



General Bulletin

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Requiring Rehabilitation of Damaged Areas

Introduction and scope

This bulletin contains advice on applying section 48 of the Forest Practices Code of BC Act (Act), which allows the district manager to require rehabilitation on areas that have sustained damage as a result of a forest practice. The district manager, as statutory decision maker, must apply discretion when making decisions under section 48, and as such, the bulletin is intended to provide general guidance only.

Section 48 has been identified as a potentially useful legislative tool for requiring remediation of some areas that have suffered detrimental soil disturbance, that may not be covered by other provisions of the Code. Generally, maximum soil disturbance limits must now be averaged over an entire standards unit (see Compliance and Enforcement Advice bulletin 6), which may not address areas of localized and concentrated soil disturbance. These disturbed areas can adversely impact site productivity and drainage, regardless of whether soil disturbance limits for the standards unit are exceeded or not. For this reason harvesting and silviculture operations should avoid causing concentrated areas of soil disturbance, or if they are unavoidable those conducting the operations should be prepared to rehabilitate these areas.

This bulletin is mainly focussed on providing advice for identifying and assessing areas of potentially damaging soil disturbance; however, it is recognized that section 48 could be applied in situations where damage has occurred to other resource values, as well.

Legislation

Forest Practices Code of BC Act, Section 48:

- (1) If the district manager determines that the area under an operational plan has sustained damage as a result of a forest practice, the district manager may, by written notice, direct the person responsible for the damage to take measures and to pay costs that are necessary to rehabilitate the area to the satisfaction of the district manager and the person must comply with the notice.*
- (2) Subsection (1) applies despite any limit for soil disturbance specified for an area under a silviculture prescription or stand management prescription.*

Use of this section requires the district manager to determine two key items: a) whether damage has occurred, and b) whether the damaged area is suitable for rehabilitation.

Areas of Potential Damage

For a site to be considered damaged under section 48 there must be evidence that a forest practice has disturbed an area (under an operational plan) and that this disturbance or alteration has resulted in significant harm or a loss to the site, or to other resources in the area. Note that damage is not defined in the legislation and therefore, the following is provided as advice only and is not intended to limit its interpretation.

An area of soil disturbance may be considered damaged if, either:

- the soil disturbance is of a type(s) and to an extent that cause unacceptable losses in site productivity;
 - a reasonable test of this point would be to consider whether the damage is likely to prevent the establishment of a free growing crop as prescribed in a silviculture prescription.

or,

- the disturbance has adversely affected natural drainage patterns causing harm or material loss to the site or other resource values;
 - these effects could include sedimentation of a stream, or slope instability.

Rehabilitation of damaged areas

The objectives of rehabilitating an area are to stabilize the site (i.e. to prevent further damage from occurring), restore natural drainage patterns, and/or restore site productivity. Any rehabilitation carried out under a section 48 order must be done to the satisfaction of the district manager. Rehabilitation of damaged areas should be considered if:

1. it is likely to succeed on the site (i.e. to achieve the desired objectives),
2. it can be carried out without causing further damage to the site or adversely affecting other resource values, and
3. there is sufficient area affected to warrant treatment.

When determining what rehabilitation treatments are warranted, the district manager should consider if the treatments are reasonable given the consequences of the damage and the potential costs of the rehabilitation. Implementing treatments when equipment is still on site or timing treatments to coincide with site preparation operations are two ways of mitigating the costs of rehabilitation.

Examples of soil disturbance where application of section 48 should be considered:

- Example 1. Concentrations of closely spaced track or tire ruts and other evidence of compaction resulting from random skidding through wet depressions, or when random skidding coalesces into very broad trails, especially on sites with high moisture contents. These types of disturbances will alter soil structure and drainage impacting tree establishment and growth. Note that sites with fine textured soils that remain saturated for much of the year may not be suitable for rehabilitation.

- Example 2. Extensive and concentrated areas of scalping or gouging resulting in excessive removal of the forest floor or exposure of subsoils that subject the site to unacceptable levels of erosion. This is particularly a concern when this type of disturbance occurs on sites with high and very high erosion hazards and results in an increase in sediment entering streams, in a substantial loss of topsoil, or if gouging exposes unfavourable subsoils (e.g. calcareous soils).
- Example 3. Gouges, ruts and trails that intercept seepage or runoff and channel water onto sensitive sites that would not naturally have received the water causing slope instability, increased soil erosion or increased sediment delivery to streams. Sensitive sites can include areas with a medium or high likelihood of landslides, gullies or stream channels. Restoring natural drainage in these situations would be critical if the area is located in a consumptive use watershed, near a fish bearing stream, or in close proximity to other resource features that can be harmed (e.g. water intakes, recreation sites).

Assessing and documenting damage

Soil disturbance surveys, soil hazard assessments, photos, and other site data and descriptions should be documented when undertaking investigations of potential damage. Soil disturbance surveys are recommended as they provide a quantifiable means of describing the extent and nature of the damage. However, if the survey does not pick up the seriousness of the damage or the area is too small to survey, other evidence of a quantitative and descriptive nature may need to be collected, for instance:

- For excessive soil compaction the description should include the size of the area affected, the proportion of the affected area that shows evidence of compaction, what the evidence of compaction is, the depth of any rutting and the degree of compaction compared to undisturbed areas.
 - the following is a sample description: ‘Soil disturbance in the form of track ruts and repeated machine traffic is evident on approx. 35% of a 0.9 ha area identified on the attached map. Evidence of compaction for these disturbance types includes coarse platy structure and puddling of mineral soil. Rutting is at depths ranging from 5cm to 20cm into mineral soil, averaging about 10cm. Under moist to somewhat dry soil conditions a T-bar probe penetrated an average of 5-10cm in the compacted areas, compared to average depths of about 25cm in the adjacent undisturbed area.’
- For excessive scalping document the size of the area affected and the proportion of the area that has forest floor removed, and whether there is evidence of soil erosion.
- For excessive gouging document the size of the area affected, the proportion of the area that shows evidence of gouging, the depth of gouging into mineral soil, the amount of area with unfavourable substrates exposed, if any, and whether there is evidence of soil erosion.

Other information that needs to be considered includes:

- the sensitivity of the site to the observed soil disturbance
 - e.g., areas of exposed mineral soil on sites with high and very high soil erosion hazards would be more of a concern than on sites with a low soil erosion hazard rating,
- the condition of the disturbed area in relation to the adjacent “undamaged” areas
 - e.g., is the level of compaction in the disturbed area significant when compared to the undisturbed areas
- the management objectives for the area under the operational plan
 - e.g., consider an area in which harvesting operations have resulted in excessive gouging and scalping; in many situations this may warrant rehabilitation; however, if the area was prescribed for stumping to control root rot this same level of disturbance may be an accepted outcome and not warrant any rehabilitation.

The documented evidence and other considerations should provide a sound rationale for the district manager to use when issuing a section 48 order.

Limitations

A notice under section 48 is not the same as an offence or administrative remedy and therefore is not subject to review and appeal under the Act; however, the decision to apply the section may be subject to judicial review.

Application of this provision does not denote a situation of non-compliance, unless the licensee fails to comply with a written notice under section 48(1). The use of section 48 does not preclude the use of offence or administrative remedies to the same area concurrently or at a later date, e.g. section 45(3) of the Act determination.

Contacts:

Regional soil specialists may be contacted regarding specific incidences of potential damaging soil disturbance. For any questions on this bulletin please contact:

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