

Directive No. 2001-06 **Date** May 24, 2001

Subject **Weed Management in Forestry Operations**

Purpose To implement effective weed management programs administered by holders of *Forests Act* dispositions engaged in forestry operations. This policy applies only to *Forests Act* dispositions.

Policy Section 60 of the *Public Lands Act* sets out a disposition holder’s responsibility with respect to noxious and restricted weeds on dispositions issued under that Act. Similarly, Section 31 of the *Weed Control Act* requires that the occupant (or if the land is unoccupied, the owner) of land destroy all restricted weeds, control all noxious weeds and prevent the spread or scattering of nuisance weeds.

The weed control duties on holders of dispositions issued pursuant to the *Public Lands Act* are reasonably clear and would apply to such dispositions that are issued in relation to forestry operations (e.g. camps, roads, processing sites and other associated land uses). It is, however, not entirely certain as to how the courts would interpret and apply the definition of “occupant” under the *Weed Control Act* in respect of timber dispositions issued under the *Forests Act*.

In terms of forestry operations, the vast majority of weed management situations should fall under either the *Public Lands Act* or the *Weed Control Act*. This Directive attempts to address weed management, in a forest operations context, where neither of these two Acts apply.

The Crown’s goal is to address weed management issues on a landscape level, as opposed to on a disposition by disposition level. To accomplish this, a two step approach will be taken. Firstly, the disposition document and annual operating plans (AOP) will be used to describe the disposition holder’s obligations with respect to weed management activities. Secondly, the Land and Forest Division (LFD) (and ideally, municipalities) will establish landscape level, co-operative weed management groups, with a mandate to developing a single management plan for all stakeholders involved.

Invasive weeds can alter the ecosystem’s natural processes and displace native, threatened, and endangered vegetation and habitat. For these reasons, forest companies are expected to assist in managing weeds in the forested area of Alberta.

Procedure

Amendment of Annual Operating Plans and Dispositions

In order to address situations that fall outside the requirements of either the *Public Lands Act* or the *Weed Control Act* all AOPs prepared and submitted for timber dispositions are to include the following condition. Additionally, this statement is to be incorporated into the disposition itself upon issuance or renewal.

“{*Disposition holder*} shall, with respect to the land contained in this timber disposition, prevent the establishment of and control all noxious and restricted weeds to which the *Weed Control Act* applies, in a manner acceptable to the Minister.”

The Minister will consider the “*Recommended Standards of Good Practice for Prevention*”, described in the **Guidelines** section to be the minimum level of performance for all disposition holders. Where a disposition holder or weed management group (as described below) prepares a plan outlining weed management, the commitments in that plan will become the standards to which the disposition holder or parties to the group will be expected to meet. This plan will be approved, where appropriate, by the Area Manager.

Co-operative Weed Management Groups

The LFD will establish co-operative weed management groups where willing participants are identified. The specific purpose of the groups will depend on the level of current involvement the individual participants have in weed management. Where participants are currently managing weeds, the purpose of the group may be to review individual existing weed management plans to identify opportunities for co-operative management. Where participants are not currently involved in weed management the purpose of the group may be to develop a single weed management plan for all group participants, or to assist individuals in the development of individual plans if desired.

The role and degree of involvement of LFD staff on these groups will depend on the make-up and desires of each individual group. Typically, the LFD will convene and co-ordinate weed management group meetings, in addition to other roles defined by the group. Forest Management Branch staff will work with Forest Area staff to develop provincially consistent Terms of Reference for each group, and provide technical expertise and support where possible. Each group will select its own chairperson and define the roles for each member.

Weed management plans should address inventory, control, education, and prevention. Once a co-operative or individual weed management plan is agreed to, that plan will be implemented through the individual’s AOP. The results of this implementation will be used as the benchmark to which the Minister’s satisfaction for weed control and prevention is measured (i.e. vis-à-vis the AOP clause described above).

Guidelines

To assist in determining whether a disposition holder’s weed management activities are acceptable to the Minister, the following guidelines describe the four essential aspects of weed management: goals, prevention, inventory and control. All of these should be considered when developing weed management activities and plans.

A. Goals

The goals should be specific to noxious and restricted weed prevention, inventory and control. They can be short-term and long-term, as is the nature of weed management.

B. Recommended Good Standards of Practice for Prevention

1. Limit Soil Disturbances

To limit the establishment of weed infestations, prevent unnecessary soil disturbances wherever possible.

2. Clean Equipment

Practice due diligence by ensuring that all equipment and vehicles are free of weed seeds and plant parts before arriving on a job site. All agricultural implements or any equipment knowingly exposed to weeds are to be pressure washed prior to use in forested areas.

3. The Use of Straw Bales for Erosion Control

The use of straw bales for erosion control is discouraged in the Green Area. Unlike hay, it is very difficult to determine if the straw bales are free of weed seeds. Therefore, certified “weed free” hay bales acquired from producers with a “Certificate of Inspection” should be used for erosion control.

4. Use Certified “Weed Free” Seed for Re-vegetation of Disturbed Sites

Canada #1 Seed, approved under the *Canada Seed Act*, ***may not be*** weed free. To ensure a seed mix is virtually weed free, a purchaser can request a “Certificate of Seed Analysis.” To get a more detailed “Certificate of Seed Analysis”, the purchaser can request a larger seed sample analyzed, rather than the typical 25g sample to improve the confidence of the analysis. Alternatively, one can start with pure seed and then prepare the seed mix manually.

5. Rapid Response to Weed Infestations

Because a single plant and small infestations are easier to control than large infestations, it is important to manage weeds proactively. To do this effectively, industry and LFD field staff should be trained in the identification of restricted and noxious weeds, and the importance of destroying individual weed plants and reporting new infestations.

C. Inventory

A weed management program is most effective with an accurate account of existing weed infestations. Inventorying is most effective during the months of June through September, when most plants are in bloom and are the most easily recognized. “Noxious” and “Restricted” weed species to be surveyed are listed in the *Weed Designation Regulation (138/80)*. Additionally, the *Weed Control Act* provides municipalities with the authority to designate other species of local concern as restricted or noxious. For this reason weed surveyors should obtain a list of restricted and noxious weeds from the municipal district(s) within which they are surveying.

D. Prioritizing Areas for Control Measures

As some areas within which weeds are managed consist of a large land base, control

throughout the entire area is not feasible. Specific areas should be targeted each year, based on priorities. When prioritizing areas for control treatments, many factors must be considered to deliver the most effective and efficient control program. The following example criteria are not ranked in order of importance, with exception of *Restricted and Noxious*:

1. Restricted vs. Noxious

Target restricted weed infestations over noxious weed infestations. Control of restricted weeds should be implemented immediately following their discovery.

2. Location of Infestation

Target infestations in highly traveled areas over those in isolated areas, thereby limiting the threat of seeds or plant parts being translocated.

3. Size of Infestation

Target small infestations before large ones, as it is easier to gain control of small infestations. This also applies to outlying pockets of larger infestations, which should be controlled prior to tackling the larger infestation. When dealing with a large infestation, a “contain and control” strategy (targeting outlying pockets, and/or the perimeter of the infestations) is an excellent option when resources are not available to control an entire infestation.

4. Weed Species

To prevent their establishment, target weed species that are less abundant on a regional basis. When controlling infestations, target the weed species with the greatest ecological impacts. In many situations this may be difficult to quantify, although generally speaking it can be done. For instance, a weed infestation encroaching on a habitat of an endangered plant species would have a higher priority than an infestation among common or non-native vegetation.

5. Co-operative Control Opportunities

Co-operative control is the most effective and efficient method to control weed infestations that span multiple dispositions or border of responsibility. Unless one is adopting a “contain and control” strategy, generally it is not a good idea to control only part of an infestation.

E. Control Options

When selecting a control method, it is important to note that different species respond differently to each method. The most efficient programs will have an integrated control plan that includes both prevention and one or more of the following control methods:

- ◆ **Mowing / Cutting** - Effective for perennial weeds. Careful monitoring and proper timing are necessary for this to be a viable option. If a site is mowed over several years, well-developed root systems can eventually be depleted. Weeds should not be mowed once seed set has occurred, as this will aid in spreading seed.
- ◆ **Hand Pulling** - Effective for annual or biennial weeds, especially when dealing with small infestations or individual plants. Hand pulling may have to be done annually (before seed set) for several years, as dormant seeds in the soil may continue to germinate. If any weeds are pulled when in flower, they must be bagged and burned, as they will set seed if they are left on the ground.

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- ◆ **Herbicide Application** - Very effective but will not guarantee 100% control. Sites may have to be revisited again the next year for follow-up treatments. Several herbicides are effective for each weed species. Chemical selection should be determined by site, weed species, existing desirable vegetation, and whether or not a residual effect is wanted. Assistance with selecting a herbicide and application rate can be obtained through a Municipal District, County Agricultural Fieldman, or Certified Pesticide Applicator.
 - ◆ **Biological Control** - This method of control is the introduction of insects or diseases that attack or infect a specific weed species. Biological control agents can be difficult to obtain, and in some cases they are in the testing phase to determine effectiveness. Information regarding the biological control of weeds can be obtained through the Alberta Research Council in Vegreville, Alberta.

Authorities

Weed Control Act - provincial legislation describing weed control and management requirements.

Weed Designation Regulation - lists weed species designated as restricted, noxious and nuisance in Alberta.

Forests Act - describes the requirements with respect to forest allocation.

**Cross -
Reference**

- ◆ FPD Policy 16.0 - Restricted and Noxious Weed Management Jurisdiction
- ◆ Land & Forest Division "Forest Management Herbicide Reference Manual"

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