

CUMULATIVE EFFECTS AND BC ENVIRONMENTAL ASSESSMENT

British Columbia has a diverse natural landscape which supports a variety of natural resource sector developments across the province. One of the key considerations for Environmental Assessment is addressing the cumulative effects of existing and proposed new developments.

WHAT ARE CUMULATIVE EFFECTS?

Cumulative effects can be defined as “changes to the environment that are caused by an action in combination with other past, present and future human actions.”¹

HOW DOES EAO ASSESS THE CUMULATIVE EFFECTS OF A PROPOSED PROJECT?

The methods that EAO applies to effects assessment, including cumulative effects, are described in EAO’s *Guideline for the Selection of Valued Components and Assessment of Potential Effects*² (Guideline). The guideline also sets out when a cumulative effects assessment should be done.

Valued components (VCs) are components of the natural and human environment that are considered to be important. Before considering cumulative effects, potential effects of the proposed project must be determined for each VC in comparison to current baseline conditions. The current baseline includes the existing effects of past and current activities that overlap with the effects of the proposed project.

- › If it is found that there are not likely to be effects to a VC from the project after mitigations are taken into consideration, then there is no cumulative effects assessment for that VC
- › If it is found that there are likely to be effects to a VC after mitigations are taken into consideration (called residual effects), then that VC goes forward to the cumulative effects assessment.

For the cumulative effects on a given VC, the residual effects of the project are assessed in combination with the potential effects of other reasonably foreseeable³ projects and activities that overlap with the effects of the proposed project.

Where a residual adverse project-specific effect and/or a residual adverse cumulative effect has been identified for a specific VC, we require the proponent to provide follow-up strategy that:

- › Identifies the measures to evaluate the accuracy of the original effects prediction;

¹ Canadian Environmental Effects Assessment Agency, 2016. Cumulative Effects Assessment Practitioners' Guide. <http://www.ceaa.gc.ca/>

² Available on EAO’s guidance page: <http://www.eao.gov.bc.ca/guidance.html>

³ Reasonably foreseeable means projects that are either proposed (public disclosure) or have been approved to be built, but are not yet built

- › Identifies the measures to evaluate the effectiveness of proposed mitigation measures; and
- › Proposes an appropriate strategy to apply in the event that original predictions of effects and mitigation effectiveness are not as expected. This includes reference to further mitigation, involvement of key stakeholders, Aboriginal groups, government agencies and any other measures deemed necessary to manage the issue.

This methodology is consistent with evolving best practice and the federal approach under the *Canadian Environmental Assessment Act, 2012*.

HOW DOES EAO CONSIDER CUMULATIVE EFFECTS TO ABORIGINAL INTERESTS?

The potential impacts of a proposed project on Aboriginal rights can be characterized by understanding effects of a proposed project on factors that are important for the exercise of a right. This includes the cumulative impacts on biophysical VCs such as impacts on wildlife populations, impacts on specific sites of traditional use, and social, cultural, spiritual, and experiential perspectives of the Aboriginal group. If the current ability to practise an Aboriginal right is already constrained due to factors such as previous developments, the conclusion on effects from a current project on that right may be more serious.

For example, if the Aboriginal right to hunt caribou can no longer be practised by a First Nation or is significantly restricted due to a scarcity of caribou, then any incremental effects from a proposed project would be considered more serious than if caribou were still plentiful. Likewise, if the ability to practice an Aboriginal right is expected to be constrained further by the potential effects of other reasonably foreseeable projects and activities that overlap with the effects of the proposed project, the conclusion on the effects from the project on that right may also be more serious. Conclusions regarding the impacts on Aboriginal rights are made after considering mitigation and accommodation measures that may be required to address potential impacts of the proposed project.

HOW DOES EAO'S WORK RELATE TO THE PROVINCIAL CUMULATIVE EFFECTS FRAMEWORK (CEF)?

The Ministry of Forests, Lands and Natural Resource Operations (FLNRO) and the Ministry of Environment are leading the development of a provincial Cumulative Effects Framework⁴ (CEF). The CEF will apply across the natural resource sector decisions (i.e. forestry, mining, oil and gas, land tenures etc.), including environmental assessments.

The CEF will include spatial tools and reports that describe the current condition of a given value (e.g. grizzly bears) within an established regional boundary, and may also include management responses to address those conditions. As these tools become available, they will be integrated into EAO's assessments as appropriate. These tools may support projects in the EA process in the following ways:

- › apply common baseline information to make strategic decisions about a project and to assess

⁴ <http://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/cumulative-effects-framework>

- project effects and cumulative effects to individual VCs, and
- › use common baseline information, and when available, provincial management responses, to inform the selection of mitigation measures.

Decision makers will be supported with common set of tools to determine the impact of the proposed project on the value, once mitigation is taken into account.

WHAT ARE SOME EXAMPLES OF THE ASSESSMENT OF CUMULATIVE EFFECTS BY EAO?

1. BALDY RIDGE EXTENSION PROJECT

For the EA of Teck's Baldy Ridge Extension Project (BRE Project), a coal mine expansion in the Elk Valley, EAO noted that the BRE Project would have residual effects on ecosystems, vegetation and wildlife values, even with mitigation measures. The EA included a cumulative effects assessment to examine project impacts to those values in conjunction with existing and potential future developments occurring in the Elk Valley region.

EAO found that the BRE Project's incremental impacts represent a small contribution to existing and potential future cumulative effects on ecosystems, vegetation and wildlife in the Elk Valley. EAO noted that the BRE Project's incremental contribution of effects could contribute to significant cumulative adverse effects on habitat connectivity, particularly for grizzly bears and lynx primarily because of the existing state and future loss of habitat connectivity for these VCs in the region. When determining the significance of the adverse cumulative effects, EAO considered the uncertainty of future effects on the land base, existing government led management of cumulative effects in the Elk Valley, additional mitigations and potentially legally binding Environmental Assessment Certificate conditions identified during the EA.

In determining cumulative effects the EA considered other reasonably foreseeable projects in the Elk Valley including but not limited to existing and proposed coal mines and forestry activity. EAO recognizes the uncertainty in predicting cumulative effects from other proposed coal mines in the Elk Valley may not occur, because it was unclear how future mine development would proceed in the Elk Valley in combination with other industrial land uses in the region. EAO noted that planned forestry activities in the Elk Valley will likely contribute considerably to cumulative effects if large amounts of mature and old forest are removed, affecting connectivity for bears and lynx. EAO is of the view that while there is a high degree of uncertainty regarding the BRE Project's contribution to existing cumulative effects to vegetation, ecosystems and wildlife in the region, the expected cumulative impacts on ecosystems, vegetation and wildlife associated with the Baldy Ridge Extension project can be mitigated because Teck is actively participating in the Elk Valley Cumulative Effects Management Framework (EV CEMF), which is a provincial government-led (FLNRO) process that seeks to assess and manage cumulative effects in the Elk Valley.

EAO concluded that on balance, although the BRE Project would have small incremental contributions to cumulative effects in the Elk Valley, the BRE Project itself would not result in significant adverse cumulative



effects considering the ongoing government led management of cumulative effects, legally binding EA Certificate conditions and the proponent's biodiversity program that is designed to identify risk areas and biodiversity management options including habitat offsetting. The EA Certificate conditions require the proponent to carry out progressive reclamation, biodiversity management and wildlife mitigation planning, including elk and grizzly bear monitoring and participating in a wildlife highway crossing process to provide habitat connectivity if determined necessary by FLNRO through the EV CEMF.

2. EAGLE MOUNTAIN - WOODFIBRE GAS PIPELINE PROJECT

FortisBC's Eagle Mountain-Woodfibre Gas Pipeline Project (Eagle Mountain Project), certified in 2016, would overlap two Grizzly Bear Population Units (GBPUs) that are provincially considered threatened: the Squamish-Lillooet GBPU (59 bears) and the Garibaldi-Pitt GBPU (2 bears). In concluding on potential adverse effects, EAO considered that the existing average motorized access density within the area that would be intersected by the Eagle Mountain Project already exceeded the minimum threshold for high risk of mortality and displacement for both GBPUs. The core grizzly bear habitat remaining for both GBPUs were also already well below the recommended minimum target levels, although the habitat loss that would be attributed to the Eagle Mountain Project would be negligible. The presence of construction workers, facilities and increased human access has the potential to increase the risk of human-wildlife conflict, resulting in increased mortality risk for bears. Furthermore, disturbance from noise created by roads and linear corridors have been found to adversely affect grizzly bear habitat effectiveness, fragment habitat (e.g., create barriers/filters to movement, alienate bears from suitable habitat) and increase mortality risk.

Although EAO was satisfied that the Eagle Mountain Project would not have significant adverse residual effects on grizzly bear, EAO concluded that there was an existing significant adverse cumulative effect to grizzly bear as a result of existing disturbance, with or without the Eagle Mountain Project.

EAO worked closely with the working group, including FLNRO, to determine the appropriate mitigation, particularly in consideration of the existing impacts to the area and the cumulative effects on the populations of the two GBPUs. To ensure the effects of the Eagle Mountain Project would be mitigated to the extent possible, EAO proposed a condition requiring the development of a grizzly bear mitigation and monitoring plan and an access management plan to address the indirect impacts of access on mortality risk. To support the further mitigation of cumulative effects in the two GBPUs, EAO proposed a condition that would require FortisBC to contribute one-time funds to FLNRO to support the monitoring and study of grizzly bears.

CONTACT INFORMATION

For more information on the environmental assessment process, visit www.eao.gov.bc.ca or contact the EAO at eaoinfo@gov.bc.ca.