



# **Timber harvest planning and operating ground rules**

Weyerhaeuser Company-Grande Prairie  
Forest Management Plan/Agreement  
Area-Specific Addendum

The logo for the province of Alberta, featuring the word "Alberta" in a stylized, cursive script font, followed by a small square icon.

2022

**WEYERHAEUSER COMPANY LTD. FMA**

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

**WEYERHAEUSER COMPANY  
LTD. GRANDE PRAIRIE  
OPERATIONS**

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

ENDORSEMENTS

**The Weyerhaeuser Company Ltd. Grande Prairie Operations Timber Harvest Planning and Operating Ground Rules, having been prepared in accordance with Section 16 (2) of FMA 6900016, and hereby endorsed this 27th day of April, 2022.**

Weyerhaeuser Company 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:

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\_\_\_\_\_

\_\_\_\_\_  
(print name)

Ken Greenway

\_\_\_\_\_  
(print name)

\_\_\_\_\_  
(title)

Executive Director

\_\_\_\_\_  
(title)

## Preamble

The [Forests Act](#)<sup>1</sup> 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, 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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<sup>1</sup> <https://open.alberta.ca/publications/f22>

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## List of Acronyms

<b>AAC</b>	Annual Allowable Cut
<b>AFMPS</b>	Alberta Forest Management Planning Standard
<b>ALSA</b>	Alberta Land Stewardship Act
<b>AOP</b>	Annual Operating Plan
<b>ARIS</b>	Alberta Regeneration Information System
<b>ATV</b>	All-Terrain Vehicle
<b>AVI</b>	Alberta Vegetation Inventory
<b>AWCS</b>	Alberta Wetland Classification System
<b>CA</b>	Compartment Assessment
<b>DBH</b>	Diameter at Breast Height
<b>DFA</b>	Defined Forest Area
<b>DLO</b>	Department License of Occupation
<b>FGR</b>	FMP-specific Ground Rule
<b>FMA</b>	Forest Management Agreement
<b>FMP</b>	Forest Management Plan
<b>FMU</b>	Forest Management Unit
<b>FMWSI</b>	Forest Management Wetland Stewardship Initiative
<b>FWIMT</b>	Fish and Wildlife Internet Mapping Tool
<b>FOMP</b>	Forest Operations Monitoring Program
<b>GDP</b>	General Development Plan
<b>GPS</b>	Global Positioning System
<b>GRS</b>	Geotextile Reinforced Structure
<b>GTA</b>	Grazing Timber Agreement
<b>ID</b>	Identification
<b>KWBZ</b>	Key Wildlife Biodiversity Zone
<b>LOC</b>	License of Occupation
<b>OGR</b>	Operating Ground Rule
<b>PGR</b>	Provincial Ground Rule
<b>PSP</b>	Permanent Sample Plot
<b>RFMA</b>	Registered Forest Management Area
<b>ROW</b>	Right-of-Way
<b>RPF</b>	Registered Professional Forester
<b>RPFT</b>	Registered Professional Forest Technologist
<b>RSA</b>	Reforestation Standard of Alberta
<b>SFM</b>	Sustainable Forest Management
<b>SHS</b>	Spatial Harvest Sequence
<b>SSR</b>	Stand Structure Retention
<b>TFA</b>	Temporary Field Authorization
<b>THPS</b>	Timber Harvest Planning Standards
<b>TMR</b>	Timber Management Regulation
<b>VOIT</b>	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](#)<sup>2</sup>, [Species at Risk Act](#)<sup>3</sup> and [Migratory Birds Convention Act, 1994](#)<sup>4</sup>. 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;
- supported by technical terminology and definitions; and
- achievable.

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

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

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

## 4.1 Timber Harvest Planning Requirements {WGP 3.1}

### GROUND RULES

- 4.1.1 The GDP submission date is July 1 or before of each year unless otherwise approved by Alberta. {WGP 3.3.1}
- 4.1.2 The AOP submission date is July 1 or before of each year unless otherwise approved by Alberta. {WGP 3.5.1}
- 4.1.3 The reforestation program shall be submitted: {WGP 8.2.1}
  - a) before April 1 for silviculture operations commencing between May 1 and October 31;
  - b) before September 1 for silviculture operations commencing between November 1 and April 30; or
  - c) as otherwise specified in an FMA, or at a time agreed to by Alberta.
- 4.1.4 Variance Reporting units shall be: {WGP 4.1.2}
  - a) Inside Caribou Range: Caribou Access Unit boundaries
  - b) Outside Caribou Range: Cost Zone boundaries.



## 4.2 Operational Ground Rules

### 4.2.1 Structure Retention {WGP 7.4}

#### PURPOSE

- To create temporary refuges for forest biota to re-colonize harvest areas.
- To maintain snags and live residual trees in harvested areas for biota that depend on these structures following natural disturbances.
- To provide wildlife thermal and hiding cover within harvest areas throughout the rotation.
- To provide wildlife travel corridors within large harvest areas 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 harvest areas makes the harvested areas more similar to burned areas. In addition, residual live trees may create some old forest attributes in young regenerating harvest areas. 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 biota 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 harvest areas 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 biota that depend on this dead woody material.

Where larger harvest areas are created, it is important to retain a number of individual trees, snags and residual tree patches distributed across the harvest area. 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.

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.

The purpose of these guidelines is to provide strategies and targets on how to create ecological diversity across the landscape and within the harvest blocks. Implementation of these procedures will help to provide many values and ensure ecological diversity and habitat opportunities for all plant and wildlife species.

## GROUND RULES

- 4.2.1.1 Residual structure shall be retained in harvest areas during harvest and silviculture operations (including salvage operations) according to the FMP regarding the amount of structure, size of patches, species, composition, and distribution. In the absence of direction in the FMP, the following standards apply. {WGP 7.4.1}
- 4.2.1.2 The structure retention target is 4% representative retention. The contributing land base has been reduced using a modeling function by 4%, which will replace the need to reduce the AAC volume. Retention will be comprised of a combination of single stems, clumps, and patches. The 4% area retention target is a target and the focus should be on finding opportunities to create representative structure retention. Retention will be representative of the stand and will be spatially well-distributed within all harvested openings to provide vertical structure, a variety of wildlife habitats, travel corridors and coarse woody debris over the long term. {WGP 7.4.2}
- 4.2.1.2.1 Single Tree retention refers to single trees left standing in the harvested area.  
Single tree retention can be converted to an area by using the following formula:  
$$\text{Area} = (\text{number of live trees/piece size}) / (\text{average volume per ha})$$
where piece size = number of trees equaling 1 m<sup>3</sup> net merchantable volume E.g. # live trees = 50, piece size = 2.5 trees / m<sup>3</sup>, average volume/ha = 200 m<sup>3</sup>/ha  
$$\text{Area} = (50 \text{ trees}/2.5 \text{ trees}/ \text{m}^3) / (200 \text{ m}^3/\text{ha}) = 0.1 \text{ ha of structure retention}$$
- 4.2.1.2.2 Patch Retention is a large group of trees (>30) left within harvest blocks. The shape and size should be highly variable and may include understory trees and shrubs.
- 4.2.1.2.3 Small clump retention refers to small groups of trees (~20) growing together that are left undisturbed. Clumps should be distributed throughout the block.
- 4.2.1.2.4 To achieve the 4% merchantable target, larger cut blocks with have larger and more frequent clumps and patches left undisturbed.
- 4.2.1.3 Retention will be a combination of pre-planned (laid out) and operational (at the operator's discretion). Forest Planners and Forest Operators will strive to retain structure in the following manner: {WGP 7.4.3}
- 4.2.1.3.1 Retain residual structure around riparian areas including lakes, rivers, creeks, streams and wetlands.
- 4.2.1.3.2 Retain residual patches around unique ecological sites such as clusters of downed woody debris, wolf trees, rock outcrops, dens, nests and mineral licks.
- 4.2.1.3.3 Retention patches will take advantage of protecting rare plants, culturally valued plant species or medicinal plants (i.e.: Diamond Willow) identified during layout and/or Indigenous consultation.
- 4.2.1.3.4 Retain residual structure near the harvest area boundary to create a gradual ecotone between the harvest area and un-harvested forest.
- 4.2.1.3.5 Retain residual structure in patterns and locations that minimize the potential for blowdown.
- 4.2.1.3.6 Leave a combination of patches, clumps, single trees and snags.
- 4.2.1.3.7 Leave as many individual stems of non-merchantable trees, shrubs and snags as operationally and silviculturally feasible.
- 4.2.1.3.8 Leave as many snags as safely possible to provide perching and cavity nesting opportunities.
- 4.2.1.3.9 Leaning snags or trees of non-merchantable species that are greater than 6 m in height that create a safety hazard may be felled to create safe working conditions.
- 4.2.1.3.10 Snags within 40 m of roads, camps, landings, fence lines, power lines and machine maintenance areas may be felled to create safe working conditions

- 4.2.1.4 The following types of blocks may have less than 4%, but will be greater than 0%, representative structure retention: {WGP 7.4.4}
  - 4.2.1.4.1 Block openings smaller than 10 hectares
  - 4.2.1.4.2 Narrow blocks (blocks that are less than 120 meters wide)
- 4.2.1.5 Retention patches that are totally contained within the block boundary will contribute to retention targets. {WGP 7.4.5}
- 4.2.1.6 Retention patches that exist adjacent to the boundary but were originally identified as part of the approved block polygon (i.e.: harvestable area that was intentionally left) will contribute to retention targets. {WGP 7.4.6}
- 4.2.1.7 Retention patches that are part of riparian buffers or are adjacent to the block boundary that were not part of the approved block polygon will not contribute to retention targets. {WGP 7.4.7}
- 4.2.1.8 The retention target will be achieved for each harvest opening. The area of retention will be captured and reported through the cut block delineation process as detailed in the Spatial Data Directive or other mutually agreed to means. {WGP 7.4.8}
- 4.2.1.9 Forest operators 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. {WGP 7.4.9}

## 4.2.2 Species of Special Management Concern {WGP 7.7}

### Woodland Caribou {WGP 7.7.2}

#### GROUND RULES

- 4.2.2.1 The number of Approved Caribou Access Units (Priority 1) open at any one time will be minimized. {WGP 7.7.2.1}
- 4.2.2.2 For Approved Access Units that have been completed, i.e. harvesting complete, the General Development Plan will report: {WGP 7.7.2.3}
- volume and hectares in the Access Unit that have been harvested
  - hectares and volume in the Access Unit that were not harvested and will be net landbase deletions in the next Forest Management Plan (steep areas, creek buffers, etc.)
  - hectares and volume in the Access Unit that were not harvested and will be deferred from harvest for a full rotation (tree retention, etc.)

### Grizzly Bear {WGP 7.7.3}

#### GROUND RULES

- 4.2.2.3 Site specific mitigation tools will be included in GDP for GBWU where there is an increased primary sink and/ or a decrease in primary habitat: {WGP 7.7.3.1}
- a detailed access plan including the amount, alignment, standard (road type) and longevity (tenure) of all proposed access roads and use of/ improvements to existing access roads.
  - access road reclamation plan and schedule.
  - access management measures.
  - general operating schedule (road construction, harvesting, silviculture) including season of harvest.
  - protection of key grizzly bear habitat features (as identified by Alberta and company) including berry crop management strategies (in relation to both harvesting system and silvicultural prescription).

### Arctic Grayling and Bull Trout {WGP 7.7.6}

#### DISCUSSION

Arctic Grayling are classified as a “Species of Special Concern” and Bull Trout are classified as “Threatened” under the Alberta Wildlife Act. One of the greatest contributing factors threatening both species related to the forest industry is the density of linear features (e.g., DLO and LOC 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 both 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:

- protection of the long-term integrity, connectivity, productivity and access of arctic grayling and bull trout to the spawning, rearing, feeding and over wintering habitat within the watershed;
- protection of water quality and quantity metrics 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 both species; and
- d) minimize the industrial footprint and density of linear features intersecting watercourses within arctic grayling and bull trout watersheds to reduce the potential for secondary disturbance and mortality from recreational use.

#### **BEST MANAGEMENT PRACTICES**

- Locations of existing arctic grayling and bull trout can be identified using the Fisheries and Wildlife Management Information System (FWMIS), and the associated Fish and Wildlife Internet Mapping Tool (FWMIT). {WGP 7.7.6.1}
- Operational planning by the timber disposition holder should incorporate the use of an available 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. {WGP 7.7.6.2}

#### **GROUND RULES**

- 4.2.2.4 As per FMP, mitigation tactics for watersheds with ECA exceeding 30% threshold are required and shall be addressed in the GDP. {WGP 7.7.6.3}

## 4.2.3 Road classification, planning and design

### Woodland Caribou Cost Zone (Compartment)

#### DISCUSSION

Weyerhaeuser is not proposing any new permanent road construction (DLO) to access fiber in the approved 20 year spatial harvest sequence. Temporary roads and the crossing structures within them are generally planned to be constructed and reclaimed within 3 years as stated in 2.14 of Provincial OGR.

In the Caribou Range however, some road systems are planned for construction that may be required to have a lifespan longer than 3 years. These are meant to remain as temporary road rather than new permanent road (DLO), and will be used to accomplish aggregated harvest objectives within Caribou Access Units as outlined in the Caribou Management Strategy (FMP- Chapter 6, App. 2).

#### GROUND RULES

- 4.2.3.1 Within the Caribou Range Cost Zones listed below, temporary roads may have a lifespan of up to 5 years without requiring a Non-Standard GDP or AOP Submission.
- Calahoo Zone 3
  - Lingrell Zone 3
  - Narraway Zones 1 and 2
  - Prairie Creek Zone 3
  - Redrock Prairie Zone 1
  - Redrock Zones 2 and 3
  - Stetson Zone 2
  - Two Lakes Zone 3
- 4.2.3.2 All temporary roads planned for an up to 5 year lifespan as per 4.2.3.1 shall be identified as such within the submitted GDP and AOP.

#### BEST MANAGEMENT PRACTICES

- Access planning in the above Cost Zones and reclamation plans should be developed with input from local AAFRED Area staff and AEP biologists.

## 4.2.4 Water Crossings {WGP 11.4.19}

#### GROUND RULES

- 4.2.4.1 A temporary machine crossing (TMC) is used by equipment to access timber that is isolated from a road and bring it to roadside. A properly constructed TMC avoids disturbance to watercourse channels, minimizes bank disturbance, does not impede natural water flow, prevents deposition of debris, soil and slash and includes the following:
- a) TMC's are not associated with a road;
  - b) TMC's may be used on an intermittent or ephemeral watercourse;
  - c) TMC's may be used in frozen or unfrozen conditions;
  - d) width does not exceed 1.5 times the width of the machine using the crossing;

- e) TMCs will be removed as soon as operations are completed or before spring thaw;
- f) TMCs on non-frozen watercourses will be monitored during operations to ensure freshet flow does not compromise flow or introduce sedimentation or erosion;
- g) provisions for removal that do not disturb the banks or introduce sediment to the watercourse.

4.2.4.2 Properly constructed logfills (see 2.18.9 of Provincial OGR) on temporary roads maybe used as per Tables 9 and 10 of Provincial OGR. As soon as the temporary road is completely reclaimed, logfills shall be removed so that no soil is allowed into the water channel. Logfills installed on intermittent or permanent watercourses shall be removed before the spring thaw. {WGP 11.4.19}

# 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](#)<sup>5</sup> 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.

### **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 level is not an AAC unless approved by the Minister.

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<sup>5</sup>

[https://www.qp.alberta.ca/1266.cfm?page=p42.cfm&leg\\_type=Acts&isbncln=9780779828074&display=html](https://www.qp.alberta.ca/1266.cfm?page=p42.cfm&leg_type=Acts&isbncln=9780779828074&display=html)

**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

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