

Domestic Woodcutting

**Best Management Practices
in Newfoundland and Labrador**



A Manual for Domestic Woodcutters
prepared by
Model Forest of Newfoundland and
Labrador.



Natural Resources
Canada

Ressources naturelles
Canada

Canada

A Newfoundland and Labrador Tradition

Domestic firewood has been a significant source of energy in Newfoundland and Labrador since settlement more than two centuries ago.

Newfoundlanders and Labradorians continue to depend on fuel wood for heat, partly in response to high oil prices and partly due to traditional usage.

It is difficult to measure how much wood is harvested for domestic use in the province every year. It is estimated, however, approximately 150,000 cords of wood are burned annually. A full cord is 4' by 4' by 8' of stacked wood. A face cord is 4' by 8' and has an average piece size of 16". A face cord is generally one third of a full cord. If stacked as a full cord, the firewood harvested annually in the province would reach from Corner Brook to Central Newfoundland -with a distance of about 365 kilometres.



Photos courtesy of S.Carson

With such a volume of wood being cut, domestic woodcutting management is a concern in Newfoundland and Labrador. Sustainable forest ecosystem management ensures economic, ecological and social forest values are available for future generations to enjoy. This guide is intended to help ensure domestic woodcutters are carrying out best practices in the woods to make sure this concern is addressed.



Photos courtesy of S.Carson

We all have a role to play, and this booklet provides the domestic cutter with suggestions to harvest wood safely and help ensure wood is available for domestic harvest well into the future.

Did you know?

One cord of wood can be used to make 7 ½ million toothpicks, 250 copies of the weekend Globe and Mail, 460,000 personal checks, 30 rocking chairs, or 12 large dining room tables.

Before you Begin

Obtaining a Permit

A permit is required to cut wood for domestic use. A Crown Land domestic cutting permit costs \$21 and allows the holder to cut up to 23 cubic metres (approximately six cords) of wood from most designated Crown areas. In some areas, the maximum allowable cut may be less than 23 cubic metres. When cutting is finished, the harvester must complete a return and submit it to a district Newfoundland and Labrador Forest Service office. Permits for harvesting on pulp and paper company lands must be obtained from the company in question. For Corner Brook Pulp and Paper Ltd., call (709) 637-3104.

Safety Practices

Taking necessary safety precautions when felling trees is essential. This includes making sure your chainsaw is well maintained, being aware of your surroundings, and using proper notching techniques when felling trees.



Photo courtesy of D. Myles

Personal Protective Equipment

To protect yourself when handling a chainsaw and working in the woods, it is recommended you wear protective clothing and have the following safety equipment on hand.

Daily Maintenance Tips

- Check throttle trigger
- Clean chain brake
- Clean or replace air filter
- Turn bar daily for even wear
- Check for loose nuts/screws
- Sharpen chain /check tension
- Check starter cord for damage

Safety Equipment

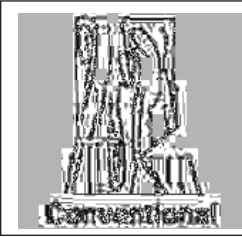
- Chainsaw chaps
- Hard hat
- Eye protection
- Steel-toed boots
- Work gloves
- First aid kit
- Fire extinguisher
- Ear muffs/ear plugs

Proper Cutting Techniques

The three most important elements in felling a tree are the notch, hinge wood and backcut.

Notching

The notch determines the direction in which the tree will fall. If notched properly the tree will fall at a right angle to the notch. Some tips



for proper notching include: cutting the notch in the direction the tree is to fall, notch should be 1/4 to 1/3 the diameter of the tree, be cut flat and level and be cleaned out. This will reduce the chances of the tree falling in a dangerous or unpredictable manner.

Hinge wood

The hinge wood is what “holds” the tree in the intended falling direction and helps to prevent pinching of the saw. The hinge wood should be one consistent thickness through the tree and approximately 5-10% of the tree diameter.

The Backcut

The backcut is the cut that releases the back of the tree and allows the tree to fall forward. Some tips on creating a safe backcut include:

- Cut is level and made 2.5-5 cm (1-2 inches) above the deepest part of the undercut
- Not cutting into the planned hinge-wood.

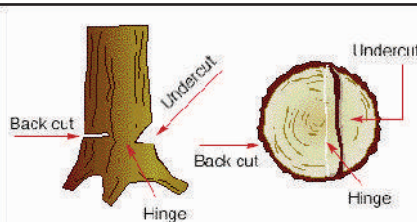
Safe Felling Tips

Clear brush around the base of the tree before starting the notch.

Make sure there is a clear escape route at least 4.5m (15ft) long.

Access the tree to be felled for dead or rotten limbs, a noticeable lean, snow load, or limbs tied with other trees.

Basic Techniques for Felling a Tree



What to Cut

Softwood or Hardwood?

There are five main tree species in Newfoundland and Labrador that are generally utilized as firewood. Each species has its own unique wood burning qualities.

Softwoods include black and white spruce, balsam fir, and larch. Hardwoods include white and yellow birch, and trembling aspen (poplar).

Hardwoods burn more evenly and longer than softwoods. Only hardwoods may be cut on pulp and paper company lands. A permit is required.

Cutting white and red pine (dead or alive) is not allowed in Newfoundland and Labrador due to the scarcity of this tree species.

Green wood or Dry wood?

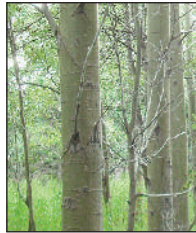
Green wood may contain more than 50 per cent water by weight and produces only ¼ the heat of dry, seasoned wood. It also produces more smoke and creosote. Seasoned wood is the preferred choice for firewood.



Larch



Birch



Poplar



Spruce



Balsam fir

Species	General Rating	Heat/cord (millions of BTU)
Larch	Excellent	24.0
Birch	Excellent	23.4
Poplar	Fair	17.7
Spruce	Fair to Poor	16.2
Balsam Fir	Fair to Poor	15.5

(NRCAN 1999)

Did you know?

White Pine Blister rust (*Cronartium ribicola*) is an introduced (circa 1900) fungus that is responsible for a great deal of the decline of the white pine in Newfoundland. The fungus has a life cycle of 3-6 years and requires two plant species to survive. Spores alternate from white pine (their primary host) to members of the currant and gooseberry family (*Ribes spp.*). Infection is serious in pine, but not in currant. In pine, branch cankers form that kill the tree.

Photos courtesy of S.Carson and A.Anderson

Young Wood or Old?

Young wood is still growing vigorously. These trees are our future forest and a great source of oxygen.

If too much young wood is removed from the forest today, there will be no forest left for the future. Young stands, and stands that have been silviculturally treated - planted with new trees or thinned prior to commercial harvest - should be left to grow.

Older wood is nearing the end of its life cycle and is likely to fall or blow down in the near future. If you are harvesting for fire wood, removing older wood is the best choice.

In some parts of the province, old wood is not available. In such cases, the oldest wood should be chosen.

Large and Straight, or Small and Crooked?

Large and straight wood can be used for a variety of purposes, including lumber and furniture.

Small and crooked wood unsuitable for lumber has limited use, and is thus better suited for firewood. All trees in an area suitable for use as sawlogs should be harvested as



Photo courtesy of P.Yates

sawlogs. This can help to ensure fewer trees are wasted.

Sawlog or Fuelwood?

Sawlogs are trees that can yield a log at least 2.5 metres long after tops and bark are removed, with a minimum top diameter of 14 centimetres (six inches).

In the case of fuelwood, it is not as important to harvest straight, large, disease and rot-free trees.

Many domestic wood cutting areas have been chosen because of the lower quality of the wood they contain. This ensures areas of high wood quality can be used to support commercial harvest operations where wood quality is of high concern.

Healthy trees are able to produce seeds to grow the next generation of forest.

Healthy or Diseased?

Diseased trees are likely nearing death and are thus more suitable for harvest.

Environmentally friendly wood lot management involves thinning out dying and damaged trees and less desirable species and leaving young, healthy, straight trees to grow to create healthy, viable forests for future generations to use.

Making Best Use of Fire Wood

How to Cut

Full utilization of the timber resource is not only an environmentally sound practice but it also maximizes the amount of fuel wood obtained. This ensures minimal waste while helping to maintain future timber supplies. It is good practice to de-limb and top each tree before felling the next.

Small Tops

Leaving trees with small tops means less wood is wasted. Tops should be no larger than 8 cm (3 inches) in diameter. The top in the photo below is oversized, meaning the wood should not be left behind.



Photo courtesy of S.Carson

Remove Branches and Debris

Branches should be removed and left on site. As they decompose, these branches will release nutrients back into the soil.

Branches also contain the seeds that will become the future forest and thus should be left behind. Debris deposited in waterways can alter water flow and fish habitat, and is not allowed.

Leave Low Stumps

Leaving low stumps means there is less wood wasted. Stumps should be no higher than 15 cm (six inches). The proper size is indicated in the photo to the right, while the photo below shows an oversized stump.



Photo courtesy of S.Carson



Photo courtesy of S.Carson

Did you know?

If you cut down 50 trees with an average diameter of 20 cm, leaving a 45cm high stump instead of a 15 cm stump, almost half a cubic metre of wood will be wasted. A cubic metre of wood can make almost two dining room tables, four rocking chairs, or 33 national newspapers.

Protecting Non-Timber Resources

Snag Trees

Wildlife depends on trees to survive.

In particular, birds use standing dead trees to nest, and to feed on the insects that live in these trees.

When harvesting, it is advisable to leave several trees in an area for wildlife to use.



Photo courtesy of S.Carson

Forest animals tend to prefer trees with poor form and various levels of decay. The most valuable wildlife trees are greater than 50 centimetres (20 inches) in diameter.

Denning, Nesting and Calving Areas

If you encounter a wildlife denning, nesting or calving area while cutting wood, try to avoid the area and maintain a treed buffer around the site.



Photo courtesy of P.Yates

It is also helpful if you report the site to your local wildlife office. This information can help government keep tabs on wildlife locations, populations and habitat.

Water Concerns

Water is the world's most valuable resource.

For this reason, a minimum 20-metre (65-foot) treed buffer must be left around any watercourse such as a stream, brook, lake or river. This buffer will

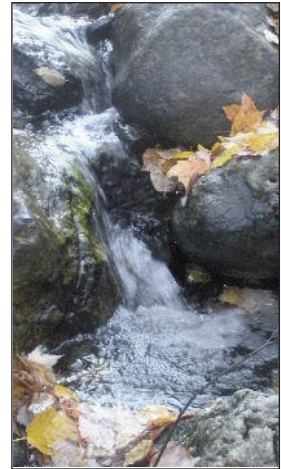


Photo courtesy of S.Carson

help avoid erosion and keep silt from entering the water. It will also help maintain water temperature, provide a corridor for wildlife, and ensure the water remains suitable for fish.

When cutting in protected water supply areas, larger buffers will apply. Check with your local district manager for details on the specific area. It is also important not to drive machinery or drag wood through water.

Did you know?

Up to half the weight of a freshly cut log is water.

Wood ash helps to neutralize soil acidity and is great for plants and gardens.

Caution in the Forest

Protecting Regeneration

Forest managers, domestic harvesters, pulp and paper companies and the people of the province want to ensure there is enough wood available for future generations. It is also important to ensure there is wood available to use right now.



Photo courtesy of A.Anderson

That's why it is important to protect existing regeneration when cutting wood. Care should be taken to protect small trees so they may grow into our future firewood and sawlogs.

Fuel Handling

Fuel and oil do not belong in nature. Fuel should be stored at least 100 metres (330 feet) from water. Even a small spill or leak of fuel or oil can have detrimental effects on water, fish and wildlife. Any fuel spill or leak should be contained and cleaned up immediately. Spills of more than 70 litres must be reported.



Photo courtesy of S.Carson

This is easier with the use of a spill kit that includes absorbent material to sop up the spill. Spills should also be reported to the Department of Environment.

Forest Fire Hazards

In dry, hot weather, a fire can spread rapidly and cause extensive damage to the forest, as well as to personal belongings and homes.



Photo courtesy of S.Carson

Every year the Minister of Forest Resources and Agrifoods declares a forest fire season. Generally, the forest fire season begins in early May and ends in late September.

An operating permit is required for anyone cutting wood commercially or domestically during fire season. In addition, chainsaws must be equipped with appropriate mufflers and screening or baffling devices to prevent sparks from escaping.

Wood cutters must also have a fire extinguisher containing a minimum of 227 grams of ABC class dry chemical with them while cutting in case a fire does start.

Did you know?

To properly season firewood, it should be cut, split and stacked in single rows for at least eight months. (Whole logs don't dry as quickly as split logs).

Contacts and Further Information



Photo courtesy of S.Carson

Forest Resources and Agrifoods District Offices

**Bay d'Espoir
(District 7)**
Tel: (709) 882-2200

**Northwest River
(Districts 19, 22,
23, 24)**
Tel: (709) 497-8479

**Bishop Falls
(Districts 4, 6,
10, 11)**
Tel: (709) 258-5334

**Paddy's Pond - St.
John's (District 1)**
Tel: (709) 729-4180

**Cartwright
(District 20, 21)**
Tel: (709) 938-7362

**Pasadena
(District 16)**
Tel: (709) 686-2071

**Clareville
(District 2, 3)**
Tel: (709) 466-7439

**Port Saunders
(District 17)**
Tel: (709) 861-3502

**Gambo
(District 4, 5)**
Tel: (709) 674-4625

**Roddickton
(District 18)**
Tel: (709) 457-2300

**Gander
(District 4, 5)**
Tel: (709) 256-1450

**Springdale
(District 9, 12)**
Tel: (709) 673-3821

**Lewisporte
(District 8)**
Tel: (709) 535-2706

**St. Georges
(Districts 13, 14)**
Tel: (709) 647-3761

**Massey Drive
(District 15)**
Tel: (709) 637-2370

**Wabush
(District 22)**
Tel: (709) 282-6881

Renewable Energy: A Guide to Residential Wood Heating

Visit the Web site at:

http://www.cmhc-schl.gc.ca/en/co/maho/enefcosa/upload/wood_heating_EN_W.pdf

Hard copies are available for purchase from the CMHC information center. Call 1-800-668-2642.

For additional information visit www.woodheat.org
This is a non-commercial site in support of responsible home heating with wood.

Survey

Name:

1. Have you cut wood in the last 12 months?
(If no, skip to Question 3).

Place of Residence/Telephone Number:

2. Please fill out the following chart to indicate where you cut wood.

Location and district	Species	Cords cut	Land Tenure*	Harvest Code**
Hardwood				
Softwood				
Slabs / scrap				
Sawlogs				

A	Crown Land
B	Company land
C	Private land

*

1	cutover, stand remnants or points
2	green standing timber - mature
3	green standing timber - immature
4	dead standing timber
5	scrub

**

Survey

3. Approximately how many cords of fuelwood did you burn in the last 12 months?

4. Approximately what percentage of your home heating is obtained from wood?

25% 50% 75% 100% burn wood for enjoyment only

5. How many sawlogs have you cut in the last 12 months? For what purpose?

6. How long have you been using wood for fuel?

7. In the future, do you plan to burn more, less, or the same amount of wood as this year?

8. In the last 12 months, how much time have you spent collecting wood? (including: preparing trails, cutting and hauling, splitting and stacking)

9. Do you have any concerns about domestic cutting practices?

10. Do you believe you have adequate access to domestic fuelwood and sawlogs? If not, what should be done to improve access to fuelwood and sawlogs?

Please return this survey to:
Model Forest of Newfoundland and Labrador
19-21 West Street
P.O.Box 68
Corner Brook, NL A2H 6C3
or fax 709-634-0255