

Here are some issues that affect Alberta's forests:

Clear-cutting versus Select cutting

Should the government stop all logging companies from clear-cutting?

Clear-cutting is a method of logging where all the trees in an area are removed.

- Large machines cut down entire sections of forest when clear-cutting. This exposes soil, which then can erode easily.
- After a forest is clear-cut, the types of plants and animals living there change.
- Grasses and shrubs begin to grow in the clear-cut areas.
- Many of the animals in the forest have to find new homes and food sources. Sometimes, the forestry company replants the trees they have taken.
- Despite their efforts, they can never restore the original ecosystem.



Select cutting methods remove the large, mature trees and either leave the young trees behind to grow bigger or plant smaller trees to replace them.

- This method leaves the ecosystem with the trees, plants, and animals it originally had. It is more difficult to remove the trees from the forest.
- The cost to remove the trees this way increases the cost of the lumber.

The forest industry plays an important part of Alberta's economy. The government has tried to make sure that Alberta's forests are being managed properly. Forest managers see that the forests are protected. **Reforestation** requires that the forest industry either plant seeds for new trees to grow or plant small trees that have been grown in nurseries. The management and preservation of today's forests continue to be issues for Alberta's forest industry.

Air pollution and acid rain

How can air pollution in Alberta be reduced?

Polluted air contains extra gases, dust, fumes, or odours in harmful amounts. Most of the air pollution comes from three main sources:

1. Exhaust from cars, trucks, and buses
2. Fires from burning trash and forest fires
3. Burning fossil fuels to make electricity, give power to manufacturing plants, and heat homes

Air pollution is not only harmful to the health of humans and animals but can cause damage to plants. As rain falls through the polluted air, it may become acid rain.

Serious damage to the forests can result from acid rain. Acid rain kills leaves and trees. It can cause permanent damage to the soil of the forest floor. This then kills tree roots.

Clearing forest land for New Developments

Should the size of cities be limited so forest land is not used?

- More people move to cities every year. These people need a place to live.
- The city planners can choose to take over more land along their borders, or they can choose to build inside their boundaries.
- Often, the land around a city is forest land. Many cities are now choosing to build up instead of out. In this way, they can protect valuable forest land outside the city.

Controlling Invading Species

What should be done about species, such as the pine beetle, that are destroying trees in Alberta?

The mountain pine beetle is not a native insect of Alberta. It has come from other areas. The pine beetle does not have a natural predator to keep it in check. They continue to grow in numbers and have destroyed enormous amounts of pine forests. Many pine beetles will attack a tree all at once. The adults burrow into the bark of the pine tree. They feast on the sap and lay their eggs in the inner bark or phloem. The phloem is the layer of the tree where the sap (food) from the leaves travels down to all the other parts of the tree. When the larvae hatch, they eat the phloem. In about two weeks, the phloem layer is damaged enough to cut off the flow of sap. The pine tree starves to death. The normally green needles turn a reddish colour.

Pine beetle - Because there are so many beetles, spraying them with chemicals is not a good way to get rid of them. The chemicals could harm many other organisms including humans. The best way to stop the spread of the pine beetle is to burn the stand of trees in which they are found. This becomes a problem when the trees are around areas where people live. Extreme cold for a long period of time will kill the beetles. Unfortunately, the winters in Alberta seem to be milder, and so the pine beetles continue to be an important forest issue.