REDCEDAR
Environmental Consulting

July 20, 2020

Environmental Overview Assessment

File #: 20-079R

Mel Woolley
Land Strategies
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T2R 0S9

Re: Terrestrial and riparian environmental overview assessment for the Tikwalis Project, Alexandra Bridge, Spuzzum, BC

BACKGROUND

Redcedar Environmental Consulting Inc. (Redcedar Environmental) was retained by Mel Woolley, agent for the Spuzzum First Nation, to undertake an environmental overview assessment of the subject property located at Alexandra Bridge Provincial Park, near Spuzzum, BC.

It is understood that the development plan will be generally consistent with the Spuzzum Nation Tikwalis Master Plan prepared by Connect Landscape Architecture (Attached).

This report has been prepared with reference to the Proponents' Guide to Aboriginal Affairs and Northern Development Canada's Environmental Review Process. Based on that process, this project is anticipated to be considered low risk and require a simple environmental review.

As the project areas is presently on provincial crown land, it has also been assumed that provincial legislation would apply to this project

This environmental assessment intends to provide an overview level assessment to identify environmentally valuable resources (e.g. watercourses, wetlands, species at risk) that could occur on the subject property. Additional report/detail may be required prior to initiation of works, at the discretion of the reviewing authority.

DESCRIPTION OF DEVELOPMENT

The development plans for the subject property include:

- A new road intersection;
- An expanded parking south of the highway;
- An information pullout east of the highway; and
- A recreation opportunity area.

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The subject property was assessed by Redcedar Environmental on June 1, 2020.

This letter is intended to summarize the wildlife habitat and vegetation communities observed onsite and to make recommendations to protect environmentally valuable resources.

REGULATORY FRAMEWORK

This environmental assessment has been completed with consideration of provincial and federal environmental legislation. This section is intended to provide context for the recommendations made in this report.

This report assumes development would only proceed once park ownership has been transferred to the Spuzzum First Nation (i.e. there would be no works in a provincial park). It should be noted that there are different legislated requirements on provincial/private land than on federal lands. Differences would need to be discussed as development planning proceeds.

Vegetation (i.e. vascular and non-vascular plants) and vegetation communities on private land are not subject to legislated protection in BC at the provincial or federal level. Noxious plant species are subject to the BC *Weed Control Act* and the associated regulation. Tree clearing on the subject property, if required, would be subject to local bylaws and/or policies.

On private land, protection for birds is afforded through the *Migratory Birds Convention Act, 1994* and the BC *Wildlife Act*. Per the *Migratory Birds Convention Act, 1994*, all species defined as migratory birds are protected from destruction or disturbance, including their nests and eggs. The BC *Wildlife Act* affords protection to additional birds not defined as migratory birds, and their nests (when occupied) and eggs; as well as protection for eagle, osprey, peregrine falcon, and heron nests and eggs (year-round).

On private land, the BC *Wildlife Act* provides protection for individuals from the majority of native vertebrate species, unless specified otherwise in the *Designation and Exemption Regulation*. There is no provincial legislation for the protection of invertebrates.

The *Species at Risk Act* (SARA), provides protection for federally listed species (including plants) on federal land, and for federally listed fish wherever they occur. Aquatic species as defined in the SARA are provided protection wherever they occur. The SARA includes prohibitions to the disturbance of species listed under Schedule 1 of that Act.

Wildlife habitat on private land is not subject to legislated protection at the provincial and federal level; most protection of wildlife habitat occurs where it overlaps with legislated protection of riparian habitat (i.e. the RAPR), or as required by local bylaws/policies.

Fish habitat is primarily protected through the federal *Fisheries Act*, which is generally administered through the provincial Riparian Areas Protection Regulation (RAPR). This legislation prohibits the harmful alteration, destruction, or disruption (HADD) of fish habitat.

Water and activities near water are managed through the provincial *Water Sustainability Act*. Any changes in and about a stream would require permitting through this Act.

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HABITAT ASSESSMENT

Desktop review

The subject property is located in the Fraser Canyon approximately 4 km north of Spuzzum BC. The project area is located within Alexandra Bridge Provincial Park which is located on the eastern bank of the Fraser River. The land in this area slopes steeply down to the Fraser River and land uses include forestry, transportation, and tourism. The park is bisected by both the railway tracks and the TransCanada Highway.

The land surrounding the park consists of undeveloped crown and reserve lands, and managed forest lands. Much of the landscape is in a relatively natural state. In addition, an Old Growth Management Area (OGMA) extends along the mountainside adjacent to the eastern property boundary of the park, but outside of the proposed development area.

Existing development within Alexandra Bridge provincial park include trails, the Old Caribou Highway, the Alexandra Bridge, two parking areas to the south of Highway 1, Anderson Forest Service Road, and a gravel pit (just outside the park boundary).

Connectivity of habitat within the project area to surrounding habitat is good, although the train tracks and highway would present substantial barriers to movement across the site for smaller bodied species.

Watercourses

Mapped watercourses on the subject property consisted of the Fraser River and an unnamed drainage south of the proposed development area.

The Fraser River is a major fish bearing river and flows from the Rockies to the Pacific Ocean emptying into the Strait of Georgia. It forms the western boundary of Alexandra Bridge provincial park. At this location the river is approximately 100 meters wide.

The unnamed drainage (watershed code: 100-142897) located along the eastern property line, was not investigated in relation to this development proposal as the development footprint was understood to be located more than 30m from the watercourse.

Vegetation communities

Vegetation on the subject property consisted of a dry, young to mature mixed coniferous/deciduous forest with a well-developed deciduous understory and herb layer. Vegetation was relatively uniform over the entire site with the west side of the highway being characterized as being steeper and drier and the east side being flatter and wetter. Despite the differences in slope significant changes in the vegetation present were not noted and the entire site was considered to have a single vegetation type.

Tree species present on the subject property included Douglas-fir (*Pseudotsuga menziesii*), Bigleaf maple (*Acer macrophyllum*), and paper birch (*Betula paperifera*). The shrub layer was well-developed and included vine maple (*Acer circinatum*), beaked hazelnut (*Corylus cornuta*), and thimbleberry (*Rubus parviflorus*).

Dominant species within the herb layer included Hooker's fairy bells (*Prosartes hookeri*), mountain sweet cicely (*Osmorhiza berteroi*) and bracken fern (*Pteridium aquilinum*).

The subject property is located within the Interior Douglas Fir Wet Warm Biogeoclimatic Zone (IDFww). A Park Use Permit was not obtained prior to the site assessment; as such, a soil test pit was not completed to confirm the subzone. Completion of this work was not considered necessary to meet the goals of this report.

Wildlife habitat

Following is a description of existing undeveloped land. Developed portions of the site (e.g. roads, the bridge, the gravel pit) have very low wildlife value and are not further discussed in this report.

The subject property was considered to contain good value wildlife habitat. Wildlife habitat features included a young- mature mixed coniferous/deciduous forest, coarse woody debris, wildlife trees and exposed bedrock and boulder piles. Soils were assumed to be thin as bedrock was visible close to the surface in multiple locations across the site (especially west of the highway). Bedrock and boulder areas could be important habitat features for lizards and snakes. Coarse woody debris provides habitat for small mammals, amphibians and reptiles and wildlife tree provide nesting/denning habitat for some mammals and many bird species.

Habitat on the subject property was in a relatively natural state with low levels of human disturbance, including walking trails and the old caribou highway. It is assumed that the vegetation currently existing within the project area has regenerated following the decommissioning of the old Alexandra bridge, as higher levels of human occupation and use were recorded during and prior to the active lifespan of that bridge.

Overall, the park provided good wildlife habitat for a range of wildlife species. Presence of a large and varied bird population is probable as well as presence of small and large mammals, reptiles, and amphibians.

Species-at-Risk

This assessment reviewed the potential for occurrence of species-at-risk at the project area based on the known range of species at risk known to occur in the Interior Douglas Fir zone. This report is not intended to provide a detailed rationale for each species-at-risk potentially present; groups of species potentially present are discussed.

An occurrence record for white sturgeon (*Acipenser transmontanus* pop. 4) and a masked occurrence were found within two kilometers of the subject property. Masked occurrences indicate the potential presence of a sensitive species whose data is not released to the public. This approach is usually taken for species that could be subject to direct harm (e.g. some raptors, mammals, reptiles, etc.). Redcedar Environmental has been advised that the data relating to the masked occurrence is relevant to the proposed project. The species identified by the conservation data center (CDC) as occurring near to the project area is a sensitive raptor species red-listed in BC and listed as endangered by the *Species at Risk Act*. A recovery strategy

exists for this species, but critical habitat has not been defined. Habitat features required by this species were not noted at the time of the field assessment however, the nature of this assessment was relatively high level and further habitat investigations may be required as the project design progresses.

White sturgeon will obviously be confined to the mainstem of the Fraser River and is not expected to be directly affected by this project. However, it should be noted that any activity within 30 m of the Fraser River could be subject to the *Fisheries Act*.

A review of the species at risk known to occur in the IDF zone and at this location has confirmed the potential presence of a number of species potentially present on the site. These consisted predominantly of birds. Most bird species (including at risk species) are managed through avoidance. These species can be avoided by undertaking works during less sensitive times and/or when they are absent.

The western rattlesnake (*Cratalus oreganus*) has occurrence records as near as Lytton, and habitat on the property appeared to be superficially appropriate for this species. Likelihood of occurrence was rated as low as this site is a short distance beyond the known range of this species. Even if present, habitat on the site did not match the criteria for hibernation; as such, this species would be readily avoided.

ANTICIPATED EFFECTS OF DEVELOPMENT

Some of the proposed development (e.g. parking lots) will occur in areas that are either subject to a high level of disturbance from the highway or within areas that have been historically impacted (e.g. in the gravel pit). Those activities are not anticipated to have an appreciable effect of local habitat values. Following is comment that applies predominantly to the future Recreation Opportunity Area.

This project will result in the conversion of some land in and around the project area from forested habitat to developed habitat.

Development necessarily results in a transition from more natural habitats to disturbed habitat, resulting in loss of overall habitat quantity at the local scale. This type of land use conversion is typically permanent. Reduction in the availability of habitat can result in overall reduction in wildlife and plant species abundance.

Land use conversion can also increase negative effects on existing habitat quality by fragmenting habitat patches and exposing remaining habitat to deleterious edge effects (e.g. encroachment by non-native species; loss of cover habitat). Although the net effect is difficult to predict, increased urbanization can result in taxonomic shifts towards species more adapted to routine disturbance, and a loss of species susceptible to disturbance or competitive exclusion.

In this case, the loss of habitat is unlikely to have an appreciable effect on sensitive wildlife species, provided application of the best practices below. Much of the habitat along the Fraser River corridor is undevelopable due to topographic and access constraints; as such, it is reasonable to expect that any species present or potentially present on the site could disperse elsewhere.

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This assessment does not consider potential cumulative effects to species of management concern resulting from increased development footprint and associated land clearing. Potential future cumulative effects should be considered as part of a local area plan and be based on site specific conditions and in consultation with qualified environmental professionals

RECOMMENDATIONS

The following recommendations apply to any future activities on the subject property.

1) Future land clearing must be in conformance with local bylaws and policies.
2) Tree and shrub removal works and building demolition should occur between August 16 and March 14 of any given year to avoid incidental take of any birds' nests or eggs; however, tree clearing or building removal is possible at any time if birds' nests are confirmed to be absent. A qualified environmental professional should undertake a bird nest survey ahead of any land clearing or demolition activity to reduce the likelihood that birds or their nests and eggs will be negatively affected by the works. This would include an assessment for the masked occurrence.
3) Land clearing on the subject property should occur between September 1 and March 1 to avoid harming any bats potentially roosting in wildlife trees. If demolition is required outside of this period a survey for the presence of bats must be completed by a qualified environmental professional.
4) Further habitat investigation may be required to determine habitat suitability for the species identified by the CDC as the subject of the masked occurrence.
5) Raptors' nests are protected year-round, regardless of occupation. A raptors' nest survey should be completed in advance of tree clearing or building demolition on the subject property.
6) Development activities should be planned around significant landscape features such as large trees. Where possible mature trees should be retained to preserve as much habitat value within the developed area as possible.
7) Any development within 30 m of a watercourse would require additional field work and reporting to ensure compliance with the Riparian Areas Protection Regulation and the *Fisheries Act*.
8) Development activities should conform with any applicable best practices for land development. A Qualified Environmental Professional should be contacted for comment prior to initiation of ground disturbing works.

CLOSING

This project is anticipated to have a relatively small footprint within a large tract of undisturbed habitat. Moreover, it is anticipated that much of the landscape will remain predominantly undeveloped for the foreseeable future. While this project will result in habitat conversion of a small area; the overall effect at the landscape scale is not anticipated to be ecologically significant.

Aside from fish species (e.g. white sturgeon), the primary species at risk anticipated to be present are birds. These are readily avoided through avoidance and accepted management measures.

The results of the inquiry into the masked occurrence for the site may require further investigation into habitat suitability within the project area for the species identified.

Regards,

Redcedar Environmental Consulting Inc.

Rémi Masson, R.P.Bio.
Principal

Stephanie Christensen, R.P.Bio.
Project Biologist

Attachments (1)

1. Selected Site Photographs

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Attachment 1
Selected Site Photographs

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Photograph 1. View of forested habitat on the west side of Highway 1 (Photo taken June 1, 2020).

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Photograph 2. View of cleared area adjacent to parking lots and access roads on the west side of Highway 1. Typical forest habitat is present in the background (Photo taken June 1, 2020).

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Photograph 3. View of a trail found within the park through forested habitat (Photo taken June 1, 2020).

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Photograph 4. View of the Old Caribou highway that runs across the park from the Alexandra bridge up to Highway 1 (Photo taken June 1, 2020).

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Photograph 5. Example of a boulder pile found within or near the project area on the west side of Highway 1 (Photo taken June 1, 2020).

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Photograph 6. View of forested habitat on the east side of Highway 1 (Photo taken June 1, 2020).

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Photograph 7. View of shrubby habitat in the location of an old roadbed found on the east side of the highway. (Photo taken on June 1, 2020).

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Photograph 8. View of forested habitat along gravel road on the east side of Highway 1(Photo taken June 1, 2020).

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