

FARM PRACTICES

LAND CLEARING

Description

Land clearing is the development of land with potential for agricultural use. Land clearing requires the removal of native cover, including trees, bushes and boulders from the land surface. The land must then be broken in order to get a workable seedbed into which a crop can be seeded. Land breaking includes the removal of roots, stumps and rocks.

Nuisance Concerns

The three main disturbances mentioned in the *Farm Practices Protection (Right to Farm) Act* are odour, noise and dust. Of particular concern to land clearing practices is dust.

Dust

Farmers engage in a variety of activities that require the use of equipment or practices that will create dust. Dust may also be generated as 'fugitive dust' when fine particulate is lifted from fields, roads, buildings and yards by the stirring action of air. Most land clearing equipment generates some dust. Dust in the air is defined as fine grained suspended particulate. How people perceive dust (nuisance or not) will depend on the frequency, intensity and duration of the dust generating event.

See Nuisance Reference: [Dust](#)

Activities and Operations

Land Clearing Process

Clearing and developing land for agricultural purposes can take more than one year. A farmer or custom operator clears the land surface of native cover. All trees of value (lumber, posts, firewood) should be selectively removed prior to clearing. An appropriate buffer zone should be preserved along all watercourses to maintain some important habitat for fish and wildlife. Clearing all the way to the edge of a watercourse could result in a violation of the *Fisheries Act*.

Generally, land should be cleared in the fall or early winter when the ground is dry or frozen and precipitation and runoff are typically low. Year-end land clearing minimizes soil compaction and prevents excessive amounts of soil from ending up in the brush pile. Natural vegetation should be retained in drainage paths (creeks and gullies) to reduce the risk of soil erosion and damage to riparian areas.

Brush and stumps are piled into windrows using a brush-rake (bulldozer blade with spikes along the bottom edge) and then burnt. If the burn is incomplete, the windrow should be repiled and burned again the following spring.

Land breaking is usually done the following spring or summer. Roots are loosened by ploughing or disking the land. After breaking the soil, loosened roots are raked into long rows (windrows) using a flex harrow, side-delivery root rake or rotary-drum root rake. The windrowed roots can be burned.

Depending on the field, rocks may have to be removed so the soil can be cultivated. Several passes with a heavy disk or cultivator are required throughout the summer to “work down” the new land and prepare it for seeding. Roots still present may be raked into windrows and burned. The land may need to be root-raked and the windrows burned again after the first harvest.

Dominant drainage paths on newly cleared fields are seeded with grass to prevent soil erosion channels from forming.

See Farm Practice: [Cultivation](#)
[Burning](#)
[Mobile Equipment](#)

Land Clearing Methods

Methods used to clear land will vary depending on the type and density of native cover.

Stumping, grubbing and piling

This method is commonly used to clear land in BC coastal region where the dominant tree species are Douglas fir, cedar, hemlock and maple. If the area has already been logged, stumps can be blasted out or split with a modified bulldozer blade and pulled out.

Walking down and piling

The walk-down and pile method is commonly used in the Interior where poplar, alder, birch and evergreen trees dominate. A bulldozer with its blade two to three feet off the ground is used to push trees over. Some roots are automatically exposed. Roots are then ripped out of the ground using a brush piling bulldozer blade.

Cutting and piling

In the Peace River region, where only light growths of poplar and willow exist, this method works well. Trees are sheared off at the soil surface with a one-way V-type brush-cutter.

Methods by which cleared land can be broken include:

- ploughing with a heavy moldboard plough
- ploughing with a heavy rotary plough
- disking with a heavy breaking-disk

Related Farm Practices

Other farm practices that pertain to land clearing practices include, but are not limited to, the following:

Habitat Management

Land clearing operations need to be done to minimize the affect on fish and wildlife habitat. An adequate buffer strip should be kept along the length of a watercourse. This promotes a healthy riparian zone that benefits the farmer and fish and wildlife habitat. Riparian areas act as wind breaks, stabilize stream flows and stream banks, provide important cover for fish and wildlife, regulate stream temperatures and prevent leaching of fertilizers or excess runoff from entering the watercourse.

Legislation

Information on federal and provincial legislation can be found in Appendices B and C. Acts, regulations and bylaws that regulate or may affect land clearing practices include, but are not limited to, the following:

Federal

Fisheries Act – protects fish and fish habitat and prohibits the discharge of deleterious substances into waters frequented by fish.

Provincial

Agricultural Land Commission Act – Permits activities such as land clearing, draining, berming and other ancillary works that are required for farm use of the farm.

Waste Management Act – Open Burning Smoke Control Regulation and its *Code of Practice* – regulates pollution aspects of open burning

Local Government

Local government bylaws such as tree removal restrictions.

Publications

Publications that provide further information on land clearing include, but are not limited to, the following (refer to Appendix D for details):

Soil Erosion in British Columbia's Peace River Region