



WORKING SAFELY IN THE WOODS



Proper Felling Techniques

People use chainsaws every day, for many tasks. Some use them to earn their living, and others simply want to cut firewood or remove a dead tree from their backyard. Although this pamphlet is intended for the professional timber harvester, it's useful for the weekend woodworker too. Learning the correct felling techniques will allow you to work effectively and safely.

Below are a few safety guidelines from WorkSafeNB. We also recommend that you read our pamphlet entitled *Chainsaw Guidelines* for more useful tips and important health and safety information regarding chainsaw use.

REGULATIONS FOR CHAINSAW OPERATIONS

The *Occupational Health and Safety (OHS) Act* has specific legislation around logging and silviculture operations. We have taken a few excerpts from the Act and summarized them below, but this is in no way an exhaustive list, and other rules apply.

FIRST AID

There must **always** be an adequate first aid kit onsite, as well as someone trained in first aid. The First Aid Regulation outlines the supplies that must be contained in your first aid kit, and the rules around properly trained first aid providers.

The regulation on first aid also says that you must perform a **risk assessment** so you are properly prepared for an emergency and, when you are working in the woods, you must have an emergency evacuation plan. You should consider emergency communications, road conditions, and the best route to the nearest hospital. The maximum distance between a worker and the nearest vehicle should be no more than 600 metres.



Every chainsaw operator must carry or keep close at hand a **pressure bandage**, as well as an appropriate **fire extinguisher** for fire prevention. Another thing to consider is whether any workers are allergic to bee or wasp stings. These people should be identified and should carry bee sting kits with them at all times. Employers may want to supply a bee sting kit with the first aid kit and train their first aid providers on its use.

PERSONAL PROTECTIVE EQUIPMENT

Always wear the following:

- **Hard hat** - The hat should be equipped with a visor to protect your eyes, or you may wear safety glasses instead
- **Hearing protection**
- **Safety boots** with chainsaw protection, ankle support and slip-resistant soles
- **Safety pants** lined with chainsaw-resistant material
- **Leather gloves**

Regulation 91-191 of the *OHS Act* also specifies that no employee operating a chainsaw may work alone.



BEFORE YOU BEGIN

Chicots (standing or lodged dead trees) must be removed or put to the ground before you begin to work. This dangerous type of tree has injured and killed a number of woodworkers.

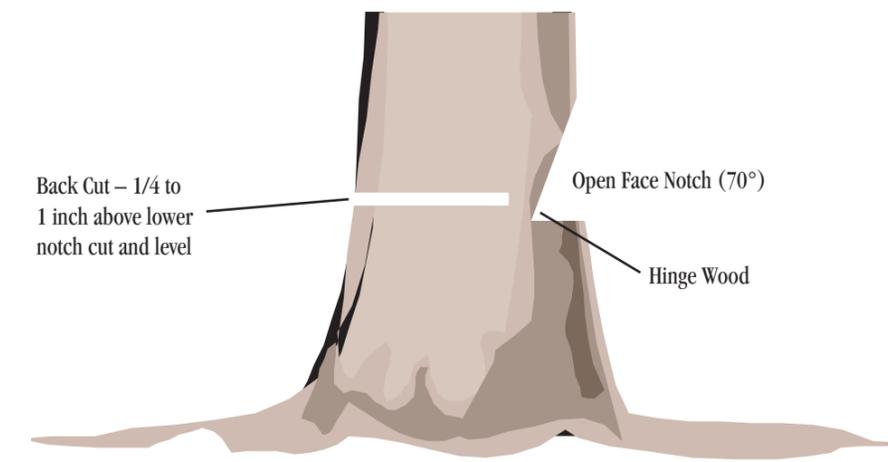
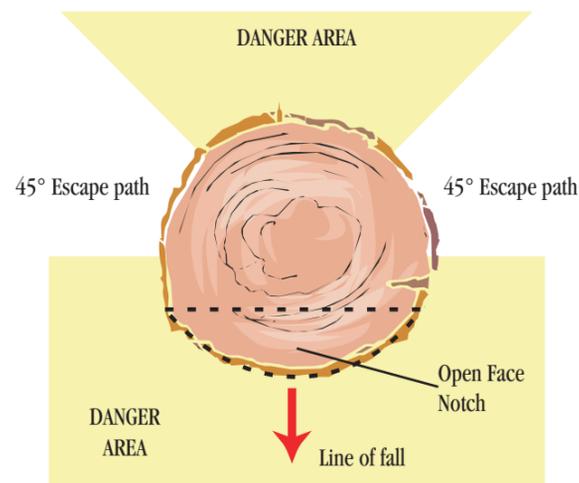
- Look for and remove **all** chicots and other hazards (see the Felling a Tree section for more information on identifying and removing chicots)
- Be sure to have a felling lever or wedge on hand to use when you're felling a tree.
- Make sure all other people are at least 40 metres away or two tree lengths, whichever is the greater, before felling a tree.
- Don't work in the vicinity of a lodged tree until it's safely brought to the ground.
- Have an escape route or path of retreat for yourself – a clear path to the side, not directly behind or in front of the intended fall line of the tree.
- Watch for and remove any spring poles (small trees under tension).
- Never leave a partially cut tree standing.

FELLING A TREE

It is important to always take a few minutes to assess the tree and the felling area before beginning work. Some trees are more difficult to fell than others, so consider these things first:

- Wind direction and speed
- Whether the tree is leaning or lopsided
- Overall size and height of the tree
- Snow and ice load
- Terrain: if the tree is growing on the side of a hill, in swampy ground, etc.
- Power lines: never fell a tree near them!
- Is the tree a chicot? Look for:
 - Missing twigs and small branches
 - An absence of leaves (considering the season)
 - The condition of the trunk and main branches
 - Presence of shelf-like fungus growth
 - Detached bark
 - Easily visible cracks along the trunk
 - Canker growth on the trunk
 - Insect infestation
 - Rotten roots
 - Mushrooms growing at the base of the tree
 - Black filaments under the bark
 - Spongy material at the base of the tree

If the tree is a chicot, it requires special attention. Please refer to our pamphlet entitled *Chicots* for more information on the safe removal of these dangerous trees.



NOTCHING AND BACKCUTTING A TREE

- The hinge should be as thick as necessary to hold the tree to the stump until felling is completed.
- The depth of the notch should be approximately ¼ of the tree diameter with a minimum 70° opening.
- There should be no by-pass: notch cuts should meet cleanly and evenly, so the hinge wood is not weakened.
- Once you start to fell a tree, you must finish the job by bringing the tree completely to the ground. If a tree remains standing or is caught up in another tree:
 - Stay in the area or clearly mark the tree.
 - Ensure that it is removed as soon as possible, preferably by a skidder.
 - At no time can a worker climb up or on this tree, fell it by attempting to knock it over with another tree (domino felling) or fell it by cutting the tree in which it is caught.

Remember: First you notch, then backcut, then walk away.

LIMBING AND BUCKING A TREE

Here are a few rules to follow when removing limbs from a felled tree (limbing) or cutting the trunk into appropriate lengths (bucking):

- The tree must be resting solidly on the ground
- Both feet must be positioned firmly on the ground (never stand on a tree that is being limbed or bucked)
- Work from the uphill side of the tree



- Never position the saw directly in front of you or draw it toward you
- Never use the top half of the tip of the saw for limbing, as the saw may kick back at you.

THE HINGE SHOULD BE AS THICK AS NECESSARY TO HOLD THE TREE TO THE STUMP UNTIL FELLING IS COMPLETED.

OTHER SAFETY RECOMMENDATIONS

It is a good idea to do **warm-up** and **stretch** exercises before you begin working. A surprising number of soft-tissue injuries occur to chainsaw workers, so it is especially important to pay attention to the terrain and watch your step. WorkSafeNB also recommends that you wear a **reflective vest** when working in the woods, especially when there is low visibility. Being seen could save your life.

Many injuries and deaths in woodworking operations happen because of improper felling techniques. There is a correct way to fell, limb and buck a tree. You can protect your own safety and the safety of others by using the proper felling techniques. **Learn to do it right!**

For more information about workplace health and safety, call WorkSafeNB at 1 800 222-9775, or visit us online at www.worksafenb.ca.

Other publications available in our Working Safely in the Woods series:

- General Guidelines*
- Thinning Saw Guidelines*
- Chainsaw Guidelines*
- Chicots*