

Rhiannon Chippett

Subject: FW: Request to be a Delegation
Attachments: Executive Summary Swanson Frank re Galloway Lands May 12 -13 2022.pdf

Dear Tina

We are writing to request to be a delegation at the RDEK Board of Directors Meeting on May 13th 2022. We wish to speak to the Galloway Lands Application, which we understand from an April 8th article in the Fernie Free Press is on the Agenda for the meeting. We have been unable to confirm this on the RDEK website under Upcoming Meetings (as of this evening, the website states that “there are no upcoming meetings”). If the Galloway Lands Application is also on the Agenda of the Planning and Development Committee Meeting on May 12th, we would also like to be a Delegation at that meeting.

We are directly adjacent landowners to the proposed development.

We are attached an Executive Summary of the presentation we will make. We will both speak (Stella Swanson and Leslie Frank).

The action we are requesting is that 1st and 2nd reading NOT be approved. We maintain that it is premature to proceed to 1st and 2nd reading until more information has been provided, including the results of referrals to government agencies as well as a more substantial and credible evaluation of effects on water quality and Westslope Cutthroat Trout.

We will be attending via Zoom.

We will have a power point presentation.

Yours sincerely,

Stella Swanson

2383 Highway 3 South
Fernie, BC

Executive Summary Regarding Galloway Lands Application

Stella Swanson and Leslie Frank. 2383 Highway 3 South, Fernie, BC

Introduction

- Our comments focus Galloway Lands Submission to the RDEK dated March 25, 2022
- Issues addressed are:
 - Effects on surface and groundwater quality
 - Effects on Westslope cutthroat trout
 - Cumulative effects of additional development in the Lizard Creek watershed

Credentials

- Stella Swanson, Ph.D. Aquatic Biology and Aquatic Toxicology. 45 years of experience in assessment and mitigation of effects of human activities on the aquatic environment. Specific expertise in ecological risk assessment and cumulative effects assessment
- Leslie Frank, M.Sc., P, Eng. Acoustical Engineer. 47 years of experience in environmental assessment, environmental impact statement preparation, regulatory hearings, and mitigation.

Risk to Water Quality and Westslope Cutthroat Trout

Three basic questions exist:

- How much risk?
- How sure are we about the risk?
- Is the risk acceptable?

Steps:

1. **Likelihood and consequences of impacts** of the development using a universally accepted risk matrix approach where risk is the combination of likelihood and consequence
2. **Evaluate level of confidence in the results**
3. **Factor in the degree to which additional risk to water quality and Westslope Cutthroat Trout would be acceptable**, given the sensitivity and vulnerability of these valued components

Step 1

Risk To Water Quality

Risk Source	Likelihood	Consequence	Risk
Septic Fields	M-H	H	H
Stormwater	M	M	M
Roads and Stream Crossings (assume roads are paved)	M	L-M	L-M
Informal Trails in Riparian Zone	H	M	M-H

Risk to Westslope Cutthroat Trout

Risk Source	Likelihood	Consequence	Risk
Decrease in Water Quality	M-H	M-H	M-H
Effects on Riparian Habitat	M	M	M
Increased Access and Human-Caused Disturbance in Creek	H	M	M-H
Increased Access and Fishing Pressure	H	M	M-H

Step Two

Confidence depends on the quality of information

Credibility: Credibility has two key components: trustworthiness and expertise. Scientific credibility – how closely the work in question adheres to scientific principles.

Completeness: All relevant aspects of the issue are analysed.

Reliability: Results would be the same or compatible using different methods or approaches; i.e. the results of the analysis are reproducible.

Appropriateness: Suitable, correct, and relevant methods and conclusions.

The consequences of acting upon limited or poor-quality information can be severe and are often very difficult to reverse.

- The information provided by the applicant's consultant regarding risks to water quality and Westslope Cutthroat Trout relied almost entirely on the 30m setback from Lizard Creek.
 - Riparian setbacks are **not** a one size fits all solution. For a stream as important to Westslope Cutthroat Trout as Lizard Creek, the setback should reflect the largest "Zone of Sensitivity" resulting from assessments of individual stream reaches. (BC Riparian Regulation Assessment Methods).
- The applicant's consultant did **not** provide any meaningful analysis of the potential for effects on surface or groundwater quality. The susceptibility of the two aquifers underlying the Galloway Lands to contamination was **not** assessed. The concerns expressed by Interior Health regarding the number of septic fields were **not** addressed. Stormwater management was **not** mentioned.

The following statement is an example of the applicant's dismissal of concerns:

"We believe that these concerns are based on experience with old septic systems and do not reflect either the current regulatory regime required for design and construction of a septic system or the requirements for treatment of drinking water by a regulated water utility in British Columbia" (Haworth Development Consulting, 2022)

- The only specific acknowledgement of effects on water quality was with respect to roads and stream crossing, where three mitigations were suggested regarding bridge crossings, management of sediment transport from roads and slope stabilization. There was no statement of commitment to these mitigations (Haworth, 2022).

Step Three

Risk acceptability is typically regarded as being proportional to sensitivity and vulnerability of valued components. Westslope Cutthroat Trout are blue-listed, meriting additional levels of protection. The potential changes to water quality will impact the quality of trout habitat (e.g. through sedimentation or nutrient enrichment). Risk acceptability goes beyond **checking boxes** regarding whether guidelines are met. The total, cumulative risk to the maintenance of values important to the citizens of the Elk Valley and to all people who treasure this landscape must be considered.

Cumulative Effects

In the Galloway Lands submission, Cascade Environmental provides a textbook example of how **not** to consider cumulative effects (Appendix D to Haworth, 2022).

According to Cascade Environmental, the Galloway Lands would represent an additional 0.01% of built-up area to the Elk Valley when compared to reference or maximum development scenarios considered in the Elk Valley Cumulative Effects Assessment and Management report (2018). The implication was that such a tiny incremental increase in built-up areas would not contribute significantly to cumulative effects. There was **no** discussion of whether it is appropriate to use the entire area of the Elk Valley (365,000 ha) as the basis for consideration of cumulative effects of development in an important and sensitive sub-watershed. There was **no** discussion of how there can be induced effects of built-up areas via increased access for human use. There was **no** acknowledgement that even a very small incremental increase can have disproportionate effects on sensitive flora and fauna if the development creates habitat fragmentation, impedes wildlife movement, increases stressors such as environmental noise and light, and produces additional point and non-point sources of contaminants which can enter streams and wetland areas.

The cursory dismissal of cumulative effects does **not** acknowledge the current understanding and practice of cumulative effects assessment.

“Cumulative effects can be characterized as ‘progressive nibbling’, ‘death by a thousand cuts’; or the ‘tyranny of small decisions’. In other words, cumulative effects are the combination of effects – many of which can be individually small and seemingly insignificant, such as seismic lines, pipelines, water withdrawals or the incremental filling of wetlands. ...a significant adverse effect can result over space or over time because of combination of seemingly small and insignificant actions.....Over time, such seemingly insignificant effects can result in significant cumulative environmental change” (Noble, 2015).

In practice, effects of land use are usually assessed on a project-by-project basis. However, this approach can underestimate the total impact of all land uses in a region, because many small uses, each affecting only a small fraction of the entire area of interest, can act cumulatively resulting in cumulative environmental impact. For this reason, it is preferable to assess environmental impact by measuring the cumulative effects of all land uses and natural disturbance--past, present, and future (Elk Valley Cumulative Effects Assessment and Management Report, 2018).

The Elk Valley Cumulative Effects Assessment and Management Report (EVCEAM, 2018) concluded that under present-day conditions, valley bottoms and eastern portions of the study area present high hazard for Westslope Cutthroat Trout and riparian areas, with the majority of the Elk Valley falling under moderate hazard. This is the context that should have been

considered when evaluating the incremental contribution of the Galloway Lands to cumulative effects.

Furthermore, the EVCEAM report noted that the combined effects of human land use and climate change are likely to result in further impact on Valued Components, with subsequent changes in wildlife and insect outbreaks posing the greatest challenge. Climate change was not mentioned in the cursory treatment provided (Haworth, 2022).

Conclusions

- Risk to water quality and Westslope Cutthroat Trout is moderate-to-high in most cases
- Confidence in available information is low
- Acceptability of risk to water quality and Westslope Cutthroat Trout is commensurate with the sensitivity and vulnerability of these two valued components as well as their high ecological, social and economic value
- Cumulative effects were not evaluated in an appropriate or credible manner.