

Partnerships in Risk Management





Making a difference...together

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trail holistics
Management, Planning & Design Solutions

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Risk Management
Trail Holistics

- There are **33 regional parks** and **four regional trails** in the CRD Regional Parks system, comprising over **13,350 hectares** (ha) of land.
- Annual visitation of **nearly 9 million**.
- Visitation has increased by **over 40% since 2014**.



East Sooke Regional Park - Mary Sanseverino

CRD Regional Parks and Trails Vision:

An expanded and connected system of regional parks and regional trails that are rich in biodiversity, respect Indigenous cultural heritage and use, inspire stewardship, are resilient to change, and provide enjoyable outdoor recreation experiences.

A network of 435km of trails:

- Regional Trails – off-street greenway corridors for recreation and active transportation
- Regional Park multi-use trails
- Regional Park single-use trails



E&N Regional Trail



Thetis Lake Regional Park



Sea to Sea Regional Park

Mountain Biking in CRD Regional Parks

Capital Regional District
Parks, Regional Trails, and Protected Areas in the CRD

0 5 10 15
 Kilometers
 UTM Zone 10N NAD 1983

DISCLAIMER
 This map is for general information purposes only and may contain inaccuracies.

Regional Parks

1. Albert Head Lagoon	17. Matheson Lake
2. Ayum Creek Reserve	18. Matthews Point
3. Bear Hill	19. Mill Farm Reserve
4. Brooks Point	20. Mill Hill
5. Coles Bay	21. Mount Parke
6. Devonian	22. Mount Wells
7. East Point	23. Mount Work
8. East Sooke	24. Mountain Road Forest Reserve
9. Elk/Beaver Lake	25. Roche Cove
10. Francis/King	26. Sea to Sea
11. Gonzales Hill	27. Sooke Hills Wilderness
12. Horth Hill	28. Sooke Potholes
13. Island View Beach	29. Sooke River Reserve
14. Jordan River	30. St. John Point

Sea to Sea Regional Park

- Sooke Bike Club
- 42km of sanctioned mountain bike trails
- 17th most visited regional park

Mount Work Regional Park

- South Island Mountain Bike Society
- 45km of sanctioned mountain bike trails
- 4th most visited regional park

Thetis Lake Regional Park

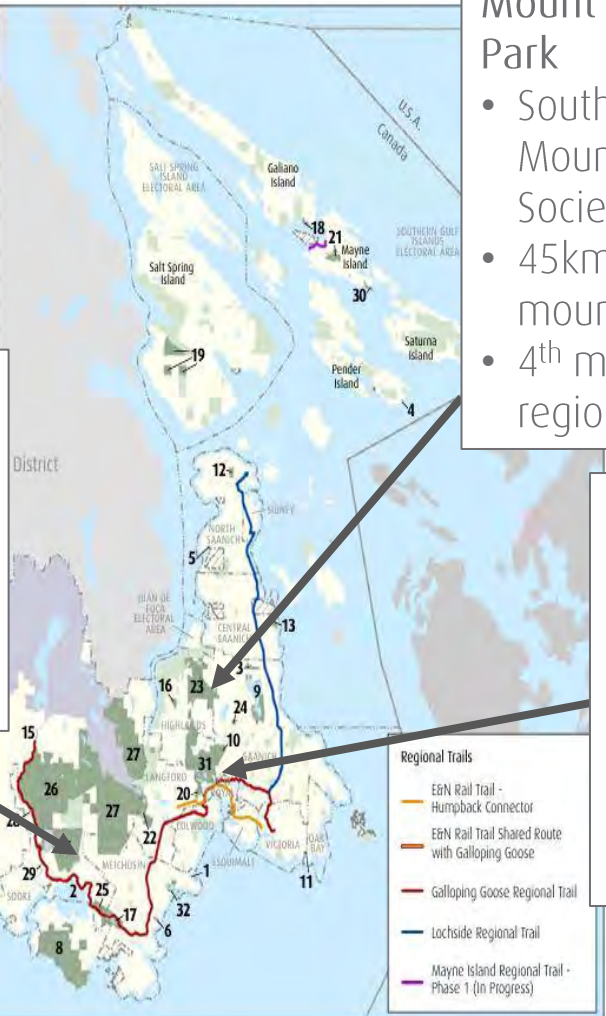
- CRD Regional Park staff
- 35km of sanctioned mountain bike trails
- 2nd most visited regional park

Legend

- Regional Park
- Other Park or Protected Area
- Greater Victoria Water Supply Area
- First Nation Reserve
- Lake / Reservoir
- Municipal/Electoral Area Boundary
- International Boundary

Regional Trails

- E&N Rail Trail - Humpback Connector
- E&N Rail Trail Shared Route with Galloping Goose
- Galloping Goose Regional Trail
- Lochside Regional Trail
- Mayne Island Regional Trail - Phase 1 (In Progress)



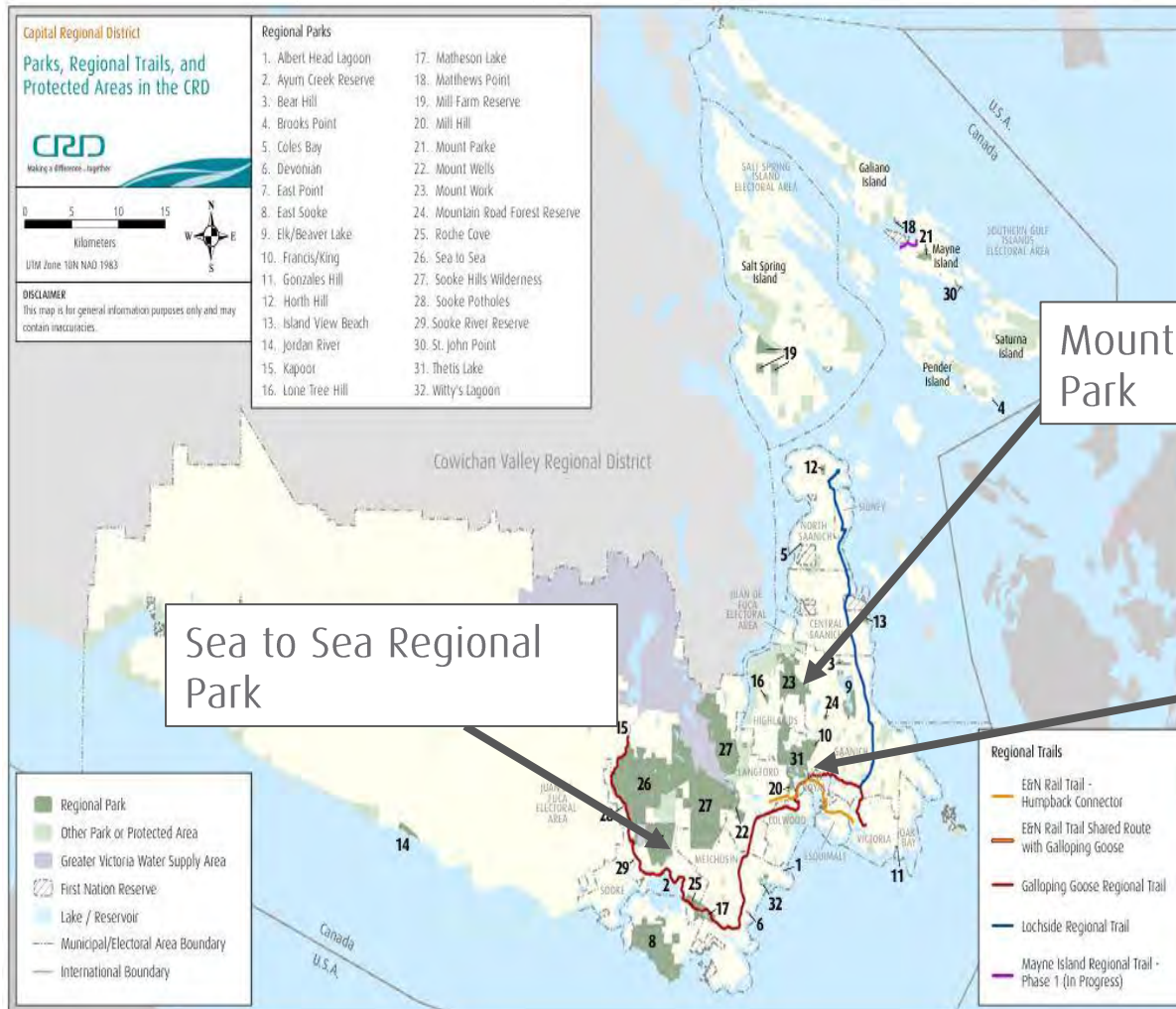


Sea to Sea Regional Park - Mark Wood

In many cases, trails were built by individuals without oversight and without consideration of:

- user safety and risk management
- strategic network planning
- sustainable trail building techniques
- ecological impact to sensitive areas
- cultural significance or archeological sites

Mountain Biking in CRD Regional Parks



Then:

- Unsanctioned trails
- Risk and liability concerns
- Poor relationship with mountain bike community
- User conflicts
- Lack of staff knowledge and capacity
- Dangerous and poor-quality trails



Now:

- Risk management strategy
- CRD Mountain bike guidelines and trail classifications
- Increased staff knowledge
- License agreements
- Good relationship with community
- A sanctioned network of quality mountain bike trails



Sea to Sea Regional Park



Sea to Sea Regional Park

The Journey

Policy

- CRD Regional Parks Mountain Bike Guidelines
- License agreements

Training

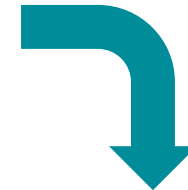
- Trail building
- Risk management for mountain biking

Partnerships

- Trail Holistics – trail network assessments
- Local trail associations



Mount Work Regional Park



Mount Work Regional Park

CRD Regional Parks Mountain Bike Guidelines

Provide direction to:

- Apply trail difficulty ratings
- Minimize constructed TTFs
- Upgrade trail system with sustainable trail design
- Contract an independent review of all mountain bike trails every 5 years
- Develop emergency plans

CRD Regional Parks Mountain Bike Trail Classifications



Sea to Sea Regional Park

License Agreements enable community volunteers to maintain trail networks

CRD Regional Parks:

- Signage
- Risk management
- Infrastructure
- Danger tree assessments
- Review of all proposed trail work
- Ecological and archeological impact assessments

Trail Associations:

- Ongoing trail maintenance
- Trail realignment and upgrades
- Gain approval must be gained for all trail improvements

Benefits for CRD Regional Parks:

- Trails maintained by knowledgeable and experienced trail builders
- Improved relationship with recreational community -> improved compliance with park bylaws
- A reduction of unsanctioned trail building
- Reduces staff capacity required to maintain trails
- High-quality recreational experience for the public

Benefits for trail association:

- The opportunity to improve a place they value
- The opportunity to develop their trail building and maintenance skills
- Community development,
- A high-quality recreational experience

Trail Holistics completed a review of **Sea to Sea Regional Park** and **Mount Work Regional Park**.

The report provided a detailed inventory of trail defects, including:

- Hazards
- TTFs
- Trail classifications
- Trail sustainability
- Wayfinding

The report also provides direction and prioritization to address the defects and outlines the importance of undertaking mitigation to address the elements identified.



Mount Work Regional Park

The Outcomes



Partnerships



Stakeholders





Stakeholder Training

Staff Training



RM Professional

- Conversant with current standards/BMPs
- Liability Exposure
- Public Safety
- Risk deferral



RM Process

Design
Assess



Identify Hazards
Inventory Assets



Prescriptions &
RM Strategy

Your Risk Management Strategy is driven by
your Risk Tolerance and Community Goals.



Jordie Lunn Bike Park & Gravity Trails











Risks vary with user



aMTB

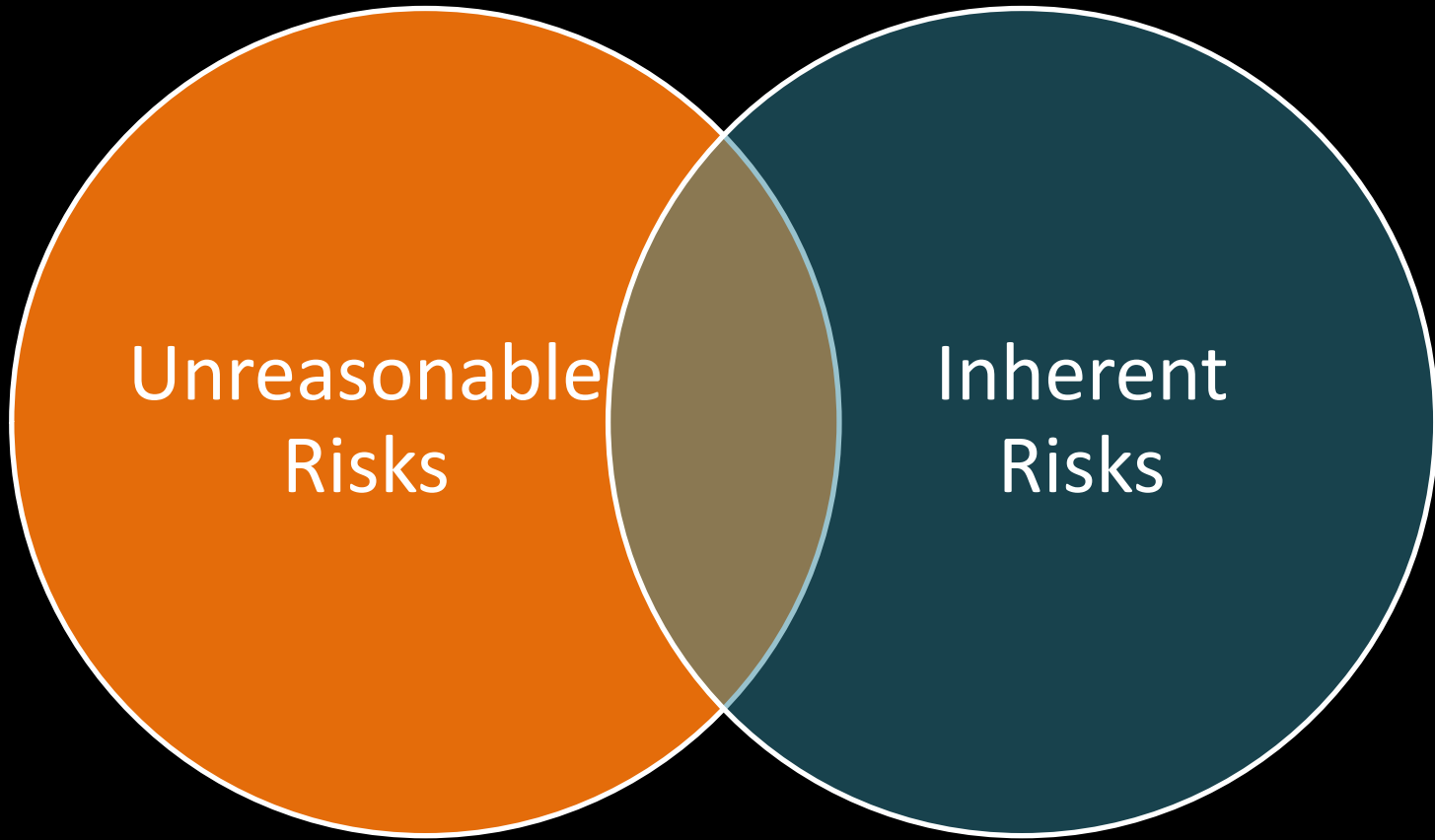


Risk Management

RM is a thoughtful process to create a deliberate strategy that best serves the **intended user** and their anticipated **skillset** to provide a *reasonably safe* user experience.

Context based approach





Inherent Risks

“It can be assumed that a cyclist accepts that there are risks associated with a recreational trail otherwise he or she would not ride upon the trail. Those risks/challenges may very well be part of the charm or attraction associated with the trail.”

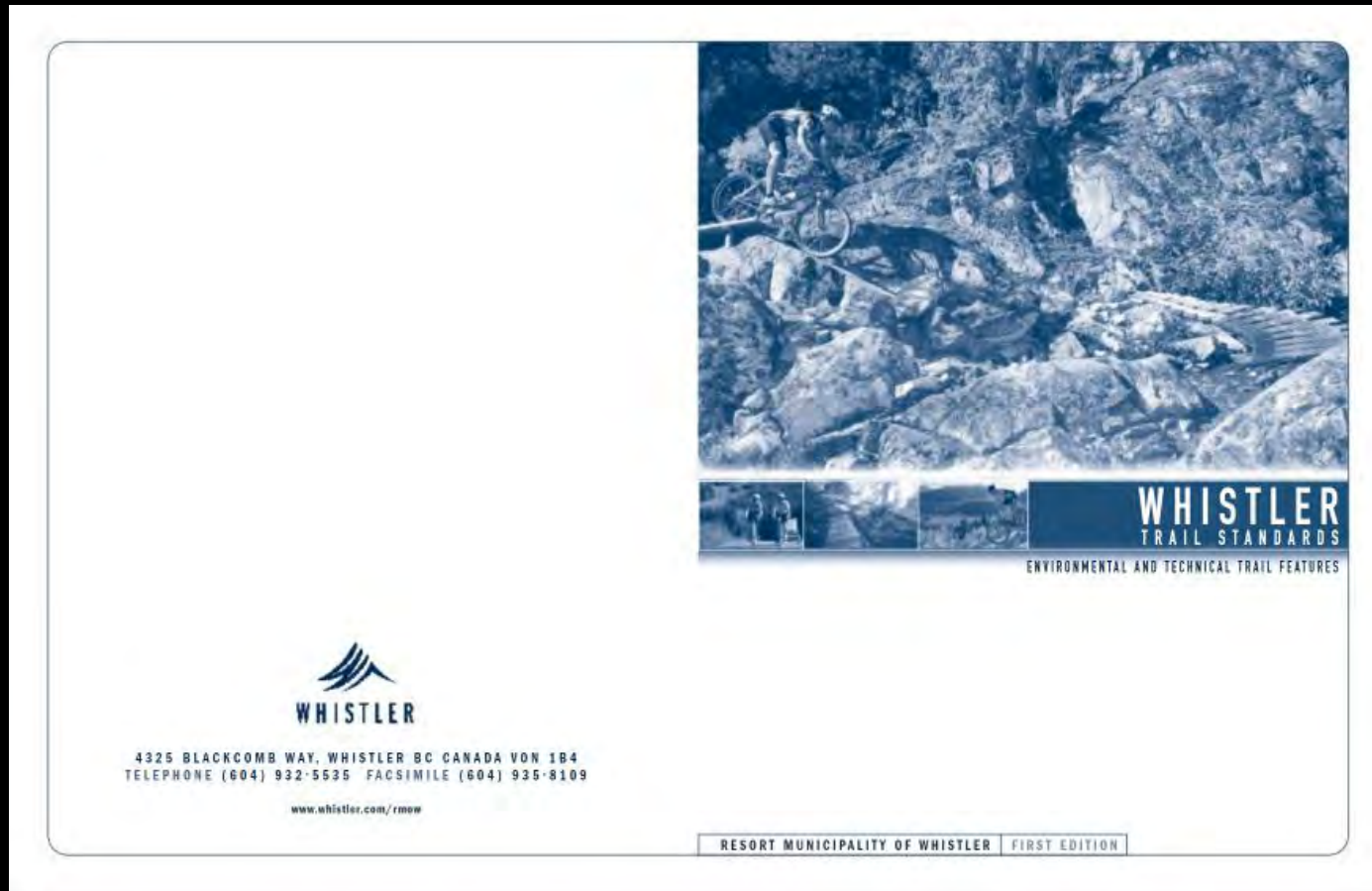
- Herbert v City of Brantford 2010 [21]



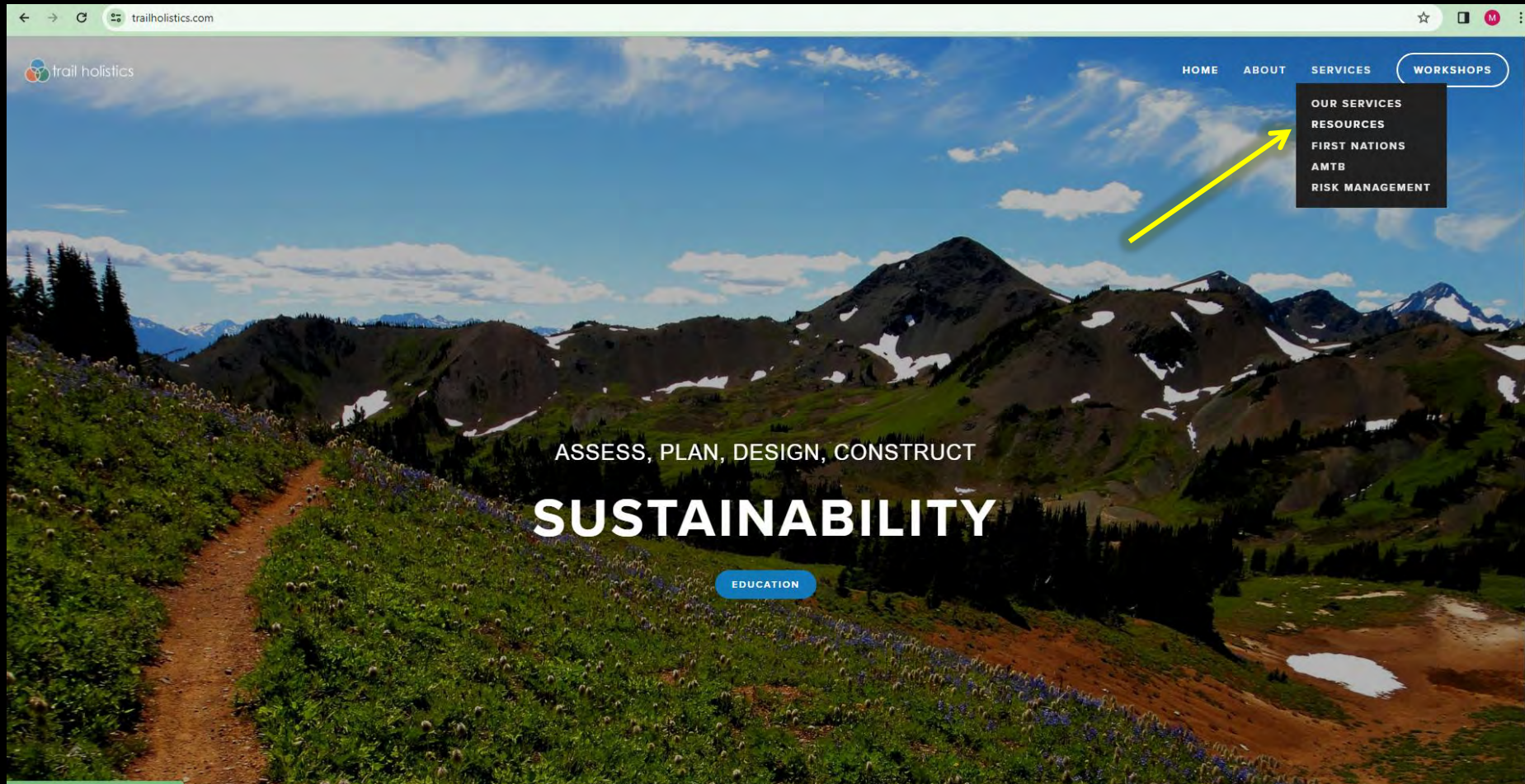




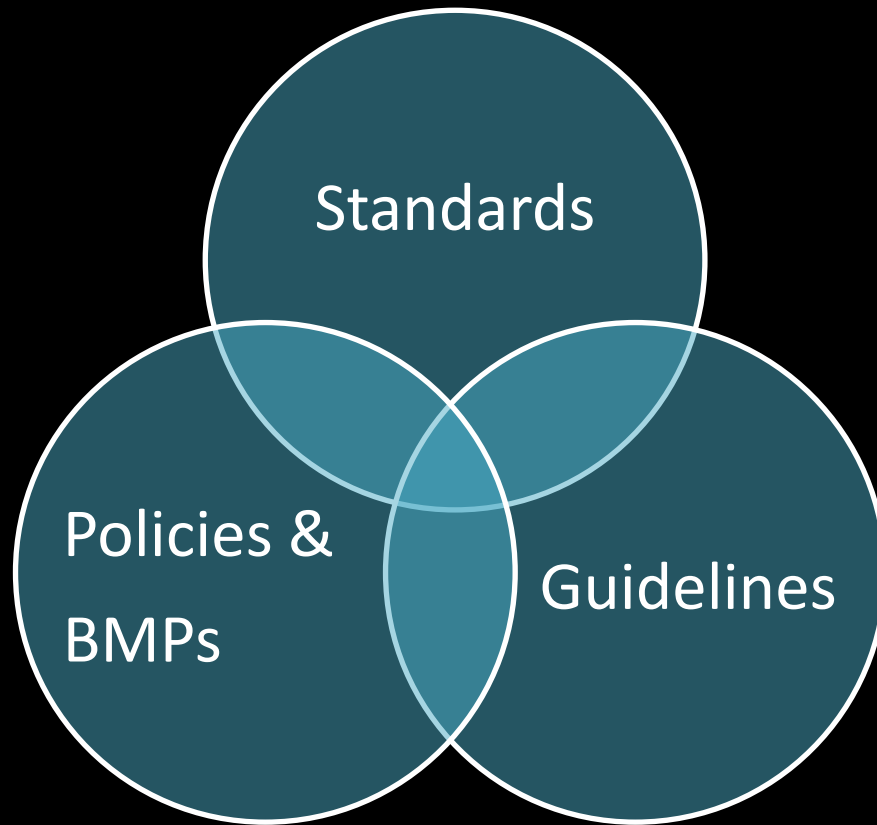
Whistler Trail Standards



Trailholistics.com - Resources



Standard of Care



Management Plan & Operations Plan

Standard Duty of Care

3 (1) An occupier of premises owes a duty to take that care that in all the circumstances of the case is reasonable to see that a person, and the person's property, on the premises, and property on the premises of a person, whether or not that person personally enters on the premises, will be reasonably safe in using the premises.

-3 (1) Occupiers Liability Act, BC

Relaxed Duty of Care

Risks willingly assumed (1998 Amendment)

3 (3) Despite subsection (1), an occupier has no duty of care to a person in respect of risks willingly assumed by that person other than a duty not to

- a) create a danger with intent to do harm to the person or damage to the person's property, or
- b) act with reckless disregard to the safety of the person or the integrity of the person's property.

- 3 (3) Occupiers Liability Act, BC

Reckless Disregard

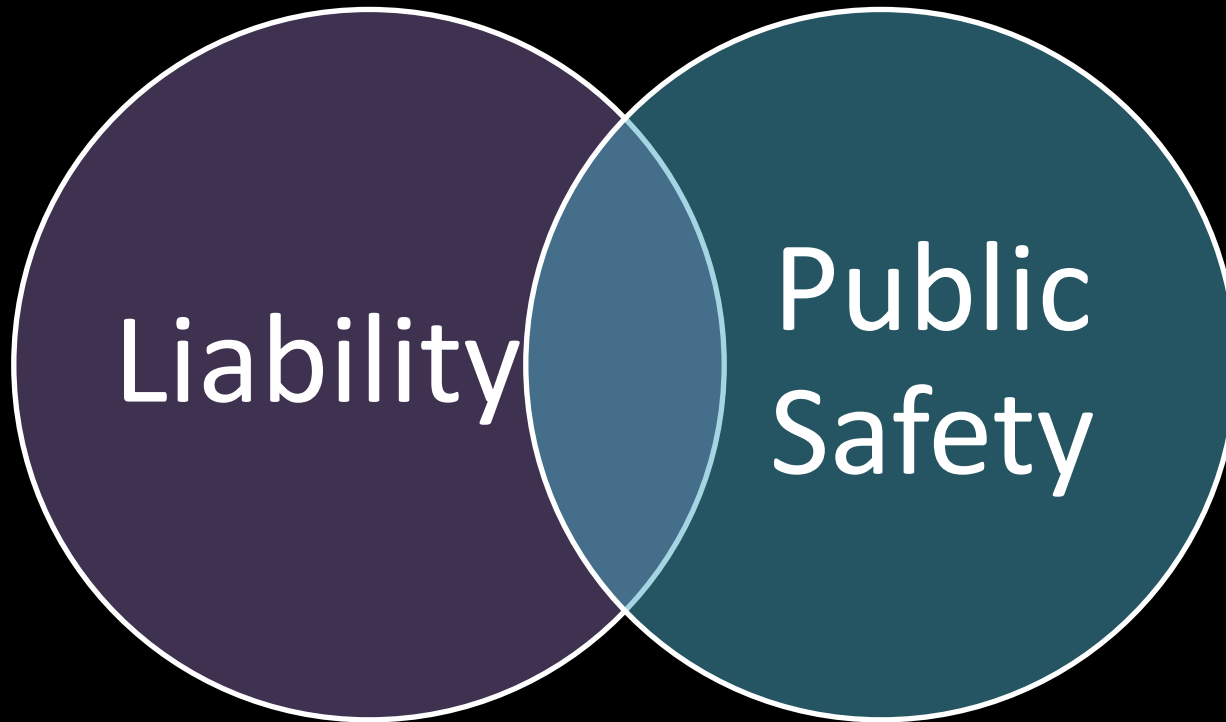
- Doing or omitting to do something which one recognizes as likely to cause damage or injury to the individual present on his or her premises, not caring whether such damage or injury results. - Cormack v Mara 1989

Legal Precedence

Herbert v City of Brantford 2010 [21]

Campbell v Bruce County 2016

Two Lenses of Risk Management







ON THE ROCKS



Technically challenging trail with cliff exposure.
Expect advanced features including jumps and
steep rock faces.

CAUTION! Rock may be slippery when wet.



Hiker Turnaround Point





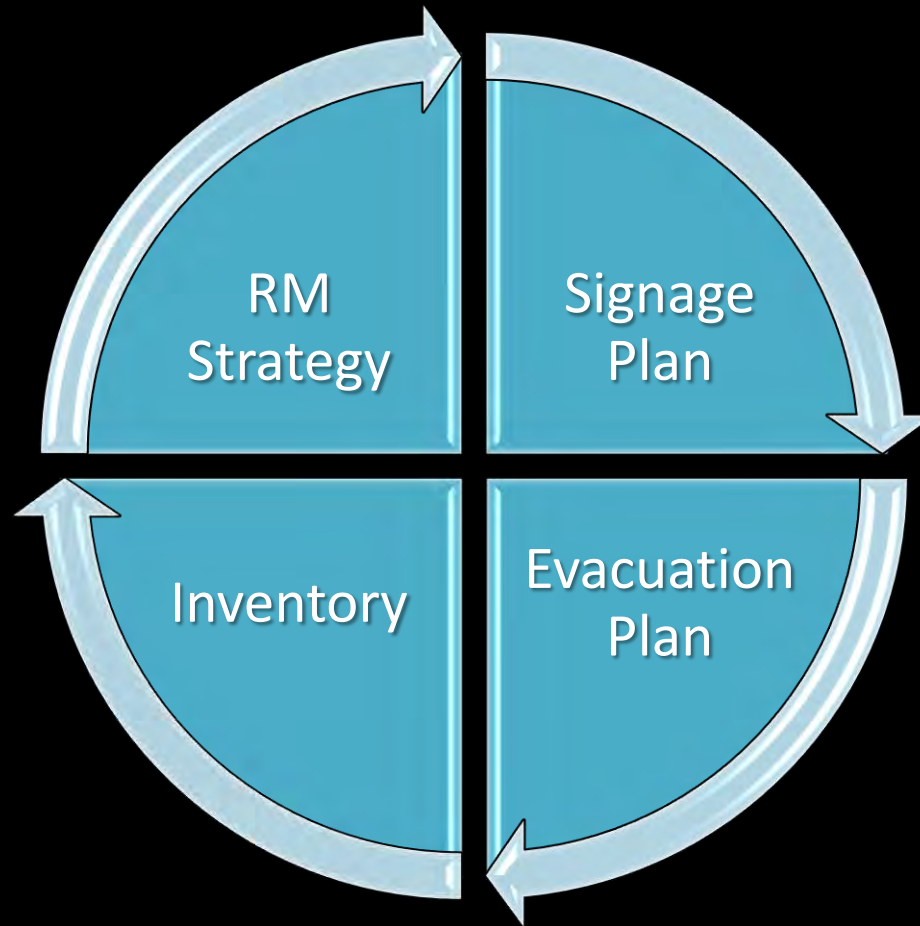
Due Diligence

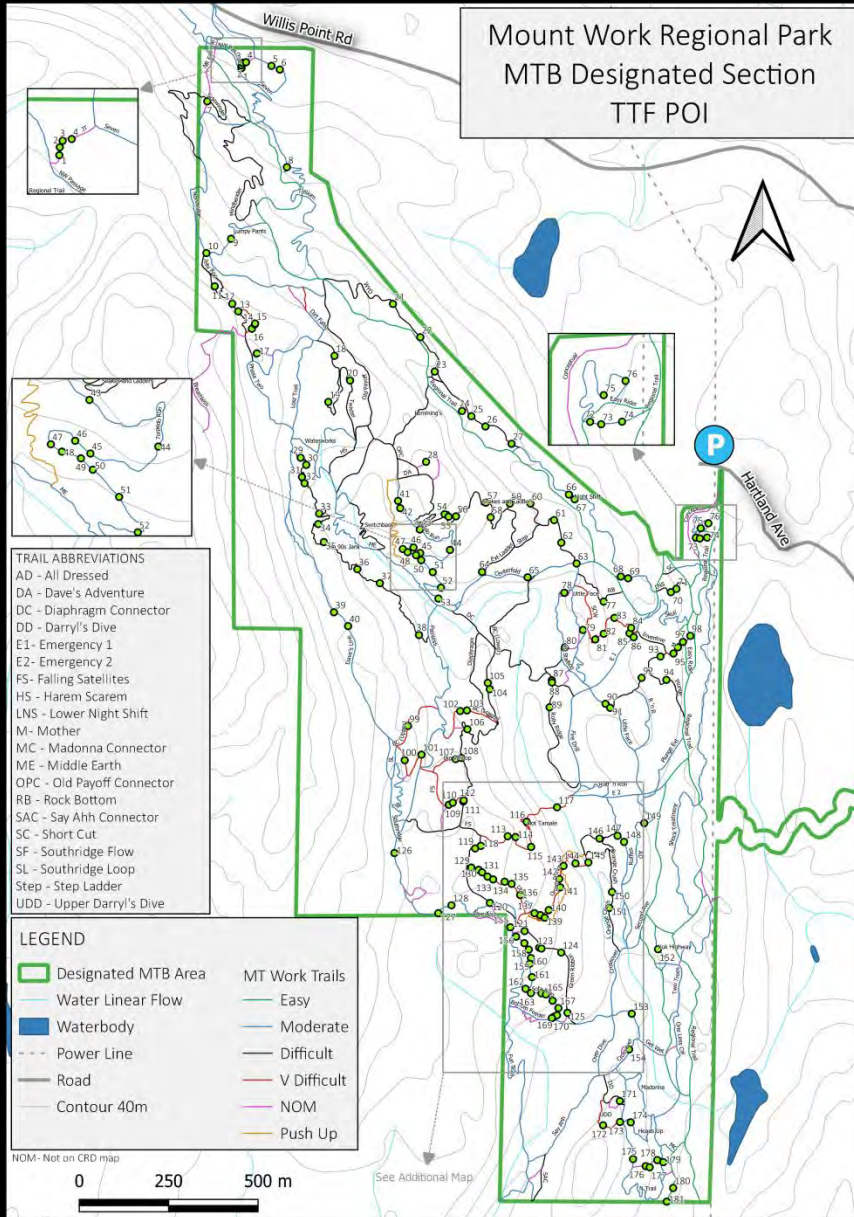
Monitor & maintain

Respond to incidents

Action & Document

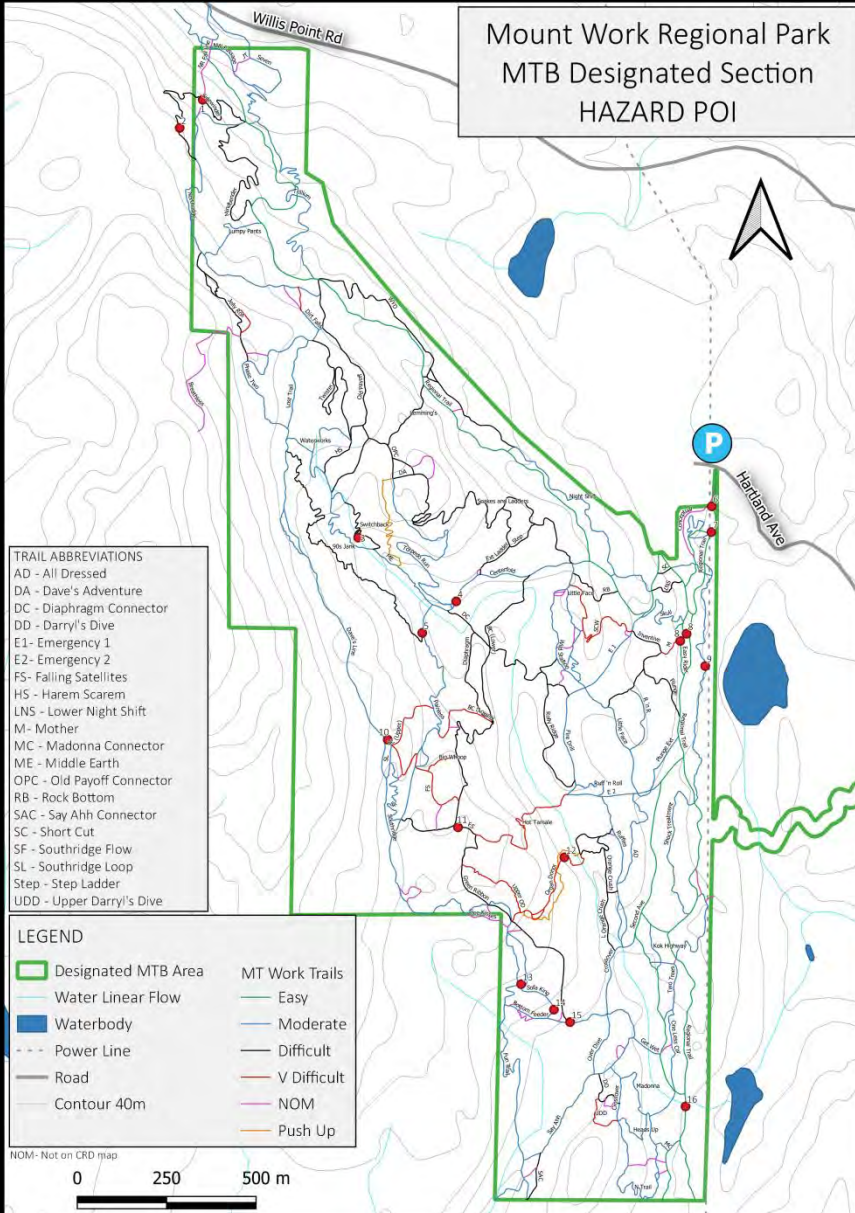
SAFETY PLAN





SUMMARY	
TTF	TOTAL
M	142
E	34
R	5

TYPE	POI	SIGN	MER	CLASS	TRAIL	DESCRIPTION
TTF	1	N	E	Blue	JT - NOM	jump 40cm h. rot in logs, replace. E
TTF	2	N	E	Blue	JT - NOM	jump 30cm h. log is rotting, replace. E
TTF	3	N	E	Blue	JT - NOM	jump 25cm h. log is rotting replace. E
TTF	4	N	E	Black	JT - NOM	drop 75cm h rollable. top log off kilter, reset level. E
TTF	5	N	M	Black	SEVEN	jump 60cm h. M
TTF	6	N	M	Blue	SEVEN	jump 40cm h. M
TTF	7	Y	E	Blue	NR FALL LINE - NOM	jump 35cm h on North Ridge fall line. requires fill. crosses Sidewinder immediately after jump at high speed. requires 'CAUTION! Trail Crossing!' signage for both trails or remove. E
TTF	8	N	E	DbI Blk	TRILLIUM	skinny 7m l. resurface or traction, very slippery. improve entrance and exit with shaving log and backfill. E
TTF	9	N	E	DbI Blk	LUMPY PANTS	drop 1.5m h. additional tier should be added to transition retainer to increase and improve angle. E
TTF	10	N	E	DbI Blk +	JELLY ROLL	skinny 9m l x 35cm w. Early exit requires backfill. Blue - WTS. E
TTF	11	N	M	Black	JELLY ROLL	drop, rollable 1m h. M
TTF	12	N	E	Blue	JELLY ROLL	jump 35cm h. cribbing is rotten, needs replaced. E
TTF	13	N	M	Blue	JELLY ROLL	jump 30cm h. M
TTF	14	N	M	DbI Blk	JELLY ROLL	rock roll 85% x 2.5m l. Black - WTS. M
TTF	15	N	M	DbI Blk +	JELLY ROLL	rock roll 75% x 3.5m l. Black - WTS. M
TTF	16	N	M	DbI Blk	JELLY ROLL	rock roll 125% x 1m h. M
TTF	17	N	E	DbI Blk +	JELLY ROLL - NOM	rock roll 150% x 9m l. alternate line off Jellyroll. Although it is on an unsanctioned route and obscured by a rock bluff, recommend sign 'WARNING! TTF DbI Blk' on blind entry. E
TTF	18	N	M	DbI Blk	TWISTER	rock roll to drop 1) rock roll 120% x 1.5m 2) drop 70cm h. off mainline. no sign needed as it's an optional feature off the mainline. Black - WTS. M
TTF	19	N	M	DbI Blk +	TWISTER	rock roll 90% x 4m l. Black - WTS. M
TTF	20	N	M	DbI Blk	TWISTER	rock roll 140% x 3m l. M
TTF	21	Y	E	DbI Blk	WYD	alternate line to rock roll 140% x 2.5m. off mainline. should have sign 'WARNING! TTF DbI Blk' or close off. E
TTF	22	N	R	Blue	WYD	jump 40cm h. Too close to tree on riders right, people hitting their bars. rebuild take off and move center line to riders left to give bar clearance and increase height to clear curved cedar on riders left. R
TTF	23	N	R	Black	WYD	stump jump 2' h. cribbed take off needs reattached and backfilled with dirt. left crib is rotting. rebuild. R
TTF	24	Y	E	DbI Blk +	WYD	2 drops off mainline, 1 small rollable 80cm h (black), 1 large rollable 2m h (DbI Blk+). armoring is loose on large drop and should be closed until fixed. sign large drop dbi blk when fixed. can be accessed directly adjacent to Regional Trail. E



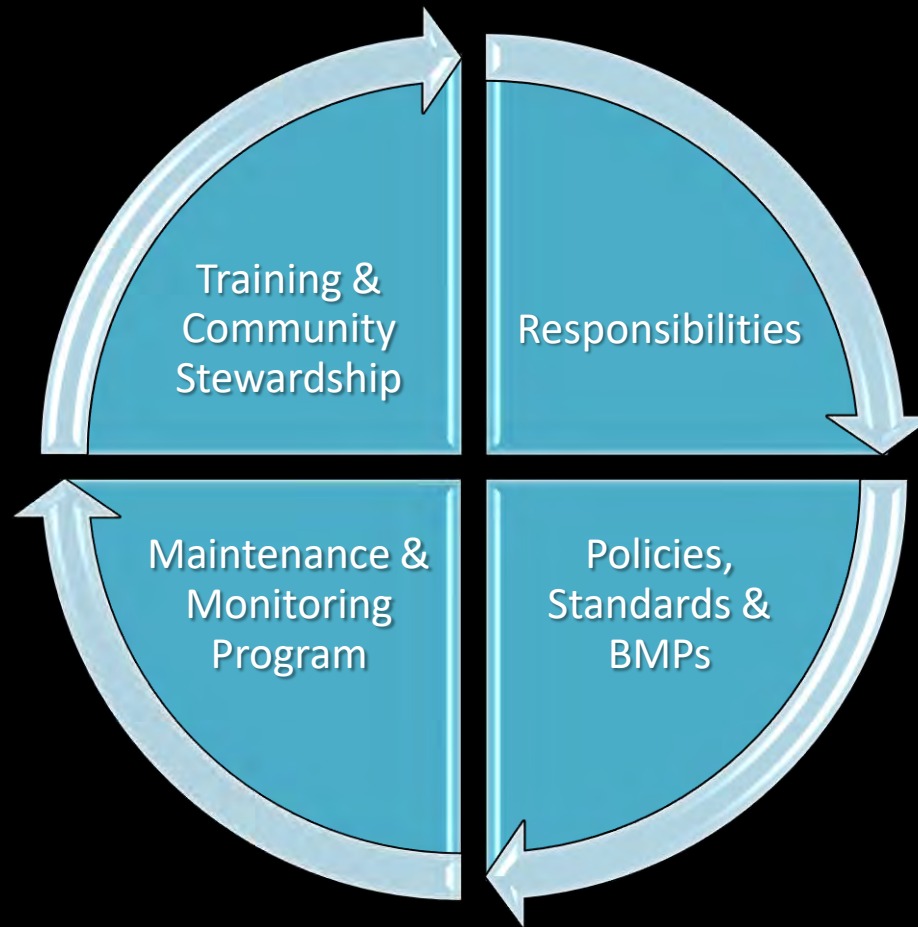
POI	TRAIL	DESCRIPTION & PRESCRIPTION
1	SIDEWINDER	DH trail crosses Sidewinder at perpendicular high speed. Redesign.
2	SIDEWINDER*	DH trail crosses Sidewinder at high speed. requires redesign.
3	SWITCHBACK	8m fall potential on outside of awkward switchback. affix board to trees as preventative fencing or other barrier as determined. Alternatively, consider signage prior to site: 'CAUTION! Fall Exposure'
4	TORPEDO RUN	remove stump at exit of Torpedo Run
5	90s JANK	remove nubs on choke logs at exit of 90s Jank
6	TTA	blind chicane, requires brushing for both turns and SLOW! signage for southerly travel or redesign/separation.
7	TTA	blind corner high traffic high speed both directions. requires significant brushing and SLOW! signage for southerly travel if not both directions or redesign/separation.
8	MOTHER/EASY RIDER	Solution required where Mother trail crosses Easy Rider at both exits. Signage and/or realign.
9	SHOCK TREATMENT	4m h fall potential trailside. short fence or sign 'CAUTION! Fall hazard' to notify traffic in both directions.
10	DAVE'S LINE	metal flashing buried in trail, remove
11	FALLING SATELLITES	fall hazard 5m h. install signage CAUTION! FALL HAZARD prior to site or fencing
12	ORGAN DONOR	remove log in fall zone, scatter large red rot logs and plant ferns to delineate and to discourage short cutting without endangering riders.
13	SOFA KING	trails are so close there is collision risk. needs delineation, recommend fern planting, scattering of soft red rot logs or other material that does not endanger high speed traffic on Sofa King and clearly delineates separation of trails.
14	SOFA KING	remove log in fall zone located at outside of corner
15	BOTTOM FEEDER	high speed exit onto Bottom Feeder trail - realign or sign with warning sign for climbing traffic on Bottom Feeder
16	REGIONAL TRAILS	washout at bottom of highspeed section. sign 'CAUTION! Ditch Ahead' prior to washout for southbound traffic or fix ditch erosion with clean up/armouring or other improvement method.

1.21 TABLE: PRIORITY TASKS

Refer to QUIMPER POI.xcel document and APPENDIX for all POI and prescriptions designated by trail.

PRIORITY	TYPE	TASK	DESCRIPTION
VERY HIGH	RISKS & HAZARDS	HAZARDS	HAZARD POI 1 - 7
		TTF: REMOVE/REBUILD	TTF POI 26, 45 remove/rebuild
		TTF SIGNAGE	TTF SIGNAGE POI 1 - 18
		SIGNAGE	SIGNAGE POI 3, 5, 7, 9, 10
		DEACTIVATIONS	Deactivation of Pitter Patter and Croutons - removal from Trailforks.
		REPAIRS	REPAIR POI 7, 12, 18, 21, 24
HIGH	IMPACTS	IMPACTS	4 areas of impact identified require site plans and implementation.
		WATER IMPACTS	WATER POI 6, 9
MEDIUM	REPAIRS & IMPROVEMENTS	REPAIRS	REPAIR POI 1 - 27 (remaining REPAIR POI not addressed above)
		REALIGNMENTS	REPAIR POI 1, 8, 13, 14, 15, 16, 18, 20 (optional/potential realignments, see REPAIR POI)
		WATER POI	WATER POI 1 - 10 (remaining WATER POI not addressed above)
		SIGNAGE	SIGNAGE POI 1 - 11 (remaining SIGNAGE POI not addressed above)
		MAINTENANCE	Conduct ongoing maintenance and monitoring, encourage stewardship through collaborative partnerships.
		TTF: ENHANCEMENTS	TTF POI 1, 2, 3, 4, 5, 7, 14, 16, 18, 20, 21, 28, 29, 30, 31, 32, 33, 34, 39, 41, 43, 46

MANAGEMENT AND OPERATIONS PLAN



Way Forward

- Collaborative Partnerships
- Training
- Active Management
- Record Keeping
- Context based solutions





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