

FARM PRACTICE

LAND CLEARING

Description

Land clearing is the development of land with the intention of creating a potential use for agricultural purposes. Land clearing requires the removal of native cover – including trees, bushes and boulders – from the land surface. The land is subsequently broken to create a workable bed into which a crop can be seeded. Land breaking includes the removal of roots, stumps and rocks.

Nuisance Concerns

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

Dust

Dust is defined as fine-grained suspended particulate in air. The degree to which individuals perceive dust to be a nuisance will depend on the frequency, intensity and duration of a dust-generating event.

Farmers engage in a variety of activities that require the use of equipment or practices that will create dust. Most land clearing equipment generates some dust. Dust may also be generated as fugitive dust when fine particulates are lifted from fields, roads, buildings and yards via air turbulence.

See also Nuisance Reference: [Dust](#)

Activities and Operations

Land Clearing Process

The clearing and development of 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 for the purposes of generating lumber, posts, or firewood should be selectively removed prior to clearing. An appropriate buffer zone should be preserved along all watercourses to maintain important habitat for fish and wildlife. Clearing directly 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 also minimizes soil compaction and prevents excessive amounts of soil from being introduced in brush piles. Natural vegetation should be retained in drainage paths such as 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, after which they are burned. A brush-rake is typically a bulldozer blade with spikes along the bottom edge. If the burn is incomplete, windrows should be piled anew 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 windrows using flex harrows, side-delivery root rakes, or rotary-drum root rakes. The windrowed roots can be burned.

Depending on field conditions, rocks may have to be removed to allow soil cultivation to take place. Several passes with a heavy disk or cultivator are required throughout the summer to work the new land prior to seedbed preparation. Remaining roots may be raked again into windrows and burned. Root raking and windrow burning may again need to be done after the first harvest.

In all cases where burning is being considered, local government bylaws and the *Open Burning Smoke Control Regulation* must be followed.

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

See also Farm Practice: [Burning](#)
[Cultivation](#)
[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 methods are commonly used to clear land in B.C. coastal regions where the dominant tree species are Douglas fir, cedar, hemlock and maple. If an area has already been logged, stumps can be blasted out or split with a modified bulldozer blade and pulled out.
- The walk-down and pile method is commonly used in the interior regions of the province where poplar, alder, birch and evergreen trees are predominant. A bulldozer with its blade two to three feet off the ground is used to push trees over, automatically exposing some roots. Roots are then ripped out of the ground using a brush-piling bulldozer blade.
- The cutting and piling method is often used in the Peace River region, where only light growths of poplar and willow exist. 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 heavy moldboard or rotary ploughs or disking with heavy breaking disks.

Related Farm Practices

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

Habitat Management

Land clearing operations need to be done in such a manner as to minimize the effect on fish and wildlife habitat. An adequate buffer strip should be kept along the full length of watercourses. This promotes a healthy riparian zone that benefits the farmer as well as fish and wildlife habitat. Riparian areas provide 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 watercourses. In all situations, applicable legislation must be consulted and followed to ensure habitat is not compromised.

See also Farm Practice: [Habitat Management](#)

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 Legislation

The *Fisheries Act* protects fish and fish habitat and prohibits the discharge of deleterious substances into waters frequented by fish. Authorization is required if fish or fish habitats are to be disturbed.

The *Species at Risk Act* outlines measures to mitigate or prevent damage to habitat that may be caused by activities conducted around watercourses or in critical and sensitive habitats. Associated permits may be necessary.

Provincial Legislation

The *Agricultural Land Commission Act* permits activities such as land clearing, draining, berming and other ancillary works that are required for farm use.

The *Environmental Management Act* protects the soil, water and air environment from pollution. Included under this Act are the following applicable regulations:

- The *Agricultural Waste Control Regulation* which allows farmers to operate without a waste permit when handling and disposing of agricultural wastes according to the *Code of Agricultural Practice for Waste Management*.
- The *Open Burning Smoke Control Regulation* which sets minimum standards for emissions related to smoke from open burning activities.

The *Wildlife Act* which deals with the protection of wildlife habitat, including trees used for nesting sites by birds such as eagles and herons.

Whenever possible, land clearing operations should consider the province's voluntary stewardship initiative of zero net deforestation.

Local Government Legislation

In some cases, local government bylaws outline 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.

British Columbia Environmental Farm Plan Reference Guide