



High Conservation Value Forests within the Coast Forest Conservation Initiative Managed Forest Areas of the Mid-coast Defined Forest Area

British Columbia Forest Stewardship Council Standards: Principle 9

Coast Forest Conservation Initiative

New thinking about forest conservation

October 2009 (Original Report Date June 2009-3rd revision Oct 2009)

Author: Megan Hanacek, RPBio, RPF

Summary for Public Review

Standards of British Columbia Forest Stewardship Council Principle 9, High Conservation Value Forests (HCVFs)

Identification, management and monitoring of forest dependent High Conservation Values (HCVs) are important components of the British Columbia Forest Stewardship Council (FSC) Regional Certification Standards (FSC 2005a). This report collates and analyzes existing information and data to identify HCVs, and describes the appropriate management and monitoring strategies used to conserve the HCV forest associated values that exist within the Mid-coast Defined Forest Area (DFA).

Principle 9 of the BC FSC Regional Certification Standards focuses on environmental, social and/or cultural values that make a particular tract of forest area of outstanding conservation significance. These forest associated values (i.e., HCVs), are in 6 distinct categories of High Conservation Value Forests (HCVFs):

Category 1: Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia);

Category 2: Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable



populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance;

Category 3: Forest areas that are in or contain rare, threatened or endangered ecosystems; FSC Mid-coast TSA DFA – CFCI Group Certification

Category 4: Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control);

Category 5: Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health); and,

Category 6: Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

Current Management of High Conservation Values (HCVs) and Higher Level Commitments in the Coast Forest Conservation Initiative (CFCI) Managed Forest Areas of the Mid-Coast Defined Forest Area (DFA), are Moving Towards Low Ecological Risk

The FSC main certification assessment of the CFCI managed forest areas of the Mid-coast Defined Forest Area (DFA) was completed in 2008. The assessment was undertaken against the requirements found within the BC FSC Regional Certification Standards and within the context of the South Central Coast (SCC) and Central and North Coast (CNC) Legal Land Use Orders ratified by British Columbia in February 2006, which were updated March 31st 2009.

The March 31st 2009 updates to the land use plans included an agreed upon Terms of Reference (ToR) for reviewing and revising the 2009 Land Use Orders by 2014. A principle focus of the review is to reach low ecological risk and high degrees of human wellbeing by 2014, with the understanding that if this is not possible, then meaningful increments towards both must be undertaken. The 2014 Review combined with other agreements and commitments as well as the Provincial Workplan for implementation of the 2009 undertakings support the plan to achieve low ecological risk and high degrees of human wellbeing as elements of the workplan are completed and implemented.

The land use agreements are based on consensus recommendations flowing from multi-interest planning (Land and Resource Management Plans) negotiated between 1997 and 2004, government-to-government agreements between the government of British Columbia and First Nations in the region. The plans include designation of protected areas and a requirement to fully implement ecosystem-based management (EBM) defined¹ as "*An adaptive, systematic approach to managing human activities, guided by the Coast Information Team EBM Handbook, that seeks to ensure the co-existence of healthy, fully functioning ecosystems and human communities.*" The term "healthy, fully functioning ecosystems" in the definition of full implementation of EBM is described as follows:

¹ Definition of "Full Implementation of Ecosystem Based Management (EBM) by March 31, 2009", Joint Land and Resource Forums July 10th 2007



Ecological Integrity

Conservation measures, including components of integrated Detailed Strategic Plans, that seek to achieve a low level of ecological risk² overall in the Central and North Coast, over time, including:

- a) strategic land use zones (conservancies, biodiversity etc) and, as appropriate, related management plans;*
- b) landscape reserves (FN cultural areas, OGMAs, UWRs, GWMs); and*
- c) land use objectives (cultural, biodiversity, hydroriparian, wildlife, etc.), based on review and revision of the initial suite of legal objectives.*

There are two important elements arising from the agreed upon definition:

- 1) Ecosystem health is defined by the precautionary³ guidance (e.g., ecosystem targets) found in the EBM handbook and as refined through adaptive management.
- 2) Full implementation of EBM refers to attaining low ecological risk (i.e., representation of 70% RONV at the sub region) and high degrees of human wellbeing (at present the placeholder for this is levels of employment similar to those within the rest of Canada). The goal is to concurrently achieve low ecological risk and high human well-being by March 31, 2014, with the understanding that if that is not possible, to seek meaningful increments towards both.

² Current agreed upon guidance regarding what constitutes “low level of ecological risk” is found in the Coast Information Team EBM Handbook; however the ecological indicators in the EBM Handbook are subject to change through consideration of other information, further research and adaptive management. Source: *Definition of “Full Implementation of Ecosystem Based Management (EBM) by March 31, 2009”*, Joint Land and Resource Forums July 10th 2007

³ The **FSC Standards for BC** provide detailed guidance on what is meant by precautionary management for the purpose of P9 including the following from the standards glossary: “Planning, management activities and monitoring of the attributes that make a forest management unit a HCVF should be designed, based on existing scientific and indigenous/traditional knowledge, to ensure that these attributes do not come under threat of significant reduction or loss of the attribute and that any threat of reduction or loss is detected long before the reduction becomes irreversible. Where a threat has been identified, early preventive action, including halting any potentially detrimental action, should be taken to avoid or minimize such a threat despite lack of full scientific certainty as to causes and effects of the threat”. The **CIT EBM Framework** defines the precautionary principle as: “Application of the precautionary principle means that where the risks associated with an action are uncertain,

- the proponent of change in the ecosystem should err on the side of caution, and
- the onus is on the proponent to show that ecological risk thresholds are not exceeded.

The precautionary approach enlists techniques such as risk assessment, cost–benefit analysis, monitoring, and adaptive management strategies.”



There are a number of tools being used to fully implement EBM including legal requirements (e.g., Land Use Orders, legal designation of protected areas), and policy guidance (e.g., *A Framework for Landscape Reserve Planning in the Central/North Coast*, April 27th 2009). When the assessment of the DFA was carried out an initial suite of Land Use Orders (*South Central Coast Order*, 2007) and the Forest and Range Practices Act governed EBM forest operations. In March of 2009 the Land Use Orders were revised to include a further increment towards full implementation of EBM. Forest operations are now in the process of incorporating the 2009 orders in management planning (e.g., amending Forest Stewardship Plans).

A key EBM measure of ecosystem integrity is a sub-regional target for old growth representation of 70% RONV. The 2009 Land Use Orders establish Landscape Unit RONV targets (30%-100%) which when rolled up to the sub-region achieve 50% RONV or *moderate risk* as defined by the CIT EBM Handbook⁴. Further agreements and undertakings on the part of the Joint Solutions Project (JSP), the Province and First Nations frame a plan to get to low ecological risk and high human wellbeing by 2014 or to make further, meaningful increments towards both. This is anticipated in the agreed upon *2014 Review of the Land Use Orders*

There are a variety of additional agreements and undertakings involving the Province, First Nations and JSP related to the commitment to low ecological risk and high degrees of human wellbeing. Some of these are multilateral, some are bilateral and some undertaken by the province. They address the adaptive management process, focal species habitat, landscape level reserve design, improvements to human wellbeing, enabling conditions and timber supply review. A number of these elements are contained in the *JSP Key Benchmarks July 2009*, letters of commitment from the Province and guidance and agreements from the Land and Resource Forums. JSP will work with other parties to implement these agreements including in the Mid Coast Timber Supply Area.

This report examines how the various “coarse filter” (e.g., old growth retention), “medium/fine filter” (e.g., forested swamp reserves) and “fine-filter” (e.g., WFP, InterFor and BCTS species at risk habitat retention) obligations, combined with other CFCI commitments to achieve low ecological risk management, maintain and/or enhance identified HCVs. The commitment to protect these values are found in the standard operating policy documents of the Coast Forest Conservation Initiative (CFCI) partners as well as the individual Forest Stewardship Plans (FSPs) which encompass the legal obligations of the Forest and Range Practices Act (FRPA), Land Act and EBM Legal Orders, and in the documents describing further commitments to EBM implementation e.g., 2014 Review Terms of Reference, Framework for Landscape Reserve Planning, JSP Benchmarks July 2009, etc.) described above

A main tenet of Principle 9 is that the assessment of HCVs is carried out by Qualified Professionals, including consultation with directly affected persons and relevant interests groups (e.g., First Nations, regulatory agencies, local communities, conservation organizations). There was significant past consultation with all these directly affected persons and relevant interest groups when EBM was being formalized; many government-to-government (First Nations to Provincial Government) discussions occurred, and continue to occur with recommendations forwarded to Cabinet. As well, the CFCI FSPs legally require extensive consultation (through FRPA and the SCC Legal Order and CNC Legal

⁴ <http://www.citbc.org/ebm.html>



Order) in the CFCI managed forest areas of the Mid-Coast DFA; there are clear objectives for information sharing and/or consultation with stakeholders. As part of our assessment for HCVs, various specialists were additionally consulted (government organizations, non government organizations, academia, and conservation organizations). Most of the supporting documentation provided by the Coast Information Team (CIT) and EBM Working Group (EBMWG) used for HCV identification and management was peer- reviewed and also included consultation with directly affected persons and relevant interest groups.

Information on the status of types of HCV (e.g., endemic species) is often incomplete, as is information on HCVs in geographically isolated and remote parts of the DFA. As shown in the Principle 6 Environmental Risk Assessment Report (ERA), due to the targets for ecosystem and old growth representation (and other commitments to move towards lower risk management), species at risk habitat protection can be protected through a combination of coarse filter landscape unit planning, medium/fine filter planning and fine filter management strategies. In general, species specific data for the DFA (like most of British Columbia) are lacking and will need to be analyzed as it becomes available (e.g., coastal wolf research) to aid in refining future management and monitoring strategies.

The identified HCVFs in the CFCI managed forest areas of the Mid-Coast DFA include forest areas with globally, nationally or regionally significant concentrations of biodiversity values such as habitat for endangered species at risk (e.g., grizzly bears Class 1 and Class 2 habitat), habitat for anadromous fish, various levels of protected areas, large landscape level forests, naturally rare ecosystem types and areas of cultural, ecological, economic and religious significance. The following table identifies and locates the six main categories of HCVFs and associated attributes found within the Mid-Coast DFA and CFCI managed forest areas:

FSC Category	Attribute	Distribution Status
Category 1: Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia);		
Item 1. Does the forest contain species at risk or potential habitat of species at risk as listed by international, national or territorial/provincial authorities?	25 animals, 66 plant communities, 9 plants: rare and endangered	Throughout DFA and CFCI managed forest areas.
Item 2 Does the forest contain a globally, nationally or regionally significant concentration of endemic species?	Not true “endemism” but location and habitat supports unique Kermode and Coastal wolves populations	Throughout DFA and CFCI managed forest areas.
Item 3. Does the forest include critical habitat containing globally, nationally or regionally significant seasonal concentration of species (one or	Various salmon, eulachon and herring habitat Ungulate winter range habitat Grizzly bear habitat Migratory birds habitat and major migration corridor	Throughout DFA and CFCI managed forest areas.



several species, e.g., concentrations of wildlife in breeding sites, wintering sites, migration sites, migration routes or corridors –latitudinal as well as altitudinal, watershed level forests or riparian forests associated with high value fisheries habitat)?		
Item 4. Does the forest contain critical habitat for regionally significant species (e.g., species representative of habitat types naturally occurring in the management unit, focal species, species declining regionally, including concentrations of aquatic species whose habitat is dependent on riparian forest or watershed condition)?	Various salmon, eulachon and herring habitat Ungulate winter range habitat 5 Focal species habitat Migratory birds habitat and major migration corridor	Throughout DFA and CFCI managed forest areas.
Item 5. Does the forest support concentrations of species at the edge of their natural ranges or outlier populations?	Potentially migratory bird species potentially plant species (data incomplete)	Relevant conservation issues include vulnerability against range contraction and potential genetic variation at range edge. Outlier and edge of range populations may also play a critical role in genetic/population adaptation to global warming/ Communications with various specialists (e.g., MacKinnon, Darimont) Centre for Applied Conservation Research (2008) CIT (2004a)
Item 6. a) designated by an international authority, b) legally designated or proposed by relevant federal/provincial/ territorial legislative body, or c) identified in regional land use plans or conservation plans.	Numerous protected areas (parks, conservancies, BMTAs)	Throughout DFA (outside CFCI managed forest areas)
Category 2: Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance;		
Item 7. Does the forest constitute or form part of a globally, nationally or regionally significant forest	Various regional to subregional ecological processes	Throughout DFA and CFCI managed forest areas



landscape that includes populations of most native species and sufficient habitat such that there is a high likelihood of long-term species persistence?		
Category 3: Forest areas that are in or contain rare, threatened or endangered ecosystems;		
Item 8. Does the forest contain naturally rare ecosystem types?	Rare BEC variants/site series surrogates in old growth state (links to plant and wildlife species associations-recruitment strategies in place))	Throughout DFA and CFCI managed forest areas
Item 9 Are there ecosystem types or ecosystem type conditions within the forest or ecoregion that have significantly declined, or under sufficient present and/or future development pressures that they will likely become rare in the future (e.g., old seral stages)?	Rare BEC variants/site series surrogates in old growth state (recruitment strategies in place)	Throughout DFA and CFCI managed forest areas
Item 10. Are there ecosystems, that are poorly represented in protected areas, and likely to become rare in an intact state due to ongoing human activities?	Rare BEC variants/site series surrogates in old growth state (recruitment strategies in place)	In sections of total DFA and CFCI managed forest areas
Item 11. Are large landscape level forests (i.e., large unfragmented forests) rare or absent in the forest or ecoregion?	Old growth (recruitment strategies in place)	In sections of total DFA and CFCI managed forest areas
Item 12. Are there nationally /regionally significant diverse or unique forest ecosystems, forests associated with unique aquatic ecosystems? (Various red and blue listed plant communities (recruitment strategies in place)	In sections of total DFA and CFCI managed forest areas
Category 4: Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control);		
Item 13. Does the forest contribute to maintaining the quality, quantity	Drinking water sources for local communities	Site specific areas within DFA (outside CFCI managed forest areas)



and seasonal timing for water flows that are a source of drinking water, irrigation water or water for a critical economic activity?		
Item 14. Are there forests that provide a significant ecological service in mediating flooding and/or drought, controlling stream flow regulation, and water quality?	Many site specific areas dominated by rain/snow processes on steep topography	In sections of total DFA and CFCI managed forest areas
Item 15. Are there forests critical to erosion control?	Control of erosion, sedimentation, landslides or avalanches	In sections of total DFA and CFCI managed forest areas
Item 16. Are there "interface" forests that play a significant role determining the potential spread of wildfires into developed areas, or other areas where fire would be harmful?	N/A	All 5 NDTs are in the DFA but very little fire risk/ Flegel (2008) Dorner and Wong (2003)
Category 5: Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health); and,		
Item 17. Are there local communities that use the forest? (This should include both people living inside the forest area and those living adjacent to it as well as any group that regularly visits the forest.) – Is anyone within the community making use of the forest for basic needs/ livelihoods? (Consider food, medicine, fodder, fuel, building and craft materials, water, income). If it is not possible to say that it is NOT fundamentally important, then assume that it is.) (Look at members or subgroups rather than treating the community as homogeneous.)	7 First Nations and associated forest dependent uses	Territories throughout DFA and CFCI managed forest areas
Category 6: Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities)		
Item 18. Is the traditional cultural identity of the local community particularly tied to a specific	7 First Nations and associated forest dependent cultural identity	Territories and historic sites throughout DFA and CFCI managed forest areas



forest area?		
Item 19. Is there a significant overlap of values (ecological and/or cultural) that individually did not meet HCV thresholds, but collectively constitute HCVs? (see Table 2 in main	7 First Nations and associated forest dependent cultural identity (potentially other ecologic values not yet defined)	Territories and historic sites throughout DFA and CFCI managed forest areas

Due to the large amount of unique HCV attributes and potential extensive distribution across the Mid-Coast DFA, we are identifying and managing the entire CFCI managed forest areas of the Mid-Coast TSA as one HCVF.

Current regional, landscape and site level management strategies (e.g., old growth, ecosystem and seral stage targets) are in place, and combined with commitments made to further implementation of EBM prior to 2014, CFCI will effectively maintain or enhance these HCVFs. In the years to come, monitoring of these management strategies and associated thresholds (through Adaptive Management), will be refined to contribute to effective protection of HCVFs throughout the CFCI managed forest areas of the Mid-coast DFA.