



Motorized Trail Development Strategies for Community Watersheds

Recommendations to Resolve Conflict between Trail Riders and Water Suppliers (Lambly (Bear) Creek Watershed Case Study)

Brief to: The Minister of Tourism, Culture and the Arts, Honourable Kevin Krueger, Kamloops, B.C., January 22, 2010

This brief brings to your attention the escalating conflict in the Lambly (Bear) and Powers Creek watersheds between those constructing new recreational vehicle trails and those wishing to protect the natural resources. It is understood that the Ministry of Tourism, Culture and the Arts (MOTCA) intends to construct a world-class trail network that can support large race events in these watersheds. If the natural features and existing interests within the watersheds are not respected, we believe MOTCA will not achieve this goal. To be sustainable and world-class, a trail system must be located so as to minimize impact on the natural environment and the other resource uses. This brief is intended to provide MOTCA with recommendations for protection of the existing stakeholder interests and resolution of the issues.

Unfortunately, water quality degradation has already taken place in the Lambly Creek watershed due to construction of trails within riparian areas and on sensitive slopes with highly erodible soils. Although the Trail Riders/MOTCA believes they have followed “best practices”, their work to date does not match up with the best practices adhered to by Forestry and other stakeholders. The proof of this is in the documented degraded water quality. The principles and best practices required for trail planning and construction are presented in Appendix “A”.

The development of trail riding areas for these watersheds is the result of the designation of Lambly and Powers Creeks as a Motorized Recreation Resource Management Zone (RMZ) within the provincial Land Management Resource Plan (LRMP) process. After the RMZ was announced, motorized recreation damage increased and documented damage to Lakeview Irrigation District’s source water occurred, most of which is still not repaired or rehabilitated. The LRMP not only designated the RMZ but also covered the area with designations including Community Watershed, Ecologically Sensitive Area, and Ungulate Winter Range. It is understood that the Bear Creek Recreation site matches these other RMZ boundaries as well and now falls under the regulatory authority of the Forest and Range Practices Act.

The Water Supply Association (WSABC) understands that the land use is unlikely to change, and agrees that a planned trail network is better than an unregulated user-built maze of trails. The challenge is how to construct the trails in conformance to the full intent of the LRMP which also placed a strong emphasis on respect for the multitude of shared interests and stakeholders in the land base.

As part of the trail-building process, MOTCA created the “*Bear Creek Advisory Committee*” (BCAC) of existing stakeholders within the watershed who were to provide feedback and act in a community review role. Although the BCAC concept is good, issues regarding inadequate trail planning were never resolved before trail construction began. Despite excellent fencing initiatives by MOFR/MOTCA, water quality has been degraded by new

trails constructed within riparian areas. To date, the *BCAC* comments have been largely ignored. The majority of the *BCAC* members view the process as dysfunctional and one that should not be repeated elsewhere in the Province. The *BCAC* members, some who have been operating there for more than 80 years, are the caretakers of these watersheds and their opinions should be respected.

The current planning process for this RMZ has been piece-meal and woefully inadequate. The chronology of the events is highlighted in the table in Appendix B.

The water utilities believe there is an increased risk to drinking water quality that is being created by the motorized trail network. The liability will not be accepted by the Water Suppliers, as in their opinion, the liability for this damage resides with the trail designers/constructors and MOTCA. This liability could result in millions of dollars of cost for upgraded water treatment facilities, or worse yet, liability from legal action due to illness from a waterborne disease outbreak.

The Water Supply Association is requesting leadership from your Ministry to transform this dysfunctional process into one that is more positive, that respects the natural amenities within the watersheds, and exemplifies the collaborative policies that have been successful for your government. Firm senior level direction is needed to implement a more knowledgeable decision-making process. It must protect the environment and provide a fair dispute resolution mechanism that considers all existing values in the watershed. The decisions made must be in the best long-term interest for our communities. We are asking you to consider our recommendations. We believe that the Bear Creek situation, if done properly, could be used as a template for sustainable trail development elsewhere in BC.

Recommendations

1. **LRMP:** The Okanagan LRMP designated Lambly Creek watershed as an intensive recreational (motorcycle) RMZ. The plan also includes high level statements that the natural resources, including water, must be protected. The full intent of the LRMP has not been demonstrated in the trail construction to date. All values within the LRMP should be followed by MOTCA staff, Trail Riders and all other stakeholders;
2. **Ministry of Health – MOU:** We would request that the Minister review the Memorandum of Understanding that the Ministry of Health developed for resolving conflicts between agencies in multiple-use watersheds in the province. The document and committee involved several Provincial Ministries, but the Ministry of Tourism, Culture and the Arts is yet not part of this MOU. The MOFR is signed on. There is a dispute conflict resolution mechanism in the MOU that may help to resolve situations where there is conflicting Provincial legislation between Ministries;
3. **Decision-making Process:** The trail design/approval process should be revised from an *Advisory Committee*, which we understand does not have decision-making powers, to a *Bear Creek Steering Committee* with decision-making powers. The *Steering Committee* should review and approve an RMZ area “Concept Plan”, followed by a more local “Operating / Monitoring Plan” and finally, the on-the-ground Trail Plans for construction. A professional facilitator who understands resource management and multiple watershed usage would be an asset to this proposed *Steering Committee* process. The *Steering Committee* should also review and approve the expenditure of funds for the area and hold the Trail constructors accountable to meet performance targets and provide auditable accounting;

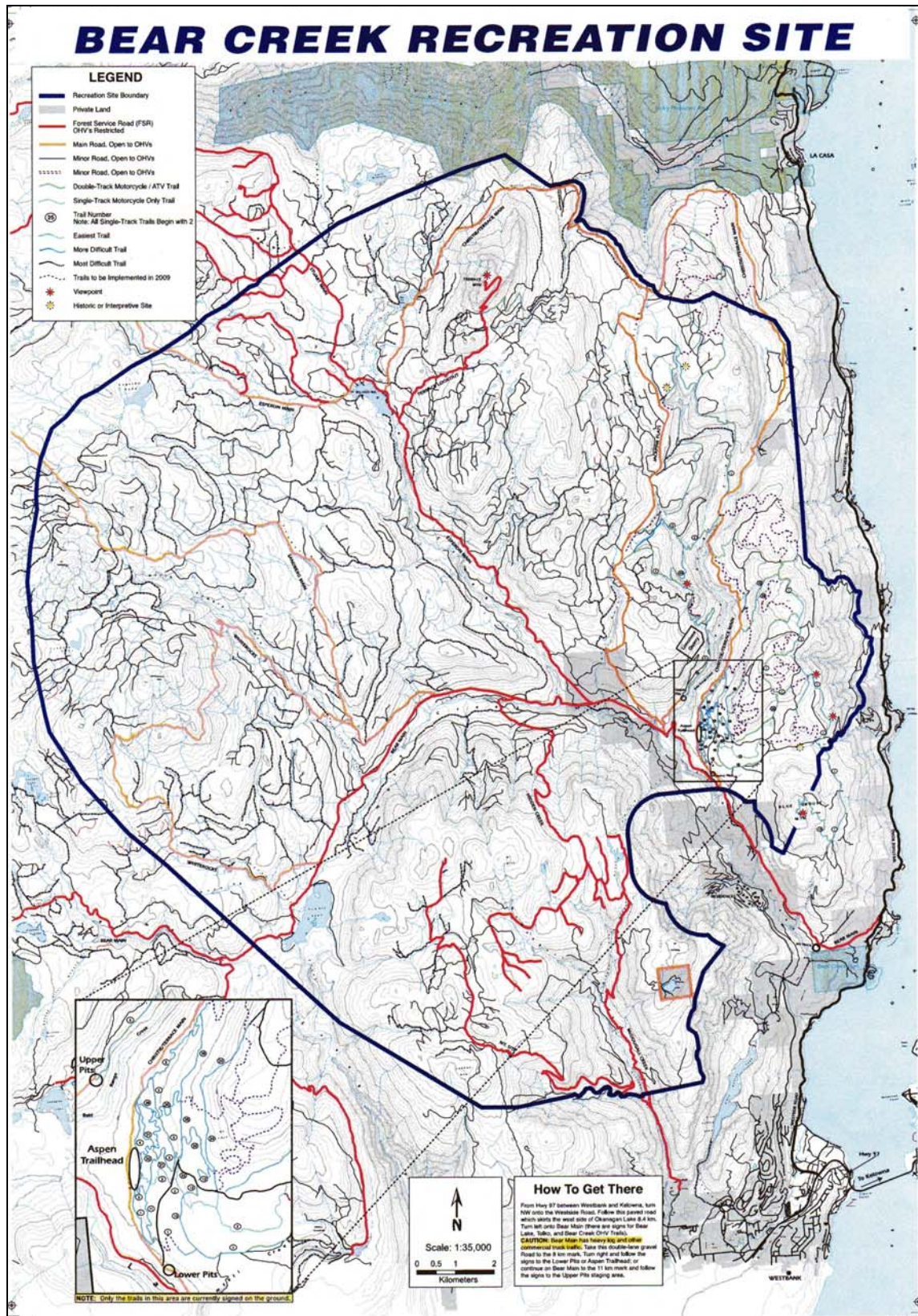
4. **Commitment to Guiding Principles for Resource Protection:** For new trail construction, we would request that the MOTCA adopt the “Trail Planning Guidelines to Protect Water Resources” presented in Appendix A. This information conforms with existing Provincial Legislation and best practices within the Fisheries Act, Water Act, Forest and Range Practices Act, the Riparian Areas Regulations and other Acts, and is based on proven science and common sense;
5. **Remediation of High Risk Trails:** The statements made by MoTCA staff and the Okanagan Trail Riders Association (OTRA) of “Trail Closures” do not equate to trail remediation. Damage has occurred to the Bear Creek watershed in critical areas. Deactivation is required for the extensive network of existing trails that continues to adversely impact water quality. Deactivation of these trails should consist of more than just blocking them off from access with debris. Runoff must be prevented from flowing on and across the trails and re-vegetation should be part of the works. The water suppliers have requested that all these trails be mapped and risk-rated to prioritize proper deactivation. MOTCA has embarked on trail closures, but many high risk stream crossings remain. Specific solutions to the Bald Range Creek Sub-basin (a high-risk area for LID) are presented in Appendix “C”;
6. **Independent Water Quality Monitor:** We would request that the Ministry appoint an independent water quality monitor to verify water quality within the streams prior to, during, and after trail construction or remediation that is adjacent to the riparian areas of streams or reservoirs;
7. **Education / Enforcement:** Users of the Recreation Site must be progressively educated that access to these Crown areas should be considered a privilege and not a right. The province must continually remind stakeholders that they can continue to have the privilege of being in an area if they act responsibly. By itself, user-group self-policing is inadequate and should be augmented by Conservation Officer patrols that are paid for by the user rates and licensing fee collected by the Province. Inadequate enforcement both at the trail development stage and during operations will result in more conflict and damage to the watershed;
8. **Moratorium until Planning is Complete:** It is recommended that until all high-risk motorized trails in the Bear Creek watershed have been properly deactivated, and until the proper planning is completed and approved by the stakeholders, that the Minister impose a moratorium on all further trail development in the Lambly (Bear) Creek watershed.

Only after a motorized trail network is successful in Lambly Watershed should MOTCA consider developing trail networks in other areas. If the primary objective of MOTCA is to develop a world-class trail network within the Lambly Creek watershed that operates in harmony with the other stakeholders and natural environment, we would ask that you consider our recommendations. The information presents a means in which to move forward rather than remain in conflict. We are requesting a meeting with the Honourable Minister Krueger to discuss this issue and come to a clear understanding of what can be done to protect our watersheds.

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Figure 1



APPENDIX “A” Trail Planning Guidelines to Protect Water Resources

The regulations to govern off-highway vehicles (OHVs) in watersheds in general and in the Bear Creek Recreation Site should be harmonized with the existing regulations that govern all other resource activities on Crown land. There is no need to repeat all the research that went into the development of logging road/skid trail guidelines in order to address the OHV issue. Riparian reserves and management zones already established under legislation such as the Forest and Range Practices Act, Water Act, and Fisheries Act must be complied with by the MoTCA in order to protect the priority resource – water. The adherence to the principles and best practices upon which these Acts are based are essential to the long-term success of a sustainable trails strategy.

Specific Trail Criteria (to protect the water resource)

- Trail and staging area setbacks from all streams minimum of 30 m from top-of-break or riparian zone AND trail exclusion from highly environmentally sensitive areas (ESA 1) plus a 50 m buffer, which ever is greater ⁷ (ESA's as identified on MoFR forest cover maps and by the SHIM process, endangered species habitat mapping, sensitive soils and slopes mapping);
- Trail and staging area setbacks from all reservoir high water marks of 250 m, or from future high water mark where reservoir raising is planned;
- Maximum of one or two constructed stream crossings per transmission streams. at environmentally stable sites where they do not have the potential to affect water quality in the opinion of the water purveyor;
- No trails parallel to creeks within riparian areas;
- Trail networks that have the potential to impact water quality should be closed for spring break-up and the entire area closed during forest fire season using criteria already applied to forest development activities;
- Trails to be closed if major damage occurs that threatens water quality;
- Specific trails closed if damage/abuse occurs that threatens water quality in the opinion of the water purveyor;
- Develop suitable trail hub / staging area with toilet facilities and outhouses at remote location with minimal impact to water resources to “contain pollution at its source”¹²;
- all proposed trails and trails that are identified as having the potential to impact water quality should be permanently closed and rehabilitated.

These criteria should be used to generate “no trail” zones on GIS mapping that should be embedded in a “Concept Plan” The next phase of effective planning would be the development of the “Operating Plan” that details maintenance, monitoring and enforcement. Finally, a phased and site-specific “Trail Plan” can be developed. This widely employed planning scheme would eliminate much of the conflict, riparian damage and wasted resources that have characterized the Bear Creek RMZ effort to date.

APPENDIX B - Bear Creek RMZ and Trail Network, Part 1 - Background

Appendix B provides background information on the Bear Creek Watersheds and the attempts made to preserve the integrity of the watershed as the “first barrier” in drinking water protection.

The Bear Creek Recreation Site encompasses all of Lambly Creek Community Watershed and a portion of the Powers Creek Community Watershed (Figure 1). This area encompassed roughly 35,000 hectares and includes all of the Community Watershed lands of Lambly (Bear) Creek under license to Lakeview Irrigation District (1951) and much of the Power’s Creek Community Watershed under license to Westbank Irrigation District (1922). Together they serve 25,000 residents of West Kelowna. Water suppliers are legally required to provide safe drinking water and are legally responsible for watershed protection. In these “Community Watersheds” the importance of protecting these source areas is paramount.

Since the Bear Creek Intensive Recreation (motorcycle) RMZ set in place by the Land Resource Management Plan (OS-LRMP), LID and WID have invested resources to protect their water supplies from the significantly increased motorized recreation damage in their watersheds. Recreational impacts and risks to water quality in community watersheds has been ranked as the greatest threat to LID’s watershed in the Source to Tap Assessment.¹⁵

Bald Range Creek, a tributary area used by dirt bikers, has already experienced serious degradation of water quality. This area has already negatively impacted Lakeview Irrigation District’s water quality at their head-gate on Bear Creek.^{8,9,10} The increased risks include:

Turbidity Dirt bike damage in the Bald Range Creek riparian area caused unwanted turbidity and nutrients to LID’s Rose Valley Reservoir where the nutrients stimulate potentially toxic cyanobacteria (blue-green algae) blooms. Managing LID’s supply system and watershed to minimize nutrients is crucial to permanent control of these blooms. Cyanotoxins can evade even advanced water treatment filtration systems; the best way to manage the risk is by preventative measures.

Pathogens *E. Coli* can be a deadly type of bacteria and is also an indicator of harder-to-treat waterborne pathogens such as *Giardia* and *Cryptosporidium*. LID’s weekly sampling of Bald Range Creek and LID head-gate from 2007-2009 conclusively demonstrates that spikes in BR Creek *E. Coli* numbers is a dominant contributor of *E Coli* to LID’s head-gate on Bear Creek. Sampling throughout the Bald Range Creek showed that the damaged riparian areas are a diffuse source of *E. Coli* wherever cattle, wildlife and humans access the creek.^{8,9,10} Increasing the number of recreators in the watershed increases the risk of pathogen introduction, particularly in riparian areas.

Lambly (Bear) Creek Plume Lambly Creek is the third largest tributary to Okanagan Lake. It has a huge impact on the Northern basin of Okanagan Lake during freshet. Its freshet plume can impact City of Kelowna’s Poplar Point intake, located directly across the lake, with fine detritus and pathogens.⁶

Wildfire As summer 2009 demonstrated, increasing the number of motorized recreators, campers in a watershed increases the risk of human-started wildfire. Wildfires such as the Terrace and Rose Valley Fires have the potential to devastate water quality for years.

APPENDIX “B” Bear Creek RMZ and Trail Network – Part 2: Timeline

1999-2001	Formation of RMZ
2002	T. Burke proposal for expansion of RMZ defeated at LRMP monitoring committee
Jun 2003	Kelowna Dirt Bike Club motocross tracks open (now under litigation from RDCO). KDBC executive and others subsequently form OTRA.
2004	OTRA gets grant to GPS user-built trails; partial inventory prepared (approx \$80,000)
Oct 2005	George Madarasz (Okanagan Dirt Riders) was working to establish a riding area at Km 12.5 on Bear Main with Peter R. Lishman (Kamloops) and Frank Kaempf (Tolko) to address watershed issues
Feb 2006	Meeting to discuss issues in Lambly (Bear) and Powers Community Watersheds chaired by Steve Carr (ILMB), including representatives from ILMB, IHA, MOE, local MLAs office, LID, WID, OTRA, CORD, Tolko. Agreement on need for source water protection, working collaboratively, and an effective management and regulatory regime, including enforcement. \$ 30,000 made available to be spent with joint approval LID/OTRA for Bald Range repairs, but all was spent by OTRA –The reason for this not known to LID.
May 2007	OTRA conducted race event that crossed Bald Range Creek three times, once directly through the creek, and twice on small bridges. Two new steep downhill trails were created above the creek and riparian area was damaged. MoE got involved but did not charge OTRA
Jun 2007	Under pressure OTRA puts debris on steep trails created for race event and removes new bridge.
June 22, 2007	\$275,000 granted to OTRA for trail planning, presented by Rick Thorpe from Doug Krogel’s budget at ILMB. RDCO to be the banker. Precise plan or accounting appears unavailable. OTRA purchases trail building bull dozer.
July 2007	Rain storm events cause sediment flows across Bald Range Creek
July 2007	LID conducts emergency repairs on riparian areas – damaged by riders within 3 months
July 2007	LID undertakes bacteriological monitoring of watershed focused on BR Ck
Aug 2, 2007	First meeting to establish a collaborative planning committee, later to be called an advisory committee (Bear Creek Advisory Committee BCAC)
Nov 2007	Draft Bear Creek operating plan prepared by D. Duford; provided to BCAC.
Jan 3 2008	LID Water Quality Response to the Bear Creek OHV Trail System Operating Plan Draft
Feb 2008	A revised draft with very few changes was submitted to the Advisory Committee in February 2008 LID WID MoE/IHA both provided detailed responses that are largely rejected by OTRA and excluded from operating plan
May 2008	WID board formally objects to staging areas on shoreline of WID’s reservoirs
May 2008	D Dobson explains LID position that a concept plan with stakeholder exclusion areas must be developed as a first priority
Spring 2008	Formation of Bear Creek Recreation Site (overlays RMZ) by MotSA (now MoTCA) OTRA enters into formal stewardship agreement with MoTCA
Jun 13 2008	Elizabeth Sigalet of Interior Health Authority wrote, “Motorized off-road vehicles are a significant issue for drinking water source protection in the BC Southern Interior.” She cited Summerland, Westbank (LID/WID), and Kimberly
Sept/Oct /Nov 2008	OTRA asks for approval of BCAC to build about 1 km of demo trail (BCAC approves); OTRA builds about 36 km of trail in Lower BBR Creek against LID written concerns, closes many km of trail in Bald, leaves creek crossings and riparian trails open
Oct 2008	Oct 2 BCAC meeting, G Madras(ODR) resigns from BCAC citing pressure from OTRA
Oct 28, 2008	OTRA states that they got RMZ expansion approved; Terry MacDonald said he won’t pursue a RMZ boundary amendment and he had no record of an amendment in 2002.
Dec 10 2008	At the Dec 10th 2008 BCAC meeting, there was a motion to pass another operating plan for the area by John Glaspie and OTRA that failed to address the important stake-holder concerns. Trail construction was already underway with some trails constructed in areas with the potential to compromise LID water quality.
Dec 2008	Dec 10, 2008 BCAC meeting, Blair Jean presents letter to members outlining residents concerns about process and proposed Aspen Trail Head.
Feb 2009	Feb 10, 2009 BCAC meeting map from Dick Duford shows all trails west of Terrace Main and east of Bald Range Creek are to be closed. Map names Sandhill Crossing to be closed (all these decisions later reversed by OTRA).

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Feb 2009	WID's Board found the current Operating Plan to be "unacceptable" at their February 2009 meeting and objected to any staging areas adjacent to Lambly Reservoir (Bear)
March 23 2009	LID's board passed a motion to have all activity stopped in their watershed until a proper Trail Plan and Operating Plan are prepared that protect their source water quality. To date, this motion has been ignored by MoTCA.
March 2009	Draft OTRA 2009 budget of 1.45 million submitted without formal trail concept or operating plan. Budget included 0.006% for trail closure, 0% for rehab of existing damage, and 0% for Trail Operating Plan revision.
April 17 2009	Apr 17, 2009 BCAC meeting: printed maps for distribution showing no trails west of Terrace Main and east of Bald Range Creek. Tolko objected to maps –they show many FSR for which they are responsible as okay to ride.
April 21 2009	Apr 21, 2009 Field trip to Aspen Trail Head and Jackpine Flats proposed trailheads with J. Glaspie, B. Jean, B., H. Larratt, D. Dobson. J. Glaspie assured group that there would be no trails to the west of Terrace Main. John approved removal of signs directing riders through Sandhill crossing. The Bear Ck residents helped locate a route to Jackpine Flats, expressed concerns about noise from Aspen Trailhead and other areas.
April 23, 2009	Signs removed from the following locations: - Bald Range Creek near Bear Main (directing riders to trail paralleling creek) - Bald Range Creek at Sandhill creek crossing (brown OTRA directional stake) - Near road into Upper Pits on trail leading downhill towards Bald Range Creek
May 17 2009	J Glaspie approves OTRA's operating plan despite objections from most stake-holders in the BCAC; he claims it was the wish of BCAC; approved version does not include LID/WID/s input
May 18 2009	Two new directional signs placed by OTRA at Bald Range Creek, directing riders through the creek and up the badly eroded "sandhill", and directing riders north beside the creek. John Glaspie's response is that bridge(s) might be a solution.
May/June 2009	LID/WID host field trips to see signage through creek and "sandhill". OTRA and Dufords blame LID instead of taking responsibility for signage through creek and up "sandhill". Tours attended by District of West Kelowna, LID, WID, WFN, ILMB, MoTCA, OTRA, IHA
June 2009	Fencing conducted by Forest and Range to close off access to from "upper pits" to BR Ck
June 16, 2009	Bear Creek Resident's mapping of areas that generate offensive noise based on a sound trial (made to assist MoTCA's planning) hand-delivered to W. Anderson
June 17 2009	Dr P. Hasselback wrote in part, " I am directing MTCA to provide a concept plan, GIS mapping, operation plan, and monitoring plan that clearly demonstrates how drinking water hazards arising from the Bear Creek Recreation Site will be mitigated. Interior Health will provide a health risk assessment and recommendations for any of the above listed documents forwarded from MTCA. Failure to mitigate drinking water threats. (increased sediment loading, increased turbidity, increased fecal material resulting from this recreational activity) within the Bear Creek RMZ is unacceptable and will result in Interior Health reviewing its options under the Drinking Water Protection Act.
July 2009	removal of OTRA signs directing riders through BR Creek
July 1, 2009	LID surveys entire Bald Range Crk, identified active trail use; finds many active crossings
July 2009	Terrace Mnt fire; Fire break to BR Creek that damages cattle fencing installed this spring; Terrace Mnt fire camp at Big Horn Res.; damage to Johnson's crossing
Nov 2, 2009	LID finds trail work in progress for new bridge and machine widening of Bald Range Creek Trail (all in riparian area as close as 4 m, some attempts at silt fencing)LID objects
Nov 2009	MoF JOP fencing around Bald Range grasslands in progress – to prevent further hill-climbs
Nov/Dec 09	Bridge in Lower Bald Range Creek installed despite LID's objections
Dec 2009	Summit Environmental sampling for E. coli typing from BR Creek complete (paid for by MoTCA; LID co-operating) Report is due in early 2010
Dec 1 2009	Conference call through MLA Ben Stewart to LID board and DWK council re: Bear Creek Rec
Dec 2009	J Glaspie said already-built bridge remains behind fences until issues are resolved
Dec 16 2009	R. Birtles reports that IHA has received a draft Concept plan for Bear Creek Rec Site but no finalized plan or monitoring plan to date

The Bear Creek Advisory Committee included the Westbank Irrigation District, Lakeview Irrigation District, Interior Health Authority, Ministry of Environment, Tolko Industries, Western Canada Limestone Quarry, Burnco, Bear Creek residents, Westbank First Nation, Range tenure holders, Okanagan Dirt Riders (resigned) and Okanagan Trail Riders, RDCO, MOFR and MOTCA.

Appendix “C”: Immediate Action Needed for Bald Range Creek Sub-Basin

The water suppliers believe that their concerns would be addressed by no-trail zones and by adding these criteria to the Bear Creek Concept Plan, Operating Plan and Trail Plans. They would prevent the “Bald Range Creek experience” from being repeated again and again as the Bear Creek trail network expands. The water suppliers would also like to reiterate their position that they do not accept the increased liability for motorized recreation trails within their watersheds.

Until a proper concept plan and operations plan are completed that includes GIS mapping of all proposed trails and trails that have been already identified as having the potential to impact LID/WID water quality are permanently closed and rehabilitated, we request a moratorium on any further development of trails in the Bald Range Creek sub-basin by the MoTCA and OTRA.

- No further trail development in the lower Bald Range Creek sub-basin until a concept plan, operations plan and trail plan complete with GIS mapping of all proposed trails are submitted to the stakeholders for adoption. From there a trail plan would be developed;
- All trails with the *potential* to adversely impact water quality be closed and rehabilitated and no trail should be constructed that has the potential to impact water quality;
- The only crossing of Bald Range Creek should be at the existing crossing located at 6.5 km upstream from the Bear Main FSR crossing, locally referred to as the “beaver ponds”;
- Adequate enforcement be provided and not just user self-policing which is helpful but not enough;
- New bridge and connecting trails remain closed until planning is completed to the satisfaction of IHA MoE water suppliers and all other licensed stakeholders;
- Rehabilitate and repair creek trail paralleling Bald Range Creek for permanent closure;
- Close and rehabilitate trails leading to creek crossings
- Phase out upper / lower pits;
- Phase out trails with riparian impact in the Bald Range sub-basin;
- Create new trail head to disperse riders away from head gate, creeks, reservoirs;
- LID request that MOTCA in conjunction with MOE designate the lower Lambly and Bald watershed as an area of “significant watershed sensitivity” Clause 150 in *Forest and Range Practices Act*;