



TECHNICAL MEMORANDUM

DATE: March 25, 2022
TO: Richard Haworth, Haworth Development Consulting
Handshake Holdings Inc.
FROM: Cascade Environmental Resource Group Ltd.
RE: Galloway Land – Comments on Review by Clayton Lamb

Handshake Holdings Inc. wishes to develop a parcel for residential use in Elk Valley near Fernie BC, referred to as the Galloway Lands. Their representative, Richard Haworth, Haworth Development Consulting, retained Cascade Environmental Resource Group Ltd. (Cascade) to provide comments on the review of the proposed project carried out by Clayton Lamb.

Using the best available data, Dr. Lamb summarised the current habitat and connectivity value of these lands for grizzly bears across all seasons, and ungulates such as moose in the winter. Dr. Lamb briefly discussed impacts to aquatic systems. Then finally conducted a literature review to assess if conservation subdivisions and associated design principles were well-suited to safeguard these wildlife values.

Grizzly Bear

The telemetry data show low to medium habitat use of the Galloway Lands compared to the surrounding area. The data show few bear moving through the site while the majority of the movement occurs south east of the Town of Fernie. Using the biophysical attributes of the site and the telemetry data, Dr. Lamb created a Resource Selection Function (RSF Model) to assess habitat quality. The model shows an isolated high quality habitat patch in May-July surrounded by low quality habitat. Medium quality between August and November and low denning quality habitat.

Using the data analysed, Dr. Lamb determined that Galloway Lands are commonly used as a movement corridor for grizzly bear. However, Proctor *et al* (2015) used telemetry and an RSF model to identify movement corridors. The study only identified the southeast corner of the Galloway Lands as moderate movement potential while most of the site has low movement corridor potential. Proctor *et al* (2015) studied movement corridors on a larger scale throughout southeastern British Columbia and identified linkages between high quality core habitat while Lamb (2022) assessed movement on a smaller scale by focusing on the Fernie area with a landscape buffer. Analysis on a smaller scale, highlights a few bears moving through an area but this does not necessarily make it a movement corridor.

Ungulate Winter Range

Dr. Lamb states that the Galloway Lands comprise important moose winter range. The Ungulate Winter Range (UWR) layer on iMap BC confirms the presences of said winter range (BC Gov, 2022). However, the RDEK Elk Valley Official Community Plan (OCP) does not identify the Galloway Lands as Class 1 or Class 2 UWR. In addition, UWR are not protected on private land. Therefore, the presence of a UWR on the Galloway Lands should not be a constraint to the proposed development.



Lizard Creek

Dr. Lamb raises the concern about development impact to Westslope Cutthroat present in Lizard Creek. Maintaining an adequate undisturbed vegetated buffer should avoid any impact to Lizard Creek. Environmental considerations listed in the Elk Valley OCP encourage developers to avoid streams, wetlands and riparian areas and to provide appropriate development setbacks and buffer areas. The OCP also encourages the integration of Conservation Subdivision Design principles to minimize disturbances to environmentally sensitive areas (ESAs) for residential land use. This includes the identification of riparian areas and steep slopes. The RDEK Elk Valley Zoning bylaw requires a floodplain setback area designation of 15m of the ordinary highwater mark for most watercourses in the Elk Valley including Lizard Creek and the smaller creeks within the Galloway Lands.

Although not applicable to the RDEK, under the Riparian Areas Protection Regulation (RAPR), the Riparian Assessment Area (RAA) is 30m on either side of a stream if the bank slopes are less than 3:1.

The buffers proposed within the plan submitted for the Galloway Lands and the proposed zoning as park exceed the floodplain setback on the RDEK Elk Valley Zoning bylaw for Lizard Creek. It also exceeds the RAA as defined by the RAPR. In addition, employing adequate erosion and sediment control measures and runoff management during development and occupation of the Galloway Lands should prevent any impact to the Creek and the cutthroat population.

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Conservation Subdivision

Dr Lamb conducted a literature review on conservation subdivisions and their effectiveness on large mammals. He determined that the conservation subdivision protect more land than traditional subdivisions but this doesn't translate to meaningful benefits to wildlife. The conservation subdivision design is the requirement of the Elk Valley OCP.

References

- Proctor M, Nielsen S, Kasworm W, Servheen C, Radandt T, Machutchon G and Boyce M. 2015. Grizzly bear connectivity mapping in the Canada-United States Trans-Border Region. *The journal of Wildlife Management* 79(4):544-558.
- BC Government. 2022. iMap BC. <https://maps.gov.bc.ca/ess/hm/imap4m/> website accessed on March 2, 2022.