

Title:	Assessing Damage from Disturbance to Regenerating Forest Stands in Cutblock Openings and Recovering Productivity
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Purpose

To guide and set parameters for Environment and Sustainable Resource Development (ESRD) and forest industry field staff to promptly identify, track and make operational decisions on wildfire and other disturbance damage to regenerating forest stands. This document also details the roles and responsibilities of all relevant parties and provides a clear procedure for identifying, assessing and proposing follow-up silviculture treatments. The accurate and timely update of the Alberta Regeneration Information System (ARIS) remains a pivotal responsibility for all parties working within this Policy and its procedure to deliver the expected outcomes.

Policy

It is the policy of Alberta that all damage to regenerating forest stands in cutblock openings caused by disturbance events will be assessed in a timely manner. All cutblock openings that are located within an official fire boundary or an identified non-wildfire damage area will be considered as null productivity until assessed and reported otherwise. If the disturbance damage is assessed to have reduced the regenerated yield productivity below an acceptable level, the lost productivity will be addressed through silviculture strategies or landbase productivity adjustments. Alberta desires that regenerating forest productivity reduced or lost due to a disturbance event be recovered wherever feasible.

Authorities

- Timber Management Regulations: 143.7
- Timber Harvest Planning and Operating Ground Rules, Section 3.5, Section 3.6, Chapter 8, or as negotiated
- Alberta Regeneration Information System (ARIS) Manual
- Reforestation Standard of Alberta (RSA)
- ESRD/Forest Resource Improvement Association of Alberta (FRIAA) Wildfire Reclamation Program Grant Agreement
- Directive 2007-01: *Fire Salvage Planning and Operations*
- Alberta Forest Management Planning Standard, Annex 1, Appendix B

Procedure

The following is the Standard Operating Procedure (SOP) for the delivery of the intended outcome of this Policy Directive.

General:

- This SOP replaces SOP 2008-2: *Burned Reforested Cutblocks*
- This SOP replaces or updates portions of Alberta Forest Management Planning Standard, Annex 1, Appendix B: “Principles”, Part 4; Appendix B: “Burned Harvest Areas”.
- This SOP replaces or updates portions of Directive 2007-01, *Fire Salvage Planning and Operations: Reforestation* and Appendix – *Fire Salvage Plan Requirements, Part 10: Reforestation Consideration*.
- The annual term for the application of this SOP will be the timber year.
- While timber disposition holders are responsible to investigate the potential damage caused by a disturbance on both the productive standing timber and regenerating forest stands on their landbase (see Directive 2007-01, *Fire Salvage Planning and Operations*), this SOP applies only to cases of damage to regenerating stands in cutblock openings.
- A cutblock opening that has a Leave-for-Natural (LFN) silvicultural treatment as proposed and approved in a Silviculture Annual Operating Plan (SAOP) and recorded in ARIS is considered a treated cutblock opening and is eligible under this Procedure.
- Cutblock openings that have not been silviculturally treated (or declared LFN) but have been damaged by a disturbance are not eligible under this SOP because there is no loss of productivity assumed, as an established and affirmed regenerating stand did not exist at the time of the disturbance.
- For wildfire disturbances, the deadline dates for assessment of extent of damage and reporting to ESRD in this SOP are deliberately structured to align with the deadline dates of the application period for the Wildfire Reclamation Program (WRP) funding.
- Prompt decisions on the future of damaged regenerating stands are required, so that the reforestation schedule in ARIS can be adjusted appropriately.

A. Reforestation Obligation and Post-Obligation Periods

A timber disposition holder’s responsibility to reforest harvested cutblock openings falls either in the **reforestation obligation** period (the treatment period from just after harvest until the submission of the Performance Survey, as directed by the Timber Management Regulations), or in the **post-obligation** period after the Performance Survey has been submitted. This SOP addresses both periods separately as follows:

1. For cutblock openings in the **reforestation obligation** period, timber disposition holders are expected to either silviculturally re-treat disturbance-damaged regenerating stands or may opt to apply for exemption from **reforestation obligation** (details below). If the cutblock opening is exempt from **reforestation obligation**, another timber disposition holder may choose to take on the **reforestation obligation**.
2. For cutblock openings in the **post-obligation** period, it is expected that disturbance-damaged regenerating stands will be silviculturally re-treated. ESRD will allow the stakeholder that possessed the original **reforestation obligation** (as recorded in the ARIS record) the initial

opportunity to assess and re-treat the damaged regenerating stand. If the stakeholder that possessed the original **reforestation obligation** declines this opportunity, other timber management parties will be offered the same opportunity to re-treat the damaged regenerating stand, thereby maintaining that cutblock opening in the productive landbase. Cutblock openings will be coded in ARIS to the second party.

If no other timber disposition holder or FRIAA service provider comes forward to coordinate the re-treatment of a damaged cutblock opening, in both the **reforestation obligation** and **post-obligation** periods, it will be removed from the productive landbase.

B. Wildfire and Non-Wildfire Disturbance Damage

Due to differences in responsibilities, deadlines and parties involved, there are two sub-procedures described in this section, one for disturbances due to wildfire and one for disturbances other than wildfire.

Wildfire Disturbance Damage

1. The ESRD Regional Forest Management (RFM) and Regional Wildfire Management (RWM) staff will work jointly to ensure:
 - a. The **Extinguish Date** of the wildfire is established and recorded in the FIRES program. This date sets up the deadlines for subsequent tasks and is the basis of any revised ARIS **Reforestation Start Clock Date** that applies to a cutblock opening that is retreated. This is the responsibility of RWM.
 - b. Wildfire boundaries greater than one hectare are field-located and the boundary coordinate data is collected in digital form. The boundary data is stored in a Provincial Headquarters (PHQ) central file. This task will be completed **no later than 30 days** after the **Extinguish Date** of the wildfire. This is the responsibility of RWM.
 - c. The timber disposition holders affected by the fire are identified accurately and contacted as soon as possible to begin discussions on the next steps towards the rehabilitation of the damaged regenerating stands. This is the responsibility of RFM. Reference should be made using land location (Twp/Rge/Meridian) and a fire number.

2. **On or before October 31**, having simultaneously received the notice of a wildfire occurrence from RFM, the timber disposition holder is responsible to ensure:
 - a. The digital wildfire boundary is accessed from esrd.alberta.ca PHQ as the first step in locating fire-damaged cutblocks.

- **Spatial Wildfire Data**

All cutblock openings inside the wildfire area, regardless of fire damage or not, are digitally located and referenced to an accurate wildfire boundary. Of particular

importance is accurately locating a wildfire boundary that passes through a cutblock opening, damaging only a portion of the regenerating stand.

- b. All cutblock openings within the wildfire boundary are field-assessed for extent and degree of damage and whether the regenerating stand has the capability to meet its regenerated yield and stand structure projection or not. This assessment may also include a joint inspection with RFM.

For cutblock openings that are under reforestation responsibility to FRIAA, RFM staff and FRIAA coordinators will work jointly to promptly accomplish the steps as described in this part.

Non-Wildfire Disturbance Damage

The Forest Health Section of Forest Management Branch (FMB) of ESRD is responsible to detect any non-wildfire damage to crown forests as part of annual forest health surveys.

1. Once an area of damage has been discovered, a cross-referenced location is taken and Forest Health Section, working with RFM, will determine which timber disposition holder is directly affected by the disturbance damage. RFM will contact the affected timber disposition holder.

Likewise, if timber disposition holders discover on their own non-wildfire damage to regenerating stands on their managed landscapes or areas of interest, they are responsible to bring these situations forward to their local RFM to begin this process of assessment.
2. Immediately upon discovery or notification of non-wildfire disturbance damage to a regenerating stand in a cutblock opening, the timber disposition holder is responsible to ensure:
 - a. The boundary of total disturbance affecting the productive landbase is determined digitally as a shape file.
 - b. All cutblock openings are located within the disturbance boundary. Of particular importance is locating accurately the disturbance boundary that passes through a cutblock opening, damaging only a portion of the regenerating stand.
 - c. All cutblock openings within the disturbance boundary are field-assessed for extent and degree of damage and whether the regenerating stand has the capability to meet its regenerated yield and stand structure projection or not. This assessment may also include a joint inspection with RFM.

For cutblock openings that are under reforestation responsibility to FRIAA, RFM staff and FRIAA coordinators will work jointly to promptly accomplish the steps as described in this part.

C. Submission (Wildfire and Non-Wildfire)

ESRD prefers that the majority of the required information be summarized in a spreadsheet table with supplementary written support material, such as justification and explanation, appended to the submission. A copy of the preferred spreadsheet is in Appendix I of this document. ESRD will supply this spreadsheet digitally upon request.

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All submissions received by ESRD are subject to review and audit by ESRD. Relevant records and background material must be made available by the timber disposition holder for this purpose.

The results of the field assessment of wildfire and non-wildfire disturbance damage are reported in writing to RFM. This submission will contain:

- a. ARIS cutblock information including cutblock opening number, disposition number, net cutblock area and skid clearance date.
- b. Where applicable, the fire number.
- c. The area of disturbance damage. The sum of the areas damaged and not damaged cannot be greater than the *Net Harvested Area* of the cutblock opening as recorded in ARIS.
- d. The timber disposition holder with current or past *reforestation obligation*, for the damaged cutblock openings (*stakeholder* in the ARIS record).
- e. The original landbase designation code (LBD) the cutblock opening was declared to prior to the disturbance damage. It is expected in most cases the LBD will remain the same as it was prior to the disturbance damage. If the degree of the disturbance damage is such that the original regenerated yield class and stand structure projection (as represented by the LBD in ARIS) cannot be achieved, the timber disposition holder may apply in writing to the Executive Director, FMB, for approval for an alternative LBD. If the cutblock opening record predates the change to the use of current LBD's, a new LBD will be assigned to the cutblock opening that is equivalent to the originally harvested natural yield class designation.
- f. The extent and degree of the damage caused to the regenerating stand and justification for the selected choice for further action. If no joint inspection occurred, then justification to RFM may also be accomplished with photographs and/or plot measurements.
- g. The recommendation of further action, which includes the following:
 1. **No remedial treatment required or chosen.** It is expected the regenerating stand will continue to achieve its projected regenerated yield and stand structure, indicating the stand was not significantly damaged by the disturbance. A *BU* or other disturbance code is entered into ARIS by the timber disposition holder for the opening, but no exemption from **reforestation obligation** or **Reforestation Start Clock Date** reset is required.
 2. **The cutblock opening is divided into two smaller openings.** This applies to **partially** damaged or destroyed cutblock openings. Cutblock openings are eligible to be divided if **both** the damaged and undamaged contiguous portions are **greater than or equal to 2 ha**. All cutblock openings greater than 10 ha. containing a damaged and undamaged contiguous portion greater than or equal to 2 ha. **must** be divided. Cutblock openings 10 ha. or less with a damaged or undamaged contiguous portion greater than or equal to 2 ha. **may** be divided at the discretion of the timber disposition holder. The sum of the areas of each of the portions created by dividing cannot be greater than the *Net Harvested Area* of the original cutblock opening as recorded in ARIS.
 3. **Reset the Reforestation Start Clock Date to zero.** For those whole or subdivisions of cutblock openings that require silviculture re-treatment, the ARIS-tracked treatment schedule may be reset so it begins again. Reforestation treatment proceeds on the new

reforestation schedule and the timber disposition holder retains **reforestation obligation** for a full Reforestation Phase.

4. **Exemption from further reforestation obligation.** This is enabled through TMR 143.7. It requires written approval from the Senior Manager, Forest Resource Management Section, FMB, and is subject to review. The timber disposition holder is required to formally apply in writing to FMB to exercise this option.

- h. A request for silvicultural treatment funding (wildfire damage only) if available at the time the wildfire damage occurred (see **Wildfire Reclamation Program** for details).

Once the timber disposition holder has assessed, confirmed and reported on the extent of wildfire or disturbance damage in the cutblock opening, operational treatment delivery plans may be finalized. If further treatment is intended, the timber disposition holder is responsible to make the necessary plans, arrangements and investments to deliver these. The proposing and scheduling of these treatments will be submitted to RFM by the appropriate submission deadlines of the Silviculture Annual Operating Plan (SAOP) document, or alternate deadlines as negotiated with RFM. If a SAOP for a particular timber disposition is already in place for that timber year, an amendment to that SAOP must be made to include any wildfire or disturbance damage re-treatments.

D. Disturbance Damage ARIS Records

Once decisions on the future of disturbance damaged or undamaged cutblock openings are finalized, the timber disposition holder is responsible to ensure that the ARIS record for these cutblock openings is accurate, current and reflects the final outcomes intended. In the *post-obligation* period, the *stakeholder* that possessed the original *reforestation obligation* is responsible for updating the ARIS record of the damaged cutblock opening. The following data is expected to be submitted in a timely and accurate manner:

- The **Extinguish Date** of the wildfire should normally be finalized as this is the date that will be entered into ARIS as the **disturbance date**. There are instances where a wildfire may not receive an **Extinguish Date** immediately, as some wildfires are left to burn out. If the **Extinguish Date** of a wildfire is not finalized by the end of the timber year in which the wildfire started, then **April 30** of the end of the timber year in which the wildfire started will be used as the **disturbance date**.
- Each wildfire and disturbance-affected cutblock opening shall have an ARIS disturbance code placed on the cutblock opening record by **April 30** of the timber year in which the wildfire was extinguished or the disturbance discovered.
- Where cutblock openings are to be subdivided, the ARIS record of the undisturbed area will retain all **original** harvesting and treatment information and **reforestation obligation**. The cutblock opening's **Net Harvested Area** will be reduced by the area burned or disturbed and entered in the **Update Area** data field.
- Any new cutblock opening created from subdividing, representing the area burned or disturbed, will be assigned the same opening number as the original cutblock opening but with an alpha

character added. The protocol for the subdivision of cutblock openings is fully explained in Section 3.2.3 of the Reforestation Standard of Alberta (RSA) Manual.

- The **AOP Area** and the **Net Harvested Area** data fields should be equal to the burned or disturbed area in the new cutblock opening created from subdividing.
- The **Update Area** of the undisturbed opening and net harvested area of the disturbed opening must equal the **Net Harvested Hectares** of the original cutblock opening.

In both the **reforestation obligation** and **post-obligation** periods, where two or more timber disposition holders strike an agreement to change the original **reforestation obligation** to another timber disposition holder for whatever reason, the stakeholder that possessed the original **reforestation obligation** (as recorded in ARIS) is responsible to document the details of the agreement reached, obtain sign-off from the parties involved and submit this intention in writing to the Senior Manager, Forest Resource Management Section, FMB. The stakeholder of the original **obligation** must either request an exemption from **reforestation obligation** as per TMR 143.7 (if the cutblock opening is in the **obligation** period) or give sanction to having their former cutblock opening record transferred to another timber disposition holder (if in the **post-obligation period**). The timber disposition holder receiving the record in this agreement becomes the stakeholder in the ARIS record and is responsible for all future ARIS record updates for the cutblock opening.

E. Wildfire Reclamation Program

The Wildfire Reclamation Program (WRP) makes funds available annually to forest industry to aid the silvicultural re-treatment of wildfire-damaged regenerating stands only. The following points link the WRP with the requirements and responsibilities set out in this SOP:

1. Cutblocks are eligible for WRP funding if they meet the following criteria:
 - a. Must have met the 2 year treatment timeline as set out in TMR 141.1(1), *and*;
 - b. The consequence of the wildfire damage must be a loss of a particular reforestation investment. This may include, but is not limited to, planted seedlings, artificial seeding, or certain site preparation strategies, *or*;
 - c. The consequence of the wildfire damage must be a *loss* of the capacity of the burned area to either produce or sustain a replacement regenerating stand after wildfire damage has occurred. This may apply to Leave-for-Natural (LFN) for suckering and natural seeding prescriptions. LFN prescriptions damaged by wildfire require the approval of the Senior Manager, Forest Resource Management Section, FMB, in order to be eligible for WRP funding.

In relation to the above criteria, **loss** is defined as the consequence of wildfire damage that significantly reduces or negates the positive effect of the silvicultural treatment applied, such that future survival of the regenerating trees or the future productivity of the regenerating stand is in jeopardy.

There is no cutblock size limit, minimum or maximum, that will affect eligibility in the WRP. Note there is an ESRD administrative limitation to dividing cutblocks (minimum of 2 ha.) that may affect a choice or a decision outcome.

WRP funding applies only to the burned hectares of the cutblock opening.

2. Application for WRP funding must be made within the timber year in which the wildfire disturbance event occurred. If this schedule is not met, the wildfire disturbance silviculture

treatment is ineligible for WRP funding. It is the timber disposition holder's responsibility to make application for WRP funding as part of the annual submission to ESRD of wildfire-damaged cutblock openings. (see **Procedure**, above).

3. The ESRD Regional Senior Forester is responsible to summarize, from timber disposition holders' submissions, a list of cutblock openings that have been identified and confirmed as wildfire-damaged. This list will be submitted to the Forest Resource Management Section, FMB, **on or before October 31**. Forest Resource Management Section will summarize all submissions received provincially and arrange for an annual WRP funding amount through the appropriate revenue source.
4. Cutblock openings damaged by wildfire after the **October 31** deadline may still be eligible for WRP funding but must be reported in the same timber year in which they were damaged. Application for WRP funding after **October 31** will be assessed on a case-by-case basis and funding provided where funds are available.
5. Accepting WRP funds to treat burned areas of cutblock openings requires that the timber disposition holder committing to reforestation re-treatment maintains or accepts the **reforestation obligation** for the full term of the Reforestation Phase.
6. On occasion, unburned cutblock openings that are either inside the fire boundary or adjacent to but outside the fire boundary are subject to disturbance from a fire suppression-related activity, usually the construction of a fire guard or heli-pad for landing aircraft, but may also include a fire camp, staging or storage area. Existing regeneration is likely to be damaged or destroyed during the construction of these entities. Under the WRP fund expenditure parameters, these activities are recognized as "fire-caused" and the damaged area only of these cutblock openings is eligible for funding in the WRP. The timber disposition holder is responsible to accurately determine the area of these disturbances prior to the funding request.

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