

Cutblock Assessment Tool

Level 1 status assessment

(Approximation #1)
May 2008



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<http://srd.alberta.ca/lands/managingpublicland/grazingtimberintegration.aspx>

A first approximation user guide to assessing the status of successful forest regeneration and forage outcomes in coniferous and deciduous cutblocks grazed by livestock.

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Introduction

In June 2006 Alberta Sustainable Resource Development (ASRD) implemented a new grazing timber integration policy and manual¹. The purpose of the policy is to reduce conflicts by improving communication and integration between grazing and timber disposition holders on a common land base. The policy requires overlapping disposition holders to develop operational planning agreements called Grazing Timber Agreements (GTAs). A GTA is required where a new activity by either the grazing or timber disposition holder is proposed; or when a proposed activity by one disposition holder could affect the interests of the other disposition holder. Examples of proposed activity include: grazing in a regenerating cutblock, timber harvesting within a grazing disposition boundary, or grazing disposition fenceline development involving timber removal. A GTA is not required on overlapping dispositions where grazing in regenerating cutblocks was occurring prior to the effective date of this manual, and neither operator has concerns. Detailed information on GTA can be found in the Grazing Timber Integration Manual (June 2006).

The GTA requires both disposition holders to complete operational monitoring (forest range assessments). Monitoring expectations, such as frequency and responsibilities, should be discussed and clear protocols specified during GTA development. Monitoring includes both individual and joint field inspections to ensure that operations on regenerating cutblocks are occurring as agreed.

During monitoring the focus is on forage utilization, site disturbance, tree regeneration, forage accessibility, and the presence of noxious and restricted weeds. Where a problem has been identified, joint monitoring should continue until problem areas have been resolved.

How to use the Cutblock Assessment Tool?

What is it?

The Cutblock Assessment Tool was developed to help guide the successful integration of grazing and timber management practices on overlapping dispositions. It is a status assessment tool not a diagnostic tool. The monitoring process is part of a phased risk management approach for determining the status of forage and forest regeneration within cutblocks. The cutblock assessment tool contains information to increase awareness, provide education, and identify integration problems common to the beef and forest industries, and SRD staff. The integration focus makes it distinct from regeneration standards and range health assessment procedures.

Where Does it Apply?

Use of this assessment tool is recommended for GTA monitoring in regenerating conifer, mixedwood and deciduous cutblocks. The tool's rating system can alert resource managers to potential integration problems. It may also be used to record assessment scores for future reference in areas where no GTAs are currently required. Cutblocks harvested for 'range improvement' purposes are to be measured with the tame pasture assessment tool. (Adams, et.al 2005)

Using the Tool

Resource managers need to be aware of the factors that can be monitored and the physical evidence that can be recorded both increase as the time since harvest increases. However, the management

¹ http://srd.alberta.ca/lands/managingpublicland/pdf/AGTIA_Manual_Final_June_061.pdf

impacts to both industries are often most easily dealt with closer to time of harvest. This document provides the template for a full assessment. Monitoring should be discussed or decided upon in the GTA and clear expectations for monitoring be developed (i.e. frequency and responsibilities)

Monitoring during the early periods following harvest should focus on observing livestock and livestock behaviour. There are several key questions to ask during early monitoring. If there is no evidence of livestock use in the cutblock there is no need to continue with the assessment at this time.

Are cattle using the cutblock? If no, move on. If yes, monitor the use.

- **Physical Signs:** Look for amount of manure, cattle tracks and soil disturbance from cattle activity; and assess grazing utilization levels.
- **Animal Behaviour:** If cattle are in the cutblock, watch them; are they well dispersed or congregating; are they congregating and loafing; is the utilization patchy and light or is the grazing focused and utilization levels heavy.

Continue to monitor these factors. As time since harvest passes use of this tool for a full assessment is the recommended. Physical impacts will become more obvious and the status can be assessed more easily.

Cutblock Factors to be Assessed

Five factors are assessed in the Level I tool, including:

1. Livestock usage of the cutblock
2. Physical site disturbance
3. Regenerating trees (distribution and density, height, form)
4. Livestock accessibility
5. Presence of restricted or noxious weeds

Assessments focus on visual indicators. This allows users to readily evaluate changes in site conditions and plant communities within cutblocks with livestock activity.

Photographs are important and are recommended as an effective means of recording the observed conditions. Including photographs as part of each cutblock assessment will provide a visual record to supplement the documentation of the cutblock history. These photographs are important in documentation and in creating a historical visual record of cutblock history.

Rating System and Recommended Action

Evaluation questions, rated Green, Yellow and Red, are provided for each factor. Each colour indicates the assessed status for that question and indicates what further action is recommended. There is an opportunity to record the status for each question on multiple survey dates.

Status Ratings:

Green: No problem indicated, proceed with present management. The disposition holders will continue to monitor as part of the day-to-day operations.

Yellow: Developing problem requiring further investigation. Inform other disposition holder and discuss the problem to an agreed upon resolution. The resolution would be monitored using the assessment tool.

Red: Problem indicated. Inform the other disposition holder. A joint field inspection is needed. Management should be reviewed. If management issues exist they need to be addressed. After implementation of the resolution continue to monitor using the assessment tool.

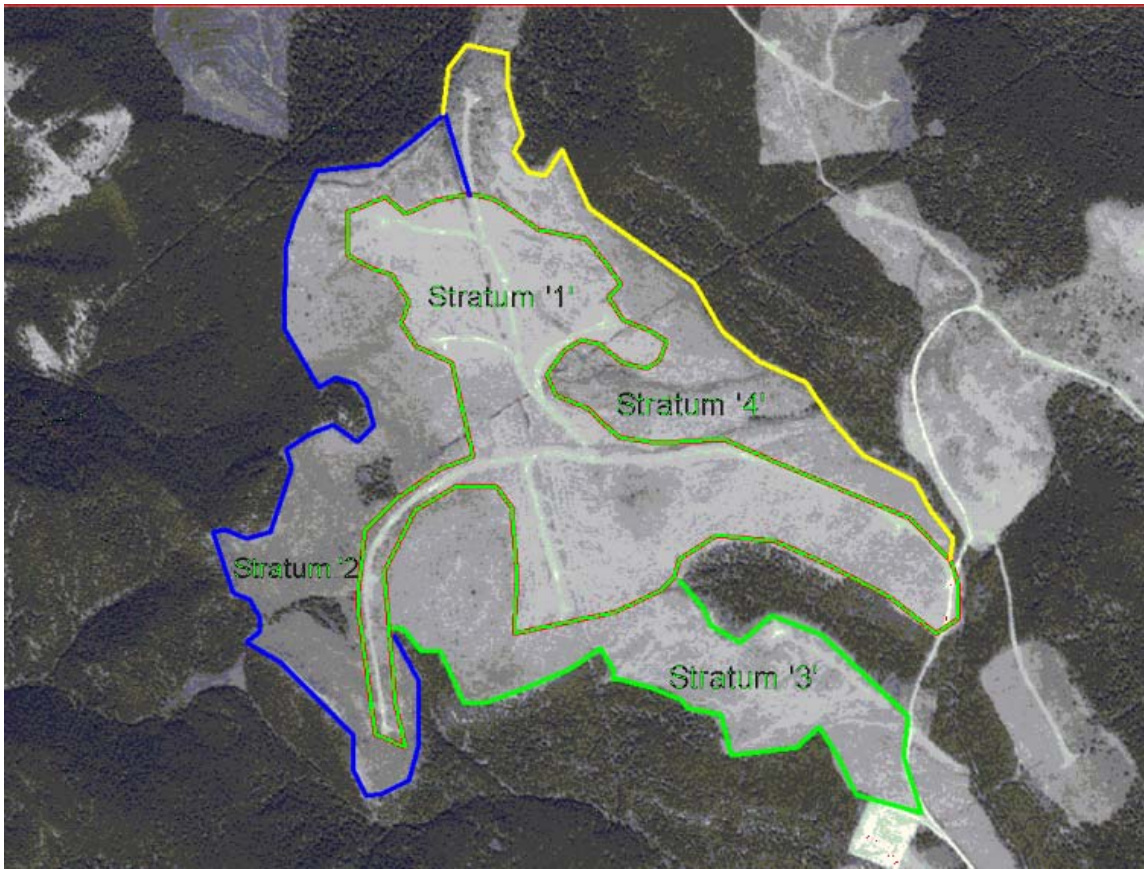
Cutblock Stratification (Pre and Post Assessment)

Cattle seldom graze a cutblock uniformly and trees seldom regenerate evenly over a cutblock for a variety of reasons. To make assessment easier, it may be possible to divide the cutblock into a number of areas/stratums based on obvious features that either influence cattle use or effect seedling performance. The Level 1 tool provides four (4) stratum spaces on the Scoring Sheet. Features to consider are:

1. Geographical: slope aspect, steepness, accessibility, wet areas;
2. Physical or cultural: fences, berm piles, range improvements;
3. Arbitrary: location of road and landing systems;
4. Livestock utilization: traditional or new concentration, foraging or loafing areas

Each stratum should be easily differentiated from the rest of the block or other strata. Divisions only need to be approximate so it is better to lump areas than split them apart.

Identify each stratum on the Scoring Sheet and estimate its size as a percent of total block area; the total of all strata should equal 100 percent.



An example of cutblock stratification

Assessment Hints: Observe each area relative to site factors and actual livestock use (wet areas, roads, landings, high skidded areas). Divide the cutblock into common areas of livestock utilization using other site features (roads, landings, wet areas). The following are some suggested criteria for stratifying a cutblock into livestock utilization types.

Primary

- flat to rolling terrain
- close to water, trails or roads
- nil to minimal barriers to movement
- forage readily available

Secondary

- steeper slopes <40%
- away from water or trails
- may contain pockets of non-use
- some movement barriers

Non-use

- slopes > 40%
- furthest from water
- little forage
- many movement barriers

Cutblock Assessment Questions

Question 1 - Forage Utilization

This parameter evaluates current year livestock and wildlife utilization and damage of the understory and tree plant species within cutblocks. Monitoring should start with sites most likely to have livestock usage.

- ❑ **Green:** Light (0-25% of total production),
Palatable species lightly grazed; unpalatable species ungrazed.
Current years cow pie distribution (DD² classes 0 to 5).
Grazing is sparse or evenly distributed.
Action: No action required. Continue to assess cutblock in future inspections.

- ❑ **Yellow:** Moderate (26-60% of total production)
Palatable species moderately grazed; unpalatable species lightly grazed;
Current years cow pie, horse droppings, and wildlife scat distribution (DD² classes 6-10).
Grazing is patchy or evenly distributed.
Action: Notify other disposition holder. Consider joint field inspection. Continue to assess cutblock in future inspections.

- ❑ **Red:** Heavy (> 61% of total production),
Palatable species heavily grazed; unpalatable species moderately grazed. Current years cow pie, horse droppings, and wildlife scat distribution (DD² classes 11-13).
Action: Notify other disposition holder. Management should be reviewed. If management issues exist they need to be addressed. Joint field inspection recommended. Continue to assess cutblock in future inspections.

Assessment hints:

Should the site show no signs of cattle use, then there is no need to carry out the assessment further for that site. If one assesses the site as a yellow or red light then the assessor should assess the current year cow pies, horse droppings, and wildlife scats.

Plant species composition is a key indicator of grazing pressure. As grazing pressure increases the native tall forbs and shrubs are replaced by low growing forbs and shrubs. Heavy and very heavy grazing pressure often results in the replacement of native species with undesirable invasive and weedy species.

Palatability ratings related to grazed plant communities that are healthy and functional. The specific palatability of a species may change depending upon growing season, ecosystem, weather, health and function score, and other factors.

² Density Distribution – See Figure 5 for distribution classes.

Question 2 - Physical Site Disturbance

Accelerated erosion due to human management activities has the potential to cause long-term negative impacts. Early recognition of erosion conditions allows management changes or corrective actions to be taken before the situation becomes serious. Examples of soil erosion are outlined in Figure 1.

2a. Trailing

- **Green:** Well defined trails are limited. May be along historic pre-harvest access, a cutblock road or skid trail. No obvious animal loafing areas.

Action: No action required. Continue to assess cutblock in future inspections.

- **Yellow:** Significant trailing and/or signs of animal loafing creating non-vegetated areas.

Action: Notify other disposition holder. Consider joint field inspection. Continue to assess cutblock in future inspections.

- **Red:** Severe trailing with braiding. Significant mineral soil exposure and compaction. Numerous large loafing areas with mineral soil exposure. Vegetation seriously impacted.

Action: Notify other disposition holder. Management should be reviewed. If management issues exist they need to be addressed. Joint field inspection recommended. Continue to assess cutblock in future inspections.

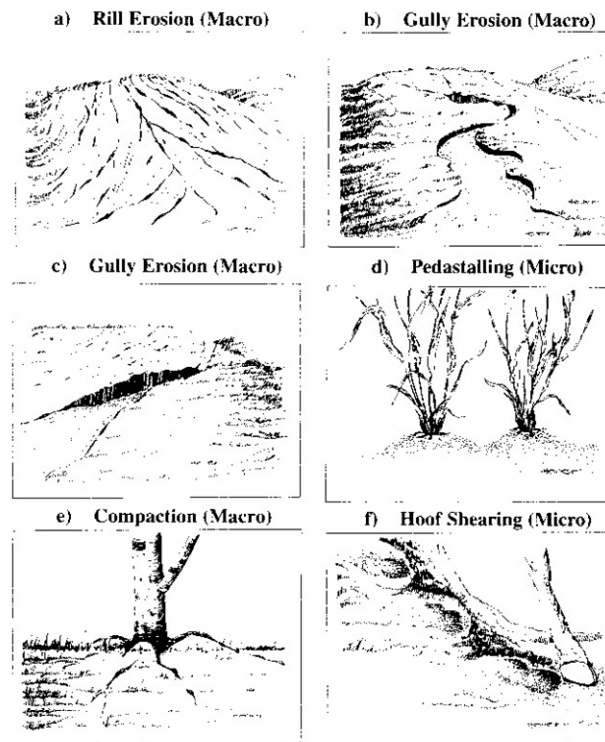


Figure 1: Examples of soil erosion, compaction, hoof shearing and trailing.

2b. Mineral Soil Exposure from Silviculture Practices

Soil disturbance is an expected outcome of timber operations. Mineral soil is exposed through a variety of mechanical processes. These processes include: skid steering of track equipment side-slip on steep slopes, track and tire spinning, log skidding, rutting, road and trail construction. On conifer blocks site preparation is often intentionally planned to achieve an even distribution of mineral and organic soil mixing in order to create suitable microsites for the young tree seedlings. Site preparation utilizes various methods including blades, plows, teeth, discs and drags which employ a different function for mixing soils with widely varying degrees of exposure.

- **Green:** Mineral soil exposure is limited; no continuous linear disturbances up and down slopes; unvegetated patches are very small; no evidence of soil macro-erosion.

Action: No action required. Continue to assess cutblock in future inspections.

- **Yellow:** Mineral soil exposure is evident; some evidence of continuous linear disturbances up and down slopes; numerous large unvegetated patches; accelerated erosion with some rilling and gullyng occurring.

Action: Notify other disposition holder. Consider joint field inspection. Continue to assess cutblock in future inspections.

- **Red:** Mineral soil exposure is extensive; soil is eroding on continuous linear disturbances up and down slope; extensive un-vegetated areas; significant evidence of rilling, gullyng, and soil pedestalling.

Action: Notify other disposition holder. Management should be reviewed. If management issues exist they need to be addressed. Joint field inspection recommended. Continue to assess cutblock in future inspections.

Assessment hints: Recently site prepared cutblocks may have 30% bare soil which should decrease over time. During this time, soil stability assessments are critical. Specifically, is vegetation starting to recolonize exposed sites; is sediment entering drainages; are gullies, ruts or potholes expanding.

Question 3 – Regenerating Trees

In a successfully regenerating forest, understory tree density is usually 7 to 10 trees/10m², distributed over 80 percent of the block. A minimum tree height of about 30 cm for conifer and 100 cm for deciduous is expected at 3-5 years post harvest. After 8-14 years, expect a minimum tree height of about 100 cm for conifer and 200-250 cm for deciduous (Alberta Regeneration Survey Manual 2003) (Figure 1). When estimating cover and abundance of plant species one often notices tree species with poor growth and other species with extremely good growth. Such observations on tree growth should be recorded because it may give some information on the competitive status of species in a plant community.

3a. Distribution and Density of Regenerating Trees

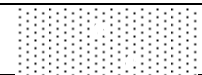
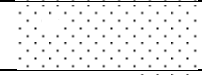

- **Green:** Tree seedling density resembles Crop Tree Distribution Class A.

Action: No action required. Continue to assess cutblock in future inspections.

- **Yellow:** Tree seedling density resembles Crop Tree Distribution Class B; and may not meet provincial regeneration standards
Action: Notify other disposition holder. Consider joint field inspection. Continue to assess cutblock in future inspections.

- **Red:** Tree density is very irregular; resembles Crop Tree Distribution Class C; and will not meet provincial regeneration standards.
Action: Notify other disposition holder. Management should be reviewed. If management issues exist they need to be addressed. Joint field inspection recommended. Continue to assess cutblock in future inspections.

Table 1: Crop tree distribution in Cutblocks

Crop Tree Distribution in Cutblocks			
Class	Description of Crop Tree Abundance	Distribution	Rating
A	Continuous with few gaps		Green
B	Uniform but widely spaced with few gaps		Yellow
C	Uniform or widely spaced with many gaps, patches or with distinct linear edge		Red



Class A: In deciduous and conifer blocks (roughly 8 years post harvest)



Class B: In deciduous and conifer blocks



Class C: In deciduous and conifer blocks

Assessment hints:

- Average distance between trees in conifer blocks:
 - Class A: <2.5m; Class B: <3m; and Class C: >3m.
- Average density of trees in deciduous blocks:
 - Class A: > 7 stems/10 m²; Class B: 5-7 stems /10 m²; land
 - Class C: <5 stems/10 m².
- Recording the density classes of different strata will be helpful to the forest industry.

3b. Tree Height Compare to Growth Curves (Figure 3)

- ❑ **Green:** Tree height is uniform across the block and average height matches the expected growth/yield curves

Action: No action required. Continue to assess cutblock in future inspections.

- ❑ **Yellow:** Tree height is not uniform and average height is below the expected growth/yield curves (patchiness of tree height)

Action: Notify other disposition holder. Management should be reviewed. If management issues exist they need to be addressed. Joint field inspection recommended. Continue to assess cutblock in future inspections.

3c. Growth Form and Vigour of Trees See (Figure 2)

The goal is to minimize livestock damage to tree seedlings, although it is acknowledged that some damage will occur on specific localities.

- ❑ **Green:** Growth form is vertical; multiple stems are rare; no evidence of browsing or scarring; very few dead seedlings present

Action: No action required. Continue to assess cutblock in future inspections.

- ❑ **Yellow:** Growth form is vertical; few multiple stems; sporadic browsing or scarring of seedlings; few dead seedlings present

Action: Notify other disposition holder Consider joint field inspection. Continue to assess cutblock in future inspections

- ❑ **Red:** Growth form is not vertical; many multiple stems; extensive browsing and damage to seedlings; many dead and dying trees.

Action: Notify other disposition holder. Management should be reviewed. If management issues exist they need to be addressed. Joint field inspection recommended. Continue to assess cutblock in future inspections.



Figure 2: Lodgepole pine tree showing vertical scarring and stem displacement

Assessment hints: Grazing damage may be caused by a variety of animals including hares, ungulates, feral horses and livestock. Damage should be limited to no more than 5 percent of the seedlings within one contiguous hectare. Tree damage includes branch or needle removal, stem scrapes, stem breakage and/or stem displacement. When browsing or scarring is negatively impacting seedling form and vigour, you may see a corresponding increase in damaged, discoloured, dying and dead stems. Deciduous trees can withstand more browsing, but if growth form is significantly impacted then browsing is too high. More information on regeneration damage can be found in grazing timber literature.

Tree Damage:

Deciduous: Look for browsing damage to aspen suckers. If more than 15 percent of suckers exhibit browsing, efforts should be made to reduce stocking or change season of use. Joint monitoring should be considered particularly if other factors are also indicating concern.

Coniferous: Look for browsing and trampling damage to regenerating trees. If there is evidence of damage, range management changes should be undertaken. Research indicates that high forage utilization levels will likely result in the rate of damage to regenerating trees to increase extremely quickly.

Damage related to tree diseases (e.g. Shepherd's crook, leaf blight, etc.) or environmental impacts (e.g. Frost damage etc.) should be documented through comments. This type of documentation is important for future assessments, as it is useful in documenting cutblock history.

Height Trajectory (metric)

AW=star, PL=triangle, SW=circle, FD=square

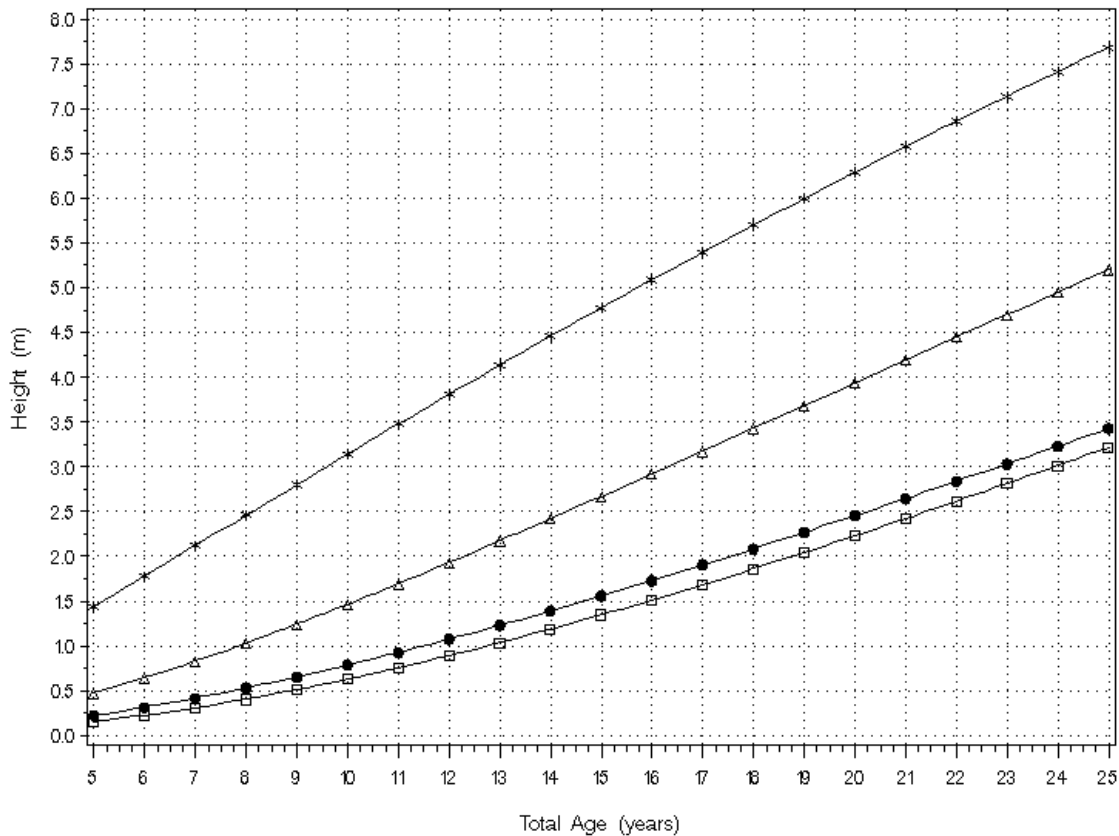


Figure 3: General height trajectory curves for aspen (Aw), lodgepole pine (Pl), white spruce (Sw) and Douglas fir (Fd).

Question 4 - Accessibility to Existing Forage Supply (for conifer and deciduous)

On existing grazing dispositions the timber operator is required to reduce the negative impacts of their operations on the range management of the disposition. Examples of this impact include: damage or disruptions to range improvements, disruption of livestock distribution patterns, creation of obstacles to livestock movement and impacts to forage availability. This question assesses the ability of livestock to access existing forage. Forage accessibility issues should be captured in the GTA. A **Red** assessment rating would trigger the use of the management practices agreed upon in the GTA. A GTA amendment may be required if a process was not already identified.

- ❑ **Green:** Tree density, slash disposal or site preparation does not restrict livestock movement through the block to access existing forage supplies
Action: No action required. Continue to assess cutblock in future inspections
- ❑ **Red:** Livestock are restricted in their access through the block to existing forage supplies due to barriers created by: seedling/sapling density (<1m spacing); slash load; or site preparation. (Figure 4).

Action: Notify other disposition holder. Management should be reviewed. If management issues exist they need to be addressed. Joint field inspection recommended. Continue to assess cutblock in future inspections.



Figure 4. Left: Stem density of aspen (60-70, stems/10 m²). Right: Slash distribution pattern. Both can restrict livestock movement to existing forage.

Assessment hints: On recently regenerating deciduous cutblocks seedlings are often very dense. This high density creates a physical barrier restricting livestock access to the forage in the understory. Excessive slash and debris or site preparation such as mounding also creates physical barriers to livestock movement.

Question 5 - Presence of Restricted and Noxious Weeds - See (Table 2) and (Figure 5)

Restricted and noxious weeds are seldom a problem in a healthy plant community, even in scarified cutblocks. Weeds can have a negative impact on forage production and many other forest rangeland values. As it is difficult to determine the source of weeds, early detection can alert you to make changes to management practices to prevent further spread, and to reduce the costs and need for control.

What is the cover and distribution of noxious weeds?

- Green:** no noxious or restricted weeds present

Action: No action required. Continue to assess cutblock in future inspections.

- Yellow:** noxious weeds present; total cover of 1 percent or less
Density Distribution (class 1, 2 or 3)

Action: Notify other disposition holder. Consider joint field inspection. Continue to assess cutblock in future inspections

- Red:** restricted or noxious weeds present; total cover of >1 percent
Density Distribution (class 4 to 13)

Action: Notify other disposition holder. Management should be reviewed. If management issues exist they need to be addressed. Joint field inspection recommended. Continue to assess cutblock in future inspections.

Assessment hints: The presence of any restricted weed would trigger an automatic **Red** rating. Noxious weeds are the species documented on the local municipal government noxious weed list for the area.

Table 2: Restricted Weeds in Alberta

Latin Name	Common Name
<i>Carduus nutans</i>	Nodding thistle
<i>Centaurea diffusa</i>	Diffuse knapweed
<i>Centaurea maculosa</i>	Spotted knapweed
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Myriophyllum spicatum</i>	Eurasian water milfoil
<i>Odontites serotina</i>	Late flowering eyebright
<i>Cuscuta gronovii</i>	Common dodder

Density Distribution			
Class	Description of abundance in polygon	Distribution	Weeds Score
0	None		3
1	Rare		2
2	A few sporadically occurring individual plants		
3	A single patch		
4	A single patch plus a few sporadically occurring plants		1
5	Several sporadically occurring plants		
6	A single patch plus several sporadically occurring plants		
7	A few patches		0
8	A few patches plus several sporadically occurring plants		
9	Several well spaced patches		
10	Continuous uniform occurrences of well spaced plants		0
11	Continuous occurrence of plants with a few gaps in the distribution		
12	Continuous dense occurrence of plants		
13	Continuous occurrence of plants with a distinct linear edge in the polygon		

Figure 5: Density distribution guide for rating weed infestation.

Appendix 1: Cutblock Assessment Score Sheet

Information pertaining to the completion of the Level 1 Assessment Scoring Sheet

Introduction:

The Level 1 Forest Range Assessment Tool is a cutblock status assessment tool. This assessment tool has been developed to be used on an as need basis to assess the status of cutblocks on a landscape where grazing and timber use is integrated. This tool can be used for monitoring within the GTA process or it can be used where assessment scores are recorded for future reference where no GTAs are required.

Factors to be Assessed

Five factors are assessed in the Level I tool including:

1. Livestock usage on the cutblock,
2. Physical site disturbance,
3. Regenerating trees (distribution and density, height, form)
4. Livestock accessibility
5. Presence of restricted or noxious weeds

Photographs are important and recommended as an effective means of recording the observed conditions. Including photographs as part of each Level 1 cutblock assessment will provide a visual record to supplement the documentation of the cutblock history.

Scoring Sheet Header information

The header can be filled out at the various planning stages of GTA implementation. The same page can be used for three assessments of the same block. For blocks assessed only once or twice a year the sheet can be used to track and record the cutblock status over two or three years. Depending on the number of assessments conducted, more than one sheet may be required per block in any given year.

Stratum

Up to four block strata can be recorded. Each stratum should represent either distinct grazing utilization patterns such as primary or secondary use, or changes in seedling performance that can be easily distinguished from the other strata. Remember lumping is better than splitting. Percentage of area refers to the proportion of the block included within each strata; the total percentage for all strata is 100 percent.

Recording Theory

Each question for each factor addresses specific integration concerns. The various potential conditions have been given status ratings. There is an opportunity to record the status for each stratum for each question on multiple survey dates. The importance of the actual conditions within each stratum can be determined by the scoring received during the completion of the form.

Example: Sample results for answering Question 1

GTA Cutblock Assessment – Scoring Sheet:

Grazing Disposition:

Field/Distribution Unit Name/Number:

Cutblock Number:

Survey Year:

Date 1:

Site Photos:

Observer:

Strata A: general harvest conditions 75% Strata B: wet area 20%; Strata C: road area 5%.

Sample Header Information:

Hairless Head Allotment

New Tonic DU

1234

2007

July 27

Numbers 1, 2, 3, 4

Curly Lockes

Question 1

Grazing is light in Strata A & B. So a tick is marked under both columns A & B, beside Row 1 of the Rating - Green section of the record sheet,

Grazing was moderate in Stratum C. So a tick was marked under column C, beside Row 1 of the Rating - Yellow section of the scoring sheet.

Any comments that are required to supplement the tally information or photographs can be added in the comments section on page two or the back of the sheet.

This procedure can be repeated for all questions monitored that day. The procedure can also be repeated as required for each block on each date the block is monitored.

Cutblock Assessment - Scoring Sheet

Grazing Disposition Name/Number:				Field/Distribution Unit Name/Number:			
Cutblock Number:		Survey Year:		Dates: 1.		2.	
Site Photos:		Observer(s):					
Stratum Identification (Block Feature and percent of area)							
A		B		C		D	
Question 1: Forage utilization (% of total production)							
1				Rating: Green	Light (0-25%), palatable species lightly grazed; unpalatable species mostly ungrazed.		
2					Current year cow pies (Distribution Density Class 0 to 3)		
3							
1				Rating: Yellow	Moderate (26-60%), palatable species are moderately grazed; unpalatable species are only slightly grazed		
2					Current year cow pies (Distribution Density Class 6 to 10)		
3							
1				Rating: Red	Heavy (More than 60%), palatable species are heavily grazed; unpalatable species are moderately grazed		
2					Current year cow pies (Density Class 11 to 13)		
3							
Question 2a: Physical site disturbance (Trailing)							
1				Rating: Green	Few well defined animal trails. Trails are historic access routes. No obvious animal loafing areas.		
2							
3							
1				Rating: Yellow	Significant trailing. Signs animal loafing is creating non vegetated areas.		
2							
3							
1				Rating: Red	Severe trail braiding with significant mineral soil exposure and compaction. Prominent loafing areas have mineral soil exposure or seriously impacted vegetation.		
2							
3							
Question 2b: (Mineral Soil Exposure from Silviculture practices)							
1				Rating: Green	Exposed mineral soil is limited. No contiguous linear disturbance up and down slopes. Very small unvegetated patches; no soil macro-erosion.		
2							
3							
1				Rating: Yellow	Exposed mineral soil is evident. Some contiguous linear disturbances up and down slopes; Numerous large unvegetated mineral soil patches; Beginnings of rill and gully erosion.		
2							
3							
1				Rating: Red	Exposed mineral soil is extensive; Contiguous linear disturbance up and down slope are eroding with significant rilling, gullying, pedestaling. Extensive areas of non vegetated mineral soil.		
2							
3							
Question 3a: Regenerating trees (crop tree distribution)							
1				Rating: Green	Uniform crop tree density and distribution; Resembles Crop Tree Density Distribution Class A		
2							
3							
1				Rating: Yellow	Crop tree density distribution may may not meet provincial standard; Resembles Crop Tree Density Distribution Class B		
2							
3							
1				Rating: Red	Crop tree density and distribution is very irregular; Resembles Crop Tree Density Distribution Class C		
2							
3							
Question 3b: Regenerating trees (height) (Growth curves (Figure 3))							
1				Rating: Green	Height is uniform across cutblock; Average height matches growth/yield curves for the area		
2							
3							
1				Rating: Yellow	Height is not uniform across cutblock; Obvious shorter or taller patches; Average height is below growth/yield curves for the area		
2							
3							
Question 3c: Regenerating trees (form)							
1				Rating: Green	Trees are vertical; Multiple stems or leaders are rare; no evidence of browsing or scarring; dead seedlings are rare		
2							
3							
1				Rating: Yellow	Trees are vertical; Multiple stems and/or leaders are evident; browsing or scarring is evident; dead seedlings are evident		
2							
3							
1				Rating: Red	Slanted trees are common; multiple stems and/or leaders are common, browsing and/or damage to seedlings is extensive; dead and dying trees are common		
2							
3							
Question 4. Accessibility of forage							
1				Rating: Green	Forestry practices do not restrict livestock movement		
2							
3							
1				Rating: Red	Trees density (<1m spacing); slash loading and or site preparation has created a barrier to livestock movement		
2					(Figure 4)		
3							
Question 5. Presence Restricted and Noxious weeds.							
1				Rating: Green	No noxious weeds present		
2							
3							
1				Rating: Yellow	Noxious weeds present with a total cover of 1% or less and density distribution of 1, 2 or 3		
2							
3							