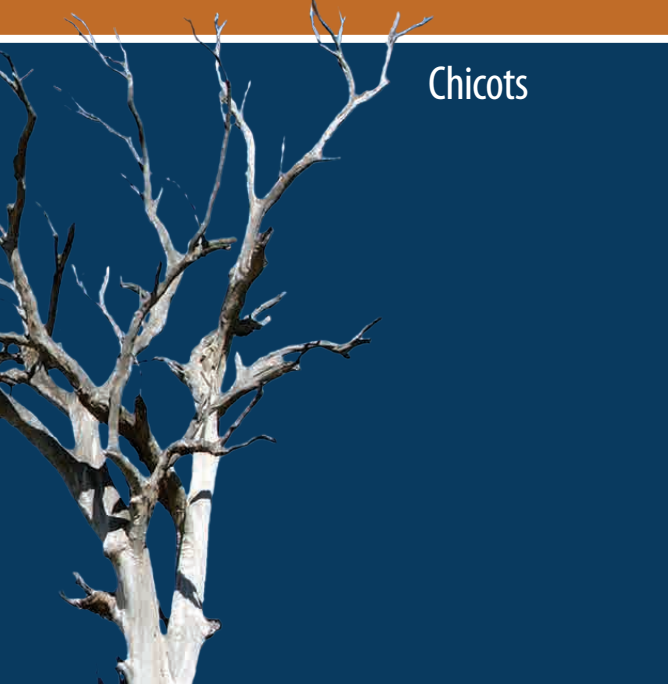




WORKING SAFELY IN THE WOODS

Chicots

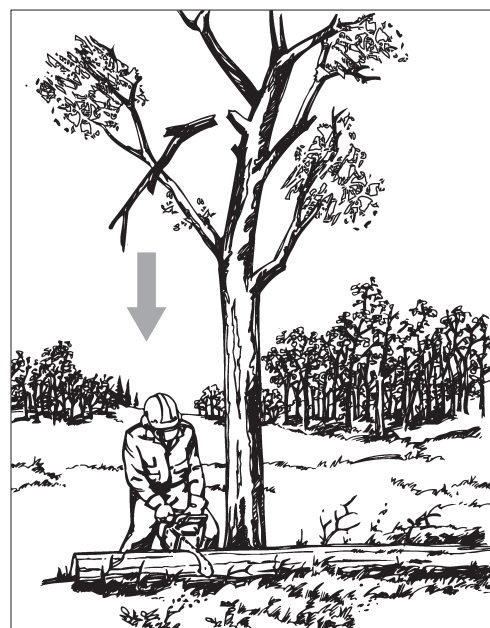


WHAT IS A CHICOT?

A chicot is a tree that has either become **dry** or **rotten**. There are various reasons for this occurrence, either from normal aging or special conditions such as species extinction, climate, insect infestation, disease or human activity. Also commonly known as widow-makers, chicots pose a tremendous hazard in the woods and they need to be treated with respect.

WHY ARE CHICOTS DANGEROUS?

One study showed that, in cases where workers were struck by a falling tree, chicots were a contributing factor in more than 20% of those situations. These trees are dangerous because they are brittle and unpredictable. A gust of wind, vibration from equipment, a heavy snowfall or removing adjacent trees is often all that is needed for branches to fall suddenly from these trees, causing great harm.



HOW DO REGULATIONS SPECIFICALLY ADDRESS CHICOTS?

The *Occupational Health and Safety (OHS) Act* has specific legislation around logging and silviculture operations.

Below is an excerpt from Regulation 91-191 dealing specifically with chicots (see sections 343-365 for more information).

- 353(1)** Before starting to fell a tree, an employee shall ensure that
- (a) all standing dead trees and other hazards are removed from the work area,
 - (b) there is a clear path of retreat to safety, and
 - (c) all other persons are moved at least 40 m from the felling area.

Note: This document is intended to provide safe working guidelines for dealing with chicots. All the established health and safety regulations also apply, though they are not repeated here.

HOW DO YOU HANDLE CHICOTS?

1. Find them.
2. Mark them with ribbons.
3. Eliminate them.

FINDING CHICOTS

An experienced woodworker needs to evaluate the presence and conditions of chicots. Look for:

- An absence of leaves (considering the season)
- Missing twigs and small branches
- 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

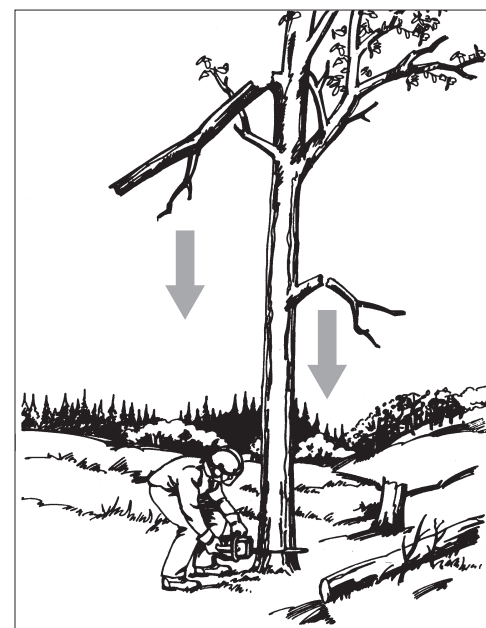
Woodworkers should also observe wind conditions, the presence of snow and ice, and the consistency and stability of the soil.

MARKING CHICOTS

If it is determined that the chicot will be left standing, then ribbon needs to be placed all around the tree. The ribbon should be measured out from the base of the tree, with a radius slightly larger than the height of the chicot. This needs to be done before any work is begun. All workers must stay out of the marked area and no other trees are to be felled into this area.

ELIMINATING CHICOTS

SKIDDER
The safest way to fell a chicot is to push it down with the back (plate or mask) of a skidder. This must always be the first choice whenever possible, as it reduces danger to the loggers.



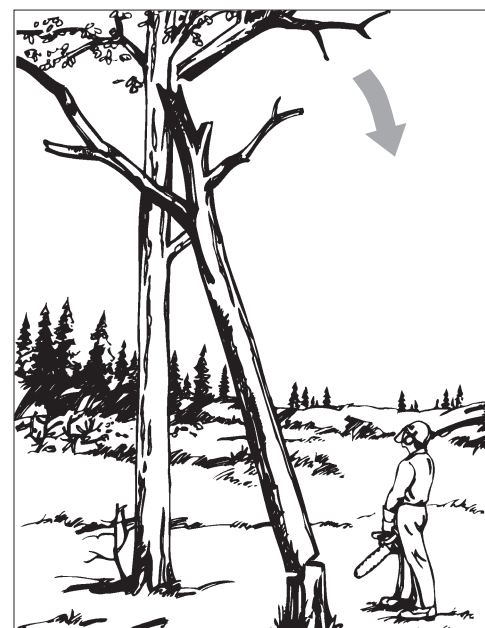
The degree of the hazard is determined by the size and the height of the chicot.

The skidder operator must be aware of the cab's capacity to withstand the impact of a falling branch or tree, and must put the dead tree to the ground. If the chicot is pushed into and lodges in another tree, then the feller must come in and make multiple cuts to get what has become a far more dangerous tree (a hung-up, dead tree) to the ground.

Pushing a tree to the ground with a skidder must be done at least two tree lengths away from the feller, and never in the direction that a worker is standing. Dead branches can be projected great distances when they break away from a falling tree.

CHAINSAW FELLING

If the skidder cannot reach a chicot because of the terrain or the density of the forest (for example, in cable logging), a chainsaw felling method can be used, but only with extreme caution.



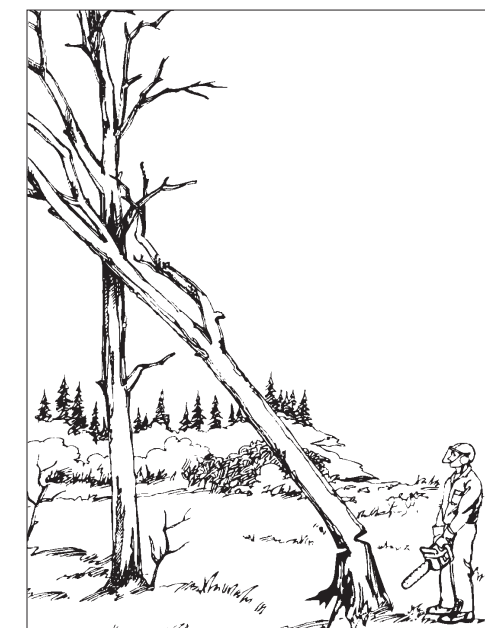
Dangerous projection of a dead branch from the top of a chicot.

A chicot is unpredictable because the tree fibre is either brittle and dry, or rotten. The holding wood is often on the outside of the tree because the core is rotten; this changes the dynamics of the feller's control of the tree.

These trees must never be felled in windy or heavy snow conditions. If a loose branch (widow-maker) is hanging from the top of a chicot, workers must stay away from this tree.

CRITICAL RULES:

- Only experienced fellers must attempt to fell a chicot.
- The experienced fellers must consider the following three factors in determining the direction of the fall:
 - The degree and extent of rot
 - The natural lean of the tree, as there is very little control over the direction of the fall of a chicot
 - The clearest area so that the chicot can be cleanly brought to the ground



Chicots should be felled towards the clearest area possible to prevent them getting caught up in another tree.



- The feller must stand tall and straight to reduce exposure to the neck and back. This position also allows the feller to see the tree as it is being cut. The notch is therefore made at waist height.
- The open-face notch should be at least 70 degrees and approximately 40% deep (this extends the life of the hinge to the ground).
- It is critical that there is no bypass, as a hinge made of dead wood will snap like a matchstick if there is bypass in the notch.
- The hinge must be wider than when cutting normal trees, and the width is determined by the degree of rot. As a general rule, the greater the rot, the greater the width of your hinge wood. Remember, in a chicot, hinge wood is never reliable.
- The back cut should be a bore cut, as it provides maximum control as well as maximum escape time. The only exception is for extremely rotten trees with a lean greater than five feet. In this case, a standard back cut is used, as the rotten wood may crush under the forward lean of the tree, catching the saw.
- The feller must not use wedges or any technique that involves striking the tree. A lever may be used if necessary, but a chicot must never be struck.
- All other workers must be standing the greater of 40 m or two tree lengths away from the feller and must never be in the anticipated direction of the tree's fall.

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

Proper Felling Techniques