

# Stillwater and Port Alberni Forest Operations

## Forest Stewardship Plan

### Companion Document

December 23, 2016

## INTRODUCTION

The Forest Stewardship Plan (FSP) is the key operational plan under the *Forest and Range Practices Act* (FRPA). Forest Stewardship Plans provide limits on where timber harvesting and road construction may occur, are subject to public review and comment and must be approved by government before they take effect. Western Forest Product Inc. (WFP) has operated under a Forest Stewardship Plan since 2007. WFP has prepared a replacement Forest Stewardship Plan to:

Update the geographic location of the Plan; specifically to exclude the area of central-east Vancouver Island from this Forest Stewardship Plan.

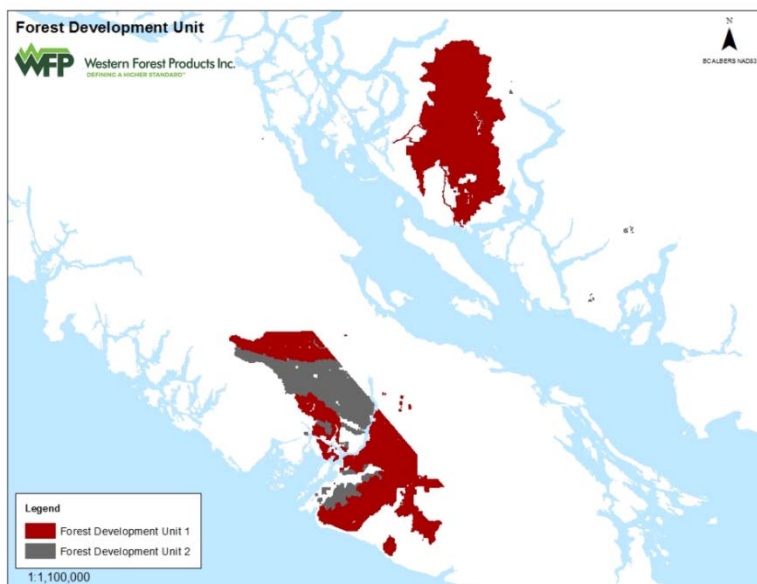
Update some *Results, Strategies, Standards and Measures* to reflect new forest management considerations and to enhance their measurability and verifiability including: wildlife, riparian, fish habitat, community watersheds, biodiversity, stocking standards, and invasive plants.

Reflect aspects of the Maa-nulth and Tla'amin Final Agreements.

The proposed replacement Forest Stewardship Plan is very similar to the existing Forest Stewardship Plan in construct and dialogue. This **Companion Document** has been prepared to assist in interpreting the content of the replacement Forest Stewardship Plan. For clarity, this **Companion Document** in no way binds WFP nor creates any legal or other obligation on the part of WFP, and is provided for information purposes only. In providing the information in this **Companion Document**, WFP makes no representations whatsoever to any person. All sections of the Forest Stewardship Plan are discussed herein with the exception of those dedicated to administrative matters and maps; specifically, Sections 3, 7-9 and Appendices A and B.

## APPLICATION OF THIS FOREST STEWARDSHIP PLAN: Section 1

The Forest Stewardship Plan applies to Tree Farm Licence 39, Block 1 and Tree Farm Licence 44 within one or more areas that are each called a Forest Development Unit (FDU) shown in the overview map below. Forest Development Unit #1 is where timber harvesting and road construction will occur and; Forest Development Unit #2 are areas that have been removed from the tenures listed above and now only contain legacy silviculture obligations.



## TERM OF THIS FOREST STEWARDSHIP PLAN: Section 2

The term of the Forest Stewardship Plan is five years and will commence on or before August 15, 2017. There is a possibility that the term may be extended after five years.

## RESULTS AND STRATEGIES BASED ON GOVERNMENT OBJECTIVES: Section 4

### Soils: Section 4.1 of the Forest Stewardship Plan

#### Overview

Soil productivity (enhanced by soil structure, nutrient levels, moisture content etc.) and hydrology (natural surface and below surface drainage patterns) are important for maintaining the long-term health of British Columbia's forests and watersheds. In order to minimize soil disturbance levels throughout British Columbia (BC) the provincial government has set an objective to conserve the productivity and hydrological function of soils during road construction and timber harvesting activities.

#### Summary of Soils Objective

Maintenance of soil productivity and hydrologic function is addressed under Sections 35 and 36 of the 'Forest Planning and Practices Regulation' (FPPR), which falls under the 'Forest Range and Practices Act' (FRPA).

**Forest Planning and Practices Regulation Section 35** indicates maximum soil disturbance limits for sensitive and non-sensitive soils during timber harvesting activities over the entire productive area of a cutblock and along roadsides (expressed as a percentage). Maximum soil disturbance limits range from 5% where operations are located on sensitive soils, and 10% where operations are located on non-sensitive soils (low to moderate soil sensitivity ratings). Rehabilitation measures are also indicated where harvesting activities exceed the soil disturbance limits.

**Forest Planning and Practices Regulation Section 36** indicates a maximum allowable percentage of constructed permanent road structures within harvest areas in order to minimize the amount of productive area lost. Within BC, the maximum allowable percentage for road structures has been set at 7%. Specific exemptions for exceeding the maximum percentage (such as for terrain constraints or road safety purposes) and options for road rehabilitation are also indicated under this section.

For further details of the requirements under *Forest Planning and Practices Regulation* 35 and 36, refer to the following link: [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/14\\_2004#division\\_d2e7917](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004#division_d2e7917)

#### General Definitions

'Soil disturbance' is defined as disturbance to the soil within the productive area of a timber harvesting unit from heavy machinery and yarding activities which can cause soil compaction, soil displacement (e.g. exposure of an unfavourable subsoil layer and changes to natural drainage patterns), and soil erosion (e.g. exposure of mineral soils on steeper slopes more prone to erosion). These disturbances can significantly affect the productivity and hydrologic function of the soils (Section 1 of the *Forest Planning and Practices Regulation* - Definitions).

'Sensitive soils' are defined as soils with higher risks of soil compaction, soil displacement, and soil erosion due to their location within the landscape (e.g. steep slopes), soil properties (e.g. finer soil textures), and moisture levels (e.g. higher moisture content). On the BC coast, sensitive soils refer to soils of high or very high soil sensitivity ratings. Refer to *Forest Planning and Practices Regulation* Section 35 (1) for definition.

'Rehabilitation measures' are defined as measures taken to reduce the overall soil disturbance and permanent road percentages within timber harvest areas to acceptable levels. Measures include but are not limited to: de-compacting compacted soils (to provide better soil structure for aeration and drainage), re-establishing natural drainage patterns of soils, and rehabilitation of road sections involving road removal, and re-establishment of the soils and vegetation to a natural state (e.g. re-establishing the natural layers such as the forest floor/organics (overlying the mineral soils) that have been stripped or eroded. Refer to *Forest Planning and Practices Regulation* Section 36 (3) for definition. Soil



rehabilitation measures can be found under the *Soil Rehabilitation Guidebook* located at: <https://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/soilreha/rehab2.htm#begin>

## Forest Stewardship Plan Commitment

WFP's commitment to soil health is indicated within Section 4.1.1 of the Forest Stewardship Plan, and ensures that soil disturbance levels and permanent road structures within the timber harvest area adhere to *Forest Planning and Practices Regulation* Sections 35 and 36. Typically, within WFP's operating areas the soils are predominantly sensitive and permanent road structures have achieved less than the 7% maximum disturbance limit.

## Wildlife: Section 4.2 of the Forest Stewardship Plan

### Overview

Certain wildlife habitat characteristics are critical to the survival of various *Species at Risk* (SAR) and ungulate species (e.g. including but not limited to black-tailed deer). In order to minimize operational impacts to these species the provincial government has set an objective to protect sufficient wildlife habitat in terms of amount, distribution, and attributes of areas for the survival of *Species at Risk* and for the winter survival of ungulates.

### Summary of Wildlife Objective

Management / maintenance of habitat requirements for specific ungulates and *Species at Risk* are addressed under WFP's Forest Stewardship Plan, which incorporates legal requirements under *Forest Planning and Practices Regulation* section 7. For further details on the *Forest and Range Practices Act* requirements refer to the following link:

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/14\\_2004#section7](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004#section7)

### Forest Stewardship Plan / Other Definitions



*Ungulate Winter Range (UWR)* is defined as an area that contains habitat that is necessary to meet the winter habitat requirements of an ungulate species (including but not limited to Mountain goat and black-tailed deer). Refer to the Ministry of Environment (MoE) website: <http://www.env.gov.bc.ca/wld/frpa/uwr/>.

*Identified species* comprise two categories of wildlife as defined under *Forest Planning and Practices Regulation* Section 7: *Species at Risk* (SAR) and *Regionally Important Wildlife* (RIW). *Species at Risk* includes endangered, threatened, or vulnerable species of vertebrates and invertebrates, and endangered or threatened plants and plant communities that could be impacted by forest or range management on Crown land. *Regionally Important Wildlife* are considered important to a region of BC, rely on habitats that are not otherwise protected under the *Forest and Range Practices Act*, and may be adversely impacted by forest or range practices. Refer to the Ministry of Environment (MoE) *Identified Wildlife Management Strategy (IWMS)* website for further details on habitat requirements for *Species at Risk* or for *Regionally Important Wildlife*: <http://www.env.gov.bc.ca/wld/frpa/iwms/>.

### Forest Stewardship Plan Commitment

Sections 4.2.1.2 to 4.2.1.3 of the Forest Stewardship Plan commit WFP to retain from timber harvesting specified amounts of area suitable as habitat for various identified species within the South Island and Sunshine Coast Forest Districts (various ungulate species and *Species at Risk* including but not limited to Marbled Murrelet, Coastal Tailed Frog, Queen Charlotte Goshawk, Grizzly Bear, and Scouler's Corydalis). The specified areas of suitable habitat to retain from harvest (by species) were indicated within notices set out by the government for certain Forest Districts as well as within a table under this section. WFP has allocated suitable habitat for each species, firstly within the non-contributing land-base (NCLB = in-operable areas already excluded from harvest due to inaccessibility, terrain concerns, old growth retention, or existing wildlife reserves). Where additional habitat area was required beyond the Non-Contributing Land-base, WFP has allocated area to be retained from harvest within its operable area (timber harvesting land-base). Refer to the *Species at Risk* Notices link for further details: <http://www.env.gov.bc.ca/wld/frpa/notices/sar.html>. For specific habitat requirements by species refer to the *Identified Wildlife Management Strategy* document at [http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Accounts\\_and\\_Measures\\_Coast.pdf](http://www.env.gov.bc.ca/wld/frpa/iwms/documents/Accounts_and_Measures_Coast.pdf).



Sections 4.2.1.4 to 4.2.1.5 of the Forest Stewardship Plan indicate where adjustments or exemptions to the non-harvestable habitat targets specified within the table under Section 4.2.1.2 are acceptable or permissible. For

example, if the area of Forest Development Unit #1 is reduced during the term of the Forest Stewardship Plan, there could be a reduction in the amount of habitat required for a given species.



Section 4.2.1.6 of the Forest Stewardship Plan indicates that section 4.2.1.2 would be not applicable if the minister responsible for the Wildlife Act is satisfied the objective has been met by the protected areas established for a given species.

Sections 4.2.1.7 to 4.2.1.8 of the Forest Stewardship Plan indicate that the harvesting restrictions within the Stillwater areas of the Sunshine Coast District, Sunshine Coast Timber Supply Area (TSA), and within Tree Farm License 39 have been spatially identified on maps included in the Forest Stewardship Plan. These restricted areas focus on Grizzly bear, Mountain Goat, Marbled Murrelet, and Black-tailed Deer habitat.

## Riparian: Section 4.3 of the Forest Stewardship Plan

### Overview

Riparian features (such as streams, wetlands, and lakes) and their associated habitat (timber, vegetation, and coarse woody debris) provide many functions such as stand level biodiversity (e.g. provide diversity of timber and habitat types over the landscape), providing habitat for some identified wildlife species or *Species at Risk* that specifically utilize riparian habitat, providing habitat for numerous fish species, and in some instances providing clean drinking water (e.g. Community Watersheds). Given the importance of riparian features and their associated habitat, the provincial government has set an objective to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with riparian habitat without unduly reducing the supply of timber from BC's forests (*Forest Planning and Practices Regulation* Section 8).

### Summary of Riparian Objective

Management / maintenance of riparian habitat are addressed under WFP's Forest Stewardship Plan, which incorporates legal requirements under the *Forest Planning and Practices Regulation* Sections 8.2 and 47 to 53. Specific management requirements within Fisheries Sensitive Watersheds and Community Watersheds are also addressed under WFP's Forest Stewardship Plan, incorporating legal requirements of the *Vancouver Island Land Use Plan* Order Objective 8, and the *Government Actions Regulation* (GAR) Section 14. For further details on the specific *Forest Planning and Practices Regulation*, *Vancouver Island Land Use Plan* (VILUP) Order, and *Government Actions Regulation* sections refer to the following links:

*Forest Planning and Practices Regulation* Section 8.2 (Community Watersheds)

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/14\\_2004#section8.2](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004#section8.2)

*Forest Planning and Practices Regulation* Sections 47 to 53 (Riparian Habitat Management)

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/14\\_2004#division\\_d2e9829](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004#division_d2e9829)

*Government Actions Regulation* Section 14 (Fisheries Sensitive Watersheds):

[http://www.bclaws.ca/civix/document/id/complete/statreg/582\\_2004#section14](http://www.bclaws.ca/civix/document/id/complete/statreg/582_2004#section14)

*Vancouver Island Land Use Plan* Order Objective 8 (Fisheries Sensitive Watersheds):

[https://www.for.gov.bc.ca/tasb/slrp/lrmp/nanaimo/vancouver\\_island/docs/HLP\\_order\\_final.pdf](https://www.for.gov.bc.ca/tasb/slrp/lrmp/nanaimo/vancouver_island/docs/HLP_order_final.pdf)

### General Definitions

*Fisheries Sensitive Watershed* (FSW) is defined as a watershed that has significant fisheries values and watershed sensitivity. Watersheds which meet the above criteria, and that have been designated a *Fisheries Sensitive Watershed* by a designated government official; require forest tenure holders like WFP to establish results and strategies in their Forest Stewardship Plans consistent with the objective(s) set by the government official. For a more detailed description of *Fisheries Sensitive Watersheds* refer to the following link:

<http://www.env.gov.bc.ca/wld/frpa/fsw/>

*Community Watershed* (CW) is defined as all or part of a drainage area that is upslope of the lowest point from which water is diverted for human consumption by a licensed waterworks. Community watersheds must also be designated under the *Government Actions Regulation*. These areas require special management to conserve the quality, quantity and timing of water flow, and to prevent cumulative hydrological effects from having a negative impact on water. For a more detailed description of *Community Watersheds* refer to the following link:

<http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/community-watersheds>



The *Riparian Management Area* (RMA) is the total buffer applied to classified streams, wetlands, and lakes, which consists of a *Riparian Management Zone* (RMZ) and, where required by regulation (such as for a larger fish stream channels 1.5m+ in width), a *Riparian Reserve Zone* (RRZ). Harvesting (with constraints) is permitted within the *Riparian Management Zone* but is not permitted within the *Riparian Reserve Zone*. The width of these zones is determined by attributes of streams, wetlands or lakes (e.g. stream width, lake or wetland size and fish presence / absence). For further details on *Riparian Management Areas*, *Riparian Reserve Zones*, and *Riparian Management Zones* and for a diagram showing their application refer to the following links:

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/14\\_2004#section8.2](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004#section8.2)

<https://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/riparian/rmafig01.htm>

### Forest Stewardship Plan Commitment

Section 4.3.1.1 of the Forest Stewardship Plan commits WFP to uphold the legal requirements stated under *Forest Planning and Practices Regulation* Sections 47 to 49, which indicate how streams, wetlands, and lakes are to be classified, and the required *Riparian Management Area*, *Riparian Management Zone*, and/or *Riparian Reserve Zone* buffers for each classification.

Section 4.3.1.2 of the Forest Stewardship Plan indicates instances where / when the *Riparian Reserve Zone* buffer for a stream, wetland or lake may vary from those indicated under *Forest Planning and Practices Regulation* Sections 47 to 49. Where approved, variance of the *Riparian Reserve Zone* may only occur where there is no other practicable option due to size, topography and engineering constraints of harvesting units, and where it will not have a negative impact on the riparian feature, associated wildlife / fish habitat, hydrology, stream temperature, water quality, etc. If a variance is required, an area of equal size within the *Riparian Management Zone* of that stream, wetland or lake will be designated as a *Riparian Reserve Zone*.

Sections 4.3.1.3 and 4.3.1.4 of the Forest Stewardship Plan commit WFP to uphold the legal requirements stated under *Forest Planning and Practices Regulation* (FPPR) Section 50(1). FPPR 50(1) indicates the circumstances where it is permissible to construct a road through a *Riparian Management Area*, and specific restrictions for road construction, maintenance, and deactivation within a *Riparian Management Area*. Section 4.3.1.4 of the Forest Stewardship Plan includes circumstances in addition to *Forest Planning and Practices Regulation* 50(1) for constructing a road in a *Riparian Management Area*.

Section 4.3.1.5 of the Forest Stewardship Plan commits WFP to uphold the legal requirements stated under *Forest Planning and Practices Regulation* (FPPR) Section 51(1) and (3). FPPR 51(1) indicates the circumstances where it is permissible to cut, modify or remove trees from a *Riparian Reserve Zone* (e.g. for worker safety or for a stream crossing). Section 51(3) indicates forestry activities which are not permitted within an *Riparian Reserve Zone* such as slash pile burning, herbicide use, etc.

Section 4.3.1.6 of the Forest Stewardship Plan commits WFP to uphold the legal requirements stated under *Forest Planning and Practices Regulation* (FPPR) Section 52(2). FPPR 52(2) indicates harvesting restrictions (e.g. retention of trees and vegetation) within the *Riparian Management Zones* for small fish streams (S4 stream class) and non-fish bearing streams (S5 to S6 stream class) with stream bank and channel stability concerns, which have direct connectivity to either: a larger fish bearing stream (S1 to S3 stream class) or to the ocean where important fish and shellfish habitat exists. The purpose is to minimize negative impacts to these downstream resources (e.g. increased sediment transport, or landslides).



Section 4.3.1.7(a) of the Forest Stewardship Plan indicates criteria where harvesting is not permitted within the *Riparian Management Zones* of larger fish streams (S1 to S3 stream class), wetlands, and lakes (fish streams – terrain stability concerns; wetlands and lakes – negative impacts to recreation sites or visual quality as viewed from a wetland or lake). Section 4.3.1.7(b) indicates where stream *Riparian Management Zones* are harvested as part of a harvest unit, a portion of a *Wildlife Tree Retention Area* (*Wildlife Tree Retention Area* = timbered reserve excluded from harvest) should also overlap at least one *Riparian Management Zone*.

Sections 4.3.2.1 and 4.3.2.2 of the Forest Stewardship Plan identify two *Fisheries Sensitive Watersheds* located within WFP's South Island Operations: Haddon Creek (*Government Actions Regulation* s.14 applicable) and the Klanawa River (*Vancouver Island Land Use Plan* Objective 8 and *Government Actions Regulation* s.14 applicable). Harvesting and road construction within these two watersheds is to be conducted in accordance with Appendices C.2 and C.3 of the Forest Stewardship Plan, which are explained in more detail below.

Sections 4.3.3.1 and 4.3.3.2 of the Forest Stewardship Plan identify eight community watersheds within WFPs South Island and Sunshine Coast Operations. Harvesting and road construction within these two watersheds is to be conducted in accordance with Appendices C.3 and C.4 of the Forest Stewardship Plan. Section 4.3.3.3 indicates where sections 4.3.3.1 and 4.3.3.2 are not applicable.

#### **Appendices Specific to Riparian Section 4.3.2 and 4.3.3:**

Appendix C.2, subsections (a) to (c) indicate the general stream and natural hydrological conditions WFP is committed to maintain within the *Fisheries Sensitive Watersheds*. Subsections (d) and (e) consist of specific harvesting, road construction, and road maintenance / deactivation strategies / restrictions within the Klanawa and Haddon Creek. Schedules 1 and 2 of this Appendix are maps indicating the locations of the Klanawa River and Haddon Creek *Fisheries Sensitive Watersheds*, and where the above strategies and restrictions apply.

Appendix C.3 (subsections 1 to 3) identifies terrain instability risks for *Fisheries Sensitive Watersheds* and *Community Watersheds* based on matrix tables which combine ratings for potential for landslide occurrence (PLO) and sediment delivery potential (SDP). Overall Risk = PLO \* SDP. Both the landslide potential and sediment delivery potential ratings are determined by a terrain specialist in the field. Based on the level of overall risk obtained through the matrix table, four different management strategies may be utilized for harvesting and road construction.

For example, **Harvesting Strategy:** Low to Very Low overall risk = clearcut harvesting **OR** High overall risk = single tree harvesting. **Road Construction Strategy:** Low to Very Low overall risk = conventional (normal) road construction measures **OR** High overall risk = special road construction measures to lower risk. Subsection (4) of this Appendix identifies where the management strategies apply within a *Fisheries Sensitive Watershed* and *Community Watershed*.

Appendix C.4 (subsections 1 to 5) identifies strategies for sediment control in community watersheds in order to maintain water quality. The majority of the strategies apply to road construction and maintenance (e.g. ditch cleaning, culvert replacement etc.); however, some management strategies / restrictions also apply to harvesting when shutting down for extended periods (for fire hazard / rainfall shutdown) or at harvest completion.

## **Biodiversity: Section 4.4 of the Forest Stewardship Plan**

### **Overview / Summary of Biodiversity Objective**

Biodiversity at the landscape and stand level includes but is not limited to: diversity of stand and habitat types (e.g. adequate distribution of various seral stages, including mature / old growth forests, riparian habitat etc.), diversity of ecological plant communities, disturbances that mimic natural disturbance levels for a landscape (size and types of disturbances and timeframe between disturbances), and multiple resource uses of the timber / vegetation (outdoor recreation, conservation, drinking water, First Nations interests, timber / non-timber resources etc.). The provincial government has set objectives for old growth / mature forest retention, *Old Growth Management Areas* (OGMAs), non-spatial old growth, size and adjacency allowances for timber harvesting units, and timber retention requirements such as WFP Stand Level Variable Retention System along with the Legislated Wildlife Tree Retention targets – see below. These objectives have been set under various legislation including the *Vancouver Island Land Use Plan* and *Forest Planning and Practices Regulation* and are incorporated within WFPs Forest Stewardship Plan.

VILUP: [https://www.for.gov.bc.ca/tasb/slrp/lrmp/nanaimo/vancouver\\_island/docs/HLP\\_order\\_final.pdf](https://www.for.gov.bc.ca/tasb/slrp/lrmp/nanaimo/vancouver_island/docs/HLP_order_final.pdf)

FPPR: [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/14\\_2004#division\\_d2e11896](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004#division_d2e11896)

### **General Definitions**

(refer to: <https://www.for.gov.bc.ca/hfd/library/documents/glossary/glossary.pdf>, and [https://www.for.gov.bc.ca/tasb/slrp/lrmp/nanaimo/vancouver\\_island/docs/vislup.pdf](https://www.for.gov.bc.ca/tasb/slrp/lrmp/nanaimo/vancouver_island/docs/vislup.pdf)).

*Resource Management Zones* (RMZ) were delineated by government over Vancouver Island through the *Vancouver Island Land Use Plan* and are based on the dominant or competing resource uses within various Landscape Units. *Resource Management Zones* were further broken down into three categories: *Special Management Zones* (SMZs), *General Management Zones* (GMZs), and *Enhanced Forestry Zones* (EFZs). *Special Management Zones* are zones where management priorities are focused on environmental, recreational, and cultural / heritage values. *General Management Zones* are zones where multiple resources are being

managed / balanced with one another. *Enhanced Forestry Zones* are zones where the primary focus is on timber volume production while at the same time respecting other resource values.

*Mature Seral Forest* is defined as forest between than 80-120 years old.

*Old Seral Forest* (old growth) is defined as forest greater than 250 years old.

*Old Growth Management Areas* (OGMAs) consist of either drafted or legally established and spatially defined areas of old growth forest that are identified during Landscape Unit planning or during operational planning. Forest licensees are required to maintain legally established *Old Growth Management Areas* when preparing Forest Stewardship Plans.

*Non-spatial Old Growth Retention Requirements* are targets set for old growth within Landscape Units where draft or legal *Old Growth Management Areas* do not exist (e.g. hectares of old growth required by Landscape Unit).

*Biogeoclimatic Subzones* are areas delineated over the province by classes of relative precipitation and temperature, elevation, and continentality.

*Cutblock* is defined as an area that was previously harvested, is currently being harvested, or is proposed for harvest.

*Green-up* (GU) *Requirements* indicates specific requirements where existing cutblocks are to achieve select stocking levels as well as minimum height requirements (e.g. existing cutblocks are required to achieve a minimum 3m height within *General Management Zones* and *Special Management Zones*, and a minimum height of 1.3m within *Enhanced Forestry Zones*).

The *Variable Retention System* sustains the major ecological conditions and processes characteristic of a forest by maintaining a level of stand structure, complexity, and diversity. It is designed to: retain individual trees or groups of trees to maintain structural diversity over the area of the cutblock.

*Adjacency* is defined as an area that is sufficiently close to a cutblock that, due to its location, could directly have an impact on, or be impacted by a forest practice carried out within the cutblock.

*Coarse Woody Debris* refers to fallen dead trees and the remains of large branches on the ground which in forests and in rivers or wetlands, that are slowly decomposing.

*Wildlife Tree Retention Area* (WTRA) is defined as an area of timber retained within or directly adjacent the cutblock, which is representative of the pre-harvest stand. The *Wildlife Tree Retention Area* can function to maintain stand / structural diversity and to protect identified resources (e.g. species at risk, archaeological features, bear dens etc.).

### **Forest Stewardship Plan Commitment**

Section 4.4.1.1 of the Forest Stewardship Plan defines which *Special Management Zones* (under the *Vancouver Island Land Use Plan*) are applicable to the Forest Stewardship Plan: *Special Management Zones (SMZ's) 14, 17, 18, and 21.*

Section 4.4.1.2 of the Forest Stewardship Plan specifies non-harvestable targets (hectares) of mature seral forest within each of the four *Special Management Zones* listed above. Section 4.4.1.3 identifies the instances where adjustments may be made to the non-harvestable targets (references *Vancouver Island Land Use Plan Objective 1a - Special Management Zones*).

Section 4.4.1.4 of the Forest Stewardship Plan indicates adherence to Forest Stewardship Plan sections 4.4.5.1 to 4.4.5.4, specific to *Wildlife Tree Retention Area* (WTRA) requirements and that WTRAs should not be contiguous with the cutblock boundary (references *Vancouver Island Land Use Plan Objective 1b - Special Management Zones*). This section also indicates Coarse Woody Debris requirements over a newly harvested cutblock. Refer to *Forest Planning and Practices Regulation* Section 68 for specific details: [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/14\\_2004#section68](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004#section68)

Section 4.4.1.5 of the Forest Stewardship Plan indicates non-harvestable old seral forest targets (hectares) within the Coastal Western Hemlock Very Wet Maritime sub-montane variant (CWHvm1 biogeoclimatic subzone) of Resource Management Zone 42 (Corrigan Landscape Unit - *Enhanced Forestry Zone*) where old seral forests are at lower levels. Sections 4.4.1.6 to 4.4.1.7 identify the instances where adjustments may be made to the non-harvestable targets (references *Vancouver Island Land Use Plan Objectives 11 and 11.1*)



Section 4.4.1.8 of the Forest Stewardship Plan indicates that if the provincial government specifies within a written notice to WFP that timber retention within the timber harvesting land-base (THLB) of *Resource Management Zone (RMZ) 43 (Sarita Landscape Unit – Enhanced Forestry Zone)* is required to maintain critical marbled murrelet habitat, then WFP will design cutblocks and roads to be consistent with *Vancouver Island Land Use Plan Objectives 15 and 16*. Refer to the following link for specific details on *Vancouver Island Land Use Plan Objectives 15 and 16*:

[https://www.for.gov.bc.ca/tasb/slrp/lrmp/nanaimo/vancouver\\_island/docs/HLP\\_order\\_final.pdf](https://www.for.gov.bc.ca/tasb/slrp/lrmp/nanaimo/vancouver_island/docs/HLP_order_final.pdf).

Section 4.4.1.9 of the Forest Stewardship Plan indicates that Sections 4.4.1.5 to 4.4.1.8 are not applicable if and when *Old Growth Management Areas* are established.

Section 4.4.2.1 of the Forest Stewardship Plan indicates the Landscape Units (within WFPs South Island and Sunshine Coast operating areas) where legal *Old Growth Management Areas* have been established. The section further indicates that if carrying out timber harvesting or road construction within a legal *Old Growth Management Areas*, it is to be conducted in accordance with Appendix C.5.2 of the Forest Stewardship Plan; for instance, harvesting and road building is allowed within a legal *Old Growth Management Area* to prevent the spread of an insect infestation or disease that poses a significant threat to a forested area outside the *Old Growth Management Areas*.

Section 4.4.3.2 of the Forest Stewardship Plan identifies targets set for old growth retention within Landscape Units where draft or legal *Old Growth Management Areas* do not exist. Old growth targets by Landscape Unit and Biogeoclimatic (BEC) subzones are indicated within Appendix C.5.3 of the Forest Stewardship Plan. Section 4.4.3.3 identifies the instances where adjustments may be made to the non-harvestable old growth targets. Examples of reasons for an adjustment to the target would be a reduction in the size of Forest Development Unit #1 or the old growth retention target changes. Section 4.4.3.4 indicates where non-spatial old growth targets do not apply. An example is if the draft *Old Growth Management Areas (OGMAs)* in a Landscape Unit are determined to meet the target and WFP agrees not to harvest the draft OGMAs.

Section 4.4.4.1 of the Forest Stewardship Plan commits WFP to uphold the legal requirements stated under *Forest Planning and Practices Regulation (FPPR)* Sections 64(1) and 65(2). Section 64 sets maximum size constraints for the productive cutblock areas (e.g. 40 hectares maximum cutblock size for coast, and 60 hectares maximum cutblock size for the interior).

Section 4.4.4.2 of the Forest Stewardship Plan addresses the circumstances where variations from maximum cutblock size occur as indicated under the *Vancouver Island Land Use Plan*. Subsections (a) and (b) address variations for cutblock size where located within *Special Management Zones 14, 17, 18, or 21* (e.g. maximum cutblock size of 5 hectares if block is clearcut harvested or maximum cutblock size of 40 hectares if a variable retention harvesting system is utilized), and the circumstances where these cutblock sizes may be exceeded (e.g. to recover timber damaged due to natural disturbances). Subsection (c) addresses variations for cutblock size where located within *Enhanced Forestry Zones* (e.g. maximum cutblock size may exceed 40 hectares where not located within a community watershed and meets the reduced *Green-up / Adjacency* guidelines).

Section 4.4.4.3 of the Forest Stewardship Plan indicates that for green-up / adjacency purposes, the 100 tallest trees per hectare over an existing cutblock area will be utilized to determine if a cutblock is considered *Greened-up*.

Section 4.4.4.4 of the Forest Stewardship Plan addresses the circumstances where variations of minimum *Green-up* heights / adjacency considerations are permitted as indicated under the *Vancouver Island Land Use Plan* for *Enhanced Forestry Zones* (e.g. minimum *Green-up* height of 1.3 meters within *Enhanced Forestry Zones*).

Section 4.4.4.5 of the Forest Stewardship Plan indicates exemptions for adjacency and *Green-up* requirements (set under *Forest Planning and Practices Regulation* 65(2)) where variable retention (VR) harvesting systems are utilized (e.g. adjacency and *Green-up* rules do not apply if the existing adjacent cutblock is VR or contains 40% or more retained basal area (timber) within the cutblock area).

Section 4.4.5.1 of the Forest Stewardship Plan commits WFP to achieve specific *Wildlife Tree Retention Area* targets identified for various Landscape Units (LU) within WFP's South Island and Sunshine Coast operating areas. The *Wildlife Tree Retention Area* targets (in percentages) are identified within tables under this section and are based on the Landscape Units and which Biogeoclimatic subzone the cutblocks lay within. The *Wildlife Tree Retention Area (WTRA)* targets for the Sunshine Coast Landscape Units are specific to each cutblock, whereas the WTRA targets for the South Island Landscape Units are specific to all cutblocks harvested annually. Landscape units without specific targets by Biogeoclimatic Subzone have a 7% target.

Section 4.4.5.2 of the Forest Stewardship Plan indicates how the required *Wildlife Tree Retention Area* percentage is to be calculated and applied (e.g. the *Wildlife Tree Retention Area (WTRA)* percentage is determined by multiplying the required WTRA % by the combined area of the productive cutblock area plus the in-block roaded area).



Section 4.4.5.3 of the Forest Stewardship Plan indicates general and specific requirements for *Wildlife Tree Retention Area* (WTRA) stand characteristics, and locations of WTRAs associated with cutblocks within various Landscape Units of the Sunshine Coast and South Island operating areas.

Section 4.4.5.4 of the Forest Stewardship Plan indicates restrictions on harvesting *Wildlife Tree Retention Areas* (WTRAs) in areas without landscape unit objectives (e.g. A WTRA will not be harvested unless the regenerating trees within the productive cutblock area have developed attributes consistent with a mature seral condition).

Section 4.4.5.5 of the Forest Stewardship Plan indicates parameters for relocating all or a portion of a *Wildlife Tree Retention Area* (WTRA). This section also indicates activities that may occur within the WTRA such as pruning (to protect from windthrow damage), salvage of windthrown timber, and due to forest health concerns (where forest health issues within the *Wildlife Tree Retention Area* pose a significant threat to areas outside the *Wildlife Tree Retention Area*). An equivalent replacement area is required if any salvage activities were to occur.

#### **Appendices Specific to Biodiversity Section 4.4:**

Appendix C.5.2 indicates when industrial activities are permitted within legal *Old Growth Management Areas* of the Landscape Units identified under Section 4.4.2.1 of the Forest Stewardship Plan (e.g. harvesting, road construction, pruning) with specific constraints / restrictions applied (e.g. maximum area can harvest, *Old Growth Management Areas* replacement areas).

Appendix C.5.3 identifies targets set for old growth retention within landscape units where draft or legal *Old Growth Management Areas* do not exist (as indicated within Section 4.4.3.2 of the Forest Stewardship Plan). Old growth targets are indicated by Landscape Units and Biogeoclimatic subzones.

### **Cultural Heritage: Section 4.5 of the Forest Stewardship Plan**

#### **Overview**

First Nations have aboriginal rights in British Columbia. Aboriginal rights refer to practices, traditions, and customs unique to each First Nation. Some First Nations have aboriginal rights that have been formalized in treaties by the Federal and Provincial Governments. The Provincial Government has set an objective to support First Nations in exercising their aboriginal rights.

#### **Summary of Cultural Heritage Objective**

To conserve or, if necessary, protect [cultural heritage resources](#) that are the focus of traditional use and continuing importance to First Nations and not regulated under the [Heritage Conservation Act](#). This Forest Stewardship Plan also references the final agreements or treaties for the Maa-nulth and Tla'amin First Nations.

#### **Forest Stewardship Plan Definitions**

Section 4.5.1 of the Forest Stewardship Plan establishes definitions including:

- First Nation Cultural Heritage Information
- Potentially Affected Cultural Heritage Resource
- Final Agreements in reference to the treaties
- First Nation Areas of Interest
- Monumental Cedar and Cypress Harvesting Allocation as it relates to the treaties

#### **Forest Stewardship Plan Commitment**

Section 4.5.2 commits WFP to ensure that timber harvesting activities will not cause the availability of a *Potentially Affected Cultural Heritage Resource* (PACHR) to be less than the historical traditional use of a First Nation and in the case of a Treaty First Nation the amount of that *Potentially Affected Cultural Heritage Resource* as set out in the Final Agreement.

Section 4.5.3 commits WFP to annually share the approximate location of new planned cutblocks and roads within the territories of individual First Nations, request and meet to discuss the information of any *Potentially Affected Cultural Heritage Resource* (PACHR), and to provide PACHR information to government.

Section 4.5.4 commits WFP to reforest with cedar where it is ecologically suited and if requested, to assist a First Nation to locate and obtain logs suitable for traditional use items including paddles, masks, totems, and canoes. For Treaty Nations, WFP will assist in locating the monumental cedar allocation in accordance with the Monumental Cedar and Cypress Harvest Agreements.

The picture to the right is of fine cedar roots harvested by First Nation elders in cooperation with Planners at Western Forest Products Stillwater Forest Operation.



## Visual Quality: Section 4.6 of the Forest Stewardship Plan

### Overview

Forested landscapes are significant contributors to the scenic values of British Columbia. The Provincial Government has set an objective to manage forested landscapes in scenic areas of the Province.

[http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/visual-resource-mgmt/vrm\\_managing\\_change.pdf](http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/visual-resource-mgmt/vrm_managing_change.pdf)

### Summary of Visual Quality Objective

To ensure that a forest landscape within a scenic area that is altered as a result of timber harvesting or road construction falls within one of five specified categories of visual alteration which are also termed Visual Quality Objectives (VQOs).

- Preservation or “P” (not easily distinguishable)
- Retention or “R” (difficult to see)
- Partial Retention “PR” (easy to see)
- Modification “M” (very easy to see and natural in appearance)
- Maximum Modification “MM” (very easy to see and not natural in appearance)

Visual alteration is assessed from identified viewpoints or corridors of viewpoints.

### Forest Stewardship Plan Commitment

Sections 4.6.2 and 4.6.3 of the Forest Stewardship Plan commits WFP to timber harvesting activities that meet the specified category of alteration from significant public viewpoints. Sections 4.6.4 and 4.6.5 of the Forest Stewardship Plan identify exceptions to this commitment for historic adjacent harvesting, for threats to timber such as insects and disease, or where there is no other practicable option having regard to the size, topography or engineering constraints for the cutblock or road.

The picture below is an example of where the resulting alteration meets the definition of the required Visual Quality Objective but is rectilinear or geometric in shape and does not appear natural in design. Due to the constraining steep slopes on this side hill, the required grapple yarding harvest method dictated the final engineering of these blocks.



## Recreation: Section 4.7 of the Forest Stewardship Plan

### Overview / Summary of Recreation Objective

Forest Management must consider a diverse set of resources over the landscape, including but not limited to timber, fish and wildlife, water quality, archaeological, biodiversity, and recreation. Specific to this objective, recreation trails on crown land are considered a valuable resource that are managed for the general public and provide good opportunities for related recreational activities such as hiking, camping, fishing, or canoeing. With regards to trail management, the objective is to manage the trails for a semi-primitive non-motorized experience.

### General Definitions

*Recreation trail* refers to a recreation trail established under section 56 of the *Forest Range and Practices Act*, section 6 of the former *Forest Practices Code of British Columbia Act* or designated under the *Forest Act*.

### Forest Stewardship Plan Commitment

Section 4.7.1 of the Forest Stewardship Plan identifies 4 recreational trails located within WFPs operating areas where this objective applies: the Beta Lake Recreation Trail, Powell Forest Canoe Route Portage Trails (see picture to the right), and Appleton Creek Recreation Trail which are located within the Powell River area, and the Lost Lake Recreation Trail, which is located within the Whistler area. Impacts to these trails will be mitigated through practice outlined in Section 4.7.2.



Section 4.7.2 of the Forest Stewardship Plan specifies that timber is not to be harvested within 10m on either side of the centre line of a recreation trail except as necessary for public / worker safety purposes (hazard trees) or in order to construct a road crossing the trail.

**Note:** *Government Actions Regulation* orders specific to recreation sites are not Forest Stewardship Plan results and strategies and includes recreation resource features at Lowry Lake, Scout Beach, Sarita Lake, Flora Lake, Nitinat Lake and Knob Point. Additionally, management of established visual quality objectives is addressed under Section 4.6 of the Forest Stewardship Plan.

The following web link is to an interactive map of all legal trails and sites in BC. <http://apps.gov.bc.ca/pub/dmf-viewer/?siteid=5140114829009675607&ll=49.8288600832779%2C-124.448361676741&z=12>

## Stocking (General Standards): Section 5.0 of the Forest Stewardship Plan

### Overview / Summary of Stocking Objective

Sustainability of the provinces diverse forests, which often have numerous resource requirements (e.g. such as timber volume, cultural, drinking water, recreation, wildlife conservation, etc.), requires ensuring that harvesting is completed in a sustainable manner (e.g. representative of the natural disturbance types in an area), and that harvested areas are re-established within an adequate time frame with ecologically suitable and socially and economically valuable crop trees. In order to achieve the re-establishment of ecologically suitable and socially and economically valuable crop trees within an adequate time frame, requirements have been set out by the provincial government under *Forest Planning and Practices Regulation* Sections 16 and 44, for all Forest Stewardship Plan holders to specify stocking standards within their Forest Stewardship Plan documents (where stocking, regeneration, and free-growing requirements are specified)

### General Definitions

(refer to <https://www.for.gov.bc.ca/hfd/library/documents/glossary/glossary.pdf>)

*Crop Trees* (CT) are defined as healthy trees of a species that is ecologically suitable for the site, and commercially valuable.

*Regeneration Date* (RD) is defined as the date by which a regenerating stand must conform to stocking standards set for it.

A *Free-growing* (FG) *Stand* consists of established seedlings of an acceptable commercial species that are healthy, of good form, and are free from growth-inhibiting brush, weed, and excessive tree competition.

*Free-growing Date (FGD) and Heights (FGH).* *Free-growing Date* is defined as the date by which a free-growing stand must conform to the stocking standards set for it. *Free-growing Height* is defined as the minimum height that a crop tree must attain before it forms part of a free-growing stand.

*Standards Units (SU)* are defined as subdivisions of a cutblock (e.g. generally based on ecological classification / differences or differences in soil or stand types) which will be managed differently than other portions of the cutblock (e.g. such as differing: soil disturbance targets, forest health concerns including root rot or ungulate browse concerns, harvesting systems, stocking standards, crop tree suitability, brush concerns etc.).

*Intermediate Cuttings (IC)* includes the removal of some trees from a stand. This could be a removal of a percentage of trees in order to improve the growth rates of the final crop trees or to remove single trees from terrain sensitive areas.

*Special Forest Products (SFP)* are defined under the *Forest Act*, these are: Christmas trees; firewood; mining timbers; stakes and sticks; cants; posts and rails (split and round); shake and shingle bolts, blocks, and blanks.

*Stocking Standards (SS)* identify the specific reforestation requirements within defined *Standards Units*. They indicate the range of healthy, well-spaced, acceptable crop trees required to establish a free-growing stand or to meet the residual stand requirements following an intermediate cutting or the harvesting of special forest products.

*Horizontal Inter-tree Distance (HID)* is defined as the distance between seedling stems.

*Timber Supply Analysis (TSA)* is defined as the process that explores the effects on timber supply of existing or potential forest management strategies and alternative timber harvesting levels. The process typically uses a computer model to forecast the development of a forest over time given specific schedules of management activity.

*Site Series* is defined as all sites within a Biogeoclimatic Subzone that are capable of producing the same climax vegetation unit and/or plant community. *Climax vegetation* is defined as a forest community that represents the final stage of natural forest succession for its environment.

### **Forest Stewardship Plan Commitment**

Section 5.1 of the Forest Stewardship Plan commits WFP to the legal requirements under *Forest Planning and Practices Regulation (FPPR)* Sections 16(1) – Stocking Standards, and FPPR Section 44(1) – Free-growing Stands.

Section 5.2.1 (a) of the Forest Stewardship Plan indicates in order to achieve a Free-growing stand, preferred and acceptable crop tree species within Appendix D.1 are to be utilized. Section 5.2.1 (b) indicates alternative species (such as alder) may be utilized where required as per Section 5.2.6.

Section 5.2.2 (a) of the Forest Stewardship Plan indicates a *Regeneration Date (RD)* of no more than 6 years must be achieved within newly harvested areas. Section 5.2.2 (b) indicates the circumstances where the RD of >6 years may be utilized.

Section 5.2.3 (a) of the Forest Stewardship Plan specifies the requirement that an average minimum stocking of ≥600 crop trees / hectare is achieved within each *Standard Unit (SU)*. Furthermore, the target stocking level for a *Standards Unit* must be consistent with the TSA and other related forest management assumptions, unless a higher target is required to ensure consistency within any other provision within the FSP. Section 5.2.3 (b) indicates where the minimum and target stocking levels may be reduced by 50% (e.g. areas of heavy elk use where 50% or more of the seedlings are damaged by elk).

Section 5.2.4 of the Forest Stewardship Plan indicates the minimum acceptable *Horizontal Inter-tree Distance (HID)* between planted seedlings and, in which circumstances the HID may be reduced (e.g. 2 meters minimum *Horizontal Inter-tree Distance* in normal circumstances; 1.5 meters minimum *Horizontal Inter-tree Distance* may be utilized in special circumstances such as heavier slash areas or rockier sites where planting is more difficult – refer to table within sub-section (b) of this strategy).

Section 5.2.5 of the Forest Stewardship Plan indicates that minimum *Free-growing Heights (FGHs)* by species and ecological classification are obtained within Appendix D.1.

Section 5.2.6 of the Forest Stewardship Plan indicates that where applicable, Alder Stocking Standards (SS) with Appendix D.2 may be utilized. However, no more than 4% of the total harvested area within Forest Development Unit (FDU) #1 may utilize the Alder Stocking Standards.

Section 5.2.7 of the Forest Stewardship Plan indicates how stocking standards apply to those cutblocks where harvesting commenced before the term of this Forest Stewardship Plan (*Forest and Range Practices Act* Section 197(5)). For these cutblocks, the stocking standards from the previous Forest Development Plan or Forest Stewardship Plan will apply.

Section 5.3 (a) of the Forest Stewardship Plan indicates limits on the application of Intermediate Cuttings (IC) such as commercial thinning, single tree selection, harvesting of *Special Forest Products* to a total area in each calendar year of less than 0.1% of the Timber Harvesting Land base (THLB) within Forest Development Unit #1 (applies to areas within both of WFP's South Island and Sunshine Coast operating areas – refer to Forest Development Unit map on Page ii of the Forest Stewardship Plan). Section 5.3 (b) indicates specific restrictions to intermediate cuttings within a Standard Unit.

**Appendices Specific to Stocking Section 5.0**

Appendix D.1 indicates within a table, the potential crop tree species within each ecological unit (e.g. Biogeoclimatic Subzone and site series) as well as the minimum Free-growing Heights (FGHs) required by species at the Free-growing stage. Specific restrictions on the utilization of Red Alder, Western Hemlock (Coastal Western Hemlock (xm) Biogeoclimatic subzone only), Noble Fir, Western White Pine, Sitka Spruce, and Douglas-fir are also identified.

Appendix D.2 indicates within a table, the hardwood (alder and maple) stocking standards by ecological unit as well as the minimum Free-growing Heights (FGHs) required by species at the Free-growing stage. Additionally, specific requirements for the: use of alder, minimum stocking level, Free-growing Heights.

**Measures for Invasive Plants: Section 6 of the Forest Stewardship Plan**

**Overview**

Invasive Plants are non-native plants that have potential to cause undesirable impacts on people, animals, or ecosystems. They typically establish quickly on disturbed and un-disturbed sites causing negative economic, social, and environmental impacts.

<http://bcinvasives.ca/invasive-species/identify/invasive-species/invasive-plants/>

**Summary of the Invasive Plant Measure**

A Forest Stewardship Plan must specify measures to prevent the introduction and spread of invasive plants if the introduction or spread is likely to be the result of timber harvesting activities. Species of specific concern associated with the Forest Stewardship Plan are:

<b>Common Name</b>	<b>Scientific Name</b>
Gorse	<i>Ulex europaeus</i>
Giant knotweed	<i>Polygonum sachalinense</i>
Japanese knotweed	<i>Polygonum cuspidatum</i>
Scotch broom	<i>Cytisus scoparius</i>

Section 6.1 of the Forest Stewardship Plan introduces the concept of a **Site at Risk**. In short, a **Site at Risk** is an area of disturbed mineral soil resulting from timber harvesting activities that is defined by its size and proximity to one of the invasive plants listed above. The invasive plant to be addressed in the Forest Stewardship Plan is guided by the area of the disturbed mineral soil, the specific invasive species, and proximity to an Agricultural Land Reserve. Section 6.2 of the Forest Stewardship Plan establishes a protocol to train personnel to identify **Sites at Risk** and to gather information on potential **Sites at Risk** using the *Invasive Alien Plant Program Application*. <https://www.for.gov.bc.ca/hra/plants/application.htm>

**Forest Stewardship Plan Commitment**

Section 6.3 of the Forest Stewardship Plan commits WFP to seeding disturbed mineral soil on **Sites at Risk** where roads and landings are no longer in use and where grass will not interfere with tree growth. Seeding will be done on an identified timeline and with specific grass seed. Section 6.4 provides for exceptions to seeding where specific obligations, permits, or milestones have been fulfilled, expired, or passed.