



### Indicator 3.4.1

#### Adherence to Alberta Soil Conservation Guidelines

**[1] Foothills Model Forest value**

Soil productivity.

**[2] Objective**

To minimize erosion and soil losses resulting from human disturbances.

**[3] Statement of indicator**

Adherence to Alberta soil conservation guidelines.

**[4] Indicator measure**

The percentage of cutblocks logged by Hinton Wood Products (HWP) within their Forest Management Area (FMA) that are in compliance with Alberta soil conservation guidelines.

**[5] Rationale for indicator**

**a. Significance of indicator to landscape-level management**

Because soils support tree and plant growth, as well as other biological processes, conservation of soil productivity is critical to sustainable forest management. Therefore, maintenance of soil productivity through best practices is essential, and remains an important outcome of forest harvesting. Applying currently accepted management practices, such as those outlined in Alberta's forest soils conservation

guidelines, is an indicator of an effective management activity in this area.

**b. Meaning of indicator**

The Alberta soil conservation guidelines were developed by a joint task force of the Alberta Forest Products Association and Alberta Sustainable Resource Development (ASRD). The guidelines are applicable to temporary roads and decking areas, harvesting/skidding, and reforestation. Two of the major objectives of the guidelines are to keep rutting to less than 2% of the block areas (as measured by linear transects), and to limit temporary roads, bared landing areas and displaced soils to less than



5% of the cutblock area (unless justified in an Annual Operating Plan). Within the Hinton FMA, all blocks are inspected as part of the company's regular block inspection process. In addition, Hinton Wood Products also performs internal and external audits on harvest and reforestation operations. However, if a visual inspection shows soil damage in excess of that outlined in the Alberta soil conservation guidelines, the company and ASRD will carry out a joint survey (as per the guidelines), to determine the actual percentage of damage.

**c. Relation of indicator to Foothills Model Forest and to sustainability**

This indicator relates only to the landbase being managed by Hinton Wood Products. Portions of the Foothills Model Forest's landbase that are outside the Hinton FMA (e.g., Jasper National Park, Willmore Wilderness Area) are not included in this measurement, as little logging is undertaken outside the FMA.

The relationship between soil productivity and sustainable forest management is clear – productive soil is the basis for tree growth; soils with compromised productivity (by compaction, destruction of soil structure, or change in soil water characteristics) are less able to grow trees, resulting in an overall reduction in the sustainability of the forest.

**[6] Current status of indicator**

Table 1 outlines Hinton Wood Products' compliance since 2000 with the Alberta soil conservation guidelines, against the number of hectares harvested.

Table 1 – Compliance with Alberta soil conservation guidelines 2000-2006

Category*	2000	2001	2002	2003	2004	2005	2006
Total Area Harvested (hectares)	6564	8121	7520	8453	7236	7865	4714
Number of Cutblocks Harvested	338	344	342	423	338	267	126
Soil Conservation Incidents	0	0	0	0	0	0	0
Percent Compliance	100	100	100	100	100	100	100

\* Includes only cutblocks that have been skid-cleared during the operating year (e.g., 2006 blocks include all cutblocks skid-cleared from May 1, 2006, through April 30, 2007).

**[7] Interpretation**

From 1994 to 1999, there were only three reported contraventions of the Alberta soil conservation guidelines on the Hinton FMA – a compliance rate of over 99%. In the current reporting period (2000 to 2006) there were no incidents, reflecting 100% compliance. Any non-conformance with the Alberta soil conservation guidelines is reported to ASRD. High compliance with the Alberta soil conservation guidelines means alteration of soil productivity on cutblocks harvested by Hinton Wood Products did not exceed guidelines during the reporting period of 2000 – 2006.



## [8] Rationale for allowable variance (threshold)

There is no allowable variance for this indicator.

## [9] Analytical considerations

### a. Calculation of indicator

The indicator is based on data from harvesting operations on Hinton Wood Products' FMA; the measure is calculated as follows:

$$\text{Percentage in compliance} = \frac{(\text{Total number of cutblocks} - \text{number of cutblocks in contravention}) \times 100}{\text{Total number of cutblocks}}$$

### b. Special considerations

While other minor harvesting operations have taken place within the landbase of the Foothills Model Forest (such as FireSmart operations around Hinton and Jasper), the majority of the activities for which the soil conservation guidelines apply take place on the Hinton FMA. Therefore, only those harvesting activities which occur on the Hinton FMA for HWP are included in the calculation.

## [10] Responsibility

Hinton Wood Products was responsible for providing all the data for the calculation of this indicator.

## [11] Monitoring

The monitoring of all persons working for Hinton Wood Products for their adherence to the Alberta soil conservation guidelines is the company's responsibility. Staff from ASRD also conduct periodic field inspections of cutblocks and may take further action if it appears the guidelines may have been, or might be, contravened.

Monitoring Alberta soil conservation guidelines on the FtMF's landbase is restricted to forestry operations only. These occur primarily through HWP, but there is also a small volume (10,000 m<sup>3</sup>) removed from the Hinton FMA each year through ASRD's Community Timber Program. The Alberta soil conservation guidelines do not apply to oil and gas dispositions.

## [12] General discussion

Since the last report, there has been slight improvement in this indicator: compliance has moved from 99.8% (1994-1999) to 100% (2000-2006). In general, it's fair to say that within the Hinton FMA, soil degradation as a result of harvesting operations is low. Therefore, it could be concluded that the productive capacity of cutblocks, based on consideration of soil disturbance, has not been diminished beyond amounts allowable under the guidelines.

This probably reflects a combination of factors, including good harvesting practises, good supervision, and generally advantageous operating conditions (i.e., low rainfall, gentle terrain, favourable soil types, and the ability to operate on frozen soil for part of the year).

