

## CMC Ecological Consulting

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October 31, 2022

Dr. Kari Stuart-Smith, PhD., RPBio.  
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Cranbrook, BC, V1C 4C6

RE: Review of “FSC Conservation Areas Network Gap Analysis (Indicator 6.5.2)  
CANFOR’S KOOTENAY REGION” October 25, 2022; Project [1182-14].

Kari,

Thank you for the opportunity to review the Canadian Forest Products (Canfor) Kootenay Forest Gap Analysis. I have attached an electronic copy of this review and my CV.

I based the review on the FSC® National Forest Stewardship Standard of Canada (FSC-STD-CAN-01-2018 V 1-0 EN). My task as a “peer reviewer” is to assess the approach you have taken and the evidence you have provided based on my experience. The opinions are solely mine.

Specifically, I am providing the evidence for indicator 6.5.3 which requires that “A peer review of the gap analysis is completed by one or more independent experts.” This refers to indicator 6.5.2 which is one of the central requirements of criterion 6.5:

“6.5.2 Using best available information, an analysis is used to identify potential gaps in the completeness of the Conservation Areas Network in the Management Unit. Elements considered for inclusion in the gap analysis address enduring features, representation of native ecosystems, landscape connectivity, High Conservation Values and High Conservation Value areas.”

To perform a gap analysis, the company must also assess the regional Conservation Areas Network to assess indicator 6.5.7, which requires that 10% of the Management Unit is represented in protected area. To this end, Canfor had a report prepared by Forsite Consultants Ltd. entitled “FSC Conservation Areas Network Gap Analysis (Indicator 6.5.2) CANFOR’S KOOTENAY REGION. October 25, 2022. Project [1182-14].” That report will be referred to as the Gap Analysis and is the focus of this review.

The Gap Analysis is a step towards completion of a Conservation Areas Network (CAN). This is “comprised of those portions of Management Unit\* and adjacent area of ecological influence\* for which conservation\* is the primary, and in some circumstances, exclusive objective\*<sup>1</sup>.” The asterisks refer to defined FSC terms. The definitions are the basis for this review and are quoted when required in the following text.

The evidence roadmap for all the indicators in 6.5 was helpful, but as discussed above, my comments below will specifically address 6.5.2 and 6.5.7. Only one of my comments can be considered major and should be addressed. As you know, action on findings of this review is at the discretion of the company. Here is a summary of comments (details follow):

- Overall, I found the evidence to be well described and the report to be easy to follow with the exception of some acronyms. The Gap Analysis provides a readable description of the representation in protected areas.

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<sup>1</sup> \* Asterisks denote defined FSC terms.

- The report sets clear objectives which focus on the essential issue which is the status of representation in protected areas for Canfor's operating area and management unit.
- I am familiar with the Canfor Kootenay HCV assessment which is part of the foundation for this GAP Analysis. That is an excellent assessment of HCVs in the forest. The consultation used for that analysis is also good background for the Gap Analysis.
- This report is consistent with FSC definitions. In this review, it is important that the definition of "conservation lands" or "protected areas" is clear about how and when active management is allowed.
- Reserve Types HCVA and CCVF have a wide range of management activities allowed so the Gap Analysis should state the type of evidence that shows the government acceptance of the "reserve" designation applied by the company to some specific HCVA and CCVFs. It may be part of the FMP approval. This comment also applies to the use of reserve types that are uneconomic forest units and unstable terrain.
- FSC has an international audience and use of acronyms and locally conventional terms may be confusing. This review considers the missing acronym descriptions as a major concern in this report because one of them is the central equation denominator. Fortunately, it is easy to fix. Detailed comments about acronyms are made below.
- There is a version reference issue noted for BGC and BEC analysis on the BECWEB site.
- The use of the term Enduring Features varies between jurisdictions in Canada. For clarity a note could be made about that. The term is used correctly for the BC context.

For reference purposes for your auditors, my level of effort in preparing this review was 9 hours. I have examined the Gap Analysis report carefully and some of the background material as I judged appropriate. I did not verify that the representation calculations were done correctly; I did verify the equation is appropriate.

Again, thank you for the opportunity.

Sincerely,



Tom Clark

Attachments:  
Electronic copy of this review  
CV for Tom

# Detailed Comments

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## Overview

This section contains detailed comments on the Gap Analysis. These are based on parsing the report into the requirements stipulated by the Gap Analysis indicator 6.5.2 and 6.5.7.

- Using best available information<sup>3</sup>
- Identify potential gaps in the completeness of the Conservation Areas Network\* in the Management Unit\*
- Elements considered for inclusion in the gap analysis address:
  - enduring features\*
  - representation of native ecosystems\*
  - landscape\* connectivity\*
  - High Conservation Values\* and High Conservation Value areas\*.
- The analysis uses inputs from the entire area of ecological influence\*.
- The results of the gap analysis are mapped.

In the review, findings are classified as major or minor or comment.

- Minor findings show inconsistency with the guidelines and intent of the HCV RN review protocol.
- Major findings should be addressed by the authors because the report is missing a key piece of information.
- Major/minor is not equivalent to an audit finding.
- Comments are observations on content.

## Use of Best Available Information

The standard defines best available information as “data, facts, documents, expert opinions, and results of field surveys or consultations with stakeholders and engagement with Indigenous Peoples.” It seeks credible information obtained through reasonable effort and cost.

For geographical and ecological information, the report appropriately uses the BC Biogeoclimatic BGC variants system which is mature and has been in use for a long time. For outside readers these acronyms need the first occurrence to be spelled out. BGC is clear but BEC is not explained. BEC is actually “BGC Ecosystem Classification” so the acronym would be awkward.

CCVA is also not defined although it is likely CCVF which is defined.

VRI is not explained after the first occurrence. FMLB was not described.

CFLB is not described, although it is important as the denominator of the representativeness equation (section 2.2)

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<sup>3</sup> Asterisks indicate terms that are defined by the FSC standard.

BEC nomenclature can be exempted from this (such as BCLCS) because they are character codes rather than acronyms. But this could be explained.

Issue: Comment  Minor  Major

Major – Acronyms should be spelled out and if necessary, explained at the first occurrence. For example, the use of BEC is awkward. CCVA, FMLB were not described. BEC codes exempt. CFLB is essential and this comment is considered a major because of this omission.

The report uses “Biogeoclimatic (BGC) variants (as mapped by the British Columbia Ministry of Environment, Version 11.0).” However, that website (<https://www.for.gov.bc.ca/hre/becweb/>) refers to a new version and state that “Version 12 of the Biogeoclimatic Subzone/Variant (BGC) Mapping will be released (August 2021).” Since this reference is out of date, the authors should clarify if it changes the analysis significantly.

Issue: Comment  Minor  Major

Minor – Authors should clarify their out-of-date BEC website (BECWEB) reference to a later BGC mapping. This is unlikely to have a noticeable effect on the analysis.

## Identification of Potential Gaps in Conservation Areas Network

In section 2 the report describes the approach to determining the regional representativeness and provides the arithmetic for determining representation. Notably the term CFLB is not defined in the document although because of its position in the equation, it is assumed to be the Canfor land base.

The arithmetic is kept simple, as appropriate.

Double counting of reserve areas can be a problem. The authors described how they addressed this in their analysis.

The current FSC standard does not use the term “Other Effective area-based Conservation Measures” (OECMs) which are areas that are achieving the long term and effective in-situ conservation of biodiversity outside of protected areas. Therefore, this review is basing the assessment on existing definitions of forest activities that meet conservation goals. That discussion follows here.

“Reserve types” in conservation area network can be a source of dispute between interested parties. In other words, is a particular reserve type really protected? The Gap Analysis is very careful in describing these terms in a way that is consistent with FSC definitions.

The FSC glossary refers to “conservation lands” or “protected areas” and states that these terms can be specified range of appropriate interventions and activities. According to the glossary “For the purposes of the Principles\* and Criteria\*, these terms are used interchangeably...” As well, the terms Conservation and Protection are “used interchangeably when referring to management activities.”

The care taken in the report with clarifying land use designations ensures that interested parties know exactly what is being discussed. Although there may not always be agreement, at least the discussion is on firm ground.

In this review, it is important that the definition of “conservation lands” or “protected areas” is clear about whether active management is allowed and for what purpose. This usage in the Gap Analysis is consistent with the FSC definition.

A Conservation Areas Network includes areas for which conservation is the primary and, in some circumstances, exclusive objective. Importantly, the FSC definition allows “minimal interventions to a specified range of appropriate interventions and activities designed to maintain, or compatible with maintaining, these identified values.” As well, these areas are maintained for the “long term” which is defined by FSC as variable depending on the length of time to ecosystem recovery according to the context and ecological conditions. This allowance for some activity is the central test for “protection” and ensuring that the protection effective and reasonable is the main purpose of an independent peer evaluation – in other words, this review. Comments about appropriate use follow each of the reserve types below.

The authors have described the Reserve Types in the Gap Analysis along with a description of the objective for protection and time frame for protection. Some of these descriptions are qualitative such as for difficult to map unstable terrain. The term “reserve types” refer to existing designation of land uses from the forest management plan and higher-level government legislated land use. Also note that parks are not specifically listed here, but are part of the analysis in the report.

### **Reserve Types in Conservation Areas**

#### ***Caribou No Harvest Areas***

This is regulated long term protection and meets the requirement of the definition.

#### ***High Conservation Value Areas- Reserve (HCVA-R)***

These are, as the name states, reserves designated by the company through the HCV process. These are recognized by the government through the management plan. It is not explained whether the government acceptance of these areas is documented in the Canfor HCV assessment. Management strategies that allow timber harvest and roadbuilding can occur in some HCV Areas. The report could state the mechanism for how the government accepted the “reserve” (no harvest) status. This is controversial in some provincial management systems.

Issue: Comment  Minor  Major

Comment– HCVA and CCVF-Rs have a wide range of management activities allowed so the Gap Analysis should state the means that the government accepted “reserve” (no harvest) designation.

#### ***Cultural and Conservation Value Forests – Reserve (CCVF-R)***

Canfor has designated these as reserves and state there is no intention to harvest timber or build roads. Government acceptance of these areas is likely through the Forest Management Plan. As in the HCVA-R above, the Gap Analysis does not document the means that the government accepted “reserve” (no harvest) designation.

#### ***Old Growth and Mature Management Areas (OGMA/MMA)***

The reserve is designated through the Kootenay Boundary Higher Level Plan Order.

### ***Wildlife Habitat Areas (WHA's)***

WHA for species at risk as legally established by the BC government for high quality habitat. Technically there is a possibility of harvest for some species. The Gap Analysis sorts between WHAs that are reserves or available for forestry.

### ***Riparian Reserve Zones***

This is an important value for OECM consideration. These areas are small and often narrow. The area is protected long term because riparian areas rarely move. Therefore, protection is based on government regulation and so meets the definition.

### ***Whitebark Pine Stands***

This area is specifically for ensuring Whitebark Pine is maintained. Canfor considers them uneconomic.

### ***White Pine Stands***

The Gap Analysis states there is no intention to log these stands and management objective is to maintain existing White Pine stands to maintain / contribute to biodiversity. See below for a comment about uneconomic stands.

### ***Deciduous stands***

The Gap Analysis states there is no intention to log these stands. See below for a comment about uneconomic stands.

### ***Cedar, Hemlock, and Balsam Stands > 200 years old***

The Gap Analysis states there is no intention to log these stands. See below for a comment about uneconomic stands.

Issue: Comment  Minor  Major

Comment – Five reserve types are considered by the company as “uneconomic” or “no intention to log” (Whitebark Pine Stands, White Pine Stands, Deciduous stands, and Cedar, Hemlock, and Balsam Stands > 200 years old, Inoperable). These stands are identified through the management plan as “uneconomic”, which is a reasonable form of long-term protection. The Gap Analysis does not provide specific mention of the government approach to these stand types. For example, A statement to the effect that the government, through the FMP process, has accepted the low likelihood of harvest. There may be an alternative means for providing some official recognition of the company’s approach.

### ***Unstable Terrain***

This reserve type is most common in upper elevation ecosystems where there are typically large surpluses in reserves. Although this reserve type is dynamic, and depending on the mapping resolution, it may or may not improve over time. It is a reasonable means of ensuring protection.

### ***Inoperable***

The Gap Analysis states there is no intention to log these stands. See above for a comment about uneconomic stands. The Gap Analysis includes a discussion of the operability line for Canfor which is informative.

## **Elements Included in the gap analysis**

**Enduring features** – The Gap Analysis specifically addresses enduring features in the management unit. In this area which has wide protection of many enduring features through BEC system. As a result, the enduring features are chosen for “uniqueness.” They list Hoodoos, Tufa formations, and karst/caves were also considered for inclusion in the analysis. All such features were on private land outside the management unit or on crown land in the inoperable portion (caves).

Issue: Comment  Minor  Major

Minor – A description of “enduring features” could reference the broader definition used in other jurisdictions. In other areas enduring features form the backbone of the analysis, rather than just occasional unusual formations.

**Representation of native ecosystems** – This element is built into the analysis through the use of BGC system and ecosystem classification. In the Canadian context there is little leeway for basic forest management to move towards unusual plant combinations (rarely are nonnative species planted in Canada now, and none by Canfor) because the climatic conditions are severe and native species generally are strongly dominant. This requirement is met.

**Landscape\* connectivity** - This is included in the analysis through the HCVA reserves and CCVA-R and HCVA/CCVAs that provide for grizzly movement and linkage and for movement over high and mid-elevation passes, and along major rivers. It is also provided by riparian reserves along major rivers and streams. This requirement is met.

**High Conservation Values\* and High Conservation Value areas\*** - the company has previously prepared, as required by FSC, an HCV report for principle 9 requirements. This reviewer is familiar with the existing report and the detailed analysis. That information is embedded at different levels from specific HCVs to landscape level considerations. This requirement is met.

## Area of Ecological Influence

The Gap Analysis has set an appropriate area of ecological influence and states

“The full extent of the Biogeoclimatic (BGC) variants (as mapped by the British Columbia Ministry of Environment, Version 11.0) that intersect Canfor’s operating area was used to assess the proportion of protected areas occurring at a regional scale.”

B.C. established its BGC system and ecological classification decades ago and it is a robust and stable system that allows for protected areas analysis as done by the Canfor Gap Analysis. Without this system it would be extremely expensive to conduct a thorough gap analysis.

## Gap Analysis Mapping

Due to the inclusion of uneconomic areas and protection forest areas that may shift somewhat during operations, highly precise maps would be difficult. The maps provided in the Gap Analysis are at an appropriate scale. Large scale maps can also be provided by Canfor. These were not viewed during this review, nor were they considered necessary.

## Gap Analysis Results

The regional context (section 3.1) is presented in an overview map that is clear. Summary tables 1 - 3 show the representation at the variant level, subzone level and zone level for the greater regional context. Some gaps (<10% representation) occur regionally. When the test is applied to the Canfor management unit, representation is met at all three BEC levels. It is notable that the contribution of reserve types through the Forest Management Plan (which may qualify as OECMs in the future) make a reasonable difference in representation. It does confirm the company assertion that there is room on the landbase for conservation areas network and are currently close to meeting the Aichi targets (17%).

## Editorial Comments

Acronyms problems have already been discussed. Table numbering is a bit confusing because some smaller tables were not referred to. Overall, the report is well organized.

## Disclaimer

This review was conducted by Tom Clark based on information provided by Canfor. Tom Clark can take no responsibility for the accuracy of information provided by the company and cannot be held liable in any way for any damage or loss resulting from the use or interpretation of this review by Canfor or any third party.

For questions contact Tom Clark at 705 706 4427 or [tom@tomclark.ca](mailto:tom@tomclark.ca).

## Relevant Definitions from FSC

**Best available information:** Data, facts, documents, expert\* opinions, and results of field surveys or consultations with stakeholders\* and engagement\* with Indigenous Peoples\* that are most credible, accurate, complete, and/or pertinent and that can be obtained through reasonable\* effort and cost, subject to the scale\* and intensity\* of the management activities\* and the Precautionary Approach\*.

(Source: Adapted from FSC-STD-60-004 V1-0)

**Conservation/Protection:** These words are used interchangeably when referring to management activities\* designed to maintain the identified environmental or cultural values in existence long-term\*.

**Management activities\*** may range from zero or minimal interventions to a specified range of appropriate interventions and activities designed to maintain, or compatible with maintaining, these identified values.

(Source: FSC-STD-01-001 V5-0)

**Conservation Areas Network:** Those portions of the Management Unit\* and the area of ecological influence\* for which conservation\* is the primary and, in some circumstances, exclusive objective\*. For public lands, the Conservation Areas Network is the sum of protected areas\* and designated conservation lands\*. For private lands, the Conservation Areas Network is the sum of protected areas\*, designated conservation lands\* and secondary conservation lands\*.

(Source: Adapted from FSC-STD-60-004 V1-0)

**Conservation zones [and protection areas]:** Defined areas that are designated and managed primarily to safeguard species, habitats\*, ecosystems\*, natural features or other site-specific values because of their natural environmental or cultural values, or for purposes of monitoring, evaluation or research, not necessarily excluding other management activities\*. For the purposes of the Principles\* and Criteria\*, these terms are used interchangeably, without implying that one always has a higher degree of conservation\* or protection\* than the other.

(Source: Adapted from FSC-STD-60-004 V1-0)

**Designated conservation lands:** Areas identified through the process of addressing the requirements of Criterion 6.5 that are to be managed **through the exclusion of forest management activities\*** (except in rare instances when necessary to achieve objectives\* associated with restoration\* or maintenance of natural conditions\*) in recognition of their ecological and/or cultural values.

(Source: FSC Canada Standard Development Group)

**Enduring feature:** A landscape\* element or unit within a natural region characterized by relatively uniform origin of surficial material, texture of surficial material and topography. (Source: FSC Canada National Boreal Standard 2004)

**High Conservation Value (HCV):** Any of the following values:

HCV 1: Species Diversity. Concentrations of biological diversity\* including endemic\* species\*, and rare\*, threatened\* or endangered\* species, that are significant\* at global, regional or national levels.

HCV 2: Landscape\*-level ecosystems\* and mosaics. Intact Forest Landscapes\*, large landscape\*-level ecosystems\* and ecosystem\* mosaics that are significant\* at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

HCV 3: Ecosystems\* and habitats\*. Rare, threatened, or endangered ecosystems, habitats\* or refugia\*.

HCV 4: Critical\* ecosystem services\*. Basic ecosystem services\* in critical\* situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.

HCV 5: Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities\* or Indigenous Peoples\* (for example for livelihoods, health, nutrition, water), identified through engagement\* with these communities or Indigenous Peoples\*.

HCV 6: Cultural values. Sites, resources, habitats\* and landscapes\* of global or national cultural, archaeological or historical significance, and/or of critical\* cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities\* or Indigenous Peoples\*, identified through engagement\* with these local communities\* or Indigenous Peoples\*.

(Source: FSC-STD-60-004 V1-0, based on FSC-STD-01-001 V5-0)

Management activities: Any or all operations, processes or procedures associated with managing a forest\*, including, but not limited to: planning, consultation, harvesting, access construction and maintenance, silvicultural activities (planting, site preparation, tending), monitoring, assessment, and reporting.

(Source: FSC Canada National Boreal Standard 2004)

**Natural conditions:** For the purposes of the Principles\* and Criteria\* and any applications of restoration\* techniques, terms such as ‘more natural conditions’, ‘**native ecosystem**’ provide for managing sites to favour or restore\* native species\* and associations of native species\* that are typical of the locality, and for managing these associations and other environmental values\* so that they form ecosystems\* typical of the locality. Further guidelines may be provided in FSC Forest Stewardship Standards.

(Source: FSC-STD-01-001 V5-0)

**Protected area:** An area protected for conservation\* purposes by legislation, regulation, or government land-use policy to permanently control human occupancy or activity.

(Source: Adapted from FSC Canada National Boreal Standard 2004)

**Protection areas:** See definition of Conservation Zone\*.

(Source: FSC-STD-60-004 V1-0)