



Timber harvest planning and operating ground rules

Hinton Wood Products
Forest Management Plan/Agreement
Area-Specific Addendum

Alberta 

2022

Hinton Wood Products- A Division of West Fraser Mills Ltd.

**FOREST MANAGEMENT AGREEMENT SPECIFIC
ADDENDUM-TIMBER HARVEST PLANNING AND
OPERATING GROUND RULES**

Hinton Wood Products

**ALBERTA
AGRICULTURE, FORESTRY
AND RURAL ECONOMIC
DEVELOPMENT**

ENDORSEMENTS

The Hinton Wood Products FMA Specific Addendum-Timber Harvest Planning and Operating Ground Rules, having been prepared in accordance with Section 16 (2) of FMA 8800025, and hereby endorsed this 24th day of June, 2022.

Hinton Wood Products- A Division of West Fraser Mills Ltd.

HER MAJESTY THE QUEEN in right of Alberta as represented by the Minister of Agriculture, Forestry and Rural Economic Development

Original Signed

Original Signed

Per:

Per:

(print name)

Ken Greenway

(print name)

(title)

Executive Director

(title)

Preamble

The [Forests Act](#)¹ provides for and defines the powers of the Lieutenant Governor and Minister with respect to establishing regulations related to forestry in Alberta. The [Forests Act](#) provides for the establishment of forest management units as a mechanism for allocation and disposal of timber and specifies the method of disposal of Crown timber through forest management agreements (FMA), quota certificates, and timber permits. The [Forests Act](#) was proclaimed in 1973 and was most recently amended on May 1, 2021. The [Forests Act](#) gives authority for the regulation of the management of all forest-based values, while providing for the sustainability of Alberta's forests. Alberta defines sustainability as "management to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social and cultural opportunities for the benefit of present and future generations."

The *Timber Harvest Planning and Operating Ground Rules – FMA Specific Addendum* (the "Addendum") is a reference manual that provides regulatory guidance and direction to be used by timber harvest planners, forest operators and other forestry professionals involved in implementing forest management plans (FMP). Items within the Addendum are required for implementation of unique or specific strategies within the FMP and/or are specific to an individual FMA. The Addendum will work in concert with the standardized Provincial Timber Harvest Planning and Operating Ground Rules (Provincial OGR). The Addendum is Section 4 to Sections 1, 2 and 3 in the Provincial OGR. Rules found in the Addendum will supersede those found in the Provincial OGR when they address the same objective.

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https://www.qp.alberta.ca/1266.cfm?page=F22.cfm&leg_type=Acts&isbncln=9780779822065&display=html

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List of Acronyms

AAC	Annual Allowable Cut
AFMPS	Alberta Forest Management Planning Standard
ALSA	Alberta Land Stewardship Act
AOP	Annual Operating Plan
ARIS	Alberta Regeneration Information System
ATV	All-Terrain Vehicle
AVI	Alberta Vegetation Inventory
AWCS	Alberta Wetland Classification System
CA	Compartment Assessment
DBH	Diameter at Breast Height
DFA	Defined Forest Area
DLO	Department License of Occupation
FGR	FMP-specific Ground Rule
FMA	Forest Management Agreement
FMP	Forest Management Plan
FMU	Forest Management Unit
FMWSI	Forest Management Wetland Stewardship Initiative
FWIMT	Fish and Wildlife Internet Mapping Tool
FOMP	Forest Operations Monitoring Program
GDP	General Development Plan
GPS	Global Positioning System
GRS	Geotextile Reinforced Structure
GTA	Grazing Timber Agreement
ID	Identification
KWBZ	Key Wildlife Biodiversity Zone
LOC	License of Occupation
OGR	Operating Ground Rule
PGR	Provincial Ground Rule
PSP	Permanent Sample Plot
RFMA	Registered Forest Management Area
ROW	Right-of-Way
RPF	Registered Professional Forester
RPFT	Registered Professional Forest Technologist
RSA	Reforestation Standard of Alberta
SFM	Sustainable Forest Management
SHS	Spatial Harvest Sequence
SSR	Stand Structure Retention
TFA	Temporary Field Authorization
THPS	Timber Harvest Planning Standards
TMR	Timber Management Regulation
VOIT	Values, Objectives, Indicators and Targets

Introduction

Ground rules are the standards used in planning, conducting and monitoring forest management activities and include:

- timber harvest planning requirements – requirements for the development of operational plans;
- operating ground rules – rules that govern timber operations and road work; and
- reporting requirements – requirements for monitoring and reporting to Alberta the progress, results and effects of forest management activities.

The Timber Harvest Planning and Operating Ground Rules found in the Provincial OGR and the Addendum define the practices used in planning and conducting timber harvest operations that constitute the methods used to implement decisions made in the Forest Management Plan (FMP) and any applicable [Alberta Land Stewardship Act \(ALSA\)](#) regional plans. In the event that these strategic plans do not exist, the ground rules shall establish practices that are followed relative to forest management operations and activities. While adherence to the listed Ground Rules is an expectation, there are any number of circumstances where a deviation from a rule may be deemed necessary by a timber disposition holder while planning or conducting operations. As such, requests to deviate from any of the listed Ground Rules may be possible but these requests are subject to a review and an approval decision by Alberta to ensure that the likely outcomes do not compromise our sustainability objectives.

Provincial and Addendum OGR's provide a minimum standard that applies to all timber disposition holders operating on Crown land in Alberta. These rules ensure that timber disposition holders are meeting the same expectations for common components of FMPs.

It is acknowledged that all FMUs in the province are somewhat dissimilar in both physical and non-physical attributes and as such, a standardized approach is not applicable or possible. Alberta recognizes that timber disposition holders must be able to implement customized strategies that are unique to their specific Forest Management Agreement (FMA) or approved in the FMP. FMP-specific addendums are supplemental to the OGRs and have been negotiated with the applicable Forest Management Agreement (FMA) Holder where additional ground rules are needed to address specific strategies in an FMP or unique physical or non-physical landscape attributes. These are meant to be a small list related to specific FMP requirements and not a preferred deviation or exceptions from the Provincial OGRs.

These Addendum OGRs replace existing ground rules regardless of where the timber disposition holder is in the FMP planning cycle and will supersede rules in the Provincial OGR where there are rules addressing the same objective.

Authorizations and Legislation

Approval of operational plans by Alberta, specifically Forestry Division or as amended from time to time, does not imply authorization under other provincial legislation and policy. It is the responsibility of the timber disposition holder to understand the regulatory requirements of other applicable legislation, seek advice from the appropriate regulatory agency and obtain any other necessary approvals or permits.

Approval of operational plans by Alberta does not imply authorization under federal legislation and policy which include, but not limited to, the federal [Fisheries Act](#)², [Species at Risk Act](#)³ and [Migratory Birds Convention Act, 1994](#)⁴. It is the responsibility of the timber disposition holder to understand the regulatory requirements of federal legislation, seek advice from the appropriate federal agencies (e.g. [Department of Fisheries and Oceans](#), [Environment Canada](#)) and obtain any other necessary approvals or permits.

Authorization of the Annual Operating Plan (AOP) does not constitute waiver or exemption from the OGRs, nor is authorization of the AOP verification of compliance with the OGRs.

This Agreement inures to the benefit of and is binding upon the Crown and Her heirs, successors and assigns, and the Company and its successors and assigns.

Validation

Alberta relies on the competence and professionalism of forest management professionals to apply sound forestry principles and practices. Alberta requires submissions to be validated by a forest management professional as described in Annex 2 of the [Alberta Forest Management Planning Standard](#).

Organization of this Manual

Ground rules are separated into topics and all ground rules are presented in the same format which includes the following parts:

Purpose – a statement of what the topic is designed to accomplish.

Discussion –background information, research knowledge and reasons for the identified topic. The discussion shall focus on why a ground rules is necessary. (Alternative actions or solutions could also be discussed here.)

Best Management Practices – proactive and voluntary practical methods or practices used during forest management to achieve results related to sustainable forest management. Best management practices are provided to identify good planning techniques and procedures that will reduce undesirable impacts of forest management activities on Crown land and its competing resources.

Ground Rules – the regulatory requirements presented as definitive statements of the results to be achieved and a clear indication of what is expected. Ground rules as much as possible are:

- relevant;
- practical;
- based on scientific evidence, traditional knowledge and collective experience;
- flexible and applicable in a variety of ecological conditions;
- measurable;
- clearly presented for consistent interpretation and application;

² <https://laws-lois.justice.gc.ca/eng/acts/f-14/>

³ <https://laws.justice.gc.ca/eng/acts/S-15.3/>

⁴ <https://laws-lois.justice.gc.ca/eng/acts/M-7.01/page-1.html>

- supported by technical terminology and definitions; and
- achievable.

4.1 Timber Harvest Planning Requirements

4.1.1 Planning Process {HWP 3.1}

The planning process includes:

1. Approved Forest Management Plan (FMP), including;
 - a) Spatial Harvest Sequence (SHS) for first two 10-year periods
 - b) Approved Road Corridor Plan
2. General Development Plan (GDP) The GDP gives a comprehensive description of a forest operator's proposed harvest strategy, road building plans, and reclamation operations for a five-year period, and includes all licences and permits. The GDP is used to guide integration of activities. (see section 4.1.2)
3. Forest Harvest Plan (FHP) – The FHP is a map and associated report describing the laid out harvest plan. (see section 4.1.3)
4. Annual Operating Plan (AOP) – The AOP describes the current year's operations through a series of plans, programs or schedules that are submitted together or individually on a schedule approved by Alberta (as per section 4.1.4). These plans, programs or schedules include:
 - a) Operating Schedule and Timber Production Plan
 - b) Forest Harvest Plans
 - c) General Development Plan
 - d) Reforestation Plan
 - e) Road Plan

4.1.2 General Development Plan (GDP) {HWP 3.3}

PURPOSE

To provide a projection of activities for the next five years to:

- a) guide the integration of activities;
- b) predict cut control status as per the FMA; and
- c) schedule the development and reclamation of roads.

DISCUSSION

The primary components of the GDP include a forecast of the areas scheduled for harvest for a five year period and a summary of variance for existing FHPs or long-term road plans outlined in the FMP. The GDP must also include the status and forecast of the coniferous and deciduous annual allowable cut (AAC) by the current cut control period.

The GDP shall also include details regarding road requirements, and fish and wildlife issues within the planning area where these are not already described in the FMP or a FHP. It is expected that there will be substantial discussion on significant issues with Alberta before the GDP is submitted.

The General Development Plan is the stage in operational planning in which Indigenous Consultation is conducted. Indigenous Consultation shall follow existing Government policy identified in:

[The Government of Alberta's Policy on Consultation with First Nations on Land and Natural Resource Management, 2013](#)⁵.

[The Government of Alberta's Guidelines on Consultation with First Nations on Land and Natural Resources Management, 2014](#)⁶.

[The Government of Alberta's Policy on Consultation with Metis Settlements on Land and Natural Resource Management, 2015](#)⁷.

[The Government of Alberta's Guidelines on Consultation with Metis Settlements on Land and Natural Resource Management, 2016](#)

These documents provide direction on the Indigenous consultation processes.

GROUND RULES

- 4.1.2.1 The GDP submission date is May 1 of each year unless otherwise approved by Alberta. Alberta shall respond within 30 days. The GDP shall be approved subject to an appraisal by Alberta and once approved it replaces the previously approved GDP. The AOP for the upcoming year/period is covered by the currently approved GDP until replaced by a newly appraised GDP. {HWP 3.3.1}
- 4.1.2.2 The GDP shall describe volume supply by area, and a schedule for Department License of Occupation (DLO) road construction and reclamation activities by road class (see section 2.14 of Provincial OGR). The plan is a notification to Alberta of proposed activities and exceptions to guide future regulatory activities. {HWP 3.3.2}

⁵ <https://open.alberta.ca/publications/6713979>

⁶ <https://open.alberta.ca/publications/3775118-2014>

⁷ <https://open.alberta.ca/publications/policy-on-consultation-with-metis-settlements-2015>

4.1.2.3 The GDP consists of the following: {HWP 3.3.3}

1. Schedules with the following information:
 - a) timber production summary table listing volume by compartment (by year for the next five year period);
 - b) a brief description of new potential issues arising from the proposed harvest activities that have been identified through discussions with Alberta or other known resource users; and
 - c) proposed and actual volumes in satellite yards as per Directive 2006-01 (this may be submitted under separate cover).
2. A map (of appropriate scale) that shows the following:
 - a) mill site location;
 - b) DLO roads to be constructed;
 - c) proposed haul routes (differentiating existing roads from roads to be constructed) and primary routes to be used for reforestation access;
 - d) satellite yard locations; and
 - e) compartments or other land units to be operated for the next five year period.

4.1.3 Forest Harvest Plan (FHP) {HWP 3.4}

PURPOSE

To describe the laid out harvest and road design.

DISCUSSION

The primary components of an FHP are a map and report that clearly show and document the block boundaries, roads, and watercourse crossings for the compartment. The design shall be valid for five operating years after the year of approval, unless issues deemed significant by Alberta arise during this period. The design will not be deemed invalid without significant discussion with HWP first.

GROUND RULES

4.1.3.1 A FHP shall be approved by acceptance if: {HWP 3.4.1}

- a) validated by a forest management professional;
- b) adds less than 20% of the area sequenced in the SHS by compartment per decade;
- c) the harvest area (ha) does not exceed 100% of the total area in the SHS by compartment per decade; and
- d) it adheres to all ground rules as per the FHP checklist (see Appendix 1).

i. All deviations to the ground rules will be identified and provided by the timber disposition holder. Acceptance or appraisal of the plan will be based on the magnitude of the deviations.

Where the FHP does not meet one or more of the above standards, the FHP shall undergo a full review by Alberta. Variances from the SHS shall be reported annually in the FHP in a format acceptable to Alberta (see section 4.1.6).

4.1.3.2 If a CA was completed, the FHP shall undergo a full Alberta referral and review to ensure the direction in the CA has been implemented. {HWP 3.4.2}

4.1.3.3 All FHPs shall be validated by a forest management professional. Validation means that the OGR was followed. {HWP 3.4.3}

4.1.3.4 Map(s) shall accurately show the following information: {HWP 3.4.4}

- a) the agreed upon approved forest inventory with the laid out block boundaries;
- b) all laid out DLO roads within blocks and block boundaries;
- c) all annual operating plan (AOP) roads to or between blocks;
- d) current dispositions and reserves (e.g., registered fur management area (RFMA) boundaries, Alberta permanent sample plot (PSP) locations);
- e) identified watercourses, waterbodies, water source areas, and wetlands;
- f) road corridors and DLO numbers (may be in table format in 4.1.3.5) and differentiate DLO and AOP roads. These are further broken down into existing and proposed roads;
- g) locations of access control measures;
- h) planned watercourse crossing structures and locations (may be further defined in table format). Channelled watercourses require a unique crossing number and ephemerals require an appropriate symbol; and

- i) HWP current information on previously harvested areas, existing trails, seismic lines, power lines, pipelines and access routes.
- 4.1.3.5 In addition, the following tabular information is required: {HWP 3.4.5}
- a) area (ha), and coniferous and deciduous volume estimate for each proposed harvest area;
 - b) regeneration stratum for each harvest area (see Directive 2005-01 for further details);
 - c) potentially affected dispositions and reservations (e.g., protective notation (PNT), forest grazing lease (FGL), consultative notation (CNT), departmental reserve (DRS), industrial sample plot (ISP));
 - d) where applicable a description of how the CA is addressed in the FHP;
 - e) list of watercourse crossing locations by block or road;
 - f) watercourse classification and protective buffer for watercourses larger than an intermittent if operations are proposed within the watercourse protection area as defined in Tables 6 and 7 of Provincial OGR;
 - g) access control methods employed;
 - h) table showing status of AOP roads (see section 4.2.9.2.2); and
 - i) description of integration with other users.
- 4.1.3.6 HWP shall follow existing Long Term Access Plan (LTAP), Road Corridor Plan (as approved in FMP), integrated landscape management (ILM), or access development strategies when developing DLO roads. {HWP 3.4.6}
- 4.1.3.7 Where applicable the following shall be mapped and/or described for each block: {HWP 3.4.7}
- a) harvest area comments may be included on the individual harvest area map;
 - b) layout bordering and encompassing riparian management zones when different than the standards in section 2.17 of Provincial OGR shall be both mapped and described;
 - c) watercourse classification, protective buffer, crossing type and crossing location;
 - d) identified ephemerals and planned crossings;
 - e) layout bordering restricted areas (e.g., FMA boundary, PSPs, private land);
 - f) identification of understory (see section 4.2.2 of Addendum and 2.5 of Provincial OGR);
 - g) harvest area-specific structure retention strategies;
 - h) tactics to address forest health issues;
 - i) protected roadside vegetation;
 - j) individual description of sensitive wildlife sites as per section 2.8.9 of Provincial OGR;
 - k) historical site considerations;
 - l) soil protection measures when any of the following are present:
 - identified unstable areas, ephemerals or water source areas,
 - steep or sustained slopes or grades (> 35%);
 - m) areas where topography would dictate specific road or skid trail location and construction, or specialized harvesting equipment;
 - n) harvest areas located near high-value recreation areas, tourism areas, and facilities;
 - o) partial harvests, excluding commercial thinning (CT) and pre-commercial thinning (PCT); and
 - p) when harvesting is used as a tool to control insects and disease infestations.
- 4.1.3.8 A temporary field authority (TFA) is required for temporary access that was not identified on the FHP map outside of 4.1.3.4 (c) (e.g., using a seismic line for equipment access between blocks). {HWP 3.4.8}
- 4.1.3.9 Layout that borders previously harvested areas shall be completed so that harvest will avoid damaging regeneration. {HWP 3.4.9}

4.1.4 Annual Operating Plan (AOP) {HWP 3.5}

PURPOSE

To annually authorize all HWP road, harvest and forest management activities.

DISCUSSION

The AOP describes the activities proposed for the current AOP year (May 1 to April 30) and must be approved by Alberta before timber operations commence. The AOP components include:

- a) operating schedule and timber production - appraised - Alberta has 30 days to respond;
- b) applicable FHPs - accepted;
- c) reforestation plan - accepted;
- d) road plan - accepted;
- e) GDP - appraised.

GROUND RULES

- 4.1.4.1 The AOP submission date is April 1 of each year unless otherwise approved by Alberta. Alberta shall respond within 30 days. The AOP shall be appraised by Alberta in accordance to the AOP checklist (Appendix 1) with approval subject to the outcome of the appraisal. {HWP 3.5.1}
- 4.1.4.2 The operating schedule and timber production, reforestation plan, fire control plan, and road plan, are submitted as in 4.1.4.1 above, unless otherwise agreed to by Alberta. The schedule for submitting any necessary CA, GDP and FHPs may be different. {HWP 3.5.2}
- 4.1.4.3 Only blocks and AOP roads with FHP approval shall be scheduled for operations in the AOP submission. {HWP 3.5.3}
- 4.1.4.4 The AOP shall contain the following components: {HWP 3.5.4}
 - a) map(s) and shape files showing the location of all blocks and roads that appear in the AOP schedule;
 - b) administrative and timber production information:
 - I. Hinton Wood Products, FMA 8800025;
 - II. date of submission and effective period;
 - III. location of mill where timber will be manufactured or processed;
 - IV. proposed harvest volume to be harvested by timber disposition;
 - V. scaling methodology if not by approved weigh scale;
 - VI. utilization standards if different than tenure documents; and
 - VII. declaration or list of resource user notifications (Section 2.7, 2.9 and 2.10 of Provincial OGR);
 - c) operating schedule – a table which outlines:
 - I. list of harvest areas, including opening number, proposed for harvest (including area and volume by coniferous and deciduous species groups, with totals); (the opening # may change due to block shape changing so understand that opening # in ARIS is correct and one submitted with AOP is interim number)
 - II. list of AOP roads proposed for harvest, construction, haul, maintenance and reclamation. Includes channelled watercourse crossings to be installed, maintained, or removed (see 4.2.9.2.2 for additional reporting requirements).

- III. declaration of outstanding operational items, a list of carried over blocks including commencement date (harvest or hauling), or an agreement with Alberta on reporting of outstanding operational items. Blocks where timber operations are not completed within the second timber year will have the harvested portion assigned an opening number and skid clearance date. The remainder of the block will be assigned a new block number that will require submission in a subsequent AOP prior to approval for harvest being granted; and
- IV. summary of planned debris disposal;

- d) annual reforestation program (see section 4.2.7.2);
- e) road plan (see 4.2.9 of Addendum and 2.14 of Provincial OGR); and
- f) GDP(and CA if applicable).

4.1.4.5 All FHP amendment requests must be submitted to Alberta in writing. Forest management professional validation of all amendments is required. Any changes must be incorporated into the as-built plan. {HWP 3.5.5}

4.1.4.5.1 Changes meeting the following criteria are considered 'minor amendments', and require only HWP forest management professional validation and notification to Alberta. Minor amendments don't require Alberta's approval, provided all appropriate background checks have been made and a HWP supervisor has approved the change before it is implemented. Changes can be implemented prior to notification but must be reported in map format, where appropriate, no later than seven working days after implementation. Changes shall not adversely affect buffers established for the protection of riparian areas, wildlife sites, historical resources, or aesthetic values: {HWP 3.5.5.1}

- a) Changes that trigger AOP administrative amendments: road name, block number or crossing number change;
- b) Additions to the approved AOP harvest area boundary where the final area does not vary from the area in the approved FHP by more than five percent for blocks greater than 20 ha, or more than 1.0 ha for blocks less than or equal to 20 ha;
- c) Movement of any interior roads that cause a change in the crossing location on stream classes greater than intermittent watercourses;
- d) Exterior roads (including ephemeral or intermittent watercourse crossings if present) that are moved up to two Right-of-Way widths from the approved FHP location, or that are moved to existing access or conventional seismic lines where re-growth is less than 3m, provided that no additional intermittent or larger watercourse crossings are required;
- e) Additional road crossing structures on ephemeral watercourses within harvest area boundaries;
- f) Additional crossing locations required for temporary equipment movement over intermittent watercourses;
- g) Watercourse crossing structures that have changed from the approved FHP, providing that it is still an acceptable crossing as per Tables 9 and 10 of Provincial OGR;
- h) Planting of additional openings not listed in the approved AOP (providing the requirements of the FGRMS manual are met);

Any change to the approved AOP not listed in 4.1.4.5.1 shall be treated as an AOP major amendment and requires the approval of Alberta prior to implementation. Alberta will provide HWP feedback and/or approval of the AOP amendment within five working days of the submission.

4.1.5 Salvage Planning {HWP 3.6}

PURPOSE

Salvage planning shall be implemented when necessary to reduce the potential for loss of fibre.

DISCUSSION

Under certain circumstances, planning shall be expedited to reduce the loss of fibre from fire, disease or insect infestation, blowdown, or other such unforeseen disturbances. Requirements for mountain pine beetle (MPB) can be found in the Action Plan for Mountain Pine Beetle or the Interpretive Bulletin Planning MPB Response Operations.

Salvage planning shall not be used when:

- a) the disturbance regime is slow moving and can be accommodated under conventional planning timeframes and protocols;
- b) for insects or disease the regime is not an imminent threat to green fibre; and
- c) fibre loss is deemed to be within an acceptable range.

Salvage planning does not confer rights to ignore other values, or the inherent value of a natural disturbance. It does allow for consideration of all values and for prompt, qualified, professional opinion to drive the process. See Directive 2007-01 for further direction on Salvage Planning.

GROUND RULES

- 4.1.5.1 Salvage planning is initiated as per Directive 2007-01. {HWP 3.6.1}
- 4.1.5.2 An FHP for the salvage area must be developed, and shall form part of the AOP. Modified timelines and content for the FHP shall be considered by Alberta. Detailed requirements may be published from time to time by Alberta. It is expected that there will be substantial discussion to resolve significant issues with Alberta before the FHP is submitted. {HWP 3.6.2}

4.1.6 Stand Utilization {HWP 4.1}

PURPOSE

To define merchantability specifications for stands and to determine which stands will be included in the planning process. The planned and harvested timber profile shall be the same.

DISCUSSION

The *Alberta Forest Management Planning Standard, Annex 1, Section 6.0 Harvest Planning Standards* indicates scheduling of stands through the FMP - SHS is dependent upon the timber merchantability criteria allocated in the disposition holder's tenure document (e.g., FMA, quota certificate) and the management assumptions used in the timber supply analysis (TSA). Pertinent assumptions are comprised of deletions from the net landbase (e.g., subjective deletions, stream buffers, protected areas) and parameters that determine a stand's eligibility for harvest (e.g. earliest age of harvest). The SHS results from the analysis of these TSA inputs coupled with basic field reconnaissance. The SHS identifies spatially (subunit and location) and temporally (period) the queue of stands that will produce the sustainable timber harvest level (AAC) and desired future forest condition.

Adhering to the SHS is imperative to achieving the timber supply forecasts and the forest conditions expected. With increased levels of variance from the SHS, there is greater risk that the operational harvesting will not allow the FMP to realize its objectives and forecasted outcomes. Operational variance is unavoidable but must be effectively managed.

During the FHP planning process, timber disposition holder will select an area over which to plan a series of harvest areas (blocks) for a period of up to 5 years. This could be considered the FHP planning unit and is typically smaller than a FMA defined compartment or subunit. Within the FHP planning unit, the operator can address all the 1-10 year SHS assigned to that operator, deciding on either a harvest prescription, or a decision to not harvest at all (deletion) or to delay harvest outside the first 10 year period (deferral). Where deletions or deferrals consist of entire AVI polygons, specific justification is required.

Variance shall be monitored and reported where:

- 1) Merchantable Stands scheduled in the first decade of the SHS are not harvested in that decade; and
- 2) Special Features not identified in the FMP net landbase are encountered during layout or harvesting and are deleted from the SHS.

Timber Harvest Planning and Operating Ground Rules require timber disposition holders to protect special features through detailed harvest planning and careful operations. (e.g. riparian buffers, steep slopes, sensitive sites, cultural/heritage sites, areas with high aesthetic value shall be removed from the SHS.)

Timber disposition holders shall complete Table 1 as they monitor the operational implementation of their plans against the SHS.

DEFINITIONS:

Additions – Any area planned for harvest, or which has been harvested that is not part of the 10 year SHS in the approved FMP. Additions will be divided into two categories: substantial and slivers.

Actual Harvested Area - is the as-built harvested area in the FHP.

Approved FMP 10 Year SHS – Is the total SHS area within the compartment for the first 10 years of the approved Spatial Harvest Sequence.

Deferral – any area included in the 10-year SHS that will not be harvested during the current FMP. Deferrals are not removed from the contributing landbase, as there is an expectation they will be harvested later in a future FMP. Deferrals will be divided into two categories: Substantial or Slivers. Deferrals are those stands or portions of which are operable, not isolated, and should be available under current technological and economic constraints for future harvest.

Deletion - Any area included in the 10-Year SHS that will never be harvested under current planning assumptions and technical constraints. This area shall be tracked spatially and removed from the contributing landbase in the subsequent FMP. Deletions are divided into two categories: Substantial or slivers.

Subunit or Compartment - Operational subunits of an FMU delineated by environmental, operational or watershed characteristics.

FHP Planning Unit - Defined operational subunit of an FMU, delineated by environmental, operational, or watershed characteristics. An FHP is the operational plan for a planning unit, and may be a compartment, sub-unit or an area of a smaller scale. FHP Planning units are discrete, and FHPs for the same operator cannot overlap spatially with the exception of access routes.

Planned Area For Harvest - Is the total area of the SHS laid out in the FHP, and includes the information for all previously approved FHPs (either planned or as-built) information for the same compartment.

Provincial Base 10 Yield Stratum- One of ten Alberta yield stratum defined in the yield projection Interpretive Bulletin in the Alberta Forest Management Planning Standard (AFMPS)

Slivers- any polygon component of variance (addition, deferral or deletion) less than 2ha in size. Generally these are long, narrow features along the edge of a block. Slivers exclude stand-alone features (blocks not bordering or not being adjacent to SHS polygons). Slivers do not contribute to variance calculations but shall be tracked and reported separately. Sliver deletions and sliver deferrals can be aggregated together (e.g. Sliver Deletions & Deferrals)

Substantial- any polygon component of variance (addition, deferral or deletion) other than Slivers

Variance – any deviation from the 10-year Spatial Harvest Sequence (SHS) in the approved Detailed Forest Management Plan (DFMP). Variance is classified into one of these three categories: Additions, Deletions or Deferrals.

GROUND RULES

- 4.1.6.1 For the FHP submission, the timber disposition holder shall submit a map to show the comparison of the 1-10 year SHS to the laid out harvest areas. The map shall distinguish using symbology between: {HWP 4.1.1}
- substantial deletions
 - substantial deferrals
 - sliver deletions and deferrals (combined)
 - substantial additions
 - sliver additions.
- 4.1.6.2 Variance shall be reported by Alberta Base 10 stratum for each FHP. The table shall include the minimum information as per Table 1. A Forest Harvest Plan will be appraised when additions exceed 20% of planned SHS 1-10 year for the particular FHP, or when substantial additions exceed the combination of substantial deletions and deferrals. Table 1 shall include cumulative information from all previously approved FHP's in the compartment. {HWP 4.1.2}
- 4.1.6.3 Variance from the SHS shall be monitored and reported by compartment. The cumulative as-built variance for all FHPs shall be compiled by compartment and reported annually in the GDP. The table shall include information as per Table 1 for all compartments operated within the current FMP effective period. {HWP 4.1.3}
- Total FHP/GDP variance shall be calculated using the following:

$$SHS \text{ Variance (Additions \%)} = \frac{\text{Area of Substantial Additions}}{\text{Area of Approved 10 yr SHS}} \times 100$$

- 4.1.6.4 Where stands are added for harvest, preference should be for stands in the 11-20 year period. Stands currently not part of the net landbase that are found to be productive merchantable landbase may be considered for addition with Alberta's approval. Stands shall not be added without evaluating why the stand is not within in the net landbase (e.g. Meeting wildlife VOIT). {HWP 4.1.4}
- 4.1.6.5 Justification shall be provided in the FHP (block comments) in the following instances: {HWP 4.1.5}
- entire deleted or deferred stands (AVI Polygons);
 - entire stand (AVI Polygon) additions
- 4.1.6.6 Entire stands or portions of stands may not be deferred unless they form part of a logical future harvest. {HWP 4.1.6}
- 4.1.6.7 All substantial deletions shall be coded and tracked spatially by the operator to allow for incorporation into the subsequent Forest Management Plan net landbase development process. {HWP 4.1.7}

4.2 Operational Ground Rules

4.2.1 Visual Impacts {HWP 5.4}

GROUND RULE

- 4.2.1.1 VQO 1-3 areas shall be assessed and tactics shall be employed in the FHP to mitigate the impacts of harvesting and reforestation on visual quality. {HWP 5.4.1}

4.2.2 Understory Management {HWP 7.4}

GROUND RULE

4.2.2.1 Detail on avoidance techniques shall be described in the FHP block comments. {HWP 7.4.1}

4.2.3 Structure Retention {HWP 7.3}

PURPOSE

To create temporary refuges for forest biota to re-colonize blocks.
To maintain snags and live residual trees in harvested areas for species that depend on these structures following natural disturbances.
To provide wildlife thermal and hiding cover within blocks throughout the rotation.
To provide wildlife travel corridors within large blocks and compartments.

DISCUSSION

Although many types of natural disturbance (fire, floods, avalanches, wind events, insects and disease infestations, and slumps) occur within Alberta's forests, fire is the most common. Virtually all trees within intense fires are killed, but following low and moderate-intensity fires many scattered live trees are present. In addition, within all fire types, fire "skips" or "islands" result in residual patches of live trees remaining within larger burned areas. Following other types of natural disturbances, even higher densities of live trees, and patches of live trees, are present. Approximately 30% of the birds and mammals living in Alberta's forests, nest, forage or find shelter within live trees that have a basal diameter greater than 20 cm. Many of these species are able to use single large live trees and residual patches of large live trees that remain after natural disturbances.

The retention of single trees and patches of large live trees in blocks makes the harvested areas more similar to burned areas. In addition, residual live trees may create some old forest attributes in young regenerating blocks. Many of the birds, mammals, insects, beetles, fungi and nonvascular plant species that live in recently disturbed forests require large snags for food and shelter. This unique biotic community changes rapidly as the snags fall and the downed logs are incorporated into the forest floor. Some species become rare within ten years following a fire, and many of the early colonizing species have disappeared by the time the stand is twenty years old.

Retaining some large snags within blocks creates habitat for some biota associated with naturally disturbed habitat. Additional large snags may be created, by retaining large live trees, as some of these trees will die throughout the rotation. To a large extent, however, it will be necessary to rely on natural disturbances to create abundant large snags for species that depend on this dead woody material.

Where larger blocks are created, it is important to retain a number of individual trees, snags and residual tree patches distributed across the block. These residual tree patches shall be located such that natural features, riparian areas, wildlife features, stand structure and composition, and proximity to standing forests are taken into account to maximize their utility or usefulness by the biotic community.

These ground rules describe the average number of patches per hectare of residual material that will be left within harvested areas of a landscape unit for those where this is not defined in a FMP. There may be zero patches of residual structure in any particular block as long as the amount identified in the timber supply analysis (TSA) is met across the landscape over time.

Current information suggests that ecological benefits are directly proportional to the amount of structure retention; ecological benefits increase with greater levels of structure retention. Larger patches of residual structure generally have more benefits than smaller patches (lower blowdown probability, interior forest characteristics, hiding and thermal cover) and patches generally have more benefit than individual stems.

GROUND RULES

- 4.2.3.1 1% of the area harvested (ha) will be retained as merchantable structure retention across the FMA. {HWP 7.3.1}
- 4.2.3.1.1 FHP will show laid out structure retention proposed in the block. Structure retention will vary by block with some blocks containing zero structure and others containing greater amounts.
- 4.2.3.2 Merchantable volume retained shall be reported to Alberta in an acceptable manner. {HWP 7.3.2}
- 4.2.3.3 Merchantable structure retention that contributes to the target shall be representative of the harvest area given the following priorities: {HWP 7.3.3}
- Priority 1 – Retain merchantable non-pine species (no MPB risk).
Priority 2 – Retain merchantable pine (moderate MPB risk).
- 4.2.3.4 Non-merchantable retention will not count towards the 1% target. {HWP 7.3.4}
- 4.2.3.5 Retention shall be within the harvest block boundary. {HWP 7.3.5}
- 4.2.3.5.1 Proximal retention is not required but may be left as per the following:
- Where a waterbody described in Tables 4 or 5 of Provincial OGR runs into or along the block and retention is left in addition to the required buffer.
 - Where sensitive sites defined in 2.8.9 of Provincial OGR are within 100m of the block boundary.
 - Proximal retention must be excluded from harvest for one rotation.
 - Proximal retention does not contribute to the harvest block retention target.
- 4.2.3.6 Structure retention includes all patches -> .04ha. {HWP 7.3.6}
- 4.2.3.6.1 Patches -> .04ha will be measured using either GPS or aerial photography and summarized in the HWP annual report.
- 4.2.3.7 Large patches (≥ 1 ha) will be laid out and identified in the FHP. {HWP 7.3.7}
- 4.2.3.8 In addition to merchantable structure retention, individual non-merchantable trees may be left where silviculturally and operationally feasible and where worker safety is not compromised. {HWP 7.3.8}
- 4.2.3.9 HWP may create stubs anywhere within the harvested area to supplement snag densities, aid in wind-firmness of residual patches or for use as rub posts (see section 2.4 of Provincial OGR). {HWP 7.3.9}

4.2.4 Fur Management {HWP 5.2}

GROUND RULES

- 4.2.4.1 An HWP representative shall personally contact, or send a registered letter to the senior partner of a RFMA during the preparation of the FHP. Information supplied by the senior partner such as cabin locations, trails, other improvements, and concerns shall be noted at this stage. During the development of the FHP, information and concerns shall be integrated into the plan, where reasonable. HWP shall provide the senior partner with a copy of the approved FHP map. {HWP 5.2.1}

4.2.5 Species of Special Management Concern {HWP 7.5}

Bull Trout

DISCUSSION

Bull Trout are classified as “Threatened” under the Alberta Wildlife Act. One of the greatest contributing factors threatening this species related to the forest industry is the density of linear features (e.g., Class I-IV roads, skid trails, and all pre-existing access). Development of the FHP must focus on ensuring that best management practices related to construction, maintenance and reclamation of roads is in place, with the primary intent being the protection of fish habitat and productivity. This is achieved through the maintenance of natural hydrologic processes, avoiding erosion, and increasing protection of streams where risks to this species are identified.

Timber harvest planning and operating ground rules must reflect the sensitive nature of this species. These operating rules serve three primary purposes:

- a) protection of the long-term integrity, connectivity, productivity and access of bull trout to the spawning, rearing, feeding and over wintering habitat within the watershed;
- b) protection of water quality and quantity that provide a key component of the habitat that supports native fish species within watersheds (e.g. temperature, dissolved oxygen content, natural sediment, avoidance of anthropogenic sedimentation and productivity) to ensure the continued occupancy and use of historical watersheds by this species; and
- c) minimize the industrial footprint and density of linear features intersecting watercourses within bull trout watersheds to reduce the potential for secondary disturbance and mortality from recreational use.

GROUND RULES

4.2.5.1 The FHP shall describe the harvesting program that will create the desired future forest, taking into consideration the full range of values including habitat for species of special management concern. {HWP 7.5.3 Discussion}

4.2.5.2 Locations of existing bull trout can be identified using the Fisheries and Wildlife Management Information System (FWMIS), and the associated Fish and Wildlife Internet Mapping Tool (FWMIT). Within these identified areas:

4.2.5.2.1 Operational planning by the company should incorporate the use of Alberta’s Wet Areas Mapping tool to identify areas that are sensitive to disturbance. Field confirmation of these sites including depth to water, potential disruption of groundwater flows, and areas at high risk of erosion in wet or riparian areas can be a useful tool in determining road and crossing location. {HWP 7.5.3.1}

4.2.5.2.2 Where crossing of wet areas cannot be avoided, the operator shall ensure that the forest floor remains intact ensuring that normal ground water flows are maintained after reclamation. {HWP 7.5.3.2}

Access management within Woodland Caribou, Grizzly Bear, and Key Wildlife and Biodiversity Zones

GROUND RULES

- 4.2.5.3 Where existing disturbances exist, new roads must follow existing disturbances that are suitable for the access need. If existing disturbances are present but not used, a rationale for alternate routes must be provided with the FHP. {HWP 7.6.1.1}
- 4.2.5.4 AOP roads that are built sooner than one year prior to harvesting operations will be deactivated until operations commence. {HWP 7.6.1.4}
- 4.2.5.5 Temporary roads shall be deactivated or reclaimed (and potentially reforested) within 18 months of completion of harvesting and hauling operations, unless otherwise agreed to in the operating schedule (AOP). {HWP 7.6.1.5}
- 4.2.5.6 Options for control of highway vehicle use on any open road must be considered in the CA or FHP. See section 4.2.11 of Addendum or 2.16 of Provincial OGR for more detail on access management. {HWP 7.6.1.7}

Woodland Caribou

GROUND RULE

- 4.2.5.7 Areas of concentrated terrestrial lichen growth (where terrestrial lichens are the predominant ground cover) within proposed harvest areas must be delineated in the FHP. Structure retention in harvest areas within the Caribou range should focus on these lichen areas. {HWP 7.6.2.2}

Key Wildlife Biodiversity Zones

GROUND RULES

- 4.2.5.8 Use of existing access roads must be described in the FHP, with particular reference to public access management, any proposed road improvements and ongoing maintenance. Potential opportunities for partial or complete route closure and/or reclamation following planned harvesting and silviculture shall be discussed. {HWP 7.6.5.4}
- 4.2.5.9 HWP shall monitor winter operations within key wildlife and biodiversity zones and curtail operations when deemed detrimental to wintering ungulates. In the absence of this monitoring, timber operations should be conducted outside of the period January 15 to April 30 unless otherwise approved in an AOP. Upon request, HWP will provide any site level assessments completed within the KWBZ. {HWP 7.6.5.5}

Other Species

GROUND RULE

4.2.5.10 Sensitive sites listed in 2.8.9 of Provincial OGR shall be protected by retention of an undisturbed, forested buffer (or other management technique) from the edge of the opening associated with these sites, or from the centre of sites without openings. Both Alberta and the forest operator shall make a reasonable effort to identify sensitive sites in the FHP. Sites discovered in the field shall receive the same buffer as those sites previously identified in planning. Buffer widths and duration shall be agreed to in the FHP or according to the table where agreement isn't reached. {HWP 7.6.6.1}

4.2.6 Recreation {HWP 5.1}

GROUND RULES

- 4.2.6.1 Operational tactics to mitigate impacts on recreation and tourism shall be described in the FHP. {HWP 5.1.1}
- 4.2.6.2 FHPs affecting recreational sites should consider opportunities for the enhancement of existing recreational trail and road systems. {HWP 5.1.3}

4.2.7 Reforestation/Silviculture {HWP 8.0}

PURPOSE

To plan and implement silviculture practices that result in reforested stands that meet approved regeneration standards.

DISCUSSION

A reforestation program is required by Alberta under Timber Management Regulation (TMR) 143.1(1). The reforestation program is a component of the AOP and contains reforestation prescription by stratum, and a schedule of treatments for the upcoming year. The proposed reforestation program provides a link between reforestation operations and the FMP. The reforestation program must be based on the most current knowledge of treatments (by strata) which lead to reforestation success in terms of reforestation standards. Reforestation prescriptions are a critical point in the sustainable forest management planning system where growth and yield strata targets from the FMP are delivered through well-planned silviculture treatments. Knowledge of how sites respond to different treatments result in better treatments, and greater probability of success in meeting growth and yield strata targets, for height, stocking, density and ultimately, strata volumes.

An acceptable silvicultural process includes:

- site assessment (pre or post harvest) based on ecosite classification;
- an annual treatment schedule of activities;
- an assessment/survey system, and feedback mechanisms to ensure regeneration data is used to refine the prescription matrix and, in conjunction with all data sources (including permanent sample plot information), the regeneration standards and post harvest growth and yield assumptions.

4.2.7.1 Planning {HWP 8.1}

GROUND RULES

- 4.2.7.1.1 Balsam fir or Sub-alpine fir is an acceptable species as per Directive 2001-01 or approved RSA. {HWP 8.1.1}
- 4.2.7.1.2 Reforestation timelines prescribed by Alberta shall begin at the start of the timber year following the end of the timber year when the block has received skid clearance from Alberta, or from an HWP representative pursuant to a self-inspection agreement between HWP and Alberta. {HWP 8.1.2}
- 4.2.7.1.3 Reforestation prescriptions shall be based on site assessments (pre or post-harvest) that include considerations specific to the site (e.g., ecosite field guide for Alberta). {HWP 8.1.3}
- 4.2.7.1.4 The Alberta Forest Genetics Resource Management and Conservation Standards (FGRMS) shall be adhered to in all silviculture planning and operations. The standards specify rules for seed and vegetative material collection, registration, storage, handling, and improved stock testing. {HWP 8.1.4}

4.2.7.2 Reforestation Program {HWP 8.2}

GROUND RULES

- 4.2.7.2.1 The reforestation program, which is part of the AOP, shall be submitted on or before April 15 for silviculture operations commencing May 1. {HWP 8.2.1}
- 4.2.7.2.2 Harvest areas (openings) shall be clearly identified (e.g., maps, spatial files, or delineation on the ground through visual markings). {HWP 8.2.2}
- 4.2.7.2.3 The reforestation program shall include the following components and information: {HWP 8.2.3}
- a) silviculture prescription;
 - b) proposed silviculture treatment schedule; and
 - c) maps as requested by Alberta.

a) Silviculture Prescription

The Forest Management Plan contains a Silviculture Strategy table for prescriptions specific to different forest stratum. Changes to the approved strategy in the FMP are outlined in the AOP.

Proposals for herbicide application shall be submitted for approval in accordance with approved vegetation management strategies and Alberta requirements. (see Herbicide Reference Manual). Herbicide proposals are a component of the reforestation program in the AOP, but may be submitted separately from the AOP.

Commercial thinning proposals shall be submitted for approval as part of the AOP unless otherwise agreed by Alberta, in accordance with Alberta's requirements.

b) Proposed Silviculture Treatment Schedule

The silviculture treatment schedule shall contain the following information:

- opening number;
- a list of harvest areas and the estimated area (ha) to be treated;
- the reforestation strata standard for each harvest area
- season or date of activity shall be provided upon request

The following proposed reforestation activities for each harvest area (or stand) shall be listed:

- I. Site Preparation
- II. Planting –declaration if seedlot is outside its seed zone and whether or not an approved variance has been obtained from the Alberta Tree Improvement and Seed Center (ATISC)
- III. Seeding – declaration if seedlot is outside its seed zone and whether or not an approved variance has been obtained from ATISC
- IV. Leave for Natural – including the desired species
- V. Manual Tending
- VI. Fertilization – including the type of fertilizer
- VII. Commercial thinning
- VIII. Legislated Regeneration surveys

- IX. Cone/cuttings collection – (if unknown, Alberta shall be notified regarding collections as per the FGRMS)
- X. NSR declarations with retreatment proposed.

Example of Silviculture Treatment Schedule

Working Circle	Compartment	Block	Opening Number (ARIS)	Planned Tactic	Block Area Ha
3	2	0144	5190472544A	SFN-P	7.5

Should the proposed reforestation activities for a harvest area change after AOP approval, the following items require an amendment to the AOP:

- o changing to a treatment not approved in the silviculture strategy table for the specific strata;
- o additional harvest areas to be treated by any means of treatment;
- o the remaining changes require notification to Alberta through ARIS (Alberta Regeneration Information System) reporting.

If a harvest area is declared sensitive, the forest operator shall provide additional information beyond the strategic and tactical levels. This information shall include the actual techniques (e.g., type of site preparation machine) and their expected impact on the harvest area attribute(s) that make it a sensitive site (e.g., providing frequent furrow trenching breaks on downhill run to reduce erosion).

Note that proposals to deploy seed or vegetative material outside the seed zone or breeding region require prior approval of the Provincial Seed Officer at the Alberta Tree Improvement and Seed Centre.

c) Map(s)

As part of the reforestation program, a map may be requested that identifies:

- I. all harvest areas to be treated, and all roads and stream crossings to be constructed or used (designating their season of use);
- II. all harvest areas from integrated operations.

4.2.7.3 Silviculture Operations {HWP 8.3}

GROUND RULES

- 4.2.7.3.1 Site preparation equipment shall be cleaned and free of prohibited noxious and noxious weed seed or plant parts before entry into the working area or before mobilizing between projects according to Directive 2001-06. {HWP 8.3.1}

4.2.8 Soils {HWP 9.0}

GROUND RULES

- 4.2.8.1 The total area covered by temporary roads, bared landing areas, displaced soil, and skid trails created by timber harvesting operations shall not exceed five percent of each block without prior approval of Alberta. Debris piles proposed for disposal are not considered part of the five percent.{HWP 9.1}

4.2.9 Road Classification, Planning and Design {HWP 11.2}

Road Planning

GROUND RULES

- 4.2.9.1 HWP shall annually submit a permanent road construction and reclamation plan in the GDP. Proposed variances from the FMP road corridor plan require Alberta's approval. The minimum scope of the road construction schedule shall be a five-year forecast with the content requirements being: {HWP 11.2.1}

Map showing:

- existing HWP roads by class;
- other existing roads if the digital information is available;
- proposed HWP corridors, including corridors approved in the FHP; and
- access control points – See section 4.2.11 of Addendum or 2.16 of Provincial OGR

- 4.2.9.2 Temporary Roads: {HWP 11.2.2}

- 4.2.9.2.1 Temporary roads shall be built as per the approved AOP. Only roads with FHP approval shall be included in the AOP submission. {HWP 11.2.2.1}
- 4.2.9.2.2 HWP shall submit a table or report tracking the status of all their AOP roads over two years old. This applies to AOP roads developed after the signing of these ground rules. Pre-existing AOP roads that are reused will be stabilized by removing water crossings and establishing erosion control as per section 2.15 of Provincial OGR. These roads shall be reclaimed as soon as timber operations are complete or within three years of construction as per temporary road timeline as described in Discussion of Section 2.14 of Provincial OGR set. This may be submitted as part of the Road Plan in the AOP or in a monthly Operations Status Report. {HWP 11.2.2.2}

4.2.10 Road Construction, Maintenance and Reclamation **{HWP 11.3}**

GROUND RULES

- 4.2.10.1 Road ROWs shall be cleared according to standards established in Table 3 of Provincial OGR, road comments, and any additional conditions approved in the FHP. {HWP 11.3.1.1}
- 4.2.10.2 Roads and skid trails shall be placed in locations and constructed so that soil erosion, damage to streambeds and sedimentation of watercourses are minimized. Use of skid trails requires notification (e-mail is acceptable) to Alberta and include an updated FHP map as per 4.1.3.7 (m). {HWP 11.3.2.1}

4.2.11 Access Management {HWP 11.5}

GROUND RULE

4.2.11.1 In the event that a strategic land use plan has not been developed, the FHP shall describe specific access control measures identified in the FMP (see section 4.1.3) or Wildlife Sensitivity Map or layer. {HWP 11.5.1}

4.2.12 Water Crossings {HWP 11.4}

GROUND RULES

4.2.12.1 Properly constructed logfills or modified logfills (see 2.18.9 of Provincial OGR) on temporary roads may be used as per Tables 9 and 10 of Provincial OGR. Logfills or modified logfills shall be removed when the temporary road is deactivated. Logfills installed on intermittent or permanent watercourses shall be removed before the spring thaw. {HWP 11.4.18}

4.2.13 Debris Management and Wildfire Protection

{HWP 7.2}

GROUND RULE

4.2.13.1 The FHP shall comply with direction provided in Community FireSmart Plans. {HWP 7.2.4}

4.3 Monitoring and Reporting {HWP 12.0}

GROUND RULE

- 4.3.1 Summary information submitted annually as per 3.15 of Provincial OGR must be in a format mutually agreed to by the companies and the Edson Forest Area.

Glossary

Acceptable species

List of tree species contributing to approved AACs, identified in the FMP approval decision.

Access roads

Access roads are those roads that are between harvest areas and have a lifespan of less than three years. The timeline shall begin at the start of the timber year following the end of the timber year when the harvest area has been declared as skid cleared by the timber disposition holder.

Adverse effects

Impairment of or damage to the environment, human health or safety, or property;

Adverse ground conditions

Situations where active operations or activities result in environmental damage to the land such as but not limited to, erosion, soil compaction or soil rutting.

Annual allowable cut (AAC)

The volume of timber that can be harvested under sustained-yield management in any one year, as stipulated in the pertinent approved forest management plan. In Alberta it is the quadrant cut divided by the number of years in that quadrant, usually five.

Annual operating plan (AOP)

A plan prepared and submitted by the timber disposition holder each year, which provides the authorization to harvest. An AOP is a requirement of the Timber Management Regulation.

Approval

Issued by Alberta. The approval decision is prepared outlining significant items considered in plan approval and outlining conditions to be met within specified time

periods by the timber disposition holder or a decision made by Alberta on an AOP.

As built

An opening number accompanied by a spatial depiction of the harvest area generated either from cutover photography or from GPS technology capable of 3 m or better accuracy

Audit

An official examination and verification of records, activities, accounts, actions, operations, etc., against stated standards of performance and compliance.

Bared soil

Any soil where the organic layers and vegetation have been removed.

Biological diversity (biodiversity)

The variety, distribution and abundance of different plants, animals and microorganisms, the ecological functions and processes they perform, and the genetic diversity they contain at local, regional or landscape levels of analysis.

Biodiversity has five principal components:

Genetic diversity (the genetic complement of all living things)

Taxonomic diversity (the variety of organisms)

Ecosystem diversity (the three-dimensional structures on the earth's surface, including the organisms themselves)

Functions or ecological services (what organisms and ecosystems do for each other, their immediate surroundings and for the ecosphere as a whole, i.e. processes and connectedness through time and space)

The abiotic matrix within which the above exists, with each being interdependent on the continued existence of the other. [Dunster]

Borrow pit

A small quarry or excavation, which provides material for use in the construction project.

[Revised from Dunster]

Buck

To cut a felled or downed tree into shorter lengths.

Buffer

1. In protecting critical nesting habitat areas, the buffer is an area of forest land that reduces the impacts of adjacent activities on the critical area. The dangers associated with adjacent disturbances might include wind-throw or wind damage to nest trees and young birds in the nest, increased predation and loss of interior forest conditions.

2. A strip of land between two areas under different management regimes. Pesticide buffer zones are used to limit the possible drift, run-off or leachate of pesticide from a site into other areas, such as waterbodies or creeks. Streamside buffers are used to limit the effects of logging on creeks, such as siltation, loss of shading, loss of nutrient inputs from trees and degradation of riparian zones. The size and composition of the buffer zone depends on its intended function.

3. An area maintained around a sample or experimental plot to ensure that the latter is not affected by any treatment applied to the area beyond the buffer.

4. In GIS work, a new polygon computed on distance from a point, line or existing polygon.

5. In managing biosphere reserves, an area or edge of a protected area. Examples of compatible activities might include tourism, forestry, agroforestry, etc. The objective of the buffer zone is to provide added protection for the core reserve area. [Dunster]

College/Association

The Alberta Association of Forest Management Professionals (AAFMP). Formerly the College of

Alberta Professional Foresters (CAPF) and the College of Alberta Professional Forest Technologists (CAPFT).

Commercial thinning

A partial cut where trees of a merchantable size and value are removed to provide an interim harvest while maintaining a high rate of growth on the remaining, well-spaced, final crop trees. Used to capture volume likely to succumb to competition pressures and be lost to forest health damaging agents.

Commercial timber permit (CTP)

A timber disposition issued under Section 22 of the [Forests Act](#) authorizing the permittee to harvest public timber.

Compaction

A transfer of wheel pressure to soils causing collapse of large air-filled pores, a type of disturbance when tire imprint is often invisible under the duff layer. Soil susceptibility to compaction is maximal when soil is at field capacity, which can be detected by stability of hand cast. Most of soil compaction occurs during the first passes of equipment because soil gains strength with each additional pass.

Compartment

Subset of the FMU used for tracking and reporting SHS variance. Also referred to as stewardship reporting compartment.

Connectivity

A measure of how well different areas (patches or a landscape are connected by linkages, such as habitat patches, single or multiple corridors, or "stepping stones" of like vegetation. The extent to which conditions among late successional/climax forest areas provide habitat for breeding, feeding, dispersal and movement of late successional - or climax-dependent wildlife or fish species. Natural landscapes often tend to be better connected than those that have been heavily influenced and disturbed by human activities. Consequently, there is a body of opinion that the best way to avoid fragmentation of landscapes is to maintain, or re-establish, a network of landscape linkages.

At a landscape level, the connectivity of ecosystem functions and processes is of equal importance to the connectivity of habitats. [Dunster]

Corrective actions

May include one or more of the following:

Direct that the work be corrected and re-submitted.

Carry-out an appropriate enforcement response.

For regulated forestry professionals, file a formal complaint with the Association of Alberta Forest Management Professionals.

Corridor

1. A physical linkage connecting two areas of habitat and differing from the habitat on either side. Corridors are used by organisms to move around without having to leave the preferred habitat. A linear habitat patch through which a species must travel to reach habitat more suitable for reproduction and other life sustaining needs. Many corridors, linking several patches of habitat, form a network of habitats. The functional effectiveness of corridors depends on the type of species, the type of movement, the strength of the edge effects and its shape.

2. An area of uniform width bordering both or one side of a lineal feature, such as a stream or route. [Dunster]

Cross-drainage structures

Culverts or other drainage structures that permit water to move from one side of a road to the other, normally under the road grade.

Deactivation

Taking a road out of active use through implementation of erosion control measures, road blocks and/or other methods.

Deciduous timber allocation (DTA)

A timber disposition issued under Section 22 of the *Forests Act* authorizing the permittee to harvest public deciduous timber.

Delegated authority

The Government of Alberta personnel located at the regional or area level charged with supervision of all forest management activities in a defined region or area. It can also mean someone who is authorized to approve an AOP.

Deleterious material

Any substance that, (a) if added to water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water. [Section 34(1) of the [Fisheries Act](#)]

Department License of Occupation (DLO)

A disposition issued by Alberta under the [Public Lands Act](#) authorizing occupation of a linear corridor, often for an access road.

Designated Trail

A Designated Trail means a trail designated under section 4(1)(a) or (b) of the *Trails Act* (which will take effect May 1, 2022).

Displaced soil

Mixed mineral, surface and sub-surface horizons that have been deposited off the road or disturbed surface to a depth of 15 cm or greater.

Disturbance patterns

The spatial and temporal arrangement of disturbances.

Ditch blocks

Barriers constructed across ditches to retard water flow, to redirect water from the ditch or to form a small catch basin.

Drought

Extended period of below average precipitation causing a lowering of the water table. Generally occurs over several years but locally may happen seasonally. Signs would be lowering of lake levels and drying of streams that would normally flow all year.

Due diligence

May include one or more of the following:

Taking and documenting steps to ensure that the desired outcome is achieved or that the chances of a negative consequence or outcome is minimized.

Ensuring completeness, correctness, consistency and repeatability.

Demonstrating how conclusions were reached.

Using mechanisms, such as but not limited to checklists and standard operating procedures, to demonstrate that appropriate procedures were followed and to ensure that no relevant steps or considerations were missed.

Keeping and maintaining appropriate files and filing systems as well as document retention policies and practices.

Duff layer

The organic horizons of the soil profile (LFH). Commonly referred to as the forest floor.

Ecological integrity

The quality of a natural, unmanaged or managed ecosystem in which the natural ecological processes are sustained, with genetic, species and ecosystem diversity assured for the future. [Dunster]

Features

The features represented on a map which describe the physical aspects of the harvest design e.g. harvest area boundaries, roads, buffers, wildlife habitat.

Fish passage

Free transit of fish, upstream and downstream, associated with migration or localized

movements that are necessary to complete their life cycle. Depending on the context, fish passage is also a route for fish to move between habitat types.

Forest Area Manager

The senior Alberta manager located at a forest area charged with supervision of all forest management activities in a forest area. It may also mean someone else who is authorized to approve an AOP.

Forest health

A condition of the forest; a forest is considered healthy if it can sustain itself to meet the specific forest land management objectives of today or in the future.

Forest health damaging agents

Biological, physiological and environmental agents that have an adverse effect on the health of the forest. These agents include insects, nematodes, micro-organisms (viruses, bacteria, fungi), parasitic plants, mammals, birds, and non-infectious disorders caused by climate, soil, applied chemicals, air pollutants and other physiographic conditions. Previously referred to as insects and diseases.

Forest management activities

Includes all aspects of operational planning, timber operations, road work, monitoring and reporting of timber operations. Essentially all activities during FMP implementation.

Forest management agreement (FMA)

A contract between the province of Alberta and the FMA holder whereby the province provides an area-based Crown timber supply. In return, the FMA holder commits to the following:

Managing the timber resource on a perpetual sustained yield basis.

Taking into consideration a broad range of forest values in determining forest management practices.

Meeting defined economic objectives, including capital investment and job creation.

Seeking out new business opportunities that provide measurable economic benefits for both the province and the FMA holder.

The FMA gives the FMA holder the right to access Crown fibre. In return, the FMA holder commits to forest management responsibilities, which may change from time to time.

Forest management professional

A regulated member of the Association of Alberta Forest Management Professionals on one of the following registers:

Registered Professional Forester (RPF)

Registered Professional Forest Technologist (RPFT)

Registered Professional Forester Conditional (RPF-C)

Registered Professional Forest Technologist Conditional (RPFT-C) [[AAFMP](#)]

Forest management plan (FMP)

A long-term plan used to outline higher-level management objectives, sustainability and timber production assumptions for a forest management agreement (FMA).

Forest management unit (FMU)

An administrative unit of forest land designated by the Minister, as authorized under Section 14(1) of the [Forests Act](#).

Forest officer

An employee of Alberta appointed in accordance with the [Public Service Act](#)⁸ who represents the Minister in the administration of the [Forests Act](#), the [Timber Management Regulation](#), the [Public Lands Act](#), and the Forest and Prairie Protection Act and Regulations on public forested lands.

Forests Act

The legislative statute that authorizes the Minister to administer and manage the forested lands of Alberta.

⁸

<https://www.qp.alberta.ca/1266.cfm?page=p42>

Full review

An evaluation of the acceptability for approval of a submitted document involving referrals to government departments, independent experts or others as appropriate, and a risk analysis prior to Alberta granting approval to the submitting timber disposition holder.

Ground rules

Standards for operational planning and field practices that must be measurable and auditable and based forest management plan objectives.

Guideline

A preferred or advisable course of action respecting land and resource management. Guidelines imply a degree of flexibility, based on administrative judgment or feasibility of applying the guideline, and are consequently not normally enforceable through legal means.

Harvest area

Treed areas harvested, usually in one season, for the purpose of obtaining wood for the production of various wood products such as lumber and pulp. A specified land area with defined boundaries where timber harvesting is scheduled, or has occurred. Also referred to as a block, cutblock or opening.

Hiding cover

See "sight distance."

High water mark

Stream course water levels corresponding to the top of the unvegetated channel or lakeshore.

Harvest area design

The stands identified for harvest that meet forest management objectives in the absence of a SHS.

Harvest level

A volume or area of timber determined through timber supply analysis available for harvest on an annual sustainable basis within a DFA. A harvest

[.cfm&leg_type=Acts&isbncln=9780779828074&display=html](#)

level is not an AAC unless approved by the Minister.

Harvest roads

Temporary roads located within a harvest area. Formerly referred to as in-block roads.

Inoperable

Classification of a forest site based on the potential to harvest timber on that site, as affected by physiographic characteristics, moisture regime and harvesting equipment/technology.

Integrated resource management (IRM)

IRM is an interdisciplinary and comprehensive approach to decision making for the management of natural resources. IRM integrates decisions, legislation, policies, programs and activities across sectors to gain the best overall long-term benefits for society and to minimize conflicts. This approach recognizes that the use of a resource for one purpose can affect both the use of a resource for other purposes and the management and use of other resources. IRM is based on:

- Co-operation, communication, co-ordination and the comprehensive consideration of all resource values. This philosophy is centered on the belief that efforts to manage natural resources will be more successful if they are co-ordinated at all levels within government; and

- Appropriate consultation before action. Those who are significantly affected by a decision should have the opportunity to participate in the decision-making process.

Integrated resource plan

A regional plan developed by provincial government agencies in consultation with the public and local government bodies. It provides strategic policy direction for the use of public land and its resources within the prescribed planning area. It is used as a guide for resource planners, industry and publics with responsibilities or interests in the area.

Interests

The wants, needs, concerns and desires of each party that provide motivation to be concerned about an issue or topic.

Issue

The topic to be discussed. The problem to be solved. The theme of the discussion.

Laid out

Field assessment of harvest areas and roads (on the ground) required prior to submission of AOP; also includes the delineation/marketing of both harvest area boundaries and roads on the ground. Examples of delineation/marketing include but are not limited to: ribbon, paint or other means approved by Alberta.

Landing

Any area where logs are gathered for processing or further transport to a mill site.

Landscape

A landscape (or LMU) is a heterogeneous area in which the pattern of the mosaic of local ecosystems or land uses is repeated in similar form throughout kilometres wide area (after Forman 1986). Landscapes may coincide with a climatic, physiographic or ecological boundary; however, landscapes are not strictly ecologically based and include human use and modification of the area.

Large residual tree

A residual tree with a diameter measured at breast height (DBH) greater than the approximate average merchantable tree DBH of the harvest area.

Logfill

Water crossings constructed with logs placed in a channel, bed or on landscape parallel to the flow of the water.

Mass-wasting

Movement of large masses of land, soil or regolith (i.e., slumping, landslides, rock slides and massive undercut erosion).

Mature stands

Stands that have reached rotation age or have a decreasing growth rate.

Natural variation of the landscape

For the purpose of harvest planning, is the range of stand polygon sizes prior to harvest within the compartment boundary.

Operational plan

Any of GDP, AOP, or reforestation program.

Pattern

The arrangement of forest stands or harvest units.

Permanent roads

Roads that will be in use for more than three years issued under a [Public Lands Act](#) disposition (LOC or DLO).

Pre-commercial thinning

A silvicultural treatment to reduce tree density in young stands, carried out before the stems reach merchantable size. The intent is to concentrate the site's growth potential on fewer trees thereby accelerating stand development and reducing the time to final harvest, retaining more live crown, creating opportunities for future commercial thinning activities and improving stand operability.

Provincial Base 10 strata

An Alberta-wide standardized classification of forested stands with ten categories based on tree species composition. Also referred to as minimum strata. Assignment rules provided in the Yield Projection Interpretive Bulletin of the [Alberta Forest Management Planning Standard](#).

Quota

The timber quota is a share of the allowable cut of coniferous timber within a forest management unit.

Reclamation

Permanent removal of water crossings; re-contouring of road crown and ditches; reseeding or planting of the former ROW.

Recreation site

Includes areas designated by Alberta as ecological reserves, wilderness areas, wildland parks, provincial parks, heritage rangelands, natural areas and recreation areas.

Reforestation

Any operation involving seed management; seedling production; site preparation; tree planting; seeding; regeneration or reforestation surveying; stand cleaning; stand tending; stand thinning; tree improvement; fertilization; drainage; pruning or site analysis that is carried out in the course of forest renewal.

Reforestation strategy table

For each managed stand yield stratum plus each operational stratum identified in an FMP, outlines the desired future forest condition and the series of harvest, reforestation and maintenance treatments expected to be followed in order to attain the desired outcome. Details the typical silviculture prescriptions to be implemented operationally in order to meet reforestation standards and create the desired future forest, and identifies strategies for minimizing the effects of site and climatic limitations on survival and productivity of seedlings. Previously referred to as the silviculture matrix.

Regeneration

The renewal of a tree crop by natural or artificial means. It may also refer to the young crop itself.

Reserve

In its strictest sense, an area of land designated as being off-limits to any exploitive activities that might change the nature of the area. Not all reserves are so tightly controlled. [Dunster]

Residual structure

Standing structure that is taller than 2 m, within a harvested area. Areas buffered for sensitive ecological or wildlife habitat may be included for residuals. Required buffers for lakes and small and large permanent streams are not included. This includes non-merchantable trees and shrubs, live merchantable trees, snags and stubs.

Residual tree

A live canopy tree that is spatially within a harvested area. Areas buffered for sensitive ecological or wildlife habitat may be included for residuals. Required buffers for lakes, small and large permanent streams are not included.

Resources

Physical and intrinsic features of the land, including but not limited to timber, wildlife, water and soil.

Review

Acceptance or appraisal conducted by Alberta.

Right-of-way (ROW)

A cleared area, usually linear, containing a road and its associated features such as shoulders, ditches, cut and fill slopes, or the area cleared for the passage of utility corridors containing power lines or over- or under-ground pipelines.

Typically, the right-of-way is a specially designated area of land having very specific rights of usage attached. Rights-of-way may be owned by someone else. [Dunster]

Riparian area or management zone

1. Riparian areas on public land are the vegetation zones next to flowing and standing water bodies (e.g., rivers, lakes, sloughs). They are found in all natural regions of the province, from the prairies and foothills to the boreal mixed wood region. [GOA, 1997]

2. Terrestrial areas where the vegetation complex and microclimate conditions are products of the combined presence and influence of perennial and/or intermittent water, associated high water tables and soils that exhibit some wetness characteristics. Normally used to refer to the zone within which plants grow rooted in the water table of these rivers, streams, lakes, ponds, reservoirs, springs, marshes, seeps, bogs and wet meadows. The riparian zone is influenced by, and exerts an influence on, the associated aquatic ecosystem. [Dunster]

Road work

All aspects of road planning, design, construction, maintenance and reclamation.

Rotation

The period of years required to establish and grow even-aged timber crops to a specified condition of maturity.

Ruts

Machine depressions in the soil which are determined by depth and length:

Depth - where the depth of the organic dark humus material is greater than 30 cm, a rut is a depression that shears the organic layer of soil (a sheared organic will expose a vertical face greater than 20 cm of the organic layer). Where the depth of the organic material is less than 30 cm, a rut is a depression exceeding 10 cm into the mineral soil.

Length - An impacted area meeting the rut depth criteria that is greater than 4 m long. A continuous track with a rut less than 4 m because of stumps, logs or rocks lifting the vehicle will still count as a rut if the total length of the smaller holes is greater than 4 m.

Rutting/puddling

A paste-like behavior of wet soil when most of the soil pores are filled with water and soil literally flows from underneath the wheel to the sides and upward forming visible tire imprint into the mineral soil. Intensity/depth of rutting is directly related to the number of equipment passes. Soil is considered susceptible to rutting when it forms a stable hand cast.

Sensitive soil site

Any site that may be prone to soil movement, soil erosion, mass wasting or siltation due to steep slopes, wet ground, seepage areas, springs, fine textured soils or soils prone to mass wasting.

Sight distance

The distance at which 90 per cent or more of an adult big game animal is hidden from the view of

a human. This distance may vary from one stand to another.

Silt fence

Permeable fabric barriers installed along the contour to filter surface water runoff and trap sediment from sheet or overland flow and prevent it from entering streams.

Silviculture activities

Planting, seeding, site preparation, vegetation management, fertilization and all other activities undertaken to establish and grow forests to achieve specified management objectives, needs and values.

Silvicultural systems

Systems that follow accepted silvicultural principles, whereby the tree crops are tended, harvested and replaced to produce a crop of a desired form. This includes even-aged (i.e. clearcutting, shelterwood or seed tree cutting) or uneven-aged (i.e., selection cutting) systems. A planned program of silviculture treatments over the life of a stand, it includes the harvesting and the follow-up tending to the next rotation. [Smith, 1986]

Silviculture

The theory and practice of controlling the establishment, composition, health, structure and growth of forests in order to achieve specified management objectives.

Site preparation

Any action taken in conjunction with a reforestation effort (natural or artificial) to create an environment favourable for survival of suitable trees during the first growing season. This environment can be created by altering the ground cover, soil or microsite conditions; using biological, mechanical or manual clearing; prescribed burning; herbicides or a combination of methods. [Dunster]

Skid trail

An unimproved temporary forest trail suitable for use by equipment such as bulldozers and

skidders in bringing trees or logs to a landing or road.

Small patch of residual trees

A patch of less than 0.2 hectares of undisturbed canopy forest surrounded by harvested area. The patch must be composed of at least four canopy trees. At least two of the trees in the patch should be large residual trees.

Snag

A standing dead tree that is taller than 2 metres.

Soil displacement

A loss of nutrient-rich organic layers, and top mineral soil as a result of harvesting activities. Bare mineral soil is susceptible to raindrop impact causing soil crusting, increased surface runoff, and erosion.

Soil disturbance

In the context of the five per cent maximum allowable area within a harvest area, includes bared landing areas, temporary roads, displaced soils or ruts. Includes: forest floor layers missing; evidence of surface soil removal, gouging and piling surface soil displaced; surface soil may be mixed with subsoil; and/or subsoil partially or totally exposed.

Soil productivity

The capacity of a soil to provide for growth.

Spatial Harvest Sequence (SHS)

The areas scheduled for timber harvesting for the first 20 years. Provided in the FMP.

Species at risk

Any species known to be "at risk" after formal detailed status assessment and designation as "Endangered" or "Threatened" in Alberta. The list of species at risk is maintained by Alberta.

Species group

Conifer or deciduous.

Species of management concern

Species within the forest management planning area that have an identified value (social, economic, ecological) and are managed to

ensure their continued protection and/or use. This includes species that are hunted or trapped, as well as those that are endangered or threatened.

Stand

A community of trees sufficiently uniform in species, age, arrangement or condition as to be distinguishable as a group in the forest or other growth in the area. A stand may also be that polygon as defined in the AVI or Phase III inventory.

Stub tree

A large residual tree that has been “topped off” at approximately 6 m (may be less) to create an artificial snag.

Sustainable forest management (SFM)

Management to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social and cultural opportunities for the benefit of present and future generations.

Temporary field authorization (TFA)

An authority issued under Section 19 of the [Public Lands Act](#) by an Alberta officer to grant short-term land use activities on public land in the White Area or Green Area. The TFA may or may not be related to an existing disposition that has also been issued under the [Public Lands Act](#). The concept is to provide field-level service to an applicant, with access to public land for a specific purpose/use/activity, for a term of less than or equal to one year.

Temporary road

Roads that are part of a harvest area or that connect harvest areas, and are built, used and reclaimed before expiry of the Annual Operating Plan (AOP) or reclaimed within three years of construction.

Temporary planting camp

Camp established to facilitate planting activities. Lifespan of the camp is less than 12 months.

Thermal cover

Generally, an area of at least 10 ha having a coniferous canopy at least 10 m in height, with at least 70 per cent crown closure and a minimum width of 200 m. This cover is used by animals to assist in their temperature regulation during extreme weather conditions.

Timber disposition

Harvesting rights in Alberta are granted through one of three forest tenure systems: forest management agreement, timber quota and Timber permit.

Timber disposition holder

Refers to the company that has a timber disposition.

[Timber Management Regulation](#)

The legislative statute that describes the mechanism and regulations by which the forested lands of Alberta are managed. The Regulation is associated with the [Forests Act](#).

Timber operation

Any kind of activity involved in cutting, removing, harvesting, manufacturing, transporting or marketing timber or primary timber products, or reforestation.

Trapper

The Senior License Holder of a trapline in a Registered Fur Management Area.

Understory

The trees and other woody species growing under the canopies of larger adjacent trees and other woody growth. [Dunster]

Unstable slope

Slopes of loose or poorly consolidated materials beyond the angle of repose, geological features having a high probability of failure, or soils that will not support loads.

Water regime

Timing of water flow.

Water source area

That portion of a watershed where soils are water-saturated and/or surface flow occurs and contributes directly to streamflow. The area of saturated interflow associated with a stream.

Waterbody

The bed, bank or shore of a lake, pond or other natural body of standing water, whether it contains or conveys water continuously or intermittently.

Watercourse

The bed, bank or shore of a river, stream, creek or other natural body of flowing water, whether it contains or conveys water continuously or intermittently.

Watershed

An area of land, which may or may not be under forest cover, which drains water, organic matter, dissolved nutrients and sediments into a lake or stream. The topographic boundary, usually a height of land, that marks the dividing line from which surface streams flow in two different directions. [Dunster]

Wetland

Land saturated with water long enough to promote wetland or aquatic processes as indicated by the poorly drained soils, hydrophytic vegetation, and various kinds of biological activity that are adapted to a wet environment. According to the [Alberta Wetland Policy](#), wetlands are classified as one of marsh, bog, fen, swamp or open water wetland.

Wildlife

Any species of amphibian, bird, fish, mammal and reptile found in the wild, living unrestrained or free roaming and not domesticated. Some definitions include plants, fungi, algae and bacteria. [Dunster]

Wildlife corridor

A strip of forest with a minimum width of 100 m or a series of forest retention patches that connect two forested areas. These may include merchantable or unmerchantable stems.

Wildlife zone

As defined on Alberta's Wildlife Sensitivity maps.

Windfirm boundaries

Harvest area boundaries established at locations that are stable and that minimize the potential for timber losses from wind.

Sources

AAFMP – Association of Alberta Forest Management Professionals

Dunster, J. and K. Dunster, 1996. Dictionary of natural resource management. UBC Press, Vancouver, B.C.

GOA – Government of Alberta, 1997. About public lands. Managing Riparian Areas.

Smith, D.M. 1986. The practice of silviculture. John Wiley and Sons. New York, N.Y., pp. 329-

Appendix 1 FHP and AOP Checklists

Forest Harvest Plan Checklist - Revised May 2018						
Area		Disposition Number	FMA 8800025			
Company		Date Disposition Issued				
Submission Date		Date Disposition Expires				
APPROVAL ITEM		Company Representative	INITIAL/DATE (to be completed by AAF)			
1) Has the FHP been validated by an RFP?						
2) Are the Planned SHS additions <20% compartment/decade?						
3) Is the sum of proposed area to harvest and previously harvested area (since SHS approval) less than or equal to 100% of the SHS area?						
4) Does the FHP adhere to all Ground Rules?						
		Company (Y,N,N/A)	Company Comments (optional)	AAF (Y,N,N/A)	AAF Comments (optional)	
A. Administrative Considerations						
<ul style="list-style-type: none"> Has a copy of the FHP been provided to? <ul style="list-style-type: none"> Area Planning Forester Forest Officer Fish & Wildlife other: Is the FHP consistent with approved higher order plans (FMP, SHS, GDP)? Has the required disposition been issued and is active? Is the FHP complete and legible? <ul style="list-style-type: none"> maps block tables reforestation program detailed block plans where requested contingency plans 						
B. Utilization						
<ul style="list-style-type: none"> Has the SHS variance been reported and summarized for the FHP? Does the utilization standard match tenure document? Are the deviations from utilization standards identified, explained and justified (rub posts, high stumps, retention, etc)? If there are no deviations, enter N/A. 						
C. Ground Rule Deviations - Complete if answered "NO" to Approval Item #4 (top of page), otherwise enter N/A						
<ul style="list-style-type: none"> Have all the blocks containing ground rule deviations been identified? Has an explanation and justification been provided for all ground rule deviations? 						
D. Integration with Other Users.						
<ul style="list-style-type: none"> If the plan is not integrated, has an explanation and justification been provided? N/A Has the recipient of incidental volumes and chargeability been identified? If there are none, enter N/A. Have all the effected trappers been identified and contacted? If there are none, enter N/A. Have known trapper cabins, trails and other improvements been identified and integrated into the plan? If there are none, enter N/A. Have recreational groups been identified and contacted where issues have been observed? If there are none, enter N/A. Has a GTA been completed and grazing disposition holders been contacted (Directive 2006-01)? If there are none, enter N/A. Have the required historical resource assessments been completed and, if necessary, integrated into the plan? Have all issues raised by other users or the public regarding this plan been documented? If there are none, enter N/A. Have potential land use conflicts been documented and mitigated (PNT, CNT, road use agreements, etc)? If there are none, enter N/A. 						
E. Access Management (temporary access only)						
<ul style="list-style-type: none"> Have access management measures been described and identified (location, timing, signage, etc)? If there are none, enter N/A. 						
F. Sensitive Sites						
<ul style="list-style-type: none"> Have aesthetic/recreation concerns been addressed? If there are none, enter N/A. Have water source areas been identified and potential impacts mitigated? If there are none, enter N/A. Have permafrost/peat land areas impacted by operations been identified and explained? If there are none, enter N/A. 						
G. Road Design						
<ul style="list-style-type: none"> Have the location, design and width of temporary road corridors been identified? If there are none, enter N/A. Has a list of watercourse crossings including watercourse classification been provided? If there are none, enter N/A. Have any crossings not exempt under the <i>Water Act</i> been identified? If they are all exempt, enter N/A. Have existing access/LOCs/DLOs which have been integrated into the plan been identified on the map? If there are none, enter N/A. Has a temporary road reclamation and abandonment plan been included? 						
H. Wildlife						
<ul style="list-style-type: none"> Have wildlife zones within the planning area been identified and incorporated into the plan (as per OGR Section 7.6)? If there are none, enter N/A. Have blocks with timing restrictions been identified? If there are none, enter N/A. Have all known sensitive wildlife sites been addressed (mineral licks, raptor nests, den sites, etc)? If there are none, enter N/A. 						
I. Insect, Disease & Fire						
<ul style="list-style-type: none"> Does the FHP comply with direction provided in Community Firesmart Plans? If there are no plans, enter N/A. Have known insect and disease infestations been identified and described? If there are none, enter N/A. Have mitigation strategies for infestation, diseases or endangered timber been described? If there are none, enter N/A. Have debris disposal methods been identified? 						
J. Silviculture						
<ul style="list-style-type: none"> Have any watercourse crossings that will be maintained for silviculture purposes been identified? If there are none, enter N/A. Has a pre-harvest strata declaration been included for each opening? 						
-FHP's are approved through acceptance and will be considered approved on the date Alberta acknowledges receipt of the work. -Alberta shall notify the organization by acknowledging receipt within 5 working days of submission. -The notification date will be documented by Alberta as the start date for FHP approval. -Alberta shall periodically check the work and supporting documentation to verify its accuracy. -At any time, approval can be revoked where Alberta learns the FHP is inaccurate or deficient in content.						
Company Validation						
Submitting RFP Validation		Hinton Wood Products, a Division of West Fraser Mills Ltd. Company		Date		
AAF Validation						
Reviewing RFP Validation				Date		

Note: Appraisal of the FHP is required if "No" has been indicated on any of the above Approval Items.

Annual Operating Plan (AOP) Checklist - Revised May 2018							
Area		Volume Summary (m3)	Conifer	Deciduous			
Company	Hinton Wood Products	Quadrant Allowable Cut					
Disposition Number	FMA 8800025	Quadrant Production to date					
Date Disposition Issued		Quadrant Volume Remaining					
Date Disposition Expires		Proposed Production (AOP year)					
Submission Date							
APPROVAL ITEM		YES/NO	INITIAL/DATE (to be completed by AAF)				
Validated by RFP							
AOP has an approved FHP(s)							
			Company (Y,N,N/A)	Company Comments (optional)	AAF (Y,N,N/A)	AAF Comments (optional)	
Administration							
<ul style="list-style-type: none"> Have digital copies of AOP been provided to: <ul style="list-style-type: none"> Area Planning Forester Forest Officer other Have any FHP conditions been addressed? If there are none, entre N/A. Is the Company requesting dues relief with an explanation and justification? Have any amendments to AOP components been submitted and justified (reforestation program, GDP, FHP) 							
Operating Schedule (as per section 3.5.4 e)							
<ul style="list-style-type: none"> Has a table been submitted for all blocks scheduled for harvest including area & volume by species with totals? Has a list of temporary roads proposed for construction, maintenance & reclamation including watercourse crossings to be built or installed or removed/maintained been provided? Has a declaration of outstanding operational items, or an agreement with Alberta on reporting of outstanding operational items been provided? Are requested amendments to any AOP components explained (reforestation program, road plan, etc)? 							
Applicable Forest Harvest Plans (as per section 3.4)							
<ul style="list-style-type: none"> Do all blocks included in the AOP have FHP approval? 							
Reforestation Program (as per section 8.2)							
<ul style="list-style-type: none"> Is the proposed silviculture treatment schedule provided? Are summaries of stratum declarations, stratum changes, final stratum, QAC adjustments provided? Proposed blocks are listed for declaration in lieu of survey & re-treatment <ul style="list-style-type: none"> Are seed inventories sufficient as per FGRMS manual section 11.2 or otherwise approved by AAF? 							
Fire Control Plan (as per section 7.3)							
<ul style="list-style-type: none"> Is the Fire Control plan complete and provided? 							
Road Plan (as per section 11.2)							
<ul style="list-style-type: none"> Are all roads scheduled to be built under authority of the AOP planned to have a lifespan of <= 3 years? Are all required watercourse crossings documented in the monitoring program as per section 11.4.26? 							
General Development Plan (as per section 3.3)							
<ul style="list-style-type: none"> Has a summary of variance as per section 4.1 been provided? Has a summary of volume supply by area been provided? Has an DLO road construction and reclamation schedule been provided? Has a GDP schedule & map as per section 3.3.3 been provided? Has an as-built block map from previous year's harvest been provided? Have consultation activities been completed as per the applicable Consultation Guidelines? 							
Company Sign Off							
Submitting RFP Validation		Hinton Wood Products, a Division of West Fraser Mills Ltd.			Date		
		Company					
AAF Sign Off							
Reviewing RFP Validation					Date		
<p>Note: The AOP shall be appraised by Alberta in accordance to the AOP checklist, with approval subject to the outcome of the appraisal.</p>							