



**Forest Management Planning Standard Interpretive Bulletin:  
Stewardship Reporting Requirements**

## **Executive Summary**

The Forest Management Planning Standard Interpretive Bulletin: Stewardship Reporting Requirements provides stewardship report content and expectations for all Alberta timber disposition holders. Successful forest management plan stewardship reporting depends on three main principles:

1. Timber disposition holder conformity to approved forest management plan commitments;
2. Upholding of the sustainable forest management practices; and
3. Standardized provincial stewardship reporting.

The spatial harvest sequence facilitates an integration of forest management plan performance review results with higher-level regional and provincial plans and monitoring systems. Stewardship Reporting Requirements document establishes:

1. Content for forest management plan stewardship reports;
2. Responsibilities of Alberta, forest management agreement holders, and all other timber disposition holders preparing stewardship reports;
3. Standardizes spatial harvest sequence acceptable thresholds including variance calculation and reporting; and
4. Procedures for reporting standardized values, objectives, indicators and targets.

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## 1. Introduction

Forest stewardship is a subject with a broad scope that can result in various interpretations. Stewardship reporting is meant to narrow the scope of forest stewardship as it relates exclusively to the implementation of Alberta approved Detailed Forest Management Plans (FMPs). FMP stewardship reporting is comprised of multiple integrated elements including data, processes and management practices to support the collection of performance measures. It is a process that compiles, analyzes and reports the approved FMP performance results.

In Alberta, the Stewardship Reporting Requirements document (SRR) for FMPs assess activities undertaken by timber disposition holders in response to the approved FMPs; it is every company's responsibility to demonstrate that they are following the approved FMP commitments.

The SRR provides a summary of the Alberta FMP stewardship reporting expectations for all timber disposition holders. It includes content for the reporting requirements and recommendations that align with approved FMPs. The SRR provides an overview of a company's five-year performance on FMP commitments and clarifies and expands upon current Alberta Forest Management Planning Standard (FMPS) requirements regarding the stewardship reporting.

## **2. Alberta Forest Management Planning Standard Interpretive Bulletin: Stewardship Reporting Requirements**

In the FMPS, stewardship reporting is set out as a requirement and summarizes the implementation of planned activities described in an approved FMP for a Defined Forest Area (DFA). The SRR compares the approved FMP and completed actions (including the evaluation of corrective strategies) of all embedded timber disposition holders. It focuses on the implementation of the FMP monitoring programs and creates accountability; it determines whether the FMP's commitments are being implemented consistently, and whether disposition holders are in compliance with the approved FMPS and associated supporting guidelines<sup>1</sup>. A FMP Stewardship Report (SR) is one of the key documents measuring and assessing FMP performance. The stewardship reporting neither replaces an approved FMP nor modifies any of its stated commitments.

To clarify and simplify preparation of information in the SRs, standardized templates are included throughout this interpretive bulletin<sup>2</sup>. Alberta will manage stewardship reporting expectations, monitor submitted reports, and provide feedback to FMA holders and QHs. Alberta shall provide feedback on the SR submissions within 45 working days.

### **2.1. Goals and Objectives**

The SRR document sets out requirements for both the content and the process of assessing the FMP implementation in Alberta.

The main objectives of the SRR are to:

1. Standardize content of stewardship reports and streamline FMP performance assessment.
2. Align stewardship reporting with the implementation of FMPs.
3. Maintain a feedback loop for adaptive sustainable forest management and continuous improvement in Alberta.

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<sup>1</sup> ASRD 2006, Alberta Forest Management Planning Standard, Alberta Sustainable Resource Development, Public Lands and Forests Division, Forest Management Branch, Version 4.1 – April 200

<sup>2</sup> Templates provide the minimum data requirements

## **2.2. Benefits of Effective Stewardship Reporting**

Effective FMP stewardship reporting will:

1. Assess differences between approved FMPs and their implementation;
2. Increase transparency and accountability during the FMP implementation;
3. Link FMP implementation to provincial, regional, and sub-regional initiatives; and
4. Foster adaptability and sustainable forest management strategies in subsequent FMP development.

## **2.3. Regulatory Requirement**

The Government of Alberta (GOA) is responsible for the management of Alberta's forests. As the manager of the forests, the GOA is responsible for negotiating FMAs, developing and maintaining forest management planning standards, monitoring and enforcing compliance to those standards, and is ultimately accountable to Albertans for achieved results.

Stewardship reporting is required by the FMPS, Section 2 – FMP Process and Content Standards, Section 1.4 – Submission Requirements. The requirements for a monitoring program and the evaluation of actual versus expected outcomes are identified in Section 2.2.6 of the FMPS.

The Performance Standards, Annex 4 of the FMPS provides a list of Values, Objectives, Indicators and Targets (VOITs) required in FMPs. These VOITs were chosen to ensure the effective and sustainable management of forest values prized by Albertans. The SR shall report on the FMP approved VOITs.

A SR must be submitted every five years following the submission of the FMP or as directed by the FMP Approval Decision. The mandatory components of a stewardship report must be provided for every submission.

The development of sustainable forest management practices and adherence to the approved spatial harvest sequence (SHS) are two of the most important components of any FMP (Section 3.2.3). Section 6.6 of the FMPS states: “that if Alberta deems SHS variances significant, it may be used to direct changes to the timber supply.” The SHS planning directly



influences FMPS Objectives 1.1.1.1, 1.1.1.2, 1.1.1.3, and 5.1.1.1. Conformity to the FMP's SHS is an effective indicator of the achievement of these objectives and, as such, SHS variance is included in the SR as one of the key monitoring elements.

FMP SRR guides Alberta's current practice to collect and report planned SHS variance using the operational planning process (e.g., Annual Operating Plans (AOP), Forest Harvest Plans (FHPs), and General Development Plans (GDP)). Although relevant and required, the operational planning component of SHS reporting includes a combination of both actual and planned variances. The SR assesses SHS variance on completed activities; the SR SHS variance shall only be based on the actual harvests (i.e., final harvest area).

The Alberta Forest Genetics Management and Conservation Standards (FGRMS) provide information to be submitted into the SRR. Reporting of Stream 1 (wild) and Stream 2 (seed orchard) seed or clones planted, and the cumulative effective population size of the Stream 2 planted seed or clones by Controlled Parentage Program (CPP) region should be reported (Standards 21.2.1, 21.2.1.1). If Stream 2 material with restricted registration is planted (Standard 21.2.3.1), or if unrestricted Stream 2 seed is planted in over 50% of the reforested stratum by species and CPP region (Standard 21.2.3.2), or if clones are planted (Standard 21.2.3.3 and pending approval, new Standard 18.4.3.2.4), then spatial information of these locations should be submitted with the SR (Standard 21.2.3.4). In situ gene conservation shall also be reported (Standard 21.2.5).

## **2.4. Signing Authority and Compliance**

SRR submitted to Alberta will be approved by the Director, Forest Resource Management Section, Forest Management Branch, GOA.

FMPS Annex 2, Work Validated by a Regulated Forest Professional (RFP), Section 2.1 states that the entire FMP shall be approved through an appraisal and must be validated by the senior RFP responsible for its preparation. The same requirements apply to the submission of all FMP SRR (FMPS Section 2.1.vii). Copies of SRR will be available to the public in the same way as current FMPs are.

Where the SHS variance thresholds are exceeded, the GOA may require the completion of a

Compartment Assessment<sup>3</sup> (CA). Based on CA or SR results, the Director, Forest Resource Management Section, will decide on any combination of the possible SR review outcomes:

1. Proceeding with approved FMP and its SHS implementation;
2. Revising operational plans;
3. Requiring additional performance assessment or monitoring;
4. Completing new forecasting (non-timber or timber analyses including new SHS);
5. Adjusting the approved annual allowable cut (AAC); or
6. Preparation of a new FMP.

## **2.5. Responsibilities of Embedded Non-FMA Quota Holders**

Pursuant to the timber disposition agreements, FMP embedded QHs shall provide support for FMP assessment of their operations within the DFA. Timing of the submissions shall be coordinated with the FMA holder or, when required, with Alberta. Alberta will facilitate the process of information exchange between timber disposition holders when needed. QHs are responsible for preparing summaries of their forest management activities as required by this interpretive bulletin and their affected FMP.

QHs shall prepare and provide the following information:

1. Approved SHS variance reporting (Section 3.2.3);
2. AAC review (Section 3.2.5);
3. FGRMS monitoring requirements (Section 3.2.8);
4. Company specific monitoring programs if specified in the approved FMPs (i.e., VOITs such as stand structure retention programs, Growth and Yield (G&Y) program implementation);
5. Company specific action plans for deficiencies; and
6. Spatial representation of their harvested blocks, including retention and variance.

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<sup>3</sup> The definitions, policies, and management processes related to the CAs are outside the scope of the FMP SR Directive. Alberta shall provide details on CA review process and its component through a separate process

Unless otherwise agreed to, all information supporting SRR shall be consistent with Alberta's data standards and follow templates provided in the SRR or requirements established by the approved FMP.

## **2.6. Standardizing FMPs and Stewardship Reporting**

The FMPS was implemented on May 1, 2006. This document comprises the requirement for preparation and implementation of FMP SRR in Alberta. The SRR improves periodic reporting by reconciling the FMPS requirements and FMP submissions, and by standardizing approved FMP performance evaluation.

## **3. Alberta FMP Stewardship Reporting Content Requirements**

The FMP SRR shall consist of two main parts – mandatory components and VOIT reporting.

### **3.1 General Reporting Requirements**

SRR shall avoid duplicating information. Instead, they should focus on an overview of achieved performance derived from operational activities (e.g., harvesting, silviculture treatment, access development) and compare it to the approved FMP commitments and VOITs. SRR shall contain brief narratives, timelines and benchmarking reports, overview of FMP projections and modeling results, or performance outcomes originating from these analyses.

Each SR shall establish and report on FMP implementation using consistent performance measures and align with approved FMP commitments. These measures shall be objective, relevant, reliable, and inclusive as per the following definitions:

1. Objective – the reports must be unbiased and evidence-based; they should focus on both the positive achievements and areas for improvement.
2. Relevant – information provided in the reports must be meaningful in assessing current and future forest conditions; relate to desired approved FMP outcome; omit nonessential information.

3. Reliable – presented information must be based on verifiable data and repeatable.
4. Inclusive – the reports must refer to the performance assessment of all forest management activities applicable to the DFA.

### **3.2 Mandatory Components**

Every SR shall contain the mandatory components listed in this interpretive bulletin. The mandatory components are designed to achieve two objectives. First, they provide information about the FMP implementation that cannot be fully captured by FMP VOITs. Second, the mandatory components standardize the assessment of key FMPs performance indicators across FMPs and assist FMP integration with other regional and provincial-level initiatives such as the Land-use Framework. The FMP SRR are a compilation of summary information; Alberta may request subsequent detailed technical documentation to support the information contained in them on a case by case basis.

Stewardship report's mandatory components outside VOITs include:

1. Review and status of FMP Approval Decision conditions;
2. Regional or DFA-specific management objectives;
3. Approved FMP SHS variance assessment;
4. Landbase changes;
5. AAC review;
6. G&Y program maintenance;
7. Seed availability and usage; and
8. FGRMS reporting.

#### **3.2.1. FMP Approval Decision Conditions**

Alberta supplies an Approval Decision for every successful FMP submission; the Approval Decision includes a list of specific conditions and timelines that forest management organizations shall meet. Adherence to the Approval Decision conditions establishes the accountability of

Alberta and the FMA holder and associated embedded timber disposition holders in implementing the FMPs. Table 1 provides FMP Approval Decision performance reporting requirements.

To demonstrate compliance with adaptive forest management principles, the SR shall list and summarize the organization’s performance relative to the:

1. Status of Approval Decision conditions of the FMP; and
2. Embedded timber disposition holder’s planned strategies and actions to achieve them (refer to Section 2.5).

Table 1 FMP Approval Decision Condition Review

Approval Condition	Due Date	Approval Date	Comments

### 3.2.2. Regional and DFA-Specific Management Objectives

Stewardship reports shall include references when FMPs or amendments have been prepared in response to provincial programs to reduce forest insect or disease, species of concern risks or any other considerations guiding the development of the Preferred Forest Management Strategy (PFMS). For example, under Alberta’s Healthy Pine Strategy, the company shall provide an overview of the total area harvested of highly susceptible stands, the stands remaining in the SHS, and the company’s progress towards reducing the identified risk. Any feedback or evidence related to the assessment of the risk of the Mountain Pine Beetle (MPB) spread within the DFA is also expected. Due to the dynamic nature of potential forest insect or disease risks, stewardship reporting requirements may be modified by Alberta and communicated to all embedded timber disposition holders on an as- needed basis.

In this example, Table 2 shall be provided for all FMPs comprising areas with high MPB threat or have received approval to implement Alberta’s Healthy Pine Strategy.

Table 2 MPB Mitigation Overview – Reduction of MPB Threatened Pine Stand Area

Sustained Yield Unit	Year	MPB Stand Susceptibility Index	Total Area (ha)	SHS Area (ha)	Area Harvested (ha)	Comments

### 3.2.3. SHS Variance Reporting

FMPS, Annex 1, Section 6.0 Harvest Planning Standards, establishes requirements for a spatially explicit forest management approach to achieve the desired future forest conditions.

The future forest conditions are largely shaped by harvest patterns, intensity and timing. The approved SHS links strategic level plans with operationally feasible schedules. The SHS identifies spatially and temporally the queue of stands that will support the sustainable timber harvest level and the projected future forest conditions, explicitly considering the trade-offs between social, economic, and ecological considerations. The SR SHS variance assesses harvested block deviation from the approved SHS.

The scheduling of stands through the SHS depends on the timber merchantability criteria identified in the embedded timber disposition holder’s tenure agreement and the management assumptions used in the timber supply analysis (TSA). The analyses assumptions are comprised of deletions from the contributing landbase (e.g., subjective deletions, watercourse buffers, protected areas) and parameters that determine a stand’s eligibility for harvest (piece size, species composition, volume/ha, etc.). The SHS is an output from the analysis of these TSA inputs. Alberta requires the 20-year SHS to be operationally feasible and acceptable to all operators in the DFA. The SR appraises variance between the approved SHS planned and actual block boundaries (i.e., final harvest boundaries or As-Built when final harvest boundaries are unavailable). The SHS variance provides an unbiased performance measure of the FMP implementation and ensures that the FMP’s desired future forest conditions are met. Harvested area deviation from the approved SHS could prevent the FMP from achieving its forecasted outcomes and may adversely impact assumptions leading to sustainable forest management.

To manage potential risks associated with deviation from the approved FMP mapped SHS, the stewardship report tracks harvested blocks using SHS variance. In the absence of fire, operators that follow the FMP SHS will be able to demonstrate the progress made towards achieving their forest management objectives (desired future forest conditions), thus satisfying many FMP

stewardship reporting requirements with little additional analysis.

Alberta determines SHS variance using the following terminology:

- Variance – any deviation from the 10-year SHS in the approved FMP. Variance shall be assessed during the implementation and monitoring phases of the forest management planning process, when completed harvests will be compared to the SHS in GDPs, FHPs and stewardship reporting. Variance is classified into one of these three categories: Additions, Deletions or Deferrals.
- Addition – any area planned for harvest (GDP, FHP) or has been harvested (GDP, SR) that is not part of the 10-year SHS in the approved FMP. Additions are divided into two categories: substantial or slivers.
- Deletion – any area included in the 10-year SHS that will never be harvested. This area shall be removed from the contributing landbase in the subsequent FMP. Deletions are divided into two categories: substantial or slivers.
- Deferral – any area included in the 10-year SHS that will not be harvested during the current FMP's approved timeframe. Deferrals have to be justified; they are not removed from the contributing landbase but shall be included in the subsequent FMP SHS. Deferrals are divided into two categories: substantial or slivers.
- Substantial – any polygon feature other than Slivers
- Slivers – polygon features with the same Provincial Stratification less than 2 hectares 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. To streamline stewardship reporting, Sliver Deletions and Sliver Deferrals can be aggregated together (e.g., Sliver Deletions & Deferrals). Appendix C provides depictions on sliver definitions.
- Provincial Stratification – one of standardized provincial yield stratum defined in the Yield Projection Interpretive Bulletin in the FMPS

- Harvest Profile<sup>4</sup> – designated operator harvest areas approved by FMP SHS over designated 10 years in each compartment by provincial stratification. Additions, Deletions and Deferrals will be reported in the same categories as the harvest profile.

Variance shall be calculated using the same methodology and tracked in each of the following submissions: SRR, GDPs, and FHPs. Table 3 provides an example of SR SHS variance reporting. SRR shall summarize harvests by Provincial Stratification. SR SHS variance shall be tracked and measured using additions and determined as follows:

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

Table 3 Example of FMP SR SHS Variance Reporting

Harvest Profile				Final Harvest Area																	
				Harvested (ha)								Variance								SHS Assessment (Excluding Slivers)	
												Substantial				Slivers					
Compartment	Provincial Stratification / Yield Strata	Approved DFA 10 Year SHS	Operator Approved FMP 10 Year SHS	SHS 1-10yr	SHS 11-20yr	SHS 21-70 yr	Contributing Landbase Outside SHS	Non-Contributing Landbase	Total	Additions	Deletions *	Deferrals *	Additions	Deletions & Deferrals	Total	Total Slivers (%)	SHS Variance (Additions %)	Difference in Area (Subst. Add. - D&D)	Difference in Area Total Harvested - 10yr FMP SHS		
100	All	10,731	9,743	3,914	945	167	739	25	5,790	1,876	1,086	823	67	160	227	4%	19%	(33)	(3,953)		
	1	2,790	2,500	729	148	119	11	18	1,024	295	914	699	37	37	74	7%	12%	(1,318)	(1,476)		
	2	1,740	1,520	484	467	48	10	8	1,016	533	85	81	30	33	63	6%	35%	367	(504)		
	3	3,701	3,701	1,903	118	-	389	-	2,410	508	-	-	-	-	-	0%	14%	508	(1,291)		
	∴	2,500	2,022	798	212	-	329	-	1,340	542	87	43	-	90	90	7%	27%	411	(683)		

\* Deletions and Deferrals shall be provided in digital map format for subsequent FMP

Altering approved SHS blocks during harvesting operations is often unavoidable but, if present, it must be managed effectively. The FMPS and the FMP Approval Decision set thresholds for

<sup>4</sup> Adapted from Strata Description Table (SDT) as per FMPS, Annex 1, Section 6



acceptable SHS variance (for SR derived only from final harvests) as follows:

1. SHS variance (Additions %) shall be less than 20% of the timber disposition holder's harvest area by compartment per decade;
2. Area of substantial additions shall not exceed the sum of area in substantial deletions and deferrals; and
3. Total area harvested shall be less than or equal to the area in the 10-year SHS of the approved FMP.

SHS deviation thresholds shall be tracked by each operator and made available for reporting in the SR. Harvest Profile (refer to Table 3) shall be part of the FMP Approval Decision and used as a base for SHS deviation calculations. Alberta shall monitor and may require acceptable thresholds for slivers. Subsequent FMPs shall provide details of how substantial deletions and deferrals are incorporated into landbase classification and TSA forecasting.

Alberta shall appraise if acceptable thresholds for variance are exceeded. The timber disposition holders shall provide sufficient information to validate the reported variance both spatially and aspatially and explain any deviations associated with their operations identified in the SR. The department may require additional appraisal of the operational plans that exceed allowed thresholds identified in the FMP Approval Decision.

#### 3.2.4. Landbase Changes

Alberta's efforts are directed towards maximizing the benefits derived from the forest landbase by conserving its physical environment and productivity. Also, it is Alberta's responsibility to create and manage accurate land use data. The SR process shall be used to determine whether the landscape that existed during FMP development has significantly changed. If different from FMPS VOIT 2.1.2.1 (limit conversion of productive landbase to other uses), the companies are encouraged to provide all landbase changes both for the DFA and contributing landbase.

FMPS Annex 1, Appendix A, Rule 1.0.v, states that a 2.5% loss of the contributing landbase requires an AAC adjustment. As a single event, fire, land use withdrawals or administrative changes appear to be agents that could reduce a contributing landbase during the 10-year term of a FMP. The monitoring of the fire disturbance and its management historically has been and

continues to be the responsibility of Alberta. Also, as public land is affected by other types of disturbances (e.g., energy, land use) the cumulative effect on the landscape needs to be captured. The SRR provides companies an option to discuss and reference the cumulative effect status in their DFA based on completed development by other users.

### 3.2.5. AAC Review

A SR monitors approved FMP AACs by reporting harvested volume. As required by FMPS, Annex 1, Yield Projection and Reforestation Monitoring Standard 4.2.13, Alberta tracks harvested volume through its timber production monitoring program. The results from these reports are used to validate approved FMP assumptions. If the SR period differs from FMA and timber disposition holders' quadrant harvested volume reporting, the SR shall reconcile the differences.

To assess the difference between projected and delivered volume, the companies shall summarize conifer and deciduous volume by timber year and broad species groups. Unless specified otherwise, required template for harvested volume reporting is provided in Table 4.

Table 4 AAC Review – FMP Projected and Harvested Volume Annual Comparison

Year	Coniferous		Deciduous	
	Projected (Calculated) Volume (m <sup>3</sup> /ha)	Delivered Volume (m <sup>3</sup> /ha)	Projected (Calculated) Volume (m <sup>3</sup> /ha)	Delivered Volume (m <sup>3</sup> /ha)

### 3.2.6. Growth and Yield Program Maintenance

Growth and Yield (G&Y) programs define how data will be collected to support current and future fibre yield assumptions and monitor stand development (succession) over time. An accounting of G&Y Program implementation including sample plots established and measured, models used, and outputs and their interpretation, as compared to the planned schedule of same, is critical to ensure G&Y Program objectives can be met. Operational constraints may result in deviations from planned implementation schedules. Documenting where and why these deviations occur is an important part of the stewardship reporting.

Table 5 shall be used to assess temporary sample plot (TSP) establishment and permanent sample plot (PSP) establishment and re-measurement schedules. If companies have committed to tree improvement programs, provided example shall be expanded to track Stream 1 (wild) and Stream 2 (seed orchard) origin PSPs.

Table 5 Annual G&Y Plan Implementation

SYU	Year	TSP Establishment		PSP Establishment		PSP Re-Measurement	
		Natural Stands	Managed Stands	Natural Stands	Managed Stands	Natural Stands	Managed Stands
Planned							
Actual							

### 3.2.7. Seed Availability and Usage

Forest companies are responsible for reforestation of harvested land. Alberta monitors approved FMP harvests (i.e., SHS) and associated reforestation obligations with annual provincial seed inventory data. Forest companies are required to assess and periodically report a level of their seed stock. To continue to support this initiative, the SR shall include reports on company owned seed inventory levels, projected seed usage, and years of supply for seed zone and species combinations using Table 6. SRR prepared by Alberta for non-FMA FMUs shall report seed inventory for the appropriate units using the same methodology.

Table 6 Silviculture – Seed Inventory and Usage Report

Year	Company / Seed Owner	Inventory Date	Species	Seed Zone (Stream 1)	CPP region (Stream 2)	Inventory (kg)	Projected Seed Usage (kg)	Projected Seed Supply (yrs)	Actual Seed Usage (kg)	Actual Seed Supply (yrs)

### 3.2.8. FGRMS Reporting

Alberta Forest Genetic Resource Management and Conservation Standards (FGRMS) outlines a set of reporting requirements in the SR, which may be triggered by different levels of activity: reforestation with Stream 1 (wild) seed as reported in Table 7, while reforestation with Stream 2 seed from seed orchard or clones as reported in Table 8.

Companies with an approved CPP plan are required to establish and report in situ genetic conservation areas for that species under the CPP plan (Table 9). Periodic monitoring is needed to ensure the requirements are being met in the conservation area over the long term (e.g., if conservation areas are harvested or burnt the status and follow up actions should be reported here).

The following FGRMS reporting requirements shall be met:

1. FGRMS 21.2.4 digital files (e.g., shapefiles, geodatabase) are required for submission. Each opening must be identified and show the material planted (Stream 1, Stream 2, species, seedlot number, number of seedlings, or clones planted).
2. FGRMS 18.4.3.2.4 and 21.2.3.3 require identification including spatial location of where clones are deployed, including on roads, in blocks, on landings, well sites, and fill planted voids.
3. FGRMS 21.2.3.1 require identification including spatial location where restricted registration Stream 2 material is planted.
4. FGRMS 21.2.3.2 require identification including spatial location where unrestricted registration Stream 2 material is planted from a given production population exceeding 50% of the total area reforested (with Stream 1 and Stream 2) by stratum and species in the 5-year period.

Table 7 FGRMS Stream 1 (Wild) Seed Deployment Reporting

Species	Stream 1 Seed Zone	Year	Area Planted: Regular Est. (ha)	Seedlings Planted (count)	Area Planted: Re-Treat or Under-Plant (ha)	Seedlings Planted (count)

Table 8 FGRMS Stream 2 (Seed Orchard) Seed Deployment Reporting

Species	Stream 2 CPP Region	Year	Area Planted: Regular Est. (ha)	Seedlings Planted: Regular Est. (count)	Area Planted: Re-Treat or Under-Plant (ha)	Seedlings Planted: Re-Treat or Under-Plant (count)	Clones Planted (count)	Clones Planted (ha)	Cumulative Stream 2 Seedlings or Clones Planted (count)

Table 9 FGRMS In Situ Conservation Area Reporting

Species	CPP Region	In Situ Conservation Area #	Conservation Area Status	Conservation Area Monitoring Schedule & Plan	Conservation Area Description (with Location)	Conservation Area Land Use Notation

Periodic monitoring is required to ensure the established conservation areas are continuing to represent the number of mature individuals, condition, and species to meet VOIT targets.

### 3.3 Reporting VOITs

FMPS Annex 4 lists provincial FMP performance standards using VOITs. VOITs describe current and forecasted desired future forest cover conditions resulting from sustainable forest management. The FMP SR establishes and maintains linkages between standardized FMPS requirements and FMP strategies for achieving desired future forest conditions and tracks company progress towards their implementation. Alberta requires the methodology used to report VOITs to be consistent between the company's FMP, its SR, and subsequent FMPs. The consistency in measurements of VOITs aids the evaluation of company's progress towards implementation of the approved FMP strategies. Achieved progress managing forests towards desired future conditions shall provide guidance for preparation of the next FMP.

FMPS Appendix A summarizes the 32 mandatory VOITs. At a minimum, these VOITs must be included in the company's FMP and therefore in the SRR. To simplify the process, the SRR divides all VOITs into three groups:

1. Dynamic (operational) VOITs;
2. Modeled VOITs – ones with un-affected values if forest management activities have closely followed the FMP. Usually these VOITs include predicted or modeled indicators.
3. Non-FMPS VOITs (Section 3.3.3).

Collected information required to meet VOIT reporting standards differs between the dynamic (operational) and modeled VOITs. The following criteria separate two groups:

1. Company commitments to monitoring and reporting specific VOITs in their FMP;
2. FMP SHS variance analysis results (Section 3.2.3); and
3. Deviation from the approved FMP assumptions.

If a company's FMP contains a VOIT reporting schedule, Alberta will evaluate FMP performance according to the approved schedule. In the absence of a VOIT reporting schedule, the reporting on VOITs depends on the FMP SHS variance. If the FMP SHS variance exceeds acceptable thresholds or if there is a loss of over 2.5% in contributing landbase on a company's FMA or the government's FMU, detailed reporting shall be required on all VOITs identified in the FMP.

Details on the dynamic (operational) VOITs and modeled VOITs are provided in Section 3.3.1 and Section 3.3.2, respectively.

### 3.3.1. Dynamic (Operational) VOITs

Pertinent to the FMPS, the SR shall provide an overview of all 32 VOITs (the actual number of VOITs may vary by approved FMP). However, if the approved FMP assumptions are maintained and SHS deviation is within acceptable thresholds, only “dynamic” or operational-type VOITs are expected to be in the report. The dynamic VOITs generally exclude modeled or predicted indicators.

The SR and subsequent FMPs shall describe all Dynamic VOITs because they are based on measures of performed forest operations “on the ground”; their outcome cannot be predicted during FMP preparation (they are not projected or modeled).

A list of dynamic VOITs for the FMP stewardship reporting is provided in Table 10.

Table 10 FMP Stewardship Report Requirements for Dynamic VOITs

Objective	Objective No.	Reporting
Open all-weather forestry road density by subunit	1.1.1.3a	Density (km/km <sup>2</sup> ) of forestry and all user open all-weather roads by subunit
Open seasonal / temporary forestry road length by DFA	1.1.1.3b	Length (km) of temporary / seasonal forestry road in DFA
Maintain plant communities uncommon in DFA or province	1.1.1.4	Area (ha) and type of rare plant or community protected/ ha identified for DFA – use the most current lists from Alberta Conservation and Information Management System (ACIMS)
Maintain unique habitats created by wildfire and natural disturbance events	1.1.1.5a	Area (ha) unsalvaged, % of merchantable black trees unsalvaged in patches greater than 100 ha, 10-100 ha, and small patches by event
Unsalvaged blowdown	1.1.1.5b	Area (ha) of unsalvaged blowdown / area of identified blowdown by event
Riparian areas	1.1.1.6	1. Report non-conformance OGR incidents, ha harvested within OGR buffer zone by compartment. 2. Ha deleted from SHS due to differences between TSA buffering and operational planning buffers (OGR) by compartment.
Structure retention	1.1.2.1a	% area or volume merchantable (living and dead) structure retained coniferous/deciduous by subunit and DFA
Downed woody debris	1.1.2.1b	% of harvest areas where post-harvest CWD levels are equal to or greater than pre-harvest levels
Sensitive sites	1.1.2.2	Area (ha) of sensitive sites maintained by type
Watercourse crossing	1.1.2.3	Report non-compliance incidents. Report number, type and status of watercourse crossings
Genetic diversity (in-situ)	1.3.1.1	Number of genetic conservation sites established by seed zone compared to required per seed zone
Genetic diversity (ex-situ)	1.3.1.2	Report on shared reporting
Protected area / trans boundary values consultation	1.4.1.1	Name of protected area, level of protection, stakeholders contacted, issues discussed, resolution
Reforestation	2.1.1.1a	% of satisfactorily reforested harvest areas by year
Reforestation	2.1.1.1b	Cumulative % of area of harvest areas meeting reforestation standards
Landbase changes	2.1.2.1	Number of ha and % (expressed as a % of contributing landbase) changing or converted to other uses or returned to productive landbase
Insect, disease, and natural calamities	2.1.2.2	Number of ha affected, number of ha treated
Invasive species	2.1.3.1	Number of ha affected, number of ha treated
Compliance with OGRs	3.1.1.1	Number and nature of incidents
Soil erosion and slumping, OGRs	3.1.1.2	Number and nature of incidents
Minimize impacts of operations in riparian areas, OGRs	3.2.2.1	Riparian buffers maintained as outlined in OGR
Wildfire threat – community protection, landscape fuels	5.2.1.1a / 1b	1. Number of ha rated Extreme or High harvested, FMP planned versus actual. Number and type of treatments within Community Protection Zones. 2. Number and type of treatments within DFA.
Other use integration	5.2.2.1	Number of consultations, forums, and values discussed, how issues addressed
Aboriginal consultation	6.1.1.1	Number of consultations, forums, and values discussed, how issues addressed
Public involvement	6.2.1.1	Number of consultations, forums, and values discussed, how issues addressed; satisfaction rating



### 3.3.2. Modeled VOITs

Some FMP VOIT values are projected or contain modeled outcomes. Unless model inputs have changed, their values will be identical to those in the FMP. The values of these VOITs cannot be determined by monitoring forest operations. The modeled VOITs are:

1. Calculated using outputs generated from the FMP contributing landbase determination process. However, if the VOITs outcomes depend on new data collection, statistical and/or spatial analysis, the FMP stewardship reporting shall include all updated VOITs measures.
2. Dependent on modeled or projected outputs generated during the FMP preparation processes.

If a company has, for example, revised TSA including new management assumptions, exceeds SHS variance thresholds, has updated landbase projections, or the department specifically requested (due to fire, insect and/or disease outbreaks), the FMP stewardship reporting shall include detailed reports on all, including modeled VOITs. A list of modeled VOITs potentially unaffected by the consistent FMP execution is summarized in Table 11.

Table 11 FMP Stewardship Report Requirements for Modeled VOITs

Value	Objective	Reporting
Area of old, mature, and young forest by DFA subunit by cover class	1.1.1.1	1. Contributing area (ha) / category / DFA subunit / cover class 2. Gross area (ha) / category / DFA subunit / cover class
Range of patch sizes by subunit and entire DFA	1.1.1.2a	Area (ha) of forest in each patch size class
Area of Interior forest of each cover class by subunit and DFA	1.1.1.2b	Area (ha) of cover class in interior forest condition
Animal habitat	1.2.1.1	Area (ha) of animal habitat, actual vs projected
Limit impacts of timber harvesting on water yield	3.2.1.1	Forecast impact of timber harvesting on water yield
Sustainable timber supply (AACs)	5.1.1.1	Report on between plan recalculation or adjustment to AAC, % change by species
LRSY average	5.2.3.1	Current Information versus that of the FMP calculation

### 3.3.3. Non-FMPS VOITs

Outside the scope of the FMPS, the FMPs may include other information pertaining to the sustainable forest management activities in the DFA. Examples of such indicators may include VOITs from company-specific Sustainable Forest Management Plans or local community VOITs. Alberta will review the content of voluntary reporting but may provide no or limited feedback on their assessment.

## 3.4 Other FMP Commitments

Throughout the FMP, timber disposition holders may have made other commitments (such as third-party certification programs) that are not explicitly part of an approved FMP VOIT. These commitments shall be identified and the status of meeting these commitments shall be referenced in the SR.

## Appendix A – Alberta FMPS 5-Year Stewardship Reporting VOITs

ID	Value	Objective	Reporting	Type
1	Area of old, mature, and young forest by DFA subunit by cover class	1.1.1.1	1. Net area (ha) / category / DFA subunit / cover class	M
2	Range of patch sizes by subunit and entire DFA	1.1.1.2a	Area (ha) of forest in each patch size class	M
3	Area of Interior forest of each cover class by subunit and DFA	1.1.1.2b	Area (ha) of cover class in interior forest condition	M
4	Open all-weather forestry road density by subunit	1.1.1.3a	Density of forestry and density of all user open all-weather road density by subunit	D
5	Open seasonal / temp forestry road length by DFA	1.1.1.3b	Length (km) of temp/seasonal forestry road in DFA	D
6	Protection of uncommon plant communities	1.1.1.4	Area (ha) and type of rare plant or community protected/ ha identified for DFA	D
7	Maintain unique habitats created by wildfire and natural disturbance events	1.1.1.5a	Area (ha) unsalvaged, % of merch black trees unsalvaged in patches greater than 100 ha, 10-100 ha, and small patches by event	D
8	Unsalvaged blowdown	1.1.1.5b	Area (ha) of unsalvaged blowdown / area of identified blowdown by event	D
9	Riparian areas	1.1.1.6	1. Report non-conformance OGR incidents, ha harvested within OGR buffer zone by compartment.  2. Ha deleted from SHS due to differences between TSA buffering and operational planning buffers (OGR) by	D
10	Structure retention	1.1.2.1a	% area or volume merchantable (living and dead) structure retained coniferous/deciduous by subunit and DFA	D
11	Downed woody debris	1.1.2.1b	% of harvest areas where post-harvest CWD levels are equal to or greater than pre-harvest levels	D
12	Sensitive sites	1.1.2.2	Area (ha) of sensitive sites maintained by type	D
13	Watercourse crossing	1.1.2.3	Report non-compliance incidents. Report number, type and status of watercourse crossings	D
14	Animal habitat	1.2.1.1	Area (ha) of animal habitat, actual versus projected	M
15	Genetic diversity (in-situ)	1.3.1.1	# of genetic conservation sites established by seed zone compared to required sites per seed zone	D
16	Genetic diversity (ex-situ)	1.3.1.2	Report on shared reporting	D
17	Protected area / trans boundary values consultation	1.4.1.1	Name of protected area, level of protection, stakeholders contacted, issues discussed, resolution	D
18	Reforestation	2.1.1.1a	% of satisfactorily reforested harvest areas by year	D
19	Reforestation	2.1.1.1b	Cumulative % of area of harvest areas meeting reforestation standards	D
20	Landbase changes	2.1.2.1	Number of ha and % (expressed as a % of net landbase) changing or converted to other uses or returned to productive landbase	D
21	Insect, disease, and natural calamities	2.1.2.2	Number of ha affected, number of ha treated	D
22	Invasive species	2.1.3.1	Number of ha affected, number of ha treated	D
23	Compliance with OGRs	3.1.1.1	Number and nature of incidents	D
24	Soil erosion and slumping, OGRs	3.1.1.2	Number and nature of incidents	D
25	Limit impacts of of timber harvesting on water yield	3.2.1.1	Forecast impact of timber harvesting on water yield	M
26	Minimize impacts of operations in riparian areas, OGRs	3.2.2.1	Riparian buffers maintained as outlined in OGR	D
27	Sustainable timber supply (AACs)	5.1.1.1	Report on between plan recalculation or adjustment to AAC, % change by species	M
28	Wildfire threat - community protection, landscape fuels	5.2.1.1a / 1b	1. Number of ha rated Extreme or High harvested, FMP planned versus actual. Number and type of treatments within Community Protection Zones.	D
29	Other use integration	5.2.2.1	Number of consultations, forums, and values discussed, how issues addressed	D
30	LRSY average	5.2.3.1	Current Information versus that of the FMP calculation	M
31	Aboriginal consultation	6.1.1.1	Number of consultations, forums, and values discussed, how issues addressed	D
32	Public involvement	6.2.1.1	Number of consultations, forums, and values discussed, how issues addressed; satisfaction rating	D

\* D – Dynamic, M – Modeled, may be described separately. FMPS Carbon update and storage Element 4.1 not yet defined and Forest land conversion Element 4.2 refer to 2.1.2.

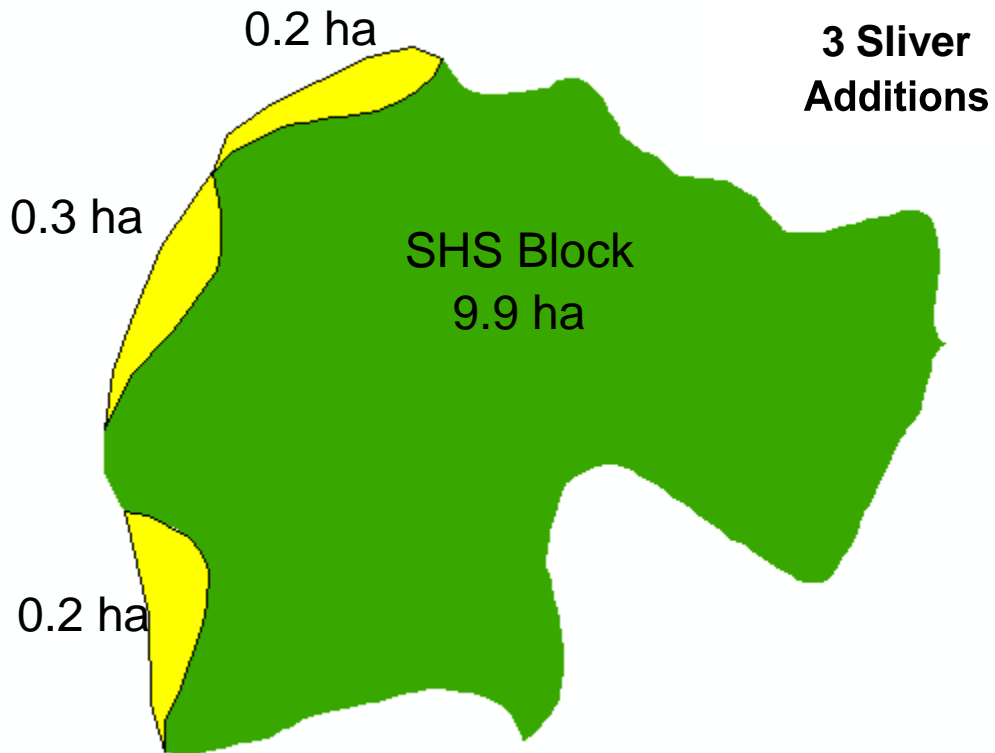
## Appendix B – Acronyms

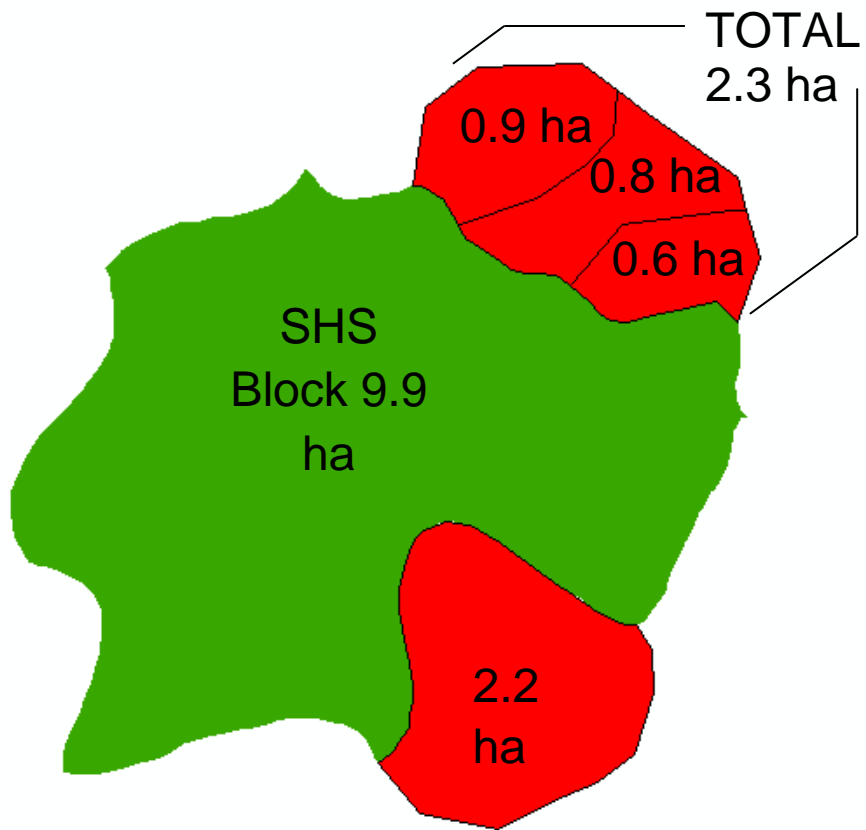
Acronym / Definition	Explanation
AAC	Annual allowable cut
AAF	Alberta Agriculture and Forestry
AOP	Annual operating plan
CA	Compartment assessment
CPP	Controlled parentage program
CSA	Canadian Standards Association
CTP	Community timber program
DFA	Defined forest area
EMS	Environmental management system
FGRMS	Forest Genetic Resource Management and Conservation Standards
FMA	Forest management agreement
FMP	Forest management plan
FMPS	Alberta forest management planning standard
FOMP	Forest Operations Monitoring Program
G&Y	Growth and yield
GOA	Government of Alberta
GDP	General development plan
ILM	Integrated Land Management
IRS	Incident reporting system
LRSY	Long run sustained yield
OGR	Operating Ground Rules
QH	Coniferous quota or deciduous timber allocation holders
SFM	Sustainable forestry management
SHS	Spatial harvest sequence
SR	Stewardship report
SRR	Stewardship Report Requirement
PFMS	Preferred Forest Management Strategy
PSP	Permanent sample plot
TSA	Timber supply analysis
TSP	Temporary sample plot
VOIT	Value, objective, indicator, target



## Appendix C – Cutblock Sliver Depictions

Appendix C provides example of sliver definitions determining SHS variance (Section 3.2.5).





Case 1

Two (2) Substantial Additions (if yield strata are the same for each top red polygon); or

Case 2

Three (3) Slivers (if top red polygon strata are different) and one (1) Substantial Addition

**Two SHS Blocks  
No slivers**

