

# COWICHAN TRAIL STEWARDS

*A view from the  
summit of Maple  
Mountain*



2/8/2013

## Trail Management Plan – Maple Mountain

The purpose of this document is to propose a partnership between the District of North Cowichan (DNC) and the Cowichan Trail Stewardship Society (CTS). The CTS seeks permission from the DNC to build new mountain bike trails on Maple Mountain; as well as maintain and improve the safety of existing trails on municipal forest land.

Prepared By: Riley McIntosh & Jane Kaiser



## TABLE OF CONTENTS

### Contents

<b>TABLE OF CONTENTS.....</b>	<b>1</b>
<b>EXECUTIVE SUMMARY.....</b>	<b>2</b>
<b>1.0 INTRODUCTION .....</b>	<b>3</b>
1.1 Who are we? .....	3
1.2 Administration.....	4
1.3 Liability Insurance .....	4
1.4 Community & Stakeholder Involvement.....	4
<b>2.0 COWICHAN – A MOUNTAIN BIKING DESTINATION .....</b>	<b>4</b>
2.1 Direct Economic Spinoff .....	5
2.2 Cowichan is already World Class! .....	6
2.3 Mountain Biker Demographics .....	7
<b>3.0 MT. TZOUHALEM – A CASE STUDY.....</b>	<b>8</b>
3.1 Recommendations for Mt. Tzouhalem .....	9
<b>4.0 OBJECTIVES .....</b>	<b>10</b>
4.1 Short Term Objectives (2013).....	10
4.2 Long Term Objectives .....	10
<b>5.0 TRAIL MANAGEMENT .....</b>	<b>10</b>
5.1 Proposed Trail Locations .....	11
5.2 Access Points.....	11
5.3 New Trail Construction.....	11
5.4 Managing Soil Erosion.....	13
5.5 Existing Trails: Maintenance .....	14
5.6 Trail Signage.....	14
5.7 Geographic Information Systems .....	15
<b>6.0 ENVIRONMENTAL CONSIDERATIONS .....</b>	<b>15</b>
6.1 Sensitive Ecosystems.....	15
6.2 Wildlife .....	16
<b>7.0 RISK MANAGEMENT AND SAFETY .....</b>	<b>16</b>
7.1 Regional Trails Standards Plan.....	16
<b>8.0 BUDGET .....</b>	<b>17</b>
8.1 Tools & Supplies .....	17
<b>8.0 CONCLUSION .....</b>	<b>19</b>



## EXECUTIVE SUMMARY

A growing trend in British Columbia (BC) over the past decade is legitimization, authorization, and management of mountain bike trails. Mountain bike clubs have sprung up in communities across BC to advocate for recreational trail access that is legitimate and safe. The primary goal is to create well-managed and maintained trail networks through collaboration with land managers, volunteer groups and other local area stakeholders. The resulting trail network can be used by hikers, naturalists, and anyone in the local community that appreciates the experience of walking on a trail and enjoying nature.

Here in the Cowichan Valley, a large mountain biking community exists that will continue to grow as new riders are attracted to the sport and awareness of the trails increases. The vast network of trails on Mt. Tzouhalem, Maple Mountain, and Mount Prevost has become a mecca for our local mountain bikers as well as bikers from all over the Pacific Northwest. At this point in time there is no organization or group that has undertaken management of the many existing mountain bike trails in the Valley. We feel strongly that there is a need for a Club to take on the role of caring for the trails through a close working relationship with our governing bodies.

The Cowichan Trail Stewards (CTS) is a newly formed non-profit society, registered pursuant to the *Society Act* of British Columbia and also as a mountain bike club with the International Mountain Bike Association of Canada (IMBA). Our mission is to create an authorized and managed mountain bike trail network in the Cowichan Valley.

The CTS proposes the following objectives for 2013:

1. Enter into a partnership with the DNC to authorize trail building and maintenance within the municipal forest reserve, for the Maple Mountain Trail System
2. After completion of necessary trail maintenance on existing Maple Mountain trails, begin construction of 2 proposed trails on Maple Mountain
3. Build a membership base in the Cowichan Valley, fundraise monies for purchase of trail building tools and signage, and host family friendly events to promote mountain biking in the Valley
4. Develop a "Regional Standards for Trail and TTF construction" document to guide and regulate trail building in the Valley
5. Build a base of local supporters including schools, businesses, Cowichan Tribes, local governments, and other non-profit societies.
6. Work with Tourism Cowichan to explore marketing options (short films/events/magazine articles/website content/media visits) and create a plan to expose the Cowichan Valley as an adventure tourism destination to the mountain bike world

We see the submission of this management plan as a first step in the initiation of a close working relationship between the CTS and the Land Managers of the District of North Cowichan (DNC). Please see the attached management plan for more details in support of this proposal.



## 1.0 INTRODUCTION

A growing trend in British Columbia is authorization for mountain bike trails. Community cycling clubs have been working with their land managers to create land use agreements that provide the club with permission to build and maintain trails, hold events, and enjoy their favorite recreation resource. In return the Land Managers are provided with proof of insurance, a detailed plan outlining management objectives, and the hope that this legitimacy will discourage and curb 'outlaw trail building' which can lead to liability lawsuits from injuries sustained on poorly or dangerously constructed trails.

An authorized mountain biking trail network will provide a considerable benefit to the Cowichan Valley. For local residents the trails will provide a venue to participate in an active healthy lifestyle and increase the appeal of living in the Cowichan Valley. Furthermore, the trails are an attraction for the residents of other communities and out of town areas which will directly increase economic activity in the region. A number of studies have been done in recent years that explore mountain biking as a tourism product. A study completed in 2008 by Tourism British Columbia titled "Mountain Bike Tourism" makes it clear that,

*"Mountain biking IS a travel motivator and people WILL travel to destinations specifically to go mountain biking" <sup>1</sup>*

The CTS has written this proposal to appeal to the DNC to work with the CTS to build and maintain mountain bike trails on municipal forest land. The CTS would like to work closely with the DNC and other area stakeholders to create an authorized multi-user trail network that could one day turn the Cowichan Valley into a mountain bike tourism destination.

### 1.1 Who are we?

The CTS was spearheaded and formed by Riley McIntosh, a mountain biker and world renowned trail builder. Riley has been building bike trails professionally for over 10 years. Past clients have included the Whistler Bike Park, Vallnord Bike Park, Freeride Entertainment, Adidas, the Nelson Cycling Club, Retallack Lodge, Selkirk Wilderness Lodge, and Saalbach Hinterglemm Bike Park. He is supported by avid mountain bikers and society members as outlined in Table 1.

**Table 1: CTS Society Members**

Society Members	Role	Occupation
Riley McIntosh	President	Carpenter
Kevin Fraser	Secretary	Owner, K2 Construction
Bruce Muir	Treasurer	Owner, Elmworth Construction
Cal Kaiser	Director	Real Estate Agent with Remax
Robin Kenyon	Director	Owner, Kenyon Wilson Professional Land Surveyors
Jane Kaiser	Volunteer	GIS Technician
Beverly Seip	Volunteer	Registered Acupuncturist

<sup>1</sup> Source: Mountain Bike Tourism, Tourism BC (2008) [http://www.mbta.ca/assets/pdfs/mbtguide08\\_web.pdf](http://www.mbta.ca/assets/pdfs/mbtguide08_web.pdf)



## 1.2 Administration

The CTS is registered as a club with the Canadian International Mountain Bicycling Association (IMBA). The IMBA was formed in 1988 and is a non-profit association that represents a worldwide network that includes 35,000 individual members, 750 clubs, 600 retailer shops, and 160 corporate members (Visit [www.IMBAcanada.com](http://www.IMBAcanada.com) for more information). The CTS is currently in the process of being registered as a non-profit society pursuant to the Society Act of British Columbia. Future plans are for the CTS to also become a registered charity in accordance with regulations administered with the Canada Revenue Agency and accordingly, enhance the ability of the CTS to fund-raise.

## 1.3 Liability Insurance

The CTS has secured a general liability insurance policy that is offered to IMBA (International Mountain Bike Association) Club members. The insurance policy is through Oasis insurance. The policy includes 5,000,000 dollars of general liability insurance for the trail system managed by the Club. The CTS will manage the payment of the yearly insurance costs internally and through club membership. The CTS will provide general liability insurance for the Maple Mountain Trail System pending a land use agreement.

The CTS sees the general liability insurance coverage being purchased as the first major step to managing liability. The CTS plans to create a *Regional Trail Standards* document that outlines trail construction objectives to reduce risk and increase safety. This document will serve as a reference for all Society activities and show duty of care.

## 1.4 Community & Stakeholder Involvement

The CTS is aware that many people feel strong ownership for Cowichan's forests and wooded areas, and a wide range of users enjoy these places. Therefore, the CTS are dedicated to contacting hiking groups, and any other user group to outline them with plans and ideas to receive feedback. An "Open House" or stakeholder engagement meeting will be held to solicit input from various stakeholder groups.

The CTS plans to do a membership drive for the entire South Island (due to the large amount of Victoria riders that visit Duncan's trails) at bike shops, events, parking lots, and over internet articles on websites such as NSMB.com, and Pinkbike.com. The CTS is hesitant to do a membership drive until some feedback has been given from the DNC regarding the possibility of a land use agreement.

The CTS would like to eventually host regular trail maintenance and trail building days, local race events and in general promote mountain biking in the community. In particular we are keen to get the local youth involved by creating trail building opportunities, a youth mountain bike club and hosting family friendly events. We would be interested in partnering with other local organizations, such as the Boys and Girls Club, Cowichan Tribes and the local schools.

## 2.0 COWICHAN – A MOUNTAIN BIKING DESTINATION

The CTS knows that through the combination of an authorized trail network, a collaboration of the governing municipalities, and the application of social media and web based marketing, the Cowichan Valley will be considered a world class mountain bike riding tourism destination.



## 2.1 Direct Economic Spinoff

The CTS is certain that the existing trails in the Cowichan region already attract tourists to the area. Every weekend riders from all over the South Island are drawn to Mt Tzouhalem and Mt Prevost to ride the existing trails. These people buy gas, food, and visit the local restaurants and shops. The CTS feels that with funding, management and marketing, Cowichan's trail assets could become a major draw for a larger market of riders looking to visit the area, ride the trails, stay a few nights, and take advantage of Cowichan's growing scene of eco-tourism (vineyards, organic farms, kayaking, whale watching, Kinsol Trestle, Forest Discovery Center, hiking trails, sailing events, cafes, farmers markets).

In the Sea to Sky Mountain Biking Economic Impact Study (2006) undertaken by the Western Canada Mountain Bike Tourism Association (MBTA) it was found that:

*"The trail systems of the North Shore, Squamish and Whistler, are estimated to have collectively generated 10.3 million in spending from riders that live outside of the host community over the period from June 4 to September 17, 2006."<sup>2</sup>*

A more current economic study recently completed by the City of Williams Lake and the Cariboo Mountain Bike Consortium shows that *"Mountain Bike economy has grown by 11.5% since 2010."*<sup>3</sup> Since 2010 there has been an average 30% increase in trail system usage in the Cariboo region. The 2012 estimates for direct mountain bike visitor spending are estimated at \$294,538 annually. Total indirect mountain bike visitor spending impact is estimated at \$427,081 annually. The 2012 data indicates a 21% increase in mountain bike visitor spending since 2010. In 2012, the total value of the Cariboo Region's mountain bike economy is estimated at over \$2.22 million annually, which is 11.5% greater than what was assessed in 2010 when the Consortium initiative was first implemented.

*"This economic assessment shows that our partnership is working, increasing trail usage and the number of visitors to the community," says Mayor Kerry Cook. "Mountain Bike tourism has the great potential to attract even more visitors and economic activity as we move forward."<sup>3</sup>*

A very unique and important aspect of Cowichan's tourism potential as a mountain bike destination is its truly **YEAR ROUND** riding conditions. Many places in BC that can only offer mountain bike tourism in the summer months due to snowfall, but the Cowichan Valley is a place where people could come and experience mountain bike trails literally every day of the year. Many BC mountain biking enthusiasts regularly travel to year round riding destinations such as Moab Utah and Sedona Arizona. There is no reason why the Cowichan Valley can't capture part of that market share.

It is important to understand that Cowichan offers distinct riding areas with their own unique attributes that attract different styles of riding. For example, Mt. Tzouhalem, with proper management, could be tagged as one of the best 'user friendly' and 'beginner' riding areas in BC, offering a wide range of trails available to

<sup>2</sup> Source: Sea to Sky Economic Impact Study, MBTA (2006) [http://www.mbta.ca/assets/pdfs/S2S\\_E\\_I\\_Study.pdf](http://www.mbta.ca/assets/pdfs/S2S_E_I_Study.pdf)

<sup>3</sup> Source: Cariboo Mountain Bike Consortium, <http://ridethecariboo.ca/news/100-mile-house/2012-10-17/mountain-bike-economy-grows-115-2010>



the average rider. Maple Mountain offers a diverse riding area to the all-mountain rider seeking adventure. Mt. Prevost offers the 'Downhill' style rider one of the most efficient, easy to use 'Downhill Shuttle Run' areas in BC where the downhill style rider uses a truck to ride as many runs down the mountain as possible in a day.

The presence of a well managed and legitimate trail network could be a venue attractant for major races and events such as the **BC Bike Race**. The BC Bike Race (established in 2007) is a seven stage mountain biking race that in 2013 will boast 500 participants from over 34 countries; the event will take place June 29<sup>th</sup> – July 6<sup>th</sup>. Registration for this event sold out November 22, 2012. The seven day supported race showcases BC's West Coast – the trails, the towns and the lifestyle. This year the BC Bike Race registrants will be racing on trails in Cumberland, Campbell River, Powell River, Sechelt, Langdale, Squamish and Whistler. Malina Parmar, director of production for BC Bike Race quotes:

*"On average, our expenditure on food is over \$40,000 per day and this is entirely with local businesses. Most of the racers and their support teams purchase extra meals and snacks throughout the day, adding up to thousands of extra dollars spent at local businesses. Furthermore, numerous participants upgrade from tenting accommodations to hotel rooms each night, allowing us to involve more business."*<sup>4</sup>

The diversity of the trails that the Cowichan Valley has to offer make it a desirable riding destination to various mountain biking disciplines; however, as stressed in the Tourism British Columbia study,

*"It is important to realize that before trails can be promoted as tourism experiences they need to be properly authorized and managed."*<sup>5</sup>

## 2.2 Cowichan is already World Class!

It is no coincidence the Mt. Prevost is playing host to the best downhill riders in Canada. Due to its excellent road for access, fantastic trails, and long season, Mt. Prevost is producing the best downhill racers Canada has ever seen. It is so well regarded that riders from Washington State and Vancouver regularly come here to 'train' on the trails.

Mark Wallace, a high school age rider from Maple Bay is now the Canadian Junior Downhill Champion and easily one of the most promising Canadian downhill riders. Steve Smith, from Cassidy, who regularly trains on Mt. Prevost, is now ranked 4<sup>th</sup> in the **ENTIRE WORLD**. Steve earned the bronze medal at this year's senior men's downhill world championships and won his first world cup race in August in Hafjell, Norway, making him arguably the best downhill rider in the world on any given day. If you talk to Steve Smith he will say without hesitation that Mt. Prevost has been a huge contributor to his success.

Mountain biking in an image based sport and the Cowichan area will benefit from an ambassador that can attract the most elite mountain bikers from around the world.

<sup>4</sup> Source: The Campbell River Mirror Newspaper (June 7<sup>th</sup>, 2012) <http://www.campbellrivermirror.com/sports/157926295.html>

<sup>5</sup> Source: Mountain Bike Tourism, Tourism BC (2008) [http://www.mbt.ca/assets/pdfs/mbtguide08\\_web.pdf](http://www.mbt.ca/assets/pdfs/mbtguide08_web.pdf)





Photo: World's best rider trains on Mt. Prevost - Steve Smith

## 2.3 Mountain Biker Demographics

There is a popular misconception about mountain biking that it is an unsafe or extreme sport primarily carried out by young males. Mountain biking is carried out by people of all ages and based on the results of the *Sea to Sky Mountain Biking Economic Impact Study* (2006) the majority of non-resident mountain bikers in the Sea to Sky corridor was aged 30-39 years (41%) with an additional 22% aged over 40 years. A total of 23% of all riders were female.

**Table 2: Non-Resident Riding Party Characteristics**

Characteristics	Total	North Shore	Squamish	Whistler
Avg. Party Size	2.8	2.6	3.0	2.9
% on a day trip	80%	91%	79%	10%
% Staying Overnight	20%	9%	21%	90%
Avg. Nights of Overnight	4.8	6.3	3.6	4.5
<b>Age Profile</b>				
18 and Under	11%	5%	5%	24%
19-29	27%	29%	25%	22%
30-39	41%	47%	47%	27%
40-49	17%	15%	18%	18%
50-59	4%	3%	4%	7%
60-69	1%	0%	0%	3%
<b>Gender</b>				
Male	77%	85%	71%	65%
Female	23%	15%	29%	35%

Source: Sea to Sky Mountain Bike Economic Impact Study





### 3.0 MT. TZOUHALEM – A CASE STUDY

On any given weekend or evening, if you drive up to the Mt. Tzouhalem access at the top of the properties there is a very good chance you will encounter a number of trail users milling around the parking lot. These trail users represent a cross section of our local community as well as out of town visitors all with the common goal of taking advantage of an incredible recreation resource.

What draws people to Mt. Tzouhalem is the presence of a vast trail network. Without trails there would be a very small number of users walking up and down the logging roads. Visitors to Mt. Tzouhalem are rewarded with stunning ocean views of the southern Gulf Islands, raptors gliding and perching on the southern slopes, magical arbutus/douglas-fir/garry-oak forests, woodland wildflower meadows, interesting rock formations and a continually growing network of trails. It is quite impressive that this amazing place has been made accessible to us by years of countless hours of random volunteer trail building efforts.

There is a flip side to this picturesque landscape and that is the fact that due to unauthorized trail building over the years, Mt. Tzouhalem is now crisscrossed with dozens of ill-maintained, often eroded trails. An individual may build a trail and then not take responsibility for the continued maintenance of the trail. They leave behind wooden structures that (if not maintained) will rot and degrade the trail's safety. This is the case on Mt. Tzouhalem. There are a number of wooden structures on Mt. Tzouhalem that pose an immediate problem to trails users.

Another downside to the Mt. Tzouhalem trail experience is the lack of resources for trail users (ie. maps, signage, washrooms, waste disposal). The amenities currently offered to users of the Mt. Tzouhalem trail network include a parking lot and a garbage can. It is quite normal to encounter locals and visitors hiking around searching for "The Cross" or a particular trail they have heard about. It is common to encounter blowdown blocking roads and trees for weeks during the winter months.



*Photo: A structure on Mt. Tzouhalem that is heavily decomposed. It is 9 feet in the air and if walked on will almost certainly collapse.*



### 3.1 Recommendations for Mt. Tzouhalem

The CTS feels that a number of improvements could be made to make the trail network on Mt. Tzouhalem safer for users and turn it into a premiere hiking and mountain biking tourism destination.

1. Removal of all rotting wood and other unsafe trail features
2. A trail signage plan to direct users and visitors and to increase safety.
3. A large trail sign at the parking lot with a map of the trail system, safety concerns, warning of 'Use at Own Risk', etc.
4. A washroom facility, bike wash station and tool post (see photo)
5. A skills park for children and adults to practice skills and warm up before heading up the mountain.
6. A 'Kids/Beginner' specific trail meant to introduce new riders to the sport on a very well designed and safety minded trail.

It is the CTS's opinion that the most efficient way to deal with the rotten structures on Mt. Tzouhalem is a 3 man crew accessing the areas using a truck or quad and walking into the sites. By cutting up and scattering the bridge material into the woods the risk of unsafe bridges will be removed and the material will become part of the forest debris. The CTS estimates that there are 50+ unsafe man-made wooden structures on Mt. Tzouhalem that pose a risk to trail users. The CTS has mapped the locations of these features and could efficiently and cost effectively deal with this problem (see section 8.0).



Photo: Example of bike wash and washroom facility at the Hartland Dump riding area (Victoria)



## 4.0 OBJECTIVES

### 4.1 Short Term Objectives (2013)

1. Enter into a partnership with the DNC to authorize trail building and maintenance within the municipal forest reserve, for the Maple Mountain Trail System
2. After completion of necessary trail maintenance on existing Maple Mountain trails, begin construction of 2 proposed trails on Maple Mountain
3. Build a membership base in the Cowichan Valley, fundraise monies for purchase of trail building tools and signage, and host family friendly events to promote mountain biking in the Valley
4. Develop a “Regional Standards for Trail and TTF construction” document to guide and regulate trail building in the Valley
5. Build a base of local supporters including schools, businesses, Cowichan Tribes, local governments, and other non-profit societies.
6. Work with Tourism Cowichan to explore marketing options (short films/events/magazine articles/website content/media visits) and create a plan to expose the Cowichan Valley as an adventure tourism destination to the mountain bike world

### 4.2 Long Term Objectives

1. Explore possibility of entering into a land use agreement for the Mt. Tzouhalem and Mt. Prevost trails with the DNC.
2. Continue to carry out construction of the 2 proposed trails on Maple Mountain.
3. Host events such as local bike shop ‘demo days,’ kids’s rides, volunteer broom pull in sensitive areas, youth and adult races, mountain bike skills camps and trail building clinics.
4. Fundraise for the design and construction of a large scale map, Skills Park, larger parking area, and washrooms at the Mt. Tzouhalem access at the top of the properties.
5. Conduct annual inspections of all technical trail features and remediate all hazards in a timely fashion
6. Provide yearly reports to DNC summarizing CTS activities and finances, legalities, events, completion of projects, etc, along with a yearly AGM public meeting
7. Gain a yearly trail maintenance contract with DNC for Maple Mountain, Mt. Tzouhalem, and Mt. Prevost.

## 5.0 TRAIL MANAGEMENT

The CTS intends to focus new trail building efforts on Maple Mountain. The CTS feels that this is a favourable location to create an authorized trail system due to less development, less stakeholders, and a simpler user group than other areas. The CTS feels that Maple Mountain provides an example of a nearly ‘empty template’ on which to create a model of good management and a working relationship between the CTS and



the DNC. It is in the opinion of the CTS that 5 years from now Maple Mountain will be the most sought after mountain bike tourism destination on Vancouver Island.

## 5.1 Proposed Trail Locations

The CTS have identified 2 trails that are important to build and develop to create Maple Mountain into a diverse and unique mountain bike area (**Appendix 1, Figure 1**). The 2 proposed trails are located on Municipal Forest Reserve Land. Proposed Trail #1 commences at the summit of Maple Mountain close to the tower, it traverses down the mountain in a north westerly direction, crossing the mainline and tying into an existing bike trail named “Tony’s Arbutus Hill”. The total length of the proposed trail is 2.8 kilometers. The actual built trail will not likely follow this exact route; however the intention is to get from the tower to Tony’s. Proposed Trail #2 takes off from an existing trail off of M400; this trail is intended to be a “climbing trail” for getting up the mountain and is 3.0kms long. Both of these trails have been roughly sketched onto the map, a more accurate trail route would be traversed and flagged when trail building is approved.

The CTS understands that Maple Mountain is a working forest with a harvesting plan. The CTS is confident that trails can exist in conjunction with the DNC’s plans and needs for the area. The CTS would like to work closely with the DNC Forestry Department to create a recreation resource that is a vital part of a working forest.

## 5.2 Access Points

The public access and parking for the Maple Mountain bike trails is via the yellow gate on Osborne Bay road. The CTS proposes that a second public access to the Maple Mountain trail network could be provided through the Woodland Hills Development off of Herd Road (see map). A Woodland Hills public access would provide an entrance for riders coming from the Maple Bay and Mt. Tzouhalem areas. The developers of the Woodland Hills subdivision are very supportive of this venture.

## 5.3 New Trail Construction

The CTS views new trail construction as the backbone to the growth of the recreation resources of the Cowichan Valley. Trails will be constructed as ‘Intermediate All Mountain’ trails and will be designed to offer the rider a fun, low angle, flowing trail that has been built with safety in mind. ‘All Mountain trails’ refers to trails that can be ridden on a wide variety of bicycles by the average rider. These trails are not solely downhill or uphill but are intended to provide someone new to mountain biking with accessible trails while also offering advanced riders sufficient challenges and options to keep them coming back. These trails will be built by, or under the guidance of Riley McIntosh. Tools used in trail building include: chainsaws, pulaskis, mattocks, shovels, tooth and fan rakes, hammers, buckets, 4” and 6” nails, and loppers. CTS aims to use a small excavator in the future on some proposed trails to further create especially enjoyable rides in a more efficient manner.

Trails will be built to last, to shed water, and to require as little maintenance as possible. They will follow IMBA and Whistler Trail Standards, which are the recognized industry trail building standards used by all clubs and societies. A danger tree assessment will take place upon trail construction to both rid the immediate area of hazards and deal with future windfall prone trees while they are still standing. BCFSC certified fallers will be used for danger tree clearing. Constructed TTFs (bridges, etc) are not a huge priority; however, some small bridges to cross creeks and cross wet areas will be required. Often the best way to keep the trail’s ‘flow’ is to bridge certain areas, such as very rocky sections, depressions, gullies, etc. Trail routes will be planned to use both the vertical drop and terrain features in such a way as to maximize user enjoyment, while minimizing environmental impact. Trails will be built at a low angle (e.g. not too steep, 2-8%





grade) as possible by traversing slopes and contouring terrain to avoid steep trails that are hard on both riders and the ground surface due to excessive sliding and skidding resulting in erosion over time.



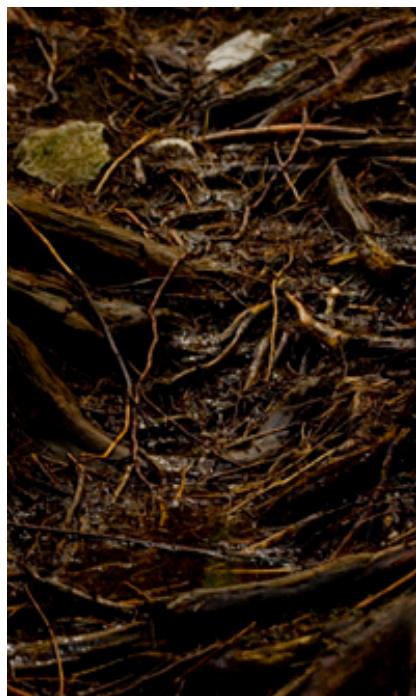
*Photo: Example of a 'North Vancouver Drain' used to re-direct water away from the trail surface.*

Bridges will be built over streams and wetland/seepage areas will be avoided. Bridges required will be built using deadfall cedar; however, when this is not available CTS may need to fall some standing timber with proper authorization, or bring in wood from an outside source. Tree lengths are valuable as cribbing for steep side hill sections of trail. Most trees felled will be non-merchantable <12.5 cm diameter. CTS President Riley McIntosh has attended several NSMBA (North Shore Mountain Bike Association) 'Trail Days,' as well as conducting trail work at the Whistler Mountain Bike Park. In all new trail construction cases CTS will adhere to IMBA and Whistler Trail Standards trail building methods.



*Photo: Example of a bridge on the Maple Mountain trail system featuring 3 foot wide decking, a ride around option for safety, and metal lathe to provide grip and traction even when wet.*





Before



After

*Photo: Example of a low angle and properly bench-cut trail built by an IMBA (International Mountain Bike Association) 'Trail Care' crew, with a view of the 'before' and 'after' effects of the trail work.*

The CTS aims to create a 'culture' of good trail ethics by holding weekly trail building days for all ages. A significant number of volunteer man hours will go into the upkeep and construction of the Maple Mountain trail network. Participating in a trail building day as a community helps to educate people with information about proper trail construction, environmental and land use issues while fostering a greater appreciation and respect for nature and the trails in general. In the future, the CTS hopes to educate youth and offer them authorized areas to build trails on, education on tools and trail building methods, and possibly host youth trail building camps. The CTS sees this as a way to direct youth focus while mitigating risk.

## 5.4 Managing Soil Erosion

In practical terms, the best ways to reduce soil erosion is to build trails that are low angle, (e.g. not very steep, 2-8% grade). Trail erosion is caused by: water running down the trail during heavy rains, water pooling on the trails, and steep trails causing riders to brake heavily.

Practical ways the CTS plans to prevent Erosion on trails:

- Trail construction - Trails built at a low angle grade traversing the slopes. This helps to prevent heavy braking (e.g. 'Skidding') which digs the bike tires into the earth, creating badly damaged trails due to ruts and furrows that allow water to run down the trail.
- Drainage ditches and 'North Shore Drains.' North Shore drains are a way of draining water off the trail; they are a cedar slat box crossing the trail at an angle, draining water out of a ditch beside the trail, across the trail, and down the bank.



- Trail Surface - In many areas, if the loose loamy material and spider web of roots and organic matter is dug up and removed, and the trail bed is laid with rocks and covered over with proper mineral soil, the trail bed becomes a rock hard surface that can stand up to a lot of abuse.
- Avoidance of obvious water courses and wet areas. With some planning, obvious wet areas can either be avoided or bridged to prevent ongoing problems.
- Raising the trail bed, creating drainage ditches, and filling in low spots with rocks and soil to avoid puddling.

## 5.5 Existing Trails: Maintenance

The CTS is dedicated to maintaining trails to a high standard and upgrading and rerouting trails on a yearly basis as needed. Occasionally sections of trail need to be rerouted for a multiple number of reasons: perhaps it is too steep, in a windy area that always gets blocked by deadfall, or is an area that holds and retains a lot of water and floods during certain parts of the year.

Regular upkeep consists primarily of removing hazards such as windfall, protruding rocks, soft spots, wet spots, ruts or holes that develop, and spots that routinely cause riders to crash or get off their bike. Trails will be under constant scrutiny by the CTS crew and areas requiring maintenance will be checked off on routine trail upkeep days. All trail maintenance will be done in accordance with the methods and recommendations in the IMBA Trail Handbook. In the future the CTS would like to have a website where members can report hazards and problems they observe while using the trails.

## 5.6 Trail Signage

Trail maps and signs are imperative to rider safety. The CTS will use the traditional signage marking standards used by the Whistler Bike Park. This consists of Black Diamond, Red, Blue, and Green trail difficulty designations. Other signs commonly used are “extreme steep section ahead”, “drop off”, “hard corner”, and “bridge ahead”. Trail signs could be made of a plastic material and printed, or constructed of wood depending on budget. IMBA offers its registered clubs trail signage templates and suggestions on how to use them. The CTS has applied for a visit in 2013 from the IMBA ‘Trail Care Crew’ who come to managed trail areas to make suggestions on how to increase safety, address user conflicts, etc. The CTS hopes for some guidance regarding trail signage during this visit.



Photo: Example of trail signage





## 5.7 Geographic Information Systems

The CTS intends to use Geographic Information System (GIS) to map and monitor trail management activities such as maintenance schedules, logging activities, sensitive areas, wet areas, steep areas and temporarily rerouted/closed sections. A dynamic digital map of the trail network will streamline trail management activities and provide a template to help manage increasingly larger networks of trails if Mt. Tzouhalem and Mt. Prevost become part of a managed network. All trails and trail features (bridges, TTFs) will be mapped in ArcGIS 10 and can be provided to the DNC in a digital format for input into the DNC GIS. The CTS can provide mapping services to create large billboard trail maps for parking lots and smaller user maps that could be printed online.

## 6.0 ENVIRONMENTAL CONSIDERATIONS

The preservation of the natural landscape of our local mountains and the resident wildlife is of upmost importance to the CTS. The CTS did not choose the word 'Steward' lightly; we intend to be Stewards of the land we love and call home by creating a legacy of authorized usage. The wild untouched beauty of nature is what draws us to the mountains and to our bicycles. We value and respect the environment and the trails we plan and build will reflect this standpoint. We understand that trails are invasive to the landscape, but we also view them as a way to access nature and increase appreciation of it. The following sections outline how we intend to meet the objective of being Stewards of the Land.

### 6.1 Sensitive Ecosystems

In the process of planning and building trails the CTS will strive to minimize our impact on the surrounding natural environment. To meet this goal we intend to be aware of and extra careful around sensitive ecosystems such as: riparian/wetland areas, woodland meadows (Arbutus/Garry Oak) and terrestrial herbaceous rocky outcrops. These ecosystem types all fall within the provincial government definition of environmentally sensitive areas, based on the sensitive ecosystem inventory (SEI).

In general, riparian areas are not conducive to mountain biking and will be completely avoided except in the case of a stream crossing. In the case that a trail infringes on an Arbutus/Garry Oak forest or a rocky outcrop we will do our very best to minimize the impact on this ecosystem. Single track trails will be designed at a minimum width to follow the natural contour of the land in an effort to avoid disturbance of the inherently thin soils and natural drainage patterns. There will be absolutely no removal of trees in any of these ecosystems. In return for infringing on these sensitive areas we intend to recompense the environment by removing all scotch broom within a 5 meter buffer on either side of the trail center. In the future, if budget allows, we would like to display interpretive signage at key locations to increase public awareness about the sensitivity and special nature of these sites. The CTS would be happy to learn more about sensitive species and plants that the North Cowichan Environmental Managers are tracking. The CTS is willing to track and record sightings and submit this information to North Cowichan in the form of a GIS layer.

All trail builders and volunteers will be instructed to stay on existing trails and roads as much as possible to avoid unnecessary trampling of surrounding vegetation when hiking in, around, and out of the work area. Everything that is packed in (food, tools, garbage etc.) will be packed out. The head CTS trail builder will be responsible for ensuring all of the above goals are met by all trail building staff.



## 6.2 Wildlife

Maple Mountain is rich in resident wildlife and it is the intention of the CTS to be sensitive to wildlife habitat and activity at all times. The following list indicates guidelines that will be taken to avoid disturbing wildlife and wildlife habitat:

- Give trail right of way to wildlife trees or snags that contain cavities for nesting bird species; as well as whitewash at the base of trees that indicate the presence of a nest
- Avoid disturbance of coarse woody debris (CWD) which provides important habitat for insects and amphibians
- In the case that wildlife is found leave it alone
- Be aware of fresh animal scat and other obvious sign such as a carcass, musky odors or animal noises that indicate an animal is close by
- Keep food items secured and packed away when not in use

## 7.0 RISK MANAGEMENT AND SAFETY

Liability and risk management are some of the more intimidating issues and challenges faced by trail managers today. Exposure to liability cannot be taken lightly and the ability to manage risk appropriately can make or break an operation. Risk management is a systemized approach to incorporating safety into the mountain biking experience<sup>6</sup>. In following the risk management guidelines as outlined by the IMBA, the CTS will focus on three areas to manage risk:

1. Design and build trails appropriately with comprehensive signage
2. Manage and maintain them consistently and responsibly
3. Maintain the protection of a sound insurance policy through Oasis/IMBA Insurance, at 5 Million dollars general liability, plus extra Directors' Insurance

The CTS will negate liability risk through a general liability insurance policy, additional Directors Insurance, a Regional Trail Standards Plan, trail signage, maps, information, and a trail maintenance plan.

### 7.1 Regional Trails Standards Plan

In the case that the DNC approves new trail construction on Maple Mountain we are committed to providing the DNC with a comprehensive Regional Trails Standards Plan. This plan would include:

- A trail design and construction policy
- The trail difficulty rating and signage system we intend to adopt
- Visitor trail-user rules and regulations
- An action plan for emergencies
- A trail inspection and maintenance policy

---

<sup>6</sup> Source: Overview of Liability for Mountain Biking (IMBA Website) <http://www.imba.com/resources/liability>



- A record keeping system with a written maintenance log
- An accident reporting and analysis system
- Details regarding our insurance policy
- Waiver and participation agreements for hosting events and volunteer work

## 8.0 BUDGET

The CTS hopes to gain funding for this project both through fundraising and outside sources such as grant applications and municipal involvement. Projected costs include: administration, surveys, fundraising and membership drives, plan and grant application writing, trail upkeep and construction man hours, and equipment, tools and supplies. To build the 2 proposed trails on Maple Mountain, the CTS estimates that it would take 1440 man hours per trail based on 3 workers full time for 3 months. This would be a total of 4320 man hours to complete the 2 proposed trails on Maple Mountain. In terms of Maintenance, the CTS estimate it would take 40 man hours to upkeep the trails to the regional plan standard per month.

\*Note equipment such as a small excavator could greatly speed up the process.

### 8.1 Tools & Supplies

The CTS estimates that tools and supplies costs are equal to \$500 per month during full time building phase, and \$200 per month during maintenance phase. This includes chainsaw upkeep, fuel, nails, tools, etc. Dodds Lumber has offered considerable donations including significant discounts and 100lb of free nails per year.

**Table 3: Summary of Costs**

Project (In order of implementation)	Number of Workers	Number of Days	Total Man Hrs/Cost Per Day	Total Project Cost
<b>Creating Regional Trail Standards Plan</b>	1	10	80 hrs \$25.00 per hour \$200.00 p/d	\$2000.00
<b>Reworking Existing Maple Mountain Trails to Regional Trail Standard</b>	2	20	320 hrs \$20.00/\$35.00 per hour \$440.00 p/d	\$17600.00
<b>Construction of 1 proposed trail</b>  *There are 2 proposed trails within the plan, only one has been budgeted into the cost projection at this time.	3	60	1440 hrs \$14.00/\$20.00/\$35.00 total cost per hour = \$69.00 \$552.00/day	\$99 360.00 + Tools/Fuel/Supplies Budget of \$1500.00 = \$100,860
<b>Maintainence/ Safety Inspection of Maple Mountain Bike Trails</b>	1	4/month	\$35.00 per hour/8 hours = 280.00/day \$1120.00/month	\$13,440.00 per year
<b>Mt. Tzouhalem Risk Mitigation Plan Implementation (removing hazardous bridges)</b>	3	25	600 hours total \$69.00 per hour/8 hours/25 days (crew of 3)	\$13,800.00
<b>Total Project Cost</b>				\$161,500.00

Note: based on 8 hour work day

The CTS intends to encourage and organize volunteer trail days. Here is an estimate of the value of yearly volunteer labor the CTS plans to utilize for trail building based on a work crew of 10+ people every Sunday year round.

6 hrs work time x 10 volunteers = 60 man hours at a value of 20/hr = 1200 per Sunday x 52 Sunday in a year (narrow that down to realistic 44 Sundays when you consider holidays, etc) = rough estimate of 1200/44 = **\$52,800 of value volunteer hours on trails per year**, all organized by the CTS.



## 8.0 CONCLUSION

The CTS views the Cowichan Valley as a powerful mountain bike tourism destination. It is an extremely unique and year round destination. Based on mountain bike tourism studies completed over the past few years, it has been found that before trails can be promoted as tourism experiences they need to be properly authorized and managed. The CTS would like to work together with the governing bodies of the Cowichan Valley, trail user groups and other stakeholders to create an authorized trail network for the benefit of the community and our economy. In Appendix 2 we have attached 3 letters of support from Tourism Cowichan, Community Futures and Experience Cycling. There are 2 further letters attached that are a more personal reference to the capabilities of Riley McIntosh as a world class trail builder.

Mountain biking is a pastime enjoyed by a diverse user group, as evidenced by Elizabeth Fraser, long time trail user:

**“I started mountain biking back in 1995 and have been riding ever since. I have one bad knee from many years of running so I am so very thankful that I can still keep up my fitness/fun on the amazing trails we have. I am 54 years old and plan on riding for as long as I am physically able!”**


This document was prepared as a first step in the initiation of a close working relationship between the CTS and the Land Managers of the District of North Cowichan (DNC). We realize that there could be more information, details and items of interest that are missing from this document or areas that may need clarification. The CTS is open to improving this plan or revising it as requested by the DNC.



# APPENDIX 1

## MAPS





COWICHAN TRAIL STEWARDS

Figure 1: Proposed Mountain Bike Trails

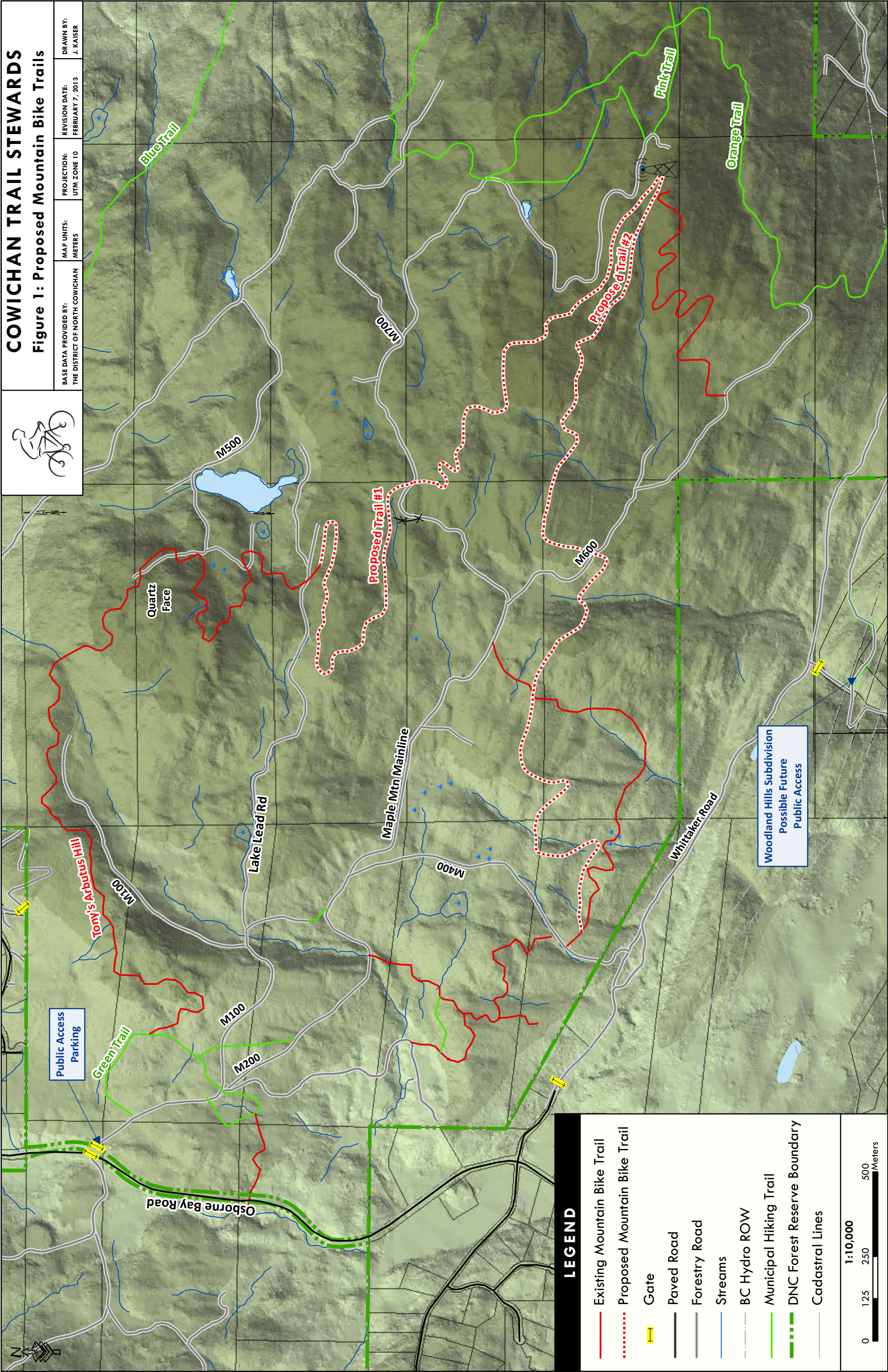
BASE DATA PROVIDED BY:  
THE DISTRICT OF NORTH COWICHAN

MAP UNITS:  
METERS

PROJECTION:  
UTM ZONE 10

REVISION DATE:  
FEBRUARY 7, 2013

DRAWN BY:  
J. KAISER







# APPENDIX 2

## LETTERS OF SUPPORT



135 Third St, Duncan BC V9L 1R9

250-746-1099

November 28, 2012

To whom it may concern,

Tourism Cowichan supports the creation of the Cowichan Trail Stewards Society, and their proposal to build and monitor biking trails on Maple Mountain.

Currently there are a number of unofficial and unmonitored biking trails on local mountains. We see a group of dedicated individuals who has a clear mandate to build, maintain and oversee biking activities in these sites as a boon to both locals and visitors. By taking responsibility and being held accountable, this group will ensure that mountain biking can offer a sustainable recreational activity that will minimize impact and lower the risk of accidents.

An important component of the success of this venture will be the inclusive and collaborative efforts of the newly formed group to work with local governments, user groups and other stakeholders.

Tourism Cowichan sees great potential in promoting the region as a destination for mountain biking.

Typical mountain biking tourists have much in common with other types of travellers we already focus on attracting; specifically those that enjoy water activities, hiking, culture, wine & culinary, and history. Add mountain biking to the mix and a significant increase in overnight stays will occur. The purchase of biking equipment & services, incidentals and local products will also contribute to the increase in economic activity.

1 in 7 Canadian mountain bikers live in Vancouver, already one of our key target markets. A significant number of mountain bike enthusiasts also live in Washington and Oregon, a market that can be readily developed.

We are looking forward to working with the members of the Cowichan Trail Stewards Society to develop the Cowichan Region as a world class mountain biking destination.

Sincerely,

Cathy Mailhot  
Marketing Coordinator  
Tourism Cowichan

February 8, 2013

135 Third Street  
Duncan, BC  
V9L 1R9  
T: 250 746 1004  
F: 250 746 8819  
info@cfcowichan.ca  
www.cfcowichan.ca

To whom it may concern,

RE: Cowichan Trail Stewards (CTS) Society

On behalf of Community Futures Cowichan, I am writing to express strong support of the Cowichan Trail Stewards (CTS) Society's effort to seek permission from the District of North Cowichan to build new mountain bike trails on Maple Mountain and to maintain and improve the safety of existing trails.

We are aware of major mountain bike destinations that benefit economically from being well coordinated at the local level, so much so that they are now major tourism attractions. The mountain biking sport is considered to be an emerging sector within the tourism industry with huge potential, which presents a fantastic opportunity for the Cowichan Region to promote itself as a destination with a multitude of desirable tourism products.

In addition to visitors using the mountain bike trails there is also the use and enjoyment by local citizens. The CTS is showing leadership in contributing to the community's "sense of place" that every citizen values. These trails go hand-in-hand with the District of North Cowichan's own trails and hiking vision for the community.

Community Futures believes this initiative will provide significant benefits to the North Cowichan community and its economy. The efforts of local citizens to actively become responsible in contributing to our community and being the stimulus to a proven economic development initiative should be strongly supported and favourably considered.

Sincerely,



Cathy Robertson  
General Manager



To whom it may concern

We here in the Cowichan Valley are fortunate to be situated where we are. That is in the heart of one of the most beautiful and bountiful areas on Vancouver Island. An area abundant in opportunities for recreation and sport that is one of the premier destinations for citizens of Vancouver Island. One such sport that we are lucky to be able to indulge in is mountain biking; this sport has a long and rich history going back decades. It is growing at an explosive pace and is becoming a viable alternative for a vast number of people who wish to enjoy the outdoors and what the Cowichan Valley has to offer. Mountain biking though has not been without its growing pains, land use issues have arisen in several areas across Canada and it was often easier to hinder rather than help this young sport grow. An organization like The Cowichan Trail Stewardship seeks to ease any issues that may arise from the large trail network that is evident in our Valley and facilitate a better working relationship between the growing user base and land owners. That is why we at Experience Cycling are expressing our support for this organization; we feel that they offer an excellent opportunity for moving forward towards a viable and sustainable outdoor adventure that would be the envy of Vancouver Island. It is with this in mind that we are endorsing the Cowichan Trail Stewardships bid for recognition. It is our viewpoint that by maintaining and nurturing the current range of trails we have available to us that it would serve to bolster the vibrant tourism industry of the Cowichan Valley and serve as an example for other municipalities to follow suit in the future.

Sincerely

The Experience Cycling Team



### **Reference Letter for Riley McIntosh.**

January 10, 2012

To Whom It May Concern;

I have known Riley personally for well over ten years and can attest to his strong character. He is an active individual proficient at many sports, including skiing and mountain biking, as well as being one of the best trail builders in the world. I have also found Riley to be a mature and pleasant young man.

Riley worked for two years under my management in the Whistler Mountain Bike Park and I am very familiar with the quality of his work as well as his work ethic. Gravity Logic would not hesitate to hire Riley at any time should the opportunity ever arise.

Please feel free to contact me anytime should you have any further questions.

Sincerely,

Tom Prochazka, Gravity Logic Inc. Director

Tel. 661 713-3372

Email [tom@whistlergravitylogic.com](mailto:tom@whistlergravitylogic.com)

*Gerry Molnar*

November 18, 2012

The Mayor and Council  
The Municipality of North Cowichan  
North Cowichan Municipal Hall  
7030 Trans Canada Highway  
Box 278  
Duncan, BC V9L 3X4

**Re: Cowichan Trail Stewards Plan**

This letter is to serve as a reference and a letter in support of Cowichan Trails Stewards, its leader Mr. R. McIntosh and its plan to jointly develop and maintain mountain bike riding trails in North Cowichan.

It's my pleasure to say that I have known Riley McIntosh since he was a boy. I've watched as he'd take off into the woods each day after school, sometimes in the cold and wet, (sometimes with the swede saw from my shed) to be alone and build a few more feet of riding trail. Today, Mr. McIntosh is a **world recognized** mountain bike trail designer and builder.

In my opinion, there is a great economic benefit in attending to and promoting our extraordinary part of the world as a mountain bike destination. As the Trail Stewards will point out, our area is unique; providing extraordinary terrain and year round riding. There are concrete economic studies showing the economic benefit. For example, this from the Mountain Bike Tourism Association,

The trail systems of the North Shore, Squamish and Whistler, are estimated to have collectively generated **\$10.3 million** in spending from riders that live outside of the host community over the period from June 4 to September 17, 2006.

Even a person of my advanced age has friends who travel all the way to Utah or Arizona just to ride their bicycles down dedicated trails. Here in North Cowichan, just notice the number of vehicles carrying mountain bikes the next time you are out driving. They are going to a trail to ride.

I heartily support the Trail Stewards and their proposal to you.

Yours truly,

Gerry Molnar

*520 Maple Mountain Road,  
Duncan, BC V9L 5X7  
Ph: (250) 748-8326 Fax: (250) 748-8320  
gpmolnar@shaw.ca*