

Appendix 1c

Values, Objectives, Indicators & Targets Summary Tables

Indicators Applicable to the Defined Forest Area

June 2011





The following Indicators are applicable to the entire DFA (see Appendix 1a for indicators applicable to the Honeymoon Bay portion of the DFA only; or Appendix 1b for indicators that are applicable to the Fraser portion of the DFA only).

CCFM Criterion 1: Conservation of Biological Diversity

Conserve biological diversity by maintaining integrity, function, and diversity of living organisms and the complexes of which they are part.

CSA SFM Element 1.1: Ecosystem Diversity									
Conserve ecosystem diversity at the stand and landscape level by maintaining the variety of communities and ecosystems that naturally occur in the DFA.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Ecosystem Biodiversity	Conserve Ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA	Ecosystem Area by type	C 1.1.1	Maintain current forest area by type	Forest Roads	Core Indicator CSA Z809-08 standard	N/A	Operational Planning monitor BEC	GIS
		Forest Area by seral stage or age class	C 1.1.3	Meet Old Growth Management Area representation by Landscape Unit (LU) as defined in legally established Landscape Unit Plans or the Non-Spatial Old Growth Order	Zero	Core Indicator CSA Z809-08 standard	N/A	Operational Planning monitor BEC	GIS
		Average annual percent of stand level retention in all cutblocks as a percent of total cutblock area	C 1.1.4	Meet retention targets as specified in Teal's Forest Stewardship Plans (FSP)	Zero	Core Indicator CSA Z809-08 standard	N/A	Operational Planning	Phoenix, Government Inspections
CSA SFM Element 1.2: Species Diversity									
Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Species at Risk	Maintain critical habitat as established by government	Degree of Suitable Habitat in the Long Term for Selected Focal Species, Including Species at Risk	C 1.2.2	Zero net area reduction of WHA and UWR	Zero	Core Indicator CSA Z809-08 standard	N/A	Operational Planning	GIS, Government Inspections
Healthy forests with genetic diversity; forest productivity and wood quality	Maintain genetic diversity of native tree species, forest productivity and wood quality	Proportion of Regeneration Comprised of Native Species	C 1.2.3	100% of seed used for reforestation registered according to the Chief Forester's Standards for Seed Use	Zero	Core Indicator CSA Z809-08 standard	N/A	Operational Planning	Seed Planning and Registry System (SPAR), Phoenix, Government Inspections



CSA SFM Element 1.3: Genetic Diversity

Conserve genetic diversity by maintaining the variation of genes within species and ensuring that reforestation programs are free of genetically modified organisms

Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Healthy forests with genetic diversity; forest productivity and wood quality	Maintain genetic diversity of native tree species, forest productivity and wood quality	Proportion of Regeneration Comprised of Native Species	C 1.2.3	100% of seed used for reforestation registered according to the Chief Forester's Standards for Seed Use					
For details see indicator C1.2.3 under Element 1.2 Species Diversity									

CSA SFM Element 1.4: Protected Areas and Sites of Special Biological and Cultural Significance

Respect protected areas identified through government processes. Co-operate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special geological, biological, or cultural significance within the DFA, and implement management strategies appropriate to their long-term maintenance.

Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Identified Sites	Manage rare or unique sites of ecological, geological, historical or cultural importance in a manner that recognizes their special qualities	Proportion of Identified Sites with Implemented Management Strategies	C 1.4.1	100% of identified sites within the DFA have implemented management strategies as per the approved Forest Stewardship Plan (FSP)	Zero	Core Indicator CSA Z809-08 standard	N/A	Strategic & Operational Planning	Third Party Audits, Government Inspections
Special sites		Protection of Identified Sacred and Culturally Important Sites	C 1.4.2	Spatially track all special sites identified (outside of OGMA, WHA, etc.) and implement management strategies appropriate to their long term maintenance	Zero	Core Indicator CSA Z809-08 standard	N/A	Operational Planning	GIS



CCFM Criterion 2: Ecosystem Condition and Productivity

Conserve forest ecosystem condition and productivity by maintaining the health, vitality, and rates of biological production.

CSA SFM Element 2.1: Forest Ecosystem Resilience									
Conserve ecosystem resilience by maintaining both ecosystem processes and ecosystem conditions.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Regeneration of harvested areas	Successful regeneration of harvested areas	Reforestation Success	C 2.1.1	Full compliance with regeneration delay requirements in approved stocking standards	Zero	Core Indicator CSA Z809-08 standard	Forest and Range Practices Code	Operational Planning	Pheonix, RESULTS, Silviculture surveys, Government Inspections
Healthy Forests	Minimize stress associated with harvesting	Number of Accidental Industrial Caused Fires >1/2 ha in Size	D2-1	Zero incidents	Average one incident per year over a five year rolling average	Combining several previous indicators into one indicator, public concern	Wildfire Act	Operational Planning, Emergency Preparedness & Response Plans	Incident Investigations, Fire Reports
		Number of Reportable Spills	D2-2	Zero incidents	2 spills/year over a five year rolling average, with only 1 spill to water over entire 5 year period	Combining several previous indicators into one indicator, public concern	Environmental Management Act, Environment Act, Fisheries Act, Wildfire Act	Operational Planning, Emergency Preparedness & Response Plans	Incident Investigations, Spill Reports
		Number of Landslides within recent built roads or harvested areas	D2-3	Less than an average of four incidents per year over a five year rolling average	+1	Combining several previous indicators into one indicator, public concern	Forest and Range Practices Act, Fisheries Act	Operational Planning, Emergency Preparedness & Response Plans	Incident Investigations, Landslide Reports
Ecosystem recovery from disturbance & stress	Forest management activities do not compromise the ability of the ecosystem to recover from disturbance and stress	Successful Establishment of stands (cutblocks meet free growing criteria)	D2-4	Full compliance with Free Growing requirements in approved stocking standards	Zero	Stocking standards, Site Plans or Silviculture Prescriptions	Forest Practices Code Act Forest and Range Practices Act	Operational Planning, Silviculture	Pheonix, RESULTS, Silviculture surveys, Government Inspections



CSA SFM Element 2.2: Forest Ecosystem Productivity

Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.

Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Minimize loss productive area	Minimize conversion of forests to non-forest uses	Additions and deletions to the forest area	C 2.2.1	Evaluate and respond to 100% of all formal proposals for conversion of forested lands to non-forest uses	Zero	Core Indicator CSA Z809-08 standard	N/A	Operational Planning	Communication files
Timber	Sustainable harvest levels	Annual harvest levels relative to the volume of harvesting determined to be sustainable in the Allowable Annual Cut Determination	C 2.2.2	100% compliance with Allowable Annual Cut over Cut Control Period	As allowed under the Forest Act cut control rules	Timber Supply Review	Forest Act	Operational Planning	Scaling records, waste & residue surveys, MOF electronic submissions, inspections by government agencies



CCFM Criterion 3: Conservation of Soil and Water Resources

Conserve soil and water resources by maintaining their quantity and quality in forest ecosystems.

CSA SFM Element 3.1: Soil Quality and Quantity

Conserve soil resources by maintaining their quantity and quality in forest ecosystems.

Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Soil productivity; the natural elemental properties of forest soil function, nutrients and content	Conserve productivity of forests soils by minimizing disturbance due to harvesting activities	Level of soil disturbance	C 3.1.1	100% compliance with soil conservation limitations (permanent access structures and soil disturbance limits)	Zero	Core Indicator CSA Z809-08 standard	N/A	Operational Planning, Standard Operating Procedures	Inspections, Internal monitoring, Incident Investigation Forms, Pheonix database
Natural Ecological Cycles	Minimize negative impacts of harvesting on natural global ecological cycles	Level of downed woody debris	C 3.1.2	Report on status of Coarse Woody Debris Program a minimum of once per year	Zero	Core Indicator CSA Z809-08 standard	Forest and Range Practices Act	Operational Planning, Standard Operating Procedures	Meeting minutes

CSA SFM Element 3.2: Water Quality and Quantity

Conserve water resources by maintaining water quantity and quality.

Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Natural aquatic habitat	Maintain natural habitat and stream morphology for aquatic species	Compliance with requirements for riparian management specified in Teal's Forest Stewardship Plan (FSP)	D3-1	Zero non-compliances	Zero	Riparian Management Areas	Forest Stewardship plan, Forest and Range Practices Act	Operational Planning, Standard Operating Procedures, Site level assessments	Harvest Assessments, inspections by government agencies



CSA SFM Element 3.2: Water Quality and Quantity									
Conserve water resources by maintaining water quantity and quality.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Water	Protection of Water resource	Proportion of Watershed or Water Management Areas with Recent Stand-replacing Disturbance	C 3.2.1	Maintain an Equivalent Clearcut Area within the allowable limits of low peak flow hazard in designated Watersheds, including Gordon River, Harris/ Hemmingsen, Hatton Creek, Norrish Creek, Gurney Creek, and Jamieson Creek Watersheds	10%	Core Indicator CSA Z809-08 standard	Forest Stewardship plan, Forest and Range Practices Act	Operational Planning, Standard Operating Procedures	Equivalent Clearcut area calculations, Inspections, Internal monitoring, Incident Investigation Forms



CCFM Criterion 4: Forest Ecosystem Contributions to Global Ecological Cycles

Maintain forest conditions and management activities that contribute to the health of global ecological cycles.

CSA SFM Element 4.1: Carbon Uptake and Storage									
Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Global ecological cycles	Minimize carbon emissions and maximize carbon storage	Net Carbon Uptake	C 4.1.1	Maintain net positive carbon storage over the DFA from forestry operations (excluding carbon emissions from natural, uncontrollable events such as wildfire)	Zero	Core Indicator CSA Z809-08 standard	N/A	Operational Planning, Standard Operating Procedures	Timber Supply Review, carbon modeling
Regeneration of harvested areas	Successful regeneration of harvested areas	Reforestation Success	C 2.1.1	Full compliance with regeneration delay requirements in approved stocking standards	Zero	For details see indicator C2.1.1 under Element 2.1 Forest Ecosystem Resilience			
CSA SFM Element 4.2 Forest Land Conversion									
Protect forest lands from deforestation or conversion to non-forests, where ecologically appropriate.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Minimize loss productive area	Minimize conversion of forests to non-forest uses	Additions and deletions to the forest area	C 2.2.1	Evaluate and respond to 100% of all formal proposals for conversion of forested lands to non-forest uses	Zero	For details see indicator C2.2.1 under Element 2.2 Forest Ecosystem Productivity			



CFM Criterion 5: Economical and Social Benefits

Sustain flows of forest benefits for current and future generations by providing multiple goods and services.

CSA SFM Element 5.1: Timber and Non-Timber Benefits									
Manage the forest sustainably to produce an acceptable and feasible mix of timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Recreation and Tourism	Maintain visual quality	Cutblocks designed to meet Visual Quality Objectives	D5-1	100 % of cutblocks within visually sensitive areas meet or exceed the requirements for Visual Quality management specified in Teal's Forest Stewardship Plans (FSP)	Zero	Public concern for Visually Sensitive Areas	Forest and Range Practices Act	Operational Planning, Visual Impact Assessments	Inspections by government agencies, Harvest Inspections, external communications files
Non-timber benefits	Maintain or enhance opportunities for non-timber benefits derived from the DFA	Quantity and Quality of Timber and Non-timber Benefits, Products, and Services Produced in the DFA	C 5.1.1	Report annually on number of: requests for access, firewood permits issued, and beekeepers within the DFA	Public access is restricted where safety, vandalism or sensitive ecological sites are concerns; special access may be required by First Nations and special interest groups	Core Indicator CSA Z809-08 standard	N/A	Operational Planning, External Communications	External Communications file
CSA SFM Element 5.2: Communities and Sustainability									
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Contributions to society (including local community)	Assess the level of investment in initiatives that contribute to community sustainability	Level of investment in initiatives that contribute to community sustainability	C 5.2.1	Report on total dollars contributed to initiatives that contribute to the local economy and community sustainability	The intent of this indicator is to provide a general idea of the dollars contributed to the local economy by harvesting activities within the DFA, results will fluctuate over time	Core Indicator CSA Z809-08 standard	N/A	Corporate Administration	Corporate and accounting files



CSA SFM Element 5.2: Communities and Sustainability									
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Investment in TFL Workers	Opportunities for workforce training and skill development	Level of investment in training and skills development	C 5.2.2	100% conformance with internal mandatory training requirements	20%	Core Indicator CSA Z809-08 standard	N/A	Corporate Management System	Training records, InTrac database
Contributions to society (including local community)	Assess the monetary benefits to the local community as a result of harvesting	Level of direct and indirect employment	C 5.2.3	Report on total dollars contributed to direct and indirect employment	The intent of this indicator is to provide a general idea of the dollars contributed to indirect and direct employment in the DFA, and results will fluctuate over time	Core Indicator CSA Z809-08 standard	N/A	Corporate Administration	Corporate and accounting files
Aboriginal Community Involvement in the DFA	Provide economic opportunities for Aboriginal participation in forestry activities	Level of Aboriginal participation in the forest economy	C 5.2.4	Report annually on direct involvement through employment or contract opportunities.	N/A	Core Indicator CSA Z809-08 standard	N/A	External Communications, Requests from First Nations, MOU, protocol agreements	Meeting minutes



CFM Criterion 6: Society's Responsibilities

Society's responsibility for sustainable forest management requires that fair, equitable, and effective forest management decisions are made.

CSA SFM Element 6.1: Aboriginal and Treaty Rights									
Recognize and respect Aboriginal and Treaty Rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Aboriginal Title & Rights	Understand and respect Aboriginal title and rights	Evidence of a good understanding of the nature of Aboriginal title and rights	C 6.1.1	Report annually on the status and results of 1) individual protocol agreements with First Nations who have an expressed interest, and 2) other requests from First Nations	Zero	Core Indicator CSA Z809-08 standard	Constitution Act, Forest Stewardship Plan	External communications	Meeting minutes
Aboriginal values	Provide opportunities for input into planning	Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans	C 6.1.2	100% of landscape level plans are accessible for review by local First Nations, 100% site level plans are provided as mutually agreed upon information sharing	Zero	Core Indicator CSA Z809-08 standard	Constitution Act, Forest Stewardship Plan	Operational Planning	External Communications file
Cultural Heritage Resources	Manage Cultural Heritage Resources in a manner that adequately reflects the associated First Nation's goals	Level of management and/or protection of areas where culturally important practices and activities (hunting, fishing, gathering) occur	C 6.1.3	100% Compliance with Teal's Forest Stewardship Plans (FSP) results and strategies for Conservation and Protection of Cultural Heritage Resources, and the Heritage Conservation Act	Zero	Core Indicator CSA Z809-08 standard	Constitution Act, Forest Stewardship Plan	Operational Planning	External Communications file



CSA SFM Element 6.2: Respect for Aboriginal Forest Values, Knowledge, and Uses									
Respect traditional Aboriginal forest values and uses identified through the Aboriginal input process.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Respect for Aboriginal forest values, knowledge and uses	To incorporate Aboriginal knowledge into the planning process through information sharing arrangements	Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values	C 6.2.1	All requests for information sharing are addressed in a manner mutually acceptable to Teal and the First Nation	Zero	Core Indicator CSA Z809-08 standard	Forest Stewardship Plan	Operational Planning, External communications	External Communications file

CSA SFM Element 6.3: Forest Community Well Being and resilience									
Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Forest community well-being and resilience	To continue to foster good working relationships with other forest-dependent businesses, forest users and the local community to strengthen and diversify the local economy	Evidence that the organization has co-operated with other forest-dependent businesses, forest users, and the local community to strengthen and diversify the local economy	C 6.3.1	Prioritize co-operation with forest users, local businesses, and the local community	The intent of this indicator is to provide a general idea of the co-operation with Forest-dependent Businesses, Forest Users, and the Local Community, and results will fluctuate over time	Core Indicator CSA Z809-08 standard	N/A	Business relationships	Accounting Department
A healthy and Safe Work Place for all personnel	Establish and maintain safe work practices and environment through adequate procedures and direction	Evidence of co-operation with DFA-related workers and their unions to improve and enhance safety standards , procedures, and outcomes in all DFA-related workplaces and affected communities	C 6.3.2	Teal Manager/ Supervisor to attend Primary Contractor Safety Meetings a minimum of 3 times a year, and review Safety Meeting Minutes from meetings not attended	Zero	Core Indicator CSA Z809-08 standard	Workers Compensation Act, Occupational Health and Safety Regulation	Safety Meetings	Primary Contractor Safety meeting attendance records and meeting minutes



CSA SFM Element 6.3: Forest Community Well Being and resilience

Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.

Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
A healthy and Safe Work Place for all personnel	Establish and maintain safe work practices and environment through adequate procedures and direction	Evidence that a worker safety program has been implemented and is periodically reviewed and improved	C 6.3.3	All primary contractors working in the DFA are eligible for Safe Certification or have equivalent safety system in place by December 2012	Zero	Core Indicator CSA Z809-08 standard	Workers Compensation Act, Occupational Health and Safety Regulation	Contracts and internal correspondence	BC Forest Safety website (SAFE certification)

CSA SFM Element 6.4: Fair and Effective Decision Making

Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.

Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Public participation	Improve the public participation process	Level of participant satisfaction with the public participation process	C 6.4.1	Each item on the PAG Evaluation Form scores Satisfactory or better	Steps are taken to discuss and remedy, where possible, Poor or Unsatisfactory scores during a PAG meeting	Core Indicator CSA Z809-08 standard	N/A	PAG meetings, Evaluation Form	Meeting minutes
Ongoing and meaningful public advisory group participation	Provide adequate background information and resources to Public Advisory Groups	Evidence of efforts to promote capacity development and meaningful participation in general	C 6.4.2	The public participation process shall include discussions of 100% of the 'Discussion Items' for each criterion in the CSA Z809 SFM standard	Zero	Core Indicator CSA Z809-08 standard	N/A	PAG meetings	Meeting minutes
Aboriginal and Treaty Rights	Provide effective opportunities for First Nations to communicate Aboriginal issues	Evidence of efforts to promote capacity development and meaningful participation for Aboriginal communities	C 6.4.3	Report on efforts to enhance Aboriginal participation in Sustainable Forest Management	Zero	Core Indicator CSA Z809-08 standard	N/A	PAG meetings, ongoing communications	Meeting minutes, call logs, external communications files



CSA SFM Element 6.5: Information for Decision Making									
Provide relevant information and educational opportunities to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Information and decision making	To inform and educate the PAG and other public through field trips, school tours and public presentations	Number of people reached through educational outreach	C 6.5.1	A minimum of one educational outreach activity each year	Zero	Core Indicator CSA Z809-08 standard	N/A	External Communications	External Communications files

CSA SFM Element 6.5: Information for Decision Making									
Provide relevant information and educational opportunities to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.									
Value	Objective	Indicator	#	Target	Acceptable Variance	Basis for the target	Legal Requirements	Means of Achieving Objective and Target	Monitoring and Measurement
Information and Decision Making	To summarize issues of concern to the public and make these available on an annual basis	Availability of summary information on issues of concern to the public	C 6.5.2	Make summary information of issues of concern available to the public, including updating Teal's website at least once a year with PAG meeting minutes	Zero	Core Indicator CSA Z809-08 standard	N/A	External Communications	External Communications files