activity (Yarmoloy *et al*. 1988), more sensitive wildlife may abandon habitat (including nesting or denning sites), modify their behavioural patterns, and undergo physiological changes due to stress, all of which can reduce reproductive fitness and survival (Thiel *et al*. 1998, Seip *et al.* 2007). Identifying wildlife species most susceptible to human disturbance and developing mitigation strategies that address those issues will help reduce motorized impacts on more sensitive wildlife.

### 5.1 Environmental Management

The extent to which a trail or built facility adversely affects the environment can be minimized by adhering to established planning and construction of best management practices. A range of recommendations have been identified to mitigate the impacts of trails and trail networks on the environment. The following table identifies environmental protection statutes and regulations that should be considered in the context of the RTMP.

**Table 6:** Legislation and regulations

| Acts and Regulations | Highlights |
|---|---|
| General | |
| B.C. *Community Charter* | • Purposes of a municipality include "providing for stewardship of the public assets of its community," and "fostering the economic, social and environmental well-being of its community" (Part 2, Section 7).<br>• Allows councils to make bylaws that regulate, prohibit, and impose requirements in relation to the "protection of the natural environment" notably… (c) Trees, … (j) Protection of the natural environment, (l) Buildings and other structures, and … (m) The removal of soil and the deposit of soil or other material." (Part 2 [8]). |
| B.C. *Local Government Act* | • Parts 25–30 address a variety of planning and land use authorities that empower local governments to make environment-friendly decisions.<br>• Encourages the development of sustainable communities.<br>• Allows for the creation of regional growth strategies (Chapter 323 Part 25). |
| Ecosystem and Species Protection | |
| B.C. *Wildlife Act* | • Protects most vertebrates from direct harm or harassment, and regulates hunting and trapping.<br>• Allows for the control of non-native species.<br>• Section 24 of the Act specifically protects birds and their eggs from possession, molestation or destruction; the nests of eagles, peregrine falcons, gyrfalcons, ospreys, herons, and burrowing owls year-round; and all other nests when occupied by birds or their eggs. |

| | |
|---|---|
| B.C. *Wildlife Amendment Act* | • Allows the provincial government to list animals, fish, plants or invertebrates as species at risk, and to define and protect the **residence** of a listed species at risk. Listing provides prohibitions against the killing, harming, harassing, importing, exporting, trafficking, possession and transport of a species on both provincial Crown land and private land, except as authorized by regulation, permit or agreement. As of March 2006, the *Wildlife Amendment Act* has not been brought into force, and regulations to list species and prescribe residences have thus not been prepared.<br>• For more information, see the Recovery Planning website (http://env.gov.bc.ca/wld/recoveryplans/rcvry1.htm). |
| B.C. *Fish Protection Act* and *Riparian Areas Regulation* | • Provides for protection of riparian areas.<br>• The Riparian Areas Regulation applies to the Georgia Basin and Southern Interior of B.C. Other communities may adopt this methodology if they choose. For more information see Section 4.5. |

| Ecosystem and Species Protection | |
|---|---|
| Canada *Fisheries Act* | • Protects fish and fish habitat.<br>• Regulates the release of deleterious substances into fish-bearing waters.<br>• Prohibits any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat (s. 35). |
| Canada *Species at Risk Act* | • Consolidates requirements under the *Canadian Wildlife Act,* the *Migratory Bird Convention Act* and the *Wild Animal and Plant Regulations* of the International and Interprovincial Trade Act for the protection of special wildlife and species at risk.<br>• Applies to areas designated as **critical habitat** for specified species at risk. This applies to federal land and federally regulated species such as migratory birds as set out in the *Migratory Birds Convention Act* and fish as identified in the *Fisheries Act.*<br>• Requires Recovery Strategies and Recovery Action Plans to be developed for all listed species at risk and provides mechanisms for the protection of critical habitat identified in a recovery strategy or action plan.<br>• For more information, see sections 56-64 of the *Species at Risk Act.* |
| Canada *Migratory Birds Convention Act* | • Prohibits the possession, buying, or selling of migratory birds or their nests. |
| *Canada Wildlife Act* | • Prohibits the possession or harming of wildlife (including plants) except as permitted by regulations. |
| Water Management | |
| B.C. *Water Act* | • Part 9 of the *Water Act* governs all works in or about a stream. Works need an approval or notification, depending on the type of work being carried out and risk to the stream. See ”Changes in or about a stream”.<br>• Specified routine activities (installation of clear-span bridges, installation or repair of a wharf or pier, replacement and maintenance of culverts and outfalls, temporary diversions around worksites, minor maintenance of municipal utilities [water works]) to be carried out without the need for a formal approval under the *Water Act* so long as the work is carried out in compliance with the regulations. Notification must be provided to the Ministry of Environment on the prescribed forms.<br>• Major works such as erosion protection, bridges with support structures, relocating streams, etc. require approvals.<br>• For more information see “Approval Application or Notification for Changes In and About a Stream Under Section 9 of the *Water Act* and Part 7 of the Water Act Regulations”. Note that some works may also require approvals from Fisheries and Oceans Canada. |
| B.C. *Drinking Water Protection Act* | • Protects drinking water quality. |
| Federal *Water Quality Guidelines* | • Addresses drinking water and the protection of aquatic life. |

| | |
|---|---|
| Air Quality and Climate Change | |
| B.C. *Environmental Management Act* | • Provides the basis for most air quality regulations, including:<br>- Solid Fuel Burning Domestic Appliance Regulation (regulation of wood stoves).<br>- Open Burning Smoke Control Regulation. |
| B.C. *Energy Efficiency Act* | • Promotes the efficient use of energy. |
| Canadian *Environmental Assessment Act* | • Regulates air pollution.<br>• Includes protection of air quality, including "all layers of the atmosphere" (s.2[1]). |
| Canadian *Energy Efficiency* and *Alternative Fuels Act* | • Sets standards for energy conservation and alternative energy. |
| Waste Management | |
| B.C. *Environmental Management Act* | • Governs solid waste management.<br>• Includes the Sewage Disposal Regulations and Municipal Sewage Regulation. |
| Hazard Management | |
| B.C. *Integrated Pest Management Act* and *Regulation* | • Govern the sale, use and handling of pesticide. |
| Canada *Pest Control Products Act* | • Regulates products used for the control of pests and the organic functions of plants and animals. |
| General | |
| B.C. *Heritage Conservation Act* | • Protects against damage, desecration, or removal of any materials or sites with heritage values. |

(MOE, 2006).

### *5.1.1 Trail Design, Construction and Management*

**Action Item 14: Trail design and development should follow adopted standards and provincial best management practices appropriate to trail use types to minimise the impact on the environment**

Where trails are located and how they are designed and constructed can have direct consequences on the environment. There are literally hundreds of trail design, management guidelines, and standards in use today. This document focuses on five documents upon which to base environmentally sound trail development. The foundation document for environmental best practices in British Columbia is "Develop with Care" (MOE, 2006). This comprehensive document addresses environmental best practices at a general level as well as a regional level. Section 5 deals with issues specific to the Okanagan Region. One of the threats identified in the document is "*increasing damage from recreational use (e.g. all-terrain vehicles, mountain bikes, human access)*. Section 2 provides a number of guidelines for planning a project including, but not limited to:

- Guidelines for Environmental Planning
  - Inventory and Mapping
- Guidelines for Ecosystem and Species Protection
  - Habitat Protection
  - Wildlife Corridors
  - Buffers
  - Invasive Species
  - Restoration and Enhancement
- Guidelines for Water Use and Management
  - Erosion and Sediment Control
- Guidelines for Air Quality and Climate Change
- Guidelines for Hazard Management

  - Wildlife Conflicts
- Guidelines for Waste Management

The second foundation document is the Ministry of Forests Recreation Manual, Chapter 10 Recreation Trail Management. Originally published in 1991 and updated in 2000, this document outlines a set of trail standards from an engineering and forestry perspective.

The third foundation document is the Whistler Trail Standards, Environmental and Technical Features (RMOW, 2003). In a world of abundant "guidelines" these "standards" are widely accepted at an international level. The Whistler Trail Standards are slightly outdated but are currently slated for updating. Discussed in detail later in this document, the standards use a 5 trail type classification system based on physical characteristics of the constructed trail. A set of standards for dimensions, surfacing, construction and signage are provided.

The fourth document is the Trans Canada Trail's Trailbuilding Guidelines (2010), which is a strategic planning and development document specifically for the Trans Canada Trail and its users.

Finally, the Management Guidelines for ORV Recreation (Crimmins, 2006) was used for ATV and other motorized trail users.

Terrestrial Ecosystem Mapping (TEM) and Sensitive Ecosystem Inventory (SEI) mapping, when it is available, can provide information for current and future trail planning / management. This mapping should be used to inform future trail building initiatives so that new trail alignments or trail area developments can be carried out in areas of lower environmental sensitivity. SEI and TEM mapping is available throughout the Province and gaps within the RTMP area can be mapped at the discretion of the RDOS.

SEI polygons represent ecosystems of particular value for a given region. They are generally rare, representative of particular ecosystem types, contain specialized habitats, and provide potential habitat for rare species. The purpose of identifying SEI polygons is to encourage land-use decisions that will ensure the continued integrity of these ecosystems. Management priorities for these areas include:

- Discourage development within or adjacent to SEI ecosystems.
- Manage land and water access through seasonal closures, fencing, boardwalks, bridges, designated trails, and signage.
- Maintain water quality through land management practices that protect water quality.
- Prevent disturbance of nesting or breeding areas.
- Control invasive species by restricting access to areas with known invasive species and implementing pest management strategies.
- Restore natural disturbance regimes (i.e. fire regimes) to maintain ecosystem characteristics.

**Action Item 15: When developing new trails, assessment of SEI, TEM and Species at Risk should be considered in the process.**

Environmentally sound management of trails and trail networks includes addressing the following planning, construction and maintenance considerations. These considerations will reduce maintenance related costs over the long term.

- Plan and locate trails to optimize use of the landscape through:
  - Making the best use of low sensitivity terrain and avoiding sensitive areas.
  - Avoiding conflict with other environmental management objectives such as community watersheds, riparian areas, wildlife corridors / connectivity of key habitats, or wildlife areas known to support habitat for key life stages (e.g. denning / rearing areas).

  - Allowing natural topographic contours to influence trail design.
  - Avoiding trail designs that require frequent removal / cutting of vegetation.
  - Minimizing the potential for erosion by avoiding steep, erodible slopes through strategic use of corners, grade reversals, bench cutting, surface roughening (e.g. logs / rocks), surface toughening in high use areas, appropriate trail grades, and placement of technical terrain features (TTFs) to slow or cause trail users to change course.
- Control trail width through the placement of features (e.g. logs / rocks) that restrict trail braiding, expansion and shortcutting.
- Reduce the impacts to sensitive ecosystems through the construction of raised boardwalk / bridges (for both aquatic and terrestrial features).
- Water quality protection should be considered at the design stage for new trail areas and throughout the life of a trail; trails break down and regular maintenance of water bars, trail grades, swales, etc. will be an ongoing requirement to avoid sediment laden water reaching streams / water bodies.
- Design staging areas to provide amenities appropriate for the type and number of users (e.g. parking, toilets).
- Evaluate existing networks to identify trails / trail segments that may be adversely affecting the environment and rehabilitate, relocate or deactivate.
- Invasive plant species management should be part of trail design, planning, construction and maintenance. Construction materials, plants, tools, etc. should be sourced / inspected to ensure weed free operations and maintenance.

**Action Item 16: Source materials for trail construction in a way which minimizes the impact on the local environment. Consider onsite and offsite sources for trail material.**

**Photo 9: Trail construction in China Ridge, Princeton. Photo: DMac Trails**

Developing and maintaining trails, particularly rail corridors, will require using resources made and sourced from a variety of locations and materials. The following considerations apply:

- Materials selection – source salvaged or recycled construction materials where possible, with future environmental impacts being mitigated through sourcing environmentally friendly materials and carefully calculating the volume of materials to reduce potential waste.
- Air quality – dust control mitigation is incorporated in the planning and operation of trails containing soils forming dirt jumps and berms where these trails are located in natural areas and public parks; regular watering of soils in these areas is a common air quality mitigation measure.
- Locating trail facilities to avoid conflicts with other environmental landscape management objectives, such as community watersheds and riparian areas.
- Trails and related facilities are designed and maintained to use the natural landscape and avoid unnecessary removal / cutting of vegetation.
- Facilities provide amenities appropriate for the type and number of users (e.g. parking stalls, toilets and information kiosks).

#### *5.1.2. Trail Maintenance*

As part of a trail inventory, trails on the land base in need of repair should be identified and plans should be made to bring them up to the acceptable, safe, environmentally sound RDOS standard, as per Table 11. Trails deemed beyond repair should be closed and alternatives should be developed. Existing trails that are identified as degraded or in need of maintenance should be restored to a target trail type conforming to the RDOS trail type I-IV standards. Local stewardship groups and trail maintainers should be aware of these standards and should apply them when conducting trail maintenance.

# 6.0 Trail User Group Conflicts and Risk Management

The RDOS, community groups and trail users need to collectively endorse a systematic conflict resolution and risk management model for successful implementation of the Regional Trails Master Plan. In order to accept a methodology for conflict resolution and the associated risks, stakeholders need to take ownership of the root sources of trail conflict and risk.

From a master planning and trail management perspective, trail users are grouped into two general classes; non-motorized and motorized. This generally accepted division has evolved as a result of a persistent desire by the non-motorized sector to separate itself from the motorized sector due to actual or perceived conflict arising from differing experiential values. In the absence of active management strategies and in order to achieve the experiential goals, the subordinate affected sector separates itself, either spatially or temporally from conflict by avoidance. While this displacement pressure occurs between the motorized and non-motorized groups, it also occurs between the various trail user types within the groups. As the most sensitive activity, hiking / walking is subordinate of all trail users and is generally the most adversely affected from an experiential standpoint of all user types and groups.

## 6.1 Trail Use Conflicts

Conflicts between trail users, particularly motorized and non-motorized recreationalists, are a major concern within the RDOS. The *Trail Strategy for British Columbia* (2009) states that *"Collaborative partnerships between trail user groups, governments and First Nations help ensure strong support and buy-in. And a collaborative planning process ensures that the interests and desires of motorized and non-motorized trail users are accommodated in a manner that promotes mutual respect and cooperation. In these processes it will be important to strategically integrate urban and rural settings with regard to recreation opportunities, transportation needs and protection of open space."*

Conflicts arising amongst different types of trail users are indicative of the value trail-users place on the recreation experience and the trails themselves. Conflicts can be attributed to perceptions about activity style (mode of travel, level of technology), focus of trip, expectations, attitudes toward and perceptions of the environment, levels of tolerance for others and norms held by different users (Moore 1994). Conflicts can be active (i.e. trail encounters) or residual (i.e. trail degradation) and may also include real or perceived risk of safety or to the environment.

The increased demand for unconfined, relatively unstructured outdoor recreation experiences is not specific to any one user group or type of use. Hikers, bikers, ORV users, runners, equestrians, commuters and dog walkers all hold expectations for use of natural areas. Increased availability, changing social norms, and advances in equipment technology have contributed to a proliferation of trail users, thereby increasing opportunities for contact amongst different users and potential for conflict. Contact, however, is not always a pre-requisite for conflict.

Historically, the most common conflict is between non-motorized users (hikers, bikers, etc.) and motorized users on rail corridors and other high-traffic public trails. However, conflicts can and do exist between equestrians and mountain bikers, dog walkers and hikers or any other combination of users. Conflict is often asymmetrical where negative perception is held by one group towards another but the reverse is not true (Moore 1994).

Trail use conflicts can be grouped into three categories:

1. Trail use type conflicts (e.g. equestrian and cyclist, hiker and dirt bike, etc.) where one group perceives the other group to be incompatible with their own activity. This includes trail surface modification or degradation (environmental risk) as a result of one sector.
2. Trail user goal conflicts (e.g. bird watcher versus a group ATV outing) where one activity is perceived to be disruptive to another. This includes noise, fumes or fugitive dust arising from one or more sectors.
3. Trail norm or values perception conflicts (e.g. differently held perceptions on what activities are appropriate, as between a cyclist and an ATV, including same activity expectations, as between beginner and expert abilities) where one user group perceives that their activity is legitimate while another is inappropriate (safety risk). This includes trails that were not designed or built for use by a specific sector(s).

In order to voluntarily address and overcome these potential sources of conflict, groups must learn to respect other trail user types. The respect-based model is founded on the principle that use of the trail by any one sector is a privilege, not a right, and that if use of that trail adversely impacts other users, management intervention may occur. In order to avoid that outcome, the various trail user sectors have developed programs aimed at educating their constituents and the other trail users about codes of conduct and respect-based conflict avoidance.

**Photo 10: Mutual respect and effective communication can help to prevent conflict between trail users. Photo: Kelley Cook**

### *6.1.1 Respect based solutions.*

Implementing a conflict management strategy may have limited success in the absence of 'respect' amongst trail users. Respect in this context refers to an inter-related set of values or perceptions that will promote resolution of trail conflicts in the event they occur. These values can best be summed up as comprised of the following understandings or code of behaviours that foster reduced potential for trail conflicts:

- Trails are a shared community resource and care for them extends to all users, i.e. responsibility for trail safety, maintenance and behaviour extends to all users. Degradation of trails by a specific trail user type or group is a universal source of conflict. *If you use it, maintain it and if you wreck it, fix it.*
- Trail use is a privilege and no user type has more 'rights' to a trail than another user type or individual. *A multi-use trail is for all legitimate users and is shared equally*.
- A yield hierarchy exists to ensure passing or encounters are codified to enable a predictable system of response. *The most sensitive or vulnerable (e.g. the elderly or equestrians) are yielded to by others*.
- Cooperation and compromise is preferable to competition and exclusion. *Slow down, communicate with the people you meet, be prepared to stop, and pass safely*.
- The unpredictable nature of outdoor recreation implies a degree of responsibility for one's own actions and safety while using trails. *Stay within your ability level and in control for both your own and other users' safety*.

- *Trail conflicts between trail user types hurt the entire trail community*.

These values articulate an approach to trail use where respect for the trail and other users, as well as one's own responsibilities, are an integral part of enjoying an outdoor recreation experience. In the absence of a proactive spirit of respect there is a risk that trail user groups become territorial, precipitating a potential cycle of events leading to displacement of other users.

As an example, consider equestrians on multi-use trails. The key issue presented by equestrian trail users is the need for education on sharing the trails with horses. The following guidelines for sharing a trail system with horses were developed by *Americans for Responsible Recreational Access* (2011):

**Equestrians on shared trails:**

- Keep your horse under control when encountering other trail users. It can be helpful to work with local ORV riders to gradually expose your horse to vehicles in a safe environment.
- Watch for other trail users. If possible, guide your horse to the side of the trail if you see or hear ORV or bicycle riders approaching.
- The rules of the trail apply to staging areas as well. Ensure your horse is secured away from any adjacent roadways or passing traffic.
- Communicate with other trail users when you meet on the trail. Clearly state your needs and ask them to pull aside or slow down.
- Less experienced horses and riders should ride near the back of a group.
- If you are travelling with more than one horse, ensure it is secured and travel slowly.

**All non-equestrian trail users encountering horses on the trail:**

- At the first sight of equestrian trail users, pull to the side of the trail in a manner that allows horses to pass safely.
- When stopping to let horses by, pull to the downhill side of the trail if possible.
- If communicating with the oncoming rider and horse, speak in a friendly, relaxed tone. Avoid yelling and large hand gestures, even in tense situations.
- If you encounter horses pulled off to the side of a trail, stop and wait for instructions from the rider on how to proceed.
- When pulled to the side of a trail, ask equestrians how to proceed. A rider will know his / her own horse and may either ask you to stay where you are and let him / her pass or will ride to the side of the trail and ask you to proceed slowly.
- Be alert and aware for horses or other oncoming trail users.
- Keep pets under control.

**ORV riders encountering horses on the trail:**

- If possible, turn off your motor and remove your helmet to allow horses to recognize you as human.
- When passing a horse, keep your RPM and noise level as low as possible so as not to startle the horse.

**Bicyclists encountering horses on the trail:**

- As soon as you are aware of approaching horses, pull to the side of the trail and allow horses to pass.

By following this set of best practices, potentially conflicting encounters between equestrians and other trail user types can be avoided. If either of the trail user types fails to act according to these best practices during an encounter, then there is risk of an active conflict occurring.


**Photo 11: Trails and trail segments can be designated single-use if safety and / or intended trail design (e.g. nature viewing) are incompatible with other use types. Photo: Cascade.**

Land managers are increasingly faced with addressing user conflicts over trails within their jurisdiction. It is increasingly important to employ a coordinated, transparent and multi-faceted approach to the issues. It may not be possible to completely eliminate conflicts; however a proactive approach to trail management issues can largely reduce the potential for conflicts, as well as establishing a framework for addressing them when they occur.

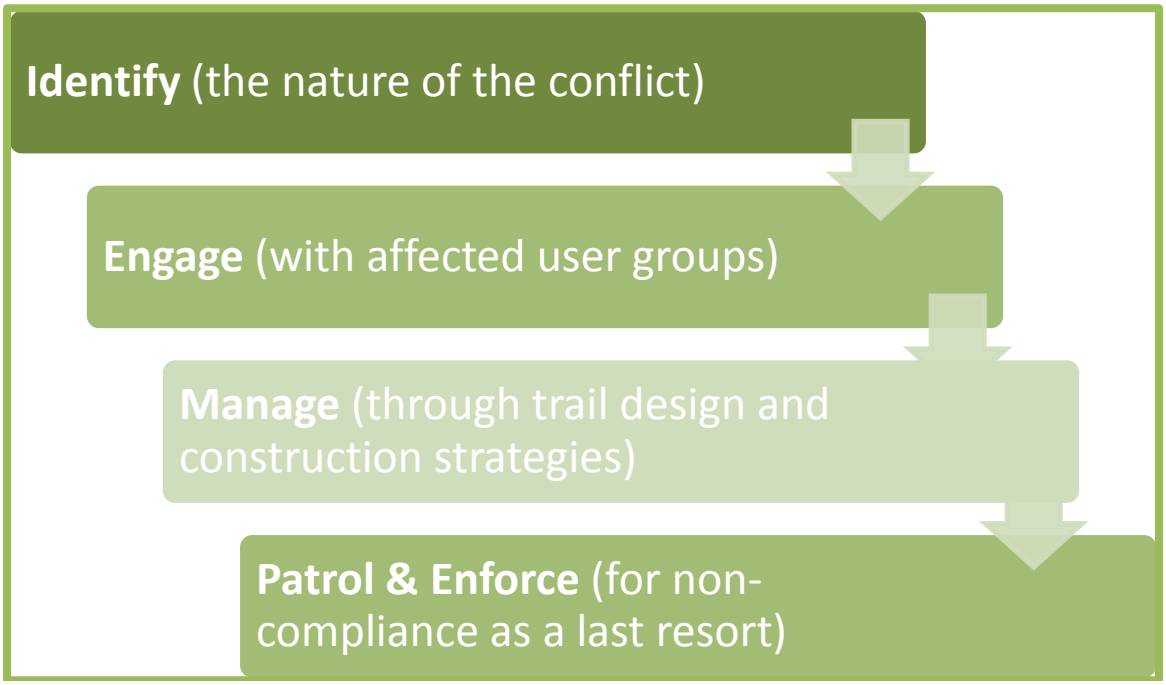
**Action Item 17: The RDOS should strike an Advisory Trails Committee with representation across all major user groups. Membership on the Committee should be restricted to local resident participation. The mandate of this committee is to ensure the trail network is developed and managed for the use of all sectors wherever possible.**

Conflicts can be mitigated through trail design in most cases. Trail groups use and maintain activity specific networks of trails on Crown land. If the trails are not attractive to other types of trail-based recreationalists, they are effectively unregulated single use type trails. *Conflict occurs more often on poorly designed trails*.

Most conflicts in the RDOS occur near urban centres and other areas where access to these trail networks is shared. *Trail use is often a function of convenience or opportunity*. The major conflict area within the RDOS is the KVR because it is convenient and easily accessible. The KVR is designated as a non-motorized recreation corridor in and around many high population areas. Access is controlled passively by access restricting bollards and actively through enforcement of applicable bylaws by the local constabulary. However, there are long rural stretches of trail that are heavily used by motorized users. The KVR is a part of the Trans Canada Trail (TCT), and its management is the jurisdiction of the Province. There have been ongoing discussions regarding user group conflict, specifically related to the KVR, at high levels of the provincial government. This document does not provide prescriptions for conflict management on the KVR in terms of policy decisions, such as an outright ban on a specific use,

but it does include recommendations for management on several sections of the KVR, including designating specific parts of the trail for non-motorized use. Additionally, this document provides recommendations for improved alternative access for certain types of users to trail networks currently accessed via the KVR. A goal of these proposed trail network improvements is to alleviate some of the pressure from motorized user groups currently borne by the KVR.

Conflict management strategies can range from stringent enforcement measures by the Provincial Conservation Officer, RCMP and others to voluntary compliance with management guidelines. The TCT Conflict Management Strategy was adopted by the RTMP Working Group and is comprised of four options that are designed to provide trail managers with a progression of measures:




1. **Identify the nature of the conflict.** This includes identifying the party causing the issue, followed by discussion with trail users and creating an initial needs profile for the affected users. In some cases, conflict management may be as simple as installing signage or undertaking a small trail construction project to redesign a problem section of trail.

2. **Engage with affected user groups.** Engagement includes identifying affected users and understanding their goals, motivations, experience expectations, and other possible needs. Forums for interaction can include joint development of educational signage, education via websites such as Click, Hike, Bike™, and formation of trail advisory committees to discuss issues and opportunities, as suggested in this plan.

3. **Trail Management Strategies.** The following strategies can be employed once items 1 and 2 are underway.

   **Signage** is an important component of any trail strategy and can fulfill a range of functions from direction to education. Signage can:
   - Designate which route a user group should use (e.g. expert route or beginner route).
   - Designate approved activity type(s) for a given trail (e.g. motorized / non-motorized / multi-use etc.).

- Direct users to specific use trails (e.g. Nature Trail – Pedestrians Only).
- Designate One Way or closed on specific days to specific users single use trails.
- Warn of restricted vision corners.
- Provide yield hierarchies.
- Alert users to preferred activities types.
- Influence behavior (e.g. Slow Down or Close Gates).
- Influence when to ride (e.g. Closed Due To Wet Conditions) due to environmental considerations.
- Warn of upcoming congestion areas.
- Provide general trail etiquette (e.g. how to ride downhill without creating erosion, how to pass equestrians, what to do if livestock is on a path, etc.).

**Re-design the sections of the trail** to resolve the identified conflict areas. How a trail or trail system fits within the landscape has a significant influence on trail user experience and behavior as well as environmental impact. Trails that have been built without consideration for the range of user types, or without structural modifications as new users have begun to use the trail, are likely to encounter conflicts as trail user capacity and design limitations are exceeded. Reducing conflict entails consideration of trail designs that include the concept of sustainability. Responsible trail design considers the user groups for which the trail was constructed, and will attract certain users whilst discouraging uses that damage the trail, rendering it less enjoyable for other users and damaging to the environment. Options for responsible trail design include:

- Providing a diversity of trail experiences to disperse trail users within a given area (i.e. a trail or trail system should provide different experiences to allow users to gravitate to preferred trail types, which in turn spreads out users).
- Design challenging trails or sections further away from staging areas and wider, easier trails or sections closer to staging areas so that different ability levels are separated.
- Plan for shared use trails instead of single use trails.
    - Single use trails concentrate users on a single trail resulting in crowding.
    - Single use trails require more trails, therefore more environmental impacts and use of resources for maintenance, signage, etc.
    - Single use trails may result in uneven trail maintenance or trail quality resulting in friction when groups ‘poach’ or encroach.
- One way trails can be an appropriate strategy if:
    - Congestion is a source of conflict.
    - Sight lines are poor.
    - Terrain profile would better suit one way travel to reduce downhill horseback and / or cycling erosion.
    - Terrain creates safety concerns when higher speed cyclists encounter horseback or pedestrian users.
    - Trail is a loop configuration that flows or provides users with better experiences (i.e. viewscapes) in one direction.

**Modify the trail** to resolve site specific conflicts through the introduction of traffic calming features or barriers to passage.

- Install trail features in problem areas to influence user behavior.
    - Use fixed objects (e.g. boulders, logs, bollards) to create bottlenecks or surface changes that force users to slow down, or eliminates specific users (e.g. gates to restrict access to ATVs)
- Separate users on the same trail via paint line, berm, painted symbols, bollards, landscaping, etc.
    - Used on wider trails (>3 m) with either a gravel or paved surface.

    - Segregate users based on compatible speeds (e.g. cyclist, rollerbladers together).
- Provide pull-out sections on problematic areas of trail to allow different users to pass safely without inconvenience (e.g. cyclists passing horseback riders).
- Maintain sight lines to provide sufficient reaction time for users (e.g. trim vegetation to ensure hikers or horseback riders can see oncoming cyclists).
- Construct parallel trail segments for problematic trail sections to segregate user types (e.g. re-route a steep section of trail for horseback riders due to safety or erosion concerns).

4. **Patrol and enforcement.** Closures, patrols and enforcement should be considered as a last resort and imposed only when voluntary compliance cannot be achieved. Enforcement can be conducted by law enforcement officials, recreation officers, or volunteer marshals designated as official representatives of their user groups. If volunteers are used, they should be supported by law enforcement (adapted from TCT, 2010).

The TCT's conflict management guidelines are applicable to the RDOS area because the KVR, the spine of the RDOS trail network, is part of the TCT and these guidelines already apply to it. Although the KVR is regulated by the Province, there is value in having a consistent set of strategies for the entire region, and to support provincial trail management practices. The most important component of trail education, voluntary compliance, and respect- based conflict resolution framework, is a stakeholder-based arbitration entity. Creation of an Advisory Trails Committee to discuss trail conflicts as they arise, and to work toward local solutions, should serve that purpose.

Single use or restricted user type trails may be appropriate if incompatible activities result in intractable conflicts, displacement, excessive maintenance costs, high environmental costs, or safety concerns that cannot be addressed via strategies discussed above. This may warrant development of a new trail or restricted use trail for a specific user type(s). Excluded activities should still be able to access trails in the same area or similar location.

### 6.2 Risk Management

Risk management and liability is a primary concern amongst public agencies responsible for trail management. For the purpose of this RTMP, the discussions regarding liability apply to all trail users and include risk and potential liability relating to personal health and safety as well as risk to the environment.

While all trail use has the potential to result in injury and therefore create liability issues, it is the recent and dramatic rise of "extreme sports" such as climbing, trail running, freeride mountain biking, dirt biking and ATV use that has brought liability and risk management to the attention of public agencies and trail stakeholders (BC MTSA, 2008). Before the Ministry consents to authorizing a trail, by regulation the proponent must submit a proposal that demonstrates that trail construction and management will not cause, to the satisfaction of the Province of BC, either: (a) significant risk to public safety; (b) unacceptable damage to the environment; or (c) unacceptable conflicts with other resource values or users (BC MTSA, 2007).

The practice of risk management does not intend to eliminate risks, but instead to diligently identify, reduce and manage them in order to decrease both risk to the user and potential liability to land managers or partners. The word 'risk' as it applies to health and safety with respect to trail management has two meanings. The first is the relationship of the trail user to perceived and real risks of traveling in an uncontrolled environment. The second and perhaps more important meaning in trails management is the risk incurred by land managers (and private land owners) of providing access to recreational trails for a variety of uses (Keen, 2006). The Province has examined this issue thoroughly and has produced a set

of general recommendations (BC MTSA, 2008, *pers. comm*. J. Hawkings, Manager of Recreation Parks and Trails BC, January 12, 2012):

- Develop, adopt and implement trail standards, particularly with respect to technical trail features (TTFs) and signage.
- Evaluate implementation of the Provincial Trails Strategy.
- Encourage adoption of formal risk management programs by responsible land managers.
- Continue to assess position of land managers with respect to risk(s) associated with trail use.

**Photo 12: ATVs and water are generally incompatible in the backcountry. Photo: Canadian ATV Adventures**

### *6.2.1 Occupier's Liability Act*

In preparing a Trails Strategy for British Columbia (BC MTSA, 2007), the Province examined the *Occupier's Liability Act*. The following is an interpretation of the Act as it applies to risk management of trails.

*"The provincial government changed the Occupier's Liability Act in 1998 to improve non-commercial recreational access, including recreation trails, on Crown and private land throughout BC. Prior to the change in the Act, Crown land managers and private landowners had a "duty of care" to ensure that people were "reasonably safe" while on their property. To avoid risk of liability, many landowners simply chose not to allow recreational use, such as trails, on their property.*

*With the 1998 changes to the Act, the duty of care and liability risk to the occupiers (land owners) was reduced. Now, the occupiers only need to avoid intentionally creating a danger or acting in reckless disregard for the safety of recreation users (e.g. knowing of a danger but taking no action). This means recreation users must accept increased responsibility for their own safety on recreation trails.*

*Despite the changes to the Act, the issue of liability remains very much in the forefront of concerns with user groups and tourism operators who provide public and commercial recreation services such as trails."*

Many trail uses are intrinsically linked to the perception of risk involved in the experience. While recreationalists do not intend to injure themselves, it is the challenge of overcoming the risks that makes the experience enjoyable. Eliminating all perceived risks to the user could actually prove to be counterproductive to the purpose of the trail itself. Ensuring safe trail features and infrastructure and providing local Search and Rescue with up-to-date trail information goes a long way to ensure trail users have a positive experience, even when accidents occur.

**Action Item 18: Develop a risk management strategy that focuses on eliminating unreasonable 'hazards' from the trail (including large ruts, deadfall and unsafe or unsound bridges) and proactively reducing the exposure of land managers, partners or private land owners to liability arising out of lawsuits.**

The RDOS should identify the legal situation of the various land managers and then provide a framework for reducing and managing their exposure to liability. Liability associated with trails crossing private land is an important component of any trail risk management discussion. Many trails in the study area cross over private land or are located on or cross Indian Reserve lands. There are serious implications of promoting the use of trails that trespass on private or First Nations lands.

**Action Item 19: Starting with the most frequently used trails and trail systems, identify trails that trespass on private land and begin the process of systematically entering into agreements with landowners; providing landowner incentives or purchasing or otherwise acquiring lands with trespassing trails.**

Trails on regional district or municipally owned land expose the governing body to the same level of risk as other public recreation facilities including playgrounds, beaches, picnic sites and skateboard parks. As with these other sites, the land managers have the ability to mitigate risk based on both design of the facility and maintenance. These facilities will generally be built with a progression where beginner riders (mountain bike or ORV) can challenge themselves on easier trails and advance at an incremental pace to harder trails. Any facilities or features that are constructed will need to be subjected to regular inspection. The rate of inspection of bridges and other features will vary based on design, but recommendations should be provided by the contractor building the facility and the governing body should follow these recommendations very closely. All trails must be well signed with difficulty indicated to avoid situations where trail users venture into terrain that they are not physically capable of navigating. In order to meet the “duty of care” of avoiding the creation of a danger or acting in disregard for the safety of recreation users, the following two action items should be incorporated into risk management planning.


**Photo 13: Clear signage of private property can prevent trespassing and associated conflict. Photo: Mark Woods**

**Action Item 20: Contract experts in trail construction and design for both concept and completion of any publically funded trails, features or facilities.**

**Action Item 21: Carry out regular, periodic inspections and include a public input element on the Click, Hike, Bike™ website to receive maintenance comments for trails, features or facilities.**

Unsanctioned trails remain problematic for land managers in BC because there is no opportunity for controlling design or construction of the trails. Most trails in BC are constructed without permits by local individuals and may or may not use best practices for design, construction or environmental protection. As a result, duty of care liabilities may exist without the knowledge of the land manager. These liabilities can be reduced through notifications and subsequent inspections of potentially unsafe conditions received from the public as per the above Action Item.

**Action Item 22: The RDOS should lobby the Province to introduce Inherent Risk Legislation that places more responsibility on individuals taking part in guided and non-guided recreation activities rendering them unable to sue for obvious inherent risks.**

### 6.3 Signage for Conflict and Risk Management

*Good fences make good neighbours; likewise good signage makes for good trail users.* While a good signage program does not solve all potential for conflict and risk, it is the single most effective tool available to the trail manager. Signage will help educate the different trail users and will avoid erroneous perceptions and expectations. The Province has adopted a set of trail signage standards for the Spirit of 2010 Trail, which traverses the RDOS (Appendix D).

**Action Item 23: The RDOS should adopt the provincial signage standards set out in the Signage Strategy for the Spirit of 2010 Trail for use on the region's trails**

Figure 1 Pictograms approved by the Province of British Columbia

Trail use pictograms (Cascade, 2010).


Bicycles allowed


Dogs allowed


Hiking allowed


All terrain vehicles allowed


Horseback riding allowed


Motorcycles allowed


Mountain biking allowed

Trials motorcycles allowed


Rock climbing allowed


Snowmobiling allowed


Snowshoes allowed


Cross-country skiing allowed


Spelunking allowed


Point of interest


Viewpoint

Usage restriction pictograms.


No all terrain vehicles


No bicycles


No dogs allowed


No hiking / backpacking


No horseback riding


No hunting / shooting


No motorcycles


No mountain biking


No rock climbing


No snowshoes


No Spelunking

No trials motorcycles


No snowmobiling


No cross-country skiing

Figure 2: Universal Code of Conduct for mixed trail use

Figure 3: Ecologically Sensitive Area, no motorized use


# 7.0 Stakeholder Engagement

Stakeholders provided valuable input for this Regional Trails Master Plan, played a key role in shaping the strategies, contributed on issues around trail management, and provided information on associated infrastructure. Engagement for the planning process was twofold; through a closed session Working Group, and through public consultation with the community. Public consultation was solicited through the Click, Hike, Bike™ webpage on the RDOS website which disseminated updates of the process as it unfolded and collected public input through an online survey. Additionally, the RDOS hosted a series of public open houses in Princeton, Oliver and Penticton.

## 7.1 Regional Trails Master Plan Working Group

At the outset of the RTMP process, a multi-jurisdictional Working Group was selected through an invitation process designed to try to capture as wide a spectrum of trail user types as was feasible. Selected members included:

**Table 7**: Regional Trails Master Plan Working Group Participation

| **RTMP Working Group** | | |
|---|---|---|
| **Group** | **Representative** | **Mandate** |
| Trail Stewardship Groups | | |
| Naramata Woodwackers | Lyle Resh - President | Organization responsible for maintenance, repair and minor construction focusing on the Naramata KVR; including related administrative tasks. |
| Summerland TCT Society | Marilyn Hanson - President | Responsible for maintenance and stewardship of TCT in Summerland. Concerned about damage to trail surface and to user experience from motorized use. |
| Vermilion Trails Society | Kim Maynard - President | Trail steward for 113 km of TCT, as well as trails from Princeton to Osprey Lake to Brookmere. Works to keep trails in world-class condition for cyclists and hikers. Continually improving trails in region. |
| Similkameen Trails Society | Duncan Bayne / Joe Littlefield - Members | Mandate to enhance trails, raise funds for stewardship, cooperate with stakeholders and government, enhance and promote trails for residents and visitors; linking all communities with the creation of circuits. Created Keremeos village promenade, works with District on neighbourhoods project. |
| Area D (Kaleden and Okanagan Falls) | Kim Denis - Member | Concerned with maintenance for KVR from Penticton to OK Falls. Interested in getting people off roads and on to trails. |

| Trail Groups and Organizations | | |
|---|---|---|
| China Ridge | Kelley Cook – President | Non-profit society to manage XC ski and summer recreation trails, to promote self-propelled recreation, connection to nature and family focus. China Ridge has 90 members, and the trails recently had $300,000 dollars in improvements. Kelley also works with tourism project Town of Princeton, contract recreation sites, and historical trail restoration. |
| Trails BC | Harold Sellers – Project Facilitator | Province-wide society responsible for non-motorized trail stewardship. |
| Penticton and Area Cycling Association | Andrew Drouin – President | Responsible for local bike trail stewardship. Funds trail maintenance by selling trail maps via the website www.sweetsingletrack.com |
| ATV/BC | Terry Wardrop – Land and Environment Coordinator | Provincial organization with 3000 members, 40 clubs, 4 active clubs in the RDOS. Represents recreational riders, works with riders to ensure environmentally sustainable riding and to promote the sport. |
| Bush Pilot Biking | Johnny “Smoke” – Owner | Local bike guide and mountain bike trail steward. |
| The Adventurer’s Club | Brian Sutch – Representative | Local hiking group with 150 members. Organizes hikes throughout the Okanagan 2 times per week. Primary concerns include development and sale of private land cutting off access for existing trails. |
| BC Off-Road Motorcycle Association | Peter Sprague – Executive Director | Provincial organization with 40,000 users, 22 clubs, 2 professional organizations, 3500 members. Political advocacy, trails, trail stewardship, signage, guidelines for trail building. Membership includes dual sport (licensed) and off road riders. |

| | | |
|---|---|---|
| Trail Groups and Organizations | | |
| South Okanagan Dirt Bike Club | Ken Anderson | Regional organization with 138 members, 8 years old, works to educate riders in safe and sustainable riding practices, and to cooperate with other stakeholders |
| Equestrian Riders | Frank Seibeck | Local representative of national society promoting equestrian access to trails and providing resources for responsibly sharing tails with horses. |
| Local Government | | |
| City of Penticton | Mitch Moroziuk – Director of Operations | Responsible for trails within the boundaries of Penticton. Encourages continuation of trails and cycling routes outside city boundaries |
| Village of Keremeos | Laurie Taylor – CAO | Did not attend meetings – received updates on process from RDOS staff. |
| Town of Oliver | Stephanie Johnson – Director of Development Services | Seeking opportunities for collaboration on trails, as well as compatibility with Oliver's Trail Master Plan. |
| Town of Osoyoos | Barry Romanko – CAO | Concerned with nature of trails and connectivity to other communities. Trail Master Plan will be an important driver of economic activity. |
| Town of Princeton | Patrick Robins – CAO | Did not attend meetings – received updates on process from RDOS staff. |
| District of Summerland | Dale MacDonald – Director of Parks and Recreation | Broad mandate including collaboration with various organizations and connecting Summerland to other areas through various trail programs. |
| RDOS | Mark Woods – Community Services Manager | Oversees Parks and Recreation and Trails within RDOS. |
| RDOS | Diane Vaykovich – Rural Projects Coordinator | Responsible for tenure applications for trails and other trails-related projects. |
| RDOS | John Powell – Economic Development Coordinator | Responsible for overseeing economic development projects in the South Okanagan area. |

| | | |
|---|---|---|
| Local Government | | |
| Town of Princeton / RDOS | Lyle Thomas - Recreation | Representative of Princeton area. Mandate includes quality of life and livability and conversion of KVR to TCT. |
| Provincial Government | | |
| Recreation Sites and Trails | John Hawkings – Manager | Responsible for management of Recreation Sites and Trails on Crown Land outside of BC Parks, including rail trails throughout Province. |
| BC Parks | Keith Baric – Planning Section Head | Responsible for 66 Park Areas in RDOS with thousands of kilometers of trail. |
| Ministry of Forests, Lands and Natural Resource Operations | Shaun Reimer – Hydrotechnical Engineer | Regulatory inspector for dikes on Okanagan Lake system. |
| First Nations | | |
| Penticton Indian Band | Contacted – No representative provided | Did not attend |
| Osoyoos Indian Band | | Did not attend |
| Lower Similkameen Indian Band | | Did not attend |
| Upper Similkameen Indian Band | | Did not attend |

This Working Group met four times during the preparation of the RTMP. The Working Group has strived to ensure that the needs of all trail user groups are recognized and that the overall RTMP is implemented in an environmentally, fiscally and socially responsible manner.

### *7.1.1 Mission and Vision Statement Development*

At the first working group meeting, the group collaboratively developed their mission statement and the subsequent vision for the RTMP. The core beliefs expressed collectively by the group were that the mission should be inclusive, direct, and should clearly state their goals. By consensus, the mission statement agreed upon is:

***To create a Regional Trails Master Plan that serves the diversity of trail users***

The spirit of this mission is collaboration, communication and an open forum for passionate trail users with diverse, often divergent, interests and activities to respectfully discuss opportunities for partnership and cooperation.

Based on the mission statement, the group developed a vision for the RTMP, and thus for the region's trail network. The aspiration behind the vision was to set a high standard, and to highlight all the opportunities for future benefits from an improved trail network. The consensus for a vision was:

***To foster locally-valued and world-renowned trails which provide exceptional opportunities for recreation, community linkage, health and wellness, environmental stewardship and economic benefits***

The vision statement lists all the benefits of the trail network without prioritizing one over the other. A comprehensive, well planned trail system should strive to provide all of the benefits listed in the vision

statement. The Working Group was very clear that while a world class trail system is an important goal, it should not be attempted at the expense of the local people who use the trails daily. *The trail network can be both locally-valued and world-renowned, but one must not be achieved at the expense of the other*.

### *7.1.2 Summary of Directives*

The following set of directions was presented to and accepted by the Working Group as their role:

- The Working Group is composed of representatives from three levels of government (Municipal, Regional and Provincial) and key community-based trail stakeholders who are committed to working together to provide direction in the planning and implementation of a Trails Master Plan.
- The Working Group will strive to ensure that the necessary policies and funding mechanisms are in place to acquire, construct, manage and maintain a multi-jurisdictional network of trails and facilities in a seamless and coordinated manner.
- The Working Group will strive to ensure that the needs of all trail user groups are met and are not compromised, and that the overall strategy is implemented in an environmentally, fiscally, and socially responsible manner.
- The Working Group will receive advice from various stakeholder groups, but will make recommendations based on the needs of the greater community by balancing a number of priorities.
- Working Group members are responsible for reporting to higher level managers and / or elected officials and the Committee meets periodically to provide direction, and evaluate the progress and success of the project.

Additionally, the Working Group was presented with a code of conduct outlining the need for collaboration and commitment to the process (Appendix F).

## 7.2 Community Consultation

A series of five open houses was held in various locations throughout the RDOS. The goal of the open houses was to solicit feedback on the Working Group's recommendations and on the master planning process itself. Members of the public were encouraged to provide trail data and to identify current and potential linkages on maps. A summary of the meetings held follows.

October 26, 2011 (held in Penticton, approximately 100 attendees)

- Outline of Master Plan process
- Request for feedback
- Discussion of final document expectations
- Maps provided, trail requests requested
- GPS data requested

November 16, 2011 (held in Penticton, approximately 50 attendees)

- 'Hands on' discussion with preliminary data and maps
- Provided conflict resolution options identified by working group
- Made appeal for additional data

December 12, 2011 (held in Princeton, approximately 80 attendees)

- Detailed discussion with local maps
- Received information about specific issues in specific areas

- Discussed framework for education and respect-based trail stewardship model based on the work completed by Osprey Lake ATV club
- Discussed re-route for motorized use to designate the KVR as a non-motorized route between Princeton and Coalmont

December 13, 2011 (held in Oliver, approximately 65 attendees)

- Detailed discussion with local maps
- Received information about specific issues in specific areas
- Discussed maintenance of hike / bike trail through Oliver
- Discussed KVR route through Vaseux Lake Protected Area and the need for trail connections between Oliver and OK Falls
- Discussed access issues to Golden Mile trail

February 15, 2012 (Held in Penticton, approximately 60 attendees)

- Presentation of 1st Draft of Regional Trails Master Plan
- Requested comments on the document

### 7.3 Community Survey Results

A survey requesting the opinions of local trail users on overarching trail issues and specific trail systems was conducted on the Click, Hike, Bike™ website from October 21 to December 16, 2011. The survey was broken into two parts: a regional survey asking for general information on the region's trail network, and a trail survey asking for specific information about specific trail networks within the region. The trail survey could be completed for multiple trail networks.

458 submissions were received for the regional survey. 294 of these respondents were residents of RDOS and 164 were from beyond the RDOS boundaries.

208 regional survey respondents also completed one or more trail surveys.

87 local residents completed the regional survey but did NOT complete any trail surveys.

212 respondents (72%) are non-motorized trail users, meaning they did not access trails by motorized means. Types of use were as follows:

- 194 Hike
- 193 Bike
- 152 Walk
- 53 Commute
- 32 Horse

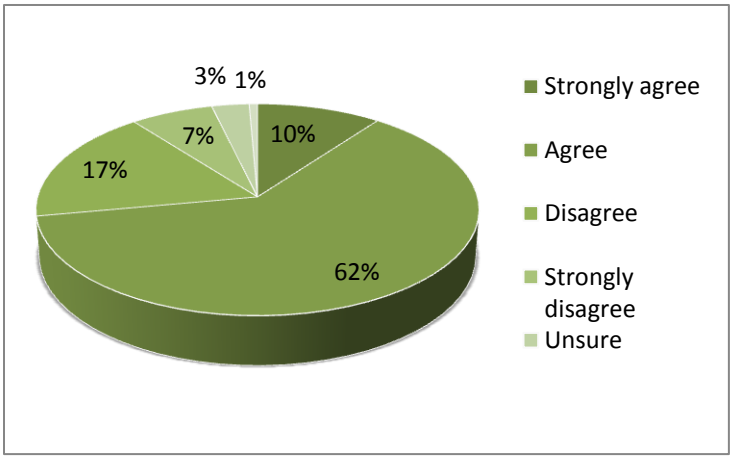
82 respondents (28%) are motorized trail users, meaning they used motorized vehicles on the trail network (these respondents may have also used the trails by non-motorized means). Types of motorized use were as follows:

- 42 ATV
- 31 Motorbike
- 16 Snowmobile
- 15 Car / truck

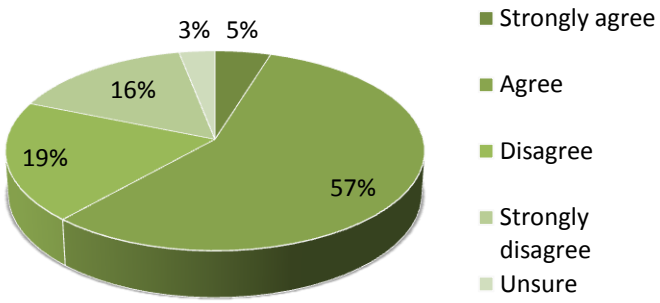
### *7.3.1 Regional Survey Responses*

**Table 8**: Regional Survey Responses

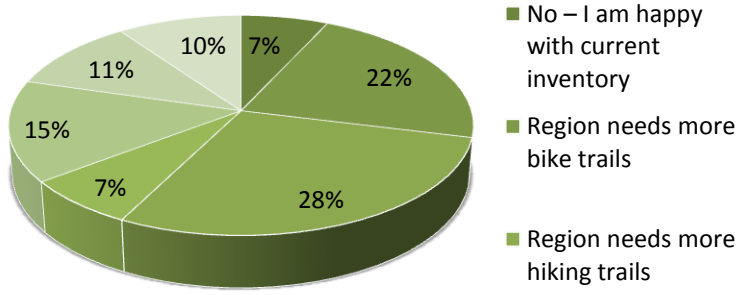
| **Are you happy with the number of trails in the region?** | |
|---|---|
| Strongly agree | 30 |
| Agree | 182 |
| Disagree | 51 |
| Strongly disagree | 20 |
| Unsure | 9 |
| No Answer | 2 |



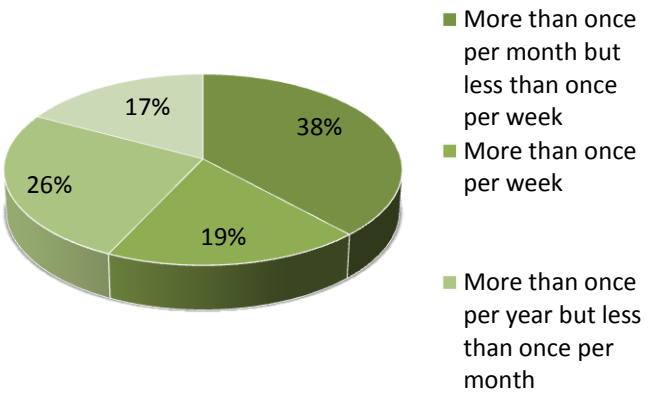

| **Are you happy with the condition of the trails in the region?** | |
|---|---|
| Strongly agree | 14 |
| Agree | 166 |
| Disagree | 57 |
| Strongly disagree | 46 |
| Unsure | 9 |




| Does the region need new trails? | |
|---|---|
| No – I am happy with current inventory | 33 |
| Region needs more bike trails | 105 |
| Region needs more hiking trails | 137 |
| Region needs more equestrian trails | 34 |
| Region needs more multi-use trails | 71 |
| Region needs more ATV trails | 51 |
| Region needs more motorbike trails | 47 |



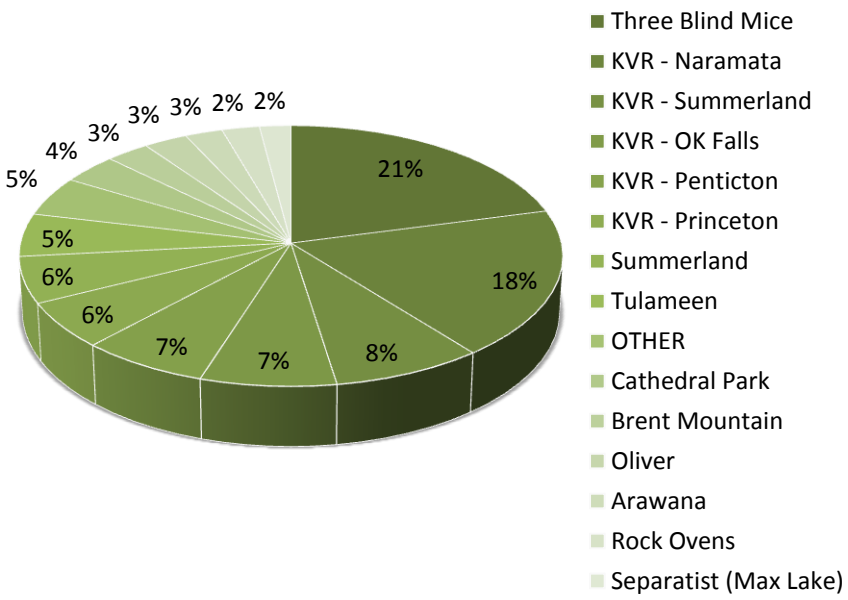
| How often do you travel more than 20 minutes by car to access recreation trails? | |
|---|---|
| More than once per month but less than once per week | 111 |
| More than once per week | 55 |
| More than once per year but less than once per month | 75 |
| Never | 50 |




| Favourite Trail Area: | |
|---|---|
| Three Blind Mice | 51 |
| KVR - Naramata | 45 |
| KVR - Summerland | 20 |
| KVR - OK Falls | 18 |
| KVR - Penticton | 17 |
| KVR - Princeton | 14 |
| Summerland | 14 |
| Tulameen | 13 |
| OTHER | 12 |
| Cathedral Park | 9 |
| Brent Mountain | 7 |
| Oliver | 7 |

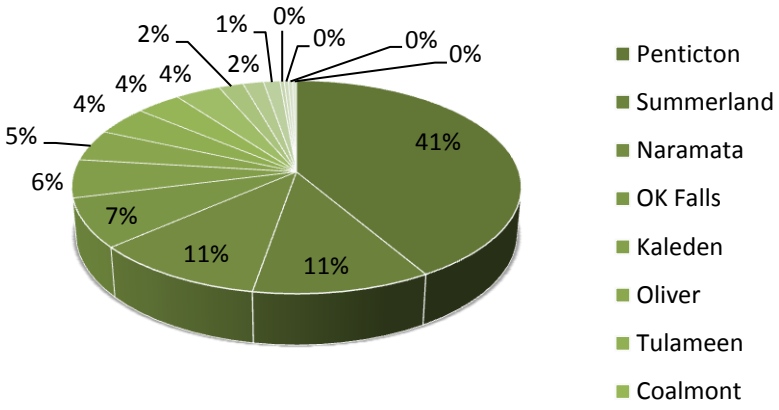
| Favourite Trail Area: | |
|---|---|
| Arawana | 6 |
| Rock Ovens | 6 |
| Separatist (Max Lake) | 5 |
| Apex | 4 |
| Carmi | 4 |
| Keremeos | 4 |
| Mt Kobau | 4 |
| Campbell Mountain | 3 |
| Coalmont | 3 |
| Hedley | 3 |
| Peachland | 3 |
| Cartwright | 2 |
| China Ridge | 2 |
| Okanagan Mountain Park | 2 |
| Osoyoos | 2 |
| 3 lakes area sawmill, madden and bear lakes | 1 |
| Farleigh Lake area | 1 |
| Kaleden | 1 |
| KVR - Kaleden to OK Falls | 1 |
| KVR - Oliver | 1 |
| KVR - Osoyoos | 1 |
| KVR Penticton / Naramata | 1 |
| Marron Valley | 1 |
| Mt Baldy | 1 |
| Osprey Lake area | 1 |

| Favourite Trail Area: | |
|---|---|
| RDOS | 1 |
| Skaha Bluffs | 1 |
| Skaha Lake west shoreline | 1 |
| Willowbrook | 1 |




| Respondent geographic makeup: | |
|---|---|
| Penticton | 122 |
| Summerland | 33 |
| Naramata | 32 |
| OK Falls | 22 |
| Kaleden | 17 |
| Oliver | 14 |
| Tulameen | 13 |
| Coalmont | 11 |
| Princeton | 11 |

| Respondent geographic makeup: | |
|---|---|
| Osoyoos | 6 |
| Keremeos | 5 |
| Hedley | 4 |
| Cawston | 1 |
| Osprey lake | 1 |
| West Bench | 1 |
| Area F | 1 |




### *7.3.2 Trail Survey Responses*

The trail survey provided options for comment on the trail networks listed in the table below. In subsequent tables, results are listed for each area receiving more than five responses. A comprehensive list of questions and results is available in Appendix B.

**Table 9**: Trail Survey Responses

| Trail Area | Number of comments recieved |
|---|---|
| KVR - Naramata | 52 |
| KVR - Summerland | 23 |
| Three Blind Mice | 20 |
| KVR - Princeton | 18 |
| KVR - Penticton | 17 |
| Tulameen | 13 |
| Summerland | 12 |
| Campbell Mountain | 12 |

| Trail Area | Number of comments recieved |
|---|---|
| KVR - OK Falls | 12 |
| Carmi | 10 |
| Separatist (Max Lake) | 10 |
| KVR - Oliver | 9 |
| Apex | 9 |
| Skaha Bluffs | 7 |
| Arawana | 5 |
| Okanagan Mountain Park | 5 |
| Keremeos | 5 |
| OTHER | 5 |
| Oliver | 4 |
| KVR - Osoyoos | 3 |
| Osoyoos | 3 |
| Fire Mountain | 3 |
| Hedley | 3 |
| Cartwright | 3 |
| Mt Kobau | 3 |
| Peachland | 2 |
| Coalmont North | 2 |
| Princeton - Coalmont | 2 |
| Brent Mountain | 2 |
| Kaleden | 2 |
| Cathedral Park | 2 |
| Rattlesnake & Wildhorse Mtns | 1 |
| OK Falls | 1 |
| China Ridge | 1 |
| Gilles Creek / Rock Oven | 1 |
| KVR Trail at Kaleden, north end | 1 |
| White Lake Basin / Mahoney Lake | 1 |
| Rock Ovens | 1 |
| Farleigh Lake area | 1 |
| 3 lakes - Sawmill, Madden and Bear Lakes | 1 |
| Twin Lake  Yellow Lake | 1 |
| Loadstone Mt. | 1 |
| Penticton south to Okanagan Falls through Kaleden, specifically the Kaleden stitch of the trail | 1 |
| Arawana Beer Run | 1 |
| Parker Mountain | 1 |
| North edge of Skaha Lake - past Penticton airport | 1 |
| KVR Penticton to Ok Falls | 1 |
| **Grand Total** | **294** |

Below is a summary of survey feedback from each area receiving more than five responses:

**KVR Naramata**
KVR Naramata is both scenic and conveniently located, so it is not surprising that a large majority of respondents used the trail more than once per month (40 / 52 respondents). Although this is one of the most popular public trails within the RDOS boundaries, the legal status of this trail remains a mystery to the general public with 15 respondents believing private land conflicts are an issue and another 24 unsure if a land use conflict exists. This confusion over the legal status of trails is quite possibly the most fundamental issue to be tackled by land managers.

Although 77% of respondents thought the network was good or excellent, 67% of respondents believed the KVR trail was in need of maintenance. Comments on trail maintenance are largely made by non motorized users (cyclists and hikers) who believe that motorized traffic has made the surface both loose and rough. Respondents were evenly split on the topic of trail development (49% want new trails, 35% do not want new trails, 16% were unsure), although among the suggestions for proponents of new trail development, new trails as alternatives for motorized traffic appeared in several comments.

With regards to infrastructure, there were only low levels of support for most upgrades with only 24% of respondents believing improved road access was required, while 31% wanted improved parking and 24% wanted other new facilities. Conversely, there was evenly divided sentiment about upgrading signage along the route (51% in favour of new signs).

User conflict along this section of KVR was identified as “minor” by 77% of respondents, while 37% of respondents identified that user conflict was “frequent”. Conflict along this trail is almost exclusively between motorized and non-motorized in general rather that between specific user groups. Non-motorized users identify the speed of travel, the pollution (noise and air) and the degradation of the trail surface by motorized users as the main points of conflict. Motorized users appear aware of the issue and identify a need to “share the trail”.

**KVR Summerland (23 Responses)**
KVR Summerland extends both south to Penticton as well as west to Osprey Lakes and Princeton. These diverging trail directions create some possible confusion in analyzing the survey results because they likely attract two entirely different sets of users.

This popular trail received no negative feedback on the quality of the network, although 77% of respondents wanted to see new trail maintenance. Specific maintenance responses are geared towards grading washboard and soft sections created by motorized users. 73% of respondents would like to see new trails developed, and there appear to be common themes in replies to create trails that will help separate user groups. Although no respondents identified the quality of the network as “poor”, several users commented on the lack of connectivity between KVR Summerland and the connections around Penticton (Channel Path and KVR Penticton).

With regards to infrastructure, there was clearly a split in respondents, with roughly 50% suggesting road access be improved, and roughly 50% suggesting improved parking was required. Nearly 50% of respondents believed other new / improved facilities were not required while the remainder were either unsure or believed that facility upgrades were required. There was much broader support of improving trail signage with only 22% of respondents saying that signage was not required. Four respondents provided comments on facility upgrades and they each identified washrooms as a desired improvement to be made.

Conflict on the KVR between Summerland and Princeton appears to be between motorized and non-motorized groups. Potential solutions to user conflict have been suggested by respondents, including banning certain user groups, providing educational signage, and developing separate trail networks to help avoid conflict. It is clear that a disconnect exists between groups as to what constitutes a well

maintained trail, and this disconnect likely contributes to the conflict. For example, a non-motorized user provided the comment "*ATV's degrade the trail by causing ruts and generating enough dust to smother vegetation along the trail,"* while another respondent commented, *"Trails have been blocked and ATV riders stopped and harassed by hikers, causing a major issue with the use of this trail, which is being maintained by the ATV."*

The disparity is most likely because of the vastly different requirements of the different user types. People traveling by foot and bike wish to see a firm and relatively flat surface on which to walk or ride when they are using the KVR trail. When a pedestrian encounters an obstacle on the trail they can easily go over or around that obstacle. Conversely, motorized users are relatively unaware of the condition of the trail surface, but they may be unable to go over or around major obstacles like fallen trees. Another major source of conflict on the KVR Summerland trail is a lack of clarity over who is allowed on the trail. Many motorized users believe that the trail is open to everyone, while many non-motorized users believe that this trail is dedicated to non-motorized use.

**KVR Princeton (18 Responses)**

The KVR Princeton trail is popular with both motorized and non-motorized users. 78% of respondents used the trail more than once per month. 78% of respondents understood that land use conflicts existed on the trial in the form of forestry, agriculture, mining or private land. 83% of respondents believed that trail maintenance was required. Motorized users comment that debris slides block trails for prolonged periods of time before they are cleared while non-motorized users commonly commented that motorized traffic had made the trail surface difficult to travel on. One user commented that the recent re-surfacing efforts had been a "double-edge sword" for non-motorized users because the speed of travel had increased for those using motorized transportation. 58% of respondents wished to see new trail development, and comments left in the survey show many people wishing to see a separation of motorized and non-motorized users.

The quality of the network did not rank well among survey respondents, with only one respondent calling it "excellent", while half respondents rated the network as only fair or poor. The relatively poor ranking of the network quality once again appears to be related to the motorized / non-motorized divide based on comments from survey respondents, with motorized users saying that ATV and snowmobile trails have been isolated by sections of trail categorized as non-motorized.

Road access and parking appear to be relatively acceptable to users with only 29% of respondents identifying road improvements as important and the same number (29%) identifying improved parking as important. 92% of respondents wanted to see improved trail signage along the trail and 59% wanted other upgraded facilities (predominantly bathrooms). 65% of users identified frequent conflict along this trail although 76% rate it as "minor". The conflict is identified almost exclusively between motorized and non-motorized users, although one respondent identified rouge trail development by mountain bikers as a source of conflict.

**KVR Penticton**

KVR Penticton is used frequently by most of the survey respondents, with 82% using the trail more than once per month. The same number of respondents (82%) identified land use conflicts with either agriculture, forestry, mining or private land. 76% of respondents complained that the trail was in need of maintenance, and user comments indicate that the work required on this trail involves both grading and resurfacing of the trail at various points.

Only 12% of respondents identified the network as poor, but connectivity is clearly a problem both through the City of Penticton and between Penticton and OK Falls. Most users (70%) agree that road access does not need to be improved to access this trail, but 41% would like to see improved parking. 76% of users wish to see improved trail signs along the routes. Respondents were split (50:50) on whether new facilities were required, and washroom, fresh water, kiosks and parking were all suggested improvements. This section of trail has identified conflict both between motorized and non-motorized

users, but also between cyclists and pedestrians with 41% of respondents identifying major conflict along the trail.

**Tulameen**
Survey respondents for Tulameen used the trails with moderate frequency: 62% use the trails more than once per month but less than once per week; 23% use the trails more than once per week; and the remainder use the trails less than once per month. 46% of respondents identified land use conflicts along the trail, involving agriculture, forestry, mining and private land.

77% of respondents agreed that trail maintenance was required. Motorized users identify washouts and deadfall as issues, while non-motorized users identify loose trail debris created by motorized users as a maintenance issue. 54% of respondents wish to see new trail development, but unfortunately respondents did not leave many suggestions in the survey. One respondent identified a separation of motorized and non-motorized as a suggestion for future trail development. 69% of respondents feel the network is "good" but respondents also suggest better connectivity between Princeton and Tulameen, less logging road deactivation, and suitable connectivity to existing motorized trail areas that does not involve the KVR.

77% of respondents agree that road improvements and parking improvements are not required to facilitate access to trails in the area. 69% of respondents would like to see new / improved trail signage in the area but 85% agree that no further improvements in facilities are required. User conflict in the area is focused on the motorized versus non-motorized debate along the KVR, although environmental concerns have also been expressed regarding off-trail riding by both 4x4 vehicles and motor bikes.

**Summerland**
The majority of respondents to the Summerland survey were frequent visitors to the trails, with 58% visiting the trails more than once per week. The same number of respondents (58%) are aware of land use conflicts with either forestry or private land. Survey respondents were split on the issue of trail maintenance, where 42% thought the area needed maintenance while 50% did not believe the area needed additional trail maintenance. One respondent identified damage by motorbikes and ATV's as a source of trail maintenance problems.

42% of respondents wanted to see new trail development while 50% did not want to see new trail development. Access to existing trails and private land issues appear to be driving factors in the desire to see new trail development. 100% of survey respondents said the network quality was excellent, good or fair (nobody identified it as "poor"), but the same respondents identified serious conflicts with both private land and Indian Reserve on the existing network.

Responses to road improvements and parking improvements were largely split with 50% saying the area did not need either improved parking nor improved road access. 58% of respondents wanted to see new or improved trail signage while only 42% wanted other facility upgrades like new bathrooms. Responses to the level of user conflict were diverse, but comments on that topic indicate that conflict is centered on motorized versus non-motorized users, and that conflicts often involve people on horseback.

**Campbell Mountain**
Campbell Mountain falls outside the jurisdiction of the RDOS because it is within Penticton municipal boundaries. It was included in the survey because it represents the closest trail network to the largest city in the RDOS, though only 12 people responded to the survey.

67% of respondents used the trails on Campbell Mountain more than once per month, and 42% of respondents are aware of land use conflicts with either private land or agriculture. 92% of users agree (58% strongly agree) that trail maintenance is an issue, with road grading, garbage cleanup and off-trail motorized damage being identified as problematic. 67% of respondents said new trail development was needed, but comments indicate that there are already more than enough trails. On the other hand, a

respondent suggested that new trails be developed to allow segregation between user groups. 83% of respondents said the existing network was excellent or good although there have been several suggestions for new connections including downtown, Three Blind Mice and Riddle Road.

**KVR Okanagan Falls**
Respondents to this survey were identifying both the section of KVR along Skaha Lake and the section heading through OK Falls. 75% of respondents used the trail more than once per month and 67% of respondents were aware of private land issues along the trail. It is likely that many of those respondents were aware of a private land acquisition near Kaleden between Penticton and Okanagan Falls but it is not clear if they were aware of other private land issues.

58% of respondents believed maintenance was required. Comments provided about maintenance indicate sand sluffs are a frequent problem, and soft sections of trail make travel difficult for non-motorized users. Some non-motorized users also indicated that the trail has been degraded by motorized use. 83% of respondents wanted to see new trail development, and it is clear from comments that the new trail development that users would like to see is improved connectivity both north and south.

Only 33% of respondents identified the existing network as “good” and none identified it as “excellent”. The low quality scores on this response are largely a result of the lack of connectivity to the south, and uncertain connectivity to the north. 33% of respondents wanted road improvements to facilitate access while 67% of respondents would like to see improved parking. 75% of respondents indicated they would like to see new signage along the trail while only 33% suggested they would like to see other facilities upgrades including bathrooms and a bridge at Vaseux Lake. User conflict on this section of trail is focused on motorized versus non-motorized use, though for this particular survey it appears that only non-motorized users responded.

**Carmi**
In the summer, the Carmi area is popular with downhill mountain bike riders in the upper reaches and it is popular with hikers and climbers in the vicinity of the interpretive trails. This survey received 10 responses, and 70% of those individuals used the area more than once per month. 30% of respondents identified land use conflicts involving forestry, mining and private land.

80% of respondents identified maintenance as a concern, with suggestions for garbage cleanup, trail armouring and maintenance of bike stunts. 90% of respondents wished to see new trail development, including one suggestion for new motorbike trails. Only 10% of respondents identified the existing network as “good” while the remaining respondents identified the network as “fair” or “poor”.

50% of users believed the area need both road improvements and parking improvements, while 90% agreed that new signage was required. 50% of users also identified new facilities as being important but no respondents chose to elaborate on that request. Conflict between users in this area appears to occur at a much lower level with only “minor” conflicts identified and almost no respondents choosing to leave comments (there was a single comment regarding motorized versus non-motorized conflict).

**Seperatist; Max Lake; Gerry Mountain**
It is understood that much of the trail network in this area is either private land or Indian Reserve. However, this survey was created as a broad attempt to collect information on *all* the trails that RDOS residents use, and Gerry Mountain (Max Lake, Seperatist) is clearly a popular destination for certain user groups. The information presented in this survey summary does not reflect the opinions of Cascade Environmental nor the RDOS, and there are no plans for unsolicited management suggestions to the Penticton Indian Band.

This trail network is known by a number of names and it is popular with cyclists and hikers. Motorbikes have been known to use the area but there have been signs added in recent years indicating that they are not allowed. 60% of survey respondents indicate that they use the area more than once per month

and 80 % are aware that at least a portion of the trail is Indian Reserve or private land. 80% of respondents agree that trail maintenance is required and 70% would like to see new trail development. 50% of respondents believe the existing network is good, but several people commented that additional regional linkages would be good. 30% of respondents wanted to see improved road access, 30% wanted improved parking and 90% wanted to see new or improved signage. Conflicts on this trail are reported as occurring both between motorized versus non-motorized users. One respondent was aware that the trails occur on Penticton Indian Band land

**KVR Oliver**
KVR Oliver was used more than once per month by 67% of respondents, and the same number of respondents identified land use conflicts on the trail (either on private or agricultural land). 56% of respondents felt the trail was in need of maintenance, with invasive plants or vegetation overgrowth identified as specific issues. 89% of respondents wanted to see new trail development and they identified restoring connections to Okanagan Falls and Osoyoos as key opportunities, although 67% of respondents believed the existing network was either “good” or “excellent”.

Only 22% of respondents believed road improvements were required to facilitate access, while 44% of respondents wanted to see improvements for parking. 89% of respondents wanted to see new or improved signage for the area while 44% of respondents wanted to see improvements to other facilities including a suggestion of a portable toilet at either Rd 9 or Rd 12. Conflicts on the trail were identified as only “minor”. Several motorized users provided comment that they wished to have greater access to this area.

**Apex**
Trails at Apex were used more than once per month by 78% of survey respondents. The same number of respondents identified forestry as a competing land use in the area. 89% of respondents believed trail maintenance was required, with respondents identifying motorized users causing problems on existing trails. 89% of respondents wanted to see new trail development for both summer and winter use. 67% of users identify the network as only “fair” while 33% identify the network as “good”. Network expansion suggestions provided by the public include; connecting Apex to Nickel Plate, connecting Augur Lake with Summerland, and connecting Riordan, Sheep Rock and Brent Mountain.

33% of respondents felt road improvements were required to facilitate access and the same number of users wanted to see improved parking. 89% of users wanted to see improved signage and 66% wanted to see other facility upgrades to the area, including the addition of washrooms. Respondents chose not to answer the question about the level of user conflict, but many respondents commented on both summer and winter conflicts between motorized and non-motorized users.

**Skaha Bluffs**
The Skaha Bluffs area actually encompasses more than one jurisdiction, trail system and user group. The area is world famous for the climbing routes that are now contained within a provincial park, but immediately beside the park is a highly scenic mountain bike route that does not cross into the park. Respondents to this survey represent both groups.

71% of respondents used the trails in this area more than once per month. 43% of respondents identified private land issues in the area, and 57% of users believed trail maintenance was a problem. 71% of respondents believed the existing network was either “good” or “excellent”, however 86% of respondents also expressed a desired to see new trail development. 29% of respondents felt road improvements could be made to facilitate access, but no respondents believed parking needed improvements. 86% of respondents wanted to see new or improved trail signs, but none expressed desire to see other facility upgrades to the area. User conflict in this area was described as only “minor”; the comments made by respondents indicate that motorbikes occasionally access the area and cause problems on the trails.

Selected comments were chosen to reflect the diversity of responses received. A comprehensive list of questions and results is available in Appendix B.

### 7.4 Trail Management Units

As previously noted in this document, the RDOS is a huge landscape with a number of trail-based activities taking place within its boundaries. In order to effectively plan for the needs of a given area, it is necessary to break up the landscape into 17 discreet management units. Management delineation was driven by geographic and terrain features, existence of defined networks, electoral district and type of use. Map 2 shows the management unit boundaries and trail networks. Trails are separated into four categories:

1. Non-motorized: Trails used by self-propelled recreationalists, no use by ORVs.
2. Mixed use: Trails actively used by both motorized and non-motorized recreationalists.
3. Motorized: Trails used almost exclusively by motorized vehicles, primarily resource roads.
4. Cycling network: Road and commuter routes designated as part of a formal cycling strategy.

Management Units
Trails

**RDOS - Ownership**

**OWNERSHIP**

- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

| Management Unit | Area (km2) |
|---|---|
| Apex - Brent Mountain | 323.9 |
| Cathedral - Snowy | 1273.5 |
| China Ridge | 22.6 |
| Chute Lake/Rock Ovens | 395.4 |
| East Bench | 574.3 |
| East Grasslands | 531.2 |
| East Skaha | 112.4 |
| Garnet Valley | 316.2 |
| Greater Osprey Lake | 1508.3 |
| Greater Tulameen/Coalmont/Cascade | 1795.1 |
| Hedley - Keremeos | 935.4 |
| KVR Summerland | 272.3 |
| Manning | 1424.4 |
| Three Blind Mice | 31.5 |
| Valley Bottom | 217.6 |
| West Grasslands | 485.6 |
| West Skaha | 364.7 |

Osprey Lake
Greater Osprey Lake
Garnet Valley
Okanagan Mountain PP
Chute Lake/Rock Ovens
Naramata
Summerland
KVR Summerland
Three Blind Mice
Penticton
East Skaha
East Bench
Valley Bottom
Tulameen
Greater Tulameen/Coalmont/Cascade
Princeton
Brent Mountain PA
Apex - Brent Mountain
West Skaha
Hedley
OK Falls
Hedley - Keremeos
Cascade PP
Manning
Keremeos
West Grasslands
Oliver
East Grasslands
Manning PP
Cathedral - Snowy
Cathedral PP
Snowy PA
Osoyoos

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

CASCADE ENVIRONMENTAL RESOURCE GROUP LTD

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Kilometers

**Management Units - Overview**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### 7.5 Significant Jurisdictional Features

Significant jurisdictional features include Indian Reserve and privately held lands with trail activity. Many of these are identified in the Management Unit discussion, but they are listed below for reference.

#### *7.5.1 First Nations Issues*

There are four Indian Bands in the RDOS, with 10 reserves. In several areas there are issues with recreational trails crossing or entering on to First Nations held lands. These areas are identified in the table below.

**Table 10**: Trail Conflicts on Indian Reserve Lands (Johnco, 2009)

| Band | Reserves | Trail Issues |
|---|---|---|
| Lower Similkameen First Nation | Chopaka 8 | Snowy Access Resource Roads |
| | Chopaka 7 | |
| Osoyoos Indian Band (OIB) | Osoyoos 1 | KVR runs through a corner of reserve |
| Penticton Indian Band (PIB) | Penticton 1 | KVR Kaleden |
| | | Brigade Trail |
| | | Gery Mountain / Seperatist |
| Upper Similkameen First Nation (USFN) | Lulu 5 | |
| | Chuchuwaya 2 | Stemwinder Mountain Hedley Creek |
| | Chuchuwaya 2c | |
| | One Mile 6 | |
| | Vermilion Forks 1 | |
| | Wolf Creek 3 | |

#### *7.5.2 Private Land Issues*

Private land issues are identified by pertinent management unit. However, several significant areas exist, and are identified by management unit in section 9.3. There is an opportunity for the RDOS to mitigate private land related trail conflicts in the future by reviewing trail locations, especially access and staging areas, when assessing applications for new development.

## 8.0 Planning Framework

Trail Master Plans and strategies are unlikely to experience success without mechanisms in place that provide some degree of protection for the trails on which they depend. Although there is no specific formula for creating a policy framework for protecting trails, there are general approaches that facilitate the process:

1. Inventory and maintain an up to date official map that shows trails within local authority boundaries as well as trails that are important links to trail networks outside of the local government jurisdiction. Mapping should be detailed and accurate.
2. Ensure and implement provisions in the OCP whereby subdivision or rezoning requires a review of the potential community and environmental values of the land, with specific allowances for preserving, protecting or dedicating a trail, and an appropriate setback from development.

Encourage developers to view trail systems as an asset to their prospective development and work cooperatively with all parties to consider design approaches that leave trails intact or re-align trails so there is no net loss of trail access to crown land in the area.

3. Develop a financing strategy for trail construction and maintenance. This can be accomplished with a budgetary line item for trail projects and a strategy for obtaining grant funding, including empowering local trail organizations to apply for grants not available to government entities.
4. Provide options for developers and property owners that compensate for loss of development potential due to trails through incentives (i.e. density transfers, tax benefits, etc.)
5. Initiate a strategy of land acquisition for high value trail network corridors / areas.
6. Consider how to involve the local trail community in planning an identification of opportunities for trail network support within new developments.

### 8.1. Current Inventory Review

The current inventory review includes an assessment of the region's trails with special consideration given to major corridors, community connections, and access to popular recreation areas.

The information included in this section is based on trail data provided by the RDOS and by the Summerland ATV Club, Bush Pilot Biking (Johnny Smoke) and China Ridge (Kelley Cook). Throughout the public consultation process, a number of requests for data were made. The above groups were the only parties that provided information. It should be noted that this data is incomplete and that a greater inventory exists, but a number of groups were unwilling to share their trail information due to financial or privacy concerns.

**Action Item 24: Undertake a complete inventory of trails in the region, starting with large, known trail networks prior to launching Click, Hike, Bike™ as a source of trail data information. Trail data can be gathered by volunteers or through entering into data sharing agreements with clubs, companies and groups already possessing data.**

### 8.2. Trail and Protected Area Management – Analysis of Trends

The analysis of protected area management involved identifying and evaluating emerging trends in trail and protected area management as related to supporting a regional trails system within the Regional District.

Parks and protected areas follow management plans and purpose statements aimed at directing activities within their jurisdictions. The management plans will contain specific trail management policies and direction for construction, expansion and maintenance if trails are allowed. While trail management is outside the scope of this plan, discussion is included with a goal of integrating protected areas trails into the RDOS RTMP. Trails in parks or protected areas are managed by the following agencies:

1. BC Parks
   - Allison Lake Park (Purpose Statement, 2003), biking
   - Bromley Rock Park (Purpose Statement, 2003), biking
   - Cathedral Provincial Park (Management Plan, 1989), hiking, equestrian
   - Christie Memorial Park (Purpose Statement, 2003)
   - Darke Lake Park (Purpose Statement, 2007), hiking, equestrian, biking
   - Eneas Lakes Park (Purpose Statement, 2007), hiking, equestrian, biking
   - Haynes Point Park (Management Plan, 1980), hiking, biking
   - Inkaneep Park (No Management Plan), hiking, cycling
   - Keremeos Columns Park (Purpose Statement, 2006), hiking

- Kickininee Park (Purpose Statement, 2003)
- Manning Provincial Park (Management Plan, 2004), hiking, equestrian, biking
- Nickel Plate Park (Purpose Statement, 2007), hiking
- Okanagan Mountain Park (Management Plan, 1990), hiking, equestrian, biking
- Okanagan Lake Park (Purpose Statement, 2003), hiking, biking
- Skaha Bluffs Park (Interim Management Statement, 2010), hiking, equestrian, biking
- Stemwinder Park (Purpose Statement, 2003), hiking
- Sun-Oka Beach Park (Purpose Statement, 2003), hiking
- Vaseux Lake Provincial Park, (Purpose Statement, 2003), hiking
- Anachrist Protected Area (Management Direction Statement, 2003), hiking
- Brent Mountain Protected Area (Purpose Statement, 2007), hiking, biking
- Cathedral Protected Area (Management Plan, 1989), hiking, equestrian
- Cascade Recreation Area (Management Plan, 2004), hiking, equestrian, biking
- Snowy Protected Area (No Management Plan), hiking, equestrian
- South Okanagan Grasslands Protected Area (Management Direction Statement, 2003), hiking, equestrian, biking (except for Chopaka West)
- White Lake Grasslands Protected Area (Management Direction Statement, 2003), hiking, equestrian, biking
- Vaseux Protected Area (Management Direction Statement, 2003), hiking

2. The Nature Conservancy of Canada / The Land Conservancy of BC / BC Parks (jointly managed)
   - Skaha Bluffs

3. The Land Conservancy of BC
   - Peachcliff Conservation Area
   - Skaha Conservation Area
   - Eagle Bluff (South Okanagan Rehabilitation Centre for Owls)
   - Okanagan River Cottonwoods
   - Lehman Springs
   - Max Lake
   - Similkameen River Pines

4. Canadian Wildlife Service
   - Vaseux Lake Migratory Bird Sanctuary
   - Vaseux-Bighorn National Wildlife Area

5. Parks Canada (National Park feasibility study area).
   - National Park Reserve Feasibility Study – South Okanagan-Lower Similkameen

Virtually all parks planning documents produced over the last decade include a section addressing trends in an effort to ensure that the plan anticipates the needs and desires of its constituents over time. The City of North Vancouver Recreation Commission examined a number of growing trends with regards to recreation and demographics (2007) and along with support information provided by Boom, Bust and Echo 2000 (Foot, 1998) the following trends analysis in a trails context is offered herein.

1. There is general recognition that parks need to be activity oriented. Both provincial and federal governments are concerned about declining activity and they are aware of the associated increasing health costs over time. Youth inactivity is of particular concern.
2. The aging baby boom sector (which comprises the largest portion of the demographic) will shift demand away from higher risk sports toward less intense activities like hiking. Hiking is commonly listed first as a growth area in virtually all trend studies reviewed. However, the growth of ATVing as an activity is also supported by this trend. Presumably, with an average age

ranging from 37 to 41, the ATV sector is growing from the aging dirt bike sector and an aging sector that did not previously, or can no longer, hike.

3. The rise in environmentalism that began in the late 1980s and became mainstream in the new millennium has permeated all recreational sectors. With environmental awareness, the demand for Best Environmental Management Practices is now expected for all trail use types. This mainstream environmental consciousness is also reflected in one of tourism's biggest growth sectors, ecotourism. This trend has also led to growth in stewardship.
4. For reasons relating to shifting personal values, there is a trend toward a preference for more individual activities. The trend is also reflected in a shift toward experiential activities aimed at personal growth and enjoyment.
5. Ethnic diversity is increasing in Canada and multi-cultural oriented activities will increase in popularity as a result.
6. There is a growing income gap; younger families tend to have much lower household income. As a result they will be looking for less expensive recreational activities.
7. Both young and old share common affinity for walking and biking in their top five activity preferences; both trail oriented activities (Canadian Community Health Survey).
8. Volunteerism has been declining but may experience an upsurge as retiring baby boomers look for meaningful ways to spend their free time. Coupled with the aforementioned growth in stewardship, trail stewardship should increase.
9. Trails and technology – GPS, GIS and internet mapping
10. Workplace shifts will lead to increasing use of trails during the traditional workweek.

Future trends in recreational trails use within parks and protected areas remain unclear. BC Parks is faced with an ongoing trend of reduced funding and as a result trails management is adversely affected. At the same time there is pressure to open BC Parks up for business as evidenced in the amendments to the *Park Act* (2003), by allowing private sector initiatives like fixed roof accommodation (lodges) to increase use and revenues and to contribute to maintenance (BC Parks, 2006). At the federal level National Parks are also opening up their trails to wider types of non-motorized use. For example, Banff National Park has recently opened up new trails to mountain biking and is now actively promoting the activity on their website. Conversely, there is an increasing commitment at all levels of government, to protect natural areas and rare and endangered species in accordance with the BC Parks mandate.

Trails will continue to place a major role in the product offering of parks and protected areas. However, trail network expansion will be cautionary and carefully executed, after diligent consideration of the environmental impacts and management implications. Managers of trails within protected areas and parks will take advantage of a new suite of tools including: the widespread use of GIS, the internet, biogeoclimatic classification, terrestrial ecosystem and sensitive ecosystem mapping. These tools will help the park manager greatly in the identification, inventory and management of the sensitive ecosystem components in their parks. As a result, the trend will include expansion of both traditionally polarized activities – more recreational use and more ecological protection.

Parks will continue to allow only non-motorized use of trails but, particularly in the BC interior, equestrian and mountain biking will be widely accepted as indicated in the management directions identified in the earlier section.

Government funding for trails should increase for the health reasons described above, but it may lag behind demand, and as a result stewardship should continue to play an important role.

## 8.3 Potential Short and Long Term Issues and Trends Affecting Implementation

### *8.3.1 Short Term Issues*

Successful implementation of the RTMP will be a challenge in the near-term for a number of reasons. The area has a history of unregulated use and this is reflected in the wide ranging classification as "mixed use". For the most part mixed use works on the landscape where user type encounters are infrequent or if use levels are low. In areas of higher use levels, where encounters are more frequent, there is increased conflict or trail surface impact and as a result the dominant user types have effectively displaced subordinate user types.

Conflict will continue to occur for the reason outlined above, as the RDOS markets its trail network and as use across all sectors increases. Implementation and general acceptance of the respect based model will be the key to managing conflict on mixed use trails.

While education and stewardship will help to encourage best management practices on the trail network, lack of enforcement will effectively sanction irresponsible behaviour by all sectors, by allowing it to continue unchecked.

Development of strategically placed staging areas and negotiated access agreements with private land owners will take time to execute and will impede the effective implementation of the RTMP in the short term. Likewise, consultation with First Nations for land access agreements on several key trails may also impede implementation short term. Temporary agreements to allow use while consultation is ongoing may be a possible solution.

The pending Resource Road Act Project (BC Ministry of Forests, 2012) may be an issue since a considerable portion of the existing trail network occurs on resource roads. This includes maintenance, liability and availability of open resource roads. It will be important to continue to follow this process as it develops and amend this plan as necessary to reflect changes brought forth by the act when it becomes legislation (currently slated for 2013).

The concept of a licensing policy for ORVs has been in discussion in BC for over a decade. All sectors are supportive for a variety of reasons, including the hope that it will clarify use on Crown land. Legislation is currently pending, with implementation expected in late 2012 (BC Ministry of Forests, Land and Natural Resource Operations, 2012).

The mechanisms for implementation and management of the RTMP may not yet be in place. The need for a support structure to cultivate and manage the trails culture will be a short term issue that needs to be addressed through actions such as appointing a trails coordinator and striking a trail advisory committee. Implementation of the recommendations put forward in this plan will require a coordinated planning, organizational and fundraising effort.

### *8.3.2 Long Term Issues*

The dominant issue relating to trails and the RTMP over the long term will relate to demographic changes and population growth in the region. Increased population and changing demographics will result in new trail use patterns and pressures from wear and tear, conflict and reduced user satisfaction. These issues will tend to be site specific due to the extensive land base of the RTMP.

First Nations lands and consultation is expected to be an ongoing and long term issue as the RDOS works toward developing:

- Memorandums of Understanding or other agreements for trail use within reserve lands.
- Partnerships for trail-based tourism, trail construction, and trail maintenance.

Many trails in the region exist on First Nations Lands, and many key connections rely on agreement and partnership with First Nations. There are economic opportunities for both the RDOS and the local First Nations, but both will need to be willing to work toward a common goal.

Trails or trail accesses existing on private land also cause issues, as landowners may or may not be receptive to the idea of right-of-ways or easements to allow trail access on their property. Additionally, landowners may disapprove of certain trail user types or may block access to frequently used trail networks. A number of trail networks in the RDOS exist on private land, and as these lands come available it will be important for land managers to identify opportunities to purchase lands containing known trail networks or establish easements with new landowners.

Contradictory jurisdictional objectives can cause confusion for land managers and trail stewards. In the RDOS, there are a number of jurisdictional overlays including the Province, the RDOS, local municipalities and non-governmental funding organizations such as the Trans Canada Trail. All of these bodies have slightly divergent goals and priorities regarding trail-related issues that may not align with the vision and mission of the RTMP. In particular, there are contradictory objectives relating to motorized use of arterial trails such as the KVR. In 2011, the Province and the RDOS entered into an agreement for joint management of the KVR. Both parties currently recognize that specific portions of the trail will need to remain mixed use in the absence of a viable alternative. This contradicts the Trans Canada Trail's policy of only funding non-motorized or Greenway trail projects. As such, several stretches of trail are ineligible for funding even though they are a part of the TCT. The Spirit of 2010 Trail network exists only within BC and was developed to formalize sections of the TCT that allow mixed use.

Finally, changes in government and regulatory bodies may also affect trail planning priorities in the region. Changes such as a new Provincial Government, a change of mandate for the Province's department responsible for trails, or shifting priorities of the RDOS Board of Directors may require RDOS staff to revisit this plan to accommodate the will of the day. This is especially pertinent to legislation regarding trail use such as the Resource Road Act and ORV Management Framework.

### 8.4. Trail Classification System

Due largely to the wide range of trail use types, the global distribution of trails, and the fact that trails are the oldest existing type of human thoroughfare, there is no universally accepted system for classifying trails. Many jurisdictions and trail user sectors have taken it upon themselves to develop and publish their own set of guidelines or standards for trail classification. While each subsequent document strives to provide a unique approach to achieving a common set of goals and objectives, each tends to build on the experience of previously published works. As a result there is a general convergence of collective wisdom into what is now commonly referred to as best management practices (BMPs) for trail building.

The use of a "guideline" versus a "standard" reflects the risk sensitivity of the publishing organization. For liability reasons many groups have historically chosen to provide guiding documents that make recommendations and use words such as "should" and "may", while other groups for citing the same concerns around liability have elected to rely on standards that are more prescriptive, making use of words like "must" and "will". The Working Group reviewed a set of trail classification standards and guidelines that were deemed to be regionally germane and applicable to the range of user types. Upon review of these standards and guidelines, the Working Group decided that there was a preference for standards over guidelines. The group then settled upon the use of the Whistler Trail Standards as a foundation set of standards on which to build a set of RDOS specific trail standards. The recommended RDOS trail classification system, like the TCT and the Whistler Trail Standards, is based on the physical characteristics of the trail. It also incorporates elements of the BCORMA system to accommodate the motorized sector. The key to the recommended RDOS trail classification system is presented in the table below. The Signage Strategy Spirit of 2010 Trail is found in Appendix D.

**Table 11:** RDOS Trail Classification System Summary

| Trail Classification | Type V | Type IV | Type III | Type II | Type II | Type II | Type I | Type I | Type I | Type I |
|---|---|---|---|---|---|---|---|---|---|---|
| **Trail Surface Type** | Low Impact Nature Trail | Unsurfaced Singletrack (hand built) | Unsurfaced Single / Double Track (machine built) | Gravel Trail (singletrack) | Gravel Trail (double track) | Undeveloped Rail Bed | Paved Trail | Cycle Lanes / Sidewalks | Gravel Road | Paved Road |
| **Trail Difficulty Rating** | Extremely Difficult to Easiest | Extremely Difficult to More Difficult | Most Difficult to More Difficult | More Difficult to Easiest | More Difficult to Easiest | Easiest (motorized) | Easiest | Easiest | Easiest | Easiest |
| **Overview** | Remote, hiking-only trails | Most commonly occurring trail type, full range of skilled users | Rustic trails for heavier use by less skilled trail users | Wide potential user group on rough surface trail | Widest potential user group on rough surface trail | Surface is large crush ballast – can be developed into Type II Gravel Trail (double track) | Popular non-motorized routes | Popular non-motorized routes | Forest service, Resource or wilderness road | Usually public roads, may require connection - Motor Vehicle or Highway Traffic Act dictate use |
| **Potentially Appropriate Uses** | Hikers only | Experienced trail users, all but ATV | Similar to hand built unsurfaced track. All modes | All modes of transportation | All modes of transportation | Motorized use | Pedestrian and non-motorized wheeled transportation, equestrian access | Pedestrian and non-motorized wheeled transportation | Appropriate for multiple users with few restrictions | All users subject to “motor vehicle code”, “highway traffic act”, etc |
| **Material** | Anything found in natural landscape | Anything found in natural landscape | Anything found in natural landscape | Compacted gravel or other suitable material | Compacted gravel or other suitable material | Rail and sleepers removed | Asphalt or chip-seal coast surfacing | Moderate engineering. Asphalt or chip-seal coat surfacing | Engineered for motorized use. ¾ minus crushed gravel | Highly engineered. Asphalt, cement, pavers |
| **Grade** | No grade restrictions | Average grade <8%, short sections may be >10% | Average grade <8%, short sections may be >10% | Maximum grade 10%, short sections may be ≥15% | Maximum grade 10%, short sections may be ≥15% | Maximum grade 3.3% | Maximum grade 10%, short sections may be ≥15% | Maximum grade 10%, short sections may be ≥15% | Maximum grade ~16% | Maximum grade ~16% |
| **Tread Width** | 0.3 - 0.5m | 0.3 - 0.5m | 0.5 - 0.7m (1 way)<br>0.7 – 1.5m (2 way) | 1 – 2.5m | 2.5 - 3m (1 way)<br>3 - 4.5m (2 way) | 3 - 4m | 2 - 3m | 2 - 3m | 6 - 8m (3 - 4m per lane) | |
| **Cleared Width** | No requirements for cleared width | Tread width plus 0.5m either side | Tread width plus 0.5m either side | Tread width plus 0.5m either side (plus 1m if equestrian) | Tread width plus 0.5m either side (plus 1m if equestrian) | Minimal | Tread width plus 1m either side | Tread width plus 1m either side | | |
| **Cleared Height** | 2 - 3m | 2 - 3m for hikers / bikers<br>4m for equestrian | 2 - 3m for hikers / bikers<br>4m for equestrian | 2 - 4m | 2 – 4m | | 3m | 3m | | |
| **Maintenance Consideration*** | Low maintenance: possible erosion or fallen / overgrown vegetation concerns | Erosion mitigation and regular inspection necessary | Erosion mitigation and regular inspection necessary | Low maintenance; occasional grading / smoothing | Low maintenance; occasional grading / smoothing | Little maintenance needed | Regular inspection, immediate repair of damaged sections | Regular inspection, immediate repair of damaged sections | Regular grading / resurfacing | At discretion of agency in charge of maintenance |

* May require user type restrictions to meet the maintenance consideration

# 9.0 Data Analysis

## 9.1 G.I.S. Analysis

A GIS analysis identified gaps, opportunities and constraints in the RDOS trail system. The results of this analysis identify areas for expansion and development, feature construction, and connection opportunities.

### *9.1.1 Gap Analysis / Flow Analysis*

The objective of the gap analysis is to identify areas across the trail network that lack connectivity and to subsequently evaluate trail opportunities within the gap area that may provide a connection between the points of interest. Functions in the GIS application (ESRI ArcGIS) are used to identify termini in the trail network. User identified locations might also be added to this dataset. Temporary radial lines are then generated between the disconnected locations and are used to provide connection opportunities. The area within the gap bubbles will be analyzed for trail solutions that ultimately connect the points of interest.

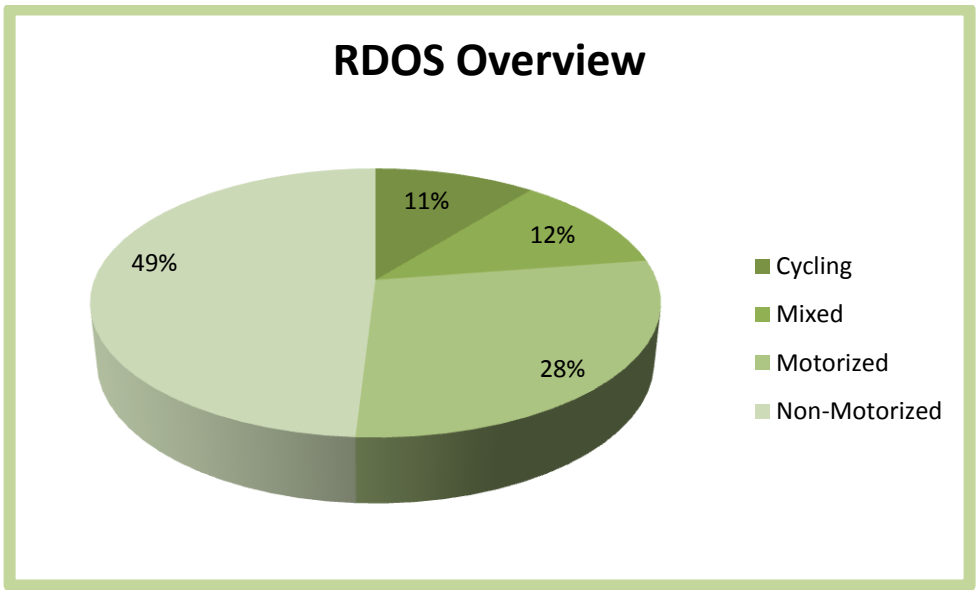
## 9.2 Opportunities and Constraints Analysis

The objective of the opportunities and constraints analysis is to identify opportunities for trail upgrades, formalization and designation that build on the region's strengths; constraints are issues and weaknesses in the network. In the following text and maps, opportunities are identified for projects to enhance the trail network, and constraints related to land ownership, regulation or user conflict are also identified. Opportunities and constraints are intended to assist land managers in understanding the options available and to use that information to implement the best possible plans, given the realities of the land base. An analysis of gaps in the RDOS trail system, and corresponding opportunities and constraints, is outlined for each individual Management Unit in Section 9.3 of this document.

### *9.3 Management Unit Analysis and Discussion*

For the purpose of planning at a sub-regional scale, the RDOS landscape was divided into management units. Within each of these units a hierarchy of use was established. In the majority of areas, hiking is the highest, best use, followed by equestrian and biking. OHV users are listed in two categories, dirt bikes and ATVs. The rationale for this is that OHVs use a much larger portion of the landscape in a given day, compared to the relatively small area travelled by a hiker. Additionally, any area where OHVs are not restricted should be designated for all uses to avoid compromising any future plans and because the nature of OHV recreation dictates that OHV use primarily covers a wide swath of the landscape, and that there is opportunity for other types of recreation around and between OHV routes. Furthermore, hiking is the least likely activity to be restricted in a given area, while ATVs are the most likely.

The following graph illustrates the proportion of each trail designation in the RDOS:




Non-motorised trail is the dominant trail type, comprising 49% of all trails in the RDOS. The total number of kilometres of each trail type is as follows:

- Non-motorized – 1,723 km
- Motorized – 997 km
- Mixed – 415 km
- Cycling (formalized road and commuter networks) – 378 km

The following management units are identified and described with consideration given to geographic boundaries, parks and protected areas; and most importantly, public feedback regarding use of a given area.

### *9.3.1 Apex / Brent Mountain*

**Management Unit Summary**

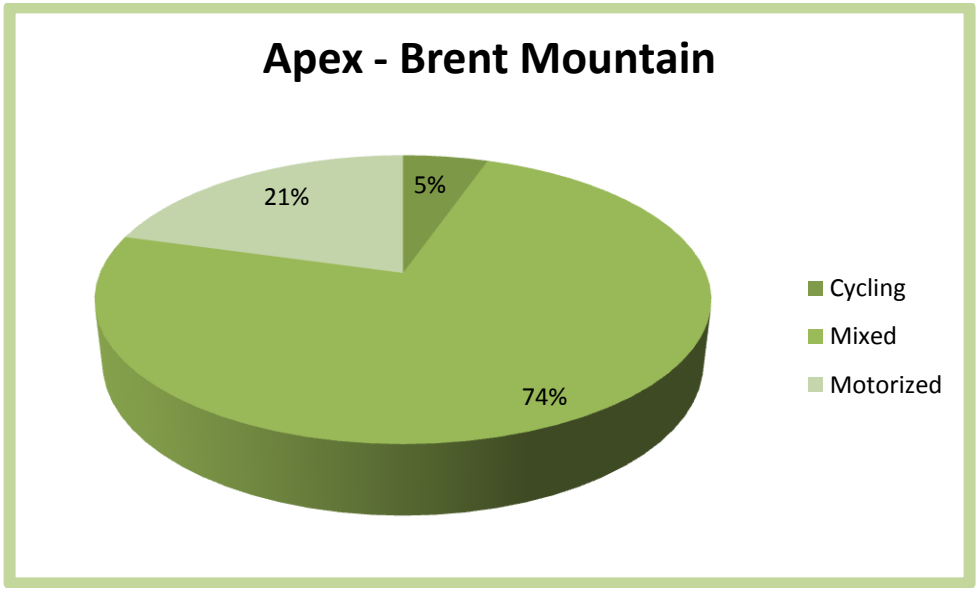
The Apex / Brent Mountain management unit is defined by the large, connected network of primarily non motorized trails. Trails in the Apex / Brent Mountain area are primarily hiking and biking trails, with some equestrian use, although conflicts have been reported with motorized users, particularly in the Apex area. It should also be noted that winter recreation is very popular in this area, with substantial conflicts between cross country skiers and snowmobiles. The area would benefit from a more coordinated approach to management involving multiple stakeholders. The Apex Residents Association has been very involved, working with land managers on a number of trail-related issues.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area - 323.9 $km^2$
  - Trails – 214.4 km
  - Density – 0.66 km / $km^2$
- Trail by User Type
  - Cycling – 3.1 km
  - Mixed – 42.9 km
  - Motorized – 12 km
  - Non-Motorized – 156.4 km




- Ownership
  - Private - 5.18 $km^2$, 6.9 km of trail
  - IR - none
  - Crown – 274 $km^2$, 175 km of trail

- Municipality - none
- Conservation Lands - none
- NCC - none
- BC Parks – 44.7 $km^2$, 32.2 km of trail

**Highlights**

- Trails
  - Apex trail network
    - Riordan Trail
    - Bay Trail
  - Brent Mountain trail network
  - Nickel Plate Provincial Park
  - High-quality bike trails to Sheep / Rocks, Shatford Creek and Brent Mountain
- Physical Features
  - Sheep Rock
  - Brent Mountain Lookout
  - Nickel Plate Lake

**Constraints**

- Apex Mountain Controlled Recreation Area (CRA).
  - Many trails existing within CRA.
- Brent Mountain Protected Area, motorized restriction.
- Private land access issues to June Creek and Skualow trails.

**Conflict Areas**

- Safety:
  - Some summer user group conflict. Intersection of motorized and non-motorized trail systems has created problems.
- Environmental:
  - None identified.

**Opportunities**

- Upgrade connection trail from Apex to Sheep Rock and Brent Mountain.
- Explore connection to Hedley from Nickel Plate via Hedley creek Trail.
- Past use as Bike Park at Apex Mountain indicates potential.
- Apex Residents Association has strongly suggested to government that new trails for motorized users should be developed in areas primarily to the west of the current trail systems, but easily accessed from the old range roads that are part of that system.
- 89% of survey respondents wanted to see trail maintenance.
  - “Presently there is a volunteer group trying to complete maintenance during the summer months. The trail system needs a paid crew brings the trails back to original condition.”
- 89% or respondents wished to see new / improved trails signage.
  - Trail signs were provided from the Province of BC and erected by a volunteer group.
- Additional parking at the base of Riordan.

**Management Directions**

- Bridge to Brent Mountain:
  - Local trail groups would like to see access restored where a bridge has been removed. Staging at the crossing should be expanded and the future of the

bridge crossing should be a multi-jurisdictional decision by necessary authorities.

- Signage and staging facility conditions should be audited by the RDOS to determine if improvements to washrooms and parking areas are needed.
- Improve and coordinate signage for both motorized and non-motorized trails throughout the network.
- Improved / additional outhouses at both Apex and Brent Mountain.
  - Improve access from Apex community to Nickel Plate for both motorized and non-motorized.
- Staging areas:
  - Improve staging at base of Mount Riordan.
  - Develop staging for Brent Mountain at the access bridge.
  - Improve trailheads for motorized and non-motorized access to Apex network.
- Upgrade trail from Apex to Sheep Rock and Brent Mountain.
  - Type IV singletrack, non-motorized connection trail. Review current network, ownership, and terrain features to assess feasibility.
- Explore potential connection to Hedley from Nickel Plate via Hedley Creek Trail:
  - Engage with First Nations as necessary.
  - Investigate private land issues.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**

Private
Municipality
Ecological Reserve; Conservation Lands
Nature Conservancy of Canada
Regional Park
Indian Reserve
BC Parks and Protected Areas
BC GOV Section 58 - Order Area

**Trails - Preferred Use**

Non-Motorized
Mixed
Motorized
Urban Cycling Routes

**StagingAreas**

P Existing
P Potential

**Identified Issue - Priority**

High
Medium
Low
Potential Link/Bypass

KVR Summerland
Electoral Area F
Trailhead access through private land
Mount Brent
Sheep Rock
Brent Mountain Protected Area
Apex - Brent Mountain
Develop staging at at narrowed stream crossing
Green Mountain Rd.
Electoral Area G
Nickel Plate Prov. Park
Electoral Area D
Mount Riordan
West Skaha
Potential link from Hedley Creek to Nickel Plate
Apex Ski Area
Hedley
Hedley - Keremeos
Hwy 3a

**TRIM Roads**

Road - Resource
Road - Paved
Bridge
Tunnel
Railway - Single Track
Cable
Transmission Line
Pipeline

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

CASCADE ENVIRONMENTAL RESOURCE GROUP LTD

N W E S

0 1 2 3 4 5
Kilometers

**Apex - Brent Mountain Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.2. Cathedral / Snowy*

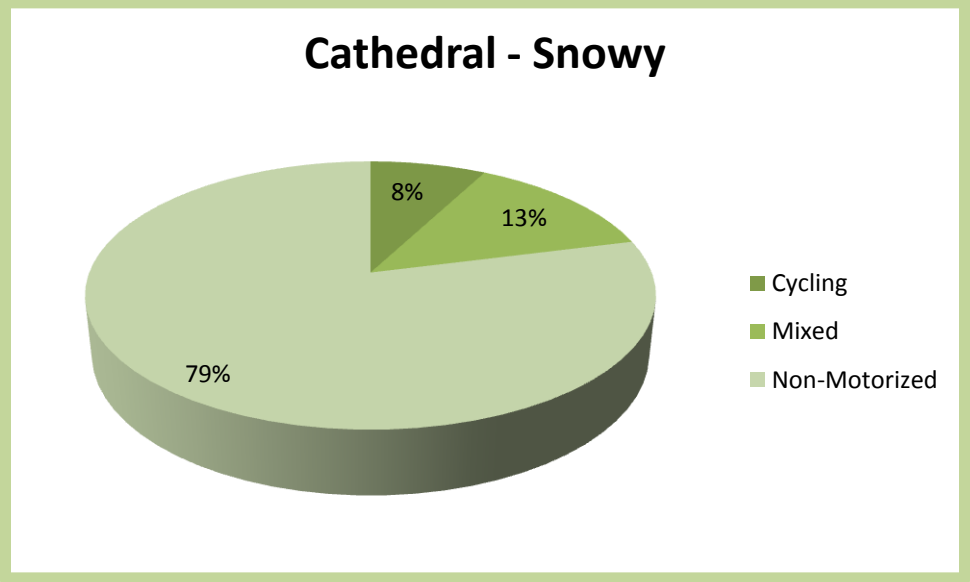
**Management Unit Summary**
This area is characterized by Cathedral and Snowy Provincial Parks and by the Cathedral Forest Recreation Regulation Section 58 Orders to the north and west of the park. The area also contains the Chuchuwaya Indian Reserve. Trails existing in BC Parks and on the Reserve are outside of the jurisdiction of this plan. Trails outside of the park, mainly within the recreation sites, are largely used by motorized recreation, though there is also hiking and other non-motorized use in the area.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area - 1273.5 $km^2$
  - Trails –292.2 km
  - Density - 0.23 km / $km^2$
- Trail by User Type
  - Cycling – 22.6 km
  - Mixed – 38.85 km
  - Motorized – 0
  - Non-Motorized – 230.7 km




**Ownership**

- Private – 18.5 $km^2$, 4.5 km of trail
- IR – 107.3 $km^2$, 17.6 km of trail
- Crown – 553.8 $km^2$, 83.5 km of trail

- Municipality - none
- Conservation Lands - none
- NCC - none
- BC Parks – 593.6 $km^2$, 186.6 km of trail

**Highlights**

- Trails – alpine, sub-alpine park trails
- Physical Features
  - Sub-alpine lakes
  - Snowy Mountain

**Constraints**

- BC Parks managed land is non-motorized and is outside the jurisdiction of the RDOS.
- Lower Similkameen Band owned land is outside the jurisdiction of the RDOS.
  - Snowy resource road access on LSB land.

**Conflict Areas**

- Safety:
  - none identified.
- Environmental
  - none identified.

**Opportunities**

- Connect Cathedral to Manning Park.

**Management Directions**

- Upgrade, sign and re-open the non-motorized Centennial Trail connection from Cathedral to Manning Park.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
Private
Municipality
Ecological Reserve; Conservation Lands
Nature Conservancy of Canada
Regional Park
Indian Reserve
BC Parks and Protected Areas
BC GOV Section 58 - Order Area

**Trails - Preferred Use**
Non-Motorized
Mixed
Motorized
Urban Cycling Routes

**StagingAreas**
P Existing
P Potential

**Identified Issue - Priority**
High
Medium
Low
Potential Link/Bypass

**TRIM Roads**
Road - Resource
Road - Paved
Bridge
Tunnel
Railway - Single Track
Cable
Transmission Line
Pipeline

To Hedley
West Skaha
To Penticton
Hwy 3a
Hedley - Keremeos
Hwy 3
Electoral Area C
Electoral Area Keremeos
West Grasslands
Cawston
Electoral Area G
Crater Mt Motorized Rec. Regulation Area
Potential link from Cathedral to Keremeos
Placer Mtn. to Border Lake Rec. Area
Cathedral Prov. Park
Cathedral Park Rd.
Electoral Area A
Trailhead access through FN land
Cathedral - Snowy
Electoral Area B
To Osoyoos
Snowy Protected Area
Washington, USA
Formalize link from Manning to Cathedral Existing Centennial Trail needs restoration

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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N W E S

0 5 10 15
Kilometers

**Cathedral - Snowy Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.3 China Ridge*

**Management Unit Summary**

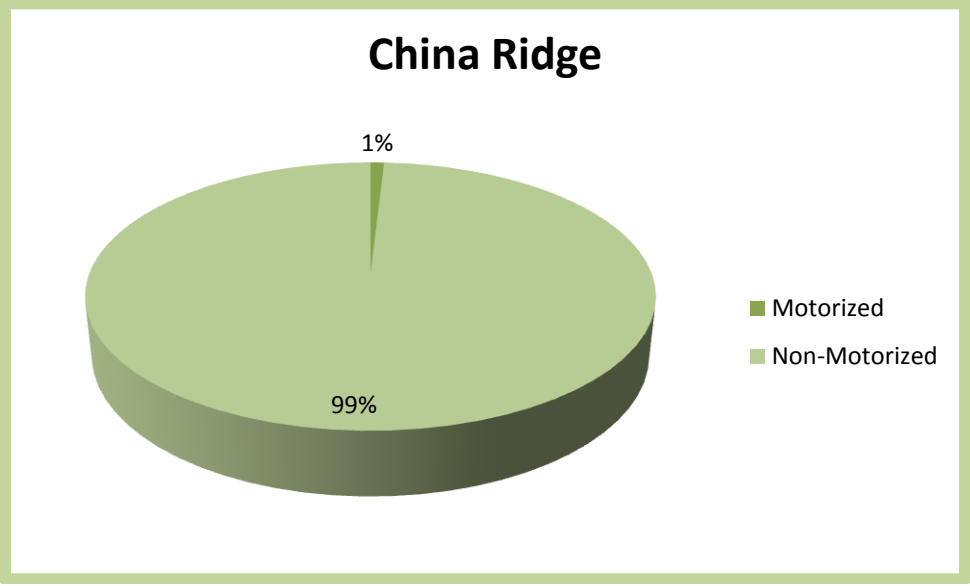
China Ridge is a community designated self-propelled recreation area near the Town of Princeton that promotes hiking, running, mountain biking, equestrian, snowshoeing and cross-country skiing. The area is managed by the China Ridge Trails Society (CRTS) in conjunction with Recreation Sites and Trails of BC. The trail system includes a day use facility / equipment garage at the trailhead and 4 day use shelters, a back country hut, map kiosks and outhouses. CRTS owns and operates $60,000.00 worth of snow grooming equipment. In addition to grooming the main trail system, CRTS also maintains a 4 km oval track at the Princeton Airport. The Town of Princeton and the RDOS have supported the club over the past five years and contributed funds that have been matched by both the provincial and federal governments. Total improvements in the past five years total over $250,000.00. China Ridge is a self-contained network run completely by volunteers and a committed board of directors that have been improving the area since 1989.

**Hierarchy**

- Cycling
- Hiking

**Inventory**

- Overview
  - Area – 22.6 $km^2$
  - Trails – 77.1 km
  - Density – 3.3 km / $km^2$
- Trails by User Type
  - Mixed – 0 km
  - Motorized – 0.7 km
  - Non-Motorized – 76.4 km




- Ownership
  - Private – 0.6 $km^2$, 1.6 km of trail

- IR - none
- Crown – 22 km$^2$, 75.5 km of trail
- Municipality - none
- Conservation Lands - none
- NCC - none
- BC Parks – none

**Highlights**

- Trails
  - Warming hut cabins
  - Purpose-built mountain bike trails
- Physical Features
  - North-south running ridge with views

**Constraints**

- Non-motorized.
- Linear management limits development.

**Conflict Areas**

- Safety:
  - Overlap with ORVs accessing trails above Coalmont / Tulameen.
  - Motorized use causes the surface to become loose and rocky in the summer months and is a safety concern for mountain bike users.
- Environmental:
  - The trails are used by hunters and locals with no adverse trail damage except in wet conditions. Large motorized use results in deep rutting and requires annual grading. Successful packing and grooming for winter use has to have a flat surface free of ruts.

**Opportunities**

- Expansion to include unauthorized bike trails to the east.
- Bike trail linkages to community.

**Management Directions**

- Seek area-based tenure (Licence of Occupation) in partnership with Vermilion Forks Community Forest Corporation to facilitate future trail and infrastructure development.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Road Cycling Routes
- KVR

**StagingAreas**
- P Existing
- P Potential

**Identified Issue - Priority**
- High
- Medium
- Low
- Potential Link/Bypass

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

Overlap with ATV's accessing trails above Coalmont/Tulameen, build connector from resource rd to avoid China Ridge trails

Proposed Motorized bypass trail to Tulameen

Coalmont

China Ridge

Greater Osprey Lake

Granite Creek Rec Site

Whitesand Beach

Club House

Coalmont Rd.

Greater Tulameen/Coalmont/Cascade

Tulameen River

KVR

Electoral Area

Princeton

Manning

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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N W E S

0 1 2 3 4 5
Kilometers

**China Ridge Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.4 Chute Lake / Rock Ovens*

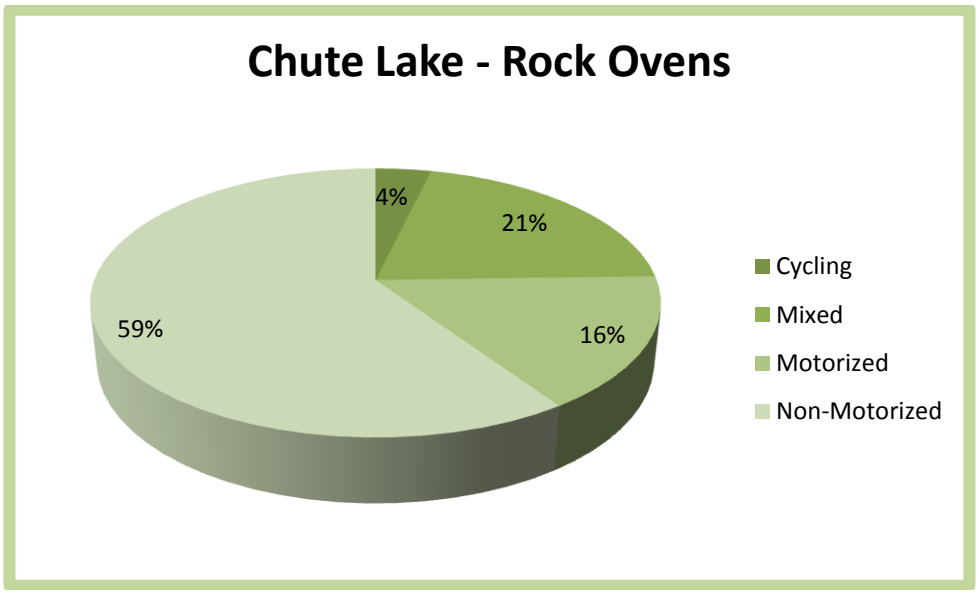
**Management Unit Summary**
Chute Lake / Rock Ovens encompasses the mixed-use area above the Naramata KVR. This includes the 'Above the Mice' area primarily used by dirt bikes and the Chute Lake / Ellnor Lake area is primarily used by ATVs. Hiking trails also exist in this area, and the Rock Ovens area is popular with mountain bikers. User conflict in the area is primarily due to shared access trails and to motorized use on less remote areas of the KVR.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area – 395.4 $km^2$
  - Trails – 172.2 km
  - Density – 0.44 km / $km^2$
- Trails by User Type
  - Cycling – 3.4 km
  - Mixed – 35.9 km
  - Motorized – 27.5 km
  - Non-Motorized – 102.4 km




- Ownership
  - Private – 27.6 $km^2$, 15.9 km of trail
  - IR - none
  - Crown – 269.4 $km^2$, 99.5 km of trail
  - Municipality – 1.6 $km^2$, 0 km of trail

- Conservation Lands – 0.36 $km^2$, 0 km of trail
- NCC - none
- BC Parks – 95.2 $km^2$, 55.2 km of trail
- Regional Park – 1.2 $km^2$, 1.6 km of trail

**Highlights**

- Trails
  - KVR Naramata
  - Gateway to Okanagan Mountain Park
  - Smethurst dirt bike and ATV trails

- Physical Features
  - Little Tunnel
  - Arda Tunnel
  - Views of Okanagan Lake and valley
  - Naramata Bench Wineries

**Constraints**

- High density of mixed use on KVR:
  - Potential motorized access route to Chute Lake via Fortis and BC Hydro Right of Ways.
  - Many motorized trail users currently access areas immediately north and south of Little Tunnel via their own private property.

**Conflict Areas**

- Safety:
  - Navigation is confusing; need better signage to inform visitors they are still on the trail.
  - Motorized / non motorized conflict on KVR between Arawana and Little Tunnel.
  - Currently motorized users are using the KVR to access hunting areas, other trails and the Adra tunnel, which contributes to user conflict.
- Environmental:
  - KVR surface degradation from high levels of motorized use.

**Opportunities**

- Potential loop trail connecting Chute Lake and Big Meadow Lake to the KVR.
- Potential staging for chute lake access via BC Hydro / Fortis right-of-way.
- Potential link between Penticton and Okanagan Mountain Park via a mid-elevation hillside trail.

**Management Directions**

- From Naramata OCP:
  - Designate pedestrian route between Arawana and the Naramata Townsite.
- Upgrade and maintain currently existing motorized access trail from KVR to Chute Lake. Develop and maintain to Type II standard.
- Establish motorized route on logging road from Chute Lake to Big Meadow Lake.
- Pursue motorized access on BC Hydro / Fortis Right of Way:
  - Engage with BC Hydro and Fortis to establish an access for ORVs.
- Explore opportunities to separate motorized from non-motorized uses with parallel trails and bypasses where possible:
  - Fortis / BC Hydro Right-of-way.
  - Resource road connections.
- Upgrade wayfinding / route signage for motorized users.

- Engage South Okanagan Dirt Bike Club for stewardship and management assistance in Smethurst area.
- Establish permanent outhouse at the 4 km mark of Smethurst Road.
- Turnbull Creek access:
  - Establish staging area.
  - Signage on multi-use access road.
- Designate the KVR non-motorized to Arawana. Initiate conflict resolution framework and facilitate discussions with local trail groups regarding motorized re-route and eventually designate as non-motorized to Smethurst Road with motorized staging at Smethurst.
- Establish a non-motorized trail from Naramata Creek Park / Arawana to Naramata Town Site.
- Improved staging facilities (toilets) at established parking area at Arawana.
- Develop staging area at Chute Lake Road for KVR trail connection to Okanagan Park.
- Construct outhouse at KVR and Chute Lake Road Milepost 108.3.
- Formalize FSR route to Adra Tunnel as a motorized trail alternative to the KVR.
- Enhance cycle lane road shoulders between Penticton and Naramata.
- Formalize existing dirt bike staging areas in known riding areas:
  - Smethurst FSR at Adra Tunnel.
- Enhance signage between Arawana and Little Tunnel.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
Private
Municipality
Ecological Reserve; Conservation Lands
Nature Conservancy of Canada
Regional Park
Indian Reserve
BC Parks and Protected Areas
BC GOV Section 58 - Order Area

**Trails - Preferred Use**
Non-Motorized
Mixed
Motorized
Road Cycling Routes
KVR

**StagingAreas**
P Existing
P Potential

**Identified Issue - Priority**
High
Medium
Low
Potential Link/Bypass

**TRIM Roads**
Road - Resource
Road - Paved
Bridge
Tunnel
Railway - Single Track
Cable
Transmission Line
Pipeline

Peachland
Okanagan Mountain Provincial Park
Okanagan Lake
Chute Lake
Chute Lake/Rock Ovens
Garnet Valley
Electoral Area E
Electoral Area F
Electoral Area
Summerland
Naramata
Three Blind Mice
KVR Summerland
West Skaha
Valley Bottom
East Bench
East Skaha
Electoral Area D
Apex - Brent Mountain
Electoral Area G
Penticton

Potential motorized route along hydro/gas line
Potential motorized KVR-bypass route along existing resource roads
High use dirt bike area via Smethurst FSR
Little Tunnel
High concentration mixed-use area, needs management solutions
Dirt bike staging on Smethurst FSR at Adra Tunnel
Adra Tunnel
High use dirt bike area via Arawana FSR
limited MTB/Dirt Bike conflict in upper Mice

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

CASCADE ENVIRONMENTAL RESOURCE GROUP LTD

N W E S

0 5 10 15
Kilometers

**Chute Lake - Rock Ovens Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.5 East Bench*

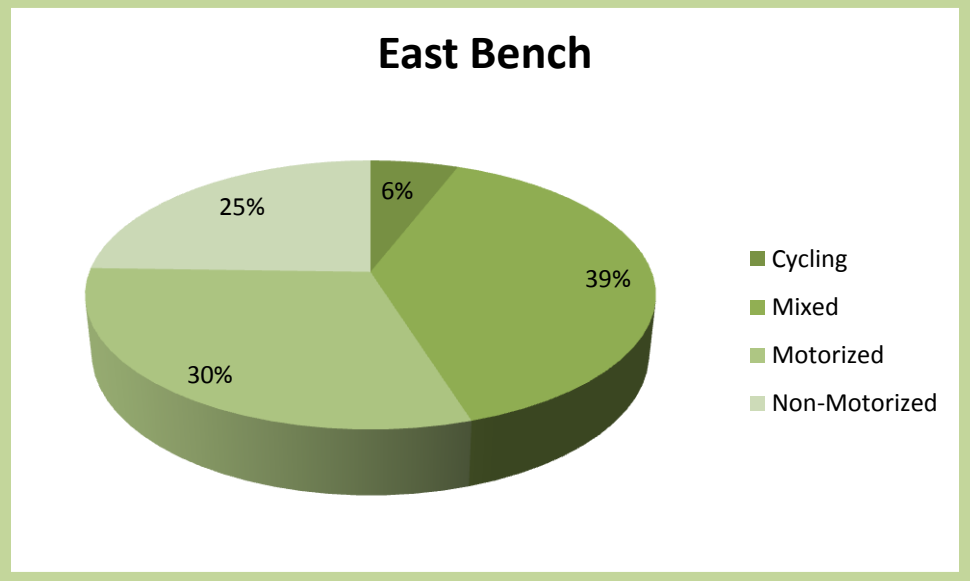
**Management Unit Summary**
The East Bench area includes the town of Okanagan Falls, as well as the McLean Creek dirt bike area, where the South Okanagan Dirt Bike Club has sought approval for campgrounds. There is little ATV use in the area, but the region is popular with hikers, equestrians and dirt bikers.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike

**Inventory**

- Overview
  - Area – 574.3 $km^2$
  - Trails – 114.3 km
  - Density – 0.2 km / $km^2$
- Trail by User Type
  - Cycling – 6.7 km
  - Mixed – 44.9 km
  - Motorized – 34.7 km
  - Non-Motorized – 28 km




- Ownership
  - Private – 18.9 $km^2$, 1.7 km of trail
  - IR - none
  - Crown – 533.3 $km^2$, 101.3 km of trail
  - Municipality - none
  - Conservation Lands – 11.2 $km^2$, 7.2 km of trail
  - NCC - none
  - BC Parks – 10.8 $km^2$, 4.1 km of trail

**Highlights**

- Trails
  - McLean Creek area
- Physical Features
  - Drenzi Wildlife Management Area (mostly in East Skaha Management Unit)

**Constraints**

- Motorized users are limited to resource roads within Drenzi wildlife management area.

**Conflict Areas**

- Safety:
  - None identified.
- Environmental:
  - None identified.

**Opportunities**

- Potential dirt bike area at McLean Creek.

**Management Directions**

- Support McLean Creek area for dirt bike use subject to a negotiated stewardship agreement with SODBC.

Chute Lake/Rock Ovens

Naramata

High use dirt bike area via Arawana FSR

Electoral Area E

Three Blind Mice

Electoral Area F

Penticton

Electoral Area

Carmi

East Skaha

Skaha Bluffs Rock Oven

Private land access issues for trail system

Probable trail data gap in much of the East Bench area

Valley Bottom

Skaha Lake

East Bench

West Skaha

Electoral Area D

Drenzy WMA

South Okanagan Dirt Bike Club proposed staging and camping area

OK Falls

McLean Creek Dirt Bike Area

OK Falls

Vaseux Lake

West Grasslands

Vaseux PA

East Grasslands

Area C

**RDOS - Municipal Boundary**
**Management Unit**

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**
- P Existing
- P Potential

**Identified Issue - Priority**
- High
- Medium
- Low
- Potential Link/Bypass

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

CASCADE ENVIRONMENTAL RESOURCE GROUP LTD

N W E S

0 2 4 6 8 10
Kilometers

# East Bench Management Unit
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.6 East Grasslands*

**Management Unit Summary**
The East Grasslands covers the southeast corner of the RDOS, including the Osoyoos Indian Band Reserve, but not including the town of Osoyoos. There is limited trail activity above the Reserve, near several units of private land. There is little motorized use in this area.

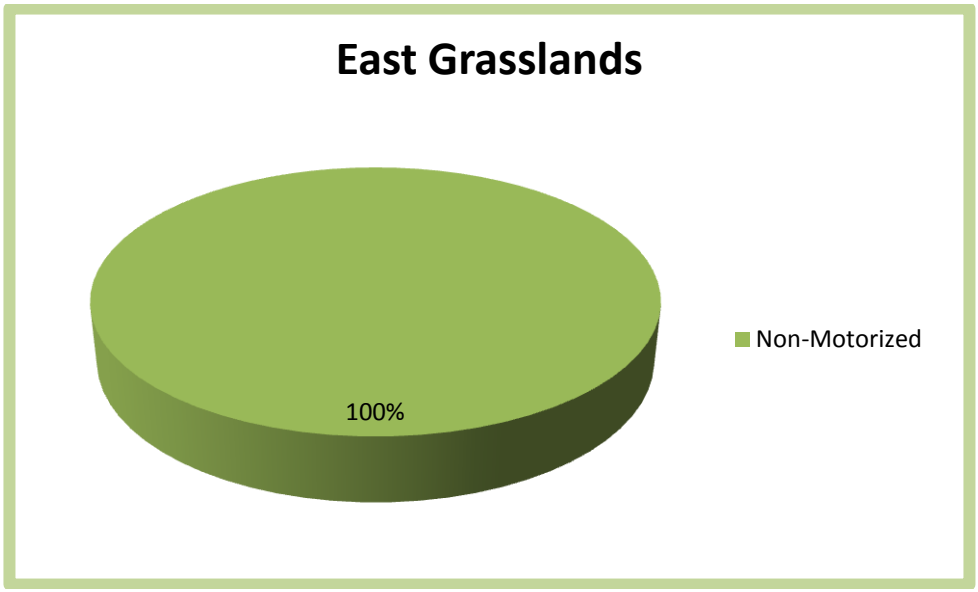
**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area – 531.2 $km^2$
  - Trails – 18.4 km
  - Density – 0.03 km / $km^2$
- Trail by User Type
  - Cycling – 0 km
  - Mixed – 0 km
  - Motorized – 0 km
  - Non-Motorized – 18.4 km

- Ownership
  - Private – 44.5 $km^2$, 8.3 km of trail
  - IR – 120.6 $km^2$, 0 km of trail
  - Crown – 351.9 $km^2$, 10.1 km of trail
  - Municipality - none
  - Conservation Lands / Ecological Reserve – 1.3 $km^2$, 0 km of trail
  - NCC - none
  - BC Parks – 13.2 $km^2$, 0 km of trail




**Highlights**

- Trails
  - Wolf cub
- Physical Features
  - None identified

**Constraints**

- Key trail connection through Osoyoos Indian Reserve.
- Fire Mountain trail system exists on leasehold Crown land.

**Conflict Areas**

- Safety:
  - none identified.
- Environmental:
  - none identified.

**Opportunities**

- Fire Mountain has a small but well developed trail through crown land. The crown land exists as an island surrounded by private parcels; access is impossible without permission of land owners. Currently trails are illegally accessed from the west across land owned by The Nature Trust of BC.

**Management Directions**

- Negotiate access to Fire Mountain trail system with private land owners.

East Skaha
Skaha Lake
Drenzy WMA
Electoral Area D
OK Falls
East Bench
McLean Creek Dirt Bike Area
Vaseux Lake
Vaseux PA
Probable trail data gap
Electoral Area C
Oliver
Wolf Cub trail system
East Grasslands
Osoyoos Indian Band
Valley Bottom
Potential opportunity to work with OIB to develop east side link
Osoyoos Lake
Anarchist PA
Electoral Area A
West Grasslands
Osoyoos
Electoral Area
Hwy 3
Washington, USA

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

- RDOS - Municipal Boundary
- Management Unit

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**
- Existing
- Potential

**Identified Issue - Priority**
- High
- Medium
- Low
- Potential Link/Bypass

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

CASCADE ENVIRONMENTAL RESOURCE GROUP LTD

N W E S

0 2 4 6 8 10
Kilometers

# East Grasslands Management Unit
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.7 East Skaha*

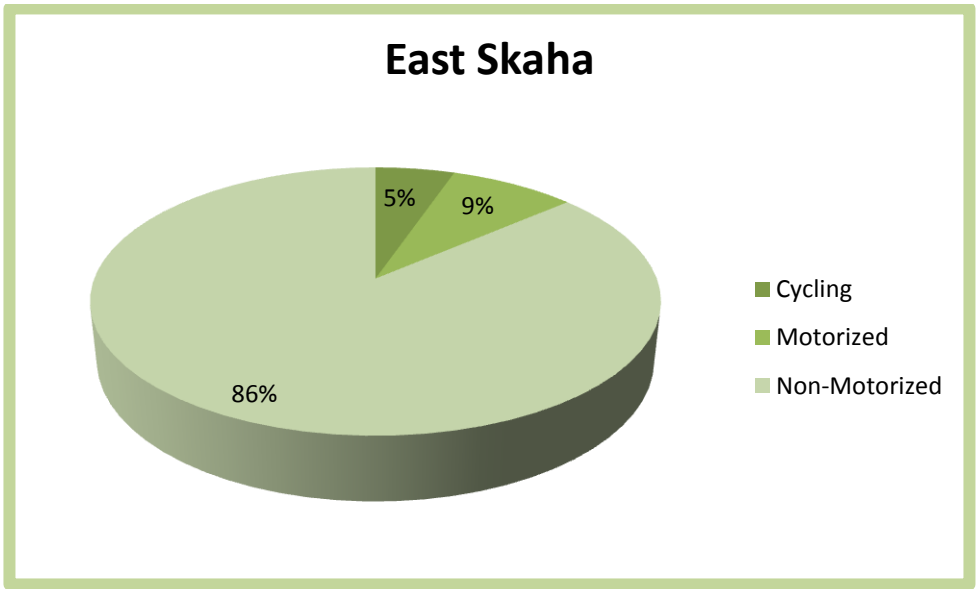
**Management Unit Summary**
The East Skaha area, near the City of Penticton, contains Skaha Bluffs Provincial Park, which is a popular rock climbing area. There are also hiking and mountain bike trails that exist outside of park boundaries. Campbell Mountain, a key trail network, is within the Penticton municipal boundaries, so management directions are outside of the scope of this report. Rock Oven Trail, located in this area, is a popular mountain bike trail and Carmi is a destination trail location for mountain bikers looking for downhill oriented riding. The area also has quality hiking, an interpretive site, and bouldering areas for rock climbing.

**Hierarchy**

- Hiking
- Equestrian
- Cycling

**Inventory**

- Overview
  - Area – 112.4 $km^2$
  - Trails – 155.5 km
  - Density – 1.4 km / $km^2$
- Trail by User Type
  - Cycling -8.2 km
  - Mixed – 0 km
  - Motorized – 13.1 km
  - Non-Motorized – 134.2 km




- Ownership
  - Private – 9.7 $km^2$, 16.2 km of trail
  - IR - none
  - Crown – 86.2 $km^2$, 84.5 km of trail
  - Municipality – 12.3 $km^2$, 41.2 km of trail
  - Conservation Lands – 1.1 $km^2$, 1.7 km of trail

- NCC – 3.1 $km^2$, 12 km of trail
- BC Parks – none

**Highlights**

- Trails
  - Rock Oven
- Physical Features
  - Drenzi Wildlife Management Area

**Constraints**

- Environmentally sensitive lands.
- Trails damaged by erosion.
- Motorized users are limited to resource roads within Drenzi wildlife management area.

**Conflict Areas**

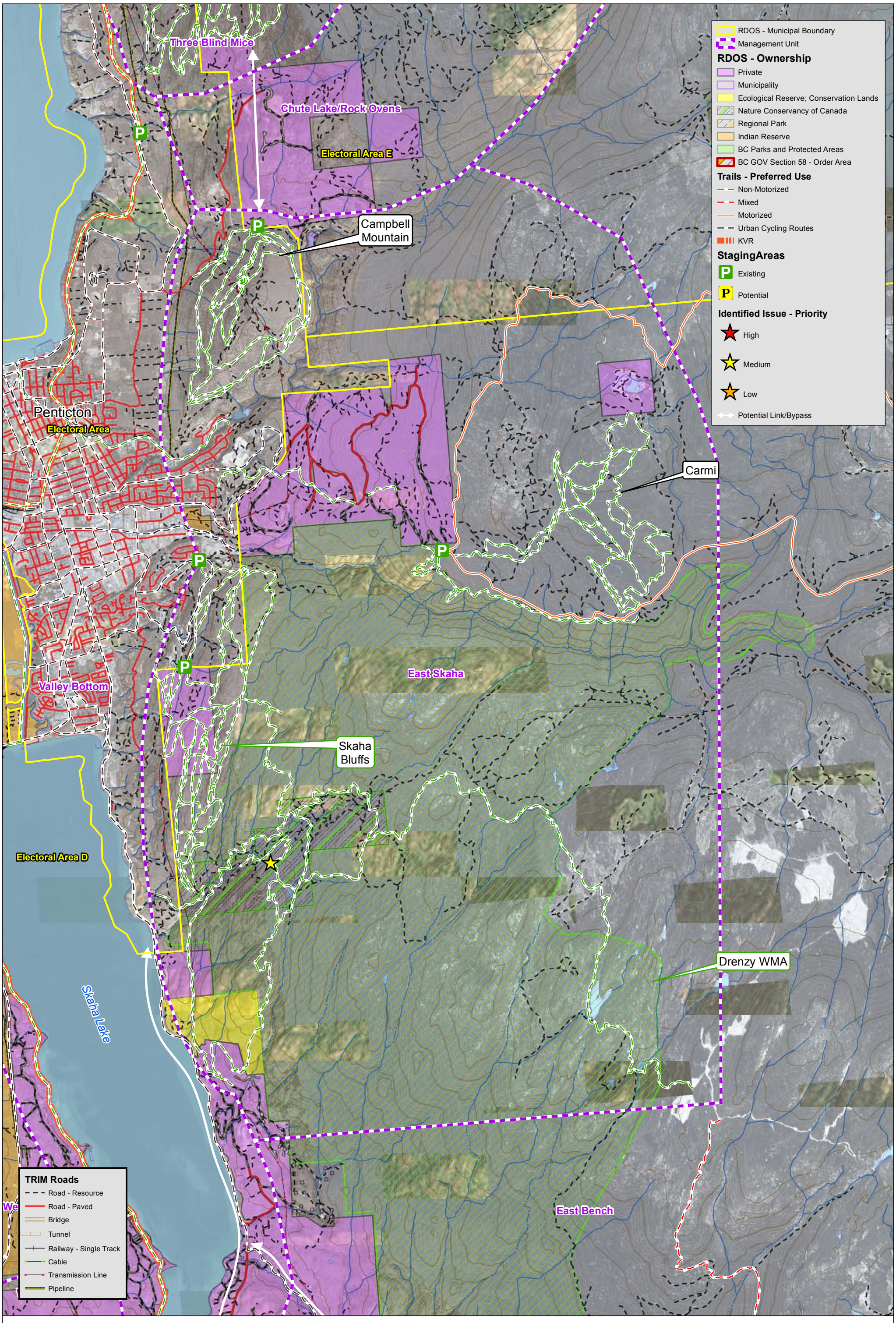
- Safety:
  - Hiking trails are not constructed to any standard and may be unsafe.
- Environmental:
  - Hiking trails are not properly constructed and are becoming eroded.
  - Drenzi Wildlife Management Area.
  - Dirt bikes observed in the upper areas of the bluffs, use should be discouraged due to wildlife habitat in the area.

**Opportunities**

- Signage is poor or lacking.
- Trails need maintenance and improvement.
- Mountain bike trail stewardship potential with local users.
- Link to Penticton via either Penticton or Ellis Canyon.

**Management Directions**

- Designate specific routes within Drenzi area to protect big horn sheep.
- Conduct thorough inventory of Carmi Mountain Bike trails to ensure conformity with RDOS Trail Standards. Many of the stunts are poorly constructed and in disrepair.
  - Heavy use area with older and unsafe technical trail features (TTFs). These features need to be improved in terms of safety and durability.
  - Engage local mountain bike trail stewards to upgrade and repair run down TTFs.
- Directional, wayfinding and use signage outside of park:
  - Improve trail signage at Carmi
    - Wayfinding
      - Trail names
  - Improve trail signage at Rock Oven
    - Wayfinding
      - Differentiate trail connections from game trails
- Explore opportunities for connection to Penticton.




GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

CASCADE ENVIRONMENTAL RESOURCE GROUP LTD

N W E S

0 1 2 3
Kilometers

**East Skaha Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.8 Garnet Valley*

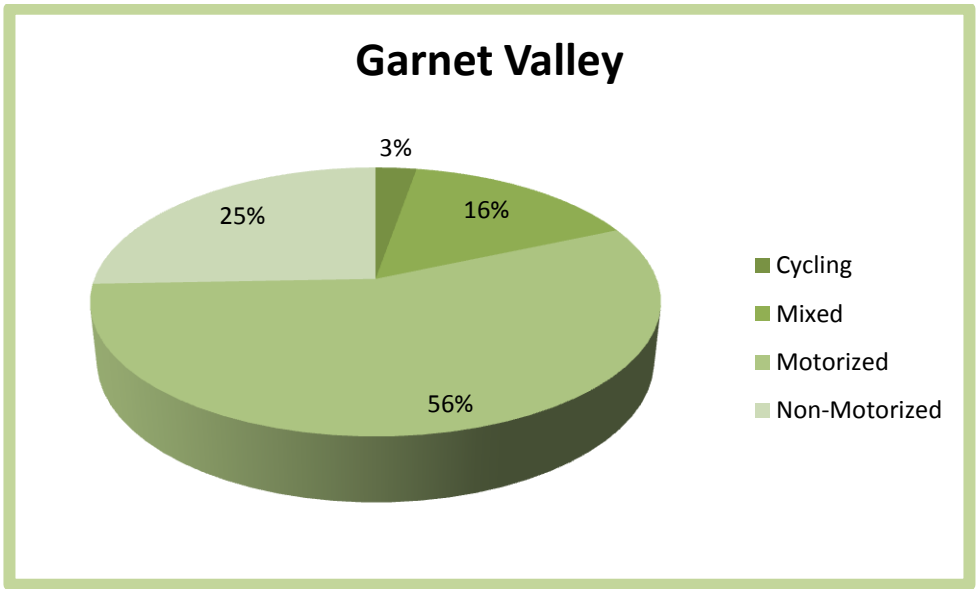
**Management Unit Summary**
Garnet Valley, near the District of Summerland, is popular with ATV users on the many resource roads. Hiking, Biking and Equestrian trails also exist throughout this area. Local hiking groups are concerned about environmental damage by motorized vehicles in certain sensitive areas.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area – 316.1 $km^2$
  - Trails – 355.6 km
  - Density – 1.1 km / $km^2$
- Trail by User Type
  - Cycling – 9.7 km
  - Mixed – 56 km
  - Motorized – 198.8 km
  - Non-Motorized – 91 km




- Ownership
  - Private – 19.8 $km^2$, 0 km of trail
  - IR - none
  - Crown – 198.1 $km^2$, 209 km of trail
  - Municipality – 72.7 $km^2$, 116.5 km of trail
  - Conservation Lands / Ecological Reserve – 0.68 $km^2$, 0 km of trail
  - NCC - none
  - BC Parks – 24.8 $km^2$, 30 km of trail

**Highlights**

- Trails
  - Garnet Lake
  - Rattlesnake / Wildhorse Mountain
  - Mount Conkle
- Physical Features
  - Giants Head rock formation

**Constraints**

- Private land issues around Rattlesnake / Wildhorse Mountain.

**Conflict Areas**

- Safety:
  - Traffic on Garnet Lake access road.
- Environmental:
  - Environmental damage caused by motorized vehicles:
    - Rattlesnake Mtn.
  - Motorized trails at Garnet Lake in close proximity to municipal water source.

**Opportunities**

- Separate non-motorized route to Garnet Lake.
- Signage is lacking.
- Potential to create a trail above the highway between Antlers Beach and Rattlesnake Mountain.
- Potential to expand non-motorized trail network on Rattlesnake Mountain, and discourage motorized use.
- Potential to establish a trail connection to RDOS boundary toward Peachland, in support of a trail route around Okanagan Lake.
- Potential lakeside connection to KVR near Giant's head.
- Potential to establish and expand mountain bike trails at Mt. Conkle.

**Management Directions**

- Separate motorized from non-motorized use in Garnet Lake trail system through educational signage program. Work with stewardship groups to maintain trails to acceptable standard for appropriate user types.
- Develop non-motorized access to Rattlesnake / Wildhorse Mountain.
  - Construct Type V singletrack nature trail for hiking access.
- Improved educational signage on Garnet Lake access road informing users of the other trail user types they can expect to encounter:
  - Explore opportunities for type IV non-motorized access trail to Garnet Lake.
- Initiate protective measures to ensure motorized vehicles do not encroach on riparian fringe at Garnet Lake to protect the District water source.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**
- P Existing
- P Potential
- Potential Link/Bypass

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

Eneas Lakes Prov. Park
Peachland
Okanagan Mountain Provincial Park
Darke Lake Prov. Park
Mt. Eneas
Electoral Area E
Chute Lake/Rock Ovens
Greater Osprey Lake
Keep motorized use away from watershed
Garnet Valley
Lakeside community connections from Summerland to Peachland
High use ATV area
Rattlesnake Mountain
Okanagan Lake
Electoral Area F
KVR
Summerland
Crump ATV staging area
Naramata
Electoral Area
KVR Summerland
Potential Faulder Staging
Giant's Head
Electoral Area G
Hedley - Keremeos
Rodeo grounds staging area
KVR
Lakeside community connections from Summerland to Penticton
West Skaha
Valley Bottom

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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N W E S

0 5 10 15
Kilometers

**Garnet Valley Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.9 Greater Osprey Lake*

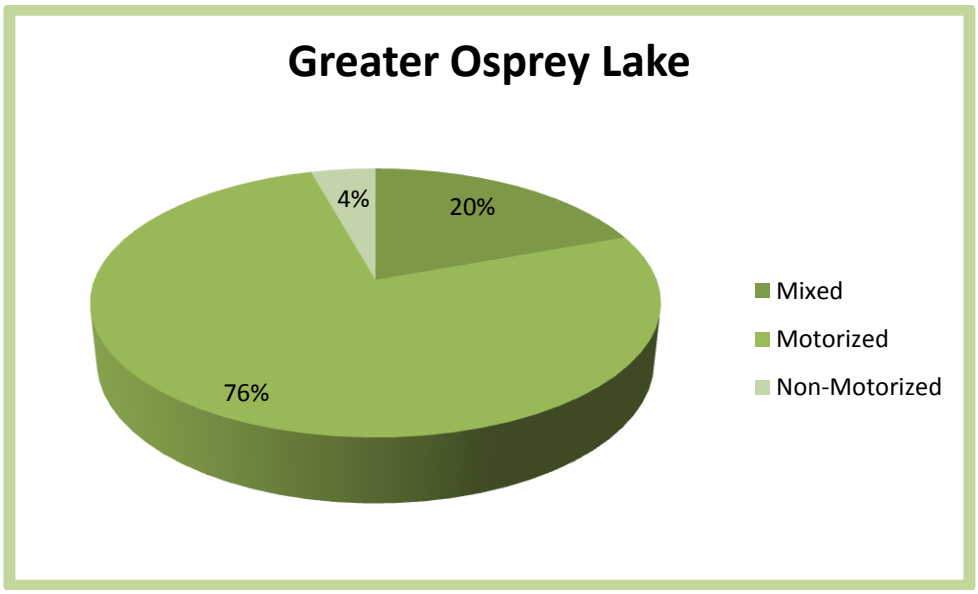
**Management Unit Summary**
Osprey Lake, between Summerland and Princeton, is primarily a motorized area, though there are hiking, biking and equestrian trails in the area as well. The Osprey Lake ATV club maintains the KVR through the Osprey corridor, and motorized use exists on the many resource roads in the region. The trail network around Osprey Lake is self-managed by local ratepayers representing diverse interests.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area – 1508.3 $km^2$
  - Trails – 341 km
  - Density 0.23 km / $km^2$
- Trail by User Type
  - Cycling – 0 km
  - Mixed – 66.1 km
  - Motorized – 260.2 km
  - Non-Motorized – 14.7 km




- Ownership
  - Private – 117.9 $km^2$, 14.3 km of trail
  - IR – 0.97 $km^2$, 0 km of trail
  - Crown – 1382.2 $km^2$, 318.1 km of trail
  - Municipality – 6.3 $km^2$, 8.6 km of trail

- Conservation Lands - none
- NCC - none
- BC Parks – 0.8 $km^2$, 0 km of trail

**Highlights**

- Trails
  - Osprey Lake trail network
  - Mt. Kathleen ORV trails
- Physical Features
  - Osprey Lake, Chain Lake, Link Lake, Thirsk Lake

**Constraints**

- Lack of staging at Osprey Lake.

**Conflict Areas**

- Safety:
  - In the area immediately around Osprey Lake, concerns about speed.
  - There is a blind corner on KVR near Osprey Lake presents a safety issue.
- Environmental:
  - Trail surface damage caused by ORVs.
    - Trail users in this area have drastically different expectations. Many motorized users believe "The trail is very well maintained at this point, but it will always need continued maintenance" while many non-motorized users agree "trails are roughed up by motorized vehicles creating washboard and soft areas especially during periods of drought."

**Opportunities**

- Staging is primitive and could be improved to more effectively manage access by motorized user groups.
  - Camping and staging at Princeton exhibition grounds for ORV access route to Tulameen and Coalmont.
- Improved signage would contribute to access and use management and the overall success of the efforts.
- Potential to develop an alternate hike / bike trail to KVR.
- Potential re-routing opportunities for motorized users around Osprey Lake KVR to the North and South.

**Management Directions**

- Resurface KVR south of Osprey Lake to repair damage by motorized use.
- KVR Safety signage at blind corner.
- Develop staging areas at strategic location on either side of Osprey Lake as indicated in the Greater Osprey Lake Management Unit Map.
- If mixed use persists, consider developing an alternate hike / bike trail to KVR through Osprey Lake grade separated by vegetated.
- Support stewardship by Osprey Lake ratepayers association.
- Initiate conflict resolution framework and continue discussions with local trail groups regarding motorized re-route of North and South trails for motorized around Osprey Lake.
  - trail to the south requires bridge construction and brushing.
- Initiate conflict resolution framework and facilitate discussions with local trail groups to explore alternative motorized re-routes of high recreational value.

Probable trails data gap

Eastmere/Westmere Rec. Area Motorized Restriction

Eneas Lakes Prov. Park

Proposed Motorized bypass trais north and south of Osprey Lake

KVR crosses road on blind corner, improved warning signs required

Osprey Lake

Major conflict between motorized and non-motorized users. Trail surface degredation also an issue. Potential bypass routes to north and south.

High use ATV area

To Summerland

Greater Osprey Lake

KVR Summerland

Electoral Area F

Probable trails data gap, known motorized use accessing lakes via logging roads

Trail surface degredation a big issue

Electoral Area H

Proposed Motorized bypass trail to Tulameen

Probable trails data gap, known motorized use

China Ridge

Potential staging area and group camping at exhibition grounds

Stemwinder remote route from Summerland to Princeton

Hedley - Keremeos

Princeton

Road crossings in Princeton and alternate route around airport to be determined

Manning

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

- RDOS - Municipal Boundary
- Management Unit

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**
- P Existing
- P Potential

**Identified Issue - Priority**
- High
- Medium
- Low
- Potential Link/Bypass

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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N W E S

0 2 4 6 8 10
Kilometers

# Greater Osprey Lake Management Unit
## Regional Trails Master Plan
## Regional District of Okanagan-Similkameen, BC

### *9.3.10 Greater Tulameen – Coalmont – Cascade*

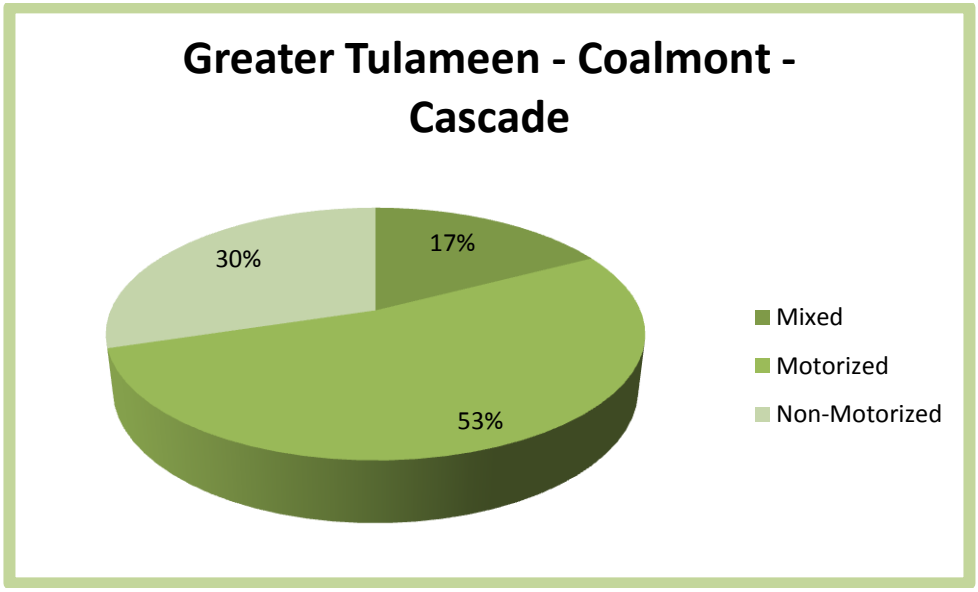
**Management Unit Summary**
This area is used extensively by ATVs and also includes a number of heritage trails. There is strong opposition to the increasingly popular motorized use of the area. This unit covers the northwest corner of the RDOS and spans west of Princeton to the RDOS border, including a small area of Manning Park. The management unit does not include the China Ridge trails.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area – 1795.1 $km^2$
  - Trails – 371.7 km
  - Density – 0.21 km / $km^2$
- Trail by User Type
  - Cycling – 0 km
  - Mixed – 66.4 km
  - Motorized – 196.7 km
  - Non-Motorized – 110.6 km




- Ownership
  - Private – 93.7 $km^2$, 21.1 km of trail
  - IR - none
  - Crown – 1633.2 $km^2$, 309.7 km of trail
  - Municipality – 0.001 $km^2$, 0 km of trail
  - Conservation Lands / Ecological Reserve – 0.3 $km^2$, 0 km of trail
  - NCC - none

- BC Parks – 67.9 km$^2$, 40.8 km of trail

**Highlights**

- Trails
  - Heritage trails in south corner of management unit
- Physical Features
  - White Sands Beach
  - First Nations Archaeological Site

**Constraints**

- Heritage trails have motorized use restriction.
- Active mine on Blakeburn FSR.

**Conflict Areas**

- Safety:
  - Use of KVR by cars and trucks in the Otter Lake / Coalmont area.
  - There has been a great deal of conflict in the area between Princeton and Tulameen and while an agreement was drafted between local trail stewards and ATV organizations to develop a re-route for ATVs, creating a non-motorized portion of the KVR from Princeton to Coalmont, it has not proceeded.
  - Conflict between ranch owners and motorized users north of Tulameen.
- Environmental:
  - Environmental damage to watercourses and other sensitive surfaces on Whipsaw 4x4 route.
  - Frequent debris slides on KVR require periodic maintenance and clean-up.

**Opportunities**

- Potential ATV re-route from Princeton to Tulameen.
- Staging area off Coquihalla Highway at RDOS boundary for ATVs may provide a preferential access alternative to Princeton.
- Potential for educational signage scheme on KVR to inform trail users that they may encounter other trail user types in populated areas near Tulameen and Coalmont.
- Potential to explore feasibility of Resurfacing KVR with more durable material in high traffic Tulameen / Coalmont area.

**Management Directions**

- Explore opportunities for Motorized access between Princeton, Tulameen, and Coalmont that parallels the KVR.
- Install educational signage on KVR informing users of the other trail user types they can expect to encounter.
- Develop staging area off Coquihalla at RDOS boundary for ATVs.
- Establish staging areas:
  - Coalmont Campground.
  - End of proposed bypass on Princeton side.
  - Coquihalla at KVR RDOS Boundary.
- Create signage for accessing popular motorized riding areas:
  - East of Tulameen.
  - Between Tulameen and Coalmont.
  - Coalmont.
- Education scheme:
  - Widely distribute ‘share the trail’ guidelines.
    - Kiosks at campsites.
    - Pamphlets in accommodation.

  - Signage along trail.
- Engage ATV club for stewardship assistance with developing and maintaining parallel routes to the KVR.
- Support trail maintenance by local stewardship groups.
- Initiate conflict resolution framework and facilitate discussions with local trail groups to explore alternative motorized re-routes of high recreational value.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**
- P Existing
- P Potential

**Identified Issue - Priority**
- High
- Medium
- Low
- Potential Link/Bypass

Allison Lake Prov. Park

Greater Osprey Lake

Conflict with ranchers and motorized users

Potential staging area for access via the Coquihalla highway

Vehicles accessing east side of lake via north side of tresetles, needs barriers

Proposed motorized bypass trail from Tulameen to Princeton

Major congestion with industrial hauling on Tulameen FSR, need trail re-route off FSR for summer and winter rec.

Tulameen

Coalmont

Potential staging area at end of MOT maintained road

Motorized/Non-Motorized conflict, trail surface degredation, and safety concerns. Major management solutions required

China Ridge

Greater Tulameen/Coalmont/Cascade

Active mine operations

Princeton

Electoral Area H

Potential staging area and group camping at exhibition grounds

Major conflict between motorized and non-motorized users. Trail surface degredation also an issue. Explore possible non-motorized designation from Coalmont to Princeton

Non-motorized designated Heritage trails, may require signage/education to keep motorized users off of them

Whipsaw 4x4 route major environmental degredation

Kennedy Lake ATV trails proposed as Sec 57, although never established

Cascade Prov. Park

Potential for BC Parks to seasonally restrict access through Manning Park to Whipsaw 4x4 route to prevent further environmental degredation

Manning

Manning Prov. Park

East Gate

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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N W E S

0 2 4 6 8 10
Kilometers

# Greater Osprey Lake Management Unit
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.11 Hedley - Keremeos*

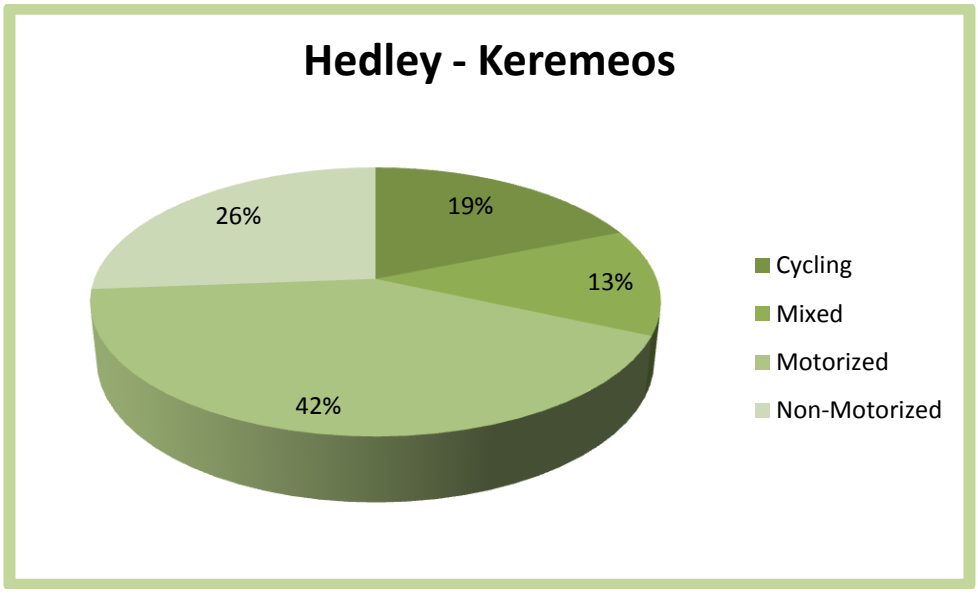
**Management Unit Summary**
The Hedley are includes the towns of Hedley and Keremeos, as well as several Indian Reserves managed by the Lower Similkameen Indian Band. There are a number of ATV trails that continue from the Osprey Lake and KVR Summerland units.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area – 935.4 $km^2$
  - Trails – 201.2 km
  - Density – 0.22 km / $km^2$
- Trail by User Type
  - Cycling – 37.9 km
  - Mixed – 25.8 km
  - Motorized – 84.7 km
  - Non-Motorized – 52.7 km




- Ownership
  - Private – 66.4 $km^2$, 26.2 km of trail
  - IR – 62.6 $km^2$, 2.9 km of trail
  - Crown – 803.5 $km^2$, 166 km of trail
  - Municipality – 2.2 $km^2$, 3.9 km of trail
  - Conservation Lands – 0.34 $km^2$, 1 km of trail
  - NCC - none
  - BC Parks – 0.24 $km^2$, 0 km of trail

- Regional Parks – 0.08 $km^2$, 1.2 km of trail

**Highlights**

- Trails
  - Keremeos Promenade
- Physical Features
  - Rock bluffs near Keremeos

**Constraints**

- Private land access issues to Columns Provincial Park.
- Private land issues south of Keremeos on the KVR.

**Conflict Areas**

- Safety:
  - none identified.
- Environmental:
  - none identified.

**Opportunities**

- Potential Burlington Northern Railway bed could provide a potential connection along Similkameen River to Osoyoos and OK Falls.
- Identified need for trail improvements to Hedley Creek Trail.
- Potential to establish a trail between Keremeos and Cawston.
- Explore dyke trail along river from Red Bridge to Kobau Mountain Park.

**Management Directions**

- Audit trail crossing of 20 Mile creek and reconstruct bridges and bring trail up to standard.
- Explore opportunities for development of a non-motorized Type II or III trail connecting Keremeos and Cawston.

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

- RDOS - Municipal Boundary
- Management Unit

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**
- P Existing
- P Potential

**Identified Issue - Priority**
- High
- Medium
- Low
- Potential Link/Bypass

Garnet Valley
KVR Summerland
Electoral Area F
Greater Osprey Lake
Electoral Area H
Stemwinder remote route
Princeton to Summerland
Brigade Trail
Brent Mountain Protected Area
Apex - Brent Mountain
West Skaha
Green Mountain Rd.
Nickel Plate
Prov. Park
Potential link from
Hedley Creek to
Nickle Plate
To Princeton
Electoral Area D
Apex
Ski Area
Manning
Hedley
Electoral Area G
Hedley - Keremeos
Hwy 3a
Potential link from
Hedley to Keremeos
West Grasslands
Columns
Prov. Park
Access to Columns PP
through private land
Hwy 3
Keremeos
Cawston
Crater Mt Motorized
Rec. Regulation Area
Potential link from
Cathedral/Snowy
to Keremeos
Potential link from 'Promenade'
to Regional Park in Keremeos
Electoral Area B
Cathedral - Snowy
Cathedral
Prov. Park
To USA/Osoyoos

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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Kilometers

**Hedley - Keremeos Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.12 KVR Summerland*

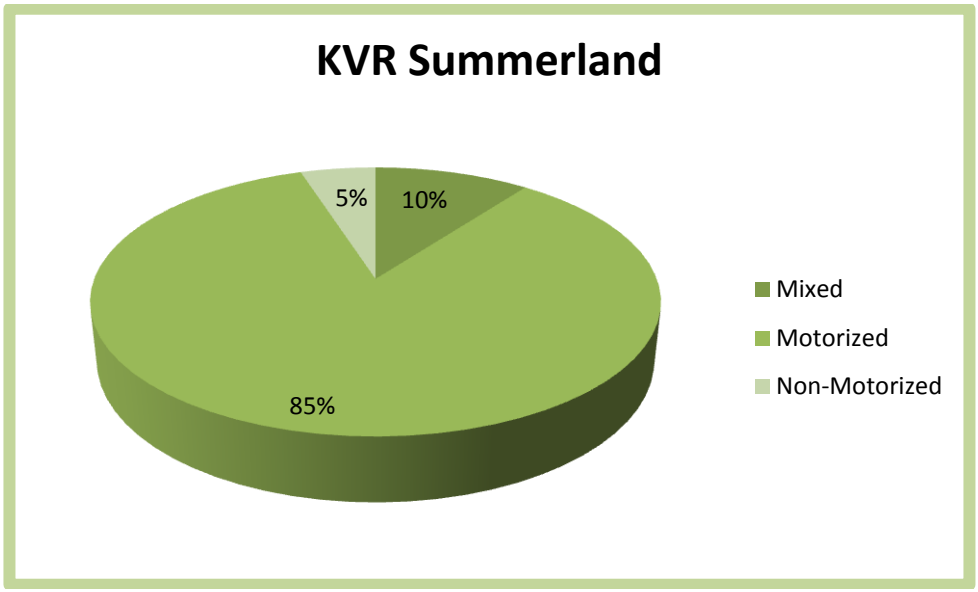
**Management Unit Summary**
The KVR Summerland area is arguably the highest conflict area in the RDOS. The trail sees heavy mixed use from the Summerland Rodeo Grounds to the Crump turnoff, after which the KVR is primarily an access route for motorized users to get to the trails in the Mount Kathleen area between Osprey Lake and Summerland. It also serves as an access to the trail system around Garnet Valley. Additionally, dirt bikers use the training grounds near the Rodeo Grounds. The District of Summerland has implemented a non-motorized policy on all trails within the District boundaries which in turn designates the KVR non-motorized within Summerland (*pers comm.* Dale Macdonald, Director of Parks and Recreation for the District of Summerland, February 15, 2012).

**Hierarchy**

- Hiking
- Equestrian
- Biking
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area – 272.3 $km^2$
  - Trails – 190.2 km
  - Density – 0.7 km / $km^2$
- Trail by User Type
  - Cycling – 0 km
  - Mixed – 19.7 km
  - Motorized – 161.1 km
  - Non-Motorized – 9.5 km




- Ownership
  - Private – 16.7 $km^2$, 13.5 km of trail

- IR – 1.6 $km^2$, 3.4 km of trail
- Crown – 251.2 $km^2$, 166 km of trail
- Municipality – 2.8 $km^2$, 5.4 km of trail
- Conservation Lands - none
- NCC - none
- BC Parks – none

**Highlights**

- Trails
  - KVR Summerland
- Physical Features
  - None identified

**Constraints**

- No alternate access for motorized use

**Conflict Areas**

- Safety:
  - High conflict on KVR trail between rodeo grounds and Crump.
- Environmental:
  - None identified.

**Opportunities**

- Opportunity to initiate conflict resolution framework and continue discussions with local trail groups regarding motorized re-route from Faulder to Crump.

**Management Directions**

- Designate KVR non-motorized from Summerland Boundary to end of resurfaced KVR trail in the Faulder area.
- Determine location of a motorized staging area in the Faulder vicinity.
- Close Rodeo Grounds staging area to motorized users, promote as non-motorized staging area.
- Install signage at Rodeo Grounds directing motorized users to Faulder staging area.
- Engage motorized clubs in appointing volunteer wardens and promoting active trail stewardship.
- Improve wayfinding signage and safety information on the KVR from Faulder to Crump.
- Encourage active cooperation in trail stewardship between Summerland ATV Club, Summerland TCT Society and the South Okanagan Dirt Bike Club.
- Formalize road connection from Lakeside Summerland to the Summerland KVR Trestle with formalized signage.
- Initiate conflict resolution framework and facilitate discussions with local trail groups to explore alternative motorized re-routes of high recreational value.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**
- P Existing
- P Potential

**Identified Issue - Priority**
- High
- Medium
- Low
- Potential Link/Bypass

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

Garnet Valley
Electoral Area F
KVR Summerland
Hedley - Keremeos
Electoral Area G
Electoral Area
West Skaha
Apex - Brent Mountain

High use ATV area accessed from KVR
KVR
Stemwinder remote route Summerland to Princeton
Crump ATV staging area, under-utilized
Potential Faulder Staging Area
Major conflict between motorized and non-motorized users from rodeo grounds to crump staging. Trail surface degredation also an issue.
Designate KVR non-motorized to Faulder
KVR non-motorized within Summerland boundaries. Route in Tour Train vincinity is approximate.
Rodeo grounds staging area, non-motorized only
Trailhead access through private land

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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N W E S

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Kilometers

**KVR Summerland Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.13 Manning*

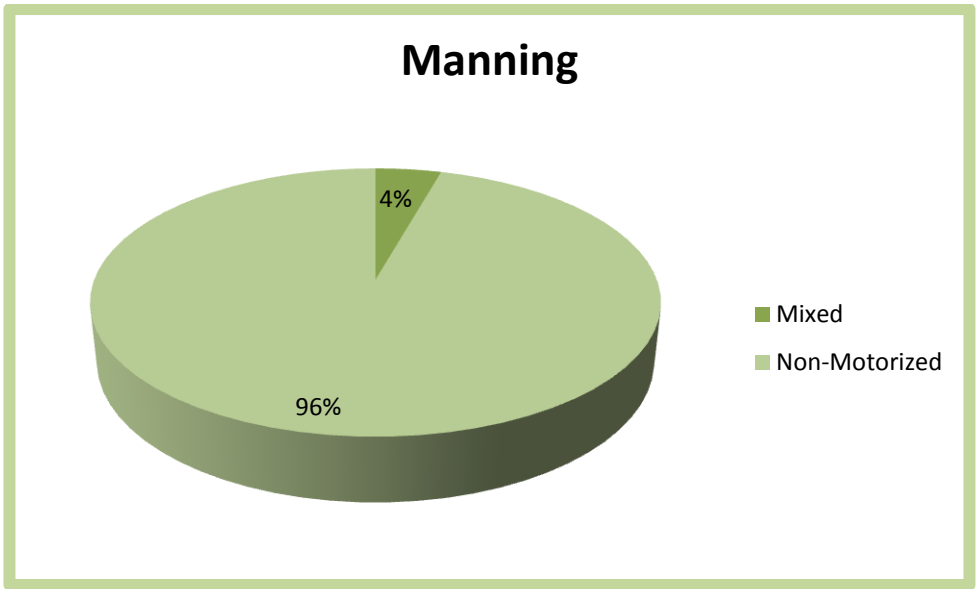
**Management Unit Summary**
Manning Park is the major feature of this unit, which stretches south from Princeton to the southwest corner of the RDOS.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area – 1424.4 $km^2$
  - Trails – 190.6 km
  - Density – 0.13 km / $km^2$
- Trail by User Type
  - Cycling – 0 km
  - Mixed – 8.4 km
  - Motorized – 0 km
  - Non-Motorized – 182.3 km




- Ownership
  - Private – 72.7 $km^2$, 0 km of trail
  - IR – 2.6 $km^2$, 0 km of trail
  - Crown – 961.1 $km^2$, 33.1 km of trail
  - Municipality – 3.8 $km^2$, 2.3 km of trail
  - Conservation Lands - none
  - NCC - none
  - BC Parks – 384.2 $km^2$, 155.2 km of trail

**Highlights**

- Trails
  - None identified
- Physical Features
  - None identified

**Constraints**

- None identified

**Conflict Areas**

- Safety:
  - None identified.
- Environmental:
  - None identified.

**Opportunities**

- Potential to work with non-motorized stewardship groups to connect Cathedral Park and Keremeos via non-motorized Type IV to V trail.

**Management Directions**

- Re-establish, sign, and promote the Centennial Trail connection from East Gate at Manning Park through to Cathedral Park and Snowy Protected Area as a non-motorized route. Work with mountain bike, horse, and hiking groups to scope trail project, assess feasibility, and if deemed feasible, improve and construct trail to a Type IV/V standard.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
Private
Municipality
Ecological Reserve; Conservation Lands
Nature Conservancy of Canada
Regional Park
Indian Reserve
BC Parks and Protected Areas
BC GOV Section 58 - Order Area

**Trails - Preferred Use**
Non-Motorized
Mixed
Motorized
Urban Cycling Routes
KVR

**StagingAreas**
Existing
Potential

**Identified Issue - Priority**
High
Medium
Low
Potential Link/Bypass

Princeton
Electoral Area
Greater Osprey Lake
Nickel Plate Prov. Park
Electoral Area D
Apex - Brent Mountain
Hedley
Greater Tulameen/Coalmont/Cascade
Hedley - Keremeos
Probable trails data gap, known motorized use
Cascade Prov. Park
Electoral Area H
Hwy 3
Electoral Area G
Manning
Crater Mt Motorized Rec. Regulation Area
Placer Mtn. to Border Lake Rec. Area
Cathedral Prov. Park
East Gate
Manning Prov. Park
Cathedral - Snowy
Potential to formalize connection from Manning PP to Cathedral PP, existing Centennial Trail needs restoration
Washington, USA

**TRIM Roads**
Road - Resource
Road - Paved
Bridge
Tunnel
Railway - Single Track
Cable
Transmission Line
Pipeline

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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N W E S

0 5 10 15
Kilometers

**Manning Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.14 Three Blind Mice*

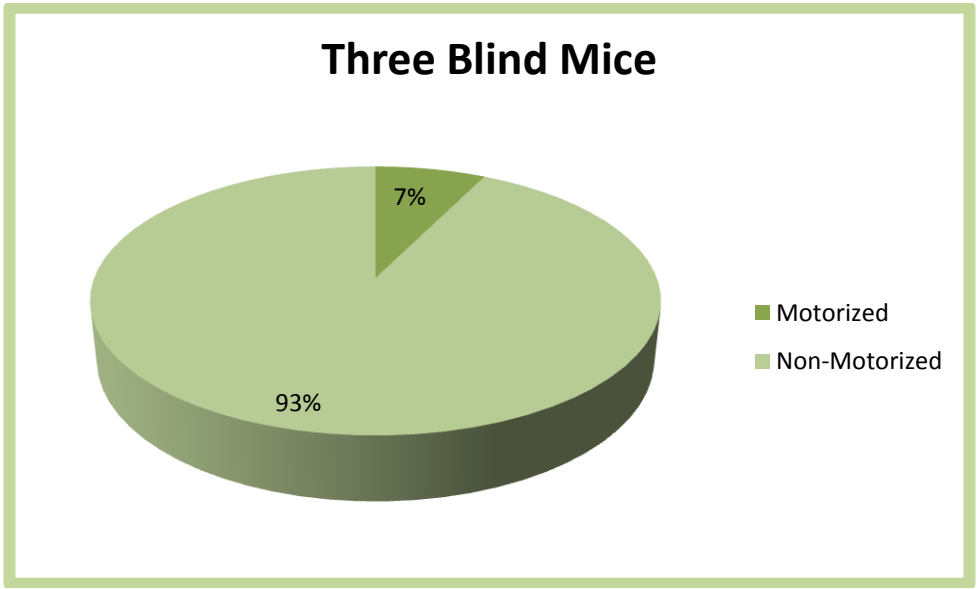
**Management Unit Summary**
Three Blind Mice is a small but dense network of primarily mountain bike trails above Naramata. The area needs little trail improvement and there is not a great deal of conflict. However, there is some overlap in use between mountain bikers and dirt bikes in the upper portion of the trail network, but the main trail network is non-motorized. Limited hiking and 4x4 access also exists on the eastern edges.

**Hierarchy**

- Cycling
- Hiking

**Inventory**

- Overview
  - Area – 31.5 $km^2$
  - Trails – 98.9 km
  - Density – 3.1 km / $km^2$
- Trail by User Type
  - Cycling – 0 km
  - Mixed – 0 km
  - Motorized – 7.3 km
  - Non-Motorized – 91.6 km




- Ownership
  - Private – 2.1 $km^2$, 0.2 km of trail
  - IR - none
  - Crown – 27 $km^2$, 90.6 km of trail
  - Municipality – 2.4 $km^2$, 8.1 km of trail
  - Conservation Lands - none
  - NCC - none
  - BC Parks – none

**Highlights**

- Trails
  - None identified
- Physical Features
  - Rock ridges and exposed rock bluffs
  - Views of Okanagan Lake and Valley

**Constraints**

- Linkage to Campbell Mountain complicated by private land issues.

**Conflict Areas**

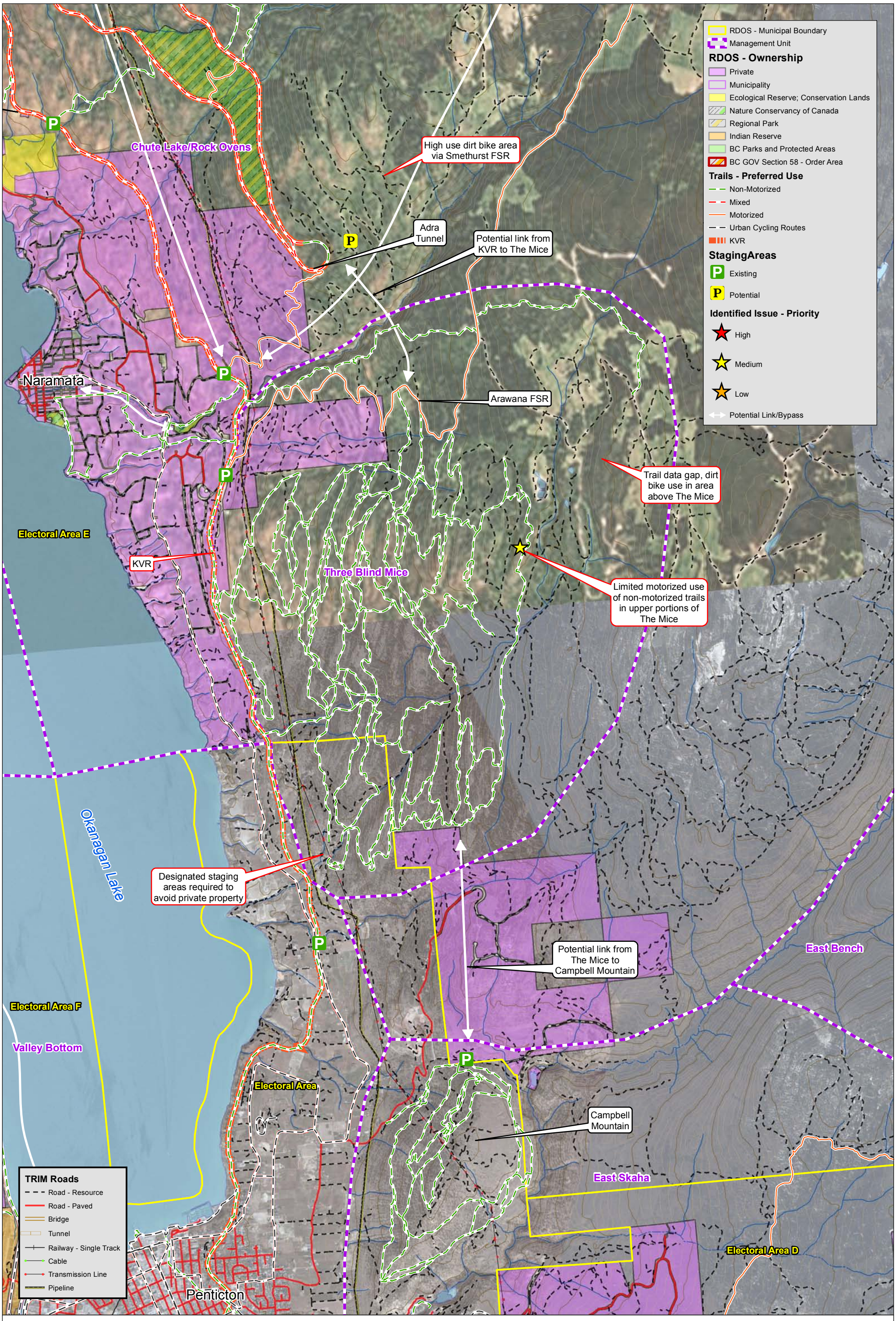
- Safety:
  - None identified.
- Environmental:
  - In the past some trails were widened which allowed access by ATVs.

**Opportunities**

- Opportunity for single-track connection to Campbell Mountain.
- Potential singletrack trail Connection to the Highlands Trail to Grayback Mountain.
- Potential to mitigate user conflicts by designating access for dirt bikes to the Above the Mice area through improved signage.
- Opportunity to expand to the summit of Mt. Atkinson and connect to the highlands trail, connecting Penticton to Vernon. Would require coordination with local trail user groups.

**Management Directions**

- Audit signage and staging needs.
- Expanded staging area with parking and improved facilities at Riddle Road.
  - Construct signage and map kiosks.
  - Develop washroom facilities.
- Develop a comprehensive mapping and signage strategy in conjunction with local trail stewardship groups and commercial operators.
- Designate a route on the eastern edge of the trail network in the Arawana FSR area for dirt bikes accessing the Above the Mice zone.
- Support local stewardship groups or commercial operators in establishing and authorizing this trail network with the Province of BC.




GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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**Three Blind Mice Management Unit**
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.15 Valley Bottom*

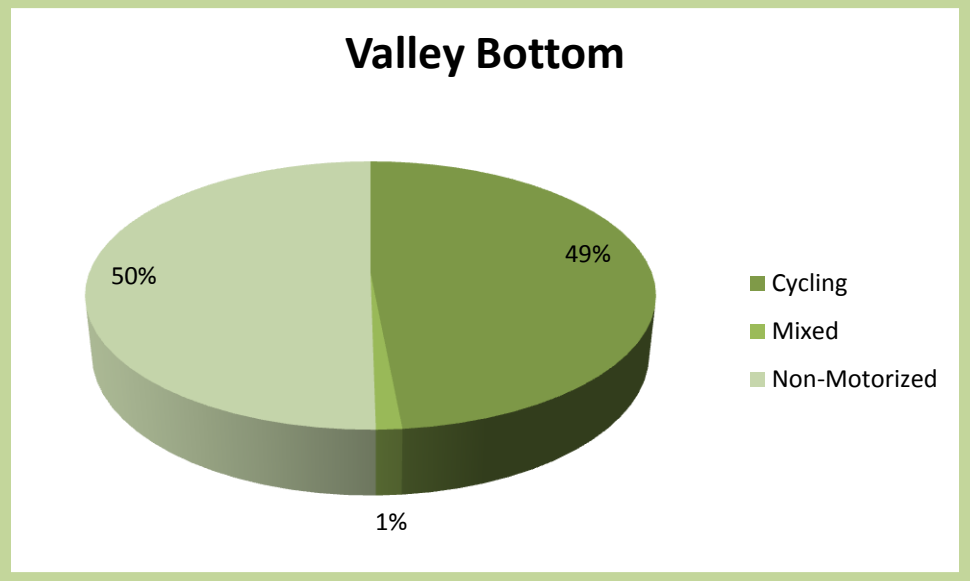
**Management Unit Summary**
The Valley bottom area includes all lands in the bottom of the Okanagan Valley from Naramata to Osoyoos and the South border of the RDOS. The KVR runs through this management unit from top to bottom and is non-motorized throughout. There are first nations, protected area and private land issues throughout the area. The Okanagan Channel Trail in the Oliver area runs along the dyke and is popular with walkers and cyclists.

**Hierarchy**

- Hiking
- Equestrian
- Cycling

**Inventory**

- Overview
  - Area – 217.6 km$^2$
  - Trails – 356.3 km
  - Density – 1.6 km / km$^2$
- Trail by User Type
  - Cycling – 172.8 km
  - Mixed – 4.5 km
  - Motorized – 0 km
  - Non-Motorized – 179 km




- Ownership
  - Private – 66 km$^2$, 27.2 km of trail
  - IR – 19.1 km$^2$, 21.4 km of trail
  - Crown – 66.8 km$^2$, 156 km of trail
  - Municipality – 43.4 km$^2$, 134.2 km of trail
  - Conservation Lands / Ecological Reserve – 14 km$^2$, 8.3 km of trail
  - NCC - none
  - BC Parks – 8.5 km$^2$, 5.8 km of trail

- Regional Parks – 0.1 km$^2$, 1 km of trail

**Highlights**

- Trails
  - KVR
- Physical Features
  - Okanagan, Skaha, Vaseux and Osoyoos Lakes

**Constraints**

- Private land issues through OK Falls on the KVR.
- Densely populated
- Lakefront development and roads limit opportunities for commuter trail construction

**Conflict Areas**

- Safety:
  - Alder Avenue Kaleden.
- Environmental:
  - Vaseux Lake.
  - Invasive Plant (prickle bush) issues in south.

**Opportunities**

- Summerland – Penticton waterfront route.
- Summerland Northwest lakeside route.
- Integration of urban and rural trail networks around Oliver.
- Opportunity to engage the PIB to:
  - develop KVR connection from the Trestle in Summerland to Penticton.
  - Penticton to KVR along the north-west side of Skaha Lake.
- Opportunity to engage Osoyoos Band to formalize Brigade Trail.
- Opportunity for a cross-border trail south of Osoyoos.
  - Potential for NAFTA funding.

**Management Directions**

- From Penticton OCP:
  - Build on the city's Cycling Network Plan by identifying and signing cycling routes that link to the corridors identified by the City. Where the City is successful in lobbying the Province to enhance cycling opportunities on public roadways, the RDOS should work with the City and the Province to ensure those enhancements are expanded to include connecting rural roads.
- From Kaleden / Apex OCP:
  - Establish a trail network using the CPR right-of-way in the Kaleden area.
- Summerland – Penticton waterfront route:
  - Work with local governments to develop route.
- Summerland Northwest lakeside route:
  - Road connection between lakeside routes.
- Work with PIB landowners to establish right-of-way or beachfront connections through Lokatee lands on north-west side of Skaha Lake.
- Vaseux Lake:
  - Designate signage along highway as reroute solution.
  - Commence CEAA / discussions with Environment Canada for formalizing existing trail on conservation lands.
    - Possible requirements for wildlife underpasses / fences.

  - Construct bridge on south end of wildlife reserve if CEAA / discussions with Environment Canada are successful.
    - Trail should only be accessible to walkers and cyclists.
- Road cycling route improvements:
  - Enhanced shoulders.
  - Enhanced cycling wayfinding signage.
  - Marron Valley – White Lake.
  - White Lake – Willowbrook.
  - East Side of Skaha Lake.
  - Expanded bike lanes along 87$^{th}$ street north of Osoyoos.
- OK Falls KVR Access:
  - Install wayfinding signage.
- Complete the link in the KVR with Penticton from Wrights Beach Camp to the Channel Parkway trail on the west side of the Okanagan River Channel.
  - Install wayfinding signage.
- Explore options for resurfacing Strawberry Creek Trail.
- Formalize road connection between Okanagan Channel Trail and Highway 97 via Road 22.
  - Install wayfinding signage.
  - Grade separated trail required from Willowbrook to Road 22.
- Improve surface of Okanagan Channel trail.
  - Signage needed on blind corner.
- KVR trail no longer exists south of Osoyoos.
  - Assess appropriate location for and develop alternate signed road route.
- Create and sign road connection from Osoyoos to Airport Trail.
- Brigade Trail:
  - Back road connection between Brigade trail and Desert Centre.
    - Install wayfinding signage.
    - Explore surface upgrades.
  - Engage Osoyoos Band to formalize trail within boundary.
  - Investigate Historic Trail designation.

Garnet Valley
Garnet Valley
Three Blind Mice
Chute Lake/Rock Ovens
Electoral Area E
East Bench
Persue community connection with Summerland
Agreement for KVR access should be persued with the Penticton Indian Band
ectoral Area F
Campbell Mountain
Electoral Area
Penticton
KVR
Agreement for KVR access should be persued with PIB private land owner
East Skaha
Agreement for KVR access should be persued with the Penticton Indian Band
Skaha Bluffs
Penticton Indian Band
Valley Bottom
West Skaha
Skaha Lake
Potential road route for commuters, needs upgraded signage and sightlines
KVR access through private property needs to be resolved with land owner
Electoral Area D
East Bench
OK Falls
KVR access through Vaseux Lake Conservation Land consultation should begin with CWS
West Grasslands
Vaseux Lake
Electoral Area G
Electoral Area C
Missing bridge, should be addressed in conjunction with CWS discussions
To Osoyoos

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**
- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**
- P Existing
- P Potential

**Identified Issue - Priority**
- High
- Medium
- Low
- Potential Link/Bypass

**TRIM Roads**
- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

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Kilometers

# Valley Bottom (North) Management Unit
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

To Penticton

Missing bridge, should be addressed in conjunction with CWS discussions

Electoral Area D

East Bench

Vaseux PA

White Lake Grasslands PA

Engage OIB for access through OIB IR

Electoral Area C

Oliver

Electoral Area

East Grasslands

Osoyoos Indian Band

Access to Golden Mile through private land, create staging area along existing road, no parking signage by driveways

West Grasslands

Engage OIB for access through OIB IR

P

Mt. Kobau

Trail through conservation lands has been identified as a concern by managing authority

South Okanagan Grasslands PA

Road connection to from Hwy 97 to Dyke Trail

KVR south to Osoyoos no longer exists beyond this point, new alignment or road route required

Valley Bottom

Osoyoos Lake

Electoral Area A

Potential road/route connection from Desert Centre to Brigade Trail route

Electoral Area B

Missing connection from airport trail to Osoyoos

Osoyoos

South Okanagan Grasslands PA

RDOS - Municipal Boundary

Management Unit

**RDOS - Ownership**

- Private
- Municipality
- Ecological Reserve; Conservation Lands
- Nature Conservancy of Canada
- Regional Park
- Indian Reserve
- BC Parks and Protected Areas
- BC GOV Section 58 - Order Area

**Trails - Preferred Use**

- Non-Motorized
- Mixed
- Motorized
- Urban Cycling Routes
- KVR

**StagingAreas**

- P Existing
- P Potential

**Identified Issue - Priority**

- High
- Medium
- Low
- Potential Link/Bypass

**TRIM Roads**

- Road - Resource
- Road - Paved
- Bridge
- Tunnel
- Railway - Single Track
- Cable
- Transmission Line
- Pipeline

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Date: March 20, 2012
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Orthophoto: Bing Maps

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Kilometers

# Valley Bottom (South) Management Unit

Regional Trails Master Plan

Regional District of Okanagan-Similkameen, BC

### *9.3.16 West Grasslands*

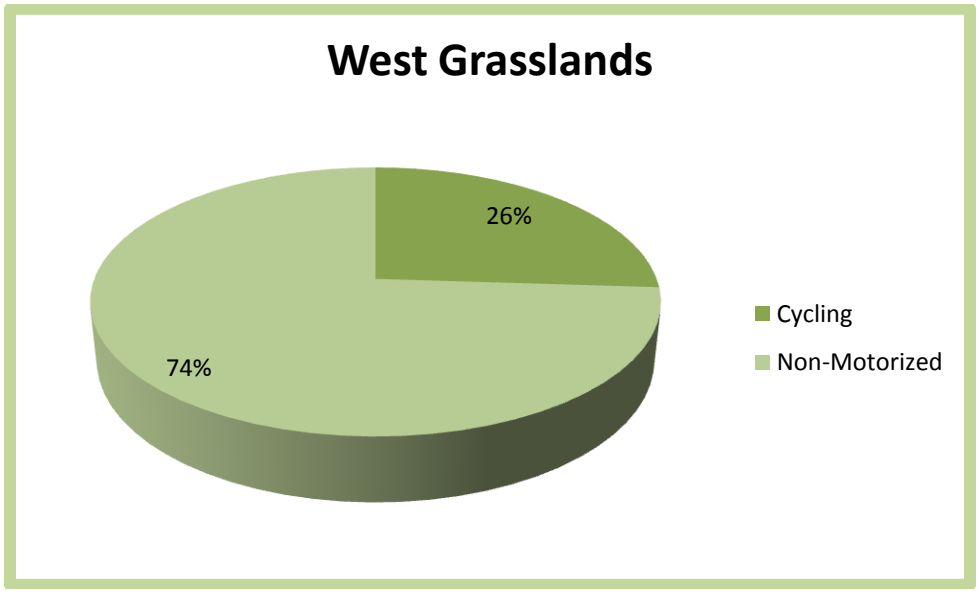
**Management Unit Summary**
The West Grasslands area covers the land on the west of the valley bottom south of OK Falls and East of Keremeos. The area includes a number of non-motorized trails, including the popular Golden Mile trail, some with substantial private land access issues.

**Hierarchy**

- Hiking
- Equestrian
- Cycling

**Inventory**

- Overview
  - Area – 485.5km$^2$
  - Trails - 218km
  - Density – 0.45km / km$^2$
- Trail by User Type
  - Cycling – 56.7km
  - Mixed – 0 km
  - Motorized – 0 km
  - Non-Motorized – 161.3km




- Ownership
  - Private –154.6 km$^2$, 38.5 km of trail
  - IR – 1.7 km$^2$, 0 km of trail
  - Crown – 198 km$^2$, 94.4 km of trail
  - Municipality - none
  - Conservation Lands / Ecological Reserve – 14.6 km$^2$, 15.6 km of trail
  - NCC - none
  - BC Parks – 116.4 km$^2$, 69.4 km of trail

**Highlights**

- Trails
  - Golden Mile
- Physical Features
  - Lakes and Grasslands

**Constraints**

- Private land access issues for trail network

**Conflict Areas**

- Safety:
  - None identified.
- Environmental:
  - Invasive plant issues on trails.

**Opportunities**

- Potential to develop link disconnected trails into a connected network around White Lake and surrounding area.

**Management Directions**

- Explore development of a Crown land staging area for Golden Mile.
- Engage with landowners to develop right-of-way or easement for staging if this is not possible.
- Explore opportunities to connect Golden Mile to Town of Oliver.
- Develop comprehensive trail network strategy and signage plan for White Lake and surrounding area.

To Penticton

OK Falls

West Skaha

Electoral Area D

East Bench

Create official staging area at Mahoney Lake

Vaseux Lake

Probable trails data gap

White Lake Grasslands PA

Columns Prov. Park

Vaseux PA

Electoral Area C

Electoral Area G

Hedley - Keremeos

West Grasslands

trails running through private property

Keremeos

Oliver

Cawston

Integration of Urban/Rural trails, access through private land

East Grasslands

Access to Golden Mile through private land, create staging area along existing road, no parking signage by driveways

Mt. Kobau

South Okanagan Grasslands PA

Valley Bottom

Electoral Area B

Cathedral - Snowy

Electoral Area A

Osoyoos Lake

Osoyoos

Electoral Area

Snowy Protected Area

South Okanagan Grasslands PA

Washington, USA

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
Private
Municipality
Ecological Reserve; Conservation Lands
Nature Conservancy of Canada
Regional Park
Indian Reserve
BC Parks and Protected Areas
BC GOV Section 58 - Order Area

**Trails - Preferred Use**
Non-Motorized
Mixed
Motorized
Urban Cycling Routes
KVR

**StagingAreas**
P Existing
P Potential

**Identified Issue - Priority**
High
Medium
Low
Potential Link/Bypass

**TRIM Roads**
Road - Resource
Road - Paved
Bridge
Tunnel
Railway - Single Track
Cable
Transmission Line
Pipeline

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
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Orthophoto: Bing Maps

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Kilometers

# West Grasslands Management Unit
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

### *9.3.17 West Skaha*

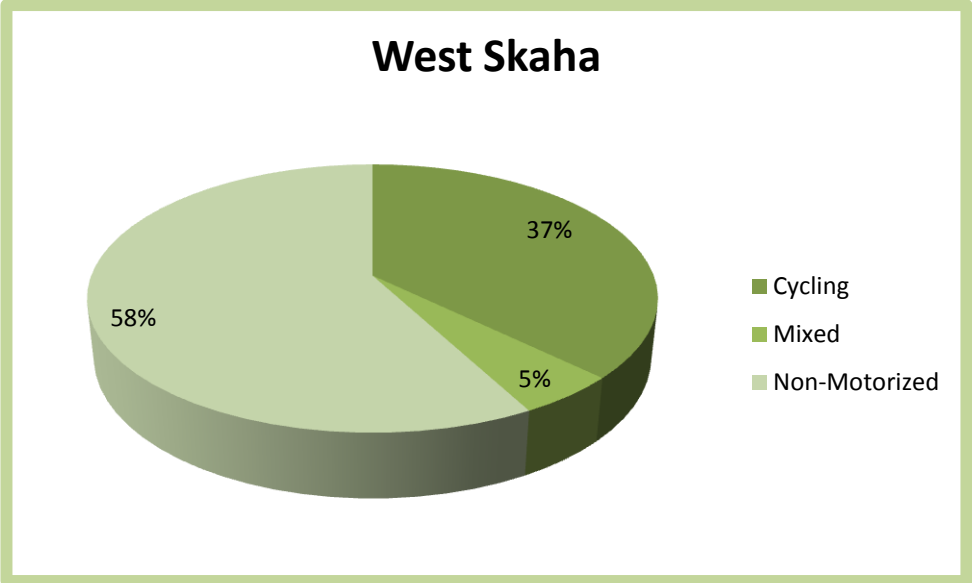
**Management Unit Summary**
The West Skaha unit includes the Penticton Indian Band's Penticton reserve, and a number of trails in this unit cross private or reserve land.

**Hierarchy**

- Hiking
- Equestrian
- Cycling
- Dirt Bike
- ATV

**Inventory**

- Overview
  - Area 364.7 $km^2$
  - Trails – 145.6 km
  - Density – 0.4 km / $km^2$
- Trail by User Type
  - Cycling – 54.2 km
  - Mixed – 7.2 km
  - Motorized – 0 km
  - Non-Motorized – 84.2 km




- Ownership
  - Private – 60.4 $km^2$, 25.5 km of trail
  - IR – 142.5 $km^2$, 48.5 km of trail
  - Crown – 161.9 $km^2$, 71.6 km of trail
  - Municipality – 0 $1km^2$, 0 km of trail
  - Conservation Lands - none
  - NCC - none
  - BC Parks - none
  - Regional Parks – 187 $km^2$, 0 km of trail

**Highlights**

- Trails
  - Brigade Trail
- Physical Features
  - None identified

**Constraints**

- Access to yellow ledge through private property.
- Brigade Trail runs largely on Penticton Indian Band land.

**Conflict Areas**

- Safety:
  - None identified.
- Environmental:
  - None identified.

**Opportunities**

- Potential Brigade Trail connection requires re-route around Reserve lands or engagement with First Nations.

**Management Directions**

- Engage Penticton Indian Band to re-establish historic Brigade Trail along West side of Reserve lands.

RDOS - Municipal Boundary
Management Unit

**RDOS - Ownership**
Private
Municipality
Ecological Reserve; Conservation Lands
Nature Conservancy of Canada
Regional Park
Indian Reserve
BC Parks and Protected Areas
BC GOV Section 58 - Order Area

**Trails - Preferred Use**
Non-Motorized
Mixed
Motorized
Urban Cycling Routes
KVR

**StagingAreas**
P Existing
P Potential

**Identified Issue - Priority**
High
Medium
Low
Potential Link/Bypass

Summerland
Garnet Valley
Electoral Area
Okanagan Lake
Chute Lake/Rock Ovens
Naramata
Electoral Area E
Three Blind Mice
Rodeo grounds staging area
Many trails through Penticton Indian Band property, agreement for KVR Summerland-Penticton should be persued
Trailhead access through private land
Brigade Trail
Penticton
Valley Bottom
Brent Mountain Protected Area
West Skaha
Skaha Lake
Apex - Brent Mountain
Green Mountain Rd.
Electoral Area D
Apex Ski Area
Access to trails through private property
OK Falls
To Osoyoos
West Grasslands
Electoral Area G
Hedley - Keremeos
To Keremeos
Hwy 3a

**TRIM Roads**
Road - Resource
Road - Paved
Bridge
Tunnel
Railway - Single Track
Cable
Transmission Line
Pipeline

GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
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Kilometers

# West Skaha Management Unit
## Regional Trails Master Plan
## Regional District of Okanagan-Similkameen, BC

# 10.0 Marketing and Promotion

## 10.1 Marketing Partners

Potential marketing partners include:

- Tourism BC
- Local Chambers of Commerce
- Municipal Marketing Departments (i.e. Penticton and Wine Country Marketing, Destination Osoyoos)
- Thompson Okanagan Tourism Association
- BC Parks
    - Note that BC Parks does not have jurisdiction outside BC Parks and Protected Areas

## 10.2 Marketing Strategy

Appropriate marketing of the RDOS as a trail-based recreation destination will draw visitors to the region.

**Action Item 25: Develop a marketing strategy that runs in parallel to the development of new trails and other facilities, promoting the RDOS as an established destination for trail-based recreation**

Ideally any such plan would fit within an overall marketing strategy for the South Okanagan and Similkameen to draw visitors to the region.

Marketing could include a range of media, from the Click, Hike, Bike™ website to special promotional materials or supplements in vacation and sport specific magazines, leisure sections of newspapers, attendance at trade shows and so on. Key items to consider include:

- Recommend that the RDOS consider rebranding the Click, Hike, Bike™ website to a more inclusive name. The site will be referred to as Click, Hike, Bike™ throughout this document, but several motorized users have identified the name as alienating. A rebranded website and marketing platform creates the following opportunities:
    - Centralized location for trail information easily recognizable by all trail users.
    - A more inclusive site will highlight the places where trail users can go to find information on their desired experience.
        - Opportunity to recommend specific areas for specific uses.
        - Opportunity to manage expectations regarding the types of trail users that may be encountered on a given trail.
        - Opportunity to provide educational materials about trail etiquette and conduct from a neutral platform.
    - Mitigates concerns that motorized users will not recognize the site as a positive resource.
- Recommend hikes and rides that visit sites with historical interest, beautiful views, and access to other attractions like lakes, orchards or wineries to complement the riding experience.
- Promote trails for all ability levels.
    - For beginners – promote lightly traveled paved roads, dirt roads and wide dirt paths such as rail corridors.

    - For intermediate and advanced riders – highlight twisting forest paths, rough and steep terrain for hikers and equestrians, and challenging singletrack and downhill routes for mountain bikers and ORV users.
- Professionally photographed trails and experiences to use in marketing materials.
- High quality maps and signage along trails
    - maps that clearly show the best trails for different ability levels, with elevation profiles, ride descriptions and features, weather and safety considerations, parking and facility information.
    - Simple attractive markers that direct trail users will be well received, especially those that show opportunities for all trail user groups.
- Redesign Click, Hike, Bike™ brochures with updated mapping and imagery
    - Information on routes, loops and distance should be carried over from current brochures with updated mapping and directions to mobile site for detailed trail maps.
    - Produce separate brochures for motorized and non-motorized users showing preferred routes for both and include information on sharing the trail in both versions.


**Photo 14: Interesting and informative maps can increase the enjoyment factor for visitors. Photo: Cascade.**

A more detailed plan could include:

- Working closely with commercial operators in the region to develop package deals that appeal to trail users by combining lodging, meals, equipment rental and shop support, for example:
    - hotels catering to the destination trail user in mind – trail users look for convenient places to stay that complement their lifestyle
    - providing campgrounds near trailheads
    - Hut-to-hut (alternatively, inn to inn or, more locally, inn to vineyard to inn) trips have become popular in Colorado and Utah because they allow trail users to travel light.

- Working with Central Okanagan Regional District to develop a trail route around Okanagan Lake
- Promoting networking opportunities between commercial operators to support tourism initiatives that facilitate trail user visitations.
- Encouraging trail users with positive experiences to post entries of user group news forums and spreading the word through their networks.
- Create, map and sign trail experiences linking various attractions, for example, "view loop" or "wine country ride," to pair trail use with desired visitor experiences.
    - Develop partnerships with local businesses willing to support these routes with services including: hotels providing bike cleaning and storage; guiding outfitters providing bikes and guides; and wine tour bus companies providing transport of luggage and wine purchased along the way.

In Italy, Bike Hotels, a group of more than 50 cooperating businesses, offer discounts to IMBA members, tour guide packages, a place to store your bike, pre and post ride snacks, and offer to wash your bike and cycling clothes daily.

The Okanagan and Similkameen Valleys lend themselves to this integrated approach with the terrain, climate, attractions, and mix of options for all trail user groups.

Understanding trail use will enable better planning and allocation of resources.

**Action Item 26: Conduct surveys on trails, install automated counters on key trails, track lodging statistics, work with equipment rental and tour providers to develop meaningful indicators of success (and challenges) to assist in developing additional marketing materials**

Having accurate information on how the trail-based recreation communities use the trails and understanding where trails could be improved will enhance the reputation of the RDOS as a trail-based recreation destination.

### *10.2.1 Build Awareness of Appropriate Trails for Various User Groups*

The dispersed nature of trail use communities (i.e. mountain biking, ORV, etc.) can result in limited exposure and awareness within the general community. Awareness of the best places to conduct a specific activity will enhance the recreational experience for all users and will provide economic benefits by giving local businesses the opportunity to align with popular riding areas by establishing locations nearby or through positioning exercises.

**Action Item 27: Build community support for trail-based tourism by emphasizing the economic benefits and encourage a better understanding of all trail-based recreation activities.**

Trail users that spend money on gas, food, lodging, souvenirs and stores that are friendly to various recreation activities foster this environment. It is important to help the local community understand that user group conflicts occur most frequently at or near trail access points and that with proper trail management and design, all trail user groups can enjoy their recreational experience.

**Action Item 28: Support businesses in providing information to visiting trail users on where to access trails, lodge, eat and shop. Informed and prepared staff**

**can meet the needs of visiting recreationalists and make visitors feel welcome.**

Kiosks, online mapping, trail / significant features mapping, attractive signage, user group guidance, publications, and websites targeting specific sectors can all be utilized to promote and publicize trails. Another opportunity for promoting newly upgraded or constructed trails is to plan and promote trail opening or ribbon cutting ceremonies. This can be done in conjunction with trail stewardship groups and funding partners and is an excellent forum for recognizing funding and volunteer labour, promoting the new stretch of trail to residents and visitors, and generating public goodwill by giving local residents the opportunity to see the directives provided in this RTMP in action.

### 10.3 Tourism Marketing Opportunities

Nature-based outdoor recreation maintains a strong presence in the RDOS tourism market and given the resources for the appropriate trails, facilities and marketing, trail use can continue to grow as a significant attractant to the communities within the RDOS. The Region, by virtue of its setting, climate and existing tourism identity, is well situated to take advantage of evolving tourism trends in the outdoor recreation sector. Several organizations are responsible for marketing the region, including Thompson Okanagan Tourism Association (TOTA), Destination Osoyoos, and Penticton and Wine Country Tourism. Local governments and chambers of commerce also have their own promotion initiatives.

The most important component of the RDOS trail marketing strategy is the Click, Hike, Bike™ website. Plans to upgrade the mapping platform on the site to a user-friendly trail map database will provide opportunities for mobile applications, integration with social media, and interaction with trail users. The website should also include up front information on sharing the trail with all user types, as well as recommended routes for each user type and the ability to access this information via Smartphone. Such an application would allow individuals to locate themselves on the trail, view trail characteristics, and upload data to the RDOS website. Development of this platform should be completed by the RDOS GIS team with input from marketing organizations. A well-built online trail database and accompanying smart phone application can be enhanced by a comprehensive social media strategy including Facebook, You Tube, Google+ and Twitter updates with trail-related information.

A social media presence not only allows an organization to share updates on trail projects, but also allows trail and land managers to learn what people are saying about the region's trails online. Social media does not have to be time consuming. Applications like HootSuite send updates across several social media accounts at once and it is possible to bank updates and time their release.

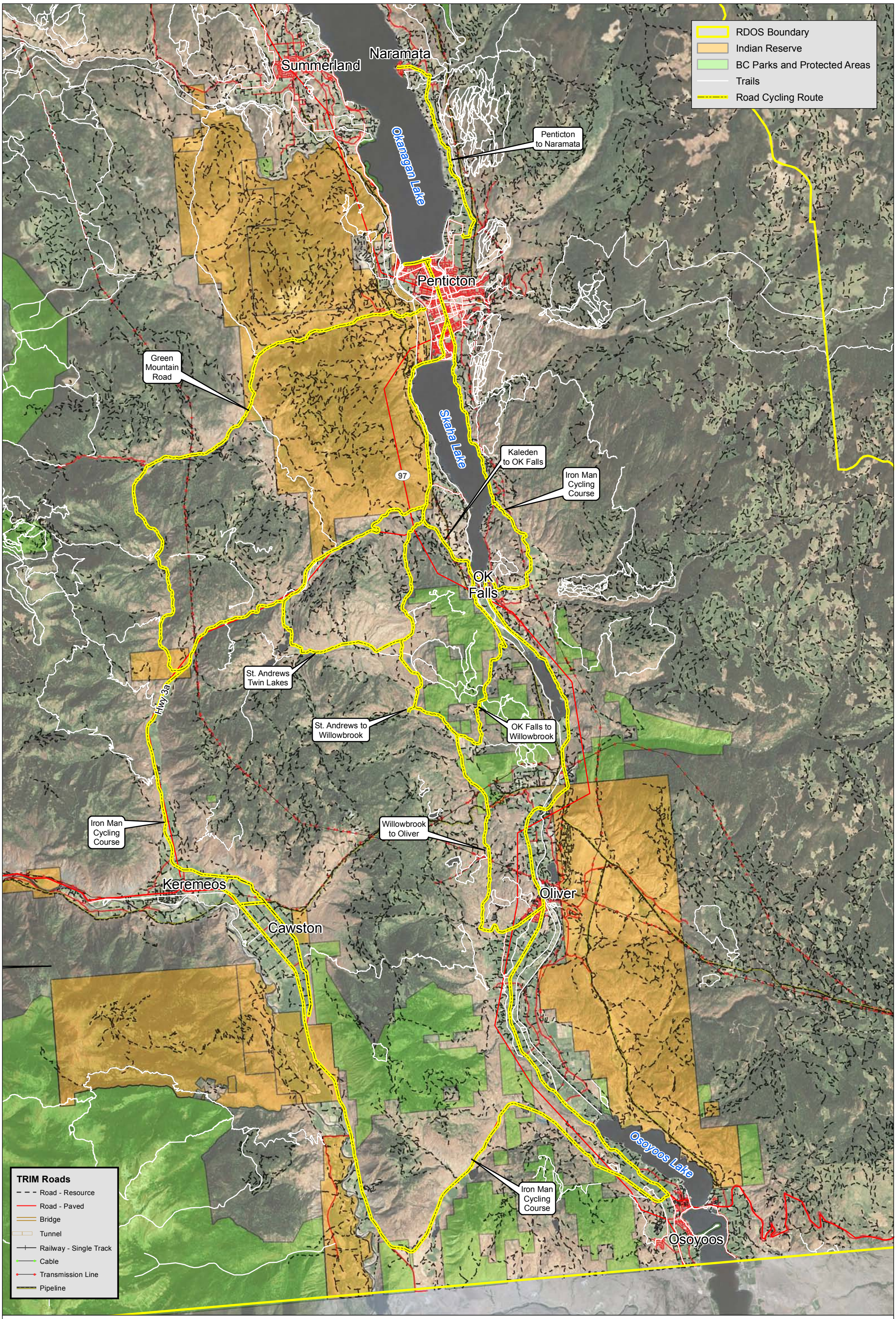
The result may look something like this: a trail runner is enjoying a sunset run in Three Blind Mice. He updates his Twitter account to share his location with his friends via Click, Hike, Bike™. Along the way he sees a group of mountain bikers riding a challenging trail technical feature. He takes out his Smartphone and records a biker taking huge air off a jump. He goes home, uploads the video to You Tube, and posts it on his Facebook page, mentioning the location on Click, Hike, Bike™.

In another example, a couple is planning a vacation to the area that will include a great deal of time on their ATVs. Before they leave, they can explore possible routes and determine how much food and gas they will need, where to stop for lunch, and where to park their truck and unload their ATVs. They can monitor their location with their Smartphone to make sure they are on course, and they can send a map of where they rode to their family back home via Facebook or a circle on Google+.

Another piece of a comprehensive trail marketing strategy is great interpretative signage. There are many opportunities to create or enhance an experience with signage. At the Mendenhall Glacier in Juneau, Alaska visitors can take a cell phone walking tour on short nature trails by calling a phone number listed on interpretative signage to listen to a recorded tour. The same thing can be accomplished with a Smartphone and a QR code. This could be done for all types of trails including interpretive loops or wine tours by bike. The TOTA already produces a mobile visitor guide for the region, ensuring that any applications created by the regional district are available via this platform and by Tourism BC's Near Me BC application will help visitors access the region's trails and drive traffic to Click, Hike, Bike™.

Simple, effective wayfinding and difficulty rating signage are some of the best things a region can do to create a positive trail experience for users, informing them where to go and what to expect. In high conflict areas where routes exist for different use types, it important to clearly sign trails with directional information for different uses. Ensuring that all trail users know where to go from corridor trails or staging areas to practice their chosen activity not only creates a positive experience for all users, but also allows for marketing of specific experiences through maps, trail signage, and the Click, Hike, Bike™ website.

Road biking is extremely popular in the area, and the RDOS is well positioned to promote opportunities for road bike tourism. Visitors can be provided with comprehensive maps of road bike routes, with opportunities for everything from strenuous training rides to winery tours. The region's climate and the complementary activities available create the opportunity to attract road bikers of all abilities for the duration of the riding season; including those training for local events and those looking to enjoy optimal road riding conditions, scenery and activities. The following sample map delineates popular road routes. This information can be presented in RDOS promotional materials and cross promoted with other marketing partners.




GIS Cartographer: Todd Hellinga
Date: March 20, 2012
CERG File#: 453-01-01
Projection: BC Albers
Orthophoto: Bing Maps

CASCADE ENVIRONMENTAL RESOURCE GROUP LTD

N W E S

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Kilometers

# Road Cycling Routes
Regional Trails Master Plan
Regional District of Okanagan-Similkameen, BC

From a tourism and marketing perspective, there are several strategies employed by trail-based recreation destinations to develop an international reputation. The table below contains possible actions to attract trail users to the RDOS:

**Table 12**: Tourism Marketing Opportunities

| Recommendations | Possible Lead Agencies |
|---|---|
| Great maps make it easy for visitors. The RDOS already has a number of map kiosks in high traffic areas. For new signage, elevation profiles and concise trail descriptions are helpful to users, as are area trail difficulty ratings, descriptions of trail features, and weather and safety considerations. Maps should be consistent with the information provided on Click, Hike, Bike™, and should include parking and facility information. Paper map revenues can be re-invested in upgrades to trail signage and other facilities. | • RDOS<br>• Municipal Governments<br>• BC Parks |
| Create a comprehensive road cycling marketing plan. Designate routes and provide mapping and signage for road bike tourists. There is not only opportunity to provide information on distance and elevation profile of given routes, but to provide signage and safety information in a centralized location. Such a strategy can be explored in partnership with organizers for the GranFondo, Ironman and other events. | • RDOS<br>• TOTA |
| Promote trails for all fitness levels and user groups. For young, elderly and less active non-motorized trail users, promote lightly traveled paved roads, as well as paved and wide dirt paths. For more experienced and adventurous trail users, highlight singletrack paths and routes containing steep or challenging terrain. For ORV users, promote resource roads and relatively flat terrain for beginners, and steeper, more technical terrain for intermediate and advanced riders. | • TOTA<br>• RDOS<br>• Municipal Governments<br>• Clubs and volunteer organizations |
| Help the community understand all options for trail-based recreation. Publicize proper trail management and design and empower citizen trail stewards to promote their activities within the community. | • RDOS<br>• Municipal Governments<br>• Clubs and volunteer organizations |
| Showcase the land's natural beauty. Design and recommend hikes, rides and runs for all user groups that visit sites of historical interest and provide beautiful views. | • TOTA |

| Recommendations | Possible Lead Agencies |
|---|---|
| Photograph trails professionally. Send digital files to magazines, newspapers and industry-specific publications for various trail users (i.e. *Runners World, Bike Magazine, Dirt Bike Magazine,* etc.) using maps, information, images and video of the spectacular recreation opportunities the region has to offer. Also, include all this information on www.clickhikebike.com, other types of information for prospective visitors and local residents alike. A good example of a well-developed trail user guide is Moab, Utah's http://www.discovermoab.com, although the RDOS already has significant competitive advantage over this site because of its developed trail geodatabase, trail and user group specific content and photography, and a well planned website optimization strategy will drive trail users to the site. | • RDOS<br>• TOTA |
| Woo the media. When infrastructure and trails are developed, offer all expense paid media trail recreation trips to user group specific and outdoor / lifestyle magazines and daily newspaper editors to inform / educate as wide an audience as possible. | • TOTA |
| Hotel opportunities – develop and promote lodging that caters to the destination trail user. Trail users look for a convenient place to stay that compliments their lifestyle. This can be accomplished with campgrounds near trailheads, and with bed and breakfasts and hotels that accept and provide cleaning facilities for recreational equipment as well as safe secure storage. Lodges along major trail routes create opportunities for trail-based travel between communities. Hut to hut or inn to inn trips are increasing in popularity with many user groups. The South Okanagan has a unique opportunity to combine these trips with wine tourism. | • TOTA |
| Advertise other amenities in the area. Climbing, water-based recreation, and other tourism activities attract the outdoor recreation market, as do restaurants and vineyards. The opportunity to enjoy a fine meal after a long day on the trails is attractive to all user groups. | • TOTA<br>• RDOS |
| Package deals - develop package offers that appeal to trail users by combining lodging, meals, guiding services, and equipment rental or purchase discount. | • TOTA |
| Develop environmentally sound trails. There are many resources for ensuring best practices for trail siting, design and maintenance (i.e. IMBA trail guides, Trails by Design Series). Awareness of environmental issues may not directly attract visitors, but a sustainable, well-planned trail network will generate repeat visits. | • RDOS<br>• Municipal Governments<br>• BC Parks |

| Recommendations | Possible Lead Agencies |
|---|---|
| Sign trails well – lost individuals will have a negative experience, so design produce and post accurate trail signs to supplement the signs and markers that are already in place. No one likes sign pollution, but simple, attractive markers that direct trail users will be well received. The RDOS already does an excellent job of this in Naramata on high traffic sections of the KVR. | • RDOS<br>• Municipal Governments<br>• BC Parks |
| Quantify your success – to help ensure continued community buy-in and investment in infrastructure improvements, it is essential to develop metrics for trail use and visitation. It will take several years of promoting and tracking to get an accurate reading of how the economy, the community and the environment are responding to the increased profile and promotion of the region's trails; but these records are essential for local and provincial funding and support. Conduct surveys on trails, install automated counters on key trails, track lodging statistics, and work with outdoor retailers and tour providers to develop meaningful indicators of success. | • RDOS<br>• Economic Development Group<br>• Local Chambers of Commerce<br>• BC Parks<br>• TOTA |
| Develop an integrated trail network that links the urban environment with key trail areas to promote residential and visitor access to trails. | • RDOS<br>• Municipal Governments |
| Create budget and staff for trail maintenance and construction within the Regional District. | • RDOS |
| Create budget and staff for volunteer support and training within the Regional District | • RDOS |
| Develop support linkages between jurisdictional bodies including the RDOS, Municipal Governments, Tourism Association, Tourism BC, BC Parks and other relevant bodies that standardises trail facilities and infrastructure; and supports trail management agreements amongst stakeholders. | • RDOS<br>• Municipal Governments<br>• TOTA<br>• Tourism BC<br>• BC Parks |
| Develop and promote Heritage Trails through marketing materials, interpretive signage and recommended heritage routes. | • RDOS<br>• Tourism BC<br>• TOTA<br>• BC Parks<br>• RTSBC |

# 11.0 Implementation

Implementing the recommendations above can be a daunting and expensive process. Projects are ranked and prioritized below according to level of need, project cost and feasibility. A decision making framework assists with determining where future identified projects rank in terms of priority and feasibility.

## 11.1 Decision Making Framework

The Regional Trails Master Plan is intended as a guiding document to assist decision makers evaluating proposals to build, maintain or manage trails within the regional network. In support of this objective, the Working Group developed a vision statement and it is this vision that will shape decision-making for the RTMP and its future as an asset on the landscape. The RTMP identifies a number of goals and opportunities for the trail network based on analysis and consultation with the Working Group that should guide decision makers. Further, it is understood that decision makers may choose to make decisions contrary to the guidance provided herein in exceptional circumstances.
This decision making framework is designed to:

- Provide a systematic approach to responding to trail related proposals.
- Outline the steps required to receive approval to build, maintain or manage a trail from the RDOS.
- Guide best practice for trail construction and maintenance.
- Encourage development of trails that are consistent with and support the RTMP.

Proposals to build, maintain or manage trails can be generically classified as “trail plans” for the purpose of discussion around the decision making framework. The trail plan assists the decision makers when considering the various issues involved in making a judgment on the characteristics for that section of trail. All trail projects start with a plan. The plan should contain enough information to allow the decision makers to evaluate it for conformance to some aspect of the Regional Trails Master Plan and to render a decision about potential support and funding. It is intended to provide the decision makers with confidence in the proponent’s capabilities and capacity to execute the project in a timely manner if it is funded. It should also show that the proponent has considered financial costs, environmental values and potential impacts, as well as any foreseeable obstacles.

A trail plan should clearly describe:

- who is proposing to develop the trail and their "authority" to construct, operate and maintain the trail.
- the experience users will have on the trail, and how it meets the objectives of the Regional Trails Master Plan.
- the preferred trail user types that the trail is being designed and built for.
- the route the trail will follow, including the features that make the trail unique and why the route is desirable for the RTMP.
- how the proposed trail type will accommodate the preferred trail user types and their projected level of use.
- the support level of the local community and trail user groups, as well as how these groups have been engaged in the planning process.
- the associated infrastructure that is either currently available, or will be provided as part of the trail being developed.
- the quantitative and qualitative economic and social benefits of the trail.

- include a budget that outlines all the projected costs, and the sources of revenue for the project.

Environmental assessment should be integral to trail planning and is likely to have a profound effect on decision-making regarding trail fundamentals like route selection, maintenance needs, and trail design. These in turn will have a direct impact on anticipating costs, staffing needs, materials sourcing, scope and timing of works, etc.

Working with the Trans Canada Trail, Cascade developed a standardised decision making framework to assist them with funding decisions. This five step framework is adapted for use by the RDOS and presented herein.

**Step 1 Checklist**

| Action | Yes / No |
|---|---|
| **Step 1(a) Trail Selection** | |
| Is the section of trail selected included in the Regional Trails Master Plan?<br>→ if yes, proceed to Step 1(b)<br>→ if no, then the section of trail will not be considered further at this point in time, however it may be considered in any future reviews of the Trails Master Plan | |
| **Step 1(b) "Authority" of the local trail partner** | |
| Does the RDOS have the authority to make decisions on trail planning, construction and operation?<br>→ if yes, proceed to Step 2(a)<br>→ if the trail is located on private land, provincial park or protected area, federal land or on First Nations land, then the section of trail cannot be considered until authorization is obtained, then this process begins at Step 2(a) | |

**Step 2 Checklist**

| Action | Yes / No |
|---|---|
| **Step 2(a) Trail Plan contents** | |
| Does the Plan include the necessary information?<br>• details of who the local trail partner(s) is / are and their "authority" to take decisions on developing, operating and maintaining the trail<br>• description of the proposed trail<br>• a definition of anticipated preferred users and projected use intensity<br>• identification of the proposed preferred route, including a map and relevant spatial data for the RDOS GIS<br>• identification of the proposed trail type<br>• assessment of local support<br>• identification of associated infrastructure requirements<br>• assessment of benefits<br>• budget<br><br>→ if yes, then submit the plan to the RDOS and proceed to Step 2(b)<br>→ if no, then provide an explanation as to why the required information is not included or relevant, and proceed to Step 2 (b) | |
| **Step 2(b) Trail Concept Plan Approval** | |
| Was the trail plan approved?<br>→ if yes, then proceed to Step 3<br>→ if no, then the RDOS should provide feedback or guidance for re-submitting, proceed back to Step 2(a) | |

**Step 3 Checklist**

| Action | Yes / No |
|---|---|
| **Step 3 Trail Development Planning** | |
| Have the following matters been addressed?<br>• agreement from land owners obtained<br>• regulatory approvals obtained<br>• design and engineering<br>• construction schedule produced<br>• environmental assessment completed<br>• management plan for operations and maintenance prepared<br><br>→ if yes, proceed to Step 4, building and preparing trail<br>→ if they are not necessary due to the project not requiring construction, proceed to Step 4<br>→ if they are necessary, then continue preparing until complete | |

**Step 4 Checklist**

| Action | Yes / No |
|---|---|
| **4(a) Trail construction and preparation** | |
| Has the trail been constructed in accordance with the trail plan and the matters addressed during the trail planning step?<br><br>Has the trail been prepared for opening to the preferred trail users?<br><br>Has the RDOS carried out an inspection and made a report? | |
| **4(b) Financial Reporting** | |
| Have you submitted the required financial reports to the RDOS? | |

**Step 5 Checklist**

| Action | Yes / No |
|---|---|
| **5(a) Notification and opening** | |
| Has the final report been submitted?<br>→ if yes, proceed to planning an official opening (press release, ribbon cutting, etc.)<br><br>Have you had an official trail opening?<br>→ if yes, proceed to 5(b) | |
| **5(b) Management and Maintenance** | |
| Now the trail is open, has the management and maintenance plan been enacted?<br>→ if yes, ensure all measures are carried out, and it is properly evaluated | |

### 11.2 Partnerships and Strategies

The *Trail Strategy for British Columbia* (2009) states that *"Collaborative partnerships between trail user groups, governments and First Nations help ensure strong support and buy-in."* Partnerships between diverse groups such as federal agencies, local municipalities, First Nations,

trail users and trail stewardship groups encourages active participation in trail funding, construction and maintenance. Increased involvement between distinct community groups increases awareness of trail use and needs, and promotes a feeling of responsibility for 'our' trails.

Partnerships are essential to coordinate government and private sector funding opportunities with locally run trail stewardship groups responsible for building and maintaining trails. Diverse local groups are brought together by partnerships with regional bodies that set guidelines and standards for trail signage, construction, erosion control and maintenance, and assist in obtaining funding from provincial and federal sources, and the private sector.

### *11.2.1 Federal Partnerships*

Partnerships with federal agencies can provide valuable funding opportunities and guidance with respect to trail construction and signage standards. The Trans Canada Trail (TCT) and the National Trails Coalition are important potential partners (See Potential Funding Sources below). The TCT may partially fund a trail improvement or connection strategy, and has produced comprehensive Trail Building Guidelines (Cascade, 2010) that can be used as a resource trail construction in the RDOS.

### *11.2.2 Regional Partners*

Regional partner organizations include municipal governments within the RDOS, Trails BC, the provincial agency responsible for trails on crown land, and BC Parks. All of these partner organizations were represented on the Working Group.

An important role of the RDOS and its municipal governments is to ensure cohesion between trail construction and regional growth strategies and long-term management and development plans. The responsibilities of regional partners also include coordination of the efforts of all local stewardship groups involved in trail construction and maintenance, ensuring trail stewards are working effectively together, and setting standards and regional guidelines for trail signage, construction and maintenance.

Regional partnerships with provincial agencies such as BC Parks and the provincial agency responsible for trails on crown land are invaluable to trail development in the RDOS, providing advice and regionally standardised guidelines. Adherence to guidelines such as the provincial Spirit of 2010 Trail Signage Strategy (Appendix 4) will result in a comprehensible trail system that is navigable by all BC trail users and visitors to the region.

Valuable regional funding sources include ActNow BC, the Community Recreation Program, and the Gas Tax Fund (See Potential Funding Sources below). Regional partners such as local municipal governments can apply for funding from these sources directly, or assist local trail stewardship groups with funding applications. Funding applications may be more successful if they originate from local volunteer organisations, particularly in the case of obtaining funding from the private sector. In many cases, trail groups receive funding from private sources, and these funds are matched by a government entity with assistance from the gas tax and other funds. Guaranteed matching funds may also help the plight of a stewardship group's application. Stewardship groups should also be encouraged to keep the RDOS abreast of applications for funding, both to ensure support and to avoid duplication of efforts.

### *11.2.3 Local Partners*

Specific local partners that are active in the RDOS trail user community include, but are not limited to, the following organisations:

- Naramata Woodwackers
- Summerland Trans Canada Trail Society
- Vermilion Trails Society
- Area D (Kaleden and Okanagan Falls)
- China Ridge
- Adventurer's Club
- Similkameen Trails Society
- Bush Pilot Biking
- Penticton and Area Cycling Association
- Backcountry Horsemen of BC
- South Okanagan Horse Association
- South Okanagan Dirt Bike Club
- Penticton ATV Club, Summerland ATV Club
- Osprey Lake Snowwheelers ATV Club
- Similkameen Valley Trail Riders ATV Club

Local partners are an important aspect of successful trail management. Effective co-management of trails with other trail stewardship groups and with regional partners results in well-maintained trails and responsible trail use. Local trail stewardship groups also function as a liaison between regional bodies and trail users. They can observe and report trail hazards and use infringements, such as motorised use on a non-motorised trail, and work to prevent infringements though education of trail users and through active enforcement.

Trail groups are usually volunteer-based and highly organised. They are composed of a workforce of highly dedicated trail users that are aware of trail needs in their communities and are well-placed to champion local trail fundraising efforts. It is also helpful to engage local trail groups dedicated to a specific use type when constructing trails for that use. This can be done by requesting that the group commit to volunteer labour, fundraising efforts or involvement in the design process to ensure the best trail for a given use.

Local businesses that will benefit economically from well-maintained trails and increased trail use by locals and visitors should also be encouraged to include themselves in this group. For example, the hospitality industry and the adventure tourism sector have a vested interest in the growth of the RDOS trail system. They may participate in, or donate to fundraising efforts, and have a natural feedback loop with guests, wherein a business may promote a hike or ride and may learn of trail needs and issues from guests.

If corporate or government support is obtained, ensure their support is recognized through signage or media release and invite key contacts or responsible authorities to a ribbon cutting ceremony or walk through of the completed trail. Invite the volunteers to attend and recognize their contributions. Consider a power point or photo montage and mapping to present or send to corporate or government supporters. At the very least, provide a written update that documents works undertaken and completed and / or a Thank-you card.

**Action Item 29: Identify and apply for available grants.**

Funding initiatives by government, non-profit and private enterprise are constantly being initiated or dissolved. A formal, coordinated effort to identify and seek funding through available grants would be a primary focus for a trail coordinator or a Trail Advisory Committee. Individual trail stewardship groups also have access to funding through these resources. Some of these opportunities are not necessarily available for the RDOS to pursue, but can be made available to local clubs for

**Potential Funding Sources**

**Act Now BC** - Act Now BC is a provincial government initiative to encourage healthy life styles amongst British Columbians. Under their Active Communities Program, local municipalities, registered as Active Communities are eligible for grants of up to $5,000 for the development or maintenance of walkways, trails and / or bike paths. Each community is eligible for one grant per year. Further information can be found at:
http://www.bchealthycommunities.ca/Content/About%20BCHC/Index.asp

Examples of where funding has been successful include:

- In June of 2008, the Province of BC provided almost $495,000 in LocalMotion funds to connect South Quesnel with the rest of the communities trail system to support a greener, healthier and more connected community.
- In 2008 the provincial ATV (ATV/BC) club received $25,000 in funding from the Ministry of Environment to promote responsible riding and environmental responsibility.

**The National Trails Coalition –** The National Trails Coalition is a non-profit association whose member organizations provide stewardship of much of Canada's trail infrastructure. Budget 2009 provides $25 million to the National Trails Coalition in 2009-10 for a national initiative to create upgrade and sustain snowmobile and all-terrain-vehicle trails throughout the country over the coming year. The Government's contribution will be matched by the coalition and its partners. For applications and additional information, visit:
http://www.ntc-canada.ca/application.php

**Mountain Equipment Co-Op** – Mountain Equipment Co-Op (MEC) provides grants and funding opportunities for projects that promote land acquisition for conservation, environmental awareness and education, and backcountry access and activity. Grants range from $500 to $100,000 depending on the type of grant sought and the value of the project. In 2007, the Society for Better Environmentally Sound Transportation, received $15,000 for a greenway promotional campaign, other past recipients include Trails BC and the Penticton and Area Cycling Club. More information is available at:
http://www.mec.ca/AST/ContentPrimary/Sustainability/CommunityContributions.jsp

**Trans Canada Trail** – As previously mentioned in this document, a large portion of the TCT stretches through the RDOS. As part of the TCT 2017 connection plan, funding is available for certain types of projects. Within the RDOS, these funding resources are available for upgrades and community projects related to the KVR.

- TCT may fund up to 20% of the cost of an upgrade to an existing section of Trail
- TCT may fund up to 50% of a community development project (Examples: trail planning workshops, volunteer training and recruitment initiatives)
- TCT may, in exceptional circumstances, fund a higher percentage and consider special projects, which positively advance the 2017 Connection

For more information on funding opportunities through the TCT, visit:
http://www.tctrail.ca/funding.php

### 11.3 Volunteers - Stewardship

Volunteer trail stewards are critical to the success of any well-managed trail system. Most trail volunteers are part of organized clubs or stewardship organizations that arrange recreation and trail maintenance activities. These clubs obtain funding for volunteer training and trail maintenance and construction from many local, regional and provincial governments. Trail

stewardship clubs and groups are often more successful in receiving funding if they can provide specific capital project proposals.

Well-intentioned volunteers without proper training and support have the potential to do much more harm than good. The Regional District, Province, and individual municipalities should take the lead role in providing support for volunteer based activities by: providing regular workshops on trail design, construction and standards; providing tools to support specific efforts; and providing on-site support with land management staff when necessary.

As well as being cost-effective, a volunteer engagement program creates the opportunity to educate trail users about the natural environment and importance of sensitive ecosystems surrounding the trail system. Trail users that take part in the construction and maintenance of their trails often benefit from a feeling of ownership of the trails.

Potential problems with using volunteers include:

- Safety training, pre-work planning and preparation are necessary to ensure success.
- Unreliable volunteer turnout and unreliable effort by attendees can lead to costly delays.
- Quality control may be difficult to monitor.

### *11.3.1 Opportunities*

Opportunities for volunteer-managed projects exist across all trail user types and geographical regions of the RDOS. Many organizations already exist within the region, with mandates ranging from trail construction and maintenance, to organized trail-based activities, to advocacy. Most of the non-government members of the RTMP Working Group are representatives of volunteer organizations. Well-managed trail volunteers can provide the Regional District with services including:

- Trail management
- Trail building
- Fundraising
- Patrol and enforcement
- Marketing and promotion
- Leadership (by serving on the Trail Advisory Committee)

While most activities on the above list are already effectively conducted by various volunteer organizations within the region, the opportunity for volunteer patrol and enforcement merits further discussion. A number of jurisdictions employ volunteer wardens who are responsible for communicating with the public, providing information about trail routes, local ecology and responsible trail use. Volunteer trail wardens could be a useful presence in higher conflict trail networks.

The Regional District of Nanaimo (RDN) uses volunteer park wardens to “observe activities and conditions within [RDN parks], to increase public awareness of RDN parks and trails, to liaise between the public and RDN staff regarding park issues, [and] to communicate park issues to RDN staff” (RDN, 2012). In the RDOS, these volunteers can not only help implement an education-based conflict resolution model by being out on the trails and talking to trail users, but can also report any violations to the appropriate authorities. Volunteer wardens can either be representatives of a specific club or report to the RDOS Trails Coordinator as directed by the Trails Advisory Committee.

**Action Item 30: Further investigate the use of volunteer trail wardens on regionally or environmentally significant, high-conflict, and high-traffic trail systems**

The proposed Trails Advisory Committee will be a volunteer body, with the exception of any RDOS staff representation. Members of this committee will have the opportunity to affect change in the region's trail network and to mentor and oversee other volunteers to successfully develop volunteer resources. Effective development within and resource allocation amongst volunteer groups not only builds better volunteer capital, but helps to manage the demands on individual volunteers, especially those possessing significant expertise, and to avoid burnout.

### *11.3.2 Benefits*

Simply put, the trail system currently enjoyed within the RDOS would not exist in its current form without the tireless and valuable work of hundreds of volunteers. The majority of trail networks, excluding those in parks, are maintained, expanded, promoted and developed by volunteer organization and by independent trail stewards. This plan would not be possible without the efforts of the volunteers on the RTMP Working Group. **The key benefits of volunteerism are passion, cost savings, partnership opportunities, expertise, and access to funding.**

Most volunteers donate their time because they are genuinely passionate about trails and their chosen form of outdoor recreation. Volunteer organizations, operating under a wide variety of mandates, are responsible for self-managed and government managed trail projects throughout the RDOS. The most significant challenge for land managers is to harness this passion and direct it to the most productive projects for the trail system. Understanding the region's volunteer groups, their roles and how they can work together will be an important challenge for the Trails Coordinator.

Use of volunteers provides substantial cost savings to land managers. The RDOS is a huge land base and the Regional District does not have sufficient financial and human resources to perform all routine trail maintenance, let alone the capital projects recommended in this document. A coordinated effort by volunteer organizations is the most efficient, cost effective way to implement trail projects.

Coordinating volunteer groups also has the spinoff benefit of giving diverse, sometimes conflicting user groups the opportunity to work together toward a common goal. In the Highwood Mountains in Montana, the U.S. Forest Service was faced with managing a vast network of degrading multi-use trails with increasing ORV use. The Forest Service reached out to all trail stakeholders for assistance with inventory and remediation. Groups ranging from the Eagle Scouts to the Great Falls Trail Bike Riders worked together to repair the trail system. The project was funded by a variety of grants, leaving the Forest Service with minimal cost exposure.

It was discovered that equestrian and dirt bike riders complement each other on trail maintenance projects in remote areas. Dirt bikes can get to an area to work quickly, leaving a lot of time for work to be completed at the site. However, they cannot carry all the equipment and supplies needed on their bikes. Equestrians can carry a lot of supplies, but it takes them a lot more time to travel to a work site. The dirt bike and equestrian groups formed a partnership to perform the remediation work and the ongoing maintenance in the area. The equestrians carry needed supplies to an area and drop them there; the dirt bikers complete the maintenance; and the equestrians return to remove the remaining equipment and supplies. This collaboration has resulted in a well-managed trail network where off-trail travel by any group is exceptionally low, and conflicts between user groups are quite rare (Umphress, 2009). Like the RDOS, the Highwood Mountains trail system is a spine and spur network; trail user groups share access points and arterial trails, but generally have their own networks linking off those trails.

Many volunteers are experts in a relevant field to trail works. With the donation of their time, these individuals are also donating the benefits of years of expertise by mentoring other

volunteers and completing high quality projects with little guidance or supervision. These individuals are also often the source of great plans and ideas for valuable and feasible projects.

Many funding opportunities are available to volunteer groups, ranging from user dues or donations to grants from third parties. Often volunteer organizations or clubs can raise a portion of the monies needed for a specific project themselves, approaching government bodies to ask for material or financial resources to meet the project budget. This can be encouraged with matching funds opportunities, or by requiring a project plan and fundraising efforts prior to allocating resources to a volunteer group's proposal.

**Action Item 31: Capitalize on the expertise and manpower of volunteer clubs by engaging local trail organizations to assist with planning, fundraising and delivery of trail capital projects.**

### *11.3.3 Guidelines*

There are a number of resources for information on volunteer management. The diversity of trail-based volunteer organizations have their own management policies and procedures. Recreation Sites and Trails BC publishes a volunteer handbook with guidelines for a variety of roles including:

- Recreation site hosts.
- Trail construction, maintenance and rehabilitation.
- Facility construction, maintenance and rehabilitation.
- Special projects, such as education program leaders or developing trail brochures.
- Cross country ski trail track setting.
- Wilderness / backcountry patrols.
- Collecting recreation information.
- Assisting in river or lake clean-ups.

This handbook includes information on training, safety, working with the public, teamwork, volunteer feedback and other important considerations (MNRO, 2007). The Trans Canada Trail also offers trail builder tools and resources, and individual groups and trail societies have their own guidelines. With so many established volunteer organizations working within the RDOS, it is more important that resources be made available to those organizations to make certain that volunteers working on trails are doing so in the most targeted, effective manner possible. Volunteers, especially those performing trail maintenance and construction, should have access to training, materials and resources to conduct all works in a targeted, safe manner. In order to effectively implement the recommendations set forth in this plan, volunteer groups should work with the Trails Advisory Committee to ensure their efforts are targeted and conform to this plan. It is crucial that volunteer organizations representing specific user groups maintain the networks that receive the most traffic from those user groups.

Effective training of all volunteers is paramount. Skilled volunteers, like other workers, are needed to carry out assignments quickly and efficiently and to manage risks within the trail system. Unskilled volunteers can develop and maintain poorly constructed trails, which, despite good intentions, can aggravate user conflict, cause environmental damage, and be costly to repair. There are a number of tasks that volunteer workers should not be performing unless deemed qualified. These include:

- Use of heavy machinery.
- Use of equipment and tasks requiring specialized skill (tree falling, chainsaw work, operating ORVs).
- Financial management.

- Media relations and public comment on volunteer activities.
- Environmental assessment.
- Designing and constructing TTFs.

For a more specific set of management strategies, the Trans-Canada Trail has developed the following guidelines for managing volunteers:

**Volunteer Management**

**Geography:** Plan your project in an area where you will be able to take advantage of any size group that arrives to assist in trail construction. Your plan should allow a single volunteer to provide a productive contribution while at the same time having enough workable terrain to keep a large volunteer force occupied.

**Hazard:** Plan volunteer labour to work in low-risk environments. When volunteers will be used in higher risk environments consider pairing them with paid professionals who will be more aware of inherent risks. Professionals should also assist in any safety training that will be required for the work.

Safety training should include all work place hazards including, for example, the correct use of hand tools to avoid tendinitis.

**Insurance:** Partner with agencies that carry a policy for volunteers such as that carried by many government agencies. If existing insurance is not already in place there is a good chance the cost and logistics will make the use of volunteer workers prohibitively expensive.

**Limit the damage:** Volunteers will do more harm than good in some cases. To avoid this problem they need either to be working in an environment with low potential for damage or they need to be closely supervised with an appropriate supervisor / volunteer ratio.

**Do not rely on volunteers:** Volunteer labour should never be relied on in a critical situation (such as a time sensitive situation) because they are operating on their own schedule and at their own pace. Whereas paid labour can provide a known quantity and quality of work in a given duration of time, the results produced by volunteer labour over that same time period can be highly variable.

**Provide a reachable goal for volunteers that will provide intrinsic motivation:** Select a section of trail or a feature (e.g. boardwalk) with defined boundaries to create a sense of ownership and goal setting. Reward and celebrate when a goal is attained, even with a simple round of handshakes or a refreshment break.

**Document the work done by volunteers and follow up with recognition:** Take photos and produce an article or letter to the editor that appears in a magazine or newspaper, download information and photos to relevant internet trail groups, provide information about the volunteer activity to community organizations, club newsletters, etc.. that highlight the works, names the volunteers and their organization(s) and invites others to participate in the next round.

**Action Item 32: The Trails Coordinator and Trail Advisory Committee should be responsible for volunteer oversight and for allocating available funds to volunteer groups for specific projects recommended by this plan.**

**Action Item 33: The Trails Coordinator and Trail Advisory Committee should recognize and designate certain volunteer groups as maintainers of specific trail networks.**

**Action Item 34: The RDOS should make available training opportunities and / or resources for volunteer groups. This will help ensure that approved activities are carried out in the safest, most constructive manner possible.**

# 12.0 Conclusions and Recommendations

Based on the results of the information analyzed and the public consultation process, the Working Group, in conjunction with Cascade and RDOS staff, developed the following recommendations. All current trail use identified in the inventory is maintained, except for specific trails where consensus amongst the Working Group exists or where there is statutory control of use. The recommendations contained herein represent neither a gain nor a loss of motorized or non-motorized access. The trail inventory designations (mixed, motorized, and non-motorized) are based on the following: statutory regulation, identified preferred use, and/or voluntary compliance.

Action items were presented throughout this document as issues were identified or where it was deemed appropriate to make a statement or commitment. The following is a summary list of action items listed in order of delivery within the body of this document:

**Action Item 1:** Designate a pedestrian trail between the Naramata Creek Park / Arawana and the Naramata townsite as recommended in the OCP for Area E: Naramata.

**Action Item 2:** Limit motorized use along the Kettle Valley Railway (KVR) corridor within populated areas in Area E: Naramata. This can be accomplished through capital projects like gates, signage and paving or resurfacing key sections of the trail.

**Action Item 3:** Establish a trail network using the CPR right of way in the Kaleden / Apex area as recommended by the OCP for Area D1: Kaleden / Apex.

**Action Item 4:** Build on the City of Penticton's Cycling Network Plan by identifying and signing cycling routes that link to the corridors identified by the City. Where the City is successful in lobbying the provincial agency responsible for transportation to enhance cycling opportunities on public roadways, the RDOS should work with the City and the provincial government to ensure those enhancements are expanded to include connecting rural roads.

**Action Item 5:** Promote economic and environmental responsibility by creating and supporting trail connection opportunities with a focus on connecting communities within the RDOS.

**Action Item 6:** Ensure trail inventories are accurate, then provide trail inventories to the appropriate authorities (e.g. Okanagan Shuswap Forest District) undertaking industrial activities within the strategy area.

**Action Item 7:** Implement a respect-based conflict resolution framework for issues and ensure that trails are appropriately signed so users are aware of rules, restrictions and codes of conduct.

**Action Item 8:** Ensure that all new trail projects abide by the Recreation Trails Strategy for British Columbia and that capital projects, particularly on provincially managed trails (i.e. KVR) are completed in consultation and partnership with the Province.

**Action Item 9:** Work with Provincial Recreation Sites and Trails staff to evaluate the Crown land trail network, and prioritize trails and trail areas for establishment under FRPA.

**Action Item 10:** Encourage user groups to obtain appropriate authorization for trail construction, maintenance or rehabilitation by making 'how to' information available on the Click, Hike, Bike™ website.

**Action Item 11:** Install Heritage Protection signage at all motorized access points to restored Heritage Trails.

**Action Item 12:** Trail users should communicate with agricultural operators, landowners and bodies as a group to ensure solutions work for all trail user groups. A collective voice amongst trail users will also be more effective in dispute resolution with organized agricultural bodies.

**Action Item 13:** Implement a respect-based Code of Conduct.

**Action Item 14:** Engage with provincial and federal agencies and begin the process of trail approval through the protected area on the west side of Vaseux Lake. Consider and implement wildlife protection measures in consultation with Environment Canada.

**Action Item 15:** Trail design and development should follow adopted standards (see Section 5.1.1) and provincial best management practices appropriate to trail use types to minimise the impact on the environment.

**Action Item 16:** When developing new trails, assessment of SEI, TEM and Species at Risk should be considered in the process.

**Action Item 17:** Source materials for trail construction in a way which minimizes the impact on the local environment. Consider onsite and offsite sources for trail material.

**Action Item 18:** The RDOS should create a terms of reference for and strike an Advisory Trails Committee with representation across all major trail user groups. Membership on the Committee should be restricted to local resident participation. The mandate of this committee is to ensure the trail network is developed and managed for the use of all sectors wherever possible.

**Action Item 19:** Develop a risk management strategy that focuses on eliminating unreasonable 'hazards' from the trail (including large ruts, deadfall and unsafe or unsound bridges) and proactively reducing the exposure of land managers, partners or private land owners to liability arising out of lawsuits.

**Action Item 20:** Starting with the most frequently used trails and trail systems, identify trails that trespass on private land and begin the process of systematically entering into agreements with landowners; providing landowner incentives or purchasing or otherwise acquiring lands with trespassing trails.

**Action Item 21:** Contract experts in trail construction and design for both concept and completion of any publically funded trail, features, or facilities.

**Action Item 22:** Carry out regular, periodic inspections and include a public input element on the Click, Hike, Bike™ website to receive maintenance comments for trails, features, or facilities.

**Action Item 23:** The RDOS should lobby the Province to introduce Inherent Risk Legislation that places more responsibility on individuals taking part in guided and non-guided recreation activities rendering them unable to sue for obvious inherent risk.

**Action Item 24:** The RDOS should adopt the provincial signage standards set out in the Signage Strategy for the Spirit of 2010 Trail for use on the regional trails.

**Action Item 25:** Undertake a complete inventory of trails in the region, starting with large, known trail networks prior to launching Click, Hike, Bike™ as a source of trail data information. Trail data can be gathered by volunteers or through entering into data sharing agreements with clubs, companies and groups already possessing data.

**Action Item 26:** Develop a marketing strategy that runs in parallel to the development of new trails and other facilities, promoting the RDOS as an established destination for trail-based recreation.

**Action Item 27:** Conduct surveys on trails, install automated counters on key trails, track lodging statistics, and work with equipment rental and tour providers to develop meaningful indicators of success (and challenges) to assist in developing additional marketing materials.

**Action Item 28:** Build community support for trail-based tourism by emphasizing the economic benefits and encourage a better understanding of all trail-based recreation activities.

**Action Item 29:** Support businesses in providing information to visiting trail users on where to access trails, lodge, eat and shop. Informed and prepared staff can meet the needs of visiting recreationalists and make visitors feel welcome.

**Action Item 30:** Identify and apply for available grants.

**Action Item 31:** Further investigate the use of volunteer trail wardens on regionally or environmentally significant, high-conflict, and high-traffic trail systems.

**Action Item 32:** Capitalize on the expertise and manpower of volunteer clubs by engaging local trail organizations to assist with planning, fundraising and delivery of trail capital projects.

**Action Item 33:** The Trails Coordinator and Trail Advisory Committee should be responsible for volunteer oversight and for allocating available funds to volunteer groups for specific projects recommended by this plan.

**Action Item 34:** The Trails Coordinator and Trail Advisory Committee should recognize and designate certain volunteer groups as maintainers of specific trail networks.

**Action Item 35:** The RDOS should make available training opportunities and / or resources for volunteer groups. This will help ensure that approved activities are carried out in the safest, most constructive manner possible.

In order to assist with planning execution of the Regional Trails Master Plan, the Action Items were then prioritized to help staff with a work plan. The reorganized action item list is presented herein:

1. Designate a pedestrian trail between the Naramata Creek Park / Arawana and the Naramata townsite as recommended in the OCP for Area E: Naramata.
2. Limit motorized use along the Kettle Valley Railway (KVR) corridor within populated areas in Area E: Naramata. This can be accomplished through capital projects like gates, signage and paving or resurfacing key sections of the trail.

3. Establish a trail network using the CPR right of way in the Kaleden / Apex area as recommended by the OCP for Area D1: Kaleden / Apex.
4. Build on the City of Penticton's Cycling Network Plan by identifying and signing cycling routes that link to the corridors identified by the City. Where the City is successful in lobbying the provincial agency responsible for transportation to enhance cycling opportunities on public roadways, the RDOS should work with the City and the provincial government to ensure those enhancements are expanded to include connecting rural roads.
5. Promote economic and environmental responsibility by creating and supporting trail connection opportunities with a focus on connecting communities within the RDOS.
6. Ensure trail inventories are accurate, then provide trail inventories to the appropriate authorities (e.g. Okanagan Shuswap Forest District) undertaking industrial activities within the strategy area.
7. Implement a respect-based conflict resolution framework for issues and ensure that trails are appropriately signed so users are aware of rules, restrictions and codes of conduct.
8. Ensure that all new trail projects abide by the Recreation Trails Strategy for British Columbia and that capital projects, particularly on provincially managed trails (i.e. KVR) are completed in consultation and partnership with the Province.
9. Work with Provincial Recreation Sites and Trails staff to evaluate the Crown land trail network, and prioritize trails and trail areas for establishment under FRPA.
10. Encourage user groups to obtain appropriate authorization for trail construction, maintenance or rehabilitation by making 'how to' information available on the Click, Hike, Bike™ website.
11. Install Heritage Protection signage at all motorized access points to restored Heritage Trails.
12. Trail users should communicate with agricultural operators, landowners and bodies as a group to ensure solutions work for all trail user groups. A collective voice amongst trail users will also be more effective in dispute resolution with organized agricultural bodies.
13. Implement a respect-based Code of Conduct.
14. Engage with provincial and federal agencies and begin the process of trail approval through the protected area on the west side of Vaseux Lake. Consider and implement wildlife protection measures in consultation with Environment Canada.
15. Trail design and development should follow adopted standards (see Section 5.1.1) and provincial best management practices appropriate to trail use types to minimise the impact on the environment.
16. When developing new trails, assessment of SEI, TEM and Species at Risk should be considered in the process.
17. Source materials for trail construction in a way which minimizes the impact on the local environment. Consider onsite and offsite sources for trail material.
18. The RDOS should create a terms of reference for and strike an Advisory Trails Committee with representation across all major trail user groups. Membership on the Committee should be restricted to local resident participation. The mandate of this committee is to ensure the trail network is developed and managed for the use of all sectors wherever possible.

19. Develop a risk management strategy that focuses on eliminating unreasonable 'hazards' from the trail (including large ruts, deadfall and unsafe or unsound bridges) and proactively reducing the exposure of land managers, partners or private land owners to liability arising out of lawsuits.
20. Starting with the most frequently used trails and trail systems, identify trails that trespass on private land and begin the process of systematically entering into agreements with landowners; providing landowner incentives or purchasing or otherwise acquiring lands with trespassing trails.
21. Contract experts in trail construction and design for both concept and completion of any publically funded trail, features, or facilities.
22. Carry out regular, periodic inspections and include a public input element on the Click, Hike, Bike™ website to receive maintenance comments for trails, features, or facilities.
23. The RDOS should lobby the Province to introduce Inherent Risk Legislation that places more responsibility on individuals taking part in guided and non-guided recreation activities rendering them unable to sue for obvious inherent risk.
24. The RDOS should adopt the provincial signage standards set out in the Signage Strategy for the Spirit of 2010 Trail for use on the regional trails.
25. Undertake a complete inventory of trails in the region, starting with large, known trail networks prior to launching Click, Hike, Bike™ as a source of trail data information. Trail data can be gathered by volunteers or through entering into data sharing agreements with clubs, companies and groups already possessing data.
26. Develop a marketing strategy that runs in parallel to the development of new trails and other facilities, promoting the RDOS as an established destination for trail-based recreation.
27. Conduct surveys on trails, install automated counters on key trails, track lodging statistics, work with equipment rental and tour providers to develop meaningful indicators of success (and challenges) to assist in developing additional marketing materials.
28. Build community support for trail-based tourism by emphasizing the economic benefits and encourage a better understanding of all trail-based recreation activities.
29. Support businesses in providing information to visiting trail users on where to access trails, lodge, eat and shop. Informed and prepared staff can meet the needs of visiting recreationalists and make visitors feel welcome.
30. Identify and apply for available grants.
31. Further investigate the use of volunteer trail wardens on regionally or environmentally significant, high-conflict, and high-traffic trail systems.
32. Capitalize on the expertise and manpower of volunteer clubs by engaging local trail organizations to assist with planning, fundraising and delivery of trail capital projects.
33. The Trails Coordinator and Trail Advisory Committee should be responsible for volunteer oversight and for allocating available funds to volunteer groups for specific projects recommended by this plan.
34. The Trails Coordinator and Trail Advisory Committee should recognize and designate certain volunteer groups as maintainers of specific trail networks.
35. The RDOS should make available training opportunities and / or resources for volunteer groups. This will help ensure that approved activities are carried out in the safest, most constructive manner possible.

The next step involved preparing a set of prioritized recommendations that interpret the action items and provide direction for the RDOS, staff and trail stakeholders over the life of this document. The interpretation is provided below as a set of general recommendations, and trail specific recommendations with a three level set of priorities.

### 12.1 General Conclusions

The RDOS possesses a very diverse and attractive trail network that has the necessary attributes to attract both local and international recreationalists and tourists. It complements the existing spectrum of recreational opportunities that the region has to offer.

The trails inventory, while extensive, remains incomplete. Several trail user groups are hesitant to contribute their trails data to the public domain. As a result, this information was not available for analysis in this report and is not considered in the recommendations of the RTMP. In the future, entering into data sharing agreements with trail organizations or conducting a trail inventory will be important to ensuring the comprehensiveness of the RDOS' mapping files, particularly those being distributed for public consumption.

The RTMP Working Group settled on a four group trail use type system for the GIS Analysis; Motorized, Mixed, Non-motorized and Cycling, with non-motorized use trails comprising the majority of the inventory (49%). Management of the mixed use trails (12%) will be an ongoing challenge into the future. Success will be measured by conflict levels and will depend on voluntary compliance by the dominant user types and respect for the experience of the sub-ordinate user types. In certain high conflict areas, the success of the education-based voluntary compliance program should be revisited and evaluated. If the program proves ineffective, enforcement or designating the trail area either motorized or non-motorized may be necessary. As the plan rolls out and is implemented in the RDOS, further refinements to the mixed use group should be aimed at reducing the amount of mixed use trails over time.

Trails and trail networks are a legitimate recreational feature on the landscape and as such regional districts and municipalities now consider them to be part of the recreation infrastructure. Trails represent a widely used, cost effective recreational opportunity with broad based participation across the full demographic spectrum. As with all infrastructures, trail networks are maintained, managed and improved.

The composition and role of a Trails Advisory Committee will also be critical to this plan's success. The committee should be comprised of local stakeholders representative of the groups conducting trail work on the ground. The committee should be empowered to make decisions regarding the implementation of this plan. In areas with heavy mixed use, it will be important to ensure local trail groups work together to develop the best possible trail network for all user types in each area.

Partnerships, particularly as they relate to trail project funding and regional marketing play a significant role in the implementation and management of the RTMP. Partnerships are intrinsically linked to stewardship and best management practices such that partnerships promote good stewardship and discourage rogue trail building and rogue behaviour. Marketing partnerships are also significant, as coordination between the RDOS and tourism marketing partners can boost the visitor awareness of the region's trail network, especially as it relates to other attractions such as wineries, dining and lodging opportunities.

The following recommendations are presented as a prioritized list. However, this should not be construed as sequential. Opportunities may occur over time that support implementing recommendations out of sequence.

### 12.2 General Recommendations

1. Create a budgetary line item for trail management.
2. Strike a Regional Advisory Trail Committee to advise the RDOS on trail related matters.
3. Engage with First Nations and Private Landowners wherever possible.
4. Prioritize routes that connect communities.
5. Promote designation, restoration and marketing of Heritage Trails.
6. Adopt and manage RDOS trail standards as recommended in the RTMP.
    - Develop and implement a comprehensive signage program.
    - Assist municipalities with trail signage and designation.
    - Promote popular cycling routes including Ironman, GranFondo and Half Iron courses through signage.
7. Recognizing that the Province and the RDOS have agreed that the KVR will be managed as a primarily non-motorized trail, the KVR should be designated by the Province as non-motorized where high recreation value parallel routes for motorized use exist.
    - In the future, if ORV licensing regulations are implemented that allow travel by ORVs on public roads and other rural roads managed by the Province, revisit mixed use designations on the KVR where a viable alternative route exists and establish road crossings where applicable.
    - If no parallel route exists, implement the conflict resolution framework to seek agreement amongst trail user groups.
    - Alternative routes to current mixed use sections of the KVR should be identified and constructed where possible.
8. Continue to develop and maintain user type specific trails to provide a more targeted offering; reducing the existing “mixed use” category toward more specific trail user targets.
9. Prepare file tenure applications for all abandoned rail beds in the RDOS, including linkages on private land, and acquire rail beds as they come available.
10. Conduct trail impact audits to encourage sector responsibility for maintenance according to trail standards.
11. Engage local motorized clubs for stewardship assistance on motorized networks.
12. Develop an RDOS trails awareness program and educate through schools, clubs and community associations.
13. Work with Provincial Ministry responsible for road construction and transportation to make road bike networks more cycle-friendly through wider shoulders, signage, and replacing cattle guards with newer versions with flat slats. Road routes should not be promoted at the expense of existing, grated, separated trails.
14. Continue to expand the GIS trail inventory through citizen GPS contribution.
    - Refine the attribute table as a planning and management tool.
    - Populate the attribute tables with trail standards information and conduct an inventory of major trails for trail classification.
15. Work with Provincial Ministry responsible for road construction and transportation to develop road bike pullouts and roadside amenities such as water and washrooms.
16. Install non-motorized signage on all non-motorized areas of the KVR.
17. Develop and market the “Wine Route” concept with winery and culinary opportunities linked by cycling routes. Including signage and partnership with tourism organizations and businesses to promote routes and transport wine and other purchases.

18. Post trail-related projects and pending permit applications to the Click, Hike, Bike™ for public information and input.
19. Encourage tenured operators to further develop the adventure tourism sector within the RDOS.
20. Work with Central Okanagan Regional District to develop and program a cycle route around Okanagan Lake.
21. Officially designate the KVR non-motorized where it is already being used as a non-motorized corridor.
22. Conduct a thorough audit of trail staging areas for location and condition. Work with stewardship groups to perform necessary repairs and develop new staging areas where deemed necessary.

## 12.3 Specific Trail Project Recommendations

### *12.3.1 First Priority*

1. Designate the KVR non-motorized from Penticton boundary to Arawana, eventually to Smethurst Road.
2. Designate KVR non-motorized between Summerland boundary and Faulder.
    - Determine location of motorized staging area in the Faulder vicinity.
    - Close Rodeo Grounds staging area to motorized users, promote as non-motorized staging area.
    - Install signage at Rodeo Grounds directing motorized users to Faulder staging area.
3. Explore opportunities for establishing motorized recreation corridors, independent of the KVR, between the following areas:
    - Princeton and Coalmont.
    - Tulameen and Coalmont.
    - Summerland and Osprey Lake.
    - Osprey Lake and Princeton.
    - Immediate area of Osprey Lake.
    - Smethurst and Little Tunnel.
4. Initiate conflict resolution framework and continue discussions with local trail groups regarding motorized re-route in areas without established suitable-quality parallel trail opportunities.
5. Develop and install safety signage and promote respect-based trail use in mixed use and conflict areas.
6. Area D (Kaleden/Okanagan Falls) KVR trail improvements; surfacing, brushing, invasive plant removal, poison ivy, rock bollards and signage.
7. Upgrade wayfinding / route signage for motorized users in Naramata area.
8. Develop staging areas on either side of Osprey Lake (Chain Lake and Link Lake).
9. Develop staging area and signage for Three Blind Mice.
10. Develop Crown land staging area for Golden Mile.
11. Work toward formalizing and establishing Brigade Trail.

### *12.3.2 Second Priority*

1. Seek Area Based tenure for management of China Ridge.

2. Work with landowners to establish right-of-way or beachfront connections through Locatee lands on west side of Skaha Lake.
3. Improve wayfinding signage and safety information on the KVR from Faulder to Crump.
4. Apply to establish the Three Blind Mice trail network with the Province of BC through Section 56 (*FRPA*) agreements. Support local stewardship groups or commercial operators to provide trail maintenance and stewardship.
5. Designate a route on the eastern edge of the trail network for dirt bikes accessing the Above the Mice area.
6. Formalize and sign the following road connections:
    - Highway 97 via Road 22.
    - End of KVR south of Osoyoos to U.S. Border.
    - Osoyoos to Airport Trail.
7. Secure a lease with Province of BC over Okanagan River Dike and formalize non-motorized road connections to create a viable commuter route.
8. Support stewardship by Osprey Lake Ratepayers Association.
9. Improve signage at Carmi.
10. Improve signage at Rock Oven trail near Carmi.
11. Investigate and develop protective measures to ensure motorized vehicles do not encroach on the riparian zone (30 m setback) at Garnet Lake.
12. Develop an alternate hike / bike trail to KVR through Osprey Lake that is separated from the mixed-use trail by vegetation.
13. Improve and coordinate signage, staging and facilities for the Apex trail network.
14. Separate motorized from non-motorized use through an educational signage program near Garnet Lake, in conjunction with alternate trails or improved signage.
15. Work with stewardship groups to maintain trails to an acceptable standard for appropriate user types.
16. Upgrade access routes from KVR to Chute Lake.
17. Protect Trout Creek riparian (municipal water source).
18. Encourage active cooperation in trail between motorized and non-motorized trail stakeholders.
19. Establish a non-motorized Summerland – Penticton waterfront route.
20. Improve motorized and non-motorized accesses from Apex community to Nickel Plate.
21. Conduct a thorough inventory of Carmi Mountain Bike trails to ensure conformity with RDOS trail standards.
22. Engage the Penticton Indian Band to establish non-motorized Summerland Trestle – West bench route.

### *12.3.3 Third Priority*

1. Designate specific routes and trail user types within Drenzi area to protect big horn sheep.
2. Install signage and develop maps for Coalmont area.
3. Negotiate stewardship agreement with SODC for McLean Creek Area.
4. Establish permanent outhouse at Arawana.
5. Develop motorized staging areas at:
    - Coalmont Campground.
    - End of proposed bypass on Princeton side.
    - Coquihalla at KVR RDOS Boundary.
    - East of Tulameen.

- Between Tulameen and Coalmont.
- Coalmont.

6. Recognize the value of the entire Okanagan Channel Trail, and audit for trail quality maintenance. Pave the entire stretch if deemed necessary.
7. Upgrade non-motorized connection trail from Apex to Sheep Rock and Brent Mountain.
8. Explore connection to Hedley from Nickel Plate via Hedley Creek Trail.
9. Re-open non-motorized connection from Cathedral to Manning Park.
10. Formalize access to Fire Mountain trail system.
11. Explore opportunities for non-motorized connection to Penticton from Carmi.
12. Explore opportunities for development of a non-motorized trail connecting Keremeos and Cawston.
    - Connect Red Bridge to Kobau park, resolve landowner conflict.
13. Complete the link in the KVR with Penticton from Wright's Beach Camp to the Channel Parkway trail on the west side of the Okanagan River Channel.
14. Separate and develop non-motorized access to Rattlesnake / Wildhorse Mountain.
15. Explore opportunities for (re)development of non-motorized Centennial Trail between Cathedral Park and Keremeos.
16. Investigate a non-motorized connection from Three Blind Mice to Campbell Mountain.
17. Commence regulatory and consultation process to formalize non-motorized trail access along Vaseux Lake, and construct bridges.
18. Explore opportunities for connecting Golden Mile trail with Town of Oliver.
19. Explore options for resurfacing Strawberry Creek Trail.
20. Determine locations of washed-out trail water crossings on 20 Mile Creek in Keremeos area and reconstruct bridges.
21. Engage Osoyoos Indian Band for trail opportunity along West side of Osoyoos Lake.

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# 15.0 Appendices

### Appendix 1: LRMP Policy Overview

Below is a table that provides a review of the LRMP as it relates to existing or potential trail use activities on Crown land. Items from the left-hand column are strategic directions in the LRMP and the right-hand column assesses potential impacts to trail-based recreation activities.

**LRMP policy and trail use**

| LRMP objectives / strategies with implications for trail users | Potential strategies / recommendations |
|---|---|
| • Retain and / or acquire suitable access to Crown land through private lands (REC 3-2). | • Local governments (LG) to provide for recreation access when approving subdivisions via land acquisitions or other policy strategies.<br>• Ensure trail inventory is maintained and consider strategies to have trails recognized by local government and the Crown to protect existing trails. |
| • Identify Crown lands close to urban areas that have recreation values (REC 3-2). | • LG to develop strategies that ensure trails on Crown land close to municipalities are inventoried and mapped. |
| • New commercial recreation tenure holders must demonstrate how they can co-exist with existing or established recreation or tourism uses (REC 3-3). | • Develop criteria for trail-based commercial tenure holders that promote co-existence with other recreation users (e.g., trail maintenance commitments, trail etiquette standards). |
| • Develop mechanisms for consensus-based consultation and conflict resolution for Crown land recreation (REC 3-4). | • Develop strategies that identify conflicts between trail users and commercial / industrial interests and provides forum for conflict resolution. |
| • Prevent or resolve conflicts between recreation users of Crown land (REC 3-5). | • Provide opportunities for trail user groups to collaborate on conflict resolution strategies.<br>• Consider co-management of trails, joint funding opportunities for trail work / facilities, |
| • Encourage public awareness and education on appropriate use of recreation areas (REC 3-5). | • Provide signage and promote awareness of trail etiquette, trail construction guidelines, and promote trail management partnerships within the trail user groups. |
| • Prevent or resolve conflicts between recreationalists and private landowners (REC 3-6). | • Develop strategies to address potential conflicts with private landowners.<br>• Consider addressing risk management, environmental protection, visual amenities, and rider etiquette. |
| • Recreational use should be compatible with the values of sensitive ecological areas (REC 3-6). | • Ensure trail inventories are compatible with sensitive area mapping and develop trail standards or mitigation for areas of overlap. |
| • As necessary, develop guidelines to mitigate impacts of recreational use on sensitive areas (REC 3-7). | • Develop meaningful indicators for biodiversity / sensitive habitat in areas of trail-based recreation activity and monitor for changes.<br>• Ensure trail inventories are compatible with sensitive area mapping and develop trail standards or mitigation for areas of overlap. |

| | |
|---|---|
| • Promote public education and awareness on how to minimize impacts from recreational use of the land base (REC 3-6). | • Develop trail riding / trail building and maintenance guidelines for best practices to reduce potential impacts.<br>• Consider incorporating information in trail maps, trail signage, and promotional material. |
| • Biodiversity can be affected by disruption of the natural processes and sensitive habitats may be altered by recreation activities (EMFOREST 3-2). | • Develop meaningful indicators for biodiversity in areas of trail-based recreation activity and monitor for changes.<br>• Provide expertise to trail builders to ensure proposed trails avoid sensitive habitats and develop strategies to reduce potential impacts for existing trails that disrupt sensitive habitats. |
| • All levels of government are to encourage the use of appropriate fish habitat guidelines and best management practices during planning and development (FISH 3-7) | • Ensure trail-based recreation trails observe appropriate setbacks from watercourses and erosion control measures are part of trail design / maintenance.<br>• Ensure stream crossings comply with all relevant regulations and best practice guidelines. |
| • Local governments should consider the LRMP management objectives, and the existing and intended Crown land uses, when preparing official community plans an zoning bylaws (to prevent future land use conflicts in the interface) (CCI 4-3). | • Trail-based recreation use of Crown lands should be documented and consideration for enabling this use protected in the local government OCP.<br>• Ensure trail inventory is maintained and consider strategies to have trails recognized by local government and the Crown. |
| • Regional districts and municipalities are to notify applicable government agencies of official community plan (OCP) designations, and / or zoning regulations that may affect Crown land in the interface (CCI 4-4) | • Ensure trail inventory is maintained and consider strategies to have trails recognized by local government and the Crown. |
| • Provide opportunities to site municipal / regional infrastructure (e.g. parks and recreation facilities) on Crown land to serve community and economic development needs throughout the plan area, where such infrastructure can appropriately co-exist with other resource and environmental values (CCI 4-7) | • Assess the need for developing trail-based recreation trails / facilities on Crown land and consider partnerships opportunities for co-management. |
| • Do not encourage mechanized or motorized use on grasslands (NDT4 4-7). | • Grassland ecosystems should be identified and avoided as future trail development areas unless concerns over environmental and other impacts (e.g. grazing) are adequately addressed.<br>• Consider communicating with local trail riding / building organizations and providing mapping of grassland ecosystems, and develop guidelines for trail management where trails already exist in grassland areas. |
| • Avoid indiscriminate off road and off trail use in grasslands, and promote public education about grassland | • Ensure trail use / building organizations are aware of where grassland ecosystems exist and provide management strategies for carrying out activities in |

| | |
|---|---|
| management (NDT4 4-8). | a responsible manner.<br>• Consider using mapping / facility / signage infrastructure to educate the public about grassland ecosystems. |
| • Ensure that the public and recreation groups are aware of the location of Recreation resource management zones (RMZs) (REC 4-1).<br>• Erect and maintain appropriate signs to identify these RMZs (REC 4-1). | • Ensure RMZs are reflected in trail inventory mapping and trail use assessments.<br>• Include RMZ information on public maps / facilities / signage.<br>• Trail use / building organizations are aware of the RMZs |
| • Encourage public recreation "round table" forums to develop site specific recreation strategies to manage and integrate recreation opportunities and uses, to encourage compatibility and resolve conflicts among recreational users (REC 4-2).<br>• Forums should be inclusive, consensus driven, and user restrictions (if needed) to be driven by compatibility and safety concerns (REC 4-2). | • Provide opportunities / support for recreation user groups to identify and coordinate trail management initiatives in RMZs.<br>• Use trail-based recreation Strategy survey information to delineate areas in the RMZs that may be suitable candidates for round table forums.<br>• Develop coordinated long term trail management partnership agreements with user groups in RMZs. |
| • Encourage a stewardship role by organized user groups or clubs, in the management of recreational activities and facilities (REC 4-2). | • Identify the roles and responsibilities of potential stewardship groups for recreational trail facilities in the RMZs. |
| • When planning for industrial activities (e.g., harvesting, mineral exploration, trapping, guide-outfitting, etc.), ensure the trail corridor / network and the associated recreation opportunities are maintained or enhanced for continued public use as directed by other objectives in the Recreation RMZ (REC 4-3).<br>• Proponents of forest development, or other industrial / commercial activities, will consult and participate with identified recreation user groups to integrate uses (REC 4-4). | • Ensure trail inventory is maintained and available for industrial users to ensure LRMP recreational objectives are met.<br>• Develop coordinated trail network management approaches between industries and identified recreational user groups.<br>• Management intent for these RMZs is for shared use between industries and recreation. |
| • Manage the impact of industrial use on recreational values (REC 4-4). | • Ensure industrial activities are compatible with recreational values.<br>• Develop strategies to maintain trail inventory mapping and document user patterns to ensure recreational values are appropriately maintained during industrial activities. |
| • In identifying any non-motorized portions of trails, a round-table of stakeholders should first consider options to increase compatibility with non-motorized use REC 4-6). | • Consider identifying trails that are incompatible with motorized users due to the nature of trail user groups, the nature of the trails' feature(s), or recreational experience.<br>• Provide opportunities for motorized and non-motorized trail users to engage in conflict resolution |

| | |
|---|---|
| | and shared trail use. |
| • All trails should be mapped (GPS) as resources permit. Organized user groups should be encouraged to undertake this work (REC 4-7). | • Provide support for ongoing trail inventory mapping by trail user groups. |
| • All trails and other construction activity (e.g., installing culverts, bridges, etc) must be undertaken under appropriate regulations and standards (CWS 4-5). | • Develop trail construction guidelines that incorporate Best Practices guidelines (e.g., Standards and Best Management Practices for In stream Works). |
| • Maintain water quality in reservoirs and streams for which water is used for community use (CWS 4-7). | • Consider installing toilets and signage in areas where risk to community water quality exists from trail-based recreation staging areas or shuttle drop-off zones. |
| • Limit access to lakeshores and drawdown zone by motor vehicles and other mechanized means of transportation (e.g., mountain bikes) (CWS 4-7). | • Ensure proposed or current trail alignments do not encroach into environmentally sensitive lakeshore areas of community watersheds.<br>• Provide trail builders / trail managers with mapping that identifies these areas. |

**Appendix 2: Unedited Community Survey Results**

Survey Results
REGIONAL SURVEY
458 submissions to the regional survey of which 294 were residents of RDOS and 164 were from beyond RDOS boundaries
208 regional survey respondents also complete trail surveys
87 local residents completed the regional survey but did NOT complete any trail surveys
212 respondents (72%) did not access trails by motorize means

- 193 bike
- 194 Hike
- 152 Walk
- 53 Commute
- 32 Horse

82 respondents (28%) used motorized vehicles on the trail network (these respondents may have also used the trails by non-motorized means)

- 42 ATV
- 31 Motorbike
- 16 Snowmobile
- 15 car / truck

| **Are you happy with the number of trails in the region?** | |
|---|---|
| Strongly Agree | 30 |
| Agree | 182 |
| Unsure | 9 |
| Disagree | 51 |
| Strongly Disagree | 20 |
| No Answer | 2 |

| **Are you happy with the condition of the trails in the region?** | |
|---|---|
| Strongly Agree | 14 |
| Agree | 166 |
| Unsure | 9 |
| Disagree | 57 |
| Strongly Disagree | 46 |

| **Does the region need new trails?** | |
|---|---|
| No – I am happy with current inventory | 33 |
| Region needs more MTB trails | 105 |
| Region needs more hiking trails | 137 |
| Region needs more equestrian trails | 34 |
| Region needs more multi-use trails | 71 |
| Region needs more ATV trails | 51 |
| Region needs more motorbike trails | 47 |

| How often do you travel more than 20 minutes by car to access recreation trails? | |
|---|---|
| More than once per month but less than once per week | 111 |
| More than once per week | 55 |
| More than once per year but less than once per month | 75 |
| Never | 50 |

| Favourite Trail Area | |
|---|---|
| Three Blind Mice | 51 |
| KVR - Naramata | 45 |
| KVR - Summerland | 20 |
| KVR - OK Falls | 18 |
| KVR - Penticton | 17 |
| KVR - Princeton | 14 |
| Summerland | 14 |
| Tulameen | 13 |
| OTHER | 12 |
| Cathedral Park | 9 |
| Brend Mountain | 7 |
| Oliver | 7 |
| Arawana | 6 |
| Rock Ovens | 6 |
| Separatist (Max Lake) | 5 |
| Apex | 4 |
| Carmi | 4 |
| Keremeos | 4 |
| Mt Kobau | 4 |
| Campbell Mountain | 3 |
| Coalmont | 3 |
| Hedley | 3 |
| Peachland | 3 |
| Cartwright | 2 |
| China Ridge | 2 |
| Okanagan Mountain Park | 2 |
| Osoyoos | 2 |
| 3 lakes area sawmill, madden and bear lakes | 1 |
| Farleigh Lake area | 1 |
| kaleden | 1 |
| KVR - Kaleden to Ok Falls | 1 |
| KVR - Oliver | 1 |
| KVR - Osoyoos | 1 |
| KVR Penticton / Naramata | 1 |
| Marron Valley | 1 |
| Mt Baldy | 1 |
| Osprey Lake area | 1 |

| | |
|---|---|
| RDOS | 1 |
| Skaha Bluffs | 1 |
| Skaha Lake west shoreline | 1 |
| Willowbrook | 1 |

| **Respondent geographic makeup** | |
|---|---|
| Penticton | 122 |
| Summerland | 33 |
| Naramata | 32 |
| OK Falls | 22 |
| kaleden | 17 |
| Oliver | 14 |
| Tulameen | 13 |
| Coalmont | 11 |
| Princeton | 11 |
| Osoyoos | 6 |
| Keremeos | 5 |
| Hedley | 4 |
| Cawston | 1 |
| Osprey lake | 1 |
| West Bench | 1 |
| Area F | 1 |

Trail Survey Responses

| **Trail Area** | **Count** |
|---|---|
| KVR - Naramata | 52 |
| KVR - Summerland | 23 |
| Three Blind Mice | 20 |
| KVR - Princeton | 18 |
| KVR - Penticton | 17 |
| Tulameen | 13 |
| Summerland | 12 |
| Campbell Mountain | 12 |
| KVR - OK Falls | 12 |
| Carmi | 10 |
| Separatist (Max Lake) | 10 |
| KVR - Oliver | 9 |
| Apex | 9 |
| Skaha Bluffs | 7 |
| Arawana | 5 |
| Okanagan Mountain Park | 5 |
| Keremeos | 5 |

| | |
|---|---|
| OTHER | 5 |
| Oliver | 4 |
| KVR - Osoyoos | 3 |
| Osoyoos | 3 |
| Fire Mountain | 3 |
| Hedley | 3 |
| Cartwright | 3 |
| Mt Kobau | 3 |
| Peachland | 2 |
| Coalmont North | 2 |
| Princeton - Coalmont | 2 |
| Brent Mountain | 2 |
| Kaleden | 2 |
| Cathedral Park | 2 |
| Rattlesnake & Wildhorse Mtns | 1 |
| ok falls | 1 |
| China Ridge | 1 |
| Gilles Creek / Rock Oven | 1 |
| KVR Trail at Kaleden, north end | 1 |
| White Lake Basin / Mahoney Lake | 1 |
| Rock Ovens | 1 |
| Farleigh Lake area | 1 |
| 3 lakes - Sawmill, madden and bear lakes | 1 |
| Twin Lake  Yellow Lake | 1 |
| Loadstone Mt. | 1 |
| Penticton south to Okanagan Falls through Kaleden, specifically the Kaleden stetch of the trail | 1 |
| Arawana Beer Run | 1 |
| Parker Mountain | 1 |
| North edge of Skaha Lake - past Penticton airport | 1 |
| KVR Penticton to Ok Falls | 1 |
| **Grand Total** | **294** |

**KVR Naramata (52 responses)**

| **How often do you use this trail network?** | |
|---|---|
| More than once per month but less than once per week | 20 |
| More than once per week | 20 |
| More than once per year but less than once per month | 12 |

| **Do you feel there are any land use conflicts in this area?** | |
|---|---|
| Forestry | 2 |
| Private Land | 15 |
| Unsure | 24 |

| What is the quality of this network? | |
|---|---|
| The existing network is excellent | 5 |
| The existing network is fair | 8 |
| The existing network is good | 35 |
| The existing network is poor | 3 |

| Does the area require trail maintenance? | |
|---|---|
| Strongly Agree | 11 |
| Agree | 24 |
| Unsure | 4 |
| Disagree | 11 |
| Strongly Disagree | 2 |

Comments on trail maintenance

- a more bike-friendly trail bed less ripped up by motorized vehicles would be an improvement, i.e., more of the same as has been done Arawana towards Penticton
- Any mountain trail needs maintenance or it will be quickly reclaimed by the forest.
- I feel that the trail always needs maintenance but is being maintained well by the Wood Whackers.
- Maintenance needed due to motor vehicle use
- Our Naramata Woodwackers do a phenomenal job in keeping the trails maintained. These volunteers are to be commended.
- Spring cleanup for trails to stay open
- the kvr from arawana to chute lk has not been graded for over 10 years people that coplain that the roughness is caused by the motorized vehicls are a little misinformed i received a grant of 15k to grade ditch and remove all the rock falls this was done
- The Woodwackers do an excellent job here in Naramata
- Too many sandy and rocky sections of the KVR
- Trail has been degraded in some areas mostly due to irresponsible motorized vehicle use. Also, there is some erosion.
- woodwackers doing a great job
- Motorised vehicles are making the trail unfriendly to non-motorised users (trail damage, noise, speed, dust, garbage hauled in and left behind etc)
- Need more trail upkeep and maintenance...mowing of tall grasses in Rock Creek to Myra Canyon, resurfacing of trail between Myra Canyon and Chute Lake (loose gravel is dangerous)
- The area between Smythurst and Little Tunnel needs to be resurfaced to accommodate casual bikers. The sand / rock consistency makes it very difficult for children's bikes as well as for people who are not in good shape or who have the best bikes.
- The KVR is being destroyed by ATV, motorbike and other motorized traffic. You cannot have above users on the KVR - without hikers, bikers, electric vehicles, even wheel chair being denied enjoyment on these pathways
- The KVR / Trans Canada trail on the east side of the Valley needs maintenance primarily because motorized vehicles and ORVs are allowed on it. Since there is a public road to Chute Lake, the former should not be allowed on it until at least Chute Lake and
- The Naramata Parks board needs to eliminate all motorized traffic on its' portion of the Trans Canada Trail / KVR
- The surface between Arawana and Little Tunnel / beyond is so rutted with large stones that I feel unsafe and likely to fall off my bike!
- Trail has been worn out due to vehicle use. Not all motorized vehicles are to blame, only the ones who drive far too fast and disturb the surface of the trail.
- Very bumpy surface with many sections of loose sand which can make it unsafe. A solid base and good layer of decomposed granite of surface similar to Penticton section that goes below Munson Mt. would be a great improvement.
- I think that the current mainteance byt the locql voluteer group is great
- The more the trail is maintained, the higher the speeds of the ORV and car / truck / van users
- We are fortunate to have the Woodwackers in our area who keep the trails in great shape between Naramata and Chute Lake...which is the area we use for hiking, biking and horse back riding with very occasional car ride for aged relatives to see the beautif

| Does this area need new trail development? | |
|---|---|
| Strongly Agree | 9 |
| Agree | 16 |
| Unsure | 8 |
| Disagree | 16 |
| Strongly Disagree | 2 |

Comments on trail development

- I do not support the prohibition of motorized use for the KVR, however, I do understand the concerns. An alternate route adjacent to the KVR for motorized use would be ideal.
- It would be great to have new trails put in place. Once a trail is built we as users generally maintain them. Properly built trails should be easy to keep functioning properly.
- Rehabilitation of the "big tunnel" would be a major enhancement to the trail.
- A solid base and good layer of decomposed granite of surface, similar to Penticton section that goes below Munson Mt., would be a great improvement.
- Dedicated ORV trails are badly needed and the development of ORV-use systems that include existing forestry roads and old range roads. These could be accessed via the existing public and forestry roads that cross or run off the KVR / Trans Canada Trail.
- Kelowna to Penticton KVR could be a real tourism attraction and a great asset for locals if developed properly and motorized traffic was prohibited like is being done at Myra.
- Need more signage to let tourists know that they are still on the trail.....there are places that are very hard to know where to go.
- The trails that can be accessed via the KVR need to be inventoried and protected from all motorized use.
- Trails for motorized vehicles
- Preservation of what we have is important. I don't see how new trails can be created except as connectors to ones that have been cut off
- Some shortcuts to provide hiking circuits

| What is the quality of the existing network? | |
|---|---|
| The existing network is excellent | 5 |
| The existing network is fair | 8 |
| The existing network is good | 35 |
| The existing network is poor | 3 |

Comments on Connectivity

- ATV and DIRTBIKES need use of KVR between SUTHERLANDROAD and ARAWANA rd to access crownland thru gate 500m north of TURNBULL cr along KVR.
- Great location, just needs better trail surface to make it a usable trail connection.
- See above for moving ORVs off the KRV itself and onto ORV-dedicated trail systems.

| Does the area require improved road access? | |
|---|---|
| Strongly Agree | 5 |
| Agree | 7 |
| Unsure / NA | 4 |
| Disagree | 28 |
| Strongly Disagree | 7 |

| Does the area require improved parking? |
|---|

| | |
|---|---|
| Strongly Agree | 7 |
| Agree | 9 |
| N / A | 3 |
| Disagree | 29 |
| Strongly Disagree | 3 |

| **Does the area require better trail signage?** | |
|---|---|
| Strongly Agree | 10 |
| Agree | 16 |
| Unsure | 2 |
| Disagree | 20 |
| Strongly Disagree | 3 |

| **Does the area require new / improved facilities?** | |
|---|---|
| No | 30 |
| Unsure | 9 |
| Yes | 12 |

- A permanent outhouse would be nice at around the 4km mark of smetherst rd as it is a common departure point.
- all he toilets on the kvr from arawana to chute lk were built for less than 3k from the nar parks and rec wy wife
  and i built them and the woodwakers placed them.
- Bathrooms, rest areas, gates to stop motorised vehicles.
- Fresh water and bathrooms are always nice along trails.
- Outhouses.
- there are few places to relieve oneself
- This area needs designated parking areas with access to water and bathroom facilities for all KVR and adjacent trail user groups.

| **Type of User Conflict** | |
|---|---|
| ATV 4x4 trucks | 1 |
| ATV, Dirt Bikes,4x4 trucks | 3 |
| Equestrian, ATV, Dirt Bikes,4x4 trucks | 1 |
| Equestrian, Dirt Bikes | 1 |
| Equestrian, Mountain Bikers | 1 |
| Equestrian, Mountain Bikers, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, ATV | 4 |
| Hikers, ATV, Dirt Bikes | 2 |
| Hikers, ATV, Dirt Bikes, 4x4 trucks | 6 |
| Hikers, Dirt Bikes | 5 |
| Hikers, Equestrian, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 11 |
| Hikers, Mountain Bikers, 4x4 trucks | 3 |

| | |
|---|---|
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 4 |
| Mountain Bikers, 4x4 trucks | 1 |
| Mountain Bikers, ATV, Dirt Bikes | 1 |
| Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Mountain Bikers, Dirt Bikes, 4x4 trucks | 1 |

| **Level of user conflict** | |
|---|---|
| Major but infrequent | 8 |
| Minor and infrequent | 14 |
| Minor but frequent | 13 |

Comments on user conflict

- 4x4 trucks and dirt bikers exceed speed limit of 30k. They never yield to walkers. Sharing with these motorised groups effectively makes walkers and bikers stop / get off the trail to allow passing. Recently a 4 x 4 truck forced me to the side and I fe
- A group with many trails available for exclusive use still acts like cars and trucks are encroaching.
- all the user groups above have some conflict with oneanother humans will be humans a litle give and take goes a long way
- ATV's should be banned from the KVR trail where there is high use by bikes and pedestrians
- Daily conflict between motorized and pedistrian use. Speed, noise and disrespect and saftey concerns.
- Exhaust fumes and dust stirred up by motorized vehicles detract from the fresh air experience that walkers seek on the KVR.
- frankly, I have almost stopped walking on the Naramata portion due to excessive vehicular traffic. The noise, dust and danger have made the whole experience profoundly frustrating. Saw a local surgeon who was injured in a bike accident in his wheelchair o
- generally, motocross bikers are respectiful of non-motorized trail users - we slow down to avoid dust and noise when passing. Some non-motorized users take great offence regardless and create issues where none really exist
- Hikers with dogs that are not on leashes are the biggest problem.
  Individuals who feel the trails are for their use only, who discriminate against other users.
- Hikers / walkers do not like atv / dirtbikes on the KVR
- I feel the KVR should be open to everyone. i have also seen conflicts on the Naramata road between bicyclists and cars. neither should have exclusive use.
- I ride horses and hike and occasionall use my SUV on the KVR depending whom I'm with. I don't object to the occasional motorized vehicle as long as they travel extremely slowly to keep down the dust and not to frighten the horses (or children)
- i strongly believe that we need to maintian multi use trails to historical sites such as our tunnels. People with disabilities either mental, physical deserve the right to access and not be denied based on ability.
- I would prefer to see No motorized vehicles on the trail

- I'm not sure if hikers is the correct selection but I have run into hikers / bird watchers who feel they are the only people who have a right to be there. We were at a race a few years ago and a guy showed up claiming he saw an owl. The next year that whole
- Motorcyclists and ATV largely seem to use this trial for gaining access to the trails they really want to be on. But many motorcycles and ATV travel far to fast on this stretch. They chew up the sandy surface making it unusable for other, especially mount
- Motorised traffic have access to unlimited forest service and other roads on crown land. Motorised traffic does not belong on the KVR and other non-motorised trails. You will lose tourist if is allowed to continue. I have talked to many disappointed peopl
- motorized group have many more and varied trails and areas to monopolize. Keep the TCT non vehicular
- Motorized vehicles should not be allowed on the KVR trail.
  This should be a place for people to enjoy nature in peace.
- No common sense used when two of these groups meet on the trail. Every group from above believes they own the trails but only the ATV club in Summerland provides voluntary maintenance.
- Non-motorized and motorized users do not mix at all well on trails and the former are the big losers besides the danger posed by motorized vehicles. Even responsible riders of motorized vehicles detract from the quiet and fumes from the engines are unple
- nothing you haven't heard before.
- On this particular trail conflicts are not great as the trailbed is wide and passing is easy. On most other trails the conflict and trail degradation can be much greater.
- people have to learn to share, trails should not be closed by the actions of a few.
- People think they have the right of way and ignore everyone else on the trails. Lack of sensitive communication.
- Problems with trail degradation.
  Problems with walker / hiker / cyclist safety when confronted by vehicles.
- Regarding user conflicts, My family and I have had many unpleasant experiences with ATVs, trucks and motorbikes. The noise and fumes are disruptive to a nice country walk as is the the requirement to move aside to ensure that small children and pets are s
- Rowdy, noisy people, these motorized folks. Some armed during hunting season. No respect at all for the "quite users," wildlife, etc.
- The KVR has been designated 'motorized vehicle free' to provide a sanctuary for those who wish to find refuge from traffic, noise and danger. Areas for motorized recreation are abundant. Areas that restrict motorized use are very rare and very scarce.
- The KVR should be closed to motorized vehicles. While it doesn't happen all the time, conflicts between cyclists or hikers and ATVers and dirt bikers do happen. The KVR should be open only to non-motorized vehicles, except for the occasional maintenance v
- The most dangerous is when horses can't hear mountain bikes coming and then are totally spooked by them.
- the trail system is not set up for motorized and non-motorized use
- There are many vehicular trail users that completly disregard the speed limit, noise bylaws and have little or no courtesy for other trail users. There are many areas above the KVR trail that can be accessed by dirt bikes, 4x4's and quads where they will

- There will always be conflict between those that like to drive the trail and those that prefer non-motorized methods of trail travel. We all need to share the trails, be responsible and respect the others that use the trails.
- Vehicles travel too fast on trails when there are horses around. I'm also worried about vehicles traveling too fast when there are families with young children.

General Comments

- ACCESS ALONG KVR TO MANY TRAILS ON CROWN LAND FOR ATV-DIRTBIKES. Like earlier mentioned place
- All organized user groups should have round table meetings regarding maintenance and use of all existing and future trails.
- Below are my updated comments as posted in mynaramata.com. I strongly support closing the KVR to motorized traffic from at least the Smethurst Road parking lot to Penticton.
  I live near the intersection of the trail and Arawana Rd. When I first moved h
- Hikers only from Smethurst parking to little tunnel. Motorized access to little tunnel only from Glen Fir to tunnel mouth. No motorized vehicles in the tunnel. Keep vehicles on posted roads (N. Naramata Road) for saftey and enforcement. KVR way to narrow
- I feel it is important that everyone be able to use these trails weather it be hikers snowmobiles or atvs. Everyone should use common courtesy while using these trails
- I feel strongly that the KVR must be kept open for all users - motorized use is important. Seniors and handicapped who can't walk should not be denied.
  We can all enjoy the trail as long as we have respect for others.
  Some hikers are very arrogant.
- I really believe these areas need to be open to vehicle traffic, as a large portion of the users are only able to access by car.At the same time there is need to control the atv and dirt bike users
- I would expect that trails created by, and exclusively for non-motorized use, would be respected and officially designated for that limited use.
  To many non-motorized user groups are bullied and intimidated by motorists of all stripes...they get disinfra
- I would hope most areas would remain the same. The fact that the KVR is becoming less and less available to motorized vehicles is ridiculous, it was a train track for Gods sake. I have run into people on trails yelling and screaming that we can not ride t
- I would like to see all motorized vehicles excluded from at least part of the KVR, for example from Smethurst Rd to the little tunnel or from Arawana Rd to Smethurst.
- I would like to see an area devoted to the mudboggers which has already been wrecked. I'm sure if they had a designated area they might tend to stick to it. When I am polite to motorized vehicles I don't have problems with them. I think they sometimes e
- I would like to see an official and well-marked and well-maintained system of trails developed / improved in the RDOS, one that respects the differing needs and expectations of user groups (non-motorized, motorized, and equestrian). Such a system should be
- If the trail was cut off to cars and trucks, it would stop at least 50% of the populations from access to one of the most beautiful views in the valley and the little tunnel. By 50%, I mean either older people who do not hike or bike or ride horses, also

- It is inceivable to have motorized traffic in areas which still offer serenity, undisturbed natural environments and wildlife.
- It should be easier to provide general comments and access to trail areas rather than repaeting the info on all the trail areas we use.
- It would be lovely for everyone to enjoy the trails together, but I think it's impossible to mix some user groups so I think some areas should be closed to motorized traffic (like Little Tunnel to Smethurst road) but I think that important sites such as t
- just a media test of the survey, sorry I didnt fill out.
- Just try to get all people interested and reduce people wrecking trails.
- let all users use the trails their will always be the ones that sbuse the rite and there will be the ones who complain about anything and every thing ilived in naramata for 55 yrs and have seen it all
- More speed limit signs.
  Closing trail to vehicular traffic from Smethurst Road south to Sutherland Road for pedestrian use only.
- Often when hiking on the KVR to the first tunnel on the KVR near Naramata ....parking on Smythhurst area...the look on the driver's faces say it all....they know and sense that they should not be there at all...when they pass the hiker people. Most slow
- Please do NOT close the KVR to vehicle traffic of any kind. Motorized users should have the right and ability to use the trail. Elderly and the disable should have access via their cars, and atv / dirtbike users should be able to ride. There needs to be
- Please improve the surface and disallow motorized vehicles from trail. They ruin the natural beauty and the trail surface.
- The KVR from Smethurst Rd to the small tunnel is a dangerous area due to vehicles. I do not think they should be banned, but speed limits HAVE to be enforced. There are horses, children, dogs etc on the trails - it should be treated similar to a school
- The KVR is used mostly by hikers and bikers between June to September. A full closure to motorized vehicles to make the tourists happy would exclude elderly local people from accessing an area that we have used for many years.
- The KVR system should be left available for use by motorized vehicles.
- The little tunnel should have motorized access as should the big tunnel, consider handicaps.
  The section between arawana and smethurst needs to be open in fire season for egress in interface fire situations.
- the trails in the Naramata area can become world class and greatly increasing tourism, in-turn increasing the tax base for RDOS
- these trails have been used for years by hunters and woodwackers that us motorrised vehicles, to restrict the use of these vehicles on certain trails would be taking away "Locals" rights i.e. people that live in the area 12 months of the year, not the peo
- trails need to be kept for all use motorized and non motorized so all can enjoy using them
- Training in trail etiquette would be useful for ATV and offroad motorcyclists.
- Try to incorporate the people that are not in organized groups or clubs because they are usually the ones that complain and sometimes may ruin the trail and rights for other users.
- we are finding that there are firewood collectors that are selling their wood and not cutting for personal use. I access the firewood permit and know that there are restrictions in this area. I want to have access to firewood long term and find im competi

- We are shooting ourselves in the both feet regarding tourist development by not proceeding immediately to make the KVR a non-motorized tourist asset. There are literally thousands of active early-retirees looking for a place to spend their money â€" I do
- You had better make your mind up on the motorized traffic problem. Their presence is dangerous, noisy, polluting. They are not there to enjoy nature, but to roar through it. I presume that healthy self-propelled recreation and tourism are two major goals.

**KVR Summerland (23 comments)**

| How often do you use this trail network? | |
|---|---|
| More than once per month but less than once per week | 10 |
| More than once per week | 7 |
| More than once per year but less than once per month | 6 |

| Do you feel there are any land use conflicts in this area? | |
|---|---|
| Forestry | 2 |
| Private Land | 2 |
| Unsure | 18 |

| What is the quality of this network? | |
|---|---|
| I don't know | 1 |
| The existing network is excellent | 4 |
| The existing network is fair | 7 |
| The existing network is good | 10 |

| Does this area require trail maintenance? | |
|---|---|
| Strongly Agree | 4 |
| Agree | 13 |
| Unsure | 1 |
| Disagree | 4 |
| Strongly Disagree | 0 |

Please comment on trail maintenance

- It was great to see the new outhouse put in - more access to water would be ideal.
- rocky in places, trail churned up, loose sand
- The trail is very well maintained at this point, but it will always need continued maintenance.
- there is a need for fallen rocks, trees and garbage removed from the trails. The trails need to be left open for emergency services accessibility.
- Trail maintenance such as downed trees over growth of weeds / brush. The trail is kept very well.
- trails are in good shape but should be kept up
- trails are roughed up by motorized vehicles creating washboard and soft areas especially during periods of drought
- the section at Osprey Lake is in poor condition because of atv use
- The trail is damaged by ATVs.

- Trail gets beat up from motorbikes, ATVs, and trucks. This makes it difficult for cycling as the motorized vehicles make the trail loose, soft and sandy. Especially in the summer and fall when there is little rain.

Area needs new trail development?

| Does this area require new trail development? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 15 |
| Unsure | 2 |
| Disagree | 2 |
| Strongly Disagree | 2 |

Comment on trail development

- Access to water and more signs that show alternate trails and also more detailed access to the actual trail heads.
- Being in the 'senior' age group, I do not do long trips, but many riders do. Good trail networks attract ATV enthusiasts from other areas, thus promoting tourism.
- I would love to see some horse trails more through out the actual mountains. As well, I would love to see special areas designated for motorized vehicles so they have their own area and wouldn't cross over to the horse area.
- More trails were possible
- Need to have systems in place to stop motorised vehicles from the trail.
- New trails are always appreciated, especially when they are done with the care and consideration that has been shown by the ATV club in the Summerland area.
- The more trails the better.
- There should be separate trails for motorized and non-motorized use
- trails are alright.
  why are public bathrooms closed from Sept. until May? When the tourists leave there are stil many local people using the trais, and mother-nature calls anytime.

| What is the quality of this network? | |
|---|---|
| I don't know | 1 |
| The existing network is excellent | 4 |
| The existing network is fair | 7 |
| The existing network is good | 10 |

Comment on the trail network

- The issue is traversing Penticton and getting access to the Channel path from the campground.
- Trails that don't 'connect' are a problem. For example the KVR Penticton - West Bench - Summerland route does not extend into Penticton. This route should 'connect' with trails in Penticton - to allow better access to other trails + to allow a safe wa
- Would love to see a proper connection between the TCT in Summerland and Penticton (the official route uses highway 97!), I realize that wish will have to wait until the KVR portion through the Penticton Indian Band Lands is returned to their ownership (ge

| Does the trail network require improved road access? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 8 |
| Unsure / NA | 2 |
| Disagree | 10 |
| Strongly Disagree | 1 |

| Does this trail network require improved parking? | |
|---|---|
| Strongly Agree | 0 |
| Agree` | 10 |
| N / A | 2 |
| Disagree | 9 |
| Strongly Disagree | 1 |

| Does this trail network require improved signage? | |
|---|---|
| Strongly Agree | 4 |
| Agree | 12 |
| Unsure | 1 |
| Disagree | 5 |
| Strongly Disagree | 0 |

| Does the area require new / improved facilities? | |
|---|---|
| No | 10 |
| Unsure | 7 |
| Yes | 5 |

Facilities comments

- bathrooms are very important.
- It's great that washrooms have been added to KVR-Naramata, and it would be just as great to get some installed along KVR-Summerland.
- SIGNS would be greatly appreciated! Outhouses are a luxury, we're used to peeing in the bushes, but they are nice to have if they are maintained!
- trail kiosks with information, trail signage along the trail, bathrooms at each end of the trail.
- Washrooms

| Type of User Conflict | |
|---|---|
| 4x4 trucks | 1 |
| ATV, Dirt Bikes | 1 |
| ATV, Dirt Bikes, 4x4 trucks | 1 |
| Equestrian, 4x4 trucks | 1 |
| Equestrian, ATV | 1 |
| Equestrian, ATV, Dirt Bikes | 2 |
| Equestrian, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, ATV | 1 |

| | |
|---|---|
| Hikers, Dirt Bikes | 1 |
| Hikers, Equestrian, ATV | 1 |
| Hikers, Equestrian, ATV,Dirt Bikes, 4x4 trucks | 1 |
| Hikers ,Equestrian, Mountain Bikers, ATV | 1 |
| Hikers, Equestrian, Mountain Bikers, ATV, Dirt Bikes | 3 |
| Hikers, Equestrian, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Mountain Bikers | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Mountain Bikers, Dirt Bikes | 1 |

| **Level of user conflict** | |
|---|---|
| Major but infrequent | 5 |
| Minor and infrequent | 6 |
| Minor but frequent | 5 |

Comment on conflict

- Again, it is the Osprey lake area where conflict is most evident.
- ATV's degrade the trail by causing ruts and generating enough dust to smother vegetation along the trail.
  ATV users have removed signage prohibiting ATVs.
- Equestrian with motorized vehicles are dangerous unless courtesy is used by both parties. Only rarely has this happened and most of the time users are courteous.
- I have been on the trails, on horseback, and have had no conflicts at all. If anything people are pleased to see the horses.
- I see the use of the KVR for hikers, equestrian and mountain bikers
- Motor vehicles destroy the trail, they are dangerous by driving to fast, they produce noise polution and air polution.
- motorized vehicles create dust, noise and rutts on the trais, the KVR trails should be excluded to hikers, bikers, equestrian riders and cross country skiiers.
- some hikers and bikers have had some bad experiences bad dirt bikes and atv,s this is why licensing is required in BC to get rid of the bad riders
- Some relatively small user groups wish to preserve these areas only for their own use, and have in the past attempted to prevent other users from utilizing trails by placing illegal signage.
- The loud noises and the speed of the atv's and motorbikes can sometimes spook the horses but most riders are good when passing.
- The vehicles tend to have a lesser respect for the horses then the ATV and dirt bikers who are very respectful even when driving to the trails.
- There is conflict everywhere. Persons have to be tolerant of others needs. ATV must slow down, hikers must be polite and horses must be given total courtesy and the right of way at all times. There are persons in every user group who spoil it for others.
- These trails should be restricted to non-motorized use
- trails have been blocked and ATV riders stopped and harassed by Hikers. Causing a major issue with the use of this trail, which is being maintained by the ATV riders.
- Usually motorized vehicles are polite to the horses, but it would be nice to have designated areas for bikers.
- What my major complaint is, is that vehicles are supposed to be banned from the TCT in Faulder, yet locals can and do access the trail between barriers. I volunteer for So. Ok. Therapeutic Riding Assn, and it can be an extreme hazard to these special need

- When cycling I am frequently passed by motorized vehicles. Some are considerate but others are noisy and going way too fast.
  I am also concerned about hunters while out in the fall.
- While I am aware that there user conflicts between the non-motorized groups and the motorized ones, I think that there are significantly more users that actually get along. We ride horses of all ages and levels of training, and I take out students on ride

General comments

- A biking hiking trail from Penticton to Summerland adjacent to highway 97 is long overdue.
- As stated above I have had no conflicts with traffic on the TCT. People are always pleased to see the horses. We always move to the side of the trail so that bikes, hikers etc. can go by. We have not even had problems with the multitude of dogs that pe
- I expect the RDOS to take consideration for all user groups and make sure the trails are for everyone not just one group. This includes, hiking, horseback riding, cycling,snowmobiles, dirt bikes walking and just enjoying the scenery. You cannot exclude an
- I have enjoyed many rides on local trails, and expect to have reasonable access to all areas in the RDOS in the future.
- I myself occasionally ATV, hike and bike. Mostly I use the trail systems for horseback riding. Access to the trail is great from Summerland Rodeo Grounds there is lots of parking for trucks and trailers when hauling in with friends. Other access points
- I think you have a difficult job to please EVERYONE, but I strongly feel that horses are a natural part of nature and deserve the right to have access to these trails. I would prefer that motorized vehicles have a designated area to ride, with secondary
- Knowledge is power - to avoid more conflict on the trail, it would be great to have some signs featuring correct trail etiquette. My "good" horse will put up with just about anything... however, we have had more trouble with hikers who bring their dogs an
- need signage for write a way for all
- Please help stop motor vehicles from destroying these trails potential of being world class.
- The activity that I am most concerned about, vehicle vs therapeutic trail rides for special needs kids, is ALREADY ILLEGAL. What is needed is enforcement of laws already in place. I am also greatly concerned about undue wear and tear on the trails due to
- The trail system should be available to all users 4x4 trucks are a littke large for some trails all motorcycles should have liability insurance . everyone should be respectful of all trail users, We all would like access to this recreational area.
- the USA has a very nice network of trails e.g. Tri-City and the Centenial trail to Coeur d'Aleine.
- This is a great trail and should be open to all that can and will use it. Horses are a way of life in the back country and we use these for our general time. Removing access of horses would be a very disappointing thing as they are of no harm to people
- This is a superb trail network. Maybe volunteers could look after sections of the trail as they do highways.
- Trail signs and maps
  More trails connected together.
  Better access, many areas can't be accessed without a truck due to poor road conditions such as Brent Mt and Okanagan Mountain Park.

**THREE BLIND MICE (20 comments)**

| **How often do you use this trail network?** | |
|---|---|
| More than once per month but less than once per week | 9 |
| More than once per week | 9 |
| More than once per year but less than once per month | 1 |

| Do you feel there are land use conflicts in this area? | |
|---|---|
| Private Land | 3 |
| Unsure | 11 |

| Does this area require trail maintenance? | |
|---|---|
| Strongly Agree | 3 |
| Agree | 13 |
| Unsure | 1 |
| Disagree | 2 |
| Strongly Disagree | 0 |

Comment on trail maintenance

- All the trails are in pretty good condition. There seems to be lots of self maintenance. Windfall always seems to be taken care of in a timely manner. Every line is always fun!
- all trails require maintenance. I do my part on just about every ride.
- Areas of errosion and trail degredation should be focused on to create a more sustainable area
- Basic maintenance is mostly well done by biking community. Some trails suffer from erosion due to inadequate attention to drainage.
- Better signs and maps for people that do not know the area, its almost impossible to navigate in there, even the people that know it well, almost never know exactly where they are.
- I definitely think there should be better trail maintenance, me and my partner are frequently in there clearing trails and trees, but these amazing trail network needs regular and consistence care. There are many features built to get over fallen logs an
- I feel as though the cyclists who use this trail system are very responsible with its upkeep.
- Large fallen trees shold be removed
- PACA and other individuals maintain this for mountain biking. Signage has been improved significantly recently thanks to individuals but could be better. Something like signing the trail intersections like at bike parks would be good.
- Side hill trails need to be cut more deeply, some corners need berms, some areas need work regarding the amount of rocks showing above the trail surface (rock gardens... common, but irritating to the flow), it could use more built features. There are some
- Some older trails could be cleaned up, linked and mapped. Motor vehicle damage is occuring on some trails, roads since they spin their tires or go up too steep and travel in wet areas, creating errosion.
- Trail maintanence is done by voluteer riders. All trails in the Penticton area have been build this way.
- Trails are in good shape and maintained by the users on a volunteer basis. They do not need to be manicured to perfection.
- users self maintain this area, plus add some new trails. As long as usage stays reasonable, should be OK. If use grows, may need some help.
- With some additional trail maintenance and proper building this popular cycling area would be a huge tourist draw. Many of the old wooden structures are wearing out. They need to be replaced with more modern stunts that are accessible to all levels of r

| Does the area require new trail development? | |
|---|---|
| Strongly Agree | 3 |
| Agree | 6 |
| Disagree | 8 |

| | |
|---|---|
| Strongly disagree | 2 |

Comment on trail development

- I am quite happy with the trail system here.
- in time, more trails expand riding aspects,
- Many find the trail system very confusing, more trail maps should be placed in areas where trails meet (corral area, Freds / witchs etc.
- Money for signage, organization for trail days, offical recognition as a MTB area.
- more trails provides variety. i have just moved here and I have barely scratched the surface.
- New trails are cool, but maintaining and bettering the ones we have would be the priority.
- Once a sign and map sysyem are set up, it will be easier to send riders of all levels, and not have to worry about them getting lost or wander down a trail that is out of thier skill level.
- Probably too much ad hoc trail development has already occurred.
- See comments above
- There are many trails already.
- There are plenty of trails in this area.
- There is lots of smoother XC. More technical lines like the Bone Yard and the new section of Skull Coaster would be great.
- There is potential for new trail development in the area, but there are so many wonderful trails already I think the focus should be on maintenance.
- This area already has a large quantity of trails. Focus on the existing trails would be a better use of energy and resources.

| **What is the quality of the existing network?** | |
|---|---|
| The existing network is excellent | 11 |
| The existing network is fair | 1 |
| The existing network is good | 7 |

Does the area need improved connectivity?

- A trail from the resevoir to campbells would be cool!
- Connect the 2 Blind Mice with Cambell's Mountain. Trails down from the Peat Bog to town. The Peat Bog should be a real jewel in Penticton's crown.
- I feel there is a good trail inventory, however it lacks diversity. Take a lesson from Whistler trail design and the work that has been done on the North Shore in Vancouver. Mapping is also lacking. We need trail map booklets available in all our bike s
- It would be brilliant to connect to Campbell Mtn trails via Greyback.
- It's connected to the KVR. The Poplar Grove parking lot coudl be signed better, have washrooms, maps, bike washing station, etc. Like Hartland Landfill mountain bike park in Victoria
- No
- Only concern may be access issues as lands around the current access points are developed. Perhaps provision in development approvals to include access.
- signage
- Trail should be idenified at the intersections and a good map available
- Yes there should be hike / bike singletrack trails created to connect to the Campbell mountain area trails as well as a connector to the trails north of the system, OK Mountain, Bellevue etc.

| Does the area require improved road access? | |
|---|---|
| Strongly Agree | 3 |
| Agree | 5 |
| Disagree | 7 |
| Strongly disagree | 4 |

| Does the area require improved parking? | |
|---|---|
| Strongly Agree | 2 |
| Agree | 3 |
| Disagree | 12 |
| Strongly disagree | 2 |

| Does the area require improved trail signage? | |
|---|---|
| Strongly Agree | 7 |
| Agree | 9 |
| Disagree | 3 |
| Strongly Disagree | 0 |

| Does the area require new / improved facilities? | |
|---|---|
| No | 12 |
| Unsure | 2 |
| Yes | 5 |

Comment on facilities

- A pit outhouse would be welcome.
- although trails are mostly marked it is a very confusing area.
- Bathrooms in the Poplar Grove parting area.
- Encourage parking at Poplar Grove as there is more room at that location and add restrooms at that site.
- MAPS
- Washrooms

| Type of user conflict in the area | |
|---|---|
| ATV | 1 |
| ATV, Dirt Bikes | 4 |
| Dirt Bikes | 1 |
| Hikers | 1 |
| Hikers, Mountain Bikers | 1 |
| Hikers, Mountain Bikers, ATV | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Mountain Bikers, ATV | 1 |
| Mountain Bikers, ATV, Dirt Bikes | 1 |
| Mountain Bikers, Dirt Bikes | 2 |

| Level of user conflict |
|---|

| | |
|---|---|
| Major but infrequent | 3 |
| Minor and infrequent | 5 |
| Minor but frequent | 1 |

Comment on user conflict

- Although There are not many instinces of confrontation in this trail system. When it does happen it comes to a more violent head quicker.
- Dangerous debris has been thrown on Mtn bike trails in order to attempt to divert the traffic. ATV's spin tires and degrade steep banks and ledges
- I feel that the mojority of users in the area are hikers and mountain bikers. I have not encountered any conflict.
- Motor vehicles are using this system more and more and should not be allowed in there.
- Motorized bikes destroy suitable mountain bike trails. Areas should be designated for each use.
- Occasional dirt bike use. I hope that this can be discouraged to avoid the trail damage like we have seen at Campbell mtn.
- Signs stating Non-Motorized Recreational Area would go along way.
- There is a strong mountain bike presense, user maintained, and signage. it all helps with decreasing conflicts.
- These trails are somewhat fragile and can get torn up easily with improper riding techniques - not a great area for motorized vehicles.
- This used to be more of a problem. There doesn't seem to be as much ATV use now as there was in the past.

General Comments

- Create a Trail Management plan that
  - maintains and monitors existing trial areas
  - promotes trails to locals and tourists
  - provides a set of rules and regulations to creating new trails and new trail features
  - enforces trail usage standards betwee
- Hats off to all the Mice trail builders. World class singletrack!
- I have been riding and working on trails in the area for over 20 years. I still do it today and will continue until I am unable to ride anymore.
- I made submissions yesterday which were not received. Please advise if the completed surveys of today were received. Failing this, I would ask Todd to check the program to allow public input from this site.
  Andy, 1st Dec, 2011, cell 1-250-462-4375
- Learn from the other communities in BC and help the area become a leader in making B.C. and the Okanagan the mountain bike destination of choice.
- Paving large sections of the KVR would be a huge tourist draw (as in Cranbrook / Kimberley). The existing KVR surface is mostly quite poor and I think that many tourists who come here to ride it are disappointed.
- People from all corners of the globe come to Penticton to ride its legendary singletrack, and so far its all word of mouth. There is almost no info on trail routes, access, and where to even start to find a trail. A small upgrade on signs and maps would d
- Signage and improved mapping would help visitors to navigate the vast amount of trails in this area. Perhaps a trail code system to help find your way.
- This could be an amazing area, it needs to be documented and advertised. Multi-use areas can work really well if different user groups take responsibility for their users. Signage can help in terms of who has right-of-way, etc.

- This mountain biking / hiking area is amazing, it needs to be protected and maintained. And with regular maintenance and proper built structures it would be a great way to draw mountain bikers to our area. Better signage would be very helpful, as people w
- We need better mapping, a printed fold-out map. The ones that the City of Bend publishes are a great example. Furthermore, we should prohibit motorized bikes from 3-Blind and other areas that are suitable for mountain biking and hiking. Therefore, the mot

KVR PRINCETON (18 responses)

| **How often do you use this trail network?** | |
|---|---|
| More than once per month but less than once per week | 7 |
| More than once per week | 7 |
| More than once per year but less than once per month | 4 |

| **Do you feel there are land use conflicts in this area?** | |
|---|---|
| Agriculture | 2 |
| Forestry | 1 |
| Mining | 1 |
| Private Land | 10 |
| Unsure | 2 |

| **Does this area require trail maintenance?** | |
|---|---|
| Strongly Agree | 9 |
| Agree | 6 |
| Disagree | 1 |
| Strongly disagree | 2 |

Comment on trail maintenance

- Bluff areas need scaling. Trail bed needs to be graded at least twice annually. In areas where there are no rock fall issues, it should be paved (a proper stable base needs to be laid first). This would maintain the trail bed to avoid ruts and mudbogs.
- Current state of KVR is very rough going for cyclists.
- Even on marked trails, such as the KVR, certain ATV clubs have regularily damaged or modified preestablished trails to suit their own aims. This has caused a great deal of damage to trails, heritage sites and the environment. Any future maintenance plan w
- loose, sandy surface unsuitable for cyclist. Narrow trail is dangerous for walkers when encountering fast moving ATV / dirtbikes
- New surfacing of sections is helping, but has been a double edge sword. Now motorized traffic travels much faster.
- The KVR trail from Coalmont to Princeton has occasional debris slides across the trail that sometimes get left a long time before cleaning away.
- The KVR trails in my area are virtually impossible to use on foot or on a Mt. Bike, owing to extreme rutting, loose gravel / sand, and often very fast motor traffic.
- The KVR / TCT has recently been graded from Tulameen to Coalmont, but the remainder to Princeton still needs a lot of work to be suitable for bicycles. The ATV traffic provides significant trail maintenance such as tree and rock clearing and keeping down v
- The Trail from Princeton to Coalmont was better before they fixed it with the wrong crush. Trail maintenance outside of the Town is terrible.
- There has been great progress as of late There is a great need for maintenance in the Osprey Lake to
  Princeton area

- They need to spray for weed control along the whole kvr.
- Totally crap. Too rough to be an enjoyable bike ride. Motorized need to be banned.
- Trail maintenance is good. There needs to be sharing with all uses. Quads & dirtbikes naturally keep trails free of new growth.
- Vermilion Trails assumes responsibility for maintenance but working with some quad-ers could definitely benefit them.

| Does the area require new trail development? | |
|---|---|
| Strongly Agree | 4 |
| Agree | 6 |
| Unsure | 1 |
| Disagree | 3 |
| Strongly Disagree | 3 |

Comment on trail development

- As a quad-er, I rarely use the KVR except as a route to ride more pleasing destinations.
- Get the motorized off the KVR.
- I would like to see a divided area for the A.T.V. motor bike traffic. They are different attitudes for recreation and yet both have a right to their sport.There is no room to twin these different sports in the canyon in which they now both wish to ride.
- motorized and non-motorized trails are required. motorized trails are impractical for use by cyclists, pedestrian and equistrian users.
- Need separate trails for motorized and non motorized users.
- No more development is needed until the existing trails re maintained. The KVR must either be hardened to carry mixed traffic, or separate motor / non-motorized trails developed - and policies regarding separation / dedicated trails must be enforced.
- Non-motorized status would make trail international quality trail. Connecting spurs could be developed.
- There are plenty of trails to meet most user groups need. Conflict is minimal if at all.
- There needs to be a "Recognized ATV Route" connecting the KVR / TCT corridor on the north side of the Tulameen River to the bridge in Coalmont. At the present time, ATVs must drive along the side of Bettes Avenue for a few blocks, which is currently illega
- This trail should be left as multiple use by all - horses, bikes, hike, quad and snowmobile. Education should be done to enlighten people how to successfully share trails with respect to other users. This was a railway system that was used to move peopl
- Trails for non-motorized traffic to avoid conficts between the two groups.
- Tulameen has 100's of wonderful trails for ATV and dirtbikes.
- What is developed needs to be fixed first - let's not run before we can walk

| What is the overall quality of the network? | |
|---|---|
| I don't know | 1 |
| The existing network is excellent | 1 |
| The existing network is fair | 3 |
| The existing network is good | 7 |
| The existing network is poor | 6 |

Does the area need improved connectivity?

- Absolutely.

- I feel there has to be give and take. If a potion of the non motorized trail needs to be used by motorized groups to get to their network of trails is need that should be worked out.Atrail was G.P.S ed for the motorized traffic to use and for some reason
- Maintain what we have, and / or develop motorized / non-motorized trails! The KVR has been ruined for non-motorized use, as have existing forest roads / trails in the area.
- maps for mountain bikers to use
- No
- The KVR / TCT is a VITAL link to the extensive ATV / Snowmobile trail networks on both sides of the Tulameen River. If it was closed to motorized use, hundreds of kilometres of trails would no longer have access from the Coalmont area.
- The whole Princeton area needs work - they spend huge money on a fancy bridge for a trail that is in very poor shape. In order to make the bridge look good the trail has to look good.
- Would like the China Ridge connection moved forward for bikers. Need non-motoried to accomplish.
  Motorized traffic makes surface wash board and turns up rocks so it is not family friendly. Kids can not ride on loose crush or when large rocks are on surfa
- Yes, discontinue deactivation.

| Does the area require improved roads to facilitate access? | |
|---|---|
| Strongly Agree | 0 |
| Agree | 5 |
| Unsure / NA | 2 |
| Disagree | 7 |
| Strongly Disagree | 3 |

| Does the area require improved parking? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 4 |
| N / A | 3 |
| Disagree | 8 |
| Strongly disagree | 1 |

| Does the area require improved trail signage? | |
|---|---|
| Strongly Agree | 6 |
| Agree | 5 |
| Disagree | 0 |
| Strongly Disagree | 1 |

| Does the area require new or upgraded facilities? | |
|---|---|
| No | 6 |
| Unsure | 1 |
| Yes | 10 |

Comment on new facilities

- All previous attempts at establishing facilities has only resulted in costly vandalisum. Continued funding for facilities will be futile.
- Bathrooms

- bathrooms, picnic facilities
- Gazebo and some outhouses are in poor shape. Some vandalism.
- Mapping of water holes for people to fill up their water bottles, so surrounding homeowners are not bothered by the users.
- Outhouses along the KVR from Osprey to Link Lakes, gets lots of traffic along this section with walkers, commuters, runners, ATV's
- Outhouses are desperately needed on the KVR / TCT, particularly in Coalmont. The Vermillion Trails Society had plans to put one just west of where the KVR crosses the Coalmont Road but it never happened.
- Outhouses need upgrading. We do not need more, just the existing ones need fixing.
- Picnic tables.
- The ones that are there need to be upgraded.
- This is hard to answer as 5 bathrooms were put on the trail and two were pushed over and one burned. Also there would have to be regular maintenance of them.

| **Type of user conflict** | |
|---|---|
| 4x4 trucks | 1 |
| ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, ATV | 1 |
| Hikers, ATV, Dirt Bikes | 1 |
| Hikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Equestrian, Mountain Bikers, ATV, Dirt Bikes | 3 |
| Hikers, Equestrian, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Mountain Bikers, ATV | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 3 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 2 |
| Mountain Bikers | 1 |
| Mountain Bikers, ATV | 1 |

| **Level of user conflict** | |
|---|---|
| Major but infrequent | 3 |
| Minor and infrequent | 2 |
| Minor but frequent | 9 |

Comment on conflict

- An occasional illegal dirt bike or motorized bike will be seen on this trail - this deteriorates the trail quality and causes ruts.
- ATVs need designated trails. The KVR should be non-motorized to keep up the standards of the rest of the KVR outside Penticton.
- Blockades and signage that prevent motorcycle use
- Conflicts when I dirt bike with hikers, mountain bikers, and Natives
- cyclists should be encouraged to use bells and voice warnings when overtaking pedestrians. and slow down when doing so.
- For some reason non motorized users feel that they should be the only ones allowed to take part in the forest and berate anyone who feels differently.
- I have not had any direct person-to-person conflicts, but last fall when cycling from Myra Canyon to Penticton, it is clear that the trail is turning to mush because of ATV use. From Chute Lake to Penticton, we observed several places on the trail where
- Just a few motorcycles and ATVs can make a trail unpleasant for many, many hikers / walkers / bikers.

- Motorized vehicles should not be allowed on the KVR trail. They tend to deteriorate the trail surface.
- Mountain bikers keep constructing new trails without regard for exisiting trees, wildflowers and the fragile crust. When these erode they make a new trail. They transport pernicious weeds on their tires into new areas. ATV's and dirt bikes are used in a
- SEE Above: For the TCT this is a major problem; not so much on other trails, as they are less developed and less used.
  I support an identified ATV trail network, but it should not include the KVR-TCT routes. As to 4 by 4 trucks, they should not be on t

General Comments

- I can no longer enjoy a mountain bike ride or even a walk on the KVR. The trail surface is very rough and loose and the dust and noise generated by motorized vehicles makes the experience, which was wonderful 10 years ago, now frustrating and generally u
- I love the access to the outdoors and the multiple trails in the RDOS. We have almost always had wonderful experiences enjoying mother nature at her finest. Upgrading some of the current trails is a higher priority to me than cutting new ones. We alrea
- I would like safer trails for non-motorized traffic.
- I would like to see a trail system set up where the non motorized individuals could use a 2% grade to enjoy. I would also like to see a trail in which the motorized individuals could enjoy their sport all be it in a more steep terrain. It would be nice to
- KVR "MUST" be exclusive in use from motorized use whereever practical. Berms and gates "MUST" be reinstated. Those clubs and individuals who bypass these obstacles should be fined.
  ATV Clubs should be encouraged to participate in the maintanence of those
- More atv users than cyclists. Atv users contribute more tax dollars than cyclists eg HST, gas tax insurance etc.
- The KVR from Princeton to Summerland could be a fabulous cycling trail except the surface is so soft and sandy in many sections it becomes frustrating and exhausting. Paving it would be amazing, a hard packed surface would be great.
- The KVR from Princeton to Tulameen needs to be non motorized.
- The KVR Trail should be multi-use BUT there needs to be some kind of reporting system where we can identify the users that are causing the problems - i.e. the under aged kids on dirt bikes ripping up the area. If we have a speed limit on the Trail that m
- The KVR / TCT between Princeton and Tulameen and beyond has for decades provided ALL users with not only access to hundreds of kilometres of logging roads and wilderness trails, it has provided an alternate route linking Tulameen, Coalmont, and Princeton th
- The trails are great. Forestry and mining groups on the most part share roads and trails without conflict.
- There are not designated non-motorized trails anywhere in the Princeton area. Even within town limits all are multi use. This is unacceptable. Non-motorized users do not want to be on trails with motorized. Motorized users spoil the non-motorized users ex
- They need to establish weed control along the kvr trails.
- We are losing a huge source of local income with the virtual abandonment of the KVR by bike tour groups.
- We feel there is no reason for "all" users to share almost all trails. Children in rural areas (Tulameen & Coalmont) have so little activities today. Most motorized users are very respectful. In some cases mountainbike users will try and block young mo
- When we encounter non motorized users, we always slow to a crawl or stop and engage in conversation. We also pick up litter, broken glass. etc.

KVR PENTICTON

| How often do you use this area? | |
|---|---|
| More than once per month but less than once per week | 6 |
| More than once per week | 8 |
| More than once per year but less than once per month | 3 |

| Do you feel there are land use conflicts in the area? | |
|---|---|
| Agriculture | 2 |
| Forestry | 1 |
| Mining | 1 |
| Private Land | 10 |
| Unsure | 2 |

| Does this area require trail maintenance? | |
|---|---|
| Strongly Agree | 8 |
| Agree | 5 |
| Unsure | 1 |
| Disagree | 2 |
| Strongly Disagree | 1 |

Comment on trail maintenance

- Good link from town to the Mice and well used by Hikers too.
- many areas have very large sinkholes that are very dangerous
- Riding the road from the north end of the KVR from Kaleden to Penticton (campground) into Penticton to connect with the channel paved path or to get to Skaha Lake Park to ride down Eastside road is always a life challenging event with the traffic and glas
- Ruts can develop. Thick gravel in spots could cause bicycle wipeouts.
- surface of trail from Sutherland Rd to Poplar Grove is poor, especially for cycling. Tourism would benefit from installing a surface similar to the one just completed from Sutherland Rd to Arawana Rd.
- The Kaleden to Penticton KVR trail corridor becomes quite overgrown in the summer...also there are several difficult "sandtraps" to navigate.
- The KVR has a very solid base,rubber tires motorized or not, have minimal effects when compared to horseshoes.
- The KVR Penticton - West Bench (and north) is in poor + worsening condition. Motorcycles and ATVs damage the trail surface + make this trail dangerous + unpleasant for walkers, bikers and horse back riders. I would like to see motorized vehicles remo
- This refers to the KVR from the River Channel to Summerland. Sink holes on trail are dangerous for people on bikes or ATVs. Gravel or rock crush on sections of trail would help trail remain walkable in spring. Access points are not posted.
- Trails don't need maintenance roads do, if you cant handle the wilderness stay in the city.
- Very sandy and hard to navigate (and enjoy) in several areas. Please consider covering a solid base with crushed gravel (decomposed granite) for a more solid surface.
- We use many trails within a 30 minute drive of Penticton (Area F); Most often we are on a portion of the Trans Canada Trail (From Faulder to Summerland; through Penticton; Penticton to the little tunnel north of Naramata: and from Chute Lake to Naramata;

| Does the area require new trail development? | |
|---|---|
| Strongly Agree | 4 |

| | |
|---|---|
| Agree | 8 |
| Unsure | 1 |
| Disagree | 3 |
| Strongly Disagree | 1 |

Comment on trail development

- a designated bike lane and signage getting a biker from the north end of the channel parkway path to the KVR running to Naramata
- If Penticton Indian Band land could be used, it would be great to have a smooth connection for the KVR line Penticton - Westbench and Summerland. A channel bridge could be re-installed
- like to see dedicated trail right through penticton (city)
- More trails cant be a bad thing everyone likes trails.
- Mountain Biking trails in the Skaha region, accessible via the KVR trail and highway would add access and MB tourist value to this area. There are some good trails already, but quite a bit further north.
- See Above
- The KVR railbed provides access to many of the areas I like to ride in. As it is part of the Trans Canada Trail Project, It is a shame that some people try to block motorized users that are legally licenced and insured.
- The RDOS spends less than many other districts on park and trail development. Trails benefit local residents and tourism. Many visitors are surprised at lack of marked hike, bike and walking trails around communities and up in the hills. I can't think of
- There are 2 dips in the section of trail between the cemetery and the bridge. These can be a hazard when hikers and bikers meet. It would be nice to have bridges there, or at very least, a wider path around those dips, to allow more room for users.

| **What is the quality of the existing network?** | |
|---|---|
| The existing network is excellent | 1 |
| The existing network is fair | 6 |
| The existing network is good | 8 |
| The existing network is poor | 2 |

Comment on connectivity to other trails

- A pedestrian / trail bridge should be added where previous rail bridge was removed near water treatment plant. This would greatly increase usefulness of this section of trail.
- Connection of the KVR from OK Falls all the way thru to the Hike and Bike trail leading to Oliver via the west side of Vaseaux lake would add a huge recreational benefit to the area. I've tried to go thru the route, but end up in a dead-end, or have to c
- see above
- The issue is traversing Penticton and getting access to the Channel path from the campground.
- The KVR provides very good connectivity to many riding areas and should be open to all users motorized or not.
- Trails that don't 'connect' are a problem. For example the KVR Penticton - West Bench - Summerland route does not extend into Penticton. This route should 'connect' with trails in Penticton - to allow better access to other trails + to allow a safe wa
- Would love to see a proper connection between the TCT in Summerland and Penticton (the official route uses highway 97!), I realize that wish will have to wait until the KVR portion through the Penticton Indian Band Lands is returned to their ownership (ge

- Yes, jurisdiction needs to be figures out. If Penticton Indian band is going to be the owner, work out a lease agreement for public use.

| Does the area require improved roads to facilitate access? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 3 |
| Unsure / NA | 1 |
| Disagree | 12 |
| Strongly Disagree | 0 |

| Does the area require better parking? | |
|---|---|
| Strongly Agree | 2 |
| Agree | 5 |
| N / A | 2 |
| Disagree | 8 |
| Strongly Disagree | 0 |

| Does the area require new / improved trail signage? | |
|---|---|
| Strongly Agree | 5 |
| Agree | 8 |
| Disagree | 4 |
| Strongly Disagree | 0 |

| Does area require new / improved facilities? | |
|---|---|
| No | 7 |
| Unsure | 3 |
| Yes | 7 |

Comment on facilities

- Bathrooms
- Bathrooms and parking lots are nice, but a lower priority than access and good trail services.
- Fresh water and bathrooms are always nice along a trail!
- Fresh water and bathrooms are always nice along a trail!
  And a bridge for better access at the river channel, near the water treatment plant would greatly increase this trail's usefulness!
- More maps on trail routes (and at start-of-trail sites) are needed. Routes should be marked by level of difficulty and hiking / walking / biking time. A paper RDOS trail map would be ideal for tourists.
- More porta-potties please!!! people "go" in plain sight between Sutherland Rd and Hillside Winery...according to my neighbours!
- There is no parking or trail signage.

| Types of user conflict | |
|---|---|
| ATV | 1 |
| Equestrian, Dirt Bikes | 1 |
| Hikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Equestrian, ATV | 1 |
| Hikers, Equestrian, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 4 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, Dirt Bikes | 1 |
| Mountain Bikers | 1 |
| Mountain Bikers, ATV, Dirt Bikes | 2 |
| Mountain Bikers, Dirt Bikes | 2 |

| Level of user conflict | |
|---|---|
| Major but infrequent | 5 |
| Minor and infrequent | 3 |
| Minor but frequent | 4 |

Comments on conflict

- An occasional illegal dirt bike or motorized bike will be seen on this trail - this deteriorates the trail quality and causes ruts.
- ATVs need designated trails. The KVR should be non-motorized to keep up the standards of the rest of the KVR outside Penticton.
- Blockades and signage that prevent motorcycle use
- Conflicts when I dirt bike with hikers, mountain bikers, and Natives
- cyclists should be encouraged to use bells and voice warnings when overtaking pedestrians. and slow down when doing so.
- For some reason non motorized users feel that they should be the only ones allowed to take part in the forest and berate anyone who feels differently.
- I have not had any direct person-to-person conflicts, but last fall when cycling from Myra Canyon to Penticton, it is clear that the trail is turning to mush because of ATV use. From Chute Lake to Penticton, we observed several places on the trail where
- Just a few motorcycles and ATVs can make a trail unpleasant for many, many hikers / walkers / bikers.
- Motorized vehicles should not be allowed on the KVR trail. They tend to deteriorate the trail surface.
- Mountain bikers keep constructing new trails without regard for exisiting trees, wildflowers and the fragile crust. When these erode they make a new trail. They transport pernicious weeds on their tires into new areas. ATV's and dirt bikes are used in a
- SEE Above: For the TCT this is a major problem; not so much on other trails, as they are less developed and less used. I support an identified ATV trail network, but it should not include the KVR-TCT routes. As to 4 by 4 trucks, they should not be on t

General Comments

- Again I say, The KVR / Trans Canada Trail provides access to all my favorite areas and should be accessable to all users motorized or not.
- Feel free to contact me for any additional input. I am not great at filling out forms, but as you can see, do have strong opinions on many of these subjects
- I do 3 kinds of cycling. Road-biking where I use the highway. This is pretty good, except for narrow shoulders on east-side road (of Skaha Lake), and non-existent shoulders on Waterman's hill coming out north of OK Falls (pretty dangerous there). Next
- I have hiked or walked most of the areas you list and enjoyed the opportunity. On area trails we meet people from all over the world. In our neighbourhood, we often help cyclists with directions. People especially like the KVR. If the surface was better,
- I think most tax payers would willingly support more trail development. OTV use of existing trails is a definite conflict. They need their own designated areas so they can safely enjoy the back country.
  Off-trail ATV damage is significant on portions of
- Major invasive weed problems along RDOS trails. Increasing each year. Need to educate users to help identify, report and avoid spreading weeds.
- Motorized vehicles should not be allowed on trail system.
- The Forest should remain just that, a forest. If you want to change the forest and make it more human friendly you don't belong out there. If you can handle the forest for what it is you will enjoy it exactly as it is. wild and free for all user groups.
- This area has been closed to offroad vehicles. This should not be the case. But has occurred, likely because a few motorcyclists and ATV travel this piece of trail without due respect of others. The trail needs to be reopened to offroad motorized vehicles

TULAMEEN

| **How often do you use trails in this area?** | |
|---|---|
| More than once per month but less than once per week | 8 |
| More than once per week | 3 |
| More than once per year but less than once per month | 2 |

| **Are you aware of land use conflicts?** | |
|---|---|
| Agriculture | 1 |
| Forestry | 2 |
| Agriculture | 1 |
| Mining | 1 |
| Private Land | 1 |
| Unsure | 4 |

Area needs trail maintenance?

| **Do area trails require maintenance?** | |
|---|---|
| Strongly Agree | 4 |
| Agree | 6 |
| Disagree | 3 |
| Strongly Disagree | 0 |

Comment on trail maintenance

- a little dust control on the urban areas of the KVR would be nice.
  I get a house full of dust every year.
  Live near the trestle in Tulameen
- ATV and dirt bike users keeps the trail maintained naturally

- KVR trail at Otter Lake to Coalmont and along the Similkameen river is in a state of disrepair. ATV and dirt bike users often chew up the gravel, and some inconsiderate types (not all!) erode the hillsides as they try to climb up on their vehicles. It b
- Many of the trails are badly washed out with extremely challenging sections of loose or large rocks making them almost impassable. A little maintenance on them would open up vast areas of existing trails that are breathtaking.
- Most of the individuals in my area of Tulameen do the majority of the maintenance on the trails. In their free time.
- Motorizes use keeps trails maintained.
- Trails in this area have never been maintained. Trails in the Tulameen area are maintained by volunteers that clear dead fall after winter from the trails
- User club involvement should continue to be sufficient.

| Does area require trail development? | |
|---|---|
| Strongly Agree | 3 |
| Agree | 4 |
| Unsure | 1 |
| Disagree | 4 |
| Strongly Disagree | 1 |

Comment on trail development

- Aadequate maintenance now of KVR from Princeton to Tulameen and further. No need for change on this trail.
- As Tulameen is a four season recreational area, most atvs use a network of logging roads and abandon mining prospector trails.None are maintained.
- Developing for all uses.
- I believe the KVR should be open to all who want to use it. ATV included.
- I feel there are lots of trails already through this area. We just need to maintain existing trails that have become impassable due to neglect. This in effect opens new areas that have become closed only because of poor trail maintenance and we don't ha
- It's great as long as ATV and dirtbikers are still able to use the trails along with all other users.
- The exisiting network is sufficient for current usage.
- There are many trails, logging roads, etc. Some should be defined for ATV use, etc. The KVR since it is flat, should be for hiking, walking, cycling, horse back riding, only. There are lots of choices that can fit the recreational needs of all.

| What is the overall quality of the trail network? | |
|---|---|
| I don't know | 2 |
| The existing network is fair | 2 |
| The existing network is good | 9 |

Comments on connectivity

- For ATV, Quad, motorcycle use, they need easy connectivity to trails more appropriate for their use and leave at least one trail (that being the flat KVR) for more gentler use for recreation.
- It would be nice to see less logging road deactivation.
- No
- Some trails should not be deactivated.
- yes
- Yes, there needs to be connectivity to tarils so all user groups have access for use. KVR from Tulameen to Princeton for one example.

| Does the area require road improvement to facilitate access? | |
|---|---|
| Strongly Agree | 0 |
| Agree | 2 |
| Unsure | 1 |
| Disagree` | 6 |
| Strongly Disagree | 4 |

| Does the area require parking improvements? | |
|---|---|
| Strongly Agree | 0 |
| Agree | 2 |
| N / A | 1 |
| Disagree | 6 |
| Strongly Disagree | 4 |

| Does the area require new / improved trail signage? | |
|---|---|
| Strongly Agree | 6 |
| Agree | 3 |
| Unsure | 1 |
| Disagree | 2 |
| Strongly Diagree | 0 |

| Does the area require new / improved facilities? | |
|---|---|
| No | 11 |
| Unsure | 2 |

| Type of user conflict | |
|---|---|
| 4x4 trucks | 2 |
| Hikers, 4x4 trucks | 1 |

| | |
|---|---|
| Hikers, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 3 |
| Mountain Bikers, 4x4 trucks | 1 |
| Mountain Bikers, ATV, Dirt Bikes | 2 |

| **Level of user conflict** | |
|---|---|
| Major but infrequent | 3 |
| Minor and infrequent | 5 |
| Minor but frequent | 1 |

Comment on user conflict

- 4X4 trucks have been known to tear up trails and sensitive ecological areas around Lodestone Mountain.
- Have had a few bicycle people voice their displeasure of me being on the KVR on a ATV. Most people are very nice and respect each other.
- Hikers should be less concerned with the use of these trails by ATV riders. In my experience ATV riders commonly slow down and pass hikers and cyclists in a calm and respectable manner. Often, this simply isn't good enough for hikers though.
- I can sit on my balcony at my cabin and look across the lake at the KVR trail and see the dirt bikers trying to scale the hillside causing a great deal of erosion. Let alone noise pollution for those of us that have invested a great deal of money in our
- In particular motorized vehicles such as snowmobiles, quads, dirt bikes and cyclists & hikers. We like it as a multi use trail as it is now on the total Trans Canada trail.
- Mountain bikers and some hikers do not want to share with ATV & dirtbike users.
- Mountain bikers feel the KVR is there for there use only in the Tulameen area. There are 20 times more ATVs in the area that support the local economy rather than moutain bikers that give very little to support the local community.
- Some walkers and mountain bike users try to block ATV users from the trail.
- The 4x4 yahoos (not all of them but the bad eggs) are turning delicate vegitation into mud holes and swamps.

General comments

- A few yahoos are ruining it for everybody.
  Very had to police.
- ATV riding and Snowmobile riding are an excellent means of recreation,and provide a full days entertainment in the great outdoors. Many riders are members of user groups who one or more times each year gather to help maintain the network of trails upon wh
- I believe that if the KVR had a speed limit for motorized vehicles, riders would follow it.
- I think there needs to be trails designated for recreational type. Those prohibiting motorized vehicles need to be barricaded. The trellis bridge at Otter lake has nails sticking up which is caused from the motorized vehicle use and weight of these vehi
- KVR in Tulameen is not used by hikers or bikes but is greatly used by ATV's and Snowmobiles as an arterial route to get them up in the mountains.
- No Bathrooms required on KVR in this area. Bathrooms are available in towns such as Tulameen and Princeton. It is all about NATURE - not providing outhouses etc.
- Please continue to allow all users to share the trails. Many areas in the USA allow all uses, and they all get along.
- Put money into maintaining the existing trail system, not into developing new ones.
- The only trails I use are the brigade trail which requires maintenance up to Lodestone lake. Trails from Tulameen up through Coalmont have never being maintained with the exception of locals who clear the trails for use by ATV users

- The Trans Canada trail (KVR) is a multi use trail all across Canada and should remain that way.
- Tulameen users should be able to continue to use the KVR to access other trails.

Summerland

| How often do you use the trails in this area? | |
|---|---|
| More than once per month but less than once per week | 3 |
| More than once per week | 7 |
| More than once per year but less than once per month | 2 |

| Are you aware of land use conflicts? | |
|---|---|
| Forestry | 2 |
| Private Land | 5 |
| Unsure | 4 |

| Does the area require trail maintenance? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 4 |
| Unsure | 1 |
| Disagree | 5 |
| Strongly Disagree | 1 |

Comment on trail maintenance

- leave it natural!
- Summerland has an amazing web of trails for hiking and biking, but most are getting wrecked by dirt bikes and ATVs or falling into disrepair. The few people doing maintenance are sometimes overwhelmed and could use some help.
- Trails have been developed and maintained by a few individuals

| Does the area require trail development? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 4 |
| Unsure | 1 |
| Disagree | 5 |
| Strongly Disagree | 1 |

Comment on trail development

- City of Summerland restricted vehicle access to Garnet Lake on the west side a few years ago. All they accomplished was keeping trail riders and hikers out as the ATV's, dirt bikes,trucks can still access.
- Rattlesnake / Wildhorse Mountain north of Summerland needs proper access and maintenance -- it's a beautiful area with excellent trails, but conflicts with private landowners is getting tense. Mount Conkle has huge potential too, with some great singletrack
- signage & education

| What is the overall quality of the existing network? | |
|---|---|
| The existing network is excellent | 1 |
| The existing network is fair | 4 |

| | |
|---|---|
| The existing network is good | 7 |

Comments on connectivity

- If this can be done without bringing in more 4X4's then it would be great.
- Most of the trails are on / or are accessed through PIB land.
- only access is thru private land and I have been kicked off it a couple of times by owner
- signage
- There's lots of confusion and hostility around the boundaries of the trail system west of the KVR between Summerland and Penticton -- the regional district could be a huge ally in working with the Penticton Indian Band to clarify exactly where recreationa

| **Does the area require road improvement to facilitate access?** | |
|---|---|
| Strongly Agree | 1 |
| Agree | 2 |
| Unsure / NA | 3 |
| Disagree | 4 |
| Strongly Disagree | 2 |

| **Does the area require parking improvements?** | |
|---|---|
| Strongly Agree | 1 |
| Agree | 3 |
| N / A | 2 |
| Disagree | 5 |
| Strongly Disagree | 1 |

| **Does the area require new / improved trail signage?** | |
|---|---|
| Strongly Agree | 5 |
| Agree | 2 |
| Unsure | 1 |
| Disagree | 4 |
| Strongly Disagree | 0 |

| **Does the area require new / improved facilities?** | |
|---|---|
| No | 4 |
| Unsure | 2 |
| Yes | 5 |

Comment on facilities

- bathrooms would be nice and more trails
- more bathrooms / outhouses along the trails. as well as more picnic tables / rest areas
- Summerland Rodeo Grounds bathrooms need upgrading.
- washrooms & signs would be nice to have

| **Type of user conflict** | |
|---|---|
| 4x4 trucks | 1 |
| ATV, Dirt Bikes | 2 |

| | |
|---|---|
| Equestrian, Dirt Bikes | 2 |
| Equestrian, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 2 |
| Mountain Bikers, ATV | 1 |

| **Level of user conflict** | |
|---|---|
| Major but infrequent | 2 |
| Minor and infrequent | 3 |
| Minor but frequent | 4 |

Comment on user conflict

- A horse startled by a speeding dirt bike appearing over the crest of a hill can be a very dangerous thing. Even the calmest trail horse cannot be expected to understand this frightening experience. Riders are cautious and aware, and wear safety gear, but
- Dirt bikes travelling at a high rate of speed where the trails open up. Equestrians can hear them coming but some bikes are so loud that even if we have time to get off of the trail, they don't see us and it is a scary few moments as they thunder past.
- Frequently used by noisy motor bikes which chew up the trails and and detract from the otherwise peaceful cycling experience.
- In our dry climate, with sandy soils, ATVs and dirt bikes basically turn any trail into a rocky, dusty washout that is useless for mountain biking, and less fun for every other user group -- they also wander off trail, and cut new ones at random. I'm not
- misslead information on trail users
- People on motor vehicles that scare horses on the trails.
- the dirtbike and qauders ride like jerks on thr trails and either scare the horses off the road or force us off

General comments

- could have more trails in Summerland and should be marked. I have tried several times to find Eneas Mtn trail listed in summerland visitor book but havent found it. I find most trails by trial and error. in Lower Mainland they have book called 103 Hiking
- Great trails all over the place, but they are poorly marked, poorly maintained and user conflicts are increasing. We have the tourist base to support epic singletrack routes connecting our regions -- most of the ridges and slopes have trails already, so i
- I believe many problems can be avoided if all users respect each other and educate themselves on safety issues... such as, what to do if you notice your bike or ATV has spooked a horse and the rider seems to be in trouble.
- Marking trails to show that equestrians are on the trail is a good idea. Education is the best solution.
- see you @ th eNov, 16 meeting
- talk to sodbc
- The area is well used but there is no official public access.
- There is no public access to this area except through private land.

Campbell Mountain

| **How often do you use the trails in this area?** | |
|---|---|
| More than once per month but less than once per week | 4 |
| More than once per week | 5 |
| More than once per year but less than once per month | 3 |

Are you aware of landuse conflicts?

| Are you aware of land use conflicts? | |
|---|---|
| Agriculture, | 1 |
| Private Land | 5 |
| Unsure | 2 |

| Does the area require trail maintenance? | |
|---|---|
| Strongly Agree | 7 |
| Agree | 4 |
| Disagree | 1 |
| Strongly Disagree | 0 |

Comment on trail maintenance

- Campbell's is my go to riding area. We take care of dead fall and large erosion issues as they happen. A few of our favourite little gnar sections were "maintained" into smooth paths by others. Its a bit frustrating.
- Mixed use of the Campbell Mtn area including mechanized recreation creates a great need for trail maintenance. It could be managed for all users.
- Motorised damage is extensive. Trucks / cars bring in garbage. Dirt bikes / atvs and 4x4s are going straight up hills by spinning their tires and create errosion zones.
- Not directly a trial maintenance issue but a lot of damage from off road vehicles and quite a bit of garbage dumped around including large items like old furniture.
- Some serious erosion issues happening on Campbell Mt. due to unrestricted ATV / dirt bike use.
- Special events load up certain trails and then leave all torn up - use permits should include rehabilitating the trails after event is done.
- The road just needs a gradeing once or twice a year, and some garbage facilities.
- This is a multi use area. Signage to designate trails for motorized use and non-motorized use would help.
- Too many trails down the steep slopes. Lots of motorbike use in the area has degraded trails and roads and has exacerbated washouts from rains. The mtn bike club has been good about fixing up some sections. Some of the degradation could be from downhill
- We need better signage and upkeep.

| Does the area require trail development? | |
|---|---|
| Strongly Agree | 3 |
| Agree | 5 |
| Disagree | 4 |
| Strongly Disagree | 0 |

Comment on trail development

- Area needs to be trail segregated for maximum value to all users.
- Being so close to the city this place could be one of the best hike / bike trail system in the country.
- I think that this area could stand to have a decrease in the number of trails / roads. Many areas of Campbell Mtn have been trashed, bu all is not lost. Restricting use in areas would likely help aid in recovery.
- Its always fun to have new lines
- Lots of trails already

- More trails (and new housing developments) would incur even more negative impacts on the native grassland areas and the red and blue listed wildlife species that inhabit Campbell Mt. The motorized vehicle use is out of control here, particularly by cars / t
- Needs cleanup, perhaps signage would deter illegal dumping.
- There is opportunity for many new trail systems to be updated.
- This mountain is a gem and already has lots of trails and variety - erosion issues exist on some trails and work needs to be done on that

| What is the quality of the existing network? | |
|---|---|
| The existing network is excellent | 1 |
| The existing network is fair | 1 |
| The existing network is good | 9 |
| The existing network is poor | 1 |

Comments on connectivity

- A connection across the top (Reservoir Road?) from Campbell Mountain to the Riddle Road three witches area would be good. I met a guy on a bicycle who told me he had done it, but I can't figure out the route he used.
- A hike / bike singletrack trail should be developed to connect the Campbell mountain area to the Three Blind Mice Area. And maybe in the future to also connect to the Carmi area and etc. Penticton would be on the world map as a hike / mtn bike destination.
- Access has been an issue from the south side. As development occurs in other areas, provision for access would be helpful.
- Connectivity to Three Blind Mice would be unreal!
- I'd like to see some more feeder trails with direct contact to urban areas and the KVR for easier transit that doesn't depend on roads dedicated to motorized vehicles.
- No
- Signage from the KVR and downtown. This would be a great recreation area if developed properly. it's so close to downtown.
- Too many trails on Campbell Mtn, but a great close place to go biking or running from Penticton. Easy to ride from town on roads, although a trail to the site would be great!
- Yes, there are many trail systems that could be linked.

| Does the area require road improvement to facilitate access? | |
|---|---|
| Strongly Agree | 3 |
| Agree | 2 |
| Disagree | 3 |
| Strongly disagree | 4 |

| Does the area require parking improvements? | |
|---|---|
| Strongly Agree | 3 |
| Agree | 7 |
| Disagree | 2 |
| Strongly Disagree | 0 |

| Does the area require new / improved trail signage? | |
|---|---|
| Strongly Agree | 6 |
| Agree | 5 |

| | |
|---|---|
| Disagree | 1 |
| Strongly Disgree | 0 |

| **Does the area require new / improved facilities?** | |
|---|---|
| No | 5 |
| Yes | 6 |

Comment on Facilities

- Cambell Mountain is another great opportunity for recreational development. This day an age people want to get outdoors, Cambell Mtn is perfect for Penticton as an accessible outdoor multi-use recreation area.
- Campbell is a bit of a beat up location. Lots of takers, very few givers. It needs to get legitimate and that includes designated parking, bathrooms, signage, multi-location access, signage and such.
- Carmi Mountain (Nordic Ski Trail area) could use a washroom at the parking lot.
- gates
- There are no facilities. A few rest spots at viewpoints would be nice.
- This would be ideal for a bike park / skills area.

| **Type of user conflict** | |
|---|---|
| ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Dirt Bikes | 1 |
| Hikers, Equestrian, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Mountain Bikers, Dirt Bikes, 4x4 trucks | 1 |
| Mountain Bikers, ATV, Dirt Bikes | 2 |
| Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Mountain Bikers, Dirt Bikes | 1 |
| Mountain Bikers, Dirt Bikes, 4x4 trucks | 1 |

| **Level of user conflict** | |
|---|---|
| Major but infrequent | 1 |
| Minor and infrequent | 1 |
| Minor but frequent | 4 |

Comment on user conflict

- Campbell's proximity to the dump means there is always a bunch of garbage dumped at the top of Puke Hill and other easy access spots off the Campbell's road. Garbage, dirt bikes on the MTB trails and 4x4's are my main frustrations riding Campbell's. Havin
- designating trails for different user groups would keep everyone happy. warnings at intersections where different users may cross.
- I am unaware of policy that guides decision making in the event of user conflict. Principles such as "least impact", "greatest contribution" (competent trail making and maintenance) carry less weight than potential economic contribution (eg. taxes via li
- I try to go to Campbell on week days rather than weekends especially in summer when the place is over run by vehicles.

- It's the wild west up there. The motorized feel it's their own private playground. Large groups congregate and fires / litter are a problem.
- Motorised vehicles are greatly damaging this sensitive area and make it hard for non-motorised users to enjoy themselves with their noise, speed, dust, trail damage, garbage brought in etc.
- The conflict lies between non-motorized and motorized users. Motorized users dont care or respect the other users and the trails they use.
- The damage from 4x4 and motorbikes on Campbells is serios - vehicle access should be confined to existing roads or access for motorized vehicles to be stopped. Most noticeable in Spring when higher levels have too much snow,
- There are landuse conflicts in that I feel that motorbike use in the area has degraded trails and roads and has exacerbated washouts from rains. Thus, there are sections of the mtn biking trails that are not in great condition.
- There is regular conflict as motorized vehicles cause extensive damage to wilderness trails. Some residence, with trails in their back yard feel as though they own these public trails and seem to feel almost entitled to exclusive use.

General comments

- ALso, it would be nice if the city of Penticton valued this area for wildlife, since so much else has been lost in the valley. Species like Lewis's Woodpecker and Western Meadowlark nest here, so it would be nice to see the ecosystem valued for its impo
- Cambells only needs simple things. A gate at the bottom to not allow easy access for motorized vehicles, better parking and garbage cans. Signage at the parking lot would be amazing as that way it makes it easier for tourists to come and try it out. To
- Can't count the number of trails that have been rendered non-rideable due to the deterioration bought on by motorized usage.
  Regional gov't can "police" but can engage original users as help.
- I think an extensive and well-maintained trail system is integral to the overall attraction of the RDOS to visitors and residents. It forms a substantial part of what defines the quality of life in the area.
- I was at your first public meeting and was told that there will be no maps to come of this process. What is the point of working on existing trails systems if you can't tell people how to access them or give them any tools to get around when they find th
- more restrictions on ATV / dirt bike use near city. They can drive up to the bush and traverse the many logging roads.
- Protection of Campbell Mountain as an urban forest / park for recreational use would be a huge asset to the recreational assets of Penticton and area.

KVR OK Falls

| **How often do you use trails in this area?** | |
|---|---|
| More than once per month but less than once per week | 4 |
| More than once per week | 5 |
| More than once per year but less than once per month | 3 |

| **Are you aware of land use conflict?** | |
|---|---|
| Private Land | 8 |
| Unsure | 1 |

| **Does the area require trail maintenance?** | |
|---|---|
| Strongly Agree | 1 |
| Agree | 6 |

| | |
|---|---|
| Unsure | 1 |
| Disagree | 4 |
| Strongly Disagree | 0 |

Comment on trail maintenance

- I strongly feel that the former Railbed which stretches the length of Skaha Lake on it's western shore is of value beyond any immediate consideration. It exists, and insomuch as it exists provides exquisite public access to the lake without further ado.
- Minimum improvement and maintenance on the KVR Penticton to OK Falls
  Some access and mtce. on the section south on KVR to Vaseaux Lk
- Pruning of trees back from the trail on the section from Kaleden to Penticton.
  ATVs often churn up the trail making riding more difficult. They also stir up dust when they go roaring past
- Section of KVR from Kaleden to Penticton needs to be widened and straightened and better maintained .
- The KVR is currently slated to be closed or detoured in Kaleden at Alder due to the recent purchase of a private lot.. The purchase of the right of way was not publicized and frankly I am steamed that yet another section of this trail is being gifted into
- There are areas that have sand slides wedging onto the trail.

  ATV's and dirt bikes dig up the trail in places which makes it rut and / or dustier.
- There are several loose sandy sections along this section of the KVR trail. It would be much more enjoyable if there was a more stable, crushed gravel (decomposed granite) surface over a solid base.
- trash pickup maybe 1 or 2 a year invasive plant reduction program

| **Does the area require trail development?** | |
|---|---|
| Strongly Agree | 3 |
| Agree | 7 |
| Unsure | 1 |
| Disagree | 1 |
| Strongly Disagree | 0 |

Comment on trail development

- A better way to get from the north end of the OK Falls section to the south end of Kaleden section, without having to go on a road.
- a trail on Eastside Road so that Skaha Lake can be circumnavigated. The KVR needs to be designated for pedal bikes, walkers and horse back riders.. no motorized vehicles. There are lots of logging roads for the motorized vehicles to traverse.
- an ongoing program to keep pushing
  forward to expand and protect
- need to connect trails. Oliver hike and bike with the trails at Vaseux Lak and then down to Osoyoos. All these trails simply end with no connectivity. Should be able to travel from Osoyoos to Penticton on a continuous trail
- South from OK Falls on the KVR
- The integrity of the trail needs to be maintained between OK Falls and Penticton
- The routing of the trail between Lakehill Road and Sickle Point should be addressed ASAP
- The trail should have priority here. Landowners seem to have taken sections of the original trail causing trail users to take detours.

- This trail already exists. I feel that this particular trail is a jewel in the Okanagan Crown. Once again... provides nearly unfettered access to the entire length of Skaha Lake. It would be considered a 'wonder' in many other areas of the world. And

| What is the quality of the existing network? | |
|---|---|
| I don't know | 2 |
| The existing network is fair | 4 |
| The existing network is good | 4 |
| The existing network is poor | 2 |

Comments on connectivity

- A connection from this trail to Skaha Lake Park - a trail along the beach near the airport - would be a great improvement! Also, a better connection across Hwy 97 to the Penticton Indian Band Road (along Skaha Meadows Golf Course) would be a nice improvem
- Anything that can be done to secure extended connected corridors to hikers, walkers, cyclists, motorized wheelchairs and other pedestrian friendly (sub-hiway) vehicles, is exactly responsible to the future of the communities in the South Okanagan, our lif
- As indicated above. Connectivity would promote tourism, exercise, commuting etc. Basic gravel quality is a good start. Spent a lot on the trail at Osoyoos with the passing lane construction - but then it just ends at Willow beach?? A trail to nowhere?
- At one time we thought the trail would go from Osoyoos through penticton along the KVR and on to Rock Creek. Great for ECO tourism
- connection between the trail north of H'way 97 and south of the highway in OK Falls
- Currently you can ride down the side of the channel out of OK Falls and then onto what was the KVR to the side of Vaseaux Lake. It would be GREAT if you could cross Vaseaux Lake and continue on to Oliver and Osoyoos and not have to take the highway from O
- KVR south of OK Falls needs to be connected with the trail along side the Okanagan River south of Gallager Lake . A bridge over the river at the south end of Vasseaux Lake is needed to do this .
- The entire trail between OK Falls and Penticton needs improvement
- yes the kvr and Penticton bike trail networks need joining in a
  safe way, perhaps using a bridge to cross the channel and the 3 lane
  plan for south Skaha Lake rd is an excellent idea for connecting the 2 systems but also a safer route
  is needed for co

| Does the area require road improvement to facilitate access? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 3 |
| Unsure / NA | 3 |
| Disagree | 5 |
| Strongly Disagree | 0 |

| Does the area require parking improvements? | |
|---|---|
| Strongly Agree | 2 |
| Agree | 5 |
| N / A | 2 |
| Disagree | 8 |
| Strongly Disagree | 0 |

| Does the area require improved trail signage? | |
|---|---|
| Strongly Agree | 4 |
| Agree | 5 |
| Unsure | 2 |
| Disagree | 1 |
| Strongly Disagree | 4 |

| Does the area require new / improved facilities? | |
|---|---|
| No | 4 |
| Unsure | 4 |
| Yes | 4 |

Comment on facilities

- bridge over Vaseux Lake to connect the trail from north to south would be WONDERFUL
- Fresh water and bathrooms are always nice along a trail.
- I have not encountered so many people on a trail that cars and wshrooms were an issue. Invest in the trail first - attract users and then deal with the problems associated. A paved parking lot will not attract users if the trail is not worthy. There ar
- It would be a dream if the sickle point could be returned to a state of nature and the Skaha Railbed could be acquired by the Province for the purpose of securing an experience of the Okanagan lakes systems. If Kaleden had the political clout of Whistler
- parking areas are needed for trail
  access as well as car pooling
- Some more signage to show distances and historic, geographic features and wildlife / local plants would be nice.

| Type of user conflict | |
|---|---|
| ATV, Dirt Bikes | 1 |
| ATV, Dirt Bikes, 4x4 trucks | 2 |
| Dirt Bikes | 1 |
| Equestrian | 1 |
| Hikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, Dirt Bikes | 1 |
| Mountain Bikers, ATV, Dirt Bikes | 1 |
| Mountain Bikers, Dirt Bikes | 1 |

| Level of user conflict | |
|---|---|
| Major but infrequent | 3 |
| Minor and infrequent | 5 |
| Minor but frequent | 1 |

Comment on user conflict

- As a runner and a nature lover I have three problems with the motorized use of this trail specifically and the rest o the KVR Trail generally.
  These vehicles #1. scare game, #2. tear up the trails and #3. throw up dust making hiking,walking and runnin

- dirt bikes on the trail system
  can be dangerous to others,
  kick up dust, are very noisy, scare
  wildlife away and pollute the air
  totally taking away the whole purpose of trail use which is to
  protect wildlife, get some exercise
  and breathe some clea
- Horse use damages the trail surface
- I am most familiar with the section of trail south of Sickle Point and the dirt bikers in particular are a noisy and a danger to others.
- I am OK with horse, bicycle and hike traffic.. Do not want to see any motorized traffic.. Occasionally run into this on the Kaleden and OK Falls Kvr..
- My opinion from using the trails in more than one area of the KVR is that mortorized vehicles should be somewhere else. I use the trails for peacefulness, to relax, for exercise...and I don't want to be thinking about a motorized vehicle coming up behind
- Occassional meeting of mororised vehicles on a trail that is not for their use.
- The motorized vehicles using the trail cause deterioration of the trail surface and take away the peaceful nature of the trail system.

General comments

- Again where is the RDOS in securing the existing KVR right of way? If the KVR Kaleden section is up for sale please let us all know so at least the playing field is level and not the preserve of insiders. Thanks for this... Gordon
- As a runner trying to stay off roads and away from the pollutants of gas burning engines I have had the air fouled on the KVR Trail not only by exhaust but also the dust kicked up by fast moving ATV's and dirt bikes.
- I feel it is excellent that the RDOS and the provincial government have finally become active in protecting and impoving trails. Through past inaction we have lost some vital infrastructure that may now either be too expensive to replace as well as loss o
- I have tried talking to motor cyclers about the kvr being unsuitable for them and have met with hostile resistance
- I just feel the trails are poorly signed, often with vague access and . Maybe focus one one trail system. Get private investment - wineries should be able to sponsor signage on the oliver hike and bike trail. Could be a great tourism route? We spent a l
- I would like to see the KVR a continious trail from Osoyoos to Penticton then to Summerland. This would mean a river crossing of some kind at the south end of Vasseau Lake.
- Make sure a land swap is negotiated with the buyer of CNR land at the south end of the KVR trail in Kaleden . We need to keep a continuos trail in place here. The goal should be a continuos trail for hiking and biking from Osoyoos to Penticton and north .
- The trail in the area mentioned above should be established in an attractive and scenic route and restricted to hikers, equestrian and Mtn. bike users
- This is a wonderful trail network. It amazes me how little it is advertised or marketed. If this was Europe this would be a major tourist entity.. not that I want thousands of people on the trail, but more use of it would mean more voices supporting it.

Carmi

| **How often do you use trails in this area?** | |
|---|---|
| More than once per month but less than once per week | 4 |
| More than once per week | 3 |

| | |
|---|---|
| More than once per year but less than once per month | 3 |

| Are you aware of land use conflicts? | |
|---|---|
| Forestry | 1 |
| Mining | 1 |
| Private Land | 1 |
| Unsure | 5 |

| Does the area require trail maintenance? | |
|---|---|
| Strongly Agree | 5 |
| Agree | 3 |
| Disagree | 2 |
| Strongly Disagree | 0 |

Comment on trail maintenance

- dumping is a huge problem
- Heavy use area with older and unsafe trail features. These features need to be improved in terms of safety and durability.

  This trail was originally constructed with no fore thought to sustainability, certain areas need to be armoured and re-routed
- right now its user only maintained
- The parking lots of both Carmi Fire Interpretive Trails and the Carmi x-country ski trails are disgraceful with garbage, burned piles of junk and the rampant use by bush partiers and illegal campers of the surrounding lands. Also ATVers use these hiking t

| Does the area require trail development? | |
|---|---|
| Strongly Agree | 5 |
| Agree | 4 |
| Disagree | 0 |
| Strongly disagree | 1 |

Comment on trail development

- As long as a new trail doesn't just lead to easier access to bush parties further off the road. Only want new trails if they are narrow and inaccessible to motorized vehicles.
- more trails within the carmi / 201 area for dirtbiking is greatly needed. Passing this task onto some of the local bike clubs or honda shop to organize and develop would be a great move.
- This area has the potential to provide a large draw to the community in terms of tourism.

| What is the quality of the existing network? | |
|---|---|
| The existing network is fair | 7 |
| The existing network is good | 1 |
| The existing network is poor | 1 |

Comments on connectivity

- i think all trails should be inter connected
- No

- This area has the potential to connect to the top of Penticton Ave in Penticton. This would require bridging accross the creek and fencing to keep riders out of the water supply.
- would like to see decent trail into Reed Lake and Howard Lake

| Does the area require road improvements to facilitate access? | |
|---|---|
| Agree | 5 |
| Disagree | 3 |
| Strongly disagree | 2 |

| Does the area require parking improvements? | |
|---|---|
| Strongly Agree | 2 |
| Agree | 3 |
| N / A | 1 |
| Disagree | 4 |
| Strongly Disagree | 0 |

| Does the area require new / improved trail signage? | |
|---|---|
| Strongly Agree | 4 |
| Agree | 5 |
| Disagree | 1 |
| Strongly Disagree | 0 |

| Does the area require new / improved facilities? | |
|---|---|
| No | 4 |
| Unsure | 1 |
| Yes | 5 |

Comment on facilities

- Bathrooms were tried in the past but got vandalized. The whole area needs more monitoring against persistent and destructive yahoos.
- very basic trails with no ammenities

| Type of user conflict | |
|---|---|
| ATV, Dirt Bikes | 1 |
| Equestrian, ATV, Dirt Bikes | 1 |
| Hikers, ATV, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, Dirt Bikes, 4x4 trucks | 1 |
| Mountain Bikers, ATV, Dirt Bikes | 1 |

| Level of user conflict | |
|---|---|
| Minor and infrequent | 4 |
| Minor but frequent | 3 |

Comment on user conflict

- most trail users are very respectful

- Noise from motorized vehicles and a peaceful, quiet hike do not mesh. The hikers are the losers.

General comments

- Create a Trail Management plan that
  - maintains and monitors existing trial areas
  - promotes trails to locals and tourists
  - provides a set of rules and regulations to creating new trails and new trail features
  - enforces trail usage standards betwee
- lots of garbage and dumping everywhere.
  a little unnerving to be on horseback riding down the trails with gun fire going off around you
- This area (Campbell Mountain) has turned into a garbage dump. Very unfortunate that there are people who do this. Likely due to the proximity to the City Dump.
- This survey is not set up in a useful fashion. Some of the questions are restrictive and need more boxes below each question for individual comments. Instead of asking for a "favourite" trail, why not rank them. It is pretty much impossible to choose a f

Seperatist / Max Lake / Gerry Mountain

| **How often do you use the trails in this area?** | |
|---|---|
| More than once per month but less than once per week | 3 |
| More than once per week | 3 |
| More than once per year but less than once per month | 4 |

| **Are you aware of land use conflicts?** | |
|---|---|
| Agriculture | 1 |
| Private Land | 8 |
| Unsure | 1 |

| **Does the area require trail maintenance?** | |
|---|---|
| Strongly Agree | 3 |
| Agree | 5 |
| Unsure | 1 |
| Disagree | 1 |
| Strongly Disagree | 0 |

Comment on trail maintenance

- Hopefully any regional trail plan has a high degree of First Nations input, even if trails are not on reserve land. The whole area is traditional territory of a number of bands so not including them in discussions will cause grief down the road.
- I am puzzled as to where this trail is as I've never heard of anything called 'Separatist' and Max Lake is private land with the lake and wetlands under a TLC-RDOS-held Conservation Covenant. The only 'trail' is the public road through the property which
- Many trails become water conduits as they mature. The needs to be diversions dug into the trail to divert water.
  Many trails need barriers to spop dirt bikes from shooting straight up the trail instead of following the natural switchbacks
- The trails are in pretty good shape, though I haven't ridden up there for a while.
- We need to keep motorized recreational vehicles out of this area

| Does the area require trail development? | |
|---|---|
| Strongly Agree | 3 |
| Agree | 4 |
| Disagree | 2 |
| Strongly disagree | 1 |

Comment on trail development

- as above.
  Also, there's clearly conflict between motorized users and non-motorized. Conflict between bikes, horses and hikers is fairly minimal. Separate motorized and non-motorized systems should be created, but consideration of the environment should
- Better signage and access for jokers on Gerry mnt
- Ifees there needs to be trail classification especially when it comes to motorized vehicles. Special areas should be developed for dirt bikes and quads. Hiking, riding trails are not well suited to motorized vehicles.
- New lines are always good
- See above comments. There is no land available for a public trail in this area as it's either private freehold or PIB lands.
- There are a few trails, but it doesn't seem to have enough variety to make it a consistent draw - we ride there in the spring to get back in shape, then choose other areas for the rest of the summer. Dome of the side-hill trails could be dug deeper and s
- Unsure what role the Reserve boundaries play here

| What is the quality of the existing network? | |
|---|---|
| The existing network is fair | 3 |
| The existing network is good | 5 |
| The existing network is poor | 1 |

Comments on connectivity

- Better signage to show trails and show activities that are allowed on that trail
- Conecting the trails would be a great idea. It would help promote trail use in the areas of the Okanagen.
- The link up to the Summerland trails could be clearer.
- Yes. Regional links are key. The Shuswap Trail Alliance has a plan a few years in the works to connect systems in the North Ok / Shuswap. They should be consulted so we don't reinvent the wheel. Trail links between communities are a fantastic idea. T

| Does the area require improvements to facilitate access? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 2 |
| Unsure / NA | 1 |
| Disagree | 4 |
| Strongly Disagree | 1 |

| Does the area require parking improvements? |
|---|

| | |
|---|---|
| Strongly Agree | 1 |
| Agree | 2 |
| N / A | 1 |
| Disagree | 4 |
| Strongly Disagree | 0 |

| **Does the trail require new / improved trail signage?** | |
|---|---|
| Strongly Agree | 3 |
| Agree | 6 |
| Disagree | 0 |
| Strongly Disagree | 0 |

| **Does the area require new / improved signage?** | |
|---|---|
| No | 6 |
| Unsure | 1 |
| Yes | 2 |

Comment on facilities

- The cost of providing a few improved or new facilities pales in comparison to the cost of traditional recreational facilities such as rinks, pools or fields and are generally self-maintaining while bringing comparible numbers of people to our community fo
- This one really depends on the trails we are looking at. Seperatist would not be a place you would ever think of putting in washrooms. I cant really think of too many spots needing washrooms

| **Type of user conflict** | |
|---|---|
| ATV, Dirt Bikes, 4x4 trucks | 1 |
| Equestrian, Mountain Bikers, Dirt Bikes | 1 |
| Hikers, Dirt Bikes | 1 |
| Hikers, Equestrian, Mountain Bikers, Dirt Bikes | 1 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes | 2 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |
| Mountain Bikers, Dirt Bikes | 1 |

| **Level of user conflict** | |
|---|---|
| Minor and infrequent | 3 |
| Minor but frequent | 4 |

Comment on user conflict

- Dirt bikers and ATV seem to rip apart any trail they like, usually the trails that mountain bikers have built and maintain, then get all uptight when a mountain biker ask's them to not use the specific trail
- I don't ATV or dirt bike, but obviously this is a fun activity for a lot of people.
  It would be great if these could co-existr with MTB or hiking. The reality is that the people engaging in these motorized activities are generally respectful of the non-

- I have not been involved myself but a good friend and his son had a conlict with a PIB member over trail useage. It is a rare occurance, but a dialogue needs to be had with user groups and the PIB regarding access to this area.
- mainly dirt bikes in the Separatist area. That is where I hike and Mtn Bike the most. Bikers are often very young and unsupervised by any partents. They trails have lots of blind corners and drops. I find dirt bikers will ride very fast and when they appr
- Motorised vehicles have caused damage to trails and surrounding areas.
- My comments refer to the above users illegally going onto PIB lands both through the Max Lake property on the public road and from other accesses in the Husula Highlands and West Bench areas. These 'conflicts' are somewhat beside the issue of trails and
- Some trails get torn up, leaving loose, rutty descents which are dangerous; sometimes pedal bikers need to get out of the way for Motorbike riders, and they are noisy.
- someone is blocking trasils with hazards that interefere with bikers

General comments

- As I commented in the section on the Naramata KVR (and which refer to the rest of the KVR also), there needs to be a very clear, enforceable, and enforced division of trails in the RDOS into non-motorized and motorized uses. Trails for the latter must be
- Here's what I think is required:
  1. Regional trail links between communities for motozized and non-motorized use.
  2. Separate motozited and non-motorized systems.
  3. Municipal and Regional government commitment to a plan, recognizing the tourism value
- I realize we all have to use the trials. I know there are great dirt bike trails behind Campbell mountain and in Summerland. Dirt bikers and Quad riders must realize the trails were cut to facilitate a certain spead. When the ride fast on the trails it is

KVR Oliver

| **How often do you use the trails in this area?** | |
|---|---|
| More than once per month but less than once per week | 3 |
| More than once per week | 3 |
| More than once per year but less than once per month | 3 |

| **Are you aware of any land use conflicts?** | |
|---|---|
| Agriculture | 2 |
| Private Land | 4 |
| Unsure | 1 |

| **Does the area require trail maintenance?** | |
|---|---|
| Strongly Agree | 3 |
| Agree | 2 |
| Disagree | 1 |
| Strongly disagree | 3 |

Comment on trail maintenance

- atv trails only need downed trees removed by the riders themselves, thus need coaching.
- Leased to agr. users
- SODBC needs to be able to sign post the individual trails as expert singletrack intermediate singletrack and quad+begineer trail ,clean them up,install and maintain toilets in the pit areas and organise work crews to clean up dumped garbage and abandone

- summer brings weeds that overlap the trail in many places
- The KVR trail south of Oliver has patches of poison ivy, knapweed and treebranches intruding on the trail.
  Poison ivy is no problem for people who can identify it but it is a considerable risk for people who walk or cycle on the trail with small childre
- Trail south of Oliver desperately needs to be maintained. No maintenance this year. Many comments by tourists. A danger with snakes etc.

| Does the area require trail development? | |
|---|---|
| Strongly Agree | 5 |
| Agree | 3 |
| Disagree | 0 |
| Strongly disagree | 1 |

Comment on trail development

- Because of the massive increase in quad riders and the capability of their machines many trails once used by bikes,hikers,bird watchers and mountain bikes only are being widened and spoiled for use by bike riders and effectivly downgraded, if a quad can g
- Define the area near the lakes as a recreational area.
- development is already on river dyke
- Local residents would really like to see the KVR connection with Okanagan Falls to the North restored as well as the connection to Osoyoos to the South. The highway with it heavy use of big rigs is no place for recreational cyclists.
- Signage is lacking
- the trail needs to expand north to Ok Falls without going on the highway.

| What is the quality of the existing network? | |
|---|---|
| The existing network is excellent | 1 |
| The existing network is fair | 2 |
| The existing network is good | 5 |
| The existing network is poor | 1 |

Comments on connectivity

- Local residents would really like to see the KVR connection with Okanagan Falls to the North restored as well as the connection to Osoyoos to the South. The highway with it heavy use of big rigs is no place for recreational cyclists.
- maps
- No

| Does the area require road improvement to facilitate access? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 1 |
| Disagree | 5 |
| Strongly disagree | 2 |

| Does the area require parking improvement? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 3 |
| Disagree | 5 |

| | |
|---|---|
| Strongly Disagree | 0 |

| Does the area require new / improved trail signage? | |
|---|---|
| Strongly Agree | **4** |
| Agree | 4 |
| Disagree | 1 |
| Strongly Disagree | 0 |

| Does the area require new / improved facilities? | |
|---|---|
| No | 4 |
| Unsure | 1 |
| Yes | 4 |

Comment on facilities

- Events by the motorcycle and Quad clubs are always maintained and the pit and riding areas cleaned up by volunteers immeadiatly after the event.But almost always a week or two after the event free riders will use the trails and they are not as disiplined.
- On the 20 km stretch of the KVR from Oliver to Willow Beach there is a toilet acces at the beginning and at the end. A porta potty at Rd. 9 or Rd 12 would be nice.
- There are none

| Type of user conflict | |
|---|---|
| 4x4 trucks | 2 |
| ATV | 2 |
| ATV, Dirt Bikes | 1 |
| Hikers | 1 |
| Hikers, Dirt Bikes | 1 |

| Level of user conflict? | |
|---|---|
| Minor and infrequent | 5 |
| Minor but frequent | 2 |
| other | 1 |

Comment on user conflict

- Have heard of ATV's getting on the hike and bike trail on the East side of the Okanagan river through undeveloped land.
- Hikers appear to feel they are the only ones entitled to use the trail system
- Keep 4x4 's off narrow old roads.
- kvr.  some areas fenced off by agr. users. some areas sold outright.Some areas swamp, some first nation land.
- Marking the trails and classifying them will end all conflict.The hikers in peachland who traditionaly have done no work on a trail will hike down it tacking up hiker only signs and become quite irate when meeting a motorcyclist often on his way to perfor

General comments

- As a hiker belonging to the Penticton Outdoors Club and the Oliver / Osoyoos Naturalist Club,I have experienced many beautiful hikes to the top of mountains between Penticton and Osoyoos. Many of the trails are marked by our own members. I think for the cas
- co-operate with sr gov. to keep the river dyke trail as a multi-use trail as originally agreed.

- Elderly ,like mayself are not able to walk trails and need to be able to use an ATV. In most cases they will respect others and report abuse.
  A blanket policy to exclude is not fair and is out of date from the present rolling society.
- I feel the efforts of the Bear creek rec area have in the main been a good idea and well done although the requirements for mid-expert level riders still needs to be met.the good riders just have moved away from that area and we see many riders from the n
- Most maps show a continuous trail from Penticton to Osoyoos, which is not the case, my wish is to have a trail to go Penticton from Oliver without going on Highway 97.
- Trails are paid for by all taxpayers and as such should be open in all areas to all users.

TULAMEEN

| **How often do you use trails in this area?** | |
|---|---|
| More than once per month but less than once per week | 5 |
| More than once per week | 2 |
| More than once per year but less than once per month | 2 |

| **Are you aware of land use conflicts?** | |
|---|---|
| Forestry | 7 |
| Mining | 4 |
| Agriculture | 1 |
| Unsure | 2 |
| Private Land | 1 |

| **Does the area require trail maintenance?** | |
|---|---|
| Strongly Agree | 4 |
| Agree | 4 |
| Disagree | 1 |
| Strongly Disagree | 0 |

Comment on trail maintenance

- Apex has massive potential!  I have ridden the majority of British Columbias bike parks and I feel Apex has the best terrain.  Even if the mountain managment arent on board for a real bike park (which they should be), open it up for people to use and deve
- I would suggest strongly that the Cascade Environment Resource Group discuss the situation of trails in the Apex area with the group (of which I am a member) centred in the Apex Residents' Association which has been working (quite successfully) with the g
- It is now done by volunteers, and is abused (ski trails) by snowmobilers tearing up the meadows and ATVs / jeeps gaining access in the summer and driving around in the pothole lakes and Nickel Plate Lake.
- Presently there has been a volunteer group trying to complete maintenance during the summer months.The trail system needs a paid crew bring the trails back to orginal condition.
- Some great trails have been abandoned and others destroyed by dirt bikes and ATVs.
- The survey fails to recognize conflict between motorized &nonmotorized recreation.The former d oes consierable site & experientia damage.See the 2000 LRMP for documentation, contact John Glaspie  for photo documentation I have provided,or contact me.Enfo

| **Does the area require trail development?** | |
|---|---|
| Strongly Agree | 4 |

| | |
|---|---|
| Agree | 4 |
| Unsure | 1 |
| Disagree | 0 |
| Strongly Disagree | 0 |

Comment on trail development

- Great area fore summer biking when too hot in the valley. Apex should also run the lift all summer...
- Initial construction is now dated plus significant erosion on multi;use trrough route leading to diversions&other policy transgressions.Parallel need to develop trail system for motorized uses in surrounds to take pressure off ski / hiking trails.
- The above group has strongly suggested to government that new trails for motorized users should be developed in areas primarily to the west of the current trail systems, but easily accessed from the old range roads that are part of that system. Such deve
- The area needs a snowshoe trail system that is not part of the present ski trails.As well the snowmoblies need a network of trails to stay off the ski trails.
- The hikes to Brent Mtn. and Sheep Rock are jewels in the RDOS inventory, which we (The Adventurers Club of Penticton) have enjoyed the use of for many years until the access was blocked several years ago by the deactivation of a bridge which apparently wa
- There need to be separate trails for hikers and ATV users. Separate trails are also needed for cross country skiiers and snowmobilers.
- These ski trails are well used (check the parking lots on a weekend in winter)- - -hel[p with maintaining their integrity for XC skiers would be appreciated. More enforcement of regulations is absolutely required. The snowmobiles cause the trails to be

| **What is the quality of the existing network?** | |
|---|---|
| The existing network is fair | 6 |
| The existing network is good | 3 |

Comments on connectivity

- Could connect to Nickel Plate and Apex community more directly and obviously, with snowmobilers sticking to their own (endless and easily accessible) terrain.
- How about connecting to trails in the Augur lake area that could connect to trails down to rodeo grounds then out to research centre area then to seperatist...Epic!
- Snowmoblies need to beable to access areas outside of the network of ski trails.
- The above volunteer group has done considerable work to improve the existing trail network that is for non-motorized users. Connectivity to new motorized-user trails as outlined above would be readily created.
- Yes, it would be nice to have trails from Riordan to Sheep Rock and Brent Mountain

| **Does the area require road improvement to facilitate access?** | |
|---|---|
| Strongly Agree | 3 |
| Agree | 0 |
| Disagree | 2 |
| Strongly disagree | 3 |

| **Does the area require parking improvement?** | |
|---|---|
| Strongly Agree | 1 |

| | |
|---|---|
| Agree | 2 |
| Disagree | 4 |
| Strongly disagree | 1 |

| **Does the area require new / improved trail signage?** | |
|---|---|
| Strongly Agree | 2 |
| Agree | 6 |
| Disagree | 1 |
| Strongly Disagree | 0 |

| **Does the area require new / improved facilities?** | |
|---|---|
| No | 2 |
| Unsure | 1 |
| Yes | 6 |

Comment on facilities

- Additional outhouses would reduce pollution in the area.
- Parking in summer is quite adequate, but in winter, having the areas at the base of Riordan trailhead and across the road from the Bay Trail access, both of these off the Nickel Plate Rd would avoid people having to park on the road.
- Tilet facility is damaged gunshots etc.See above re sorry state of forest service access road.ALSO SINIFICANT SITE DEGRADATIONin area including Nickel Plate Prov Park.
- Trail signs have been provided from Vernon-MOFL&NRO and erected by a volunteer group.The area needs more snowmoblie awareness signs to stay off the existing ski trails.The area needs washroom facilities upgraded.
- Upgrade is needed in terms of enforcement of existing motorized route regulations.

| **Type of user conflict** | |
|---|---|
| ATV, Dirt Bikes, 4x4 trucks | 1 |
| Hikers ,ATV | 1 |
| Hikers, ATV, Dirt Bikes, 4x4 trucks | 2 |
| Hikers, Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 2 |
| Mountain Bikers, ATV, Dirt Bikes, 4x4 trucks | 1 |

| **Level of user conflict** | |
|---|---|
| Major but infrequent | 1 |
| Minor and infrequent | 1 |
| Minor but frequent | 1 |

Comment on user conflict

- CXCskiers and snowmobilers.
- I have frequently enountered snowmobiles on trails designated for skiiers only. I have seen many areas where ATVs and 4x4's have caused considerable damage to vegetation and exposed much soil to erosion and created sediment sources to water bodies.
- Lumping several recn uses under winter activities faiils to pick up serious conficts as documentede inLRMP& esewhere. Most significant is snowmo biles vs XC skiing.Similarly unregulated ATV use vshike / bike & watershed integrity iis an issue.Local conserva
- Motorised vehicles are destroying some of the trails.

- Motorized vehicles entering riparian areas.
  Snowmoblies on ski trails.
- See above re group formed to designate separate trails; however, the misuse of motorized vehicles in summer including in Nickel Plate Park is very serious and needs to be addressed with strong measures. In winter, there continues to be conflicts between
- The conflict between mtn bikers, equestrian and hikers is civilized. People have the ability to stop and talk about the conflict. Motorized vehicles dont, they scare animals, they go too fast, they wreck the trails, they dont stop to talk or behave cour

General comments

- Apex trails are used extensively in the winter. ski, snowshoe, skidoo. better trails with better useage desigantion is critical
- I use several different trails through-out the Okanagan for mnt. biking;ski touring & hiking. It apprears Apex Okanagan Vista trails have more conflicts with winter useage than other areas I freqently use.
- Motorized vehicles ruin trails and destruct the landscape, in addition to polluting. I feel motorized vehicles shouldn't even be included, they end up going where ever they want anyways despite other groups efforts to educate them about the affects of th
- See previous comments for other trails
- Upgrade trails to Sheep Rock & Brent incl motorized restrictionplus beter cattle management(applees to Okan Vista area as well.Campbell mtn area is a disgrace;dumping ,major degradation etc.West side of Skaha needs completion(&park)&east side warrants pr
- Very glad you are doing this project and hope RDOS elected officials are supportive of non-motorized recreation in this area.
- We have a wonderful and large area for recreating and not much conflict between users (that I am aware of) but our population is growing ande conflict will probably increase. Now is a good time to plan ahead. I have two major concerns 1.. Access to crow

Skaha Bluffs

| How often do you use trails in this area? | |
|---|---|
| More than once per month but less than once per week | 1 |
| More than once per week | 4 |
| More than once per year but less than once per month | 2 |

| Are you aware of land use conflicts? | |
|---|---|
| Agriculture | 1 |
| Forestry | 1 |
| Private Land | 3 |
| Unsure | 2 |

| Does the area require trail maintenance? | |
|---|---|
| Strongly Agree | 2 |
| Agree | 2 |
| Disagree | 3 |
| Strongly Disagree | 0 |

Comment on trail maintenance

- No signs. No info regarding existence of trails available
- Regular maintenance is always required
- Rock Oven is epic sweetness.

- The trails in the Bluffs were not made for high use. Now there are too many people using the bluffs for hiking (which is great) and the trails are getting eroded. Generally the trails are too steep and get washed away.

| Does the area require trail development? | |
|---|---|
| Strongly Agree | 1 |
| Agree | 5 |
| Disagree | 1 |
| Strongly Disagree | 0 |

Comment on trail development

- Great area close to South Penticton for non-motorised trail development.
- More mountain biking trails could be nice... however, it is a wildlife sanctuary, so then again, maybe not... Rock oven, Ward one and Sam I am might need to be enough.
- New lines are always good

| What is the quality of the existing network? | |
|---|---|
| The existing network is excellent | 1 |
| The existing network is fair | 1 |
| The existing network is good | 4 |
| The existing network is poor | 1 |

Comments on connectivity

- A return loop for rock oven would be cool, rather than riding back on the highway... Some people ride under the power lines, but that's not really that much better...

| Does the area require road improvement to facilitate access? | |
|---|---|
| Strongly Agree | 0 |
| Agree | 2 |
| Disagree | 3 |
| Strongly Disagree | 2 |

| Does the area require parking improvement? | |
|---|---|
| Strongly Agree | 0 |
| Agree | 0 |
| N / A | 1 |
| Disagree | 4 |
| Strongly disagree | 2 |

| Does the area require new / improved trail; signage? | |
|---|---|
| Strongly Agree | 2 |

| | |
|---|---|
| Agree | 4 |
| Disagree | 1 |
| Strongly Disagree | 0 |

| **Does the area require new / improved facilities?** | |
|---|---|
| Yes | 0 |
| No | 6 |

| **Type of user conflict** | |
|---|---|
| Dirt Bikes | 1 |
| Hikers, Mountain Bikers | 2 |
| Mountain Bikers, Dirt Bikes | 1 |

| **Level of user conflict** | |
|---|---|
| Minor and infrequent | 4 |
| Minor but frequent | 1 |

Comment on user conflict

- I have seen dirt bikers in the northern end of the bluffs around The Far Side and Cave Hill. I've even seen them at the top of Great White!
- Sometimes the trail is a bit torn up by dirt bikes - this ruts the trail and loosens it, making pedaling harder and my ire towards the motorized menaces grow. Arr, get yer own trails mateys... preferably in a fenced area, like a race track or a prison.

General comments

- Need trail location info. No publication exists to find knew trails in area. I go out by myself with my dogs and need trail discription and trail markings and signs.
  Need a book like the lower mainlands "103 Hikes"
- Rock Oven is a gem in Penticton's trail network, such an awesome advanced riders' experience. Climbing, views, tech, slick rock, flow; all the goodness of mountain biking in one line.

For Areas receiving 5 or fewer replies - the comments have been summarized below

**3 lakes - Sawmill, madden and bear lakes**

- Because this is back country, Mother Nature is good at her job, only excessive motorized use can bring erosion issues, is there a way to limit use until the area recovers?
- There are already a tremendous trail network thru this area
- It's unfortunate, it's the few that tar the other users, more education of usage, and giving way would be nice
- Identification and insurance for the motorized vehicles, notice stations that provide pamphlets, booklets, and educational materials i.e. grasslands have worked with the Merritt clubs and put out a nice little booklet, addressing a lot of the issues, perhaps

**Arawana**

- I have not noticed any conflict. I am not against vehicle traffic, except after dark, particularly at the little tunnel, in Naramata. If there is some way to put a gate that could be locked at dusk. The amount of partying that goes on up there, since I have

- Access restrictions for motorized users
- Every tax payer contributes to trail development & upkeep. Therefore should be available to all users.
- As a dirt bike trail area we have had a few concerns from hunters, most has been dealt with
- Clubs and / or user groups should be given stewardship for their trails plus area. Many dirt bike trails used close to towns / cities has had lots of conflict with other user groups even though they were there long before they came. EX.(Campbell mtn. Gravel pit
- Most of the stunts are rickety, rotting and dangerous (on the beer run), the bottom part is torn up by motor bikes (but connecting with the Mice solves that problem), there could be many more trails put in this area.

- The Arawana road could be much better (paved or graded / resurfaced - so much washboard and large rocks / holes) especially if adventure tourism is to be encouraged in the area.

**Arawana Beer Run**

- stunts need to be torn down or replaced
- one downhill mountain bike trail, but needs diverting around private property
- Just need better signs on which are motorized trails and which are not.

**Brent Mountain**

- reopen Brent Mountain hiking trail
- There are a few trees which have fallen across the trail.
- There should be a trail between Brent and Sheep Rock. It would be nice to have a trail between Sheep Rock and Mt Riordan.
- Outhouses would reduce pollution. The logging road deactivation should be removed allowing passenger vehicles to reach the parking areas.
- Motorized vehicles have damaged vegetation and caused erosion.

**Cartwright**

- Great area close to Summerland to create a non-motorized trail system.
- Trails on public land should be created and marked. There should be separate trails for motorized and non-motorized users.
- trail maintenance is done by trail users
- We need official non motorized trails
- Off road motorized users destroy the peace and quiet as well as the actual trails themselves. And contribute nothing to trail maintenance.
- The Test of Humanity mountain bike race, held on the trails on Cartwright Mountain, was put in / upgraded by the race organizer. These trails should now be recognized and maintained as "official" trails.

**Cathedral Park**

- Since this and a good number of other trail locations in the list (Ok. Mt. Park, Manning, Mt. Kobau, and Skaha Bluffs) are all within Provincial Parks, I am puzzled as to why they are included in this survey. RDOS has no jurisdiction over the trails or h
- Since this is under BC Parks jurisdiction, it doesn't seem to belong in a survey on RDOS-controlled trails.

- Some trails are overgrown and not brushed out every year. There are some trails in need of signage marking them, particularly to Haystack Lakes and Twin Buttes over Lakeview Mtn**.**

**China Ridge**

- Annual maintenance has been done and will continue to be needed. Trails are in excellent shape currently.
- New singletrack mountain bike trails should continue to be developed. Large tourist potential.
- Winter motorized / non-motorized conflict
  snowmobile vs. ski & other non-motorized
  bikes & skiers (trail improvements through CRT club) vs. vehicles / hunters using and damaging trails especially during wet periods.
- CRT needs area based management agreement to facilitate trail development / maintenance. Current agreement places road blocks for the only active trail maintenance stakeholder in area.

**Coalmont North**

- Most trails in the area are in good condition.
- There needs to be a connector built at Connely Creek to allow access from the Connely Creek FSR to the extensive trails system west of Coalmont connecting to the Cook Creek FSR. I will be supplying details via email.
- The conflicts occur because the KVR / TCT which is necessary for access to the extensive trails systems on the north side of the Tulameen River is posted as "Non Motorized", although it has been used for decades by all users, and by law ATVs cannot be excluded.
- The Coalmont-Tulameen area is rich in trails but lacks the proper connections and highway crossings necessary to provide legal access for ATVs. There are several points along the Coalmont Road where "Recognized ATV Crossings" need to be established.

**Farleigh Lake area**

- there is no user conflict that i am aware of

**Fire Mountain**

- Great area close Okanagan Falls / Heritage Hills for non-motorised trail development.
- Not highly used and not a lot of maintenance.
- make existing trails better for mountain biking

**Gilles Creek / Rock Oven**

- PACA and individuals maintain
- There are enough trails and it is environmentally sensitive.
- Accessed from the Bluffs parking area is idea. there is washrooms and parking there.
- Not a high use area.

**Hedley**

- The main Hedley Creek trail is in pretty good shape although there has been rockslides and flooding that has made it difficult to get all the way down. Their are several other trails that go up round the side of the mountain that could be opened up fairly
- When I first bought property in Hedley, there were 4 bridges crossing 20 Mile Creek. I could walk for several kilometres without having to wade through the creek (a dangerous activity during high water). Now there are no bridges; the last community-built
- There are several old footpaths and trails which followed the old flume and led up the mountain. These could be restored for hikers. The rock canyons and bluffs around Hedley could become a rock climber's recreation area like the Skaha Bluffs.
- There are public washrooms in Woodlie Park in the centre of Hedley but they are closed at night because of vandalism. Unfortunately, too many of the travelling public use the bridge at Hwy. 3 and 20 Mile Creek as a washroom facility, polluting the water a
- People driving ATVs, Dirt Bikes and 4x4 trucks use the road beside 20 Mile Creek as a sports ground and race track. The hillside in the Tailings Meadow (composed of silt and fine rock dust), is gouged and rutted because of this vehicular traffic and water
- The Tailings Meadow is too often used as a dumping ground for household garbage, yard waste, construction waste, and tree cutting waste. The perpetrators then set fire to these waste piles and the piles smoulder for days. Local residents have cleaned it u

**Kaleden**

- I am extremely concerned that there is a strong possibility that a large chunk of trail in Kaleden is going to diverted to the street. How can we let this happen??
- I love the horses on the trail. I just wish people would clean up after their horses, as dog owners do.
- Please help save the trail running through Kaleden. This would be such a shame to lose most of it.
- too soft in areas for bike travel
- motorized transportation w / hikers, horses and bikes
- eliminate the possibility of any infringement, encroachment and / or access problems to any portion of trail network by private ownership

**Keremeos**

- Signage is required to remind hikers that they are walking along side private property and they are not to cut through yards, orchards, and fields. We have been inundated with hikers walking through our yard that we have had to put up a gate as a tractor
- Need more trails open to motorized As.
- Hikers do not tend to want to share and become defensive and possessive of the trails. Where motorized vehicles and equestrian users are respectful with each other. Hikers can go on any roadway be it a trail or highway but motorized rec vehicles and eque
- Hikers use private land to connect to roads and take fruit / vegetables from land along side trail. The walking trail in Keremeos has now taken the privacy from residences. The roads have always been adequate for walking. The motorized vehicles pass quick
- Most trails outside the Village Boundary have a very rough rock surface - not good for walking, biking or riding. The surface needs to be improved, and more distance added to the trail
- The old railway bed could / should be developed for trail use from Red Bridge all the way down to Cawston, and along the River too, if possible.

- Motorized users and equestrians don't mix well, because motorized users often don't slow down or give way and frighten the horse.
- We have an ideal opportunity to connect the towns of Keremeos & Cawston and should encourage develop this as a safe corridor for non-motorized access between the towns.
- This trail just off the Ashnola Road makes a circle that goes: Ewart Creek to Juniper Creek, up South Slope and down Webster Creek. It has not been maintained in many years and has been degraded by cattle in some areas. there are no markers or flags, a
- The surface is dirt and does not need to be upgraded as this is back-country hiking. However, it does need to be signed, and the trail re-established where it has been lost, de-graded and forked because of use by cattle
- Generally this area is not accessible to motorized users - never have seen any.
- Trail maintenance? We need access to trails, that is, the right to walk on trails. By walking we create trails. Maintenance is not the issue, accessibility is.
- Once again, the trails are there, the right to use them has yet to be established.
- We don't have an established trail between Keremeos and Cawston bit I think there will be conflict over use of ATV and motor bikes on what will mostly be a walking trail. That is, most use will come from walkers who are trying to get away from motorized t
- I've had a wonderful time biking / walking on the KVR in Penticton, Naramata, the Kettle Valley and Princeton.
  I think there should be some areas where vehicles should not go - motorized transport dominates our society and we have a well developed infrastructure.

**KVR - Osoyoos**

- Signage on some trails not allowing motorized use favours select users. Why should certain groups be entitled to use the trail system and others denied access?
  Trail system is paid for by all tax payers and as such should be open in all areas to all use
- Bicycle trails should be paved due to the puncture vines everywhere.
- Osoyoos needs a bike trail in town
- Oliver hike-bike trail: tree roots causing heaving of pavement, southern half of trail encroached upon by weeds and tree branches. Would be better if it were paved all the way to Road 22.
- Connect Oliver hike-bike through to Osoyoos - you're 3 / 4 of the way there already. The hard part will be reestablishing right of way from Willow Beach into Osoyoos. The trail should follow the lakeshore as much as possible (recreational cyclists won't wan
- There's the odd kid on a motor scooter on the Oliver hike-bike trail, but I've never had a conflict.
- I often ride my bike Osoyoos-Oliver-Penticton. It would be nice to have an alternative to using roads. 'All' you have to do is fill in a few gaps in the KVR. KVR is a great tourist attraction in the Penticton / Kelowna area, but not in S. Okanagan; it could

**KVR Penticton to Ok Falls**

- The use of motorized vehicles is eroding the trail quality
- Signage which restricts use to specific cyclists, hikers.
  Signage which identifies private land.
  Signage which identifies the trails throughout the area. I hike extensively & it is often very difficult to locate them even with the use of Sweetsingletrac
- I answered above
- Hiking / biking trails are being eroded by vehicle use plus the unexpected noise is very annoying.

- Please make the trails we have in the Okanagan more accessible & user-friendly via signage & bathrooms. The area has a great inventory yet they are not being well utilized by locals or visitors and the network could be better used for generation of tourists.

**KVR Trail at Kaleden, north end**

- The trail as it has been is a wonderful resource. Threat of closure due to a private land issue necessitates immediate action. The trail, in its present form, must be preserved.
- Closure of the KVR Trail at Kaleden north would be devastating to both the citizens of Kaleden and its surrounding communities and to visitors to the region who enjoy the trail in part or in whole. The KVR trail in general is already fractured in many are

**Loadstone Mt.**

- Get lots of snowmobile use, little or no maintenance
- to and from Coalmont.
- unloading area and out houses for snowmobilers
- This area is over 90% motorized vehicles, in the summer and the winter. I have been using the area for over 30 years.
- The majority of trail use in Tulameen and Coalmont area is dirt bikes, ATVs, 4x4's and snowmobiles. Why is it that the hikers, mountain bikers and cross country skier's seem to get more support from the RDOS than the motor sports do?

**Mt Kobau**

- With population growth and tourism visitors increasing, we should attempt to plan for more and varied trails
- outhouses would help in some areas, where maintenance could be assured
- With the possibility of a national park, additional trails should be built now on this crown land before the Federal Govt. gets involved
- Bathrooms should be available only where they will be maintained on a regular basis
- Pleased to know that the RDOS is taking on this project.
  The committees have my support in expanding the network both for residents, and to allow for increased eco-tourism in the future
- Trail signs are difficult to find in places.
  A few fallen trees.
- There's all that space up there and only one real trail.
- A few picnic benches in the parking area would be nice, especially during the annual star party.
- none

**North edge of Skaha Lake - past Penticton airport**

- Along the north edge of Skaha Lake, along Hwy 97. No trail yet, just a beach.
- What a great place for a trail - along the north edge of Skaha Lake, off the highway - connecting Penticton to the KVR trail to OK Falls.
- Fresh water and bathrooms are always nice along trails!
- Working in conjunction with the Penticton Indian Band may be necessary do build this trail - but, what a nice section it would be!!!

**Okanagan Mountain Park**

- I was trying to hike 3 yrs ago at OK Mtn Park and there was trees all done (from the fire) on the trails so not great hiking. Don't know who to ask if it has been cleaned up and a long drive to go check.
- The rapid growth since the fire needs to be cut on the trails
- Better camping facilities for hikers
- The trails in OK Mountain Park appear to be neglected. For many years a person was able to access all the trails in the park. Now the trails are overgrown and no longer well marked. The blown down trees on many trails have made them inaccessible.
- The road in to OK Mountain Park needs to be improved. Most vehicles need 4 wheel drive to get in and there is no longer a sign warning you of this. Also there is no place to turn around if you do get into trouble getting in.
- Have not seen any conflict as of yet.
- There are many trees that have fallen across trails in the park.
- Additional outhouses would reduce pollution of the park

**Oliver**

- Expect that existing trails will be kept open and not closed by private landowners. Pretty happy with trails that exist now but would be nice to get new ones once in a while.
- OTV damage to hillsides is significant in some Oliver areas. This is unregulated use of Crown land and some private land. I don't think ATV licensing is the answer. They only think I can think of is to have designated ATV and motorbike trails similar to K
- Need to designate OTV trails and keep them off walking and hiking trails. Keep everyone out of wetlands and creeks.
- It has been covered above.
- The river path around Oliver needs some care
- would like to see a bridge to connect the KVR so cyclists and walkers could travel OK Falls to Oliver without using the highway
- More parking areas with pit toilets would be an asset
- would like to see restrictions on any motorized vehicles on trails
- One big problem for tourists to the area is lack of maps showing where trails are, maps should be at info centers
- Tree roots invading the Hike / Bike trail.
- Better trails around Vaseaux Lake

**Osoyoos**

- Linear pathways connecting major routes to Oliver would be beneficial
- Trail signage, seating areas,(resting), garbage receptacles, and maybe lighting.
- Canal trail needs to be cut on the edges before the asphalt becomes compromised from overgrowing weeds spraying edges may also eradicate some of the puncture vine
- finishing the paving from rd9 to rd 22
- more washrooms
- motorized and non-motorized don't mix on trails

- The existing gravel trails in Osoyoos and the new ones recently installed, are made of material that is too loose for biking and are actually uncomfortable for even walking unless hiking boots are worn. Paving some of these trails would increase our enjoy

- A paved trail circling the lake would be tremendous, but probably difficult to achieve. Paving the trail between highway 3 and Olympic drive would connect our area to southern Osoyoos.
- The bathrooms in Osoyoos are dilapidated but I understand they are being upgraded in the future. However, they are closed once tourist season is over, reducing the ability of permanent residents to have access the rest of the year.
- The bike ride we take from Penticton to Naramata is gorgeous and the crushed stone through the vineyards is actually pretty good for road bikes. The paved multi use paths through Penticton are excellent, although the canal path is getting pretty bumpy.

**Parker Mountain**

- A parking area and trail on public land should be established. Motorized and non-motorized users should have separate trails.
- An outhouse would reduce pollution

**Penticton south to Okanagan Falls through Kaleden, specifically the Kaleden stetch of the trail**

- The trail has been and continues to be infringed upon by private property owners. In some areas the trail has been narrowed by private individuals such as in Banberry Green Campground.
- It seems to me that the trail must be formally dedicated so that it is clear exactly where the trail is and what uses are appropriate on the trail. Proper signs need to be erected to protect the trail from improper use and to make it easy for the public t
- The main conflict I see in this section is that of private property owners infringing on the trail. Also there is confusion about what areas are public and whether the trail is a dedicated section of the public trail system.
- The section of the KVR from Penticton south to Okanagan Falls is in jeopardy of being dismantled and separated into chunks. Private interests are eager to purchase up any available pieces. Fortunately so far access has been routed around such sections but

**Princeton - Coalmont**

- The 4x4 and ATV route from Whipsaw Creek on Hwy. 3 through Lodestone Lake and then on to Coalmont needs to be recognized and designated as such in the RDOS trail systems.

**Rattlesnake & Wildhorse Mtns**

- Outhouses would reduce pollution.

**Rock Ovens**

- We could not locate the trail from Christie Mountain Lane though we were told it exists. Directional Signage in the Heritage Hills area for the various trails that exist to Skaha Bluffs and the Big Horn Sheep reserve and there are likely others would be

**Twin Lake Yellow Lake**

- The trails the I, and the Hiking Club I belong to are rough and that's the way we like it. For the most part they are not marked and that's O.K. If they were to be better marked for all to use that would be O.K. too. Some of these trails follow old log
- For the most part, because trail usage in this area is low, hikers, wood gatherers, hunters, and ATVers, and snowmobilers just wave and smile at each other.
- My main concern for this area is that trailhead access is preserved, and, as a hiker, that this area not be designated as a motorized use area. As the area becomes discovered as a great trails area, further amenities could be considered at that time and

**White Lake Basin / Mahoney Lake**

- I am unaware of any been done in this area for the past 10 years.
- Trails connecting most of the OK Grassland Park system, very few people even know there are pieces of park land in the White Lake area.
- The whole White Lake Basin / Mahoney Lake / Hawthorn Mt and McIntyer Bluff area seems neglected as regards trail sign posting, and upgrading

## Appendix 3: Trans Canada Trail Conflict Management Strategies

### Introduction

Among the many challenges trail managers face, ensuring a conflict free experience for all users is especially problematic. With trail popularity and a range of use types engaging in trail-based recreation, it is inevitable that some form of conflict will occur. Conflicts can and do occur among the same user groups and between user groups, as well as between trail users and trail managers, and between trail proponents and land owners or managers. All have the potential to result in negative outcomes ranging from an unsatisfactory recreational experience to an individual to exclusion and alienation of an entire user group demographic. Fortunately, this area of outdoor recreation has received considerable attention, generating research and strategies aimed at minimizing conflicts.

Essentially, recreational trail conflicts stem from an asymmetry between one trail users' goals, expectations, tolerances, perceptions or attitudes and another's. The asymmetry stems from the one-way nature most conflict occurs. For example, an ATV rider may be oblivious to a hiker, whereas the hiker is acutely aware of the ATV presence due to issues of noise, exhaust fumes, or perceptions of safety and environmental impact. When an individual or group embarks on an outdoor recreational trail outing, they carry a set of values and attitudes that influences their expectations of what kind of experience they anticipate. Conflict arises when those expectations are not realized, due to any set of potential behaviors exhibited by other trail users, including evidence of use (i.e. tire tracks or horse droppings). This has been defined as 'goal interference attributed to another's behavior' (Jacob and Schreyer, 1980). In general, conflicts can be grouped into the following categories:

4. Trail use type conflicts (e.g. equestrian and hiker, cyclist and ATV, etc) where one group perceives the other group to be incompatible with their own activity.
5. Trail user goal conflicts (e.g. bird watcher versus a group ATV outing) where one activity is perceived to be disruptive to another.
6. Trail norm or values perception conflicts (e.g. differently held perceptions on what activities or level of technology is appropriate, as between a hiker and a cyclist, including same activity expectations, as between beginner and expert abilities) where one user group perceives that their activity is legitimate while another is inappropriate.

### Conflict Management Strategies

There are many potential conflicts that can affect the trail experience of users. Regardless of the specifics of a given conflict, trail managers should employ a systematic approach to managing trails that minimizes potential conflicts. Below are strategies that provide trail managers with a progression of measures adapted from the research literature and discussions with trail managers. Note that no single solution is likely to resolve conflicts and that they are likely to take time and resources due to their often complex nature. It is useful to remember that the key element in minimizing user conflicts is through addressing the triggers leading to 'goal interference'.

1. **Identify the nature of the conflict.** The first step in managing trail user conflicts is to understand the nature of the conflict(s). Trail managers need to understand the nature of the conflict and in what way the affected user group(s) goals are interfered with. Surveys, documentation of conflicts, and informal interviews need to be initiated at the beginning of the conflict resolution process. This step will provide an initial needs profile for the affected users.

   For example, it may become apparent that the source of conflict is due to a series of steep switchbacks on a trail section that is creating hiker and mountain biker conflicts: the steepness forces bikers to skid, resulting in channeling and erosion as well as safety issues for hikers. Remediation for this scenario would involve a progressive use of warning signage, trail etiquette education, and trail planning options that could include creating speed control choke points and corner armoring, re-routing of the problem sections, separate hiker / biker trails for the problem sections, or imposing one-way direction of travel for bikers.

2. **Engage with affected user groups.** It may seem obvious, but trail user conflicts are due to the actions of trail users and therefore any strategies that do not actively engage with and involve the trail users in the solution process may not experience success. Early in the resolution process, trail managers need to identify both affected and non-affected stakeholders and develop user profiles from goals, motivations, experience expectations, and other possible needs. This information will assist in determining what goal elements are impaired for which user group and where common ground between user groups exists.

   Provide forums for interaction amongst stakeholders via joint trail maintenance activities, joint development of educational signage, flyers for trail heads and staging areas, websites, club forums, etc. Formation of formal Trail Advisory Councils with equal representation and input to management decisions is a key element in empowering users to educate, act responsibly as members of a visible organization, and seek proactive solutions to ongoing conflicts.

3. **Trail strategies.** Trail managers have a series of tools available that can influence how trails are used, the nature of a given trail or segment, the distribution of trail users and the likelihood of contact between trail users. Below is a series of strategies that, depending on the situation, can be employed once items 1 and 2 are underway.
   - **Signage –** Signage can fulfill many functions from directional to educational. Depending on the nature of the conflict, signage can be an effective first level approach. Signage can:
     - Designate which route a user group should use (e.g. expert route or beginner route)
     - Designate approved activity type(s) for a given trail
     - Direct users to specific use trails (e.g. Nature Trail – Pedestrians Only)
     - Designate One Way or closed on specific days to specific users single use trails
     - Warn of restricted vision corners
     - Provide Yield hierarchies
     - Alert users to legitimate user activities
     - Influence behavior (e.g. Slow Down or Close Gates)
     - Influence when to ride (e.g. Closed Due To Wet Conditions) due to environmental considerations
     - Warn of upcoming congestion areas
     - General trail etiquette (e.g. how to ride downhill without creating erosion, how to pass equestrians, what to do if stock is on a path, etc

   - **Trail design.** How a trail or trail system fits with the landscape has a significant influence on trail user experience and behavior as well as environmental impact. Trails that have not considered the range of user types or made structural modifications as new users have begun to use a trail are likely to encounter conflicts as trail user capacity and design limitations are exceeded. Reducing conflict includes trail design considerations that include the concept of sustainability (adapted from IMBA, 2004):
     A. Designed and built to protect the environment from erosion and sediment with minimal maintenance (e.g. grade, materials, corner radius etc)
     B. Designed to avoid environmentally sensitive areas (e.g. wetlands, riparian zones, encroaching on rare ecosystems, etc)
     C. Meets users needs (e.g. designed to allow hikers, equestrians and cyclists to pass, provides good sightlines to avoid startling horses, ensures grades do not initiate erosion from horses and cyclists)
     **D. Designed to minimize conflicts between user groups**

Items A to C provide elements that will reduce the likelihood of initiating some forms of conflict (e.g. erosion, wildlife disturbance, etc), and item D is elaborated below. These are not in any particular order and implementation should be based on variables such as available space, funds, trail setting, etc)

- Provide a diversity of trail experiences to disperse trail users within a given area (i.e. a trail or trail system should provide different experiences to allow users to gravitate to preferred trail types which in turn spreads out users)
- Design challenging trails or sections further away from staging areas and wider, easier trails or sections closer to staging areas so that different ability levels are separated
- Plan for shared use trails instead of single use trails
    - Single use trails concentrate users on a single trail resulting in crowding
    - Single use trails require more trails, therefore more environmental impacts and use of resources for maintenance, signage, etc
    - Single use trails may result in uneven trail maintenance or trail quality resulting in friction when groups 'poach' or encroach

Single use or restricted user type trails have their place if incompatible activities result in intractable conflicts, displacement, excessive maintenance costs, high environmental costs or safety concerns that cannot be addressed via strategies discussed above. This may warrant development of a new trail or restricted use trail for a specific user type(s). Excluded activities should still be able to access trails in the same area or similar location.

    - Sight lines are poor
    - Terrain profile would better suit one way travel to reduce downhill horseback and / or cycling erosion
    - Terrain creates safety concerns when higher speed cyclists encounter horseback or pedestrian users
    - Trail is a loop configuration that flows or provides users with better experiences (i.e. viewscapes) in one direction
- Install trail features in problem areas to influence user behavior
    - Use fixed objects (e.g. boulders, logs, bollards) to create bottlenecks or surface changes that force users to slow down, or eliminates specific users (e.g. gates to restrict access to ATVs)
- Separate users on the same trail via paint line, berm, painted symbols, bollards, landscaping, etc
    - Used on wider trails (>3m) with either a gravel or paved surface
    - Segregate users based on compatible speeds (e.g. cyclist, rollerbladers together)
- Provide pull-out sections on problematic sections to allow different users to pass safely without inconvenience (e.g. cyclists passing horseback riders)
- Ensure sight lines provide sufficient reaction time for users (e.g. trim vegetation to ensure hikers or horseback riders can see oncoming cyclists)
- Provide parallel trail segments for problematic trail sections to segregate user types (e.g. re-route a steep section of trail for horseback riders due to safety or erosion concerns)

- **Patrol and enforcement.** Different levels of patrol and enforcement are available to trail managers. During the stakeholder engagement process, trail managers should coordinate with the Trail Advisory Council a system of volunteer patrol. Ideally, this is composed of representatives from all users involved in trail conflict resolution and is intended to 'soft-

pedal' strategies aimed at resolving conflicts (e.g. low impact cycling, horseback riding, ATV use, etc). Official status as designated representatives of their user group can use peer pressure, education, presence on the trails, etc to modify behavior and decrease conflict.

Volunteers should be provided with support in the form of local, regional or provincial government by-laws, restrictions or formal trail agreements with the power to enforce trail uses or restrict specific behaviours identified as key triggers of trail conflicts. In-kind support (e.g. official signage, radios, trail maintenance or modification works / materials, etc) should be provided. Volunteer patrols should be backed up with by-law enforcement, Park Rangers, or law enforcement if conflicts persist.

**Appendix 4: Spirit of 2010 Signage Strategy**

# SIGNAGE STRATEGY
# SPIRIT OF 2010 TRAIL

Prepared for:
**Ministry of Natural Resource Operations**
**British Columbia**


Prepared by:

CASCADE ENVIRONMENTAL
RESOURCE GROUP LTD

**File #: 016 06 01**
**Date: November 10, 2010**

# 1.0 INTRODUCTION

The Spirit of 2010 Trail is a network of former rail corridors converted to recreation trails, spanning approximately 700 kilometres across southern British Columbia (BC).

The Province of British Columbia, Trans Canada Trail, and a number of regional and local partners are involved with the five distinct rail trails that have been converted across the Province to form the Spirit of 2010 Trail. These trails are:

- Kettle Valley Rail Trail between Brodie rail siding* and Midway
- Columbia & Western Rail Trail between Midway and Castlegar
- Slocan Valley Rail Trail between South Slocan and Slocan
- Cowichan Valley Rail Trail between Shawnigan Lake and Cowichan Lake; and the
- Burlington Great Northern Trail between Salmo and Troupe rail siding

*Brodie rail siding is located on the eastern side of the Coquihalla Highway No. 5, north of the Coquihalla River crossing

See Map 1 for the location of the Spirit of 2010 Trail.

Aside from the Slocan Valley Rail Trail, all the other four sections of the Spirit of 2010 Trail are designated portions of the Trans Canada Trail.

These trails stretch through a range of developed and natural landscape. Comprehensive trail signage is necessary to support trail users on a trail of this nature. This need was further justified by trail users' feedback including:

- Phone & email requests for trail route and location signs
- Feedback of user frustration with portions of unmarked trail
- Reported occurrence of trails users getting lost

Signage is critical as a tool to promote and legitimize the Spirit of 2010 Trail and the Trans Canada Trail. In order to be effective, signage should indicate the access allowed, regulate safe use (with stop and yield signs at road crossings), warn of potential hazards (loose surface, sharp turn signs), and guide users along the designated route.

## 1.1 Purpose

The Spirit of 2010 Signage Strategy provides planning guidance for the design, construction and installation of trail signage on the Spirit of 2010 Trail. The strategy supports the following goals:

1. Provide direction for the length of the trail
2. Support safe passage along the route
3. Minimize use by prohibited user types
4. Increase awareness of Spirit of 2010
5. Increase awareness of Trans Canada Trail
6. Provide recognition to the partners and stakeholders involved with development of the trail
7. Inform trail users of unique and significant biophysical, cultural, historical and geographical features of the trail

### *1.1.1 Provide direction for the length of the trail*

- Provide staging areas signage to define the trail entrance, communicate important information and provide overview and location mapping.
- Provide way-finding directional signage at junctions or decision points along the trail.

### *1.1.2 Support safe passage along the route*

- Provide way-finding signage along the trail to support navigation of the complete length of trail.
- Provide mapping of trail route and landmark locations.
- Provide safety and warning signage along the trail where necessary.

### *1.1.3 Minimize use by prohibited user types*

- Provide regulatory signage along the trail.
- Provide regulatory signage at trail heads.

### *1.1.4 Increase awareness of Spirit of 2010*

- Include branding on way-finding signage.
- Include branding on trail head signage.

### *1.1.5 Increase awareness of Trans Canada Trail*

- Include branding on way-finding signage
- Include branding on trail head signage

### *1.1.6 Provide recognition to the partners and stakeholders*

- Include stakeholder recognition on way-finding signage along the trail.
- Include recognition branding on trail head signage.

### *1.1.7 Inform trail users of unique and significant features of the trail*

Provide interpretive signs along the trail including information about:

- Biophysical
- Cultural
- Historic
- Geographic

This Trail Signage Strategy (the Strategy) introduces guidelines and standards for the signage of the Spirit of 2010 Trail (the Trail) in British Columbia. Implementation of the Strategy and installing signage along the Trail supports the expected growth in use of the trail, it clarifies the Trail alignment for users and improves user safety as a result. The Strategy also supports the objectives of the Trans Canada Trail (TCT) as the two trails share a significant length of the same alignment.

## 1.2 Scope

This signage strategy has been undertaken to focus on the portions the Trail that are managed by the Ministry of Natural Resource Operations.
These portions of trail include:

- Kettle Valley Rail Trail between Brodie rail siding* and Midway
- Columbia & Western Rail Trail between Midway and Castlegar
- Slocan Valley Rail Trail between South Slocan and Slocan

*Brodie rail siding is located on the eastern side of the Coquihalla Highway No. 5, north of the Coquihalla River crossing

The Spirit of 2010 Trail network also includes the Cowichan Valley Rail Trail and the Burlington-Great Northern Rail Trail, currently owned by the Ministry of Transportation and managed under license by respective regional districts. While this signage strategy does not intend to encompass these trails, it is hoped that consideration will be given to developing a consistent and 'like-minded' approach to signage.

This document also provides a review of previous practice and established practice on comparable sites. Previous practice and established guidelines were sought from the following sources:

- Ministry of Transportation
- BC Parks
- Trans-Canada Trail (Federal)
- Whistler Municipality

**Map 1 Location Map:**

# 2.0 SIGNAGE PRINCIPLES

Trail signage is integral to any trail system. It is composed of an information chain from one place to another to assist the traveler in reaching their destination. The overarching goal of a signage strategy is to provide needed information at key locations that facilitates the trail experience while refraining from marring the trail experience through visually distracting or poorly conceived signage. A well designed and implemented signage plan takes the trail user on a journey with a start and an end; providing a storyline along the way.

## 2.1 Coherent

Good trail signage does not need to be uniform throughout, especially on long distance trails where jurisdictions are crossed or signage has evolved over time; instead signage should be harmonized so that it presents consistent and recognizable themes, logos, palettes, symbols or other features that permit easy identification and unambiguous messaging along its length.

An example of harmonization is where a symbol is used consistently throughout the trail system, irrespective of what the sign is made of, what its purpose is or where it is located. An instantly recognizable symbol provides the traveler with the confidence that they are on the correct trail and that the sign is part of the trail system he or she is travelling on.



Two signs from the trail of St. Jacques de Compostelle – one is directional and the other is way-finding. They are different shapes and set in different materials but the unique symbol of the seashell is identical in terms of colour palette and orientation, providing easily recognizable symbology.

When trail signage is consistent along a trail, it provides users with reassurance and recognition of the trail. Coherence is also achieved through the installation of trail signage similar to other traffic and information signage in the region.

According to the British Columbia Ministry of Transportation and Highways, Manual of Standard Traffic Signs & Pavement Markings, the shape and colour of the different sign groups are as follows:

· **Regulatory Signs** are generally vertical rectangles or squares with black messages on a white background or the reverse. Some signs also incorporate red or green. The major exceptions to this standard are the STOP and YIELD signs which have unique shapes and colours.
· **Warning Signs** are generally diamond shaped with black messages on a yellow background.
· **Guide Signs** are generally a horizontal rectangle with a white message on a green background.
· **Informational Signs** are generally horizontal rectangles or squares using white, combined with green, black and blue.

This guidance has been considered during the development of the trail signage in this strategy.

### 2.2 Conspicuous

For trail signage to be effective, it must be easily seen from a distance sufficient for the trail user to respond to the information appropriately. The signs' content must be clear and uncluttered to deliver their message as quickly and easily as possible.

### 2.3 Legible

Studies of sign legibility are numerous and concern themselves with font, letter size, contrast, and viewer perspective or visibility catchment area. (http://jfe.sagepub.com/content/17/1/41.short)

A person travelling at lower speed, such as a hiker, will be able to process information on a sign more easily than a person travelling at higher speed, such as a cyclist. As trail signage will be providing information to a range of trail users, briefness and clarity become key in the signs legibility. Signs often use logos and pictograms to convey information quickly. Logos are most prevalent in way-finding signage, typically used to define the trail route and reassure the trail user that they are continuing along the intended trail. Pictograms represent information such as attractions on way-finding signage, and permitted use and prohibited use on regulatory signage. For pictograms to remain quickly and easily recognizable they should not deviate from standard design. A standard set of pictograms is included below in Figure 2.

Legibility is also supported by appropriate text style or font and even the case that the text is presented in. Sentence case and lower case is most appropriate for legibility in signs. The varying height of characters in sentence case allows quicker recognition of the text than text completely in capitals. This is illustrated in Figure 1 below.

*Figure 1 Illustration of Sentence Case text legibility*

LEGIBILITY
Legibility

There is justification for the inclusion of French translation on signs in Canada, particularly in some of the eastern Provinces. It is not necessary to provide a French translation on signs for the Spirit of 2010 Trails.

*Figure 2 Pictograms approved by the Ministry of Natural Resource Operations*

Trail use pictograms.


Bicycles allowed | Dogs allowed | Hiking allowed | All terrain vehicles allowed

Horseback riding allowed | Motorcycles allowed | Mountain biking allowed | Trials motorcycles allowed

Rock climbing allowed | Snowmobiling allowed | Snowshoes allowed | Cross-country skiing allowed

Spelunking allowed | Point of interest | Viewpoint

Usage restriction pictograms.


No all terrain vehicles


No bicycles


No dogs allowed


No hiking / backpacking


No horseback riding


No hunting / shooting


No motorcycles


No mountain biking


No rock climbing


No snowshoes


No Spelunking

No trials motorcycles


No snowmobiling


No cross-country skiing

### 2.4 Functional

Signs should be designed to work safely and suit their environment. They should be carefully and consistently placed near junctions and decision points to ensure reliable navigation for trail users. Effective signage also includes some redundancy. In an urban setting, multiple signs can be installed at an intersection so that navigation is still possible even if one of the signs is removed. In a natural setting, outside urban development, this is less appropriate. In this environment, redundancy can be built in with kilometre markers along the route.

## 3.0 SIGN CONTENT ELEMENTS / MODULES

It is critical that the suite of signs used on the Spirit of 2010 Trail address a range of issues. The key issues to be addressed by this strategy include:

1. Way finding,
2. Regulatory,
3. Stakeholder and partner recognition,
4. Conflict management, warning and safety,
5. Biophysical interpretive information, and
6. Cultural and historic interpretive information

Some of these issues can be addressed exclusively with a single sign. Safety signage warning of trail hazards would be one example of this. Other issues, such as stakeholder recognition will be more typically form one element or module of a modular sign. The following section of this strategy answers the question, *"what is each of these elements meant to do?".*

### 3.1 Way-finding


The purpose of way-finding signage is to:

- provide visitors with mapping information at trail heads or major junctions
- confirms the trail user is on the Spirit 2010 Trail and where relevant, the Trans Canada Trail
- provide trail direction at each trail junction, road crossing or other crossing along the route
- provide trail users with reassurance that they are still on the correct route
- provide minimal information other than direction and identifiable branding logos
- provide direction to attractions on optional detours off the main trail

### 3.2 Regulatory


The purpose of regulatory signage is to:

- inform visitors of local municipality regulations, provincial regulations or federal regulations relevant to the use of the subsequent length of trail
- inform on which activities are permitted and which are prohibited

### 3.3 Stakeholder and partner recognition

The purpose of Stakeholder and partner recognition signage is to:

- provide recognition of stewardship group activities, local supporters and sponsors involved with the development, planning, construction and maintenance of the Spirit of 2010 Trail, typically at trail heads and along the trail
- recognition signage can also be used to identify traditional land owners and current land owners where relevant along the trail

### 3.4 Conflict management, warning and safety


The purpose of conflict management signage is to:

- define approved trail user types; such as walking horse riding and cycling only; to minimise conflict between different user types
- define priority between user types noting for example that cyclists should yield to horse riders or walkers on the trail


The purpose of warning and safety signage is to:

- notify trail users of specific hazards along the trail, including examples such as road crossings, abrupt changes to trail steepness, surface or direction
- notify trail users of general safety warnings for rock fall hazard, wildlife, trail intersections and weather, for example
- inform users of what action could be taken to minimize risk of damage or injury, for example, “steep descent ahead, reduce speed”

### 3.5 Biophysical interpretive information

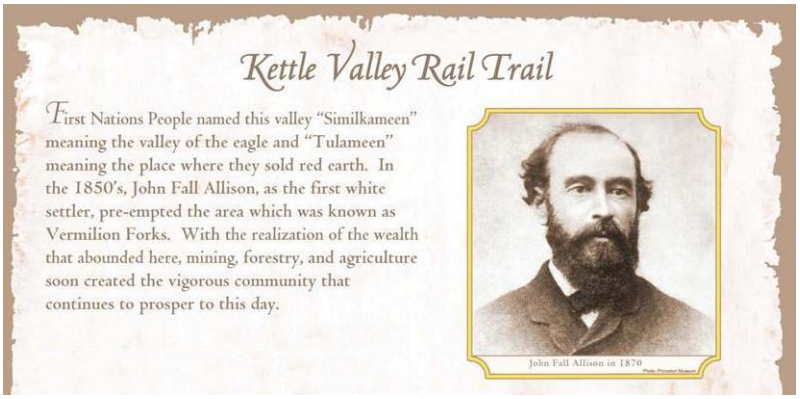
The purpose of biophysical interpretive signage is to:

- provide visitors with information about biological and physical aspects of the region, typically at trail heads or major junctions
- provide visitors with specific detail about flora and fauna along the trail

### 3.6 Cultural and historic interpretive information

The purpose of Cultural and historic interpretive signage is to:

- provide visitors with cultural information relevant to the region
- inform visitors of the traditional land owners of the region
- provide visitors with the historic origins of the trail
- provide visitors with historic information from the surrounding region




There is a significant amount of information to be communicated through trail signage to the trail users. It is therefore not surprising that some elements of this information can be communicated in a number of ways. The following part of this strategy discussed the types of signs that can be used on the Spirit of 2010 Trail and their typical design form.

# 4.0 SIGN FORM AND DESIGN DETAILS

The range of variety in sign forms and designs is limitless. Variety in signage can result from issues including cost, differing installers, availability of materials, varying weather conditions. Sometimes, the simple absence of a standard can be the cause for variation in signage type and presentation. Trail signage that has been installed on the Spirit of 2010 trail, trail signage along the Trans Canada Trail and signage from other similar trails was considered in the assessment of sign design.

The best practice examples were then rated across a range of criteria.
The design criteria considered:

- Cost effectiveness of manufacture, transport, installation and maintenance.
- Clarity of the signs message and information.
- Strength and low maintenance considerations including whether:
    - Sign can withstand impact from snowmobile or all terrain vehicle (ATV)
    - Sign surface maintenance requirements
    - Sign support post maintenance or replacement requirements
    - Sign to withstand freeze / thaw cycle synonymous with BC climate conditions
- Vandalism considerations such as:
    - Fire resistance
    - Scratch resistance
    - Ease of paint removal
- Low environmental impact of the manufacturing process, including carbon footprint.
- Visual appearance and aesthetics with a particular focus on minimizing visual impact in a natural environment setting.
- Ease of Installation, considering the need for specific training of installers, specialist tools and machinery for installation.
- A modular design of the sign face that allows for inclusion of multiple design elements, such as logos, in pre-determined locations on the sign.
- User safety focussing on minimizing injury during an impact with the sign.
- Matches existing conventions along the trail, and other trails within the region.

Each of the signs was considered only against the other signs within the group. For example, way-finding signs were only compared against other way-finding signs.

The multi-criteria assessment is contained in table 1.
Table 1 is designed to be read in conjunction with the sign type quick reference in Table 2.

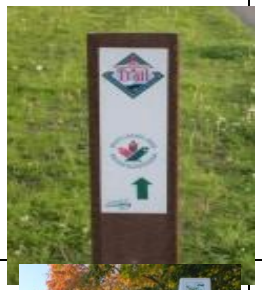
**Table 1 – Multi-criteria assessment of sign types, materials and design**

| Sign Group | Sign No. | Sign Design Type | Cost effective | Clarity | Strength & Low Maintenance | Vandalism (including fire) | Low Environ-mental Impact | Visual / Aesthetics | Ease of Installation | Modular Sign Face | User Safety | Matches Existing | Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Staging Area | 1 | Pavilion - Steel roof, concrete pillars | ✗ | ✓ | ✓ | ✓✓ | ✗ | ✗ | ✗ | ✓ | ✓ | ✓ | 7 |
| | 2 | Pavilion - local timber frame | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | 8 |
| | 3 | Vertical single face timber frame | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓ | 10 |
| Cultural / Biophysical Interpretive | 1 | Angled double leg steel frame | ✓ | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 11 |
| | 2 | Angled single leg steel frame | ✓ | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 11 |
| | 3 | Vertical timber frame | ✓✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | 10 |
| | 4 | Vertical steel frame | ✓ | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | 10 |
| Way-finding | 1 | Carsonite CRM-380 composite road edge type post | ✓ | ✓ | ✓✓ | ✓ | ✓✓ | ✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | 15 |
| | 2 | Square plastic post | ✗ | ✓✓ | ✓ | ✗ | ✗ | ✓ | ✗ | ✓ | ✓ | ✓ | 7 |
| | 3 | Router cut square timber post | ✓✓ | ✗ | ✓ | ✗ | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | 8 |
| Conflict Management | 1 | Triangular metal plate on steel / aluminum post | ✓ | ✓✓ | ✓ | ✓ | ✗ | ✗ | ✓ | ✓ | ✗ | ✗ | 7 |
| | 2 | Triangular plate on way-finding sign | ✓✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | 10 |

**Table 1 (continued) – Multi-criteria assessment of sign types, materials and design**

| Sign Group | Sign No. | Sign Type | Cost effective | Clarity | Strength & Low Maintenance | Vandalism (including fire) | Low Environ-mental Impact | Visual / Aesthetics | Ease of Installation | Modular Sign Face | User Safety | Matches Existing | Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Regulation | 1 | Steel face sign on steel / aluminum post | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ | ✗ | ✓ | 7 |
| | 2 | Steel face sign on timber post | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ | ✓ | 7 |
| Safety | 1 | Steel rectangular face sign on steel / aluminum post | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | 10 |
| | 2 | Steel rectangular face sign on timber post | ✓✓ | ✓ | ✓ | ✗ | ✓ | ✓✓ | ✓ | ✓ | ✗ | ✓ | 10 |
| | 3 | Steel diamond face on steel / aluminum post | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | 10 |
| | 4 | Steel diamond face on timber post | ✓✓ | ✓ | ✓ | ✗ | ✓ | ✓✓ | ✓ | ✓ | ✓ | ✓ | 11 |

**Table 2 – Sign type quick reference**

| Staging Area | Cultural / Biophysical Interpretive | Way-finding | Conflict Management | Regulation | Safety |
|---|---|---|---|---|---|
| 1  | 1  | 1  | 1   | 1   | 1   |
| 2   | 2  | 2   | 2   | 2   | 2   |
| 3  | 3  | 3   | | | 3   |

| | | | | | |
|---|---|---|---|---|---|
| | 4   | | | | 4   |

# 5.0 RECOMMENDED SIGN DETAILS & INSTALLATION CONSIDERATIONS

The following parts of this strategy note the forms of signage appropriate for the Spirit of 2010 Trail and include some appropriate examples. As the trail information may appear on a number of different signs, each sign type is noted below, with the typical content noted for each type. For example, way finding or trail navigation information is often presented in map form at a staging area. It may also appear on supplementing directional arrow signs along the trail.

The following examples and descriptions are for the following different sign themes:

- 5.1 Staging area pavilion
- 5.2 Staging area major kiosk
- 5.3 Staging area minor kiosk
- 5.4 Interpretive signage (biophysical / cultural / historical)
- 5.5 Way-finding
- 5.6 Conflict management
- 5.7 Regulatory
- 5.8 Safety
- 5.9 Crossing Warning

## 5.1 Staging Area Pavilion Signage

### *5.1.1 Sign Description*

| Trans Canada Trail standard pavilion | Pavilion installation example |
|---|---|
|  |  |

***Function***

- an attractive, distinct structure that provides visitors mapping, regulatory and general Trans Canada Trail and Spirit of 2010 trail information
- located in a key areas such as trail-head or major junction, preferably near parkland or other visitor attractions
- few in number, intended to showcase the features of the Trans Canada Trail and Spirit of 2010 trail
- trail information as appropriate that could include trail length, elevation change and difficulty
- can provide space for upcoming events, bulletins and other time sensitive information

***Characteristics & Specifications***

- concrete and steel frame on concrete base
- sloping metal roof to provide weather sheltering with identifying roof colour branding
- multiple two-sided vertical display faces
- screw in replaceable panels
- refer to Trans Canada Trail specification for further detail

### *5.1.2 Staging Area Pavilion - Sign elements*

***Interpretive information***
Staging area interpretive signage includes biological, geographical, cultural and historic information. The focus is on subject matter that is constant along the trail, or is a wide spread feature throughout the trail length. Explanatory text should be supplemented with mapping, photos and diagrams as much as possible to illustrate detail of the subject matter.

***Way-finding***
Way-finding components of staging area signage include trail mapping that indicates "you are here" and description or explanation of the way-finding signage to be found on the trail. This includes information on the directional signs along the trail as well as explanation of the kilometre distance markers, and the origin (or zero) and sequence of the markers. Each pavilion should be marked with global positioning system (GPS) co-ordinates and contact details for emergency evacuation.

***Stakeholder and partner recognition***
Signage content that provides recognition to partners and stakeholders is typically in the form of a name and logo or branding with the other information the sign is designed to portray. Ideally, this would be included on each sign panel within the pavilion.

***Regulatory***
Regulatory signage is to be included at the staging area or trail head. This is particularly relevant if there is a significant amount of information to be communicated to trail users that could create sign clutter along the trail.

### *5.1.3 Staging Area Pavilion - Installation considerations*

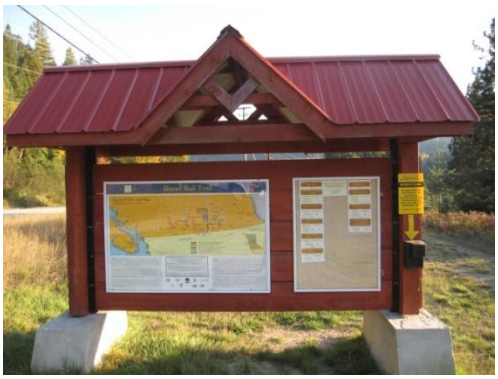
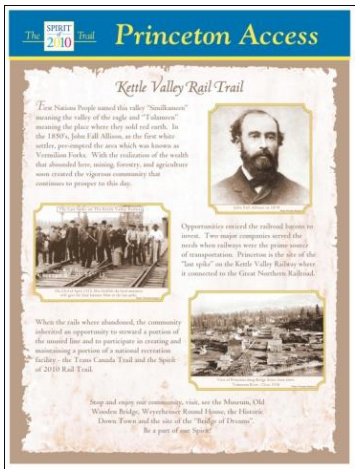
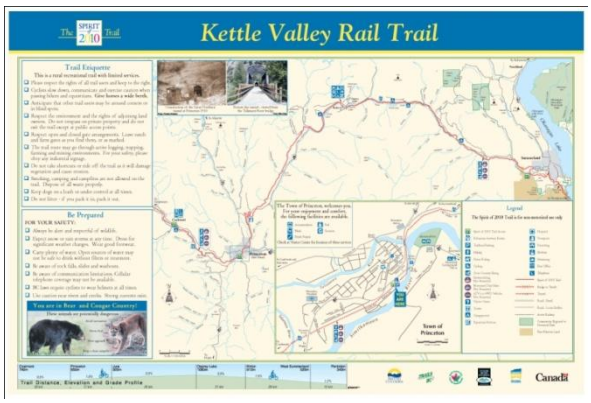
***Location***
Pavilions are limited to staging areas and trail heads. They should typically be installed only at each end of a significant trail, such as the Kettle Valley Rail Trail. They should also be placed on trail heads where there are transport hubs or significant population nearby to ensure value for money through regular visitor use. It is only appropriate to install a pavilion at a location part way along a trail, where there is a junction with another significant trail, or at major urban centers or attractions.

It is critical to allow sufficient space for installation as pavilions require significant space for construction and to allow viewing from all sides once installed.

***Regularity and spacing***
Regularity of pavilions is not a quantified measure as it is dictated by the location of trail heads of significant trails. For a trail to be considered significant it would have to stretch at least 50-100 km in length. The length of some significant trails may dictate that a pavilion is not installed for as much as 1000km.

## 5.2 Staging Area – Major Kiosk Signage

### *5.2.1 Sign Description*

| Major Kiosk - Local timber framed | Kiosk location mapping |
|---|---|
|  |   |
| **Kiosk Side B content – Unique Historic Sign** | **Kiosk Side B content – Local Trail Map** |
|   |   |

***Function***

- draws attention to major trail heads with its an attractive, distinct structure
- easily seen from a distance, has a characteristic look and feel that identifies it as a Spirit of 2010 trail
- provides visitors mapping, regulatory and general Trans Canada Trail and Spirit of 2010 trail information
- few in number, intended to showcase the features of the Spirit of 2010 trail
- can provide space for upcoming events, bulletins and other time sensitive information
- trail information (if appropriate) – length, elevation change, difficulty

***Characteristics***

- locally sourced wood timber supported on concrete bases
- sloped roof to direct rain / snow away from sign viewers
- metal roof with identifying roof colour branding
- one or two-sided vertical display face
- screw in replaceable panels
- see Appendix for fabrication and installation details

### *5.2.2 Staging Area Major Kiosk - Sign elements*

***Interpretive information***

Staging area interpretive signage includes biological geographical, cultural and historic information. The focus is on subject matter that is constant along the trail, or is a wide spread feature throughout the trail length. Explanatory text should be supplemented with mapping, photos and diagrams as much as possible to illustrate detail of the subject matter. This is typically included on side B (back) of the kiosk.

***Way-finding***

The way-finding component of staging area signage includes an overview trail mapping that indicates "you are here" and room for local information on side A (front) of the kiosk. A unique trail location map and other supporting local information is provided on side B (back of sign). A description or explanation of the way-finding signage to be found on the trail would also typically be included with the trail location map. . This includes information on the directional signs along the trail as well as explanation of the kilometre distance markers, and the origin (or zero) and sequence of the markers. Each pavilion should be marked with global positioning system (GPS) co-ordinates and contact details for emergency evacuation.

***Stakeholder and partner recognition***

Signage content that provides recognition to partners and stakeholders is typically in the form of a name and logo or branding with the other information the sign is designed to portray.

***Regulatory***

Regulatory signage is to be included at the staging area or trail head. This is particularly relevant if there is a significant amount of information for trail users that could create sign clutter along the trail.

### *5.2.3 Staging Area Major Kiosk - Installation considerations*

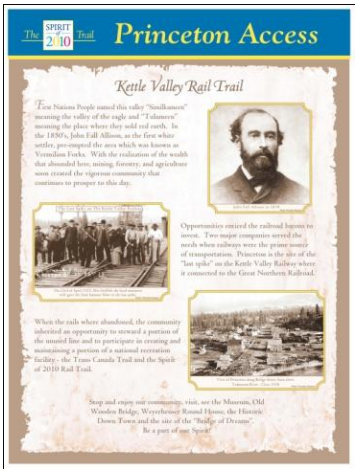
***Location***

Kiosks are limited to staging areas and major trail heads, at the commencement and termination point of significant trails that are also in close proximity to communities. These major trail heads would typically have parking for 10 or more vehicles as well as toilet and picnic facilities. Like pavilions, kiosks require significant space for installation and to allow viewing from both

| |
|---|
| sides. They should be located to allow trail users to view the kiosk information on both sides without blocking trail access for other users. |
| ***Regularity and spacing***<br>Regularity of kiosks is not a quantified measure as it is dictated by the location of trail heads, trail junctions and day use areas. Kiosks would not be expected closer than 5-10km apart and end up as much as 100km apart where there trail dictates. |

### *5.3 Staging Area – Minor Kiosk Signage*

#### *5.3.1 Sign Description*

| Minor Kiosk - Local timber framed (side A) | Side A content – Local Trail Map |
|---|---|
|  |   |
| **Kiosk Side B content – Unique Historic Sign** | **Kiosk Side B content – Location Overview Map** |
|   |   |

***Function***

- draws attention to remote trail heads with its attractive, distinct structure
- easily seen from a distance, has a characteristic look and feel that identifies it as a Spirit of 2010 trail
- provides visitors mapping, regulatory and general Trans Canada Trail and Spirit of 2010 trail information
- few in number, intended to showcase the features of the Spirit of 2010 trail
- can provide space for upcoming events, bulletins and other time sensitive information

- trail information (if appropriate) – length, elevation change, difficulty

***Characteristics***

- locally sourced wood timber supported on concrete bases
- sloped roof to direct rain / snow away from sign viewers
- metal roof with identifying roof colour branding
- one or two-sided vertical display face
- screw in replaceable panels
- see Appendix for fabrication and installation details

### *5.3.2 Staging Area Minor Kiosk - Sign elements*

***Interpretive information***

Staging area interpretive signage includes biological geographical, cultural and historic information. The focus is on subject matter that is constant along the trail, or is a wide spread feature throughout the trail length. Explanatory text should be supplemented with mapping, photos and diagrams as much as possible to illustrate detail of the subject matter. This is typically included on side B (back) of the kiosk.

***Way-finding***

Way-finding components of staging area signage include trail mapping that indicates "you are here". The unique trail location map on side A (front of sign).

A description or explanation of the way-finding signage to be found on the trail would also typically be included with the trail location map. This includes information on the directional signs along the trail as well as explanation of the kilometre distance markers, and the origin (or zero) and sequence of the markers. Each pavilion should be marked with global positioning system (GPS) co-ordinates and contact details for emergency evacuation.

***Stakeholder and partner recognition***

Signage content that provides recognition to partners and stakeholders is typically in the form of a name and logo or branding with the other information the sign is designed to portray.

***Regulatory***

Regulatory signage is to be included at the staging area or trail head. This is particularly relevant if there is a significant amount of information for trail users that could create sign clutter along the trail.

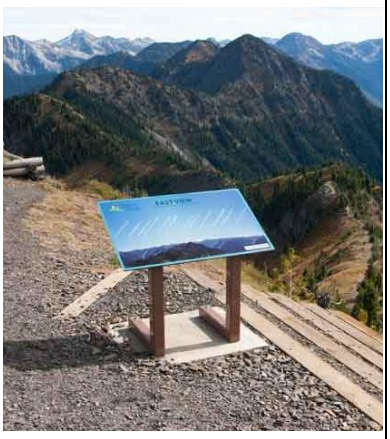
### *5.3.3 Staging Area Minor Kiosk - Installation considerations*

**Location**
Kiosks are limited to remote staging areas and trail heads, at the commencement and termination point of significant trails that are in a rural or wilderness setting and are not close to communities. They can also be installed at junctions with other significant trails.
Like pavilions, kiosks require significant space for installation and to allow viewing from both sides. They should be located to allow trail users to view the kiosk information on both sides without blocking trail access for other users.

**Regularity and spacing**
Regularity of kiosks is not a quantified measure as it is dictated by the location of trail heads, trail junctions and day use areas. Kiosks would not be expected closer than 5-10km apart and end up as much as 100km apart where there trail dictates.

## 5.4 Cultural / Biophysical Interpretive Signage

### *5.4.1 Sign Description*

| Angled double post steel frame | Angled single post steel frame | Vertical timber or steel frame |
|---|---|---|
|  |  |  |

***Function***

- trail side attraction sign
- point of interest identification
- information on locally significant cultural or biophysical attractions

***Characteristics***

- 30 – 45 ° angled sign
- two support posts secured with concrete footings
- designed with space set aside for inset map, sponsor / stewardship logos, images, text
- replaceable information panel by removing mounting rail(s)
- angled timber frame where the focus is to minimize cost
- steel or aluminum frame where vandalism or fire resistance is preferred
- see Appendix for fabrication and installation details

### *5.4.2 Interpretive Signage - Sign elements*

***Interpretive information***
Interpretive signs along the trail are designed to draw attention to a specific feature or attraction that is specific to that point in the trail. It should elaborate on the interpretive information provided at the staging area of the trail.

***Stakeholder and partner recognition***
Signage content that provides recognition to partners and stakeholders is typically in the form of a name and logo or branding. On interpretive signage this should be positioned and sized to not distract from the key interpretive information.

***Way-finding***
The way-finding information presented on the two post interpretive sign is secondary to the historic, cultural or biological information presented on the sign. It should not be relied upon to direct trail users. The mapping information is intended to direct trails users' attention to a specific area or location relevant to the interpretive information or provide a graphic representation of the region relevant to the particular subject matter.

### *5.4.3 Interpretive Signage - Installation considerations*

***Location***
Interpretive signs should be placed along or near the trail as closely as possible while allowing small groups to safely read the information without preventing other trail users from continuing along the trail. The sign will typically be placed perpendicular to the direction of the trail, requiring the trail user to stop and turn from the trail to view the sign. The sign should be positioned so that once the trail user is facing the sign, they are also facing toward the general direction of the feature that the sign describes and explains.

***Regularity and spacing***
Regularity of interpretive signs is not a quantified measure as it is dictated by the location of attractions or local features. There may be sections of trail where interpretive signage is not warranted for many kilometers. In other locations, interpretive signage may be appropriate multiple times within 1 kilometer of trail.

## 5.5 Way-finding Signage

### *5.5.1 Sign Description*

| Carsonite post (or similar) | Composite square post | Timber square post |
|---|---|---|
|  |  |  |

***Function***

- provides clear direction for trail users – focused at trail junctions and decision points
- directs trail users to attractions and interpretive signage not directly on the trail route
- highly visible for trail users, close to the trail
- confirms the trail user is on the Spirit 2010 Trail
- minimize cost to allow high frequency of use along the trail length
- minimize impact risk through flexible post design and no sharp edges

***Characteristics***

- composite recycled plastic
- modular approach to application of information (e.g. logos, arrow) to ensure versatility when installing in the field
- 1.2m high from ground level to remain clearly visible while retaining clear sight lines beyond the sign
- metal base designed to be hammered into soft soil
- sign face elements may also be affixed to other structures, such as gate posts or bridge abutments, where appropriate
- see Appendix for fabrication and installation details

### *5.5.2 Way-finding - Sign elements*

***Way-finding***

There are two elements to the way-finding function of this sign. The primary element is the trail identification logo to provide recognition of the trail. The secondary element is the directional arrow which provides discrete direction to continue the journey along the trail.

The signs directional arrow should always be pointed horizontal or some angle upward on the sign. If the location of the sign suggests that it would require the directional arrow to point down, the sign should be rotated or repositioned. Horizontal arrows are preferred as they require the minimum amount of cognitive processing because the arrow is actually pointing in the direction the trail user will be travelling.

***Stakeholder and partner recognition***

Signage content that provides recognition to partners and stakeholders. This recognition is typically in the form of a name and logo or branding with the other information the sign is designed to portray.

***Conflict management, warning and safety***

Way-finding signs should remain as uncluttered as possible to ensure their direction is clear. No warning or safety signage information should be added to way-finding signs along the trail.

Conflict management signage can be added to way-finding signage. It should only be added to a way-finding post where it is the first post after a trail head, entrance or pavilion. The other location that the conflict management plate would be added is at changes of jurisdiction where use type is expected to change, and potential conflict is expected to change. This should still mean that conflict management information will not be included on the majority of way-finding posts, typically keeping their appearance as easy to read as possible.

### *5.5.3 Way-finding - Sign Installation considerations*

***Location***

Way-finding posts are to be installed at all trail junctions and decision points along the length of the trail. At trail forks with a fine or acute angle, a horizontal arrow on a sign facing the direction of trail, may result in a sign which is twisted away from the approaching trail. If this is the case, the sign should be located to be clearest to approaching traffic, perpendicular to the approach, with the directional arrow angled to indicate the direction of the trail.

Each sign should consider trail user traffic arriving from both directions, ensuring that navigation is effective in each direction.

Tree blazes or tree mounted plates are not appropriate options for this trail. Locating signs on trees can compromise the location of the sign, potentially resulting in reduced effectiveness of the sign. There is also a public perception that tree mounted signs may damage the trees they affixed to.

Care should be taken to ensure that way-finding signs are placed in a way that they do not interfere with traffic operation on adjacent roadways. Similarities between trail signage and road signage may cause confusion and interfere with the safe use of the road.

There is also the option to install kilometre distance markers are to be installed at 1km intervals along the trail, where there are significant stretches of continuous trail without junctions. This provides the trail user with reassurance of their correct navigation while also providing distance information for the journey. It can also provide location information for trail users requiring medical treatment.

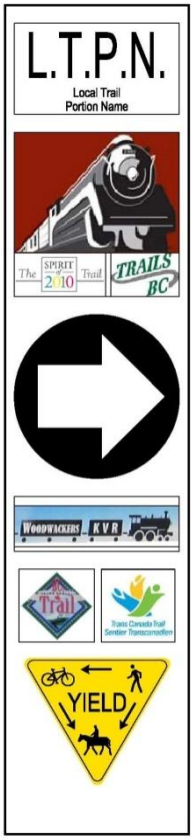
Where the trail travels less than 1km between signed junctions or turns, it is not necessary to include kilometre markers.

***Regularity and spacing***

The optional kilometer markers serve the purposes of providing distance and location information while also giving recognition of the trail being travelled. Way-finding signs will be installed at all junctions and will also provide this recognition. If there are no kilometer markers and it is more than 2 kilometers between trail junctions, it may be appropriate to install a way-finding sign at 1 kilometer intervals directing users to continue along the trail.

## 5.6 Conflict Management Signage

### *5.6.1 Sign Description*

| Triangular metal yield plate | Yield plate on way-finding post |
|---|---|
|   |   |

***Function***

- provide warning to trail users of potential conflict
- provide guidance for right of way priority between users

***Characteristics***

- triangular yellow reflective highways style identifier
- Text, “Stop! Stand, Speak” is optional
- self adhesive – to be added in small sticker format to way-finding signs
- see Appendix for installation details

### *5.6.2 Conflict Management - Sign elements*

This conflict management sign is a single plate so only has information to inform trail users of other potential users and how best to minimize conflict with them.

### *5.6.3 Conflict Management - Sign Installation considerations*

***Location***

The conflict management plate is designed to only be added to way-finding signage posts. It should only be added to a way-finding post where it is the first post after a trail head, entrance or pavilion. The other location that the conflict management plate would be added is at changes of jurisdiction where use type is expected to change, and potential conflict is expected to change.

***Regularity and spacing***

The regularity of this plate will be determined by the location of the trail entrances or jurisdiction changes. It may also be use more regularly in areas of high trail use where perceived conflict between trail users is more likely.

## 5.7 Regulatory Signage

### *5.7.1 Sign Description*

Steel face on steel, aluminum or timber posts



***Function***

- inform visitors of local municipality regulations, provincial regulations or federal regulations relevant to the use of the subsequent length of trail
- inform on which activities are permitted and which are prohibited

***Characteristics***

- steel or aluminum post is appropriate where fire and vandalism resistance is a focus
- timber post is appropriate where cost and visual amenity is the focus
- installation must be secured with solid concrete footings
- symbols of permitted activities should be featured as well as prohibited activities
- sign surface should be scratch and paint resistant to reduce effects of vandalism
- information should include possible violation fine amount, government agency logo charged with enforcement, emergency contact phone number
- may also be affixed to other structures, such as gate posts or bridge abutments, where appropriate
- signs should match the Manual of Standard Traffic Signs for colour, lettering, shape and reflective coating
- see Appendix for fabrication and installation details

### *5.7.2 Regulatory - Sign elements*

***Regulatory***
Regulatory signage is typically placed close to the relevant location. This serves to provide the relevant information to the trail users immediately before they need the information. It also means that trail users are not required to remember all regulations for the entire length of the trail.

***Stakeholder and partner recognition***
Signage content that provides recognition to partners and stakeholders. This recognition is typically in the form of a name and logo or branding with the other information the sign is designed to portray. This should not dominate the signage but instead provide the appropriate jurisdictional support for the regulatory message.

### *5.7.3 Regulatory Signage - Installation considerations*

***Location***
Regulatory signage is to be installed at each change of jurisdictional boundary if usage types or use restrictions change. They are to be installed at a nominal 2m from the trail edge to minimize impact risk from trail users. This will often be behind the trail edge drain.

Signs should be installed to be a minimum of 2400mm (8') from the ground surface to prevent head strikes and to maximize visibility.

***Regularity and spacing***
There is no pre-determined spacing for regulatory signs as their location will be dictated by the location usage areas and jurisdiction boundaries.

## 5.8 Warning and Safety Signage

### *5.8.1 Sign Description*

| Steel face on steel, aluminum or timber post (Typical warning pictogram & caution sign) | Steel face on steel, aluminum or timber post (Optional caution sign) |
|---|---|
|  |  |

***Function***

- notify trail users of specific hazards along the trail, including examples such as road crossings, abrupt changes to trail steepness, surface or direction
- notify trail users of general safety warnings for rock fall hazard, wildlife, trail intersections and weather, for example
- inform users of what action could be taken to minimize risk of damage or injury, for example, “steep descent ahead, reduce speed”
- signage may also include Stop or Yield type signage at road or rail crossings for example (this would typically be defined as regulatory in a vehicle traffic context)

***Characteristics***

- near to trail edge and easily seen by trail users
- easily interpreted text or symbols prior to hazard
- combination of symbol with word message is likely most effective
- reflective coating
- post can be either metal or timber
- may also be affixed to other structures, such as gate posts or bridge abutments, where appropriate
- signs should match the Manual of Standard Traffic Signs for color, lettering, shape and reflective coating
- see Appendix for fabrication and installation details

| |
|---|
| ***5.8.2 Warning and Safety - Sign elements*** |
| ***Conflict management***<br>Warning of other users crossing the trail such as fire services road crossing of the trail. |
| ***Warning and safety***<br>This content can be text or pictogram focused, or a combination of both. Warning signs that are pictogram focused should be most closely matched to highway sign type design. Signs with a text focus will typically have a Caution header with explanatory text below. |

### *5.8.3 Warning and Safety Sign - Installation considerations*

#### *Location*

Warning signs are usually located on the right side of the trail, perpendicular to the trail to face the oncoming trail users. Typically, a warning sign should not have any other sign affixed to the same post.

Only posts for warning signs are permitted to be located on the edge of the trail bed and they should be at least 1 metre from the finished trail surface.

On non-motorised trail with a paved surface pavement marking can be used as an appropriate substitute for some trail signage. Stop and Yield signs are most readily adopted for pavement marking. The symbol, colour and size should remain the same as on a typical sign plate.

The Spirit of 2010 trail crosses established roadways a numerous locations. These crossings need to be consistently marked throughout the trail length.

At road intersections, the trail is marked with Stop signs on a post located at or just behind the property boundary with the road. Size is 30cm (12"). The sign is mounted a minimum of 1200mm (4') above the trail surface to the bottom of the sign.

Stop Ahead symbol signs of a similar size are required on the edge of the trail bed 100 metres back from every stop sign. Mounting height is 1500mm (5') minimum to the bottom of the sign. Route number signs are permitted to be located on the top of these posts.

All obstacles which result in a narrowing of the trail including bridges are marked with a Trail Narrows symbol sign. These signs will be used in both directions 10 metres before any structures in the corridor.

All bridges are marked with a Bridge Ahead sign 100 metres before the structure in both directions.

Care should be taken to ensure that warning signs are placed in a way that they do not interfere with traffic operation on adjacent roadways. Similarities between trail signage and road signage may cause confusion and interfere with the safe use of the road.

#### *Regularity and spacing*

There is no pre-determined spacing for warning signs as their location will be dictated by the location of hazards along the trail.

## 5.9 Crossing Warning Signage

### *5.9.1 Sign Descriptions*

| Steel face Highway Crossing and Caution signs on steel / aluminum post | Steel face Stop sign on steel / aluminum post |
|---|---|
|   |   |

***Function***

- notify trail users of crossing ahead
- inform users of what action could be taken to minimize risk of damage or injury, for example, “steep descent ahead, reduce speed”
- signage may also include Stop or Yield type signage at road or rail crossings for example (this would typically be defined as regulatory in a vehicle traffic context)

***Characteristics***

- near to trail edge and easily seen by trail users
- easily interpreted text or symbols prior to hazard
- combination of symbol with word message is likely most effective
- post can be either metal or timber
- may also be affixed to other structures, such as gate posts or bridge abutments, where appropriate
- signs should match the Manual of Standard Traffic Signs for color, lettering, shape and reflective coating
- see Appendix for fabrication and installation details

### *5.9.2 Crossing Warning - Sign elements*

***Conflict management***
Warning of other users crossing the trail such as fire services road crossing of the trail.

***Warning and safety***
This content can be text or pictogram focused, or a combination of both. Warning signs that are pictogram focused should be most closely matched to highway sign type design. Signs with a text focus will typically have a Caution header with explanatory text below.

### *5.9.3 Highway Crossing Warning Signs - Installation considerations*

***Location***
Caution sign and Highway Crossing pictogram sign 300mm x 300mm (12" x 12") to be installed 50m in advance of highway junction. This is to be increased to 100m on trails where snowmobile use is approved.

Stop sign 250mm x 250mm (10" x 10") to be installed at least 5m in advance of highway junction. This should ensure that the sign is at, or just behind, the property boundary with the road right of way.
The sign is mounted a minimum of 1200mm (4') above the trail surface to the bottom of the sign.

Each of these warning signs is to be located on the right side of the trail, perpendicular to the trail to face the oncoming trail users. Typically, a warning sign should not have any other kind of sign affixed to the same post.
Only posts for warning signs are permitted to be located on the edge of the trail bed and they should be at least 1 metre from the finished trail surface.

On non-motorised trail with a paved surface pavement marking can be used as an appropriate substitute for some trail signage. Stop and Yield signs are most readily adopted for pavement marking. The symbol, colour and size should remain the same as on a typical sign plate.

Care should be taken to ensure that warning signs are placed in a way that they do not interfere with traffic operation on adjacent roadways. Similarities between trail signage and road signage may cause confusion and interfere with the safe use of the road.

***Regularity and spacing***
There is no pre-determined spacing for warning signs as their location will be dictated by the location of crossings along the trail.

### *5.9.4 Roadway Crossing Warning Signs - Installation considerations*

***Location***

Stop sign 250mm x 250mm (10" x 10") to be installed between 3m and 5m in advance of highway junction.
This should ensure that the sign is at, or just behind, the property boundary with the road right of way.
The sign is mounted a minimum of 1200mm (4') above the trail surface to the bottom of the sign.

At roadways with high levels of traffic or in locations where conflict with trail users is likely, the advanced warning signs can be considered for use.
The Caution sign and Highway Crossing pictogram sign 300mm x 300mm (12" x 12") would be installed 30m in advance of highway junction. This can be increased up to 100m on trails where snowmobile use is approved.

Each of these warning signs is to be located on the right side of the trail, perpendicular to the trail to face the oncoming trail users. Typically, a warning sign should not have any other kind of sign affixed to the same post.
Only posts for warning signs are permitted to be located on the edge of the trail bed and they should be at least 1 metre from the finished trail surface.

On non-motorised trail with a paved surface pavement marking can be used as an appropriate substitute for some trail signage. Stop and Yield signs are most readily adopted for pavement marking. The symbol, colour and size should remain the same as on a typical sign plate.

Care should be taken to ensure that warning signs are placed in a way that they do not interfere with traffic operation on adjacent roadways. Similarities between trail signage and road signage may cause confusion and interfere with the safe use of the road.

***Regularity and spacing***

There is no pre-determined spacing for warning signs as their location will be dictated by the location of crossings along the trail.

### *5.9.5 Private Crossing Warning Signs - Installation considerations*

***Location***

Highway Crossing pictogram sign 250mm x 250mm (10" x 10") to be installed 3m to 5m in advance of junction.
The sign is mounted a minimum of 1200mm (4') above the trail surface to the bottom of the sign.

At roadways with high levels of traffic or in locations where conflict with trail users is likely, the advanced warning signs can be considered for use.
The Caution sign and Highway Crossing sign (pictogram) would be installed 30m in advance of highway junction. This can be increased up to 100m on trails where snowmobile use is approved.

Each of these warning signs is to be located on the right side of the trail, perpendicular to the trail to face the oncoming trail users. Typically, a warning sign should not have any other kind of sign affixed to the same post.
Only posts for warning signs are permitted to be located on the edge of the trail bed and they should be at least 1 metre from the finished trail surface.

On non-motorised trail with a paved surface pavement marking can be used as an appropriate substitute for some trail signage. Stop and Yield signs are most readily adopted for pavement marking. The symbol, colour and size should remain the same as on a typical sign plate.

Care should be taken to ensure that warning signs are placed in a way that they do not interfere with traffic operation on adjacent roadways. Similarities between trail signage and road signage may cause confusion and interfere with the safe use of the road.

***Regularity and spacing***

There is no pre-determined spacing for warning signs as their location will be dictated by the location of crossings along the trail.

# 6.0 REFERENCES

BC Ministry of Natural Resource Operations (formerly Ministry of Tourism, Culture and the Arts). 1996. Park Design Guidelines & Data. British Columbia Institute of Technology.

International Mountain Bicycling Association. 2004. Trail Solutions: IMBA's Guide to Building Sweet Singletrack.

BC Ministry of Transportation & Highways. 2000 Manual of Standard Traffic Signs & Pavement Markings.

# 7.0 LIST OF ACRONYMS & ABREVIATIONS

Cascade - Cascade Environmental Resource Group

IMBA - International Mountain Bicycling Association

MTCA -Ministry of Natural Resource Operations

TCT - Trans Canada Trail

BC - British Columbia

# 8.0 APPENDICIES & PHOTOS

### *Caution signage – commonly used examples*







### *Warning signage – commonly used examples*


Bridge warning


Highway crossing


Rock fall warning


Swift current warning

### *Combined Warning and Caution signage – installed examples*


Highway crossing warning sign and highway crossing caution sign at a lower traffic crossing.


Highway crossing caution sign, general warning sign and regulatory stop sign at a higher traffic crossing

# Sign location guide & sign review prompts

| Sign location prompts | Sign Type | | | | | | |
|---|---|---|---|---|---|---|---|
| | Pavilion | Kiosk | Interpretive | Way-finding | Conflict Management | Regulatory | Warning & Safety |
| Staging area of significant trail | 1 | | | 2 | 2 | | |
| Staging area of moderate to small trail | | | | | 2 | | |
| Vista, view or lookout | | | | | | | |
| Culturally significant site or area | | | | | | | |
| Historically significant site or area | | | | | | | |
| Biological feature distinct to region | | | | | | | |
| Geographic feature distinct to region | | | | | | | |
| First sign along trail length | | | | | 3 | | |
| Change in trail user types | | | | 3 | 3 | | |
| Site likely to experience trail user perceived conflict | | | | 3 | 3 | | |
| Site with reported trail user perceived conflict | | | | 3 | 3 | | |
| Kilometre interval along trail | | | | 4 | | | |
| Trail junction or decision point | | | | | | | |
| Trail deviation to attraction | | | | | | | |
| Highway crossing | | | | 5 | | | |
| Road crossing | | | | 6 | | | |
| Driveway/access crossing | | | | | | | |
| Trail narrows, steepens, turns sharply, changes surface etc. | | | | | | | |
| Potential rock slide, wash out, slippery surface etc. | | | | | | | |
| Entry to jurisdiction or management areas | | | | | | | |
| Entry to management areas eg. water supply catchments | | | | | | | |
| Entry to areas likely to attract unapproved use | | | | | | | |
| Change in jurisdiction or management area | | | | | | | |
| *Other prompts can be added by trail managers:* | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| # | **Notes:** |
|---|---|
| 1 | Trans Canada Trail route only. |
| 2 | Explanation of sign content that is along the trail. |
| 3 | Conflict management plate on way-finding sign. |
| 4 | Way-finding sign for reassurance or kilometre marker. |
| 5 | Highway authority typically requires placement of signs outside road right of way. |

6 Sign location should not interfere with safe operation of vehicle traffic along roadway.

## Appendix 5: Area H Recreation Objectives Survey Results

# SCHEDULE C-1: ROUNDS 2 & 3 SURVEY RESULTS RECREATION OBJECTIVES

## TABLE OF CONTENTS

## 1. Objective No. REC-01
## "Provide parks and recreation planning, and infrastructure"

### 1.1 Results

**FIGURE 1.1.1**

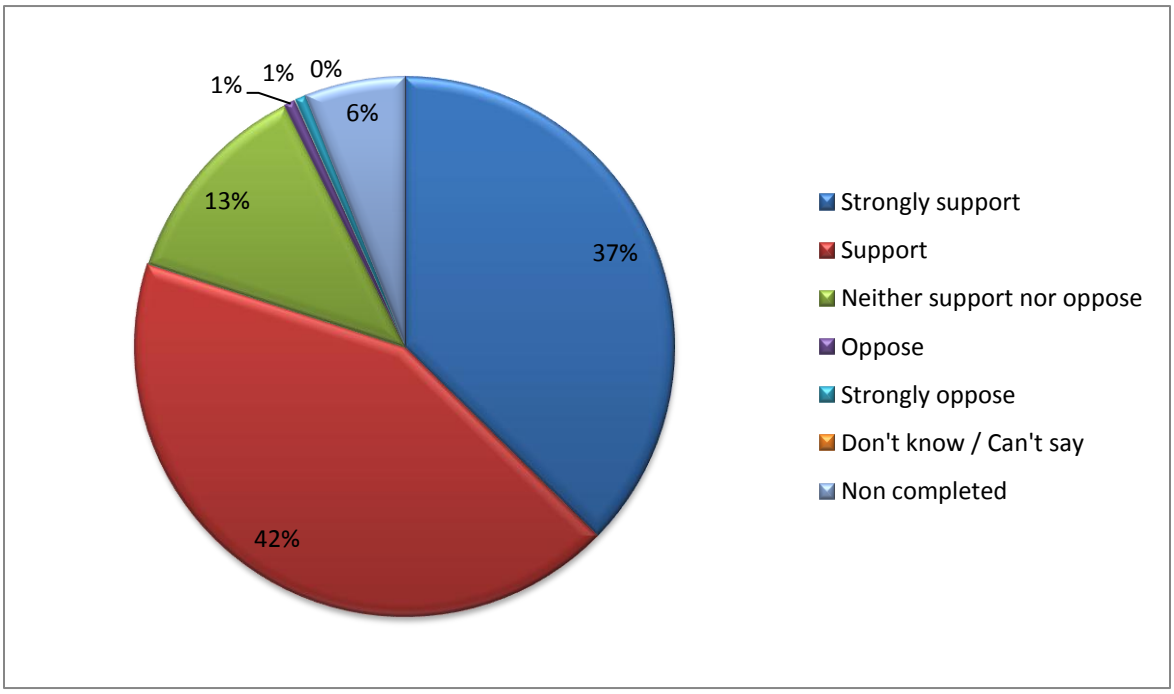



**FIGURE 1.1.2**

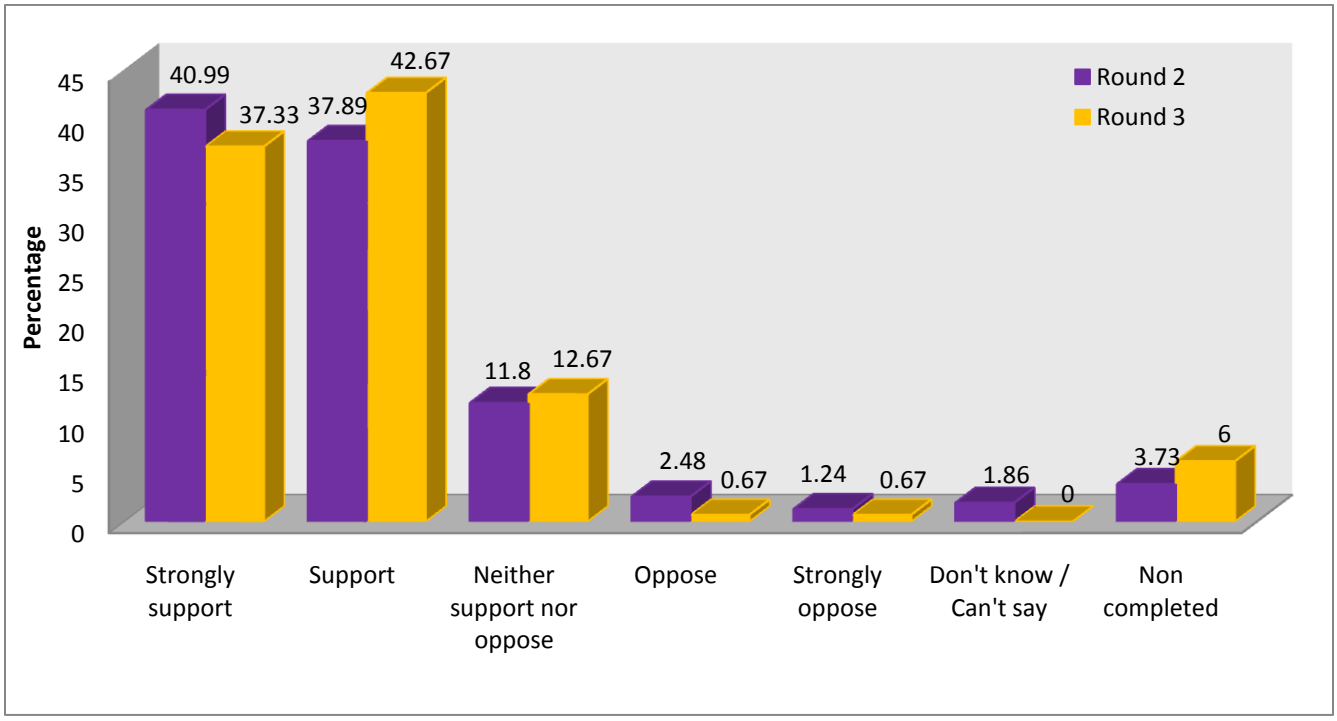


**FIGURE 1.1.3**

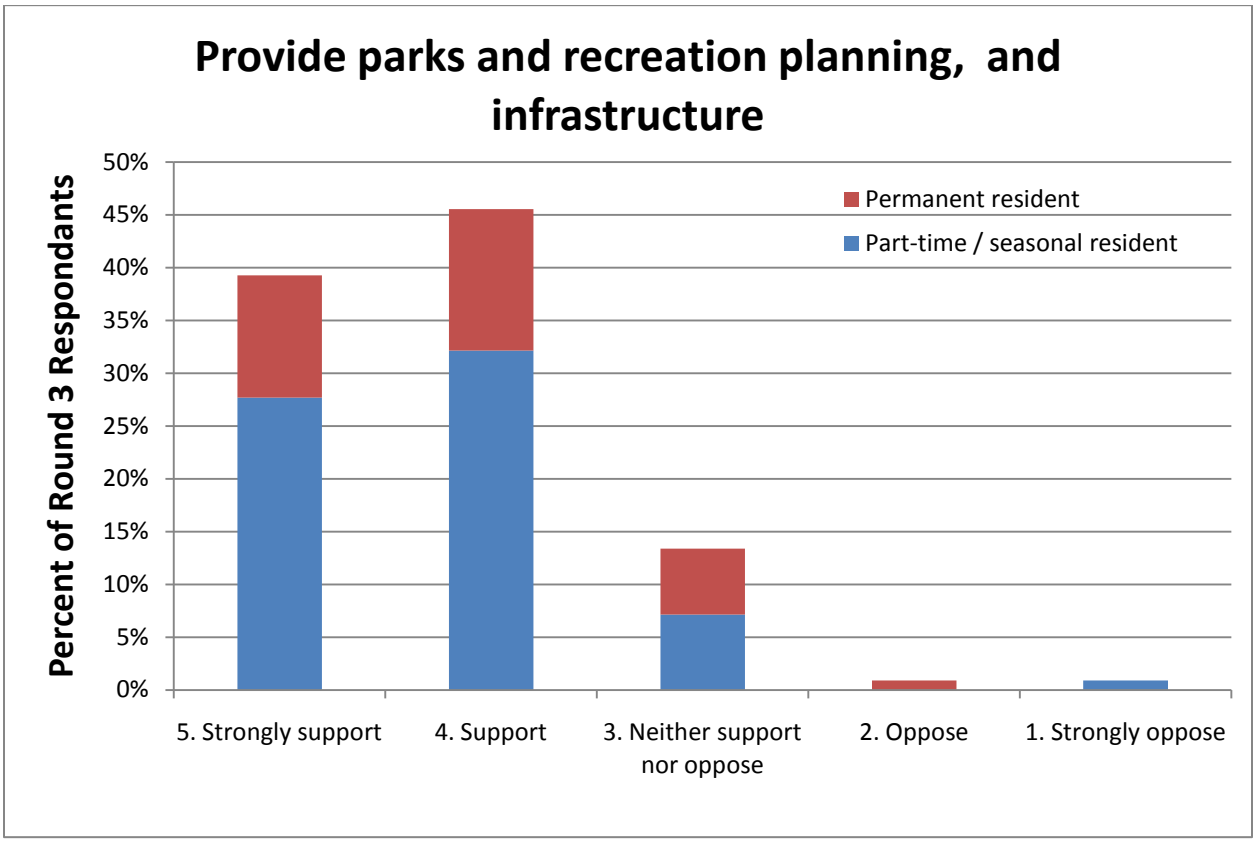
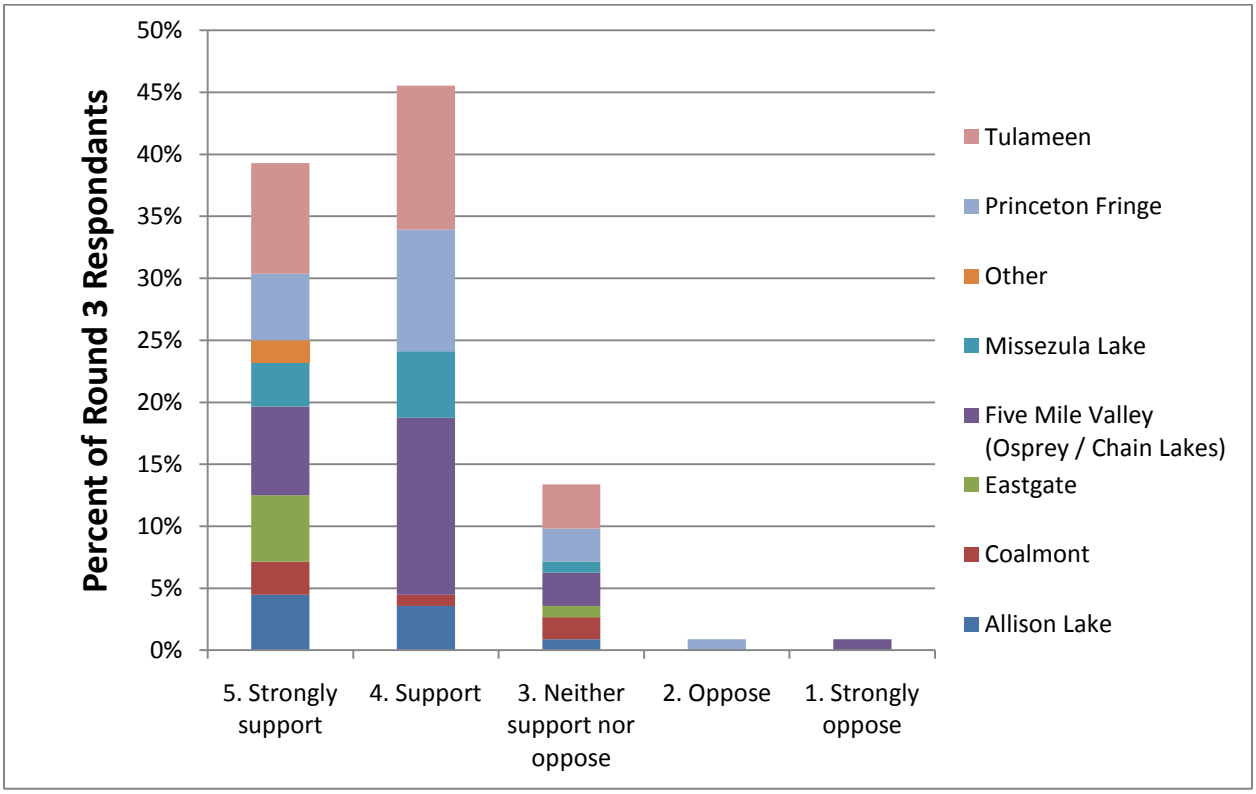



**FIGURE 1.1.4**



## 1.2 Participant Responses (Round 2)

- We have to encourage healthy activity for our young people; although, it seems their access of our "high country" seems to be on ATVs.
- There has to be a balance between residential, industrial and park lands. Too much of one may adversely affect others.
- Keep lakes, and access as is. If access is too easy we get undesirables.
- Encourage and support separate trails for motorized vehicles well away from residential and lake areas.
- As much as I like a Park the money could be better spent elsewhere. How about hiring some doctors for Princeton?
- With an aging population - Holistic Wellness should be the focus - not everyone has an ATV or are able to pursue outdoor winter recreation.
- Get rid of the ATV's that are wrecking the backwoods!
- Provides employment and activities for residents.
- Part of the tourism development.
- Planning with area resident consultation only.
- Recreation for visitors to the region - trails etc (and therefore economic activity) but also recreation for the local population that reflect the demographics. Recreation is not just about leisure centres and pools - arts and culture, community halls etc.
- Unless Area H wants to purchase private lands for parks, the Province looks after this and we have lots of area set aside for parks.
- Modest investments could provide expanded opportunities to explore and enjoy the area which would bring in tourist dollars.
- The provincial government will continue to cut spending. It is important that we maintain parks and recreational areas to promote tourism.
- I agreed with the 1st response and in comment to the 2$^{nd}$, parks are not even on the radar screen of this provincial government so if we want them, local governments have to make sure that they are in place and maintained.
- The need to think of future generations and their ability to access the natural world.
- We need a proper, all-season swimming pool.
- Local improvements for residents, such as docking facilities on lakes.
- This is what government was created to do.
- Need a provincial government that supports financially the park system. That is their mandate.

## 1.3 Participant Responses (Round 3)

- I do not feel we need to spend money to develop and maintain more parks or recreation facilities, but do feel we need to ensure access and protection of the lakes and rivers within our communities. They need to be protected from development and encroachment from industry or from being overrun by heavy residential development.
- Lots of Crown land in our area that people already use. Too few dollars to put to parks.
- I think we have enough parks in this area...better to maintain the roads that take us to them (Ricky Lake, etc...)
- Duh! Are you going to ask if we should continue to provide schools too?
- Are the city parks now being used by the young?
- need more planning and consultation on potential locations of regional park within the OCP.

- Rather see the money spent on the motorized vs. non motorized recreation problem. This conflict could escalate into something ugly if it is not dealt with properly.
- We all work to play. Places to safely play build a strong community.
- Identify designated areas for ATVs'. Right now they are everywhere, noisy and driven illegally on our roadways.
- Regulate the off road vehicles to allow all to enjoy the wilderness. Keep ATVs off the KVR with enforcement! This is a huge problem at Otter lake and Osprey lake!!!!!
- Gathering spaces are very important. Bring community together. Both indoor and outdoor. new spirit square is a good example of this.
- Any area being developed should have parks/recreational opportunities included in the plans
- Provincial Jurisdiction.
- I agree Parks are not the only recreation we need to develop. Having said that the present premier gives no value to parks and they are a very necessary thing in society so let’s not loose what we have. We should develop all sorts of recreation but that doesn't mean that the Regional District has to be involved or do the work etc. - possibly it's role could be that of a supporter A healthy body is a healthy mind and they both take stress off of the medical system.
- Yes.
- Provided parks and recreation planning is broader than just a pool and sports programs.
- Those are the amenities for young families.
- Planning for parks early ensures that future generations will be able to enjoy the wilderness we have today and it will not be lost.
- WE absolutely need recreational activities for our young people if we wish to keep them in this area.
- Centered in Princeton for Parks and Rec. Rural areas don't need management except for de-foresting of dead pine beetle trees.
- Do we need another body looking after something already addressed provincially?
- TE AREA provides recreational opportunities of enormous richness, and we are close to Vancouver. A rational development of 4-season recreation and suitable housing (i.e.: a good hotel, restaurant) would be a gold mine to the area, and a long-term economic resource. Parks are not necessary: most of this is better done by encouraging private business.
- You need to take care of a facility that is used as much as this park is. If you want to put your money towards getting the ATV's off of the Trans Canada Trail - I'd say YES! To that!
- Yes.
- Leave the parks to the provincial government.
- We don't need more places for quads snowmobiles and other recreational motor sport.
- We need recreational area support where the province has ceased support.

## 2. Objective No. REC-02
## "Support community arts programs"

### 2.1 Results

**FIGURE 2.1.1**

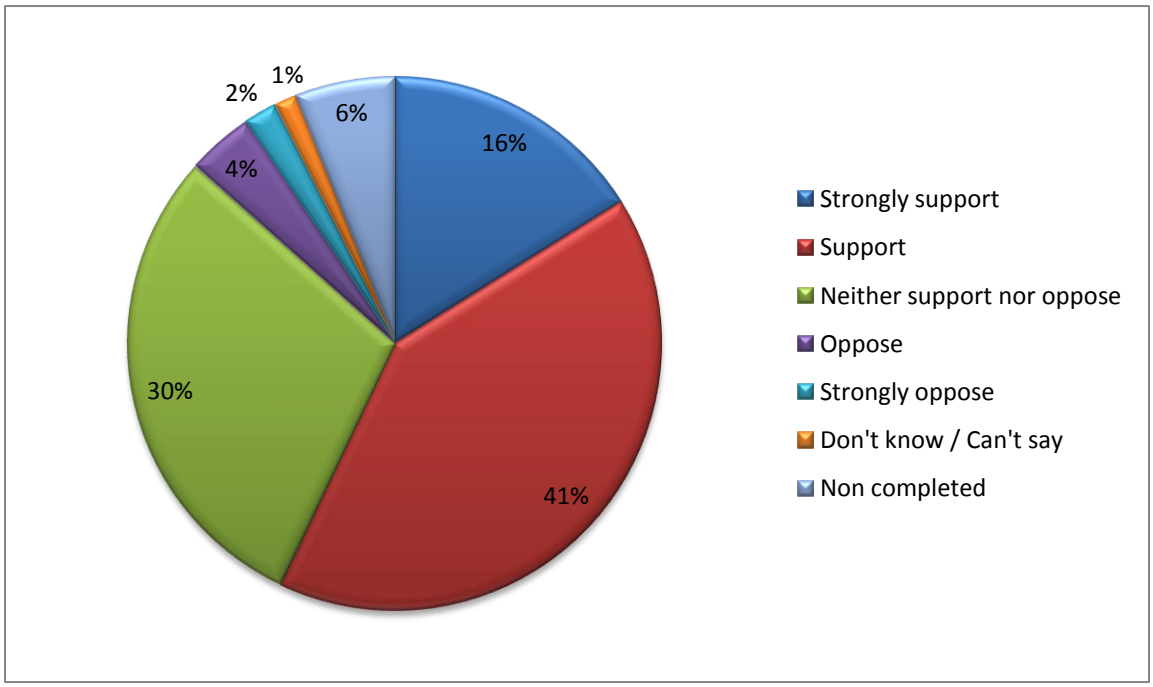



**FIGURE 2.1.2**

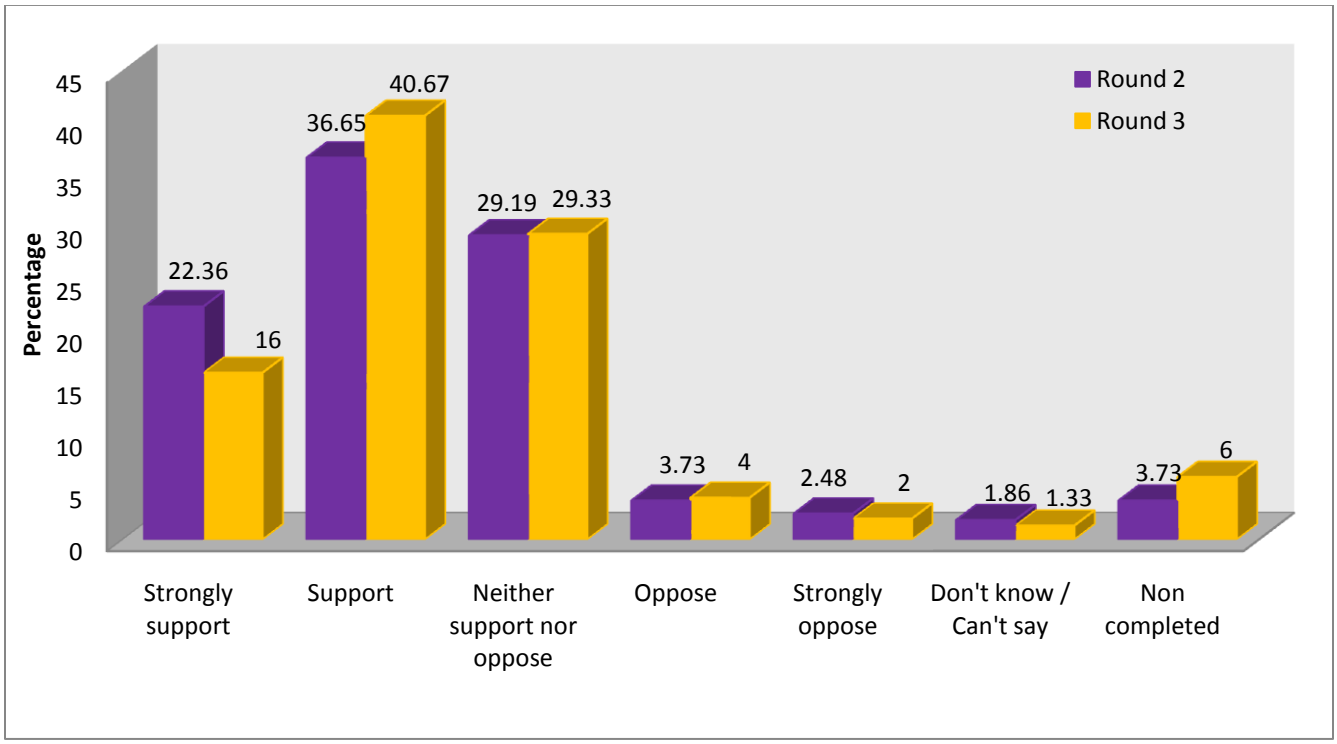


**FIGURE 2.1.3**

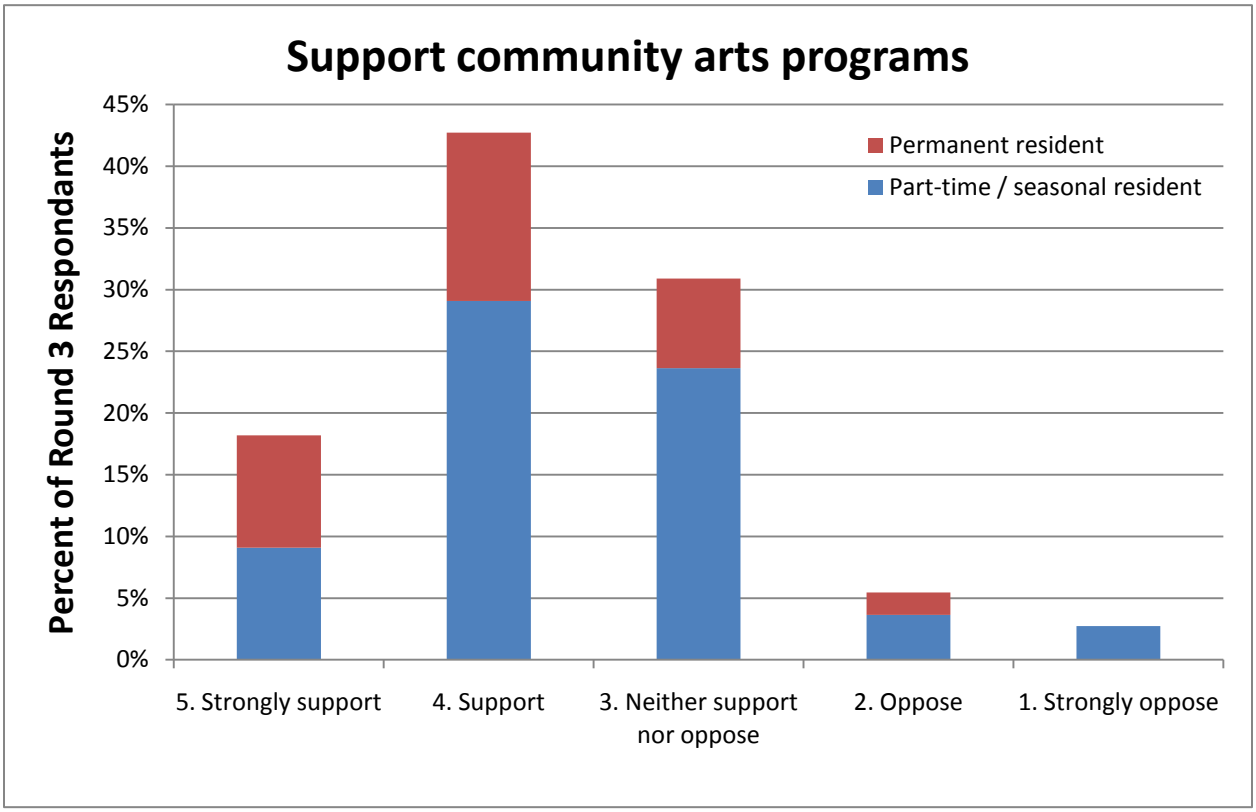
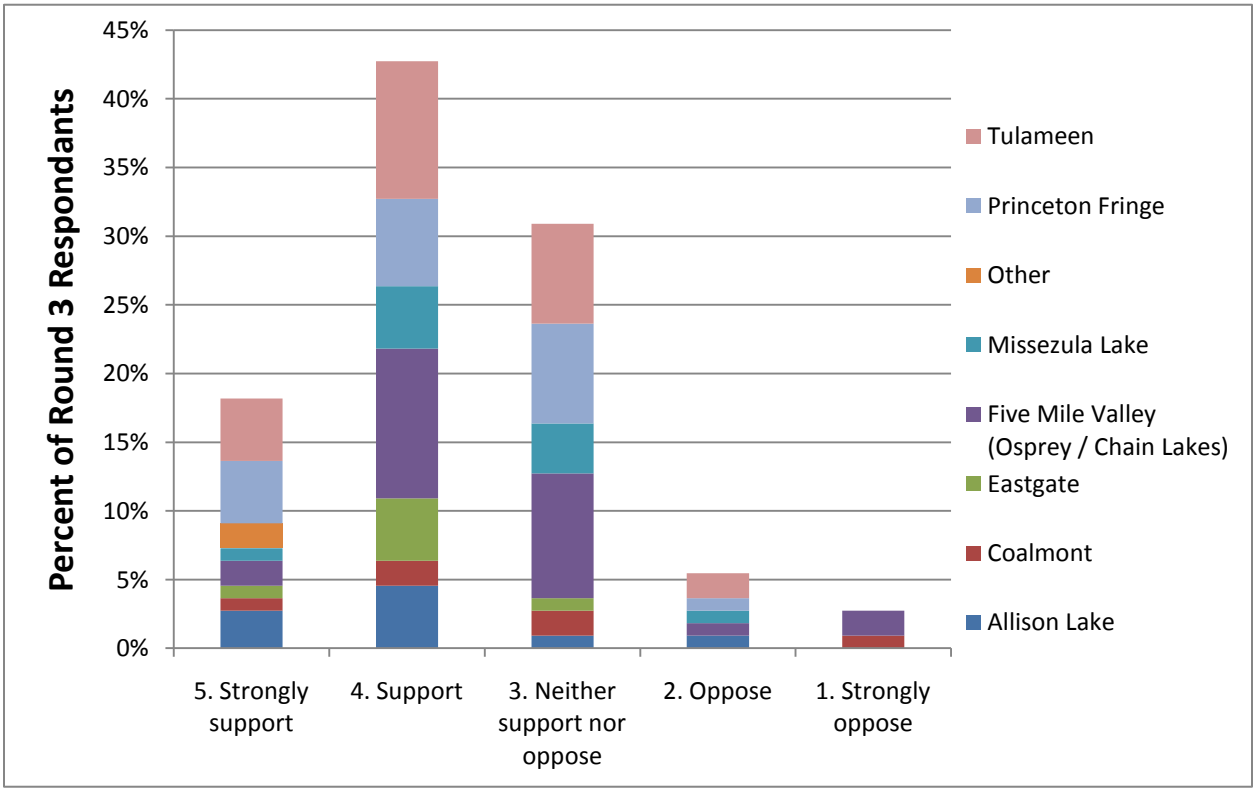



**FIGURE 2.1.4**



## 2.2 Participant Responses (Round 2)

- I support the arts, but, with there being a shortage of medical staff in the area we must prioritize.
- Not much of an interest in this myself but I know it is very popular with the majority.
- Another potential resident and tourist draw.
- Continue those annual events. Move the mountain fest to the Princeton airport?
- Exposure to cultural activities is a bonus to all residents.
- A "well rounded" community is desirable - not one solely built on parks & recreation.
- On Vancouver Island complete towns survive by the arts programs.
- There is great potential to develop Princeton and area into a provincial leader for the arts. There is the talent, interest, and manpower to do this.
- Not sure if this is a regional district issue.
- Arts programs give the talented people in the area an opportunity to earn a living with their talents. Again, a green income.
- Yes. Yes. Yes!!!!
- Brings character and uniqueness to the area and broadens appeal in terms of visitors (and indeed potentially higher income visitors!).
- Based on the large area covered and the number of folks who do not live here full time, I do not support this.
- Support at a modest cost would inform (maybe via a website) residents about events they may enjoy attending - stimulating spending and creating small business opportunity.
- We really need more to do!
- Without arts to define who we are - we have nothing - to bad the older people get, that they forget that.....
- I'm not a community arts person but lots of people are and i support their needs and concerns too.
- Supporting arts and culture encourages a liveable community.
- When the economy is booming this would be a good investment, but keep in mind that "Nero fiddled while Rome burned".
- These programs give our youth alternative outlets for their energy.
- Diversification of interests is important in attracting new or keeping residents in the area.
- If support, should be small scale and local.
- Arts make a community liveable and viable.
- People, who have taken music lessons as a child, remain more mentally alert in their old age.
- Providing activities and entertainment for everyone.

## 2.3 Participant Responses (Round 3)

- I support art programs but not the development of museums or buildings at tax payers' expense.
- I feel this something that is done within the Town already.
- This is more of a Town of Princeton issue.
- These events bring people and attention to Princeton.
- The response for the Princeton Music venues is a sure sign that it is needed.
- Robert Bateman had to start somewhere.
- Development of a strong cultural core to Princeton will bring with it a broad range of visitors and new residents. Very important..... and easy to develop - e.g. - subsidized space for new and

emerging artists/designers etc.

- Same comments as for previous question.
- Yes.
- A well rounded community is desirable - not everyone enjoys recreation.
- Without arts you have no culture.
- I am sure there are people who positively feel this is important, but I really have no opinion.
- Arts are great, but we need medical support more. Our ambulance drivers are underpaid. Our Princeton hospital is a shell of what it was. We're always looking for doctors.
- We have to be careful - let's get back to basics and create our own talents within the community. I am great at photography - I heard that you're pretty good at painting!
- Yes.
- Young people need things to do. It helps give them a purpose and keeps them out of trouble.
- Supporting the arts is mostly a matter of attendance as a show of support; we have talented and creative people here trying to provide excellent arts opportunities. Let's be supportive.
- Better medical services in Princeton area should be a priority.
- Arts are to the mind what sports are for the body. A healthy society has a strong arts development.

## 3. Objective No. REC-03

**"Restrict certain uses of recreational land, including restrictions on motorized vehicles"**

### 3.1 Results

**FIGURE 3.1.1**

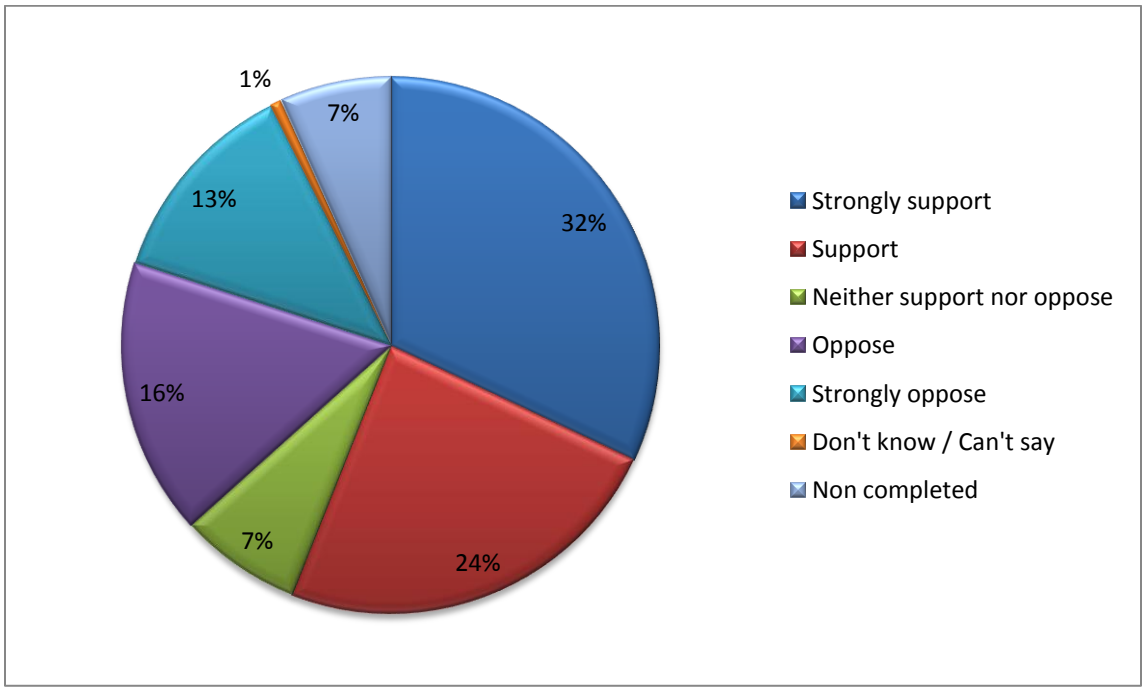



**FIGURE 3.1.2**

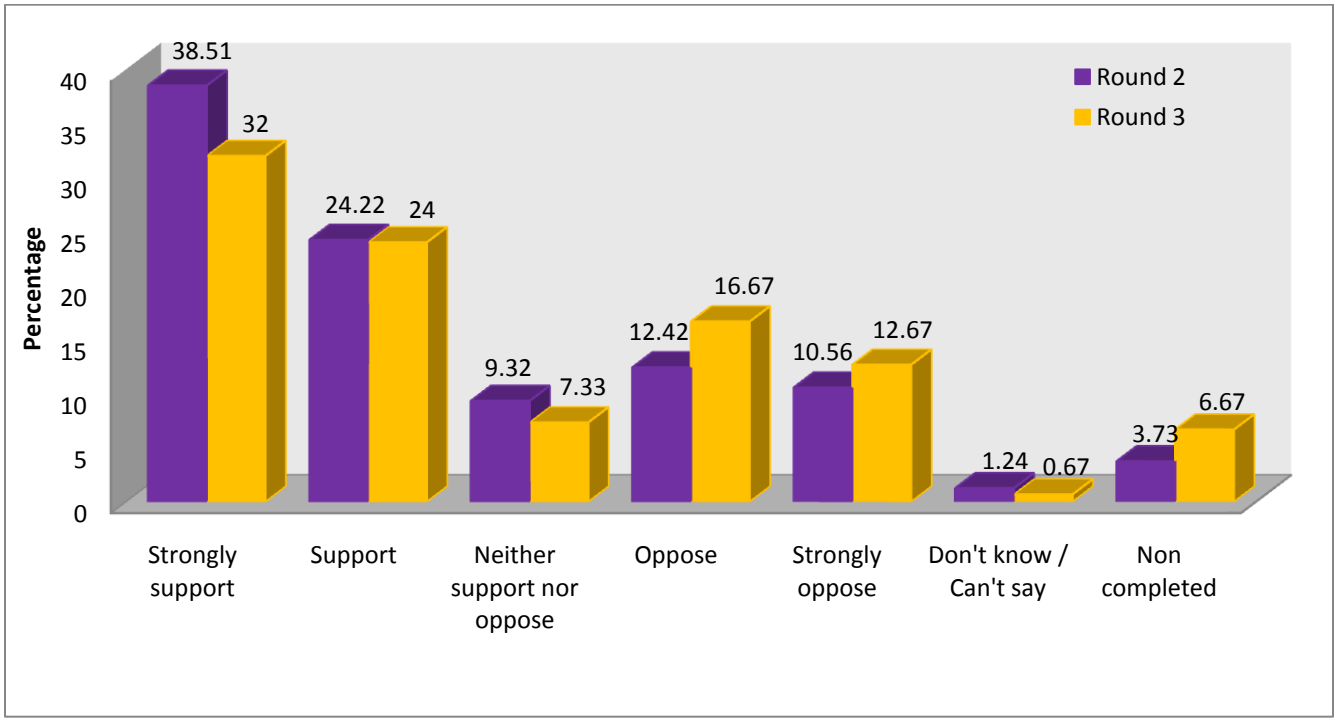


**FIGURE 3.1.3**

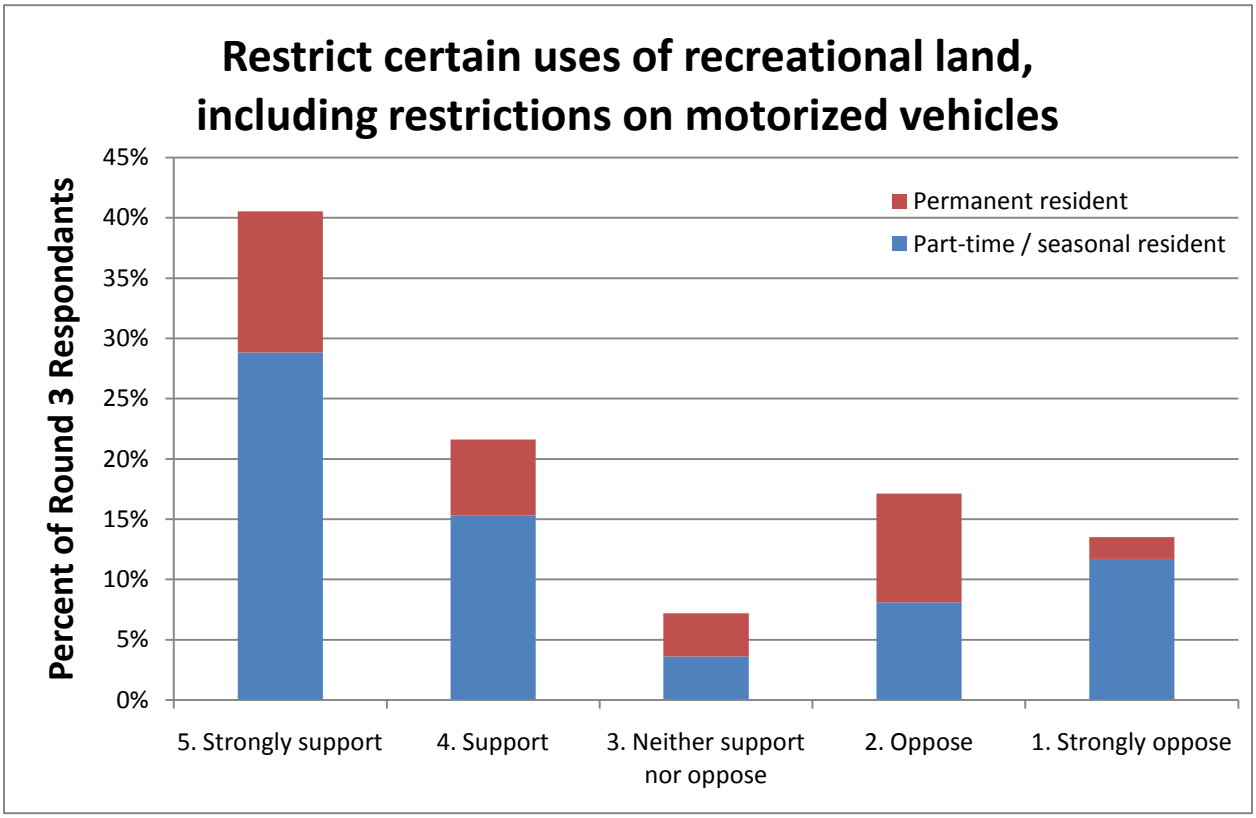
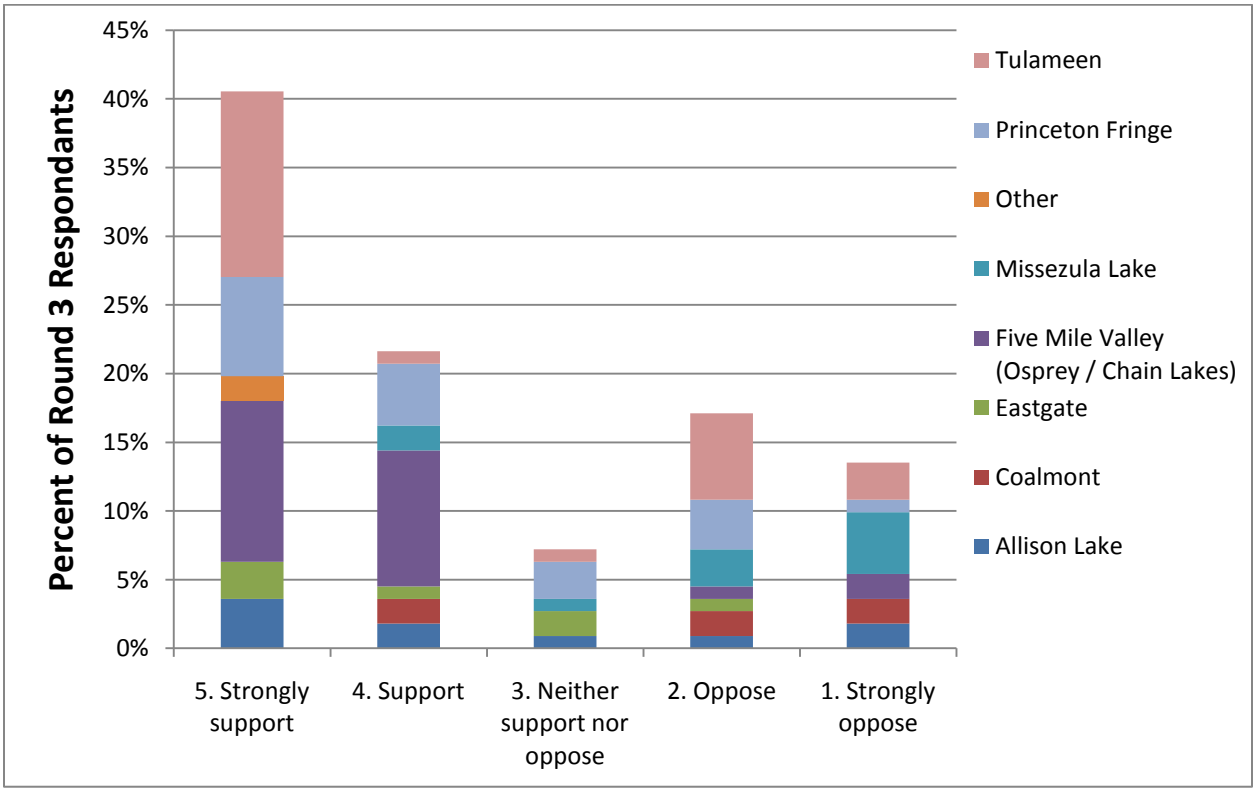



**FIGURE 3.1.4**



## 3.2 Participant Responses (Round 2)

- They are un-licensed they are un-helmeted they are underage drivers.
- Motorized vehicles can create a lot noise and destroy paths and trails. Riding a peddle bike on the KVR is a challenge when it is supposed to be an enjoyable ride.
- Limit use of all motorized vehicles to specific areas.
- Do you really think quads, bikes and snowmobiles ruin the trails and roads? Look at the loggers. No bans on these vehicles, for the most part people are very responsible!!!!
- Ban or restrict the use of quads and dirt bikes in areas affected by their noise and pollution. Also keep snowmobiles and other vehicles off of lakes.
- When entrepreneur tried to open an enclosed course designated for dirt bikes, a.k.a. motocross track), he was met with fervent opposition by local residents. These same residents, some of them, feel free to ride their motorized vehicles anywhere outside this enclosure (seasonally dried up lake bed and forest trails/roads). Which leaves less of an environmental footprint?
- Quads and snowmobiles have a right to be and are enjoyed by many. Encourage responsible use of course.
- Register ATVs etc, education, education, education!
- I agree with the first comment. We are on the Trans Canada Trail and it is destroyed for biking in the summer and cross country skiing in the winter.
- Encourage education for responsible use of recreational vehicles so incapacitated folks may also tour around easily.
- ATVs must be restricted to areas where minimal environmental damage occurs.
- Support responsible use!
- Towns are built on motorized vehicles.
- I strongly oppose setting aside areas and trails for the young and fit (but very vocal) minority. Is absolutely discrimination against people who have more limited abilities but still enjoy the outdoors.
- Actual enforcement is always an issue and it is not clear how this could actually be achieved given existing resources.
- As I previously stated. I support motor size limits for small lakes but want the back country available for all.
- The improper use of ATVs can cause a great amount of damage to our recreational land. We need a strong control program.
- Try education.
- Keep the ATV's off the KVR. It is illegal but not enforced!!!!
- Management is critical to protect the very thing people are visiting and enjoying. KVR - world status but HEAVILY tarnished by motorized use. Also increased maintenance costs.
- I think that certain restrictions should be implemented and/or fees for usage, and monitoring of dangerous activities, etc..
- They need a place as well that can be managed properly.
- Minimize impacts on neighbours who may not want noise or traffic hazards close to their homes.
- We enjoy quad'ing with our family -establish and monitor it.
- The quads are taking over!
- The use of boats and motorized vehicles brings in the largest amount of revenue for the surrounding area. Bylaws and penalties only restrict incoming revenue. Promotion of permits and COI will generate revenue and awareness.
- That's the main reason we are thinking of selling! Unlawful use of motorised vehicles.
- I own and enjoy the use of an ATV on my property and on surrounding crown property, I do agree

though that there has to be areas where the use of these vehicles are curtailed when they are damaging the area or wildlife or fisheries values.

- Restrict motorized vehicles in set areas; strong move towards education in the proper use/place of such machines. Encourage efforts to repair damage already sustained. Strong enforcement of any restrictions/bylaws.
- I favour by-laws/penalties that would be consistently enforced.
- THERE SHOULD BE AREAS SET ASIDE FOR THIS PURPOSE, AND OTHER AREAS SHOULD BE BANNED. THIS CAN BE A VERY REAL ANNOYANCE TO LOCALS.
- Penalties and bylaws require more enforcement which is already strained, local resident clubs could provide enforcement but seem reluctant to do so. Only solution is banning or restricting use.
- We definitely need restrictions in the use of 4X4 and ATV's in most areas as they are destroying a lot, of our natural bogs and delicate environments. And also some teeth in any bylaw so that it can be enforced with a large penalty for non compliance.
- Seadoo's are fun for a few but a nuisance for many.
- If the laws were upheld when people are destroying land etc. and people charged it might help. Most people don't abuse.
- Balancing the use of recreational land with the tourism that is built around boating, quading and snowmobiling will be a challenge.
- Enlist the services of the local ATV club to patrol and clean up the messes left by folks using the trail. The club is already working to develop responsible use of the trails, etc.
- This needs to be dealt with in a very objective sense. The needs to be a way of bringing together without excluding user groups.
- Perhaps licensing motorized vehicles, quads, dirt bikes and small motor boats and then make areas for the use of quads and dirt bikes and restrict them from hiking trails i.e. Trans Canada Trail.
- Prioritize this as one of most important goals because off road vehicles are destroying the environment and this will greatly impact tourism, wildlife habitat, quality of life for other citizens, water run-off, agriculture, grazing for cows, etc. We are only province in North America with no restrictions.
- Require licensing & insurance of all motorized off road vehicles.
- Quads are ESSENTIAL to lifestyles in this area. Leave them if used responsibly or if NECESSARY create bylaws on their use ... Not restrict!
- There should be allowances for hikers and cross country skiers. An important issue for compromise.
- I have ATVs, motorcycles, 4x4's and have had boats. It makes the outdoors accessible to me.
- Provided the interests of all parties is taken into consideration when imposing restrictions.
- Work with all groups to provide areas for all. The China Ridge Ski association is a good example of applying for grants to get new ATV trail to skirt their area...they seek solutions not just complain. There are areas for all of us to be.
- Common sense must prevail. It seems most locals have it, the weekend warriors are the main violators. How does one police it?
- These ATV's motor & dirt bikes ruin the land, the noise is unbearable, I wonder how our wild animals can stand it all.
- provide areas for quads for trails etc.
- We agree with the comment that "instead of limiting use, put bylaws into place.
- I would support creation of Off-road vehicle permitting to help maintain quad/bike trails.

### 3.3 Participant Responses (Round 3)

- The provincial government already has a law against damaging environmentally sensitive areas with vehicles so I don't feel we need to add to that. I feel we would do better by embracing the existence of motor bikes and quads by providing trails designated for them and educating the operators on how to use trails in a responsible manner. This area has vast sections of wilderness which would be enjoyed by large numbers of tourists if we provided marked and mapped trails encouraging ATV and motorbike trips. The vast majority of people are unable to hike large sections of trail on foot, but the hundreds of kilometres of wilderness we have in this region would be enjoyed so much if we encouraged ATV trips to see the history and beauty of this area. This popular sport has the potential for huge tourism dollars if we embraced and encouraged it in our region.
- How would a restriction be enforced - public education would be best.
- Some people with limited mobility would never be able to explore off road areas without their quads. Limiting quads is discriminatory to those who are not fit enough to hike or bike.
- I would consider it more as guiding uses where they are appropriate.
- Blah Blah, the off-road activities are a huge draw for the area, do you really want to mess with this? The complainers shouldn't be in the bush or on the logging roads if they do not use off-road vehicles anyway!
- The wild west of natural destruction must end.
- A.T.V.'s, dirt bikes etc. have to controlled in residential areas and park areas.. As an example, the commercial moto-cross track that was proposed near Allison Lake was between two residential subdivisions an bordering the Provincial Park. This is not good planning !
- Motorized vehicles contribute the highest cost to the environment and to the quality of life of negatively affected residents. Escalation of conflict between the motorized and non-motorized camps is inevitable if something is not done to restrict use/access. Those that feel that quads and snowmobiles "have a right to be" should realize that others feel that they have a "right to be" without them. These vehicles are mobile, our homes are not. It should be a simple matter to keep them separate.
- Frankly, ATV's, snowmobiling, boating all contribute significantly to the Princeton economy. We bought property, built a cabin (using local labour), pay taxes, and buy all supplies purely for recreational enjoyment. Ban motor vehicle access and that disappears.
- KVR-Trans Canada Trail was not intended for motorized vehicles--their presence makes the trail unusable for hikers and bikers.
- Set up areas that become tourist havens and restrict around environmentally sensitive areas.
- Sea-doo's are the bane of many lakeshore residents.
- Keep the ATV's off the KVR.
- We need to find alternate areas for motorized vehicles away from populated and environmentally sensitive areas.
- This is a recreational area, people have to be accountable for their actions. Most are responsible people, just have to educate the other FEW.
- Most ATV'ers and snowmobilers are responsible however, too many locals are not. Perhaps a levy will have to be placed to help pay for the growing cost of trail repair.
- Legitimate form of recreation but must be properly managed and regulated. World famous KVR needs ATV/motorcycle ban.
- If there is so much concern about the environmental problems in some of our ecologically sensitive areas, ban the running of cattle in them. I look at the mess created in the alpine areas such as the Pasaytan and other areas by cattle, that will not return to any semblance of normality in our children's lifetimes, it make me sick to my stomach. The use of trails such as the Trans-Canada trail by quads, etc., should be encouraged rather than discouraged as it keeps the traffic confined to more suitable land. It just needs to be used more responsibly.

- Now being done in certain areas such as use of motors on lakes.
- People who are not part of the "fit & healthy" who hike and bike have just as much right to enjoy the outdoors. ATVs increase tourism.
- Restrictions should be put in place for very fragile area - i.e. alpine and subalpine where rare species are found. This doesn't mean that no motorized vehicles should be able to go anywhere near there but cordon off such areas. Why is it that people seem to think that only motorized vehicles make a mess - just look around at all the debris that hikers leave behind. Recreation is for everyone and I for one enjoy a very peaceful hike, watching the wildlife and birds one day and then going ATV'ing or snowmobiling the next and I don't want to be refused access to areas just because I do or don't have a motor.
- Control the problem areas-restrict only where negative use is demonstrated.
- I think there is a place for motorized vehicles and it is not within the subdivisions.
- Restrict but don't eliminate.
- By restricting quads, is saying only the able can enjoy nature. Quads make it is possible for the physically restricted persons to enjoy what otherwise may only be enjoyed by a few elite persons. I call it discrimination.
- I do feel that certain recreational vehicles should be prohibited in certain areas, but we must supply an area that allows it as well.
- Quads and snowmobilers are responsible. How much harm really can they individually do? Restrict super-sized pickup trucks from the trails and roads!
- Motorized sport is here to stay. Create areas where use is acceptable and encourage licensing (provincial responsibility) of quads and compulsory education. Unfortunately idiots are always with us giving a bad name to responsible folks.
- I worry about the Trans-Canada's trail condition for bicyclists; however, use it in the winter with snowmobile. Know that the trail is very difficult to bike on, due to motorized use. In Tulameen, we have a problem that young kids, often without helmets, adults on unlicensed ATV's ride on the streets, go to the gas station to fill up; and, there's a notice at the community hall welcoming all of them and advising to give pedestrians right-of-way and to keep speed down to 30. Where is compliance to Motor Vehicle Act?
- Uncontrolled ATV's etc. will destroy 4-season recreational development. But they must not and should not be banned. Designated areas, education and mutual respect must be cultivated.
- GET THOSE DAMN ATV's OFF OF THE TRANS CANADA TRAIL - the erosion and the destruction is not acceptable! What part of "No Motorized Vehicles on the Trans Canada Trail" do you not get????????????
- If we must have motorized vehicles roaring around, build them a park in an isolated remote area, but keep them out of settled areas.
- Yes. Open areas where ATV's etc. are allowed.
- I have seen the damage that one person can do that will take hundreds of years for nature to heal.
- Provide areas of use for quads, snowmobiles etc. for our younger population.
- There's a place for these vehicles and the hiking trails is not one of them.
- ATV’s and motorized bikes are ruining the landscape.
- B.C. roads and trails are owned by all B.C. citizens and should be shared by all. I ride both a bicycle and a quad responsibly. Please do not judge all riders by the actions of the irresponsible riders. I support proper by-laws and the licensing of quads and dirt bikes so people can report offenders to the proper authorities.
- There is no real problem with locals using quads and snowmobiles. The real problem is the trailer loads of these vehicles that arrive on long weekends. Quads and tourism don't mix.
- Recreational vehicles leave a very small environmental footprint in comparison to any industrial development (Forestry). Restrictions will only hurt tourism and incoming revenue to the area.

## 4. Objective No. REC-04

**"Improve resident access to facilities found within the Town of Princeton"**

### 4.1 Results

**FIGURE 4.1.1**

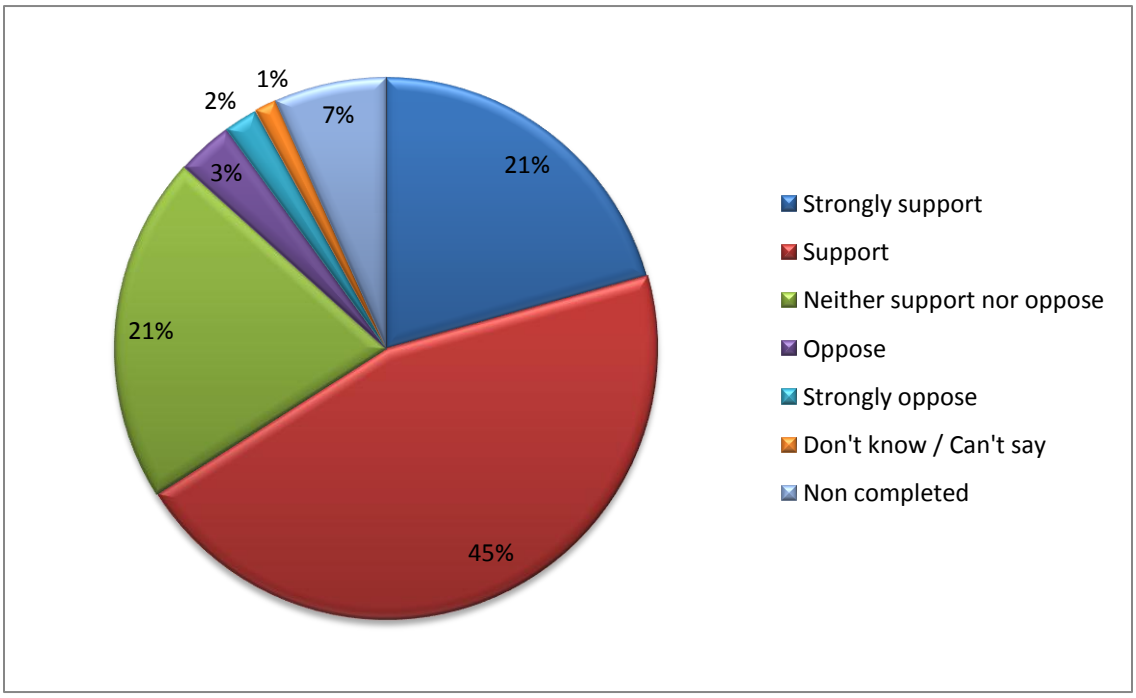



**FIGURE 4.1.2**

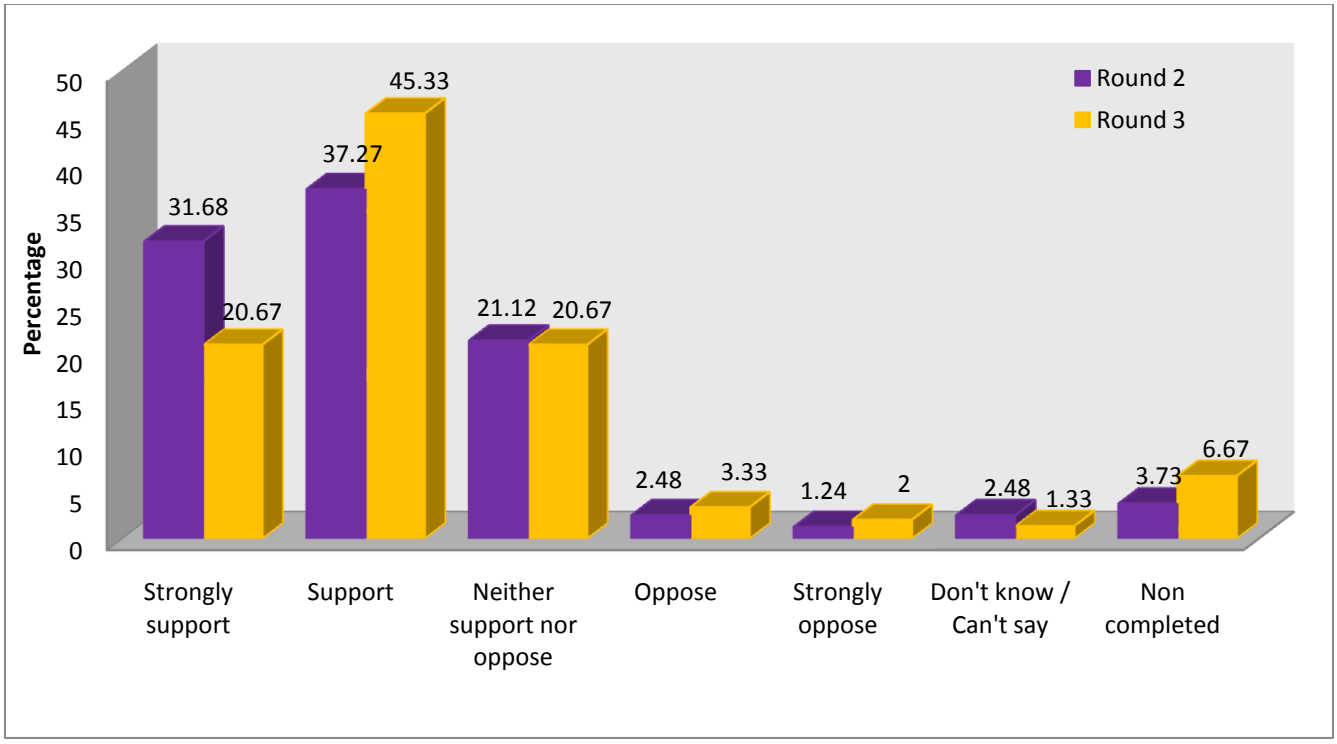


**FIGURE 4.1.3**

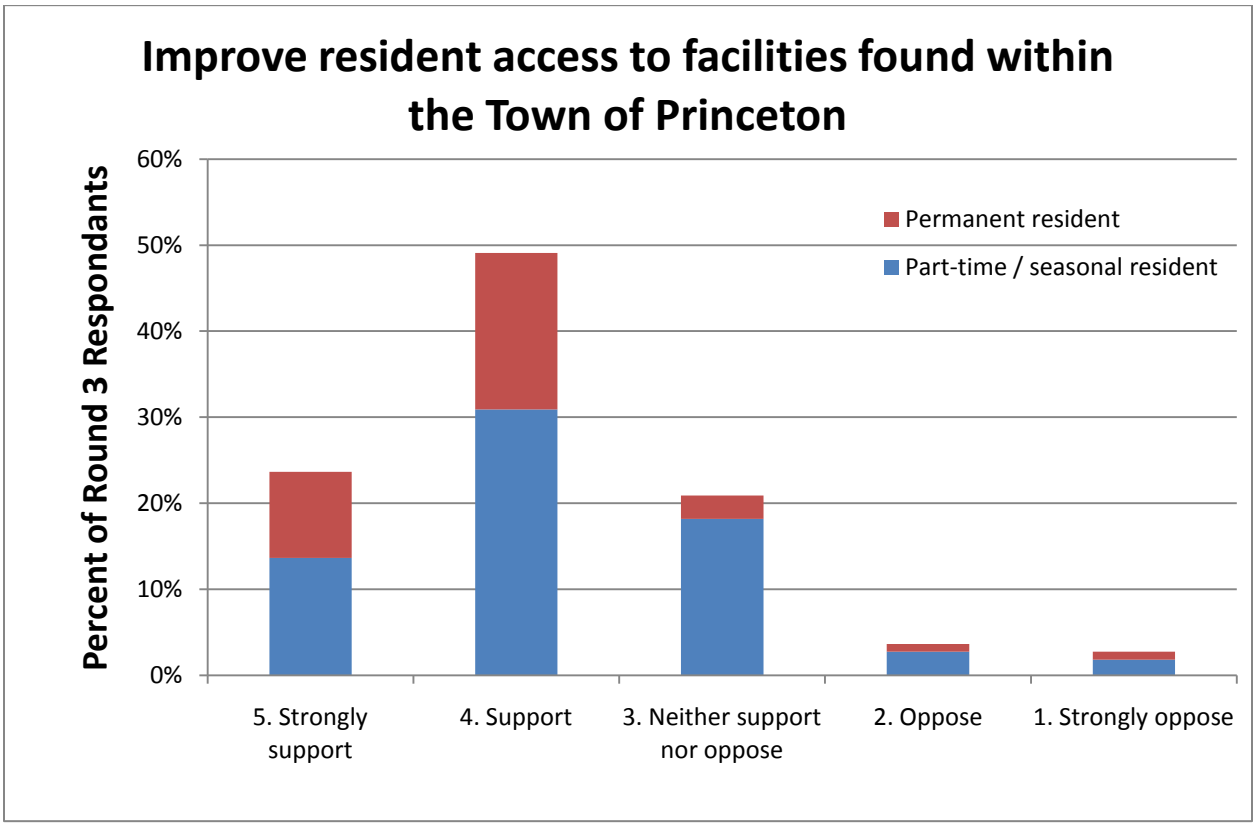
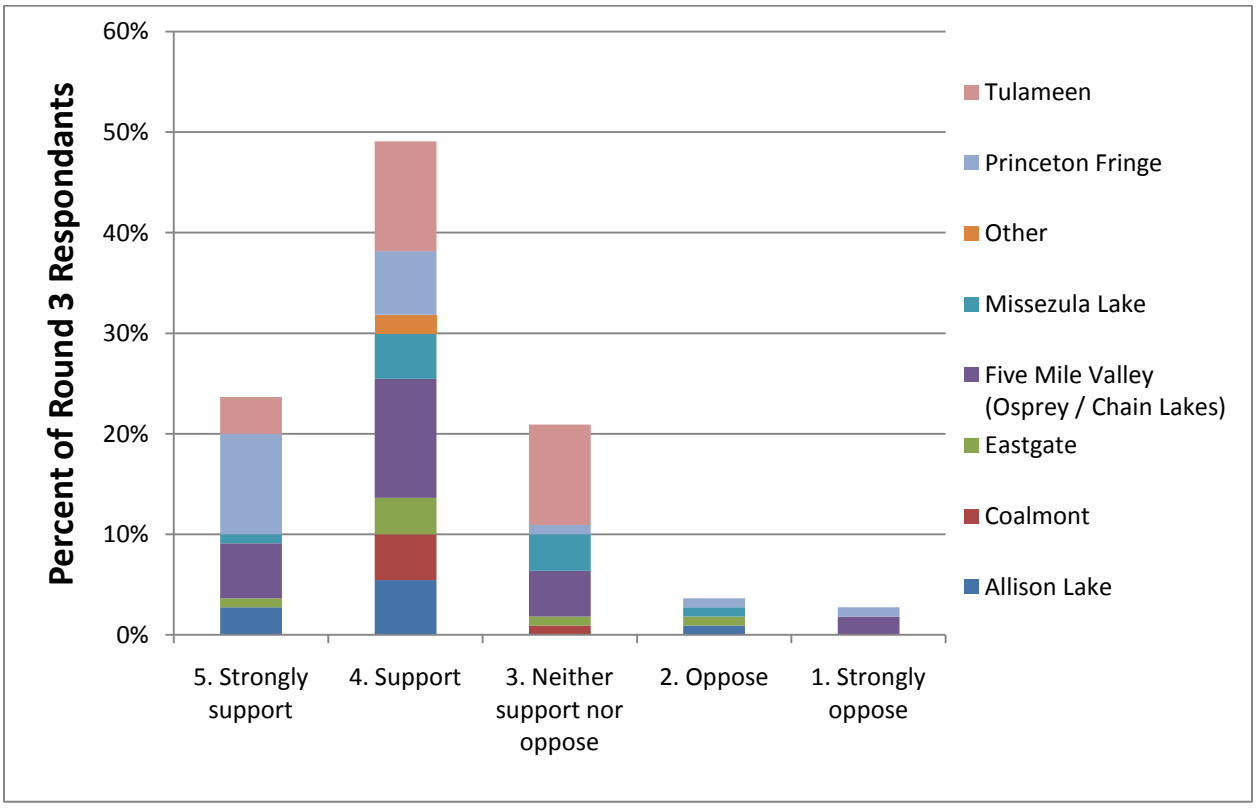



**FIGURE 4.1.4**



## 4.2 Participant Responses (Round 2)

- This goes hand in hand with economic growth.
- I have given up - many people want an all-purpose sport facility combining indoor pool, gym, ice area - the powers that be don't seem to care to pursue this. The one in Merritt for example is incredible.
- Encourage partnerships with leisure support groups - YMCA, Boys and Girls Clubs, other local orgs.
- We need a indoor year round pool, this would be great, for senior programs, children and adults alike, we need to modernize!
- Many individuals enjoy getting out to utilize facilities as an important part of socializing as well as use of facilities.
- I am not sure if Princeton needs or can afford a year round indoor pool.
- It is a yes for the library! A library is never obsolete. A large swimming pool would be ok. Build it next to a river for the water use.
- Library supported by RDOS and Town useable by both. Pool is the same, and should be planned and started.
- We need access to the Library and a year round indoor pool. These are essential in making Princeton an attractive place for people (Doctors and professionals).
- A pool is much needed.
- Princeton and Area H work together already. The only additional item that comes to mind is the access to the library.
- Add surrounding taxpaying area residents to your statement.
- I am not prepared to pay on my taxes for extra services. Currently the taxation is unfair to owners of large parcels of land.
- Swimming pool is best left to private interests. Arrange for Telus to provide internet access.
- Area 'H' needs no charge lib. We need indoor pool comm. as other communities have.
- Not a concern to me.
- A year-round pool would be a tremendous asset to the community.
- I'd like to use the library but $75 buys a lot of books. We should be able to get a library card like they do when living in town. I feel I live in Princeton too. At least that's where I bank, shop, and that's what my address is - Princeton, B.C.
- Library, indoor pool and internet access. I would not object to having these added to my taxes.
- Do not agree with the last 2 statements made by residents. Also - the proposed indoor pool should be similar to a multiplex to be successful in managing overhead costs (therefore successful in future years).
- Not much to do for young people. Promote sports and library.
- We don't need facilities with big expenses.
- Princeton currently has next to nothing.
- An indoor pool is needed for a town with so many seniors.
- A year round pool would certainly be an asset to our community.
- Museum and library need to be upgraded.
- Library should be available to all. And indoor pool is a must.
- An indoor pool or improved recreation facility is required.

## 4.3 Participant Responses (Round 3)

- I support library facilities in Princeton as a satellite facility of the Penticton Public Library. Also, an indoor pool would be nice, but I don't think tax dollars should be directed towards this at this time with the way the economy is. Either a private interest could develop it at this time, or it should be considered by the region when the economy has recovered.
- Area H residents can already use facilities such as the library by paying a fee. And we cannot support a rec center or year round pool that would be accessed by a very limited number of rural area taxpayers. We already pay the largest share of the arena and the Riverside center.
- Can you say tax increase?
- Let's make it much harder! Who is writing these dumb questions?
- Agree with the statement "...found within the town..." If a major expense such as a pool or library is desired it should be voted on by the people as an individual tally.
- If the city can afford it --- fine, but --- the taxpayer should have a say I it, as in a referendum.
- A balance of needs - partner Health care with Recreation for rehabilitation and recreation. A pool for Learn to swim in a multi laked area and also for fitness and rehab for elderly and injured. Share the costs and offer more services.
- I concur with year round pool.
- I am not sure the town of Princeton could support an indoor year round pool at this time.
- Think carefully about what is needed to support an active, fully engaged community - clubs/societies/art shows/charity events, music evenings etc. is a pool the priority?
- We just blew %500,000 on a bridge over the Tulameen River for the Trans-Canada Trail, which brings very little actual benefit to the community as most cyclists, etc., bring their supplies with them. This money could have been better used in adding an indoor pool to the existing Wellness Centre making the community more attractive to young families and businessmen.
- Library facilities should be available at no charge to all residents Swimming pool is best left to private interests The province govt already has a program with Telus to expand their internet & wireless facilities all over BC but local support will make it faster.
- As an area H resident we don't use any of the facilities in the town but I feel it would be good for the residents of the area to be able to use them. It may also encourage more retired people to move to this area. It appears that the pool is a big issue and I agree let a private individual develop it. Our taxes are already stretched and I believe that our present $'s could be spent in better areas i.e. hospital, better services for the seniors etc. etc.
- It appears that a swimming pool is the only "facilities" in this consideration--I oppose this facility, but would support other less expensive but beneficial services that could not be provided by the private sector.
- Makes sense.
- Yes, we definitely need a strong infrastructure, supplying all age groups with activities. A pool should be a major priority.
- If I were a permanent resident, perhaps I would support. We in Tulameen pay high taxes and don't even get street lighting!
- Add a track to the school. If you build it...they will come!
- Library is usually a right, not limited to where you live. Before you go for an indoor pool, ask people what they are prepared to pay in extra taxes.
- Providing an indoor pool would also bring new residents, providing more tax base, greater healthy physical options in our winter especially. not everyone love to play in the snow.
- Year-round pool please and Area H access to library.
- Although I have always supported the side for an indoor pool, I do not think Princeton can afford one unless we have more industry and population.

- The library is important. A pool would be good for older people and general rehabilitation - not just strong swimmers.
- Year round recreational facilities need to be considered.

## Appendix 6: Working Group Code of Conduct

### Mission (of the Working Group)

***To create a Regional Trails Master Plan that serves the diversity of Trail users***

### Vision (for the Master Plan)

***To foster locally-valued and world-renowned trails which provide exceptional opportunities for recreation, community linkage, health and wellness, environmental stewardship and economic benefits***

The primary purpose of the Working Group is to advise. Advising consists of six elements

1. Providing **guidance and direction**
2. Setting the **Conditions** for the Master Plan process
3. **Oversight** of all aspects of the Master Plan
4. **Protecting the best interests** of the Region and all its trail users
5. Having **knowledge of all stakeholder** needs, interests, concerns and expectations

The work done by the Working Group is determined by its Mission, which is to advise and consequently is different than the work of the Consultant and RDOS staff.

If an individual Working Group member has concerns about performance they are presented to Cascade and / or the RDOS staff. RDOS would then bring the concern to the whole Working Group. The power and authority of the Working Group exists only when it acts as a whole. As individuals, working group members exercise no power or authority in the organization therefore can not act or speak for the Working Group unless specifically delegated to do so. The only decisions or positions of the Working Group are through its accepted decision-making process. This means that the Working Group speaks with one voice.

***"The Working Group stays on the balcony and off the dance floor"***
***No meddling***

A current and complete governance infrastructure is essential for the Working Group, Cascade and the RDOS to successfully fulfill their respective mandates.

The Working Group, Cascade and the RDOS staff work from the premise that Cascade's primary role and function is to lead and manage the Working Group. Cascade and the RDOS staff constitute the working group's leadership team. This team is collectively responsible for managing the work of the working group.

The Working Group commits to engage in actions and decisions that contribute to building and maintaining a healthy and effectively functioning working group and consultative process.

**Appendix 7: Invasive Plant Management Stratey for the RDOS**

# Invasive Plant Management Strategy
## for the Regional District Okanagan-Similkameen




Prepared By:

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Ministry of Agriculture and Lands

# EXECUTIVE SUMMARY

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# 1.0 INTRODUCTION

## 1.1 The Invasive Plant Issue

The impact of invasive plants is felt from the local to the global scale. Scientists, land managers, and the general public are becoming more aware of invasive plant impacts. In recent decades there has been a tremendous expansion of invasive plant species invading natural areas across British Columbia, particularly in the Okanagan valley and Similkameen Valleys due to the significant landscape modification. There is an ongoing threat to both natural and managed areas, as new invasive plants or *weeds* arrive in the Okanagan-Similkameen. Invasive plants create large economic losses for agriculture in both cropland and rangeland situations. Weed invasion is considered the second most serious threat to natural habitats, after habitat fragmentation and loss (Randall 1996). Uncontrolled, these species can invade new environments and alter the structure and function of natural ecosystems.

Within the Regional District Okanagan-Similkameen, invasive plants contribute to reduced productivity of agricultural lands, including ranches and vineyards, and increased management costs for utility companies, government agencies and conservation groups. Invasive plants also have direct impacts to private landowners; they reduce property values, interfere with recreation, increase fire hazard and decrease the aesthetic appeal of the landscape.

Invasive plants are rapidly becoming one of the most pressing issues for land managers. Unfortunately, most natural areas contain many invasive plant species. In the vast majority of cases, there is not sufficient labour available and/or funds to control all the invasive plants that occur in an area. Thus, managers are forced to prioritize plant species and identify target areas for control activities. This strategy provides a framework for the Regional District Okanagan-Similkameen to control invasive plant species that are deemed as “high priority” and outlines recommendations to prevent the further spread and establishment of invasive plants within this biologically diverse region.

## 1.2 Background

Invasive plant management has been underway in the Okanagan and Similkameen valleys for several decades. However, there was no formal group coordinating efforts in the region until 1996. At its inception, the Okanagan-Similkameen invasive plant program consisted of a core group of predominantly provincial government bodies focusing attention on the Vaseux Lake area. With the assistance of a hired Coordinator (Lisa Scott), the group rapidly expanded geographically to include the boundaries of the Penticton Forest District and membership also increased significantly during the first few years. The Regional District Okanagan-Similkameen (hereafter referred to as the RDOS) became a member and financial contributor of the South Okanagan-Similkameen Weed Committee in 1998, however the program continued to be administered by the provincial government. Two years later, the RDOS took over the administration of the service contract and consequently amended the program

boundaries to conform to the boundaries of the regional district. The RDOS continued to administer the region-wide program until 2004 with Lisa Scott continuing as Coordinator.

In 2004, some significant changes occurred to the invasive plant program. Members of the South Okanagan Similkameen Weed Committee decided to officially formalize the group and pursue Society status; this was applied for and granted in October of the same year. Consequently, the committee name was changed to the South Okanagan-Similkameen Invasive Plant Society (SOSIPS), with the first Annual General Meeting held in April 2005.

Also in 2004, the RDOS began to embark on their own program. They hired consultant Kevin Paterson to undertake an inventory of RDOS owned and managed lands, and develop the framework for an Invasive Plant Management Plan. The inventory created a baseline of information on which to base weed management decisions and direction. At this time, the RDOS proposed to take an active role in fostering a higher level of awareness for weed issues in the region by initiating a more intensive education and outreach program.

During this same year, the RDOS enacted their first legislation to control invasive plants. This came in the form of a bylaw to regulate and control untidy and unsightly premises. The RDOS adopted the Untidy and Unsightly Premises Regulatory Control Service Establishment Bylaw No. 2325, 2004, to establish a service in Electoral Area 'D' of the regional district (Apex/Kaleden/Okanagan Falls). Under this bylaw, "no owner or occupier of real property shall cause or permit noxious weeds to grow or accumulate on such real property. In this bylaw, 'noxious weeds' means weeds designated as such under the Weed Control Regulation of the *BC Weed Control Act*. Since the adoption of this initial bylaw, the RDOS has enacted three additional bylaws for Electoral Areas C (Oliver Rural), E (Naramata) and F (Okanagan Lake West/West Bench).

Consequently, since 2004, the RDOS and SOSIPS have continued with separate but complementary invasive plant programs. The RDOS participates as a member of SOSIPS, and desires to coordinate with other stakeholders as required. However, the RDOS has not yet embarked on a full-scale treatment program and has instead elected to focus on education and outreach.



## 1.3 Terms of Reference

Eco-Matters Consulting was hired in April 2008 to provide environmental services to conduct an invasive plant inventory and based on the findings of this assessment, prepare an Invasive Plant Management Strategy for the Regional District Okanagan-Similkameen. The strategy will fit with the South Okanagan Regional Growth Strategy's environmental goal "to ensure ecosystems function to provide water, land, air and natural biodiversity of the South Okanagan." The strategy acknowledges that much of the region's natural habitat has been lost or irreversibly altered (November 2006). Development and delivery of an invasive management plan will help to achieve the policy statements for the environment, as outlined in the regional growth strategy (http://www.rdos.bc.ca/index.php?id=103).

## 2.0 DEFINITION OF INVASIVE PLANTS

Invasive plants can be defined as "plants whose introduction or spread into previously uninfested areas from other countries, or regions within Canada, threatens the environment, the economy, or society, including human health" (Government of Canada 2004). Invasive plant is a legislative designation for those species listed under the Forest and Range Practices Act's Invasive Plants Regulation. The term *noxious weed* is a legislative designation reserved for those species listed under the provincial Weed Control Act Regulations (plants) or the federal Weed Seeds Order (weed seeds). The term *alien invasive species* is a legislative designation for those species listed in a Schedule to the Community Charter's Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation. For the purposes of this document, 'invasive plant' will be used as a general term that includes all species listed as noxious, invasive, or alien invasive in federal, provincial, or local regulations.

Although numerous acts, regulations, policies and guidelines provide authority and direction for the control of invasive plants in BC, the *Weed Control Act*, *Integrated Pest Management Act* and *Forest and Range Practices Act* are the most important pieces of legislation governing invasive plant activities on Crown land (Wikeem 2006).

## 3.0 TAKING AN ADAPTIVE MANAGEMENT APPROACH

An invasive plant management program requires the development of a straightforward rationale for the planned actions. This is best accomplished using an adaptive management approach as follows:

1. Establish management goals and objectives for the site;
2. Determine which invasive plant species or populations, if any, block or have potential to block attainment of the management goals and objectives;
3. Determine which methods are available to control the invasive plants;
4. Develop and implement a management plan designed to move conditions toward management goals and objectives;
5. Monitor and assess the impacts of management actions in terms of their effectiveness in moving conditions toward these goals and objectives; and
6. Re-evaluate, modify and start the cycle again.

Note that control activities are not begun until the first three steps have been taken. An invasive plant management program is best viewed as part of an overall restoration program, so it is important focus on what is desired in place of the invasive plant, rather than simply eliminating the invasive plan.

For the purposes of this document, the primary management goal is to ensure that the number and abundance of invasive plants presently occurring within the regional district decreases over the next five years. A second goal is to ensure that any new priority species introduced into the region are detected early and treated rapidly to prevent establishment (commonly referred to as "early detection, rapid response"), such as the alert species outlined in Section 5.1. These management goals will be realized through the adoption of general Best Management Practices (BMPs) summarized in Section 6.1, species-specific management

options outlined in Section 8.2 and Appendix C, and the area-specific recommendations in Section 8.2.

## 4.0 METHODOLOGY

Eco-Matters Consulting inventoried selected priority lands within the regional district for invasive plants between May and October 2008, to capture most species at their flowering stage. Inventories focused predominantly on RDOS owned and/or managed lands, but also included some sections of the abandoned Kettle Valley Railway (KVR) which are actively used by residents and tourist for recreational purposes. The following lands were surveyed:

- All four landfills (Campbell Mountain, Okanagan Falls, Oliver, Keremeos)
- All nine regional parks (Lion's Park, Kenyon Park, Kobau Park, Manitou Park, Rock Ovens Park, Naramata Wharf Park, Kaleden Hotel Park, Osoyoos Lake Park, McIntyre Canyon Park)
- Okanagan Falls Sewage Treatment Facility
- Naramata Cemetery
- SPCA Pet Cemetery
- Willowbrook Firehall
- Fairview Townsite
- KVR – Penticton to Chute Lake
- KVR – Summerland to Princeton
- KVR – Penticton to Okanagan Falls
- Regional District office (Penticton)



The assessments were conducted on foot or mountain bike. Individual weeds or patches of weeds were spatially recorded using a hand-held GPS (Garmin Map60Cs). Each data point recorded a UTM coordinate, distribution code and other notations of interest. The distribution codes are noted in Appendix B. The inventory protocol and distribution codes followed the guidelines outlined in the MFR Invasive Alien Plant Program (IAPP) Reference Guide (http://www.for.gov.bc.ca/hra/Plants/application.htm). Occurrence or evidence of biological control agents was recorded if observed for diffuse knapweed, spotted knapweed, Dalmatian toadflax, St. John's-wort and Canada thistle.

## 5.0 INVASIVE PLANT SPECIES

A total of 47 invasive plant species were identified during the inventory (Appendix B) with 24 of these species considered high priority (Table 1). These invasive plants are considered high priority species because they present two or more of the following characteristics: 1) easily spread by people or pets while walking along the trails; 2) easily spread by roadside maintenance activities; 3) high risk to ecosystem integrity due to displacement of native plants; and 4) very difficult to eradicate.

**Table 1 A list of invasive plants identified during the 2008 invasive plant inventory.**

| Code | Common Name | Latin Name |
|---|---|---|
| BB | Baby's Breath | *Gypsophila paniculata* |
| BD | Broad-leaved Dock | *Rumex obtusifolius* |
| BT | Bull Thistle | *Cirsium vulgare* |
| BU | Burdock | *Arctium* sp. |
| CT | Common Tansy | *Tanacetum vulgare* |
| CTH | Canada Thistle | *Cirsium arvense* |
| DK | Diffuse Knapweed | *Centaurea diffusa* |
| DT | Dalmatian Toadflax | *Linaria genistifolia* |
| HA | Hoary Alyssum | *Berteroa incana* |
| HC | Hoary Cress | *Cardaria draba* |
| HT | Hound's-tongue | *Cynoglossum officinale* |
| K | Kochia | *Kochia scoparia* |
| OD | Oxeye Daisy | *Leucanthemum vulgare* |
| OH | Orange Hawkweed | *Hieracium aurantiacum* |
| PC | Perennial Cornflower | *Centaurea montana* |
| PU | Puncturevine | *Tribulus terrestris* |
| PL | Purple Loosestrife | *Lythrum salicaria* |
| RK | Russian Knapweed | *Acroptilon repens* |
| SC | Sulphur Cinquefoil | *Potentilla recta* |
| SJW | St. John's-wort | *Hypericum perforatum* |
| SK | Spotted Knapweed | *Centaurea maculosa* |
| TH | Tall Hawkweed | *Hieracium piloselloides* |
| TR | Tansy Ragwort | *Senecio jacobaea* |
| YT | Yellow Toadflax | *Linaria vulgaris* |



All of these species are mentioned occurring within one or more of the areas surveyed; however, these species may also occur outside of these areas. Also, because natural ecosystems are dynamic, long-term planning needs to consider the potential for these species to move to other areas of the region, prior to the implementation of a full-scale management program. The management of these species should be considered highest priority for treatment. More detailed information on the high priority species may be found in Appendix A, which provides an overview of each species (identification, biology, habitat and management options).

### 5.1 Alert Species

The following species are known to occur within close proximity to the surveyed properties but were not actually identified within the project boundaries and/or they occur in adjacent regional districts. All of these species are considered invasive and possess characteristics that allow them to readily expand to new areas. For these reasons, they are viewed as 'alert' species. If the Best Management Practices outlined in Section 6.0 are fully implemented,

these alert species are not anticipated to establish within the subject properties. However, extreme caution will need to be taken in order to ensure this goal is realized.

1. Common bugloss (*Anchusa officinalis*)
2. Leafy spurge (*Euphorbia esula*)
3. Rush skeletonweed (*Chondrilla juncea*)
4. Yellow flag iris (*Iris pseudacorus*)
5. Yellow starthistle (*Centaurea solstitialis*)

## 6.0 INTEGRATED INVASIVE PLANT MANAGEMENT

Integrated invasive plant management applies a combination of control methods that is best suited for a particular site. As such, there are many non-regulatory approaches and tools that may be implemented to assist with invasive plant management; these include the use of mechanical (physical), cultural, chemical, and biological control methods, as well as prevention. This strategy recommends the use of integrated management as the approach that has proven to result in the most successful invasive plant management.

As integrated invasive plant management requires a proactive and preventative approach to invasive plant management, this entails reducing reliance on herbicides and possibly leading to a reduction in their use. The *Integrated Pest Management Act* and Regulation require the use of an integrated pest management (IPM) approach for pesticide use on public land; on private land used for forestry, transportation, public utilities and pipelines; and for pest control service companies (including service companies managing noxious weeds or invasive plants, vegetation on industrial sites, mosquitoes, forestry, landscape or structural pests).



The *Act* defines IPM as "a process for managing pest populations that includes the following elements:

- Planning and managing ecosystems to prevent organisms from becoming pests;
- Identifying pest problems and potential pest problems;
- Monitoring populations of pests and beneficial organisms, damage caused by pests and environmental conditions;
- Using injury thresholds in making treatment decisions;
- Suppressing pest populations to acceptable levels using strategies based on considerations of:
    - Biological, physical, cultural, mechanical, behavioural, and chemical controls in appropriate combinations,
    - Environmental and human health protection; and
    - Evaluating the effectiveness of pest management treatments."

Prior to selecting a specific treatment, or treatments, the following factors must be considered:

- The biology and potential risk of the target invasive plant species;
- The location of the infestation relative to sensitive areas, red- and blue-listed plants, rare and endangered habitats, Species at Risk, or other management concerns;
- The size of the infestation;
- Specific site conditions such as slope, soil texture, and proximity to water;
- The relative availability and efficacy of the treatment; and
- The relative risks and benefits of the treatment option.

## 6.1 Prevention and General Best Management Practices

*"It is widely recognized that the most effective strategies for the control of invasive plants are the prevention of new introductions in the first instance, and for species that have been introduced, intervention at the early stages of infestation. Prevention and early action are the most cost effective means of dealing with new and potential invasive plant incursions. The value of eradication where possible and containment of new incursions is well documented and worthy of government investment."*[1]

The first line of defence and the most cost-effective strategy against invasive species is preventing them from invading and becoming established in the first place. Prevention should be viewed as the highest priority approach to managing invasive plants. Once an infestation becomes well established, management is expensive and eradication is very difficult. Therefore, early detection is one of the most important components of prevention of spreading invasive species. The second most important component is eradication before they produce seed or develop an established root system.

Prevention involves attention to the most common means of transmission, including contaminated seed, mulch, or soils; movement of vehicles, equipment or machinery from an invasive weed-contaminated area to a non-contaminated area; and lack of restoration or re-vegetation following activities that result in a soil disturbance. Prevention depends upon limiting the introduction of new invasive plants through:

- Minimizing the disturbance of desirable plants and soils;
- Maintaining desired plant communities through good management;
- Monitoring high-risk areas such as transportation corridors, parking lots and bare ground;
- Re-vegetating disturbed sites with desired plants, using native species whenever possible;
- Evaluating the effectiveness of prevention efforts and adapting plans for future years; and
- Early detection and eradication of small patches of invasive plants through regulatory inventory and corrective action.

[1] Moncrieff, A. 2006. Invasive Plant Early Detection and Rapid Response in British Columbia – An Initial Framework for the Invasive Plant Council of British Columbia

The following section outlines the general Best Management Practices (BMPs) that are applicable to recreational corridors within the regional district, specifically the abandoned railway beds. These recommendations have been adapted from best management practices outlined in Chapin and Schultz (2008) and are also based on the author's personal experience in dealing with invasive plants in the Okanagan region for more than a decade. The RDOS should work closely with local stewardship groups who maintain these trail systems, to ensure that they are aware of these BMPs. When followed, these BMPs will reduce the likelihood of introducing invasive plants into new areas via people and pet movement along the KVR.

### 6.1.1 Invasive Plants on Trail Networks

- Re-vegetate disturbed soil to optimize establishment of desirable plants for that specific site, particularly along trail edges (a perennial grass mix consisting of both native and agronomic species would be best suited for this purpose).

- Use non-invasive or preferably locally native alternatives for re-planting projects.

- Avoid transportation of soil to the site. If topsoil or soil amendments are required for re-planting projects, be aware of where topsoil is collected and transported from.

- Limit the number of trails and rehabilitate those trails that are deemed unnecessary. This action will require signage to indicate that site rehabilitation is in progress and may necessitate a temporary barrier such as snow fencing. Equally important is advance notification to the local community, so they understand the importance of taking such action.

- Install signs in strategic locations that provide information on invasive plants and the importance of staying on the trail to prevent their spread. Signs should include images and information on high priority species and alert species, as well as contact information for questions or to report new sightings.

The creation of new trails or expansion of existing trails can facilitate the spread and establishment of invasive plants. Several new trails are proposed within the region; these are outlined in the draft Oliver and Area Trails Master Plan (accessed at http://go2oliver.com:80//AreaProjects/TrailsMasterPlan.aspx). The following best management practices should be followed for the design and planning of trails, with respect to invasive plants:

- Before ground-disturbing activities begin, inventory and prioritize invasive plant infestations for treatment in the project operating areas and along proposed trails. Identify what invasive plants are on site or within the vicinity and do a risk assessment accordingly.
- Begin project operations in non-infested areas. Restrict movement of equipment or machinery from invasive plant-contaminated areas to non-contaminated areas.
- Clean all equipment before leaving the project site when operating in areas infested with invasive plants. Seeds and plant parts should be collected and disposed. Designate a site where equipment will be cleaned and frequently monitor the site for new invasive plants.

- Where trail establishment requires the introduction of materials such as fill or gravel, inspect materials at the source to ensure that they are free of invasive plants before transport and use.
- Minimize soil disturbance.
- Retain native vegetation in and around the trails as much as possible. Retain shade to the extent possible to suppress invasive plants and prevent their establishment and growth.
- Revegetate disturbed soil to optimize establishment of desirable plants for that specific site. Define for each trail what constitutes disturbed soil and objectives for revegetation.

## 6.2 Chemical Control

The regional district should apply for a Pesticide Licence (required for management of less than 50 ha/year by a single entity) in 2009. This should be re-assessed in five years time or earlier if the RDOS intends to conduct herbicide treatment on more than 50 ha/year, to determine if the regional district should prepare a Pesticide Management Plan.

Herbicide spot-application, or wick-application, will only be implemented where it is environmentally safe and alternative measures are not appropriate. Herbicide applications are restricted by such factors as:

- Adjacency to water sources (riparian areas, domestic water intakes, aquifers);
- Off-site movement (e.g. potential of herbicide drift);
- Sensitive habitats, Species at Risk, and Red- and Blue-listed plant species;
- Soil texture (coarse, medium, fine) and landscape characteristics (e.g. slope);
- Environmental conditions (wind velocity, relative humidity, air temperature); and
- Cultural values (identified in cooperation with Traditional Ecological Knowledge representatives).



Effectiveness of the herbicide is dependent on the invasive plant's leaf structure and age as well as current temperature and climate. Herbicides will be applied at the biologically appropriate time for the target species (e.g. active or early stage of growth).

## 6.3 Mechanical and Cultural Control

All mechanical and cultural control treatments will be recorded on standardized *Chemical & Mechanical Treatment Records*. Mechanical and cultural control options are described in Table 2.

## Table 2 Mechanical & Cultural Control Methods[2]

| Method | Plant and Site Conditions | Effectiveness and Limitations | Equipment |
|---|---|---|---|
| Remove Seed Heads | Late flowering, ideally before seed set. | Reduces seed bank, which may prevent new plants establishing on the site. Does not kill individual plants; annual control is required. | Gloves, Clippers, Pruners, Bags |
| Hand-pulling / Digging | Can be used for plants at all stages of growth and in all soil conditions. Easiest on coarse textured soils and when soil moisture content is high. | Best suited for annual and biennial plants with fibrous roots or taproots. Less effective for deep-rooted perennials and plants with creeping roots. Can result in soil disturbance, which may require seeding. Repeated annual treatments often required for perennial plants. | Gloves, Shovel, Trowel |
| Cutting, Weed whacking, Mowing | Can be used for annual, biennial, and perennial species as plants approach maturity but before seed set. | May kill some invasive plants or reduce plant vigour. Prevents seed production. May require repeat treatments over the year or annually. Usually more difficult on steep terrain. | Gloves, Trowel, Sickle, Weed whackers |
| Seeding | Most effective on sites where competing vegetation has been removed and soils are recently disturbed. | Can provide an immediate cover of desirable species that will compete with invasive plants for space and resources. Good seedbed essential for germination of most seeded species. Continued disturbance will limit establishment of seeded plants. | Use native seed mixes when available or non-persistent, non-invasive seed mixes. On small sites, broadcast seed with cyclone or rotary hand seeders. Large areas may require drilling for seed to establish. |
| Burning | Most effective on seedlings or young plants or perennials or biennials. Also of benefit for managing annuals or reducing dissemination of seeds that are already in seed. | Intense heat will destroy some seeds remaining in the seed head but only a small number of seeds on or below the soil surface will be killed. Not effective in killing underground roots. Requires a combination of | Copy of Burn Prescription, Drip Torches, Backtank Pumps, Rakes, 100gal water tender c/w pump and hose |

[2] Adapted from "Invasive Plants in British Columbia Protected Lands: Best Management Practices".

| | | | |
|---|---|---|---|
| | | burning and seeding for effective control. | (Note: actual burn must be conducted by qualified team such as Forest Protection crew) |
| Girdling | Effective on single stemmed shrubs and trees. | Only target plants are affected. Some species re-sprout following girdling. Dead standing trees can provide valuable wildlife habitat. May require a combination of herbicide and girdling for effective control. | Knife, Axe, Saw |

## 6.4 Biological Control

Biological control uses the invasive plant's natural enemies (primarily insects and pathogens) to reduce invasive plant populations to a level where native plants can compete and re-establish. Effective biological control releases provide self-perpetuating, self-dispersing, continual control of invasive plants; therefore, being a cost-effective, sustainable, environmentally compatible invasive plant control method. Biological control agents, if effective, will decrease invasive plant reproduction and competition abilities, decrease invasive plant vigour and increase native vegetation competitive abilities.

Biological control establishes a long-term balance between the biological control organism and the weed; however, this treatment method is not an alternative for good land management practices. It is important to note that biological control organisms are thoroughly tested prior to introduction to ensure that they will not harm native vegetation and ecosystem integrity; therefore, only "approved" biological control agents are used as a method of invasive plant control.

If biological control agents are available for the target invasive plant species, the infestation size must be large enough and dense enough to sustain a population. Suitability will be determined during an onsite assessment by an invasive plant specialist.

All biological control release requests will be submitted to the Coordinator. When biological control agents are released, a *Biological Control Release Record* will be completed. Details pertaining to available agents, can be found on the Ministry of Forests and Range website at: http://www.for.gov.bc.ca/hfp/biocontrol/bcmatrix.htm

# 7.0 MONITORING AND REPORTING

Monitoring will determine if the selected treatment was effective, if any additional treatments are required or if treatments should be adapted to increase efficacy.

## 7.1 Chemical Control Monitoring

Monitoring of chemical control operations is recommended to occur two - three weeks after application and will assess the following:

- Compliance with existing requirements (i.e. Pesticide Licence or Pesticide Management Plan).
- Applications conducted as directed (e.g. location, target invasive plant species, application type).
- Damage to non-target vegetation.
- Disturbance to surface or any other natural features.
- Control success (i.e. target invasive plant species mortality exceeds 80%).
- Appropriateness of treatment.
- Necessity for a follow-up treatment.

## 7.2 Mechanical and Cultural Control Monitoring

Monitoring of *mechanical* control operations is recommended to occur no later than one week after completion and will assess the following:

- Disturbance to adjacent non-target vegetation or surface.
- Appropriateness of treatment.
- Necessity for a follow-up treatment.
- Control success (i.e. > 80% of the seed heads are removed from the target invasive plant species)

Monitoring of *cultural* control operations requires the development of a more specific time frame more suited to the measures that have been implemented and the desired objectives of those measures. For example, if the site was hand pulled in spring followed by seeding, monitoring should occur in the fall and again the following spring, to determine germination success (of the seed mix) and amount of re-growth of the invasive plant, and need for follow-up action.

## 7.3 Biological Control Agent Monitoring

Monitoring of biological control may occur annually to monitor the establishment of a specific population and will include the following:

- Presence or absence of the agent.
- Dispersal of agent from the original release point (number of meters in each of the cardinal bearings).

- Invasive plant count and biological agent count (timed) which will estimate the number agents per plant.
- Damage observed on target invasive plant species: foliar, root, and/or seed.

For most biological control releases, sites may be assessed approximately five years after the original release date for potential collection sites.

# 8.0 RECOMMENDATIONS

## 8.1 Priority Species

As noted in Section 5.0, a total of 24 species are noted as being high priority. While this is close to half the total number of invasive plants observed during the assessment, it remains a substantial list. Eight species within this list can be distinguished as requiring the most immediate attention; these are:

1. Hoary Alyssum
2. Orange Hawkweed
3. Puncturevine
4. Sulphur Cinquefoil
5. Spotted Knapweed
6. Tall Hawkweed
7. Tansy Ragwort
8. Yellow Toadflax



Five of these 8 species are included within the RDOS 'Dirty Dozen', the top twelve invasive plants occurring within the confines of the regional district boundaries. The seriousness and extent of hoary alyssum, tall hawkweed and yellow toadflax were not fully recognized when the 'Dirty Dozen' list was created.

It is recommended that the RDOS implement management strategies that effectively address these species first and foremost. Whenever possible, these species should be eradicated from a site; where infestations are already established, efforts should be taken to reduce their spread through the application of best management options (as outlined in Appendix C).

## 8.2 Priority Sites

Patches of invasive plants viewed as high priority for treatment due to their location on the landscape or the high abundance of species and/or presence of high priority species are discussed in this section. These invasive plant incursions are typically associated with a particular disturbance or source of aggravation, which will also need to be addressed if management is to be fully effective. The following section provides a description of the location and species occurring on a property-by-property basis, and also details specific

management recommendations. Some of these properties have maps that illustrate the high priority invasive plants that occur on the landscape; maps are found in Appendix D. The existence of a map will be indicated by an asterisk (*) next to the title of the property.

### 8.2.1 Landfills

#### Penticton (Campbell Mountain) Landfill

***Invasive Plant Summary:*** A survey of the active sections of the landfill determined that the most prolific invasive plant is kochia, followed by diffuse knapweed, Russian thistle, cheatgrass and mustard. While these are species not typically considered high priority for control, some of the infestations were located in high traffic areas and have the potential to spread both on and off the property. There were small patches or individual plants of higher priority also detected within the active areas of the landfill, including broad-leaved dock, Dalmatian toadflax, common tansy, hoary alyssum and hound's-tongue. The broad-leaved dock was detected at this landfill by the author during a November 2006 assessment; the infestation has expanded but is predominantly contained to heavily disturbed areas behind the offices and on the bermed areas surrounding the disposal site for computer monitors. Dalmatian toadflax was also noted in 2006, and appears to have reduced in size as a result of successful biological control. The other three priority species were not detected during the 2006 assessment. Of particular concern is the one patch of common tansy, which was observed at the staff parking location. The parking area was noted as a problem site in 2006 due to the significant amount of diffuse knapweed in this area. Only two hoary alyssum plants were detected (at the road edge, next to a speed bump at the office) and they were hand-pulled by the author.

**A patch of broad-leaved dock.**

**Common tansy in the staff parking area.**

In more idle areas that are not accessed by the public, a much broader variety of high priority species were recorded including St. John's-wort (patches are limited to areas near the landfill entranceway), bull thistle, and fairly significant expanses of hound's-tongue, sulphur cinquefoil and Dalmatian toadflax.

Stem and seedhead weevils were detected on the Dalmatian toadflax while root feeding and seedhead agents were observed on the diffuse knapweed. There were no biological control agents noted on the hound's-tongue or St. John's-wort.

Also noteworthy at this landfill was the re-location of a bear fence, which occurred in the fall. This action caused what appeared to be an excessive amount of soil disturbance through an area that supported significant amounts of diffuse knapweed, hound's-tongue and St. John's-wort. Such a broad swath of disturbance makes this area extremely vulnerable to invasive plant establishment.

**Soil disturbance in preparation for re-location of a bear fence.**

***Management Recommendations:*** The edges of travel corridors or other publicly accessed areas that support kochia, diffuse knapweed, Russian thistle and mustard should be mowed at least twice per year. Consider establishing a 1-2 metre width buffer along all travel corridors within the landfill; within this buffer zone, all invasive plants should be mowed or cut to reduce movement of invasive plants or plant fragments in the landfill via vehicles or wind dispersal. Mowing at the landfill entrance is aesthetically pleasing and also prevents this high use area from being a pick up point for invasive plants; therefore this action needs to be continued. However, it needs to be recognized that mowing is not the most effective technique for all species; therefore other methods will need to be employed. Hoary alyssum, for example, must be hand pulled to be effectively removed from the site. Invasive plants should be cleared from all parking areas; it is important to be cognizant of where staff park and avoid the movement of invasive plants off-site. Parking areas should be monitored annually for the potential establishment of new species.

Any individual or small patches of invasive plants, such as the dock, hoary alyssum and common tansy, should be controlled and eradicated whenever possible. Control measures applied will be species-specific, but for most species, hand pulling or cutting at ground level prior to seed production would be effective. Monitoring is going to be critical, to ensure the eradication of hoary alyssum.

Within other active areas of the landfill, the composting area presents a location where invasive plant management requires some attention. As landowners may inadvertently include invasive plants in their curbside pick-up bags, P.A.C.E. (Penticton and Area Cooperative Enterprises) workers who open bags and deposit material should be trained to identify invasive plants to prevent their inclusion in the compostable material. Areas of progressive closure also provide an opportunity to take preventative weed control measures such as hydroseeding, which is especially important during final cover.

Outside of the active areas of the landfill, biological control should continue to be an important management tool. As there were no bioagents detected on hound's-tongue or St. John's-wort, beetles should be released in 2009 to assist with the management of these weeds. Prevention of motorized access or other disturbance in these areas will help to reduce further spread of invasive plants.

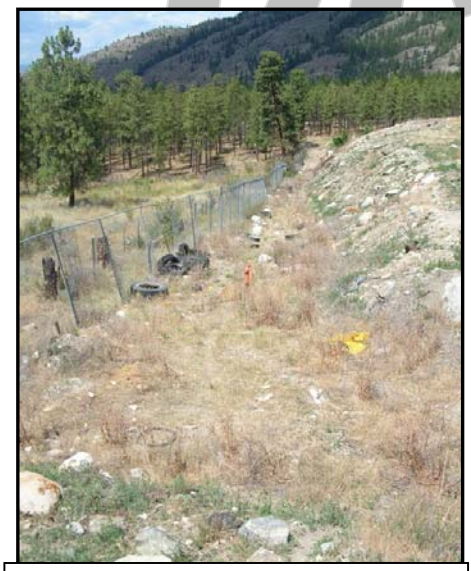
As a variety of management strategies should be undertaken at the landfill, it is important that all staff be trained to clearly recognize the various invasive plants occurring at the landfill and in adjacent areas. As the RDOS readily accepts invasive plants for disposal, the scale attendant, operator and spotter should be aware of the more common invasive plants that may enter the landfill. Staff should be encouraged to report new or unknown plants to the RDOS Invasive Plant Program Coordinator, and should be clearly aware of the invasive plant management actions underway at the landfill.

Any planned actions that will require excessive soil movement and/or disturbance should carefully consider the potential implications of invasive plant spread and establishment. All efforts should be made to limit the area of disturbance, treat known invasive plant infestations beforehand, heavily re-seed to encourage competitive vegetation and monitor to determine germination success and amount of weed re-establishment. The seed mix should be a custom blend developed in consultation with the Invasive Plant Program Coordinator and/or a seed company and should consist predominantly of drought tolerant perennial grasses.



## Okanagan Falls Landfill

***Invasive Plant Summary:*** This landfill has gone through significant changes in recent years, as it has evolved into the Regional Service Area's Centre for Demolition, Land Clearing and Construction ("DLC") Waste. Generally, the active and high traffic areas of the landfill have very limited amounts of invasive plants, presumably as a direct result of the treatment conducted by a local spray contractor on the road edges and terraced rocks. The predominant high priority species identified within the fenced boundaries included diffuse knapweed, sulphur cinquefoil and hound's-tongue. There was also one small patch of hoary alyssum discovered behind the tree stumps, with hound's-tongue, bull thistle and burdock in close proximity. The most extensive and dense infestations of the high priority species were in the southwest corner of the landfill and continuing along the western side. Diffuse knapweed and hound's-tongue are extremely prevalent in this area, but also present were sulphur cinquefoil, Dalmatian toadflax, St. John's-wort, bull thistle, mustard, mullein, kochia, Russian thistle and night flowering catchfly. One area along the road edge that does present a 'pick-up' point is immediately after the entranceway; there are dense patches of hound's-tongue



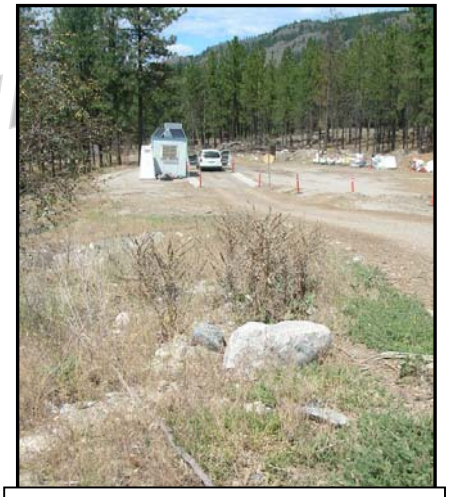
**Hound's-tongue is prevalent along the western boundary.**

and diffuse knapweed on both sides of the road. The northwest corner of the landfill supports a variety of invasives, including cheatgrass, mustard, kochia, Russian thistle, pigweed and hound's-tongue. Across the road on the north-facing hillside immediately after the entranceway, there is a dense patch of Russian thistle and kochia, interspersed with cheatgrass and Jimsonweed. The northeast section of the landfill appears to have been disturbed in the last year or two, although it is not an area used by the public. The removal of topsoil and levelling of the area has resulted in a dense and expansive infestation of annual weeds, including Jerusalem oak, Russian thistle, pigweed, kochia and mustard.

**Jerusalem oak is prevalent at the northeast section of the landfill.**

Several individual Jimsonweed or *Datura* plants were noted throughout the landfill. While not typically viewed as an invasive plant, the toxicity of this plant warrants it a high priority for removal.

Stem and seedhead weevils were detected on the Dalmatian toadflax while root feeding and seedhead agents were observed on the diffuse knapweed. There were no biological control agents noted on the hound's-tongue or St. John's-wort.



**Patches of knapweed and hound's-tongue should be spot-sprayed near the roadside.**

***Management Recommendations:*** As the edges of travel corridors pose a high risk for spread, the patches of hound's-tongue and diffuse knapweed should be sprayed. Otherwise, these two high priority species should be addressed using biological control. The bioagents for knapweed appear sufficient, however as no agents were noted on the hound's-tongue, this weed should be targeted with one biorelease along the western periphery of the landfill.

The hillside of Russian thistle and kochia, interspersed with cheatgrass and Jimsonweed near the entrance should be treated, as this site is not aesthetically pleasing and the tumbling thistle could easily spread downhill. The hillside could be sprayed with a non-selective herbicide and seeded, or possibly top dressed with a thick layer of woodchips. The small patches of hoary alyssum and burdock should be hand pulled and cut/bagged, respectively, to prevent further spread.

The Dalmatian toadflax and diffuse knapweed bioagents should be monitored to ensure they continue to suppress these species.

As noted with Campbell Mountain, any planned actions that will require excessive soil movement and/or disturbance should carefully consider the potential implications of invasive plant spread and establishment. The recent disturbance on the northeast section of the landfill is an example of the weeds that can quickly infiltrate an area. All efforts should be

made to limit the area of disturbance, treat known invasive plant infestations beforehand, heavily re-seed to encourage competitive vegetation and monitor to determine germination success and amount of weed re-establishment.

## Oliver Landfill *

***Invasive Plant Summary:*** The only high priority species observed at this landfill was puncturevine, however infestation size and the number of patches have increased since first detection in 2006. This is also the only property owned or managed by the RDOS where puncturevine was detected; this is highly significant, considering puncturevine is one of the highest priority species in the Okanagan Valley. During the present survey, a total of six infestations were detected varying from one isolated plant to a patch extending over 100 metres in length. In August, the landfill operator was informed of all locations and she aimed to hand pull as much as possible. Russian thistle and kochia are also prevalent at this landfill.

**Russian thistle and kochia should be treated at the Oliver landfill.**

***Management Recommendations:*** While not deemed high priority species, the centrally located areas of Russian thistle and kochia at the top end of the landfill should be cut down at least twice a year or chemically treated, to avoid pick up by passing vehicles and potential spread to new locations.

**Puncturevine is the highest priority invader at the Oliver landfill.**

The puncturevine infestations pose a significant concern and should be a high priority for action. Inspections for this invasive plant should begin in early June, focusing on but not limited to, those areas known to previously support this species. The landfill operator must be familiar with this species and should be encouraged to not only monitor the landfill and hand pull plants as they are detected, but also to post information to raise awareness about this plant.

## Keremeos Landfill

***Invasive Plant Summary:*** The dominant invasive plants at the Keremeos landfill are hound's-tongue and diffuse knapweed. At the landfill entrance, diffuse knapweed, mustard, kochia, pigweed, sweetclover, dock, hound's-tongue and mullein are all present. The lower (inactive) road that parallels the orchard is dominated by hound's-tongue and diffuse knapweed. The hound's-tongue is particularly dense and widespread along the fence line, interspersed with tires and scrap metal, but small patches are also on the upper side of the road. The knapweed is primarily growing on the dry, exposed bank above the road, with some

plants also growing amongst the hound's-tongue. Young Siberian elm trees have also established along the edge of this roadway and one tamarisk (salt cedar) was noted. Mustard is the most prolific species along the old road, which leads to the upper section of the facility. Some diffuse knapweed, kochia and Russian thistle also occur here. At the top end of the active area, in the vicinity of the contaminated soils, diffuse knapweed is the most prolific weed. Diffuse knapweed is also unquestionably the most dominant invader along the active road that leads to the upper section of the landfill. In the vicinity of the upper road, a patch of curlycup gumweed was discovered around the woodchip pile, growing alongside a Dalmatian toadflax infestation and one spotted knapweed plant. A south-facing hillside above the metal disposal bins is covered with kochia. The adjacent natural habitats surrounding the landfill support a very limited amount of invasive plants. Diffuse knapweed was the most common species observed in the grasslands, however in low abundance.

Stem and seedhead weevils were detected on the Dalmatian toadflax while root feeding and seedhead agents were observed on the diffuse knapweed. There were no biological control agents noted on the hound's-tongue.

***Management Recommendations:*** As a transfer facility, the Keremeos landfill has only a limited amount of public access which fortunately helps to reduce the spread of invasive plants. However, the dense patches of knapweed along the road edges pose a concern and despite the presence of biological control agents, these areas should be spot-sprayed to prevent the spread of knapweed both within and off the facility. Knapweed infestations beyond the road edges should remain under control with bioagents. The infestations near the entranceway and around the recycling bins should be regularly mowed to reduce seed production and aesthetically improve the appearance of the landfill.

**The knapweed should be spot-sprayed along the road edge.**

**Hound's-tongue is problematic at Keremeos.**

Also of concern is the significant abundance of hound's-tongue along the lower road. This infestation warrants a biorelease in 2009, unless the anticipated closure of this facility in 5-6 years would entail substantial movement of soil and vegetation. Regardless, mature seed stalks should be clipped and removed from the site for burial at the Campbell Mountain landfill. If a bioagent is released, second year plants can continue to be cut at the base and composted onsite for the next two to three years, until the bioagents suppress the hound's-tongue population.

The hillside of kochia above the bins should be treated to prevent further spread and to improve on the unsightliness. The area is probably best treated by top dressing with wood chips, which are amply available onsite. Alternatively, the hillside could be spray with a glyphosate-based product, and then heavily seeded with a perennial grass mix.

## 8.2.2 Regional Parks

### Lion's Park *

***Invasive Plant Summary:*** Lion's Park has a significant amount of landscaped area, although some natural rocky outcrops and natural riparian habitat also occur within the park. Hoary cress has heavily invaded the areas at the junction between the manicured lawn and the rocky outcrop. This invasive plant has been present for several years, and has expanded significantly in recent years, although it was not detected on the adjacent KVR. Small patches or isolated plants of Canada thistle were also mapped within the park. The thistle was located predominantly in the tall grass along the water's edge; plants were consistently located throughout this area, although infestations are not dense. A small amount of purple loosestrife was noted, but not mapped, as the plants have been heavily impacted by the *Galerucella* bioagent. Individual knapweed plants were also observed in the dry, rocky areas but were not mapped. There were root feeding and seedhead agents observed on the diffuse knapweed but no bioagents were noted on the Canada thistle.

***Management Recommendations:*** The hoary cress should be mowed several times a year for successive years to decrease the spread and reduce seed production. Mowing should be performed during the early bud stage (April/early May) and repeated when the plants re-bud. The Canada thistle should be target with a weed wacker at the bud stage to prevent seed production, and should be monitored to ensure it does not continue to spread.

### Kenyon Park

***Invasive Plant Summary:*** There were no pertinent invasive plant concerns at Kenyon Park due its highly manicured nature, but a small amount of burdock was noted.

***Management Recommendations:*** As burdock poses a threat to birds and bats, and can also be easily spread by people, this invasive plant should be targeted for control with an eventual goal of eradication. Mature burdock stalks with seed heads should be cut and bagged, and rosettes should be dug out.

### Kobau Park

***Invasive Plant Summary:*** As the vast amount of Kobau Park is mowed lawn and a ball diamond, the majority of the invasive plants are restricted to lawn edges, the parking area and adjacent undeveloped, natural areas. Russian thistle, Russian knapweed, diffuse knapweed and Canada thistle were observed growing along the fence line. Adjacent to the road, Russian knapweed is very prolific; also present is curlycup gumweed, kochia and a small amount of diffuse knapweed. Between the ball field and the dike there is a heavily disturbed area of natural habitat that is dominated by Dalmatian toadflax, as well as Russian thistle, Russian knapweed and mustard.

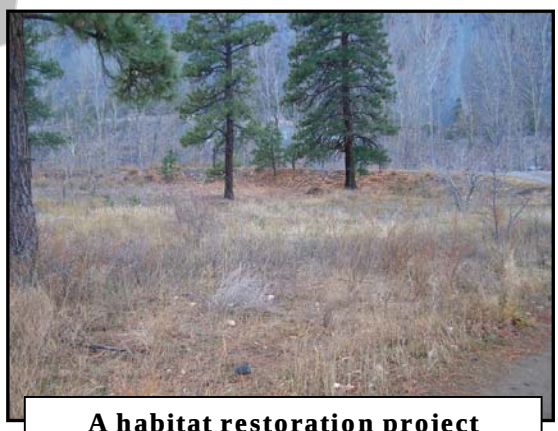
Canada thistle and lamb's-quarters were prevalent in the rose thickets, bordering the ball field. Heading west into the drier natural sections, diffuse knapweed, Russian thistle, mullein, western salsify and cheatgrass dominate the area. A bermed area of approximately 40 metres in length presents a significant soil disturbance and supports a variety of invasives, including Russian thistle and Dalmatian toadflax.

Stem and seedhead weevils were detected on the Dalmatian toadflax while root feeding and seedhead agents were observed on the diffuse knapweed. There were no bioagents noted on the Canada thistle.

***Management Recommendations:*** The road edges and locations where vehicles may park should be mowed at least twice a year to reduce the seed production of the various invasive plants. Where mowing or weed whacking is unable to control weeds growing on the fence lines, there may be a need for some hand pulling.

**Barriers should be installed to reduce vehicle access into the natural areas.**

Mowing of the turf is preventing most invasive plants from getting a foothold in the majority of the park; however there are areas of exposed soil, which support diffuse knapweed and Russian thistle, which may only be temporarily setback by mowing. These exposed soils are highly vulnerable to orange hawkweed, which has invaded Pine Park in Keremeos, and presents extremely challenging management issues. Management should aim to re-seed these disturbed areas and avoid vehicle use on the turf whenever possible. Park managers should annually monitor the park for new invaders such as orange hawkweed. There should be barriers (e.g. boulders or logs) carefully positioned at the edges of the natural areas, to reduce vehicle access into these areas and thereby decrease the level of disturbance and the movement of invasive plants.



**A habitat restoration project should be pursued in this park.**

The southeast corner of this park, between the ball field and the dike, represents an opportunity for a restoration project with a community group. The RDOS should connect with the Okanagan-Similkameen Conservation Alliance to pursue opportunities to restore the natural habitat as a community project.

## Manitou Park*

***Invasive Plant Summary:*** The most significant invasive plants concerns at Manitou Park are burdock and hound's-tongue which are present in small patches within the forested section of the park. Other species of less significance were Russian thistle, cheatgrass, mallow, and white cockle, which were detected around the shed.

***Management Recommendations:*** As burdock poses a threat to birds and bats, and can also be easily spread by people, this invasive plant should be targeted for control with an eventual goal of eradication. Hound's-tongue is also easily spread and should similarly be targeted for eventual eradication. Mature stalks with seed heads should be cut and bagged, and rosettes should be dug out.

## Rock Ovens Park

***Invasive Plant Summary:*** In general, invasive plant occurrence is low throughout the Rock Ovens Park. There is one area of historical disturbance, on the upper section of grade and north of the big tunnel, which is heavily colonized with St. John's-wort, hound's-tongue, Dalmatian toadflax, diffuse knapweed and sulphur cinquefoil. Bioagents were detected on diffuse knapweed, however there were limited agents attacking the toadflax and no agents noted on St. John's-wort.

***Management Recommendations:*** Biological control agents for St. John's-wort should be released in this park, and the Dalmatian toadflax bioagents should be monitored to ensure they are successfully suppressing the toadflax.



## Naramata Wharf Park*

***Invasive Plant Summary:*** Invasive plants at Naramata Wharf Park are mostly restricted to the water's edge. Diffuse knapweed, oxeye daisy, burdock, bull thistle, baby's breath and Canada thistle are all present in low levels.

***Management Recommendations:*** While there are a variety of invasive plants at this park, infestations are small and not widespread. Action (physical removal) should be taken to ensure they remain at low levels or are eradicated. This park presents an opportunity for a community planting project, possibly in conjunction with an event such as Earth Day (April 22); opportunities should be pursued with the Parks and Recreation Commission.

## Kaleden Hotel Park

***Invasive Plant Summary:*** The lands immediately surround the old hotel consist predominantly of manicured lawn. There are some invasive ornamentals that appear to have been purposefully planted around the building, including English ivy, sea buckthorn and Scotch broom. The land to the south, on which the Kaleden Irrigation District building is located, is dominated by alfalfa and the native perennial bunchgrass, sand dropseed.

However, despite regular mowing, these dry fields also support a variety of invasive plants including baby's breath, Russian thistle, mallow, field pennycress, lamb's quarters and other annuals. Baby's breath is also prolific along the KVR, which is immediately adjacent to this regional park.

**Land next to the Kaleden Hotel Park presents an ideal opportunity for a dryland planting project.**

***Management Recommendations:*** This regional park presents an excellent opportunity for interpretive signage and potentially a dryland planting demonstration site due to its close proximity to the KVR and the public beach. The benefits of conducted an enhancement project in this area are threefold. The creation of a dryland park will: reduce invasive plant infestations; significantly reduce long-term maintenance costs in this area; and provide an example of xeriscaping that may be replicated by residents in the community.

While there was no immediate evidence of the ornamental species spreading beyond their originally intended boundaries, the presence of these species in such close proximity to the natural riparian habitat along Skaha Lake does pose some concern. Of greatest concern is the presence of sea buckthorn and Scotch broom. It is recommended that these shrubs be removed and replaced with a less invasive species.

**The ornamental shrubs should be removed to prevent spread.**



## Osoyoos Lake Park

***Invasive Plant Summary:*** As much of the vegetation at this park is predominantly manicured lawn interspersed with campsites and picnicking areas, there were mainly common annual weeds detected and no high priority species were recorded.

***Management Recommendations:*** As this park is located in an area of high human use in close proximity to known puncturevine locations, the park should be monitored annually for this and other high priority species. The foreshore should also be annually monitored for yellow flag iris and purple loosestrife.

## McIntyre Canyon Park

***Invasive Plant Summary:*** As this particular park is essentially an island, it was surveyed from the east side of the Okanagan River using binoculars. There were no priority invasive species detected.

***Management Recommendations:*** This park should be monitored on a biennial basis for high priority species such as yellow flag iris and purple loosestrife.

### 8.2.3 Okanagan Falls Sewage Treatment Facility

***Invasive Plant Summary:*** While a survey was not conducted inside the facility, the area appeared mowed and there was no evidence of invasive plant concerns. Outside the treatment facility along the exposed soils overlooking Shuttleworth Creek, there was an infestation of baby's breath noted, as well as scattered diffuse knapweed and Dalmatian toadflax plants. Stem and seedhead weevils were detected on the Dalmatian toadflax while root feeding and seedhead agents were observed on the diffuse knapweed.

***Management Recommendations:*** Baby's breath has increased dramatically in the south Okanagan in recent years, and efforts should aim to prevent the further spread of this weed and eradicate if possible. Plants should be dug out annually for several years. While the knapweed and toadflax are being suppressed by biological control, the exposed soils are vulnerable to continued invasion. The creek bank should be re-vegetated with native plants to avoid a continuous invasive plant problem at this site.

### 8.2.4 Cemeteries

#### Naramata Cemetery

***Invasive Plant Summary:*** There are limited invasive plants at the cemetery due to regular, however a patch of Dalmatian toadflax was detected, as well as several sporadically occurring diffuse knapweed and oxeye daisy plants. Stem and seedhead weevils were detected on the Dalmatian toadflax while root feeding and seedhead agents were observed on the diffuse knapweed.

***Management Recommendations:*** As bioagents were noted on the knapweed and toadflax, there is no need to apply additional control measures to these species. The small amount of oxeye daisy should be hand pulled to prevent further spread.

#### SPCA Pet Cemetery

***Invasive Plant Summary:*** This cemetery appears to be maintained through weed wacking, however hound's-tongue and diffuse knapweed occur on the property. Root feeding and seedhead agents were observed on the diffuse knapweed, but there were no bioagents detected on the hound's-tongue.

***Management Recommendations:*** While the knapweed is being suppressed by a combination of bioagents and mechanical control, a more thorough follow-up is required to effectively control the hound's-tongue. *Cruciger* beetles have been released nearby and will eventually reach the cemetery; however in the interim any old hound's-tongue stalks with mature seeds should be clipped and bagged to reduce further spread.

### 8.2.5 Willowbrook Firehall

***Invasive Plant Summary:*** Due presumably to its rural setting, this fire hall supports a variety of invasive plants of high priority. Russian knapweed, diffuse knapweed, kochia, sulphur cinquefoil and hoary cress were all recorded on the property. Russian knapweed and hoary cress are particularly prolific along roadsides throughout the Willowbrook area.

***Management Recommendations:*** The fire hall property should be maintained by mowing at least twice per year, to reduce seed production. The RDOS will need to work cooperatively with the Ministry of Transportation to effectively manage the roadside infestations of Russian knapweed and hoary cress. Herbicide spot-application may be an effective tool for some of the property; this should be further investigated.

### 8.2.6 Fairview Townsite*

***Invasive Plant Summary:*** The parking lot and trail support a variety of invasive plants, particularly common annual species such as Russian thistle, mustard and cheatgrass. Bulbous bluegrass and cheatgrass are the most common invasive plants within the grassland, however these species were not mapped due to their ubiquitous nature. Hound's-tongue, diffuse knapweed and Dalmatian toadflax occur throughout the property, typically in small to large patches. Bioagents were noted for the latter two species. A biorelease was made for hound's-tongue in the near vicinity, and it is anticipated that this agent will begin to damage plants and assist with control within the next two years. A few scattered baby's breath plants were also detected. The property boundary along Old Golf Course Road is heavily infested with Russian thistle and cheatgrass.

There is evidence of mowing on the trail, however the sweetclover was quite tall at the time of assessment (July 30). The parking lot area was also mowed to the fence. Sweetclover is by far the dominant weed along the trail and it is very abundant, although there are several other species including cheatgrass, Japanese brome, mustard, diffuse knapweed and tons of Russian thistle seedlings which are going to become a big issue.

***Management Recommendations:*** Bioagents for diffuse knapweed and Dalmatian toadflax should be monitored to ensure continued success and reductions in abundance. Monitoring should also determine whether *Cruciger* beetles establishes on the hound's-tongue plants; agents should be released if they fail to disperse to this site by 2010. As the hound's-tongue bioagents will not impact mature plants with seeds, these plants should be carefully clipped and removed from the site.

Due to the limited number of baby's breath plants and the significant threat this invasive poses to the antelope-brush plant community, this weed should be eradicated from the site. The RDOS should work with adjacent landowners to encourage control of baby's-breath of their properties also, as this plant will readily disperse from neighbouring properties. The RDOS should also coordinate with the Ministry of Transportation regarding timely mowing of Old Golf Course Road.

Annual mowing is not an effective approach along the pedestrian trail. At a minimum, mowing should occur 2-3 times per year. But the ultimate concern is the limited amount of gravel on the trail; there is not enough gravel to effectively cover the trail and suppress the weeds. The RDOS should work with the stewardship responsible for managing this property and encourage the timely control of invasive species. Funding opportunities should be explored to obtain additional gravel for the trail, and potentially plant/seed native species in and around the parking lot and trail edges to provide competition and reduce the abundance of invasive plants. If there will be additional development (i.e. soil disturbance) of this site, a site-specific invasive plant management plan should be developed.

### 8.2.7 KVR – Penticton to Chute Lake*

***Invasive Plant Summary:*** Between the Penticton boundary and Rock Ovens Park, invasive plants typically occur in small patches amongst native vegetation alongside the railway bed. There are a few locations, especially above Naramata, where there is blanket coverage of invasive plants from 1-5 m beyond the edge of the path. Unmapped species such as tumble mustard, Russian thistle, and white cockle growing in and amongst patches of hound's-tongue, baby's breath, sulphur cinquefoil, diffuse knapweed and St. John's-wort are common above Naramata to the parking area at Smethurst Road. Dalmatian toadflax, hound's-tongue and sulphur cinquefoil are common along this stretch of the KVR, while species such as baby's breath are much less abundant. The RDOS Invasive Plant Program Coordinator made a release of Cruciger beetles for hound's-tongue in 2008, at the gazebo off Arawana Road. Large and dense patches of diffuse knapweed commonly occur on infills over ravines, especially after Smethurst. St. John's-wort first shows up above Naramata; patches become common just before Rock Ovens Park and within Rock Ovens Park. Bioagents were observed on diffuse knapweed and Dalmatian toadflax, but not on hound's-tongue or St. John's-wort. Construction above Naramata has created an area of exposed soil along the railway bed that will be subject to heavy infestation of invasive plants if these sites are not adequately managed. Currently, the areas consist of bare dirt that has been graded.

In general, from Smethurst to Chute Lake invasive plant abundance is significantly reduced. Between Rock Ovens Park and the Chute Lake area, species composition along the KVR really starts to change near the end of Rock Ovens Park to more of a wetter ecosystem type. Moving north from Rock Ovens to Chute Lake, invasive plants including oxeye daisy, orange hawkweed, tall hawkweed and tansy ragwort appear along the railway bed. Tansy ragwort begins to show up at an access point off Chute Lake Rd near Okanagan Mountain Park, and continues sporadically in small patches until Chute Lake. Oxeye daisy increases in frequency from the vicinity of Okanagan Mountain Park, with patches continuing northward until the end of the RDOS boundary. A few patches of spotted knapweed also occur along this northern stretch of the KVR; it is most heavily concentrated at Chute Lake Resort, however biological control agents were detected on plants in this location. Tall hawkweed was first detected just north of Rock Ovens in small patches and becomes more common in the vicinity of Okanagan Mountain Park. A large patch of orange hawkweed occurs at the Chute Lake Resort, with smaller patches emanating from this location south up to 100 m and north up to 2.5 km (to the end of the project boundary; infestations may occur beyond this point). Managers of the

resort have been notified of this invasive plant in previous years and are committed to mowing the hawkweed immediately after flowering, prior to seed production.

***Management Recommendations:*** Along much of the KVR, the invasive plants are limited to the first metre beyond the railway bed, with a healthy native plant community bordering the infestation. Therefore, if actions are taken to effectively manage the invasive plants, there are opportunities for native plants to re-establish in most locations. Preventative actions are equally important. For example, the RDOS needs to work with the developer in the Naramata area to ensure that disturbed soils are effectively re-vegetated, as they are presently highly prone to weed establishment.

Between Penticton and Naramata, there are several small, isolated patches of baby's-breath. These infestations have the potential to spread rapidly; therefore aggressive action should be taken to remove these plants from this corridor. Plants should be dug out to be effectively controlled. Along this same stretch of KVR, a *Cruciger* biorelease should be made for hound's-tongue

Sections of the KVR between Naramata to the parking area at Smethurst Road should be mowed to effectively reduce seed output of annual species such as Russian thistle and mustard. However mowing of species that have biological control agents – diffuse knapweed, Dalmatian toadflax, hound's-tongue - will not be necessary. A biorelease should be made at Rock Ovens Park area for the St. John's–wort.

It should be determined if the sulphur cinquefoil along the KVR is limited to the railway bed, or if it extends beyond this corridor. If it is the former, then this invasive plant should be targeted for herbicide treatment to ensure it is effectively removed from the area.

The South Okanagan-Similkameen Invasive Plant Society has been working closely with the Ministries of Forests & Range and Transportion, to control tansy ragwort, orange hawkweed, sulphur cinquefoil and more recently tall hawkweed in the Chute Lake area. The RDOS needs to work much more closely with SOSIPS and these agencies, to pool resources to effectively tackle the challenge these species represent. Herbicide spot application is the most suitable control option in most locations along the KVR. In addition to the aforementioned species, oxeye daisy should also been targeted for control, where it is limited to the KVR. As bioagents have been released for spotted knapweed in the Chute Lake area, this species should be monitored to ensure the beetles effectively suppress the weed. Otherwise, alternative actions may need to be taken.

As many of the invasive plants appear to been introduced at access points along the KVR, these are ideal locations to install interpretive signs to raise awareness and encourage recreational users to take action that reduce the spread of invasive plants. The signs may also encourage reporting of high priority species, particularly if the RDOS intends to eliminate any species from the KVR.

### 8.2.8 KVR – Summerland to Princeton*

***Invasive Plant Summary:*** In general, there were four main areas along this KVR that were heavily weed infested: Summerland to Faulder; 2 km east of Osprey Lake to Osprey Lake; a dense and widespread spotted knapweed infestation located 1.5 south of Chain Lake and heading west; and 12 km east of Princeton to Princeton. Diffuse knapweed root bioagents were detected throughout the Princeton-Summerland KVR, however the seedhead weevil was much less common, particularly at higher elevations. Seedhead agents and stem boring beetles were noted on Dalmatian toadflax, although not at significant levels. There were no bioagents detected on spotted knapweed or St. John's-wort. The most prevalent species are diffuse knapweed, spotted knapweed, hound's-tongue and St. John's-wort, while sulphur cinquefoil, bull thistle and baby's breath occur sporadically along this section of KVR.

**Summerland to Faulder**

Due to elevation changes, the composition of invasive plants changes as the microclimatic conditions change. Baby's breath is one of the most prevalent species with dense, continuous patches along several stretches between Faulder and Summerland. Russian thistle common in this section too. The stretch of KVR adjacent to the gravel pit and the train crossing is heavily weed infested. Curlycup gumweed is particularly prevalent in this area, continuing for approximately one km past the railway station.

The only location of perennial cornflower, an escaped ornamental in the knapweed family, was detected along this section of the KVR.

One patch of hoary alyssum occurs at Faulder (less than 100 plants); this was the only hoary alyssum noted between Summerland and Princeton. Spotted knapweed begins to show up around Faulder, and patchily continues to Princeton.

**Perennial cornflower was observed between Summerland and Faulder.**



**Faulder to First Crossing of Highway 40**

Moving out of the dry valley and into the cooler and wetter flats of the Trout Creek floodplain, hound's-tongue and St. John's-wort become more frequent but occur as small patches or widely spaced individual plants. Fortunately, native plants are relatively prolific and healthy in this section. Diffuse knapweed is the most common species from Faulder to the first crossing with highway 40. Near the campsite along Trout Creek (at approximately 13 km along Hwy 40), lands adjacent to the railway bed are heavily infested with diffuse knapweed and hound's-tongue. One orange hawkweed plant was recorded (then subsequently hand pulled) just northwest of the road and Trout Creek crossing.

**First Crossing of Highway 40 to Osprey Lake**

Moving up higher in elevation and out of rangeland, the invasive plant levels are significantly reduced, with patches tending to be smaller and less frequent. Common species of this section include diffuse knapweed, hound's-tongue, sulphur cinquefoil and a lesser amount of St. John's-wort. Spotted knapweed was observed around Kurton Creek, about 14 km east of

Thirsk Lake, after which this species becomes a consistent species all the way to Princeton. The frequency of Dalmatian toadflax really drops once the elevation starts climbing, but is present as small patches or individual plants along much of this stretch. Once the valley opens up before Princeton, becomes one of the most common invasive plants. Oxeye daisy begins to show up about 5 km east of Thirsk Lake. This plant becomes one of the most common species from Thirsk Lake to Link Lake, and then abruptly disappears from the KVR. Diffuse knapweed is present at low levels until after Siwash Creek. Approximately 2 km east of Osprey Lake, at the road and railway crossing, weed composition completely changes as the KVR moves onto a more mesic valley bottom. Oxeye daisy, hound's-tongue, Canada thistle, bull thistle, spotted knapweed and Dalmatian toadflax become continuous along the edges of the railway bed until Osprey Lake. [Canada thistle is uncommon along the KVR with the exception of this one stretch located 2 km east of Osprey Lake to Osprey Lake.] A very dense and long stretch of diffuse knapweed (400 m) was observed in this area, interspersed with small amounts of oxeye daisy and Dalmatian toadflax.

**North of Osprey Lake to 12 km northeast of Princeton**

After Osprey Lake, weed distribution drops dramatically. The knapweeds become the most commonly encountered species along the railway. Just east of Chain Lake, yellow hawkweed consistently occurs along the KVR for a distance of approximately 300 m. At approximately 1.5 south of Chain Lake, dense spotted knapweed occurs almost exclusively along the KVR with essentially blanket coverage. St. John's-wort also increases in this area as well. These two species are very common until Siwash Creek. Siwash Creek has the only orange hawkweed patch (with the exception of the one plant at the campsite along Trout Creek) with less than 20 plants occurring within 50 m of the Siwash Creek Rd – railgrade intersection. After Siwash Creek, diffuse knapweed becomes common again, but spotted knapweed is the most prevalent knapweed until the valley opens up. One patch of yellow toadflax was noted at the road junction just west of Bankeir, with less than 100 plants.

**12 km North of Princeton to Princeton/RDOS Boundary at Rainbow Lake**

About 12 km northeast of the RDOS boundary with Princeton, the valley opens up into farmland/grassland from forest. Along the edge of the railway, a one metre to 5 m swath of invasive plants is present. Weed distribution of diffuse knapweed increases to '8' in many locations. Spotted knapweed is also common, as is Dalmatian toadflax and hound's-tongue. An abundance of weeds was also noted around the gazebo.

***Management Recommendations:*** The isolated infestations of high priority species along the Summerland-Princeton KVR should be addressed immediately. This includes the perennial cornflower near Summerland (hand pull or spot spray), hoary alyssum at Faulder (hand pull or spot spray), orange hawkweed at Siwash (spot spray), tall hawkweed at Chain Lake (spot spray) and yellow toadflax at Bankier (spot spray). The Ministry of Forests & Range has spot-sprayed the orange hawkweed at Siwash the past two years, and may be willing to continue this treatment.

There are several locations along the KVR that would benefit from annual mowing. Ideally mowing should be conducted twice to be most effective; however if funding limits the mowing to only once per year, timing will be critical to ensure the majority of target species have reached their full height but have not yet produced seed. This will vary depended on the

location along the KVR and target species, but will likely be early July. Locations for mowing include:

- Sections of baby's-breath and mustard (unmapped) between Summerland and Faulder
- 2 km south of Osprey Lake to the south end of the lake
- From 12 km northeast of Princeton/RDOS boundary where railway opens into grassland/farmland to 2 km northeast of Princeton/RDOS boundary (need to ensure bioagents are present in the roots of diffuse and spotted knapweed)

The Summerland-Princeton route presents ample opportunities for bioreleases; these include releases of *Larinus* for diffuse knapweed, *Mecinus* for Dalmatian toadflax, *Cruciger* for hound's-tongue and *Chrysolina* for St. John's-wort.

There is potential for a community weed control project at the gazebo. Hound's-tongue is growing all around gazebo; mature plants could be clipped and bagged with new plants dug up. Other species may also be physically removed. The exposed soil at this location is highly vulnerable to invasive plant establishment and should be seeded in 2009.

### 8.2.9 KVR – Penticton to Okanagan Falls*

***Invasive Plant Summary:*** This heavily used recreational corridor supports a variety of high priority invasive plants. Diffuse knapweed and Dalmatian toadflax are patchily distributed along the entire length of this corridor, with both species showing signs of reduced vigour and being stunted as a consequence of biological control agents. Stem and seedhead weevils were detected on the Dalmatian toadflax while root feeding and seedhead agents were observed on the diffuse knapweed. Due to the ubiquitous nature of these two species, they were not mapped. High priority species that were mapped include baby's breath, hound's-tongue, sulphur cinquefoil, Canada thistle, burdock, bull thistle, common tansy and purple loosestrife. Baby's breath is extremely prolific along this section of KVR, with very few gaps in distribution along the entire length. Hound's-tongue is also abundant, although is more dense and widespread from Sickle Point northwards. Only one small patch of sulphur cinquefoil was located near Penticton. One patch of Canada thistle, an infestation of burdock and a small number of bull thistle plants were detected below Waterman's Hill, near the Highway 97 junction with the Old Kaleden Road. Only one small patch of purple loosestrife and a patch of common tansy were noted at the southernmost end of the KVR, very close to the Highway 97 bridge at Okanagan Falls. Several sites of exposed soil were recorded; management of these sites are discussed in Section 8.3 of this report.

While not mapped, one area of the trail near the campground north of Kaleden support a dense and lengthy infestation of sweetclover and alfalfa that is threatening to block the KVR.

Biological control agents were detected on the purple loosestrife, however they were not observed on the hound's-tongue or Canada thistle.

***Management Recommendations:*** As diffuse knapweed and Dalmatian toadflax appear as though they are being effectively suppressed by biological control, this approach should be continued and monitored, with no additional treatment taken. The abundance of hound's-

tongue requires the release of *Cruciger* beetles, with the most suitable site being north of Sickle Point. A second release could be made closer to Kaleden. As it will take 2-3 years for the bioagents to take affect, mature stalks with seeds should be clipped and bagged to reduce the ongoing spread of this weed by humans and animals. Baby's breath is of significant concern along this recreational corridor. As the infestations are already widespread, hand digging is no longer an option, except for any small or isolated patches. Therefore the next best option is to mow annually to reduce seed production and prevent further spread.

The surrounding landscapes should be inventoried to determine if there are additional infestations of sulphur cinquefoil. If not, this highly invasive plant should be carefully spot-sprayed to eradicate from the trail system, if outside of the pesticide free zone; otherwise hand digging followed by re-seeded should be implemented.

The dense infestation of sweetclover and alfalfa near the campground should be mowed twice during the year to ensure the trail does not close-in completely; this will likely need to occur annually until the root reserves are depleted. Monitoring will need to determine if mowing is successfully reducing the infestation; alternate methods may need to be employed.

With only one patch each of Canada thistle and common tansy, and a few sporadically occurring bull thistle plants, these species should be addressed by hand pulling and/or digging out plants. As these actions will create a soil disturbance, it should be followed up with seeding to provide some competition. Monitoring is also essential to determine if treatment was effective, and if additional treatment is required.



### 8.2.10 Regional District office

***Invasive Plant Summary:*** Despite being located in downtown Penticton, the parking lot of the RDOS supports some invasive plants which requirement treatment. One patch of hoary alyssum was recorded behind the building, and several patches of diffuse knapweed and western salsify were noted closer to Winnipeg Street, near the fence line. Biological control agents were detected in the roots of the knapweed.

***Management Recommendations:*** It is important to ensure there are no high priority invasive plants within or bordering the RDOS parking lot. The hoary alyssum should be hand pulled while the knapweed should be mowed twice during the year.

## 8.3 Rehabilitation Areas

During the 2008 assessment, several areas of exposed soils were noted that would potentially benefit from re-vegetation. These sites are identified on the maps, with the majority of the sites located along the Okanagan Falls-Penticton KVR. There was also one site located along the Princeton-Summerland KVR, one north of Chute Lake, a couple on the central Penticton-Chute Lake KVR, and some on the southern stretch of this section of the KVR.

Both the small and the larger should be viewed as 'rehabilitation sites' that would benefit from seeding with a dryland grass mix, predominantly to prevent the invasion of additional invasive plants or expansion of existing invasive plants. In some cases, increased vegetative cover will also reduce erosion. Seeding is considerably less costly and is likely to be more successful in some locations than planting, unless temporary irrigation is installed to assist establishment of the plantings.

A suitable dryland seed mix should be specifically created on a site-by-site basis, due to the significant elevation and ecological differences between sites. A potential mix that may suffice for several of the drier sites is included below:

**Table 3 A possible dryland seed mix to be used for re-vegetated areas of exposed soil.**

| Grass Species | % by weight | % by seed count |
|---|---|---|
| Dahurian Wildrye | 57.74 | 25 |
| Bluebunch Wheatgrass | 25.48 | 20 |
| Sheep's Fescue | 8.53 | 30 |
| Sandberg Bluegrass | 4.00 | 20 |
| Annual Ryegrass | 4.25 | 5 |

One site was identified as being ideally suited for a dryland plant project, that being on lands adjacent to the old Kaleden Hotel. In this particular location, both seeding and planting of native species would assist in weed suppression while demonstrating successful xeriscaping that is low maintenance, aesthetically pleasing and provides habitat for wildlife.

Any sites that are selected for rehabilitation should be signed to indicate that the area is being restored and people should refrain from accessing the site or stay on the trail; the message may vary depending on site-specific conditions. As these are locations where the soil has been disturbed, they are highly vulnerable to the establishment of invasive plants; therefore long-term monitoring of both survival of the native plantings and invasion (and removal) of weeds is essential to ensure success.

## 9.0 COLLABORATION AND COMMUNICATION

In order to achieve long term effective control of invasive plants in the Okanagan-Similkameen, the Invasive Plant Program will need to work closely internally with other departments, and will also need to collaborate with SOSIPS and adjacent regional districts. The regional district's education and outreach program can play a helpful role in providing ongoing assistance with invasive plant identification, recommendations on control options, provision of biological control agents and providing extension and outreach to the local community. Additionally, as invasive plants do not respect boundaries, voluntary involvement of the private landowners bordering the subject properties is essential to the overall effectiveness of all treatment activities. This holds true particularly for escaped ornamentals (e.g. baby's-breath, perennial cornflower, orange hawkweed). Landowners

should be provided information on the high priority invasive plants (identification, threats, control options and the consequence of taking no action), the alert species, and also a list of invasive horticultural species and alternatives for planting.

**Table 4 An Overview of Recommendations**

| RECOMMENDATIONS | DETAILS | TIMELINE |
|---|---|---|
| **Preventative Measures** | | |
| Avoid transporting invasive plant seeds and plant fragments | Inspect and clean maintenance or heavy equipment before entering the management area | Ongoing |
| Maintain healthy, vigorous natural areas | Immediately re-vegetate disturbed, bare soils with a suitable seed mixture that provides dense, early colonization | Ongoing |
| Monitor | Monitor priority areas. If new infestations are located, apply integrated control measures | Annually, May to late-June |
| Coordination & Planning | | |
| Complete invasive plant inventory | Conduct inventory on properties that were not inspected in 2008, namely additional parks, fire halls and heavily used trail systems | Spring-Fall 2009 |
| Enter data into provincial database. | All invasive plant inventory and treatment data from 2008 onwards should be entered into the Invasive Alien Plant Program (IAPP) application | Spring-Fall, 2009<br>Ongoing |
| Encourage coordinated invasive plant control | Coordinate with other members of SOSIPS; attend annual planning sessions and SOSIPS annual general meeting in April | Ongoing |
| Engage all relevant RDOS Departments to recognize the importance of participating in a regional invasive plant program, so that they plan/budget accordingly | Conduct training sessions to heighten staff and contractor awareness of the invasive plant issue and engage the various departments within the RDOS. Encourage staff to these companies to survey invasive plants along utility corridors, which commonly host invasive species; recommend they develop and adopt Best Management Practices | Immediately<br>Ongoing |
| **Awareness Measures** | | |
| Educate RDOS Parks and Recreation Commissions | Meet with the various Parks and Recreation Commissions to explain the invasive plant situation at each of the parks and other community service areas. Discuss treatment options and monitoring recommendations. Encourage reporting of new species. Maintain contact with these groups and update with information annually. | Spring 2009<br>Ongoing, annual updates |
| Educate Trail Stewardship Groups | Meet with the various trail stewardship groups to explain the invasive plant situation along each of the trail systems. Discuss treatment options and monitoring recommendations. Encourage reporting of new species. Maintain contact with these groups and update with information annually. | Spring 2009<br>Ongoing, annual updates |

| | | |
|---|---|---|
| Install invasive plant awareness signs | Install signs in key locations: trail heads, old Kaleden Hotel, postings on existing community bulletin boards along the trail systems | Spring 2009 |
| Reduce invasive plant spread through new residential developments | Provide best management plans with development permits | As needed basis |
| Educate new property owners | Provide invasive plant information with packages for new landowners within the management area | As needed basis |
| Increase invasive plant awareness | Coordinate with the SOSIPS to provide technical advice on invasive plant management to private landowners | As needed basis |
| Encourage landowners to dispose of invasive plants properly at the landfills | Include a reminder with the seasonal yard waste pickup notices | Seasonal |
| **Control Measures** | | |
| Pesticide Licence | RDOS should complete an application for a Pesticide Licence http://www.env.gov.bc.ca/epd/ipmp/forms/index.htm | Spring 2009 |
| Utilize biological control | Coordinate with the Ministry of Forests and Range to secure biological control agents for release on diffuse knapweed, spotted knapweed, Dalmatian toadflax, hound's-tongue and St. John's-wort | Release agents in spring/summer of 2009 and/or 2010 |
| Rehabilitate areas of exposed soil | Re-vegetate areas of disturbed soil to prevent invasive plants from establishing, particularly areas noted along KVR, at gazebo near Princeton along KVR and at along the creek at the OK Falls Sewage Treatment Facility | Spring or fall 2009 |
| Pursue opportunity for community planting or restoration projects | Opportunities for planting projects should be investigated for the Old Kaleden Hotel, Kobau Park and Naramata Wharf Park | Spring 2009; Implement in fall 2009 or spring 2010 |
| Control small and/or new infestations of high priority invasive plants in priority areas | Tall hawkweed along KVR near Chute Lake and on KVR near Chain Lake | Annually, beginning spring 2009 until eradicated within the priority area. Anticipate a minimum of 5 years to eradicate most species. |
| | Tansy ragwort along KVR near Chute Lake | |
| | Orange hawkweed along KVR at Siwash | |
| | Hoary alyssum along KVR at Faulder | |
| | Perennial Cornflower along KVR near Summerland | |
| | Yellow toadflax along KVR at Bankier | |

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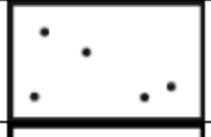
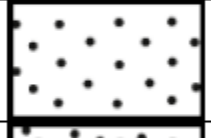
# APPENDICES

# APPENDIX A
## Distribution Codes Used to Describe Invasive Plant Infestation

| Distribution Codes | | |
|---|---|---|
| **Code** | **Image** | **Description** |
| 1 |  | Rare individual, a single occurrence |
| 2 |  | Few sporadically occurring individuals |
| 3 |  | Single patch or clump of a species |
| 4 |  | Several sporadically occurring individuals |
| 5 |  | A few patches or clumps of a species |
| 6 |  | Several well-spaced patches or clumps |
| 7 |  | Continuous uniform occurrence of well-spaced individuals |
| 8 |  | Continuous occurrence of a species with a few gaps in the distribution |
| 9 |  | Continuous dense occurrence of a species |

# APPENDIX B
## A Complete List of Invasive Plants Detected During the 2008 Inventory

| Common Name | Latin Name |
|---|---|
| Baby's Breath | *Gypsophila paniculata* |
| Broad-leaved Dock | *Rumex obtusifolius* |
| Bulbous Bluegrass | *Poa bulbosa* |
| Bull Thistle | *Cirsium vulgare* |
| Burdock | *Arctium sp.* |
| Canada Thistle | *Cirsium arvense* |
| Cheatgrass | *Bromus tectorum* |
| Common Mallow | *Malva neglecta* |
| Common Tansy | *Tanacetum vulgare* |
| Curlycup Gumweed | *Grindelia squarrosa* |
| Diffuse Knapweed | *Centaurea diffusa* |
| Dalmatian Toadflax | *Linaria genistifolia* |
| English Ivy | *Hedera helix* |
| Field Pennycress | *Thlaspi arvense* |
| Horseweed | *Conyza canadensis* |
| Hoary Alyssum | *Berteroa incana* |
| Hoary Cress | *Cardaria draba* |
| Hound's-tongue | *Cynoglossum officinale* |
| Japanese brome | *Bromus japonicus* |
| Jerusalem Oak | *Chenopodium botrys* |
| Jimson Weed | *Datura stramonium* |
| Kochia | *Kochia scoparia* |
| Oxeye Daisy | *Leucanthemum vulgare* |
| Orange Hawkweed | *Hieracium aurantiacum* |
| Mullein | *Verbascum thapsus* |
| Mustard species | *Sisymbrium spp.* |
| Myrtle Spurge | *Euphorbia myrsinites* |
| Night flowering catchfly | *Silene noctiflora* |
| Perennial Cornflower | *Centaurea montana* |
| Puncturevine | *Tribulus terrestris* |
| Purple Loosestrife | *Lythrum salicaria* |
| Redroot Pigweed | *Amaranthus retroflexus* |
| Russian Knapweed | *Acroptilon repens* |
| Russian thistle | *Salsola kali* |
| Scotch broom | *Cytisus scoparius* |
| Sea Buckthorn | *Hippophae rhamnoides* |
| Shepherd's purse | *Capsella bursa-pastoris* |
| Siberian elm | *Ulmus pumila* |
| Spiny Sowthistle | *Sonchus asper* |
| Spotted Knapweed | *Centaurea maculosa* |
| St. John's-wort | *Hypericum perforatum* |
| Sulphur Cinquefoil | *Potentilla recta* |
| Sweetclover | *Melilotus sp.* |
| Tall Hawkweed | *Hieracium piloselloides* |
| Tansy Ragwort | *Senecio jacobaea* |
| White Cockle | *Lychnis alba* |
| Yellow Toadflax | *Linaria vulgaris* |

# APPENDIX C

**Invasive Plant Profiles**

Baby's Breath
Broad-leaved Dock
Bull Thistle
Burdock
Common Tansy
Canada Thistle
Diffuse Knapweed
Dalmatian Toadflax
Hoary Alyssum
Hoary Cress
Hound's-tongue
Kochia
Oxeye Daisy
Orange Hawkweed
Perennial Cornflower
Puncturevine
Purple Loosestrife
Russian Knapweed
Sulphur Cinquefoil
St. John's-wort
Spotted Knapweed
Tall Hawkweed
Tansy Ragwort
Yellow Toadflax

# Baby's Breath
## *Gypsophila paniculata*

### Legal Status
Listed under the *Forest and Range Practices Act* as an invasive plant, and under the *Community Charter* as an alien invasive species.

### Identification
Baby's breath is a perennial herb. The plant has many branched stems and grows to 0.4-1.2 m tall.
The leaves are 2-10 cm long, lanced shaped with a prominent mid-vein, and occur opposite on the stem. The stem lacks basal leaves. Numerous small (1.5-2 mm), white flowers occur in clusters at the ends of branches. The seeds are small (1.5-2 mm), black, and wrinkled. The roots of mature plants are thick, and penetrate deep into the soil.

### Similar Species
Glandular baby's breath (*Gypsophila scorzonerifolia*) has a similar appearance to baby's breath, but does not occur in the Okanagan.

Seed is the primary method of reproduction. A mature plant can produce as many as 13,700 seeds per plant. Many seeds fall and remain close to the parent plant, but the wind can carry them far away. A form of vegetative reproduction results in an increase in shoots on mature plants. In early May seedlings emerge and remain as a single shoot the first year. Plants do not flower until their third year. Flowers bloom in early June and fruit begin to develop by mid-July. The fruit will mature and split by late July.



### Habitat
Baby's breath can be found growing in dry pastures, grasslands, rangelands, roadsides, ditches and other disturbed areas. The perennial roots prefer coarse textured soils where they can grow large, enabling them to store more food recourses. However, they do occur in fine textured soils as well.

### Management Options Summary

*Biological*
There are no biocontrol agents available for baby's breath.

*Mechanical*
Digging up individual plants with a flat nose spade is one method of treating baby's breath. The objective is to sever the plant where the taproot becomes the stem (caudex). To remove the caudex, the root must be severed as far below the ground as possible (15-30 cm deep). The spade must be placed near the base of the plant, and thrust at an angle that will contact the root as deep as possible. If the caudex is not removed, the plant may re-sprout from the cut root. Mowing will reduce seed production but will not control existing plants.

# Common Burdock

## *Arctium minus* (L.)

**Legal Status**

Classified as noxious within the Regional District Okanagan-Similkameen. Listed by the *Forest and Range Practices Act* as an invasive plant, and by the *Community Charter* as an alien invasive species.

**Identification**

Common burdock is a large biennial herb with a large fleshy taproot. The mature plant can grow between 1-3 m tall, with branched and coarse stems. The leaves are heart to egg shaped with woolly undersides and dark green tops. Lower leaves are large, up to 60 cm long and 40 cm wide, with hollow leaf stalks. Upper leaves are alternate and decrease in size with height. The leaf margins are toothed or wavy. Flowers occur in clusters on short stalks scattered along the stem. They are purple and less than 2.5 cm wide. When the flower heads mature they have hooked spines that cling to clothing or animals. The seedlings form rosettes with large heart shaped leaves, and the plant closely resembles rhubarb.

**Similar Species**

Great burdock (*Arctium lappa*) is another regionally classified noxious weed that is very similar in appearance to common burdock. Great burdock is distinguished from common burdock by its solid lower leaf stalks and individual flowers greater than 2.5 cm wide. The flowers grow from longer stalks and in a flat-topped cluster.



**Biology**

Common burdock reproduces by seed. A mature plant can produce 6000-16,000 seeds. Mature seedheads or burs readily hook on to fur and clothing and are then distributed to different locations. Plants germinate in early spring and form a large rosette in their first year. Second year plants produces flowers from July to September. Seeds are usually mature by September.

**Habitat**

Common burdock is found at low to mid-elevations in both grasslands and forests. Wet riparian habitats are preferred with nitrogen rich, fertile soil. Other growing sites include disturbed areas along roadways, ditches, pastures and stream banks.

**Management Options Summary**

*Biological*

There are no biocontrol agents available for burdock.

*Mechanical*

Mowing or cutting the plant after the plant has bolted but before full flowering is effective at controlling seed production. Hand pulling or digging rosettes with a sharp spade will kill the plant as long as the top 5-8 cm of the root are removed (the growing tissue). If the plant has gone to seed, clip and bag the mature seed heads.

# Common Tansy
## *Tanacetum vulgare* (L.)

### Legal Status
Regionally classified as noxious within several Regional Districts (including the North Okanagan). Listed as an invasive plant under the *Forest Range and Practices Act*, and an alien invasive species under the *Community Charter*.

### Identification


Common tansy is a perennial herb with a stout rhizomatous root. Its stems are branched, somewhat woody, erect, and grow 0.4-1.5 m tall. Mature stems may be purplish in colour. Leaves are alternate on the stem, dark green and have many divided leaves with serrated leaflets. Leaves are 10-20 cm long and 4-8 cm wide. The disk flowers are small (5-10 mm), yellow and button-like, and occur on the terminal end of branches. Flower heads form in tight clusters, and range from 20 to 200 per plant.

### Similar Species
Tansy ragwort (*Senecio jacobaea*) is another invasive plant often confused with common tansy; however, unlike common tansy that has only disk flowers, tansy ragwort has both disk and ray flowers.

### Biology
Common tansy depends mostly on seed for reproduction and dispersal; however it can reproduce vegetatively from creeping rhizomes. Each plant can produce up to 50,000 seeds, which can remain viable in the soil for up to 25 years. Flowers bloom from July to September.

### Habitat
Common tansy prefers sunny locations with well-drained soils. Commonly occurs along stream banks, in pastures, or on disturbed sites such as roadsides.

### Management Options Summary

*Biological*
To date there is no biocontrol for common tansy in the province.

*Mechanical*
An increase in vegetative growth in response to mowing is known to occur. However, mowing common tansy low to the ground before July can reduce further seed production. This process should be repeated annually. Hand pulling is also effective in areas that are not accessible by mowers.

# Dalmatian Toadflax

## *Linaria genistifolia* spp. *dalmatica* (L.)

### Legal Status

Classified as noxious within all regions of British Columbia. Listed by the *Forest and Range Practices Act* as an invasive plant, and by the *Community Charter* as an alien invasive plant species.

### Identification

Dalmatian toadflax is a perennial herb. It has a deep taproot that can penetrate up to one metre into the soil. As well, lateral roots can reach several metres in length. Stems grow upright between 0.6-1.2 m tall. One plant can have 1-25 stems. The leaves are waxy, green, and narrowly heart shaped. Leaves clasp the stem and are generally crowded. Vibrant yellow, snapdragon-like flowers are 2.5-4 cm long, and are located along the upper stems. The fruit are egg-shaped and the seeds are slightly winged and angular.

### Similar Species

Yellow toadflax (*Linaria vulgaris*), another exotic, is very similar in appearance to Dalmatian toadflax. Both species invade similar habitats, and can be difficult to distinguish. Yellow toadflax is generally smaller with more pointed, linear leaves.

### Biology

Dalmatian toadflax reproduces by seed and vegetative propagation. Vegetative reproduction is common from root buds on lateral roots and small root fragments. One mature plant can produce up to 500,000 seeds, which remain viable for up to 10 years. Seed are dispersed by passing through the digestive system of animals, carried by birds, or hitching a ride on various passers by.

Individual plants live up to five years; life span depends on environmental conditions and the reproductive success of individual plants. Toadflax plants begin emerging in the late winter – early spring, depending on temperature. The first year, the plant will develop a rosette and root system. Later in fall, an upright, leaved stem will grow, but no flowers or seeds will develop. Flowering occurs in the plant's second year from May-August and seeds mature from July-October.

### Habitat

Dalmatian toadflax will grow in most dry, open sites including open forest from low to mid elevations. It is most commonly found on sandy or gravely soil on roadsides, railroads, pastures, cultivated fields, rangelands and clear cuts. While toadflax can rapidly colonize disturbed or cultivated ground, plants can also invade healthy native plant communities. Dalmatian toadflax is a strong competitor, quickly colonizing open sites, and adapting to a wide range of environmental conditions.

**Management Options Summary**

*Biological*
There are five biological control agents in use in British Columbia:
1. *Brachypterolus pulicarius* – shoot and flower eating beetle
2. *Calophasia lunula*- defoliating moth
3. *Eteobalea intermediella* – root-boring moth
4. *Mecinus janthinus* – leaf and stem eating beetle
5. *Rhinusa antirrhini* – seed eating weevil

Populations of *Mecinus janthinus* are well established in the province and significant reductions of Dalmatian toadflax have been documented.

*Mechanical*
Hand pulling plants before seed-set at sites where small or new populations occur has proven successful. This method has been especially effective in newer infestations where a seed bank has not yet developed. Hand pulling should be repeated annually.

Mowing or cutting the plants can control or reduce seed production; however, it will not kill the plant. Cutting at the base of the plant can be more effective than mowing. Mowing generally does not cut the stems low enough to stop the plant from re-sprouting from the remaining stocks. These methods should be completed before the plant goes to seed, and should also be repeated annually until the seed bank is depleted.

# Diffuse Knapweed
## *Centaurea diffusa Lam.*

### Legal Status
Classified as a noxious weed in all regions of British Columbia. Listed under the *Forest and Range Practices Act* as an invasive plant, and under the *Community Charter* as an alien invasive species.

### Identification

Diffuse knapweed is a biennial or short-lived perennial herb with a deep taproot. Its stem grows upright, 10-60 cm tall, with many angled branches. Basal leaves form a rosette of stalked, divided leaves with narrow, hairy segments (3-8 cm long, 1-3 cm wide). Stem leaves are smaller, stalkless, less divided than basal leaves, and alternate on the stem. Small (1.5-2 cm) broadly urn-shaped flowers occur individually or in clusters of 2-3 at the ends of the branches. Two flower types, ray and disk, make up each flower head, which are typically white, but may be rose-purple or lavender in colour. Bracts are yellowish with brown margins, fringed on the sides and sometimes spotted. Seedlings have finely divided leaves covered in short hairs.

### Similar Species
Similar species include spotted knapweed (*Centaurea biebersteinii*) and Russian knapweed (*Actoptilon repens*). Diffuse knapweed can be distinguished from these species by its terminal bristle or spine on the flower bract.



### Biology
Diffuse knapweed reproduces by seed. An individual plant can produce up to 18,000 seeds. When growing in a stand as many as 40,000 seeds per $m^2$ can be present on the ground. The seed bank remains viable for several years. Wind can distribute seeds in the approximate area of the parent plant, or seed can be distributed larger distances by human and animal activity. As well, stems may break at the base and tumble great distances distributing the seed.

Juvenile plants that germinate in fall and spend the winter as a rosette will usually bolt and produce one stem, sometimes two, in early May. Buds are present in early June and flowers bloom in July and August. Seeds are mature by mid-August.

### Habitat
Diffuse knapweed grows in semi-arid to arid grasslands, rangeland, and open forests at low to mid elevations. It thrives on roadsides and other disturbed sites, and prefers full sun to shade. Plants are intolerant of repeated cultivation and excess moisture.

### Management Options Summary

*Biological*

Ten biological agents are used to control diffuse knapweed in the province:

1. *Agapeta zoegana*- biomass/productivity reducing moth
2. *Chaetorellia acrolophi*- seedhead feeding fly
3. *Chyphocleonus achates*- root weevil
4. *Larinus minutus*- seed eating weevil
5. *Larinus obtusus*- weevil
6. *Pelochrista medullana*- moth
7. *Pterolonche inspersa*- root mining moth
8. *Puccinia jaceae*- stem and leaf rust
9. *Sphenoptera jugoslavica*- root mining beetle
10. *Urophora affinis*- seedhead-feeding fly
11. *Urophora quadrifasciata*- seedhead-feeding fly

*Mechanical*

Cutting or mowing diffuse knapweed before seed-set can be an effective method to reduce seed production. However, cutting and mowing will not eliminate larger infestations, because cut plants and rosettes can survive and re-bolt, or produce flowers and set seeds at the cut height.

Hand pulling can be effective with small infestations. The entire plant or rosette including taproot must be removed, preferably before seed set. Hand pulling should occur multiple at least two times per year (late spring and late summer) and for several years to remove as many plants as possible. If seed has set, the plant should be bagged to prevent the seeds from spreading.

# Hoary Alyssum

## *Berteroa incana* (L.) DC.

### Legal Status

Classified as noxious within the Regional District of Kootenay-Boundary. Listed under the *Forest and Range Practices Act* as an invasive plant, and under the *Community Charter* as an alien invasive species.

### Identification

Hoary alyssum is an annual, biennial or perennial. The entire plant (stem, leaves, and seed pods) is covered in small star-like hairs. Born from a slender taproot, the stems grow upright and branched (0.3-1.1 m tall). Leaves are grey, elliptically shaped and point upwards facing the stem. Lower leaves (3-5 cm) are on small stalks, while the upper leaves are smaller and stalkless. Small white flowers (4-6 mm) are found on the end of stem branches; petals are deeply notched. Along the stem and below the flower are many flattened, oval seed pods that are held close to the upper stems. The seed pods are 5-8 mm long, and contain multiple chambers of 3-7 seeds.

### Similar Species

Pale alyssum (*Alyssum alyssoides*), desert alyssum, (*Alyssum desertorum*)

and wall alyssum (*Alyssum murale*) all have a similar appearance to hoary alyssum and are all non-native. However, these species usually grow smaller, and have smaller seed pods that are at most 4 mm long. The size of the seed pod helps to distinguish the other *Alyssum* sp. from hoary alyssum, which has larger seed heads (5-8 mm long).



### Biology

Hoary alyssum reproduces by seed. Rosettes form in early spring. Flowering and seed production is drawn out through the season. Flowers first being forming in lat spring and continue through summer to fall. Seed production occurs from July to October. Plants that act as a perennial overwinter as a rosette. Hoary alyssum is toxic to livestock, and horses are especially sensitive.

### Habitat

Hoary alyssum is most common in dry agricultural areas. It favours dry sandy or gravely soils of meadows, hayfields, pastures, and dry open fields. It also grows well on dry, disturbed sites including roadsides, embranchments, and railway tracks.

### Management Options Summary

*Biological*

There are no biocontrol agents available for hoary alyssum.

*Mechanical*

Small infestations can be killed by hand pulling or dug out prior to seed-set. To control seed production mowing can also be effective; however, mowing will stimulate the plants to put down a larger root and survive longer.

# Hoary Cress
## *Cardaria draba*

**Legal Status**
Listed under the *Forest and Range Practices Act* as an invasive plant, and under the *Community Charter* as an alien invasive species.

**Identification**
Hoary cress is a perennial herb. It has a branched top ending in numerous white flowers. The plant grows to 0.1-0.6 m tall. The leaves are arranged alternately on the stem, are blue-green in colour, and lance-shaped. The lower leaves are stalked and covered in small hairs, while the upper leaves that surround the flowering head lack hairs. Numerous small, white flowers with 4 petals occur at the ends of branches. There are two seeds per flower produced, and seeds are heart-shaped and reddish brown in colour. The roots are rhizomatous and can penetrate the soil down to 0.8 m.

**Similar Species**
The lens-podded and globe-podded hoary cress (*Cardaria chalepensis* and *Cardaria pubescens*), perennial pepperweed (*Lepidium latifolium*) and the rosettes of gumweed (*Grindelia squarrosa*) are similar and found in similar habitats.

**Biology**
Hoary cress reproduces by both seed and vegetative roots. A mature plant can produce as many as 4,800 seeds per plant. Many seeds fall and remain close to the parent plant, but the wind can carry them far away.

**Habitat**
Hoary cress can be found growing at low- to mid-elevations in open and unshaded areas. The perennial roots prefer alkaline soils that are wet in the late spring, like fields, meadows, pastures, croplands, disturbed areas, and along roadsides.

**Management Options Summary**

*Biological*
Sheep are thought to be able to manage hoary cress populations. There are no known insect bioagents available for hoary cress.

*Mechanical*
Mowing hoary cress several times a year for successive years can decrease the spread and cut seed production. Mowing should be performed during the early bud stage and repeated when the plants re-bud.

# Hound's-Tongue
## *Cynoglossum officinale* (L.)

first-year rosette

mature seeds

### Legal Status
Provincially classified as noxious within all regions in British Columbia. Listed by the *Forest and Range Practices Act* as an invasive plant, and by the *Community Charter* as an alien invasive species.

### Identification
Hound's-tongue is a biennial or short-lived perennial herb with a woody taproot. The upright stem, or stems, grow to 0.3-1.2 m tall and are usually branched. The first year rosette or basal leaves are narrowly elliptic or lance shaped, and taper towards the stalk (10-30 cm long). The stem leaves are alternate, stalkless and gradually reduce in size up the stem. All leaves are rough and hairy lacking lobes or teeth. Rosette leaves resemble a dog's tongue. Dull, purple-red flowers (one centimetre wide) occur in the upper stems at the leaf axils. Each flower produces four nutlets (seeds) that spread wide open when mature. The seeds are triangular to round, grey-brown, and covered in small hooked burrs.



### Similar Species
Northern hound's-tongue (*Cynoglossum boreale*) is a native, uncommon plant in the province. The plants are similar looking; however, northern hound's tongue is generally smaller (40-80 cm) with a single, naked upper stem.

### Biology
Hound's-tongue reproduces by seed. A mature plant can produce up to 2,000-4,000 seeds each year. Seeds easily cling to the fur of wildlife, livestock, and human clothing, potentially leading to long distance dispersals. Seeds left on the parent plant can be viable for 2-3 years, while seeds in the soil usually survive less than a year. Many seeds fall from the parent plant a few months after they mature, and germinate beneath the parent plant. In its first season, the plant forms a rosette, which dies back after frost. Over the winter, the plant survives as a taproot. In its second year and possibly subsequent years, the plant will bolt and flower. Flowers bloom from May through July.

### Habitat

In British Columbia, hound's-tongue grows from low-mid elevation forests. It is associated with soil disturbances, often occurring in 'waste' areas including logging roads and heavily grazed areas, disturbed woods and forest clearings and waterways. The plant is shade tolerant, but grows best in full sunlight given access to sufficient water and nutrients.

**Management Options Summary**

*Biological*
Currently one biocontrol is being used with encouraging results in the province. *Mogulones cruciger* is a root-mining weevil. This agent was widely released throughout the Okanagan-Similkameen in 2005-2007. Research also continues on other specialized agents, including two indigenous diseases: one that causes mildew and another that causes brown lesions on the leaves.

*Mechanical*
Hand pulling and hoeing can be effective for small populations, but must be conducted before the plant sets seed. First-year hound's-tongue plants are difficult to control by aboveground cutting, as nutrient reserves of the taproot allow defoliated plants to survive. Plants that are defoliated at the rosette stage may delay flowering for a year, and thus result in a larger plant with a greater seed output. Mowing or clipping second year plants can reduce seed production, however timing is critical; plants must be cut after plants have fully bolted and the first flowers have formed, but prior to seed production.

# Kochia

## *Kochia scoparia* (L.) Schrad.

### Legal Status

Not classified as noxious for the project area. Listed under the *Forest and Range Practices Act* as an invasive plant, and under the *Community Charter* as an alien invasive species.

### Identification

Kochia is an annual herb with a deep taproot that can penetrate up to 2.4 m into the soil. The stems have many branches and grow upright between 0.3-1.5 m tall. They often form a pyramidal shape with a rounded top. The lance shaped leaves are long (2-6 cm) and narrow and grow alternately on the stem. The upper surface of the leaf is smooth, and the underside is covered in soft hairs. The flowers form inconspicuous clusters on short spikes born from the leaf axils on the upper branches. The flowers are yellowish green and are usually surrounded by long hair. The seeds are brown, slightly ribbed and wedge shaped.

### Similar Species

Five-hook bassia (*Bassia hyssopifolia*) is a similar looking non-native plant found in British Columbia. It is distinguished from kochia by the five hooded structures on each seed.

### Biology

Kochia reproduces by seed. The number of seeds produced varies depending on the individual; some may produce five seeds/plant, where others will produce up to 50,000 seeds/plant. Seeds decay in the soil after a year; therefore a persisting seed bank is not an issue. Seed dispersal is achieved by the stem breaking off at the base and tumbling in the wind. Seedlings start to grow in early spring and flowers start to bloom in July. Seeds are formed by October.

### Habitat

Kochia readily invades disturbed sites along roadsides and ditches. As well, kochia can be found growing in a variety of open, unshaded habitats including grasslands, flood plains, riparian areas, sagebrush, and desert shrub communities.

### Management Options Summary

*Biological*

There are no biological control agents for kochia.

*Mechanical*

Grazing and mowing alone has not been successful at controlling kochia or stopping its seed production. Hand pulling small populations can be effective.

# Orange Hawkweed

## *Hieracium aurantiacum* (L.)

### Legal Status

Classified as noxious within many Regional Districts but not in the project area. Listed under the *Forest and Range Practices Act* as an invasive plant, and under the *Community Charter* as an alien invasive species.

### Identification

Orange hawkweed is a perennial herb with fibrous roots.

The upright, solitary, leafless stem grows 0.3-1.2 m tall, and is covered in stiff black hairs. The leaves are basal, oval-shaped, 4-20 cm long, and covered in stiff hairs. The flower heads are clustered at the tip of the stem, and consist of orange and yellow ray flowers with notched tips.

### Similar Species

There are 14 hawkweed species occurring in British Columbia; however, many are yellow or white-flowered native plants that are difficult to differentiate from the non-native varieties. Orange hawkweed is the only orange-red flowered hawkweed. It most closely resembles the introduced yellow-flowered hawkweed (Hieracium pilosella), which rarely occurs in southern BC.



### Biology

Orange hawkweed spreads by seed, creeping stolons and rhizomes. Stolons root at the nodes and form new rosettes in the spring and early summer. Once established, orange hawkweed can quickly develop into a patch that continues to expand until it covers the site with a solid mat of rosettes, forming a monoculture. Plants overwinter as rhizomes, and re-grow the next spring. Seeds enable the plant to widely disperse. Minute barbs along ribs on the seeds enable them to stick to hair, fur, feathers, clothing and vehicles, which can carry them long distances. Plants flower in June-July and quickly produce seed. Each flowering stem may produce several hundred seeds; the viability of which are currently unknown.

### Habitat

Orange hawkweed primarily occurs in open areas at low- to mid-elevations including native meadows, forest openings, permanent pastures, hayfields, roadsides, and disturbed sites. It out-competes many native species by forming dense monocultures.

### Management Options Summary

*Biological*

There are currently no biological control agents approved for release in Canada. An international Hawkweed Biocontrol Consortium is currently researching the potential for biological control of hawkweeds.

*Mechanical*

Small infestations may be controlled by carefully digging rosette plants in the spring or early summer when soils are still moist and before the seeds mature. Care needs to be taken to avoid breaking off the roots as plants can re-grow from root fragments. Removing flower stems prevents seed production, but repeated mowing can encourage reproduction from roots. If seeds have already developed, cut and bag the seeds heads before digging up the rest of the plant. It is very difficult to pull plants without dispersing the small lightweight seeds when they are present.

# Oxeye Daisy

## *Leucanthemum vulgare*

**Legal Status**
Listed under the *Forest and Range Practices Act* as an invasive plant, as a regional alien invasive species under the Community Charter for the Thompson Okanagan, and under the BC *Weed Control Act* as a noxious weed.

**Identification**
Oxeye daisy is a perennial herb. The plant has few stems and grows 0.2 to 0.8 m tall. The leaves are lanceolate in shape, roughly dissected, and are 4-15 cm long, becoming smaller and clasping toward the shoot. Single flowers of about 5 cm in diameter occur at the end of each branch. Inflorescences have white ray flowers with notched tips and yellow disc flowers. The seeds are black, simple, one-seeded fruits. The roots of mature plants are thick taproots, and penetrate deep into the soil.

**Similar Species**
Scentless chamomile (*Matricaria perforata*) has smaller flowers and fern-like leaves. It also resembles the Shasta daisy (*Chrysanthemum maximum*), which is a larger plant with bigger flowers than the oxeye daisy.

**Reproduction**
Seed is the primary method of reproduction. A mature plant can produce up to 26,000 seeds. Seeds are dispersed in close vicinity to the parent plant, and can be transported by water and animals. It also reproduces by extensive rhizomatous root systems.

**Habitat**
Oxeye daisy can be found growing on areas like roadsides, pastures, waste areas, grasslands and forested areas within low to mid-elevations.

**Management Options Summary**

*Biological*
There is no biological agent available in BC for this plant. Oxeye daisy is not palatable to cattle, so grazing is not an effective management tool, unless using sheep or goats.

*Mechanical*
Mowing will reduce seed production, but will not control existing plants unless done regularly to exhaust the plant and encourage vegetation growth. It is recommended that when either pulling or digging the root system from the ground, the entire root must be removed. Otherwise, shoots may generate from leftover root portions. Tilling the soil is also an acceptable practice, but ensure that machinery is cleaned off post-tilling to prevent spread of oxeye daisy. It is important to bag and properly dispose of (burn) the removed plants.

# Puncturevine
## *Tribulus terrestris* (L.)

**Legal Status**
Classified as noxious within the Regional District of Okanagan-Similkameen.

**Identification**
Puncturevine is an annual herb with a shallow taproot. Its many trailing stems form dense mats. Where there is competition for light the stems may grow upright. A mature plant can form a mat up to 100 cm wide. Leaves are 13 mm long, opposite, hairy, and divided into 4-8 pairs of oval, 13 mm leaflets. Solitary, yellow flowers grow on short stalks at the leaf axils, with each flower having 5 petals.
Flowers are small (13 mm) and only open in the morning. The fruit are 5–6 mm long and sharply pointed. When mature they break into 5 sections; each section contains 2-4 seeds.

**Similar Species**
None

**Biology**
Puncturevine reproduces by seed. Distribution occurs when the seeds' sharp spines hook onto humans, wild and domestic animals, tires and other objects and are then transported to new areas. The seeds are found within the burs (fruit). The seed nearest to the pointed end of the bur is the largest and usually sprouts first. The rest of the seeds germinate in order of position in the bur. Germination usually starts during spring and continues until frost. Seedling leaves are oval with prominent central groove. Three weeks after the plant begins to grow, flowers begin to appear. Fruits occur 1-2 weeks later. Flowers bloom from late spring (May) until first frost.



**Habitat**
Puncturevine prefers dry, sandy or gravely soils. It requires less water than most plants and grows well in dry, arid environments. Puncturevine grows in dry fields and pastures, on beaches and along disturbed roadsides.

**Management Option Summary**

*Biological*
Two species of weevil, Microlarinus *lareynii* (stem-boring weevil) and *Microlarinus lypriformus* (fruit-boring weevil), have been used to control puncturevine. *M. lareynii* was released in Osoyoos in 1986 but has yet to successfully establish in the Okanagan. In parts of the US, where these two agents have been successfully established, the combined effect of both species has provided effective control over large puncturevine infested areas.

*Mechanical*
Infestations can be controlled by hand pulled, shallow tilling or hoeing before flowering and seed production. If seedpods have already formed, the plants should be pulled and burnt, or buried at the land fill. To control established patches, plants should be removed before seed production annually until the seed bank is exhausted.

# Purple Loosestrife
## *Lythrum salicaria (L.)*

***Legal Status***
Listed by the *Forest and Range Practices Act* as an invasive plant, and by the *Community Charter* as an alien invasive species.

***Identification***
Purple loosestrife is a perennial herb with a wood taproot and branching rhizomes. Stems are erect, branchy and four sided, and grow between 0.5-2.0 m tall. Leaves are lance-shaped and occur opposite and whorled on the stem. Purple flowers are arranged in vertical clusters along the upper stem. Individual flowers have 5-7 petals.

***Similar Species***
Sweet rocket (*Hesperis matronalis*) is a similar looking exotic sometimes confused with purple loosestrife. However, sweet rocket's leaves have saw tooth edges and the stems are hairy. Fireweed (*Epilobium* spp.*)* is a native species that is often mistaken for purple loosestrife mostly because the flowers are similar color. Fireweed has 4 petals, whereas purple loosestrife has 5-7 petals. The fireweed stem is round and leaves are alternate.

### Biology
Purple loosestrife reproduces by seed and vegetatively from roots. A single flowering stalk can produce up to 300,000 seeds that may remain viable for up to 20 years. Densities exceeding 32,000 flowering stems/ha have been recorded. Seeds are extremely tiny, roughly the size of a grain of sand and are easily distributed by water, wind, wildlife and humans. Seeds will only drop from seed capsules when air temperature becomes cold in the early fall. Purple loosestrife infestations also expand due to persistent underground root systems. Annual stems arise from a perennial rootstock. As the roots mature, loosestrife plants become taller and bushier each year. Detached root or stem fragments may also root and develop into flowering stems. Large root nutrient reserves help to increase plant persistence. Flowers bloom from July to September.

***Habitat***
It prefers wet areas at low- to mid-elevation, commonly occurring in ditches, irrigation canals, marshes, shorelines and wetlands. In these habitats, loosestrife often forms dense competitive stands out-competing native wetland vegetation. Where it co-exists with cattails, it is favoured by fluctuating water levels because marsh drawdown helps loosestrife seedling establishment. Cattails however, appear able to compete with loosestrife where water levels remain constant and relatively deep.

**Management Options Summary**

*Biological*
Two leaf-eating beetles, *Gallerucella calmariensis* and *G. pusilla*, effectively control loosestrife infestations. Adults of both species feed on the foliage and flower heads of purple loosestrife. Small white eggs are laid in clusters on the stem. Larva also feed on the foliage of the plant; however they only consume on the top layer of the leaf creating a translucent leaf surface. Larvae then move into the leaf litter where they finish their development into an adult beetle.

*Mechanical*
Small, isolated infestations of purple loosestrife may be hand pulled. The entire root of the plant should be removed to avoid re-growth from root fragments. Pulling is easiest when plants are young. Older plants have larger root systems that are better removed with a garden fork. Pulling should also occur before seed production; otherwise seed heads should be cut and bagged. Seed production begins when flower petals start to drop from the bottom of the spike.

# Russian Knapweed

## *Acroptilion repens*

**Legal Status**
Listed under the *Forest and Range Practices Act* as an invasive plant, and under the *Community Charter* as an alien invasive species.

**Identification**
Russian knapweed is a perennial forb. The plant has branched stems and grows to 0.45-1.0 m tall. The leaves on Russian knapweed are alternately arranged. Leaves on the lower stems are narrow, oblong to lanceolate, and lobed. The upper leaves are oblong, toothed and become gradually smaller towards the inflorescences. Rosette leaves are lance-shaped, tapering at both ends with the broadest part at the tip. The plant has numerous light pink to purple flowers in small pearly bracts with papery margins that are slightly hairy at the tip. The seeds are greyish or ivory, oval and compressed in shape. Seeds have long white bristles at the tip when young, but these fall from the seed as it matures. The rootstock of this plant is long and creeping.

**Biology**
Extensive creeping rootstocks are the main mode of reproduction for this plant. A mature plant can produce as many as 1,200 seeds per year.

**Habitat**
Russian knapweed can be found growing in roadsides, riverbanks, irrigation ditches, pastures, clear-cuts, cropland, and disturbed areas. The perennial roots prefer clay soils. However, they do occur in other soil mediums.



**Management Options Summary**

*Biological*
Competition with native perennial grasses has been found to decrease infestations. *Subanguina picridis* (a species of nematode) has been experimented with as a biocontrol agent in BC and Colorado but is not available for general distribution (Weeds BC). Seeding an area infested with Russian knapweed has been found to decrease with fall planting of native bunchgrass.

*Mechanical*
Removing the top portion of the plant can decrease seed production, but since Russian knapweed reproduces best by creeping roots, the plant will not die. However, multiple cuttings of the infestation need to be made to stress the rootstock into decreasing its height and seed production.

# Spotted Knapweed
## *Centaurea biebersteinii* DC.

### Legal Status
Provincially classified as noxious within all regions of British Columbia. Listed under the *Forest and Range Practices Act* as an invasive plant, and under the *Community Charter* as an alien invasive species.

### Identification
Spotted knapweed is a biennial or short-lived herb with a stout taproot. Single or multiple stems are erect 0.2-1.8 m tall with branches occurring on the upper stems. Basal rosettes are deeply lobed and can grow up to 15 cm long. The divided stem leaves grow opposite and reduce in size up the stem. All leaves are green-grey and slightly hairy. Individual flower heads occur on the end of each branch. The bracts are a distinguishing feature of spotted knapweed. They are stiff with dark, cone-like, fringed tips that appear spotted. Flowers are usually pinkish-purple, but infrequently may be creamy white.

### Similar Species
There are 13 species of knapweed in British Columbia. Some similar species include diffuse knapweed (*Centaurea diffusa*), which differs by the presence of a distinct terminal spine on floral bracts; Russian knapweed (*Acroptilon repens*), which has smaller flowers and lacks black tips on floral bracts; meadow knapweed (*Centaurea debeauxii*), whose bracts tips have tattered fringes; and black knapweed (*Centaurea nigra*), whose leaves are not deeply lobed.



### Biology
Reproduction of spotted knapweed is by seed. It is known for its prolific seed production with a mature plant producing, under dry land conditions, up to 400 seeds per plant. Seed can remain viable in the soil for up to eight years. Seed usually remains close to the parent plant, but can be spread by wildlife, domestic animals and movement of infested hay and soil, as well as plants caught in the undercarriage of vehicles and machinery. Plants that complete their juvenile growth by the fall, and over winter as rosettes, bolt in the spring. Plants that have not finished the juvenile stage by the end of fall remain as rosettes through the second year, and bolt during the third year. Flower buds are formed in early June and flowering occurs from July to October.

### Habitat
Spotted knapweed occurs commonly in low to mid-elevation grasslands and open forests throughout the province. Dry, arid habitats and open habitats are preferred growing sites. Common growing sites include roadsides, fields, and disturbed sites.

## Management Options Summary

*Biological*

Twelve biological agents are used to control spotted knapweed in the province:

1. *Agapeta zoegana*- biomass/productivity reducing moth
2. *Chaetorellia acrolophi*- seed head feeding fly
3. *Chyphocleonus achates*- root weevil
4. *Larinus minutus*- seed eating beetle
5. *Larinus obtusus*- seed eating beetle
6. *Metzneria paucipunctella*- moth
7. *Pelochrista medullana* -moth
8. *Puccinia jaceae*- stem and leaf rust
9. *Sphenoptera jugoslavica*- root mining beetle
10. *Terrellia virens*-fly
11. *Urophora affinis*- seedhead-feeding fly
12. *Urophora quadrifasciata*- seedhead-feeding fly

In recent years, notable reductions in spotted knapweed infestations have been observed, due to the damage caused by the *Larinus minutus* and *Larinus obtusus* beetles. *Cyphocleonus achates* is also showing promising results.

*Mechanical*

Cutting or mowing spotted knapweed before seed-set can be an effective method to reduce seed production. However, cutting and mowing will not eliminate larger infestations because cut plants and rosettes can survive and re-bolt, or produce flowers and set seeds at the cut height. Hand pulling can be effective with small infestations. The entire plant or rosette including taproot must be removed, preferably before seed set. Hand pulling should occur at least twice per year (late spring and late summer) and for several years to remove as many plants as possible.

# St John's-wort
## *Hypericum perforatum*

**Legal Status**
Listed under the *Forest and Range Practices Act* as an invasive plant.

Identification
St John's-wort is a perennial forb. It has two-sided, rust-red stems and grows 0.1-1 m tall. The leaves are 1-3 cm long, oblong, have prominent veins, and are covered with transparent dots which are visible when held up to the light. St John's-wort has numerous clusters of bright yellow, flat-topped flowers that are 2 cm in diameter with five distinctly separate petals occuring at the ends of each branch. The seed pods are small (6 mm), rust-brown, and hold 3-celled capsules with numerous seeds within. The roots of mature plants are rhizomes. Its deep root system is capable of supporting the plant when the water available to other species has been depleted.

**Similar Species**

Tansy ragwort (*Senecio jacobaea*) resembles St John's-wort, but are distinct in that the flowers of tansy ragwort have many more petals, and its leaves are deeply cut.

**Reproduction**
Seed is the primary method of reproduction. A mature St John's-wort plant can produce as many as 15,000-30,000 seeds. Its rhizomes can also reproduce by vegetative shoots. John's-wort grows early in spring, and flowers from June to September.

**Habitat**
St John's-wort can be found growing at low to mid-elevations in rangelands, pastures, meadows, along roadsides and disturbed areas. It particularly thrives in dry, gravelly, or sandy soils

**Management Options Summary**

*Biological*
*Chrysolina hyperici* and *Chrysolina quadrigemina* have been released in BC and have continued to reduce populations of St John's-wort, although the insects need to be moved to new populations regularly. *Agrilus hyperici, Aplocera plagiata,* and *Aphis chloris* have also been released in the province. Grazing animals on St John's-wort can be harmful, as this plant contains a toxin that causes light sensitivity, skin irritation, and blistering.

*Mechanical*
Mowing will reduce seed production but will not control existing plants. It is recommended that either pulling or digging as much of the root system from the ground is the most efficient mechanical treatment of St John's-wort. It is important to bag and properly dispose of (burn) the removed plants. Tilling is another viable option to manage this weed.

# Sulphur cinquefoil
## *Potentilla recta* (L.)

Legal Status
Classified as noxious within the Regional District Okanagan-Similkameen. Listed by the *Forest and Range Practices Act* as an invasive plant.

**Identification**
Sulphur cinquefoil is a member of the rose family (Rosaceae), and is one of over 20 herbaceous cinquefoils in BC. It is a long-lived perennial with a large woody taproot. Plants grow upright with one or more hairy stems, reaching heights of 15-70 cm. Leaves are divided into 5-7 hairy toothed leaflets, each 5-10 cm long. Flowers are pale yellow with five heart-shaped petals around a bright yellow centre.

**Similar Species**
Sulphur cinquefoil most closely resembles graceful cinquefoil (*Potentilla gracilis*), a native plant which is shorter; has white woolly hair on the undersurface of the leaves; more basal leaves; deeper, less uniform leaf serrations; bright yellow flowers; and a smooth seed coat.

**Biology**
Sulphur cinquefoil grows very early in the spring from a woody root. The plant begins blooming in mid-June and produces flowers throughout the summer if growing conditions are favourable, until setting seed in late July. Aboveground portions of the plant completely desiccate by late August. Fall re-growth of basal leaves is possible and rapid under moist, mild conditions. Although sulphur cinquefoil reproduces primarily by seed, it also has an unusual method of vegetative reproduction. Annual re-growth each spring causes individual plants to become several closely spaced, independent plants. Each year new shoots appear on the outer edge of the woody roots. The old, central root eventually rots away and can completely disintegrate within 6 to 8 years. The remaining living portions form a ring-shaped clump composed of several new individuals.

**Habitat**
Sulphur cinquefoil infests disturbed areas, meadows, pastures and rangelands and can dominate a site within two to three years of first appearance.

**Management Options Summary**

**Biological**
No biological controls have been approved for sulphur cinquefoil in North America, but surveys for agents have begun in Europe.

*Mechanical*
Individual plants and small patches of sulphur cinquefoil can be hand-pulled. This treatment is effective only when the upper portion or crown of the root system is removed. Sulphur cinquefoil is not controlled by mowing. Although seed production may be reduced, plants develop low, bulky, spreading roots when mowed and are able to send up new shoots. Sulphur cinquefoil is not a serious weed in crop-land because it does not tolerate frequent cultivation. However, a single cultivation may increase sulphur cinquefoil cover.

# Tall Hawkweed

## *Hieracium piloselloides*

### Legal Status

There is no known legal status for tall hawkweed in British Columbia.

### Identification

Tall hawkweed is a perennial forb. The plant grows to 0.1-0.36 inches tall, with hairy trichomes covering the stems. Its leaves are hairy and spatula shaped and almost exclusively basal. The dorsal surface is dark green, while the ventral leaf surface is light green, and the edges are toothed. Numerous small (~1.25 cm wide), yellow flowers occur in clusters at the ends of branches, and number up t0 30 per plant. Each flower can produce from 12 to 30 seeds. The columnar seeds are tufted, yellowed bristles on the flattened end of the seed. The roots are shallow and fibrous, with only a few small branches, many with no root hairs.

### Similar Species

Native hawkweeds can be differentiated from non-natives from their leafy-branched stems. Orange hawkweed, yellow hawkweed, and meadow knapweed resemble tall hawkweed. Orange hawkweed can be distinguished from tall hawkweed by its orange flowers, while meadow hawkweed only one flower per stem and the leaves are hairless.

### Reproduction

Tall hawkweed reproduces primarily by seeds. Tall hawkweed is able to undergo apoptosis, where is can self pollinate to produce seeds that can be spread by wind, water, or animals. It also can reproduce by fragmentation of roots. In the first year, rosettes with 5 to 8 low-lying hairy basal leaves emerge. By the second year of growth, stems with inflorescences appear.



### Habitat

Tall hawkweed can be found growing in open fields, mountain meadows, clearings, pastures, roadsides, ditches and other disturbed areas. The plant roots prefer coarse textured soils with moderately low organic matter.

### Management Options Summary

*Biological*

There are no biocontrol agents available for tall hawkweed. Prescribed grazing is a viable option for management of tall hawkweed to aid in grass health, but animals will only eat the flowering heads, and not the rosettes, reducing the number of seeds produce. Over-grazing can also encourage disturbance in the ecosystem, and aid in the spread of tall hawkweed, since this plant thrives off of nitrogen in the soil left behind by livestock.

*Mechanical*

Mowing hawkweed is ineffective for reducing populations because the low-lying rosettes grow below the mower blade height settings. Mowing infestations can prevent seed production but may encourage vegetative spread. Tilling under the soil aids in the spread of tall hawkweed because it encourages vegetative growth from the severed roots. Hand pulling small populations can be effective, as long as rosettes and stolons are removed as well.

# Tansy Ragwort
## *Senecio jacobaea*

**Legal Status**
Listed under the *Forest and Range Practices Act* as an invasive plant, under the *Community Charter* as an alien invasive species, and under the BC *Weed Control Act* as a noxious weed.

**Identification**
Tansy ragwort is a biennial or short-lived perennial forb. The plant has one to many stems that are branched at the top, and grows to 0.2-1.2 m tall. The leaves are alternately arranged, dark green on top and whitish green below, with deeply cut, blunt-toothed lobes and a ragged, ruffled appearance, being 4-20 cm long and 2-6 cm wide. Numerous bright yellow flowers occur in clusters at the ends of branches. Each flower head has 10-15 ray petals surrounding the yellow disk flowers. The seeds are small (1 mm long), ribbed, with a pappus of white hairs about 3 mm long. The roots are poorly developed to evident taproot with well-developed fibrous roots.

**Similar Species**
Common tansy (*Tanacetum vulgare*) is similar to tansy ragwort, but the leaves are sharply toothed, and the flowers look like yellow buttons because the petals are absent. Tansy ragwort is also sometimes mistaken for St John's-wort (*Hypericum perforatum*) due to this plants bright yellow flower heads, except that St John's-wort has 5 rays on around the central disk instead of many and has lobed leaves.



**Reproduction**
Seed is the primary method of reproduction for tansy ragwort. A mature plant can produce as many as 150,000 seeds, and are distributed by wind, water, and animals. Seeds can germinate in spring and fall. Rosettes are produced in the first year of growth. Stems and flowers are produced in the second and following years.

**Habitat**
Tansy ragwort can be found growing in pastures, hayfields, roadsides, clear-cuts, ditches, and other disturbed areas, especially locations with well draining soil.

**Management Options Summary**

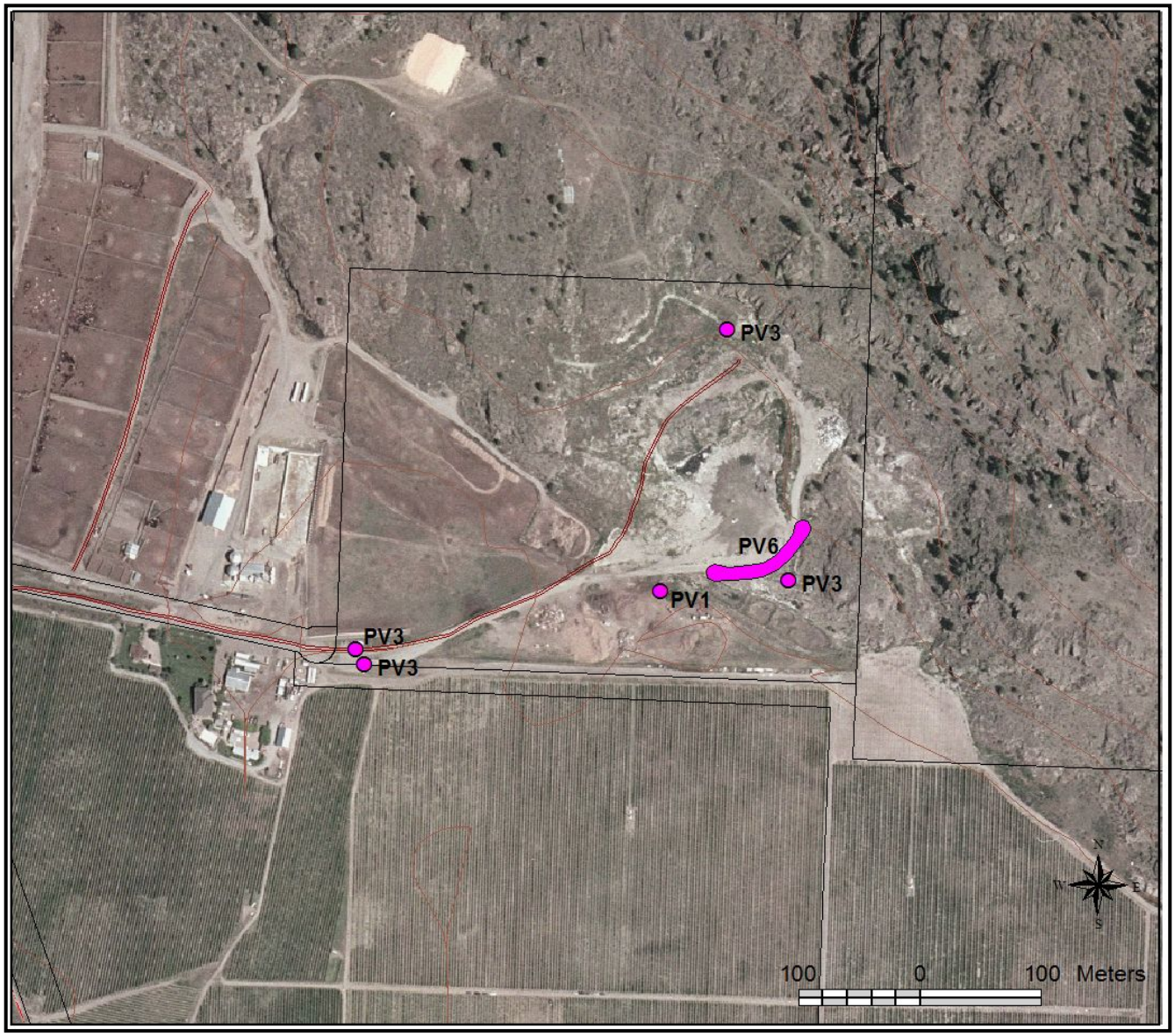
*Biological*
*Tyria jacobaeae*, *Botanophila seneciella*, *Longitarsus flavicornis*, *Longitarsus jacobaeae*, and *Cochylis atricapitana* are all biological agents that are released in British Columbia that contribute to managing tansy ragwort by defoliating and boring into the root system. Using both a defoliator and a root borer leads to the highest success in management. Using sheep to graze tansy ragwort is also a useful management tool as sheep find it palatable.

*Mechanical*
Mowing will reduce seed production. It is recommended that either pulling or digging the entire root from the ground is the most efficient mechanical treatment of tansy ragwort. It is important to bag and properly dispose of (burn) the removed plants.

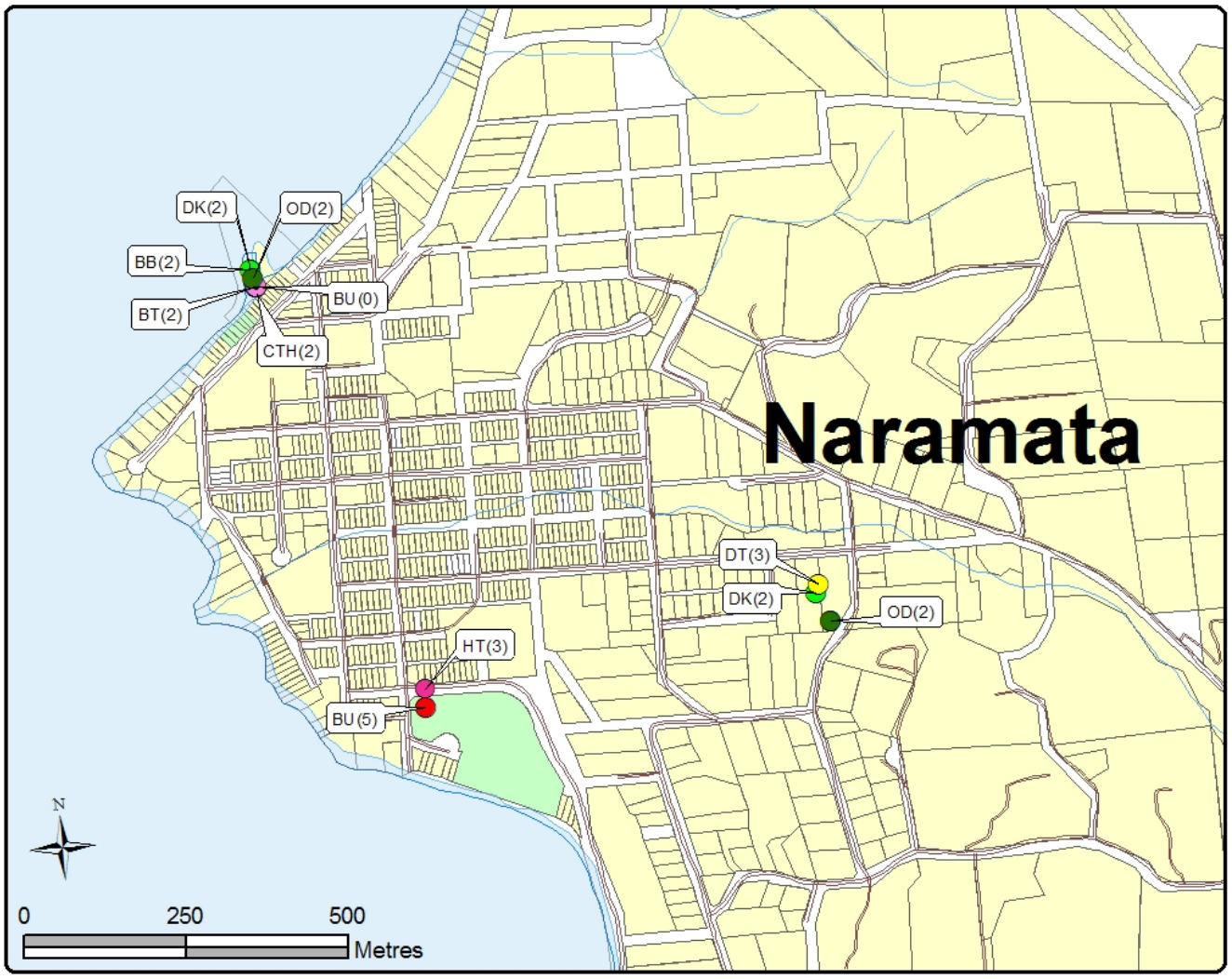
# APPENDIX D

**Invasive Plant Maps**
Oliver Landfill
Manitou Park / Naramata Wharf Park / Naramata Cemetary
Fairview Townsite
KVR – Penticton to Chute Lake
KVR – Summerland to Princeton
KVR – Penticton to Okanagan Falls / Lion's Park

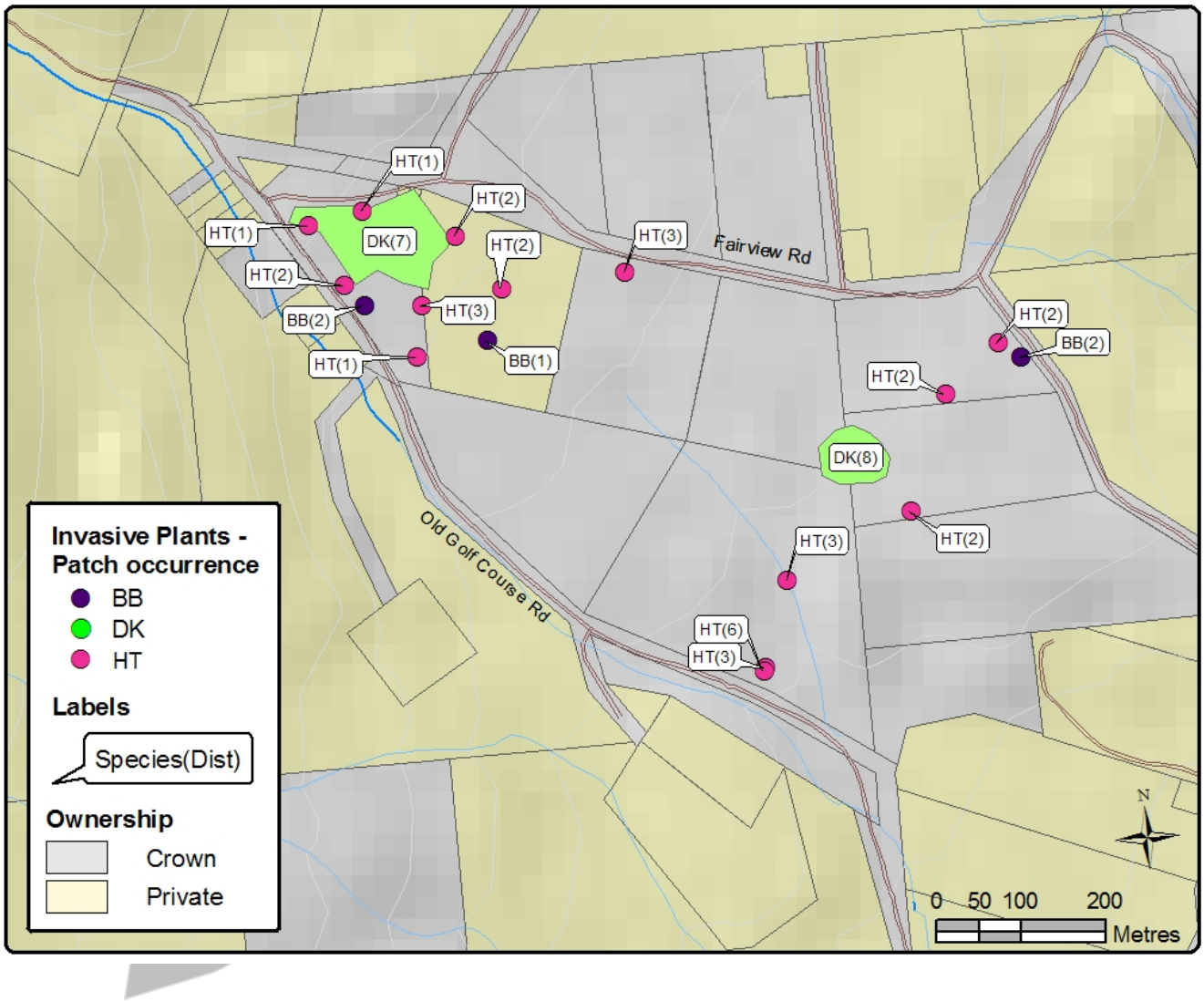
# Oliver Landfill



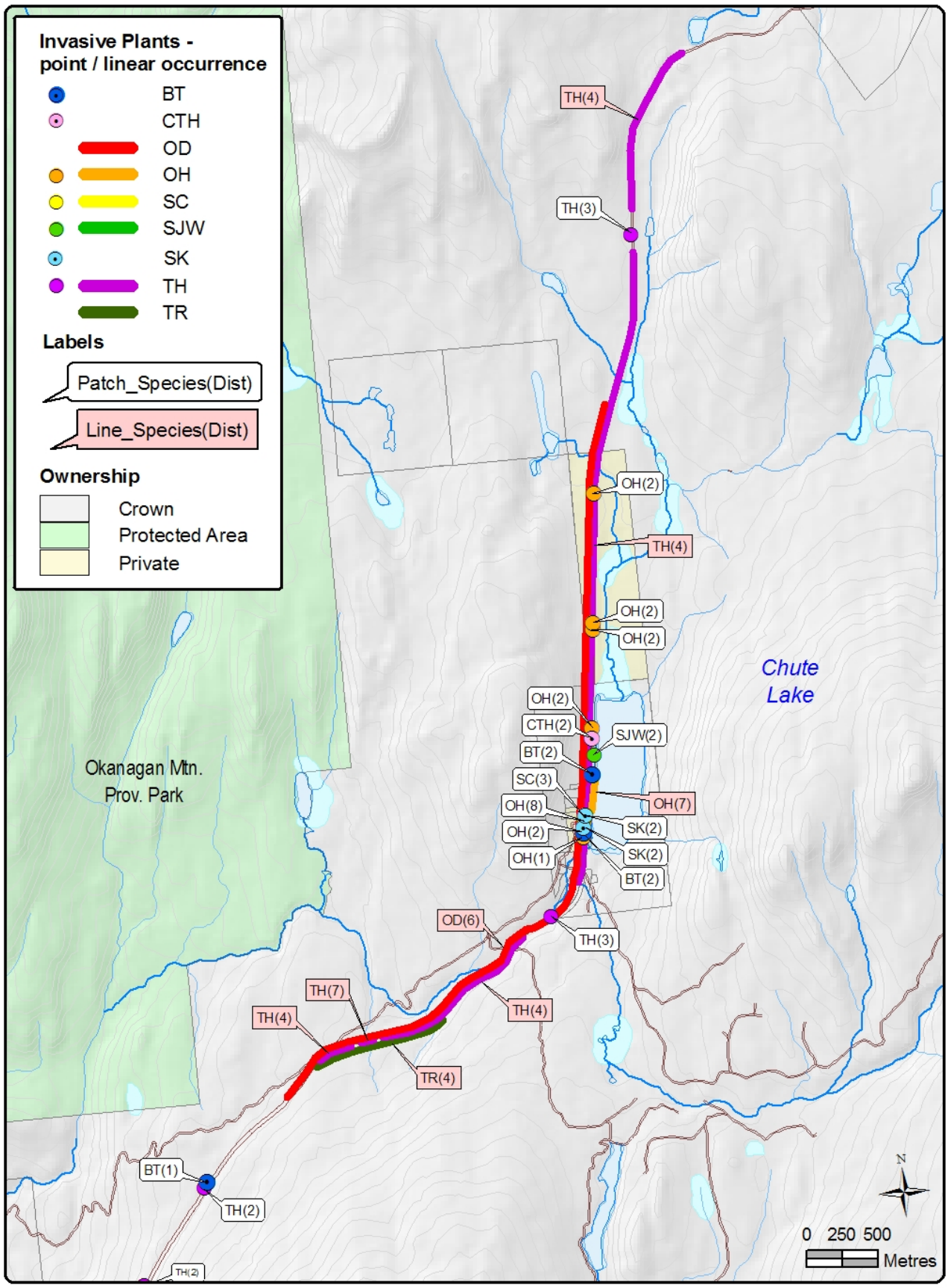
## Manitou Park / Naramata Wharf Park / Naramata Cemetary

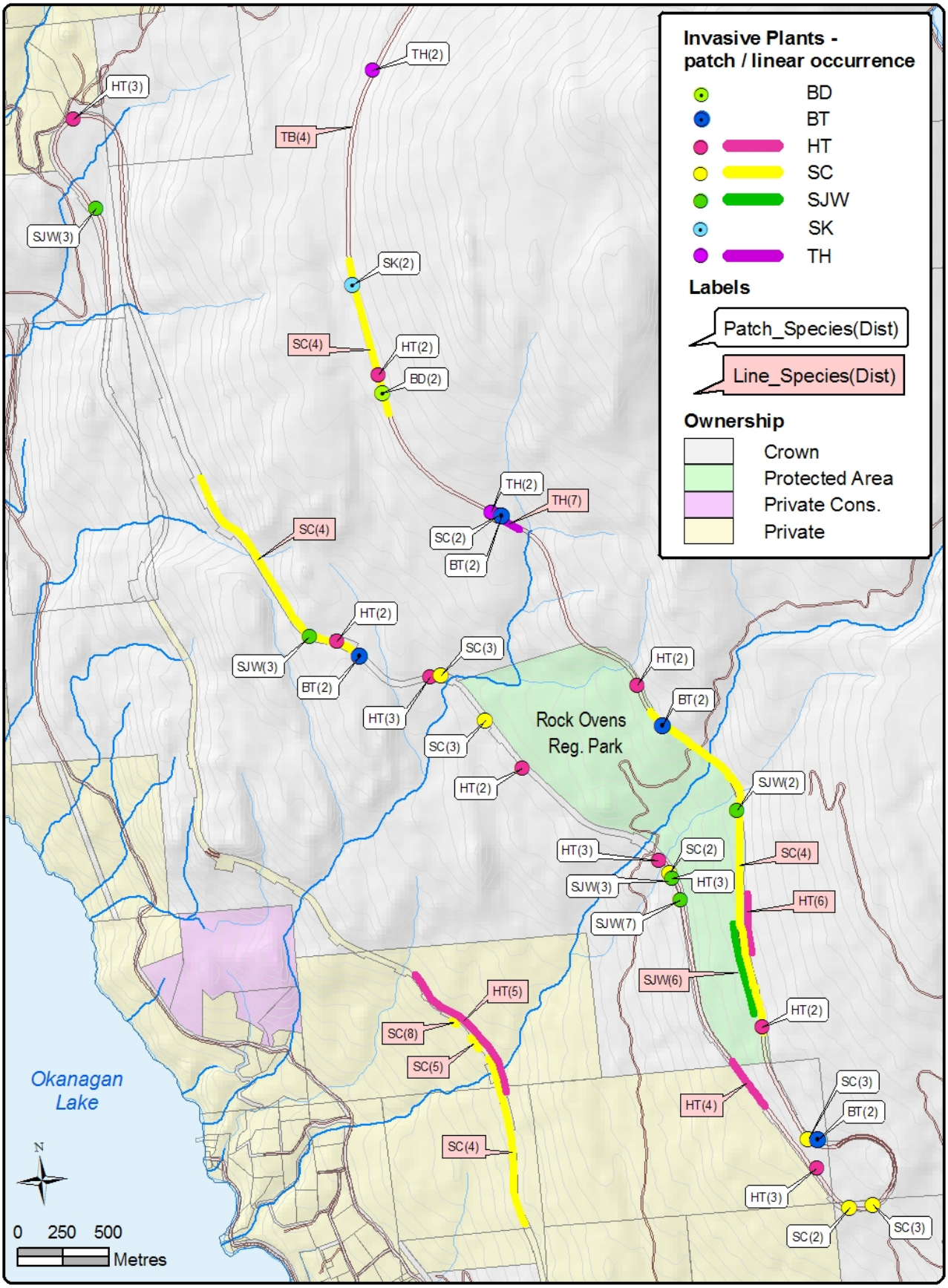


## Fairview Townsite



## KVR – Penticton to Chute Lake (3 maps)

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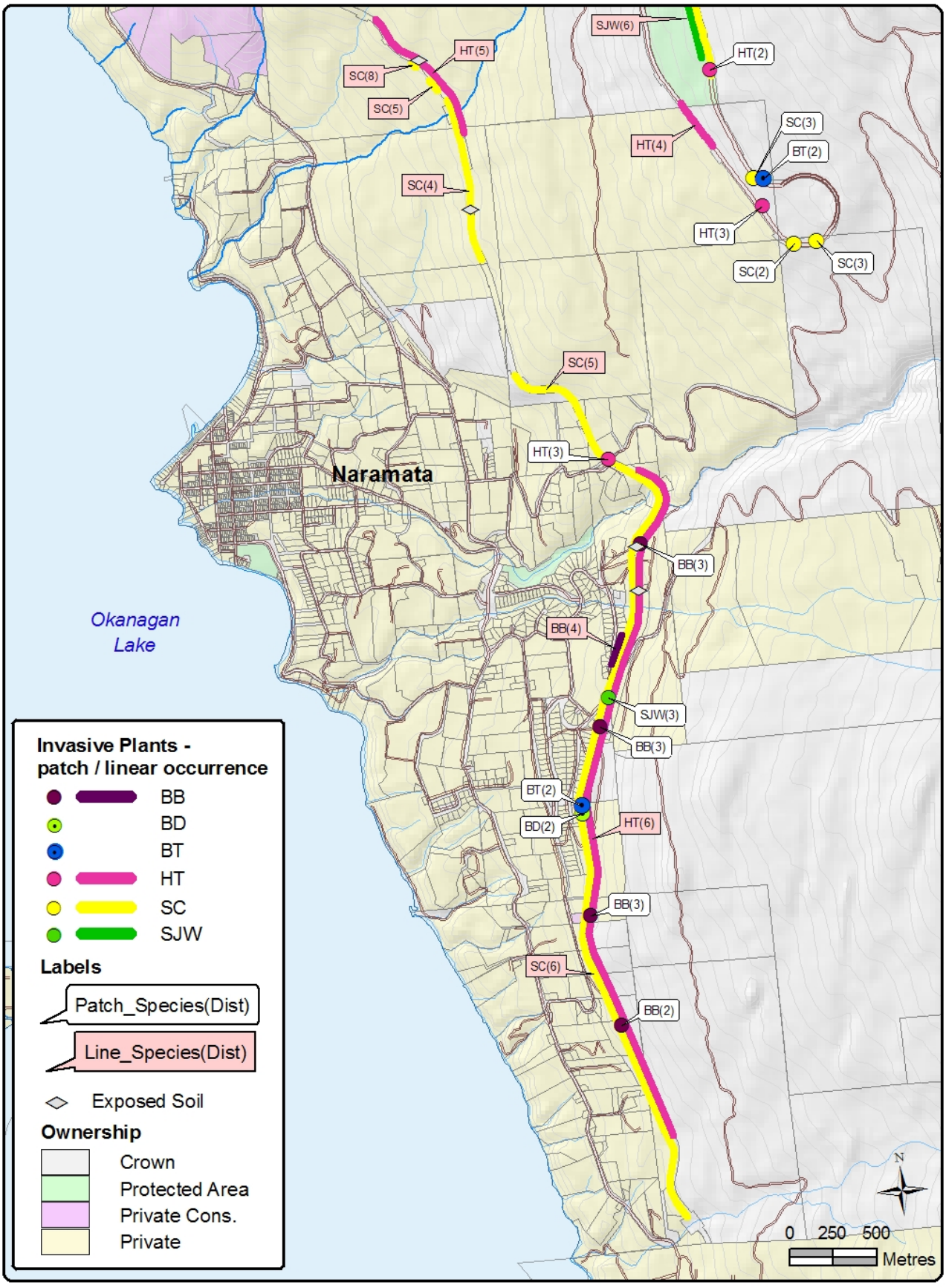
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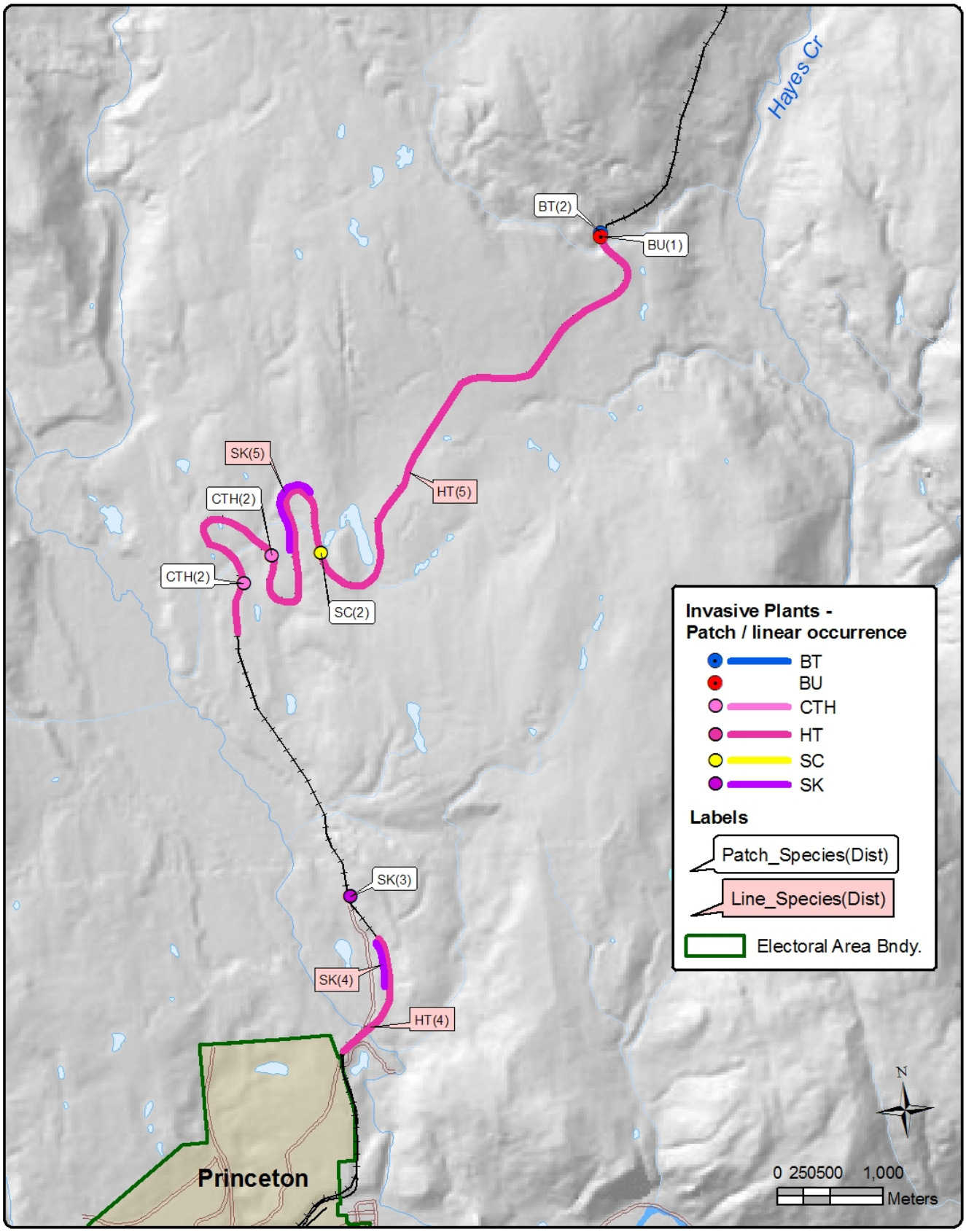
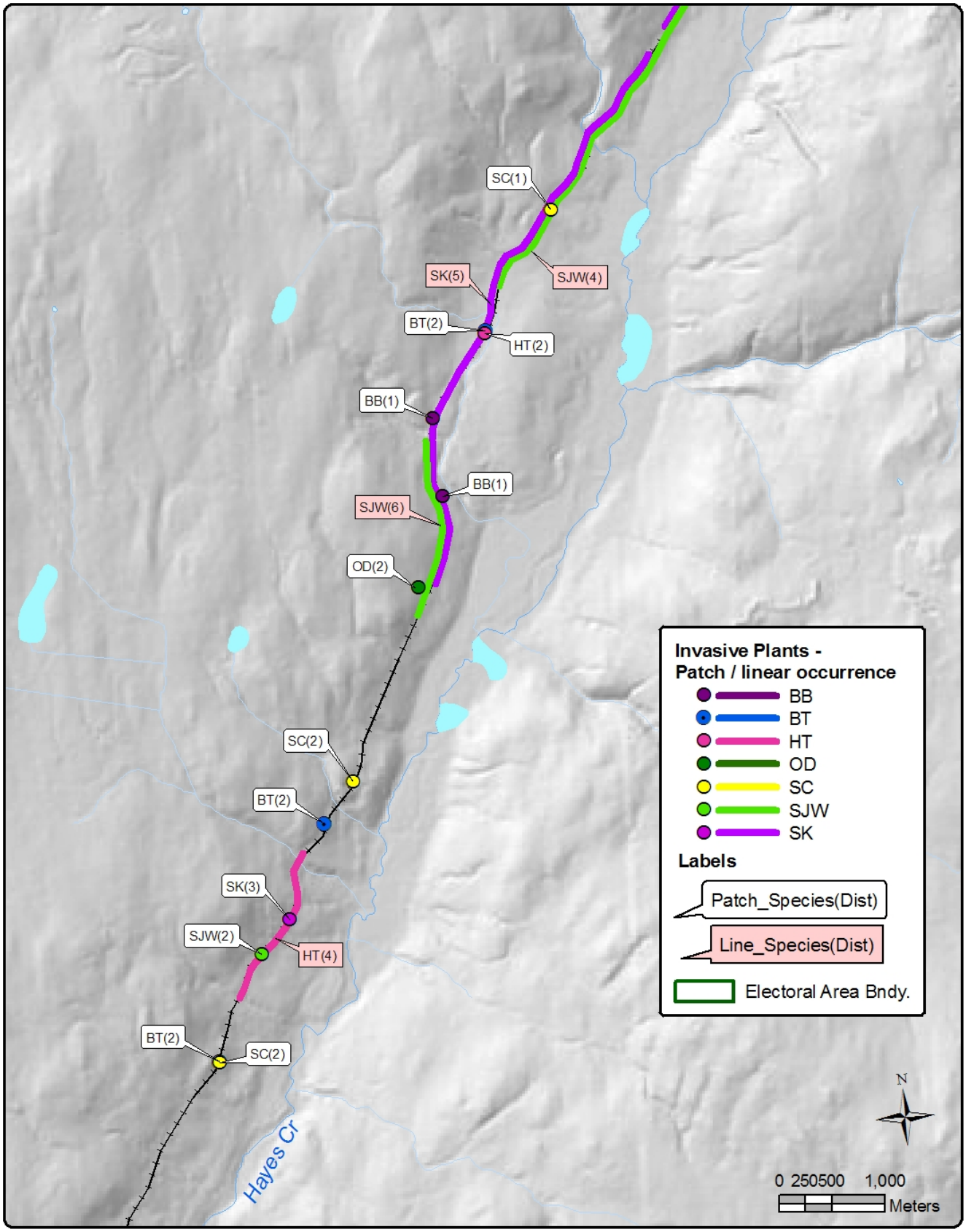
## KVR – Summerland to Princeton (6 maps)

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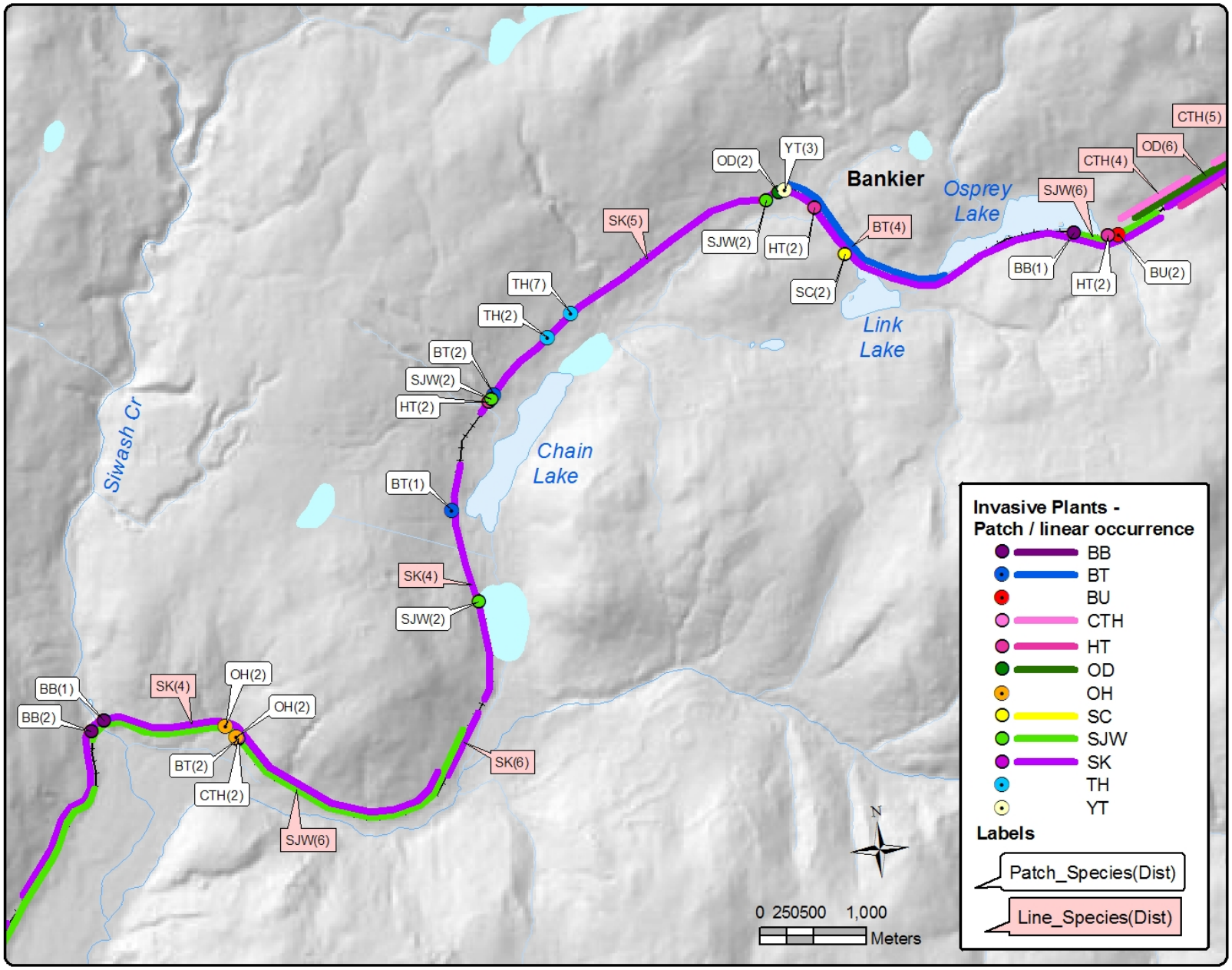
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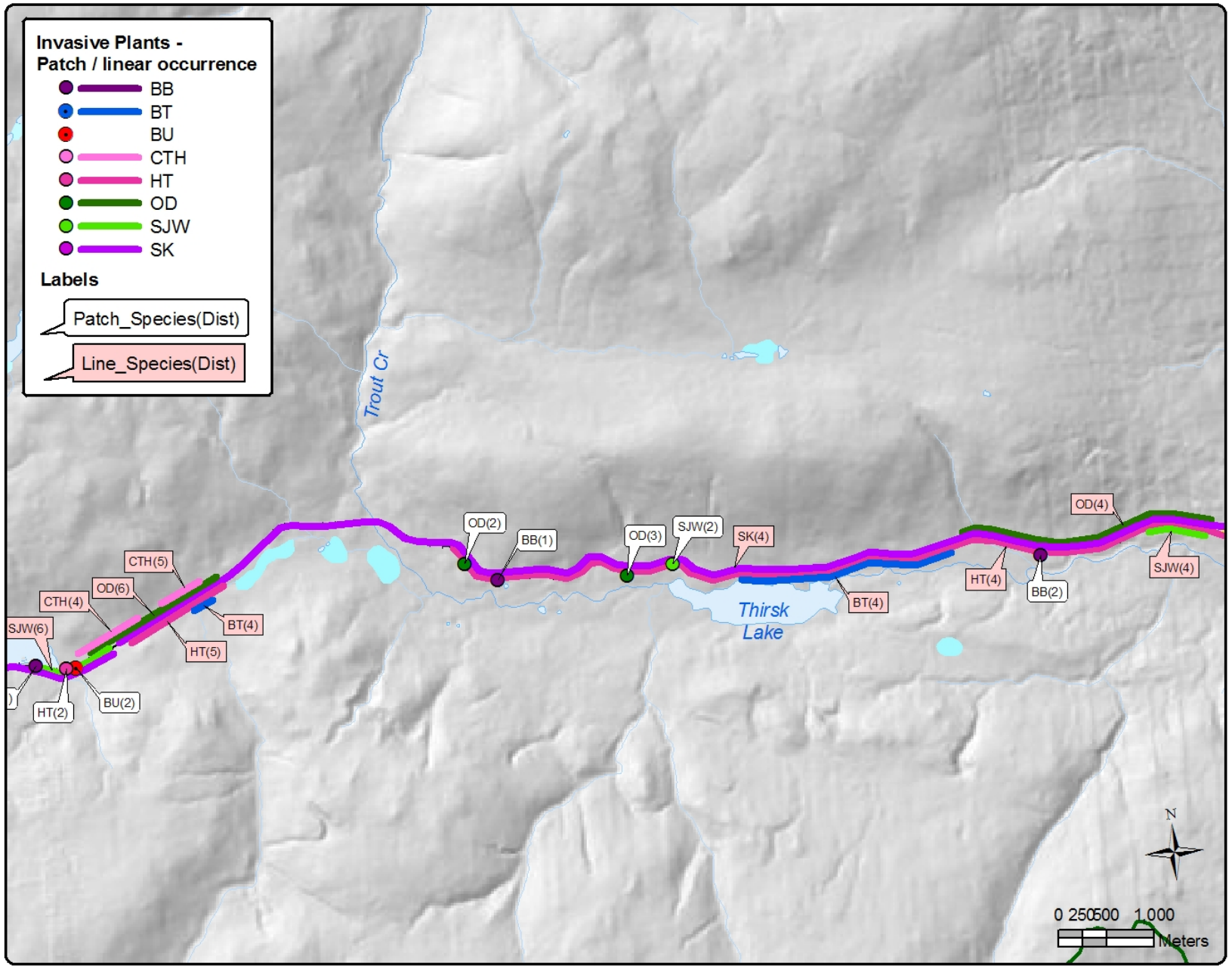
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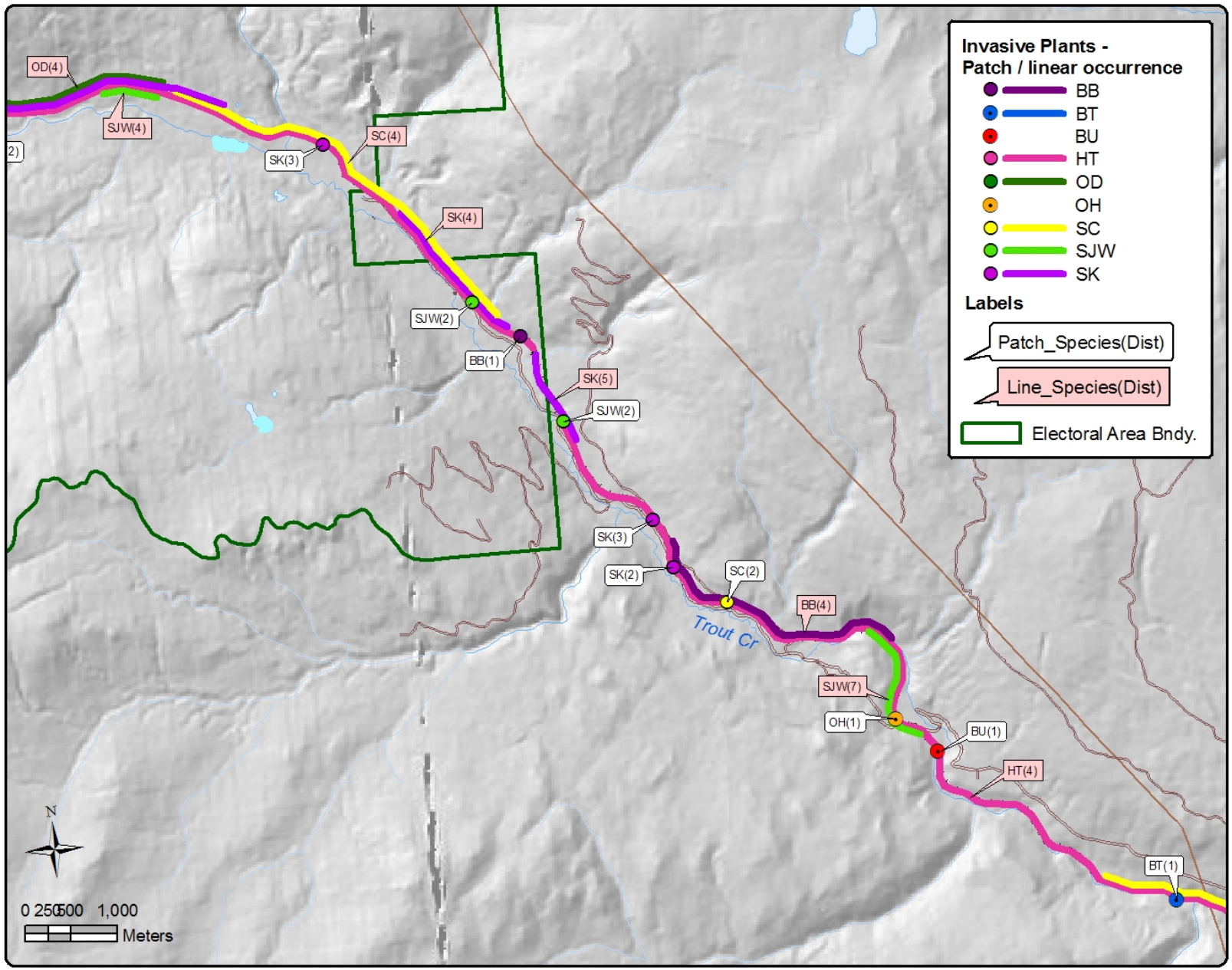
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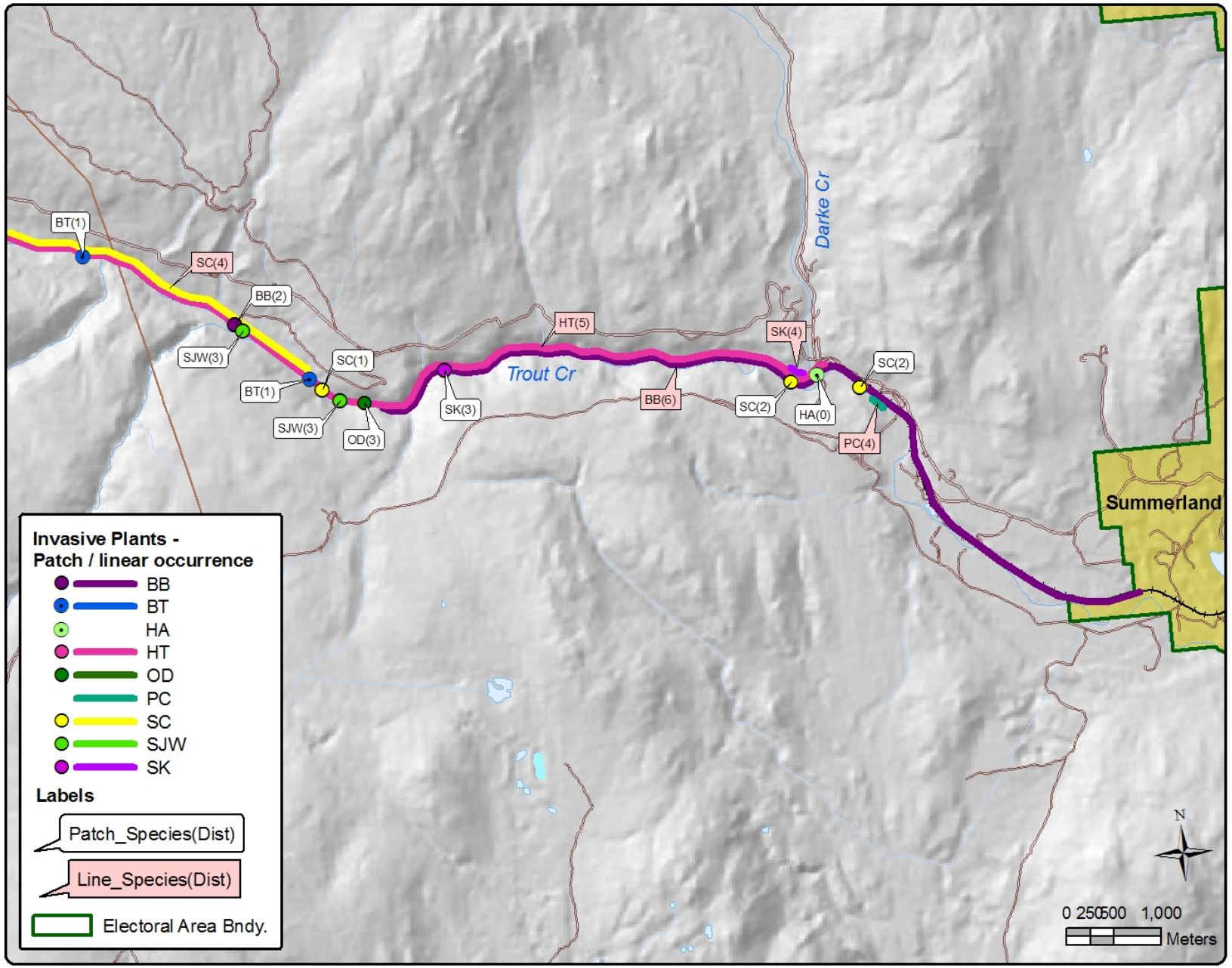
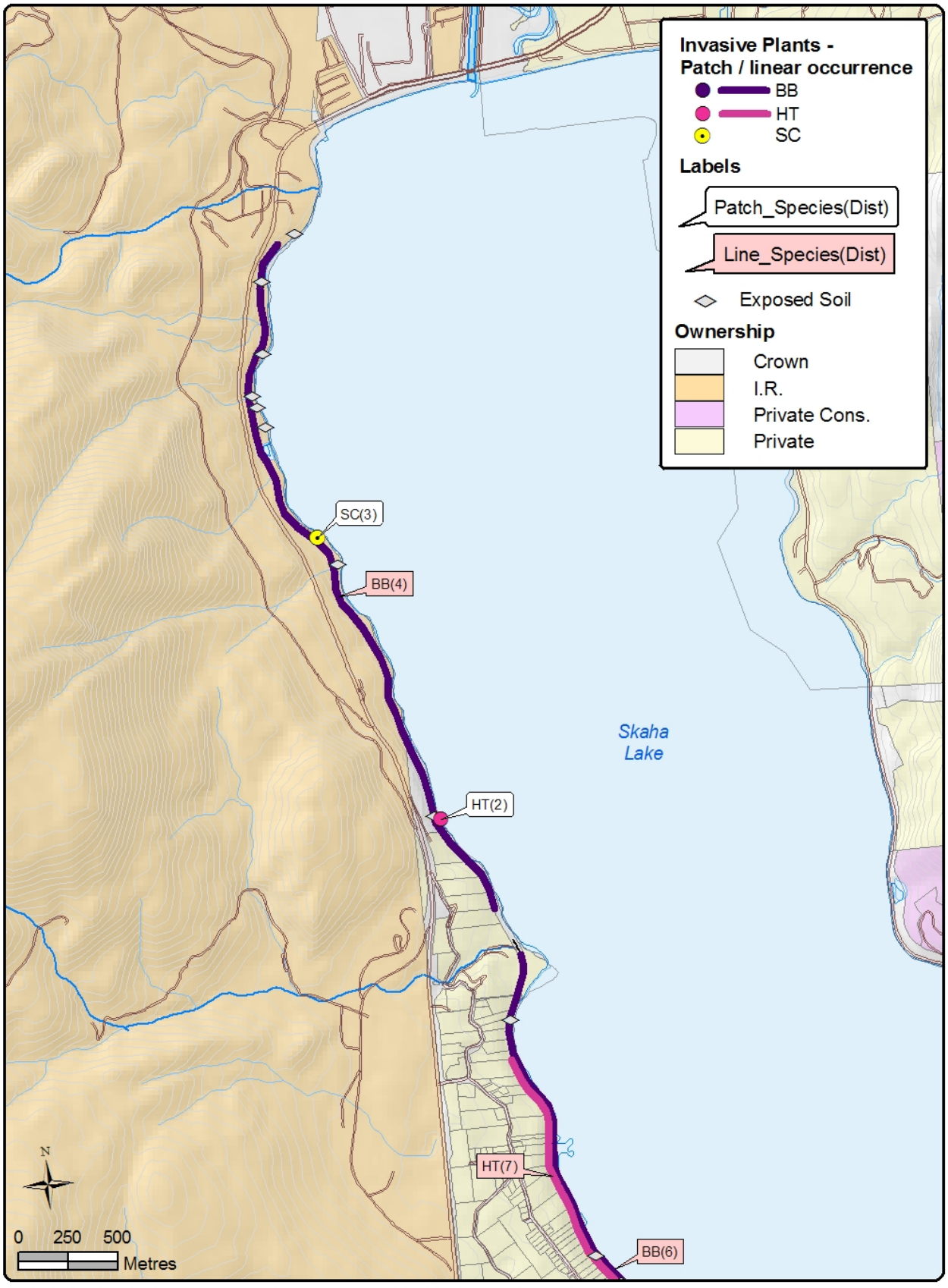
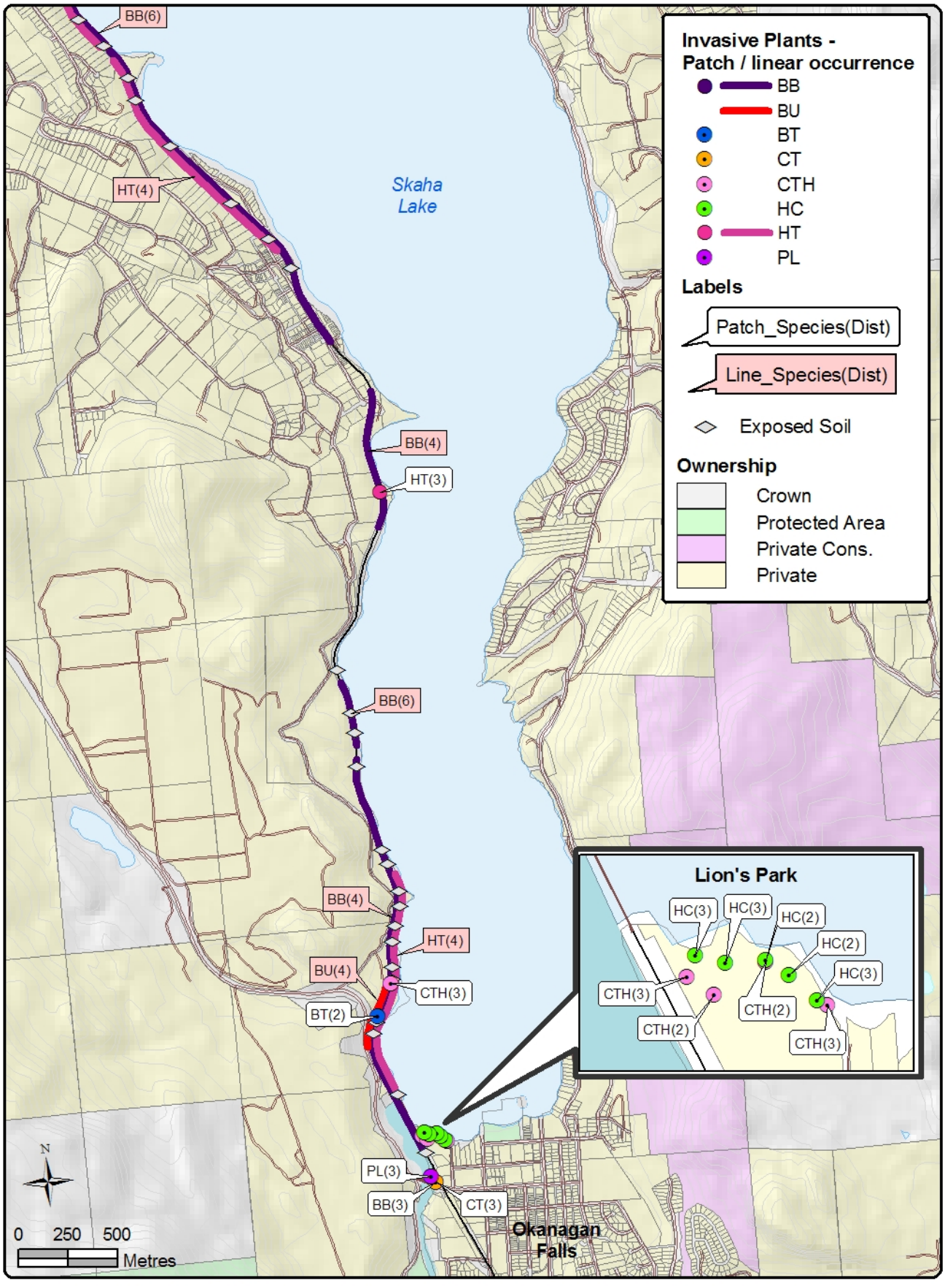
0 250 500 1,000
Meters


BT(1)
SC(4)
BB(2)
SJW(3)
SC(1)
BT(1)
SJW(3)
OD(3)
SK(3)
HT(5)
Trout Cr
BB(6)
SC(2)
SK(4)
HA(0)
SC(2)
PC(4)
Darke Cr
Summerland
Invasive Plants -
Patch / linear occurrence
BB
BT
HA
HT
OD
PC
SC
SJW
SK
Labels
Patch_Species(Dist)
Line_Species(Dist)
Electoral Area Bndy.
N
0 250500 1,000
Meters

# KVR – Penticton to Okanagan Falls / Lion's Park (2 maps)




Invasive Plants -
Patch / linear occurrence
BB
BU
BT
CT
CTH
HC
HT
PL
Labels
Patch_Species(Dist)
Line_Species(Dist)
Exposed Soil
Ownership
Crown
Protected Area
Private Cons.
Private
Skaha Lake
BB(6)
HT(4)
BB(4)
HT(3)
BB(6)
BB(4)
HT(4)
BU(4)
CTH(3)
BT(2)
PL(3)
BB(3)
CT(3)
Okanagan Falls
Lion's Park
HC(3)
HC(3)
HC(2)
HC(2)
HC(3)
CTH(3)
CTH(2)
CTH(2)
CTH(3)
N
0 250 500
Metres