EXTENSION NOTES

Ontario

FORESTRY TALK: A GLOSSARY OF COMMON TERMS

If you're planning to harvest trees in your woodlot or to establish a forest on your property, you may need to communicate with foresters and logging contractors along the way. This Extension Note provides a glossary of common forestry terms that will help you understand some forest management concepts and share your ideas with forestry experts. Words that appear in italic type are defined elsewhere in this glossary.

ACRE
- An area of land equal to 43,560 square feet or 0.404686 hectares
- Roughly equal to 210 feet by 210 feet or 64 metres by 64 metres

ADVANCED REGENERATION
- Young trees that have reached eye-level or above

AGE CLASS
- A category that describes trees or stands of trees of a similar age, usually within a range of 20 years
- In hardwood stands age class is often determined by measuring the diameter of a tree's trunk, rather than its actual age
- The following age classes are commonly used in Canada:

seedlings	tiny sprouts
saplings	1 to 9 centimetres
polewood	10 to 25 centimetres
small sawlogs	26 to 40 centimetres
medium sawlogs	41 to 50 centimetres
large sawlogs	greater than 50 centimetres

ALL-AGED STAND
- A stand that contains trees of all ages and sizes

ALTERNATE-ROW PLANTING
- A planting arrangement in which two different tree species are planted in alternate rows
- Often used to study how one tree *species* competes with another or develop a mixed species plantation

BASAL AREA OF A TREE
- The area, in square metres, of the cross-section of a tree measured 1.3 metres above the ground

BASAL AREA OF A FOREST OR STAND
- The area, in square metres per hectare, of the cross-section of all the trees measured 1.3 metres above the ground

BIOLOGICAL DIVERSITY (BIODIVERSITY)
- The variety and variability among living organisms and *ecosystems*
- Includes differences within and between ecosystems, differences between species and differences between members of the same species
- A high level of diversity within a species, which is known as genetic diversity, helps the species survive massive climatic and environmental changes, such as those created by pollution or global warming
- Ecosystems with a high level of diversity are more stable and support a greater number of life forms

BLOWDOWN
- A tree or group of trees that has been blown down by the wind

BREAST HEIGHT
- A spot on a tree that is 1.3 metres above ground level
- Often the place at which a tree's diameter is measured
- On a slope, breast height is measured on the uphill side of the tree

CANOPY
- An almost continuous layer of foliage formed by the crowns of older trees
- Shades the layers of vegetation below

CANOPY GAP
- A hole in the forest canopy that lets light penetrate to the forest floor
- Caused by fallen trees, fire, logging, disease, insects, wind, cutting or other disturbances
- Provides the open, sunlit conditions that many tree species need to germinate and grow

CAVITY TREE
- A standing tree, dead or live, that has a hole or holes where wildlife can make nests or *dens* or escape predators

CLEARCUT
- A large opening created by cutting all the trees in one *harvest*
- Usually regenerates to an *even-aged forest*

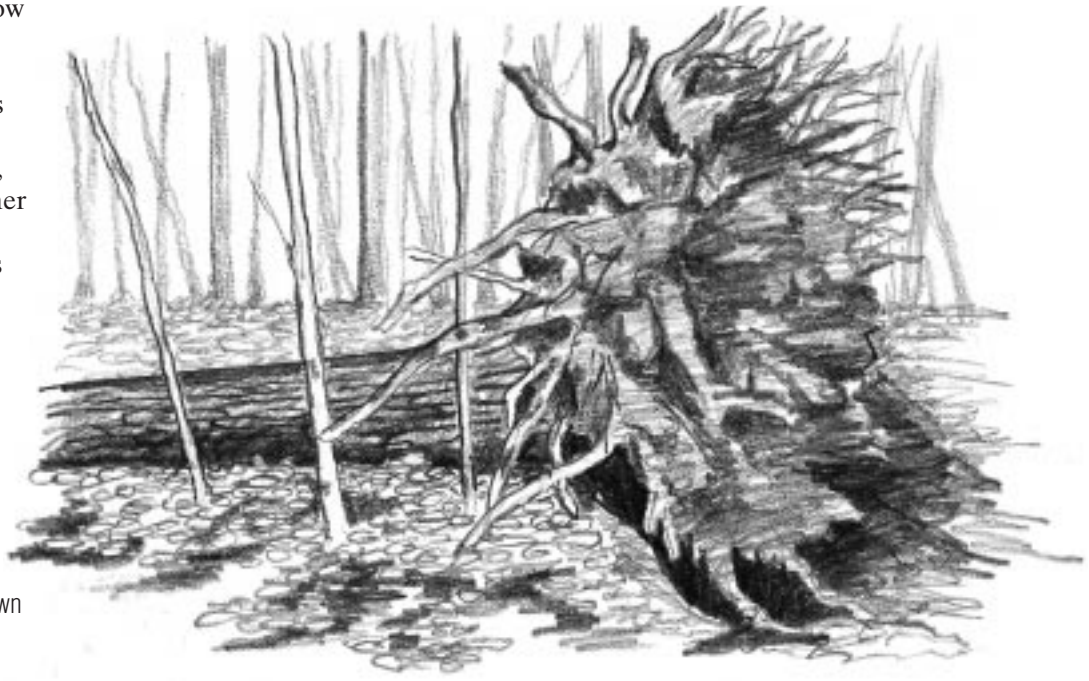
CLEARCUTTING
- A logging method in which all the trees are cut in one harvest


Cavity tree

COLONIZER
- The first *species* to grow in an open area after *clearcutting* or after a natural disturbance such as fire
- Also known as pioneer species, colonizers thrive in full sunlight
- Colonizers launch the process of *succession* by creating the conditions that other species need to grow

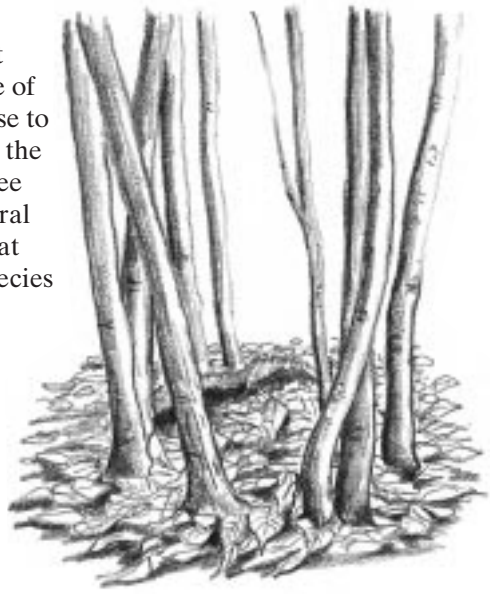
COMPARTMENT
- A group or stand of trees that is sufficiently uniform in species composition, arrangement condition and age class to be a distinguishable unit

CONIFER
- A tree which is "evergreen." It has cones and needles or scale-like leaves that are usually retained throughout the winter
- Examples include spruce, fir, pine cedar and larch
- The wood of conifers is referred to as "softwood"


Blowdown

COPPICE GROWTH

- New shoots that grow at the base of a tree in response to stresses, such as the cutting of the tree
- A form of natural *regeneration* that allows some species to reproduce without seeds



Coppice growth

CORD

- A unit of measurement for stacked round or split wood
- One bush cord has the outer dimensions of four by four by eight feet
- One face cord has the outer dimensions of 16 inches by four by eight feet and is one-third of a bush cord

CROP TREE

- A tree that is selected to grow until the final *harvest*
- Usually selected for its location, rate of growth, species and straightness

CROWN

- A tree's live branches and foliage
- When the crowns of neighboring trees touch, they form a *canopy*

DEAD WOOD

- The decaying logs that lie on the forest floor, also called "coarse woody debris"
- Provides habitat for many life forms and a source of soil nutrients
- Provides the nutrient-rich, moist conditions some tree species need to germinate and grow

DECIDUOUS

- A trees or shrub that sheds its leaves every fall
- Examples include maple, oak, birch, poplar and basswood
- The wood of deciduous trees is referred to as "hardwood"

DEN TREE

- A tree having a hollow or cavity used by animals for refuge or hibernation

DIAMETER AT BREAST HEIGHT (DBH)

- The diameter of a tree trunk measured 1.3 metres above the ground

DOMINANT SPECIES

- The most numerous and vigorous species in an area of mixed vegetation

ECOSYSTEM

- An interacting system of living organisms and their environment

EVEN-AGED FOREST

- A forest in which all the trees are within 20 years of the same age

FOREST INVENTORY

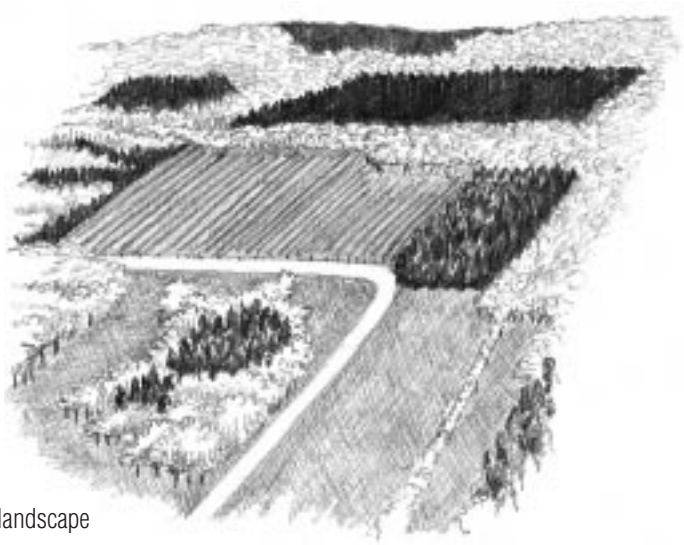
- A survey of a forest area that describes and quantifies the physical characteristics of the trees and plants, including the species present, the abundance of each species, and other measures such as height, diameter and quality
- An inventory may be done prior to the preparation of a management plan, the development of a specific work prescription, or for the purposes of establishing a value for a forest stand

FOREST STRUCTURE

- The ages and sizes of the layers of plant vegetation within a forest
- Layers may include ground vegetation, shrubs, young trees, canopy trees and *supercanopy* trees

FRAGMENTED LANDSCAPE

- An area of land in which the kind of natural vegetation that existed before European settlement has been reduced to small, disconnected parcels
- Fragmentation reduces opportunities for plants and animals to reproduce and exchange genes
- Fragmentation causes a loss of genetic diversity (see *biological diversity)*, which reduces a *species'* chance of adapting to and surviving climatic changes, pollution, disease and insect infestations



Fragmented landscape

GIRDLING
- Mechanically cutting the bark and underlying tissues all the way around the tree
- The removal of the bark by rodents, such as mice and voles
- Often kills a tree

GROUND COVER
- The layer of life that carpets the forest floor
- Includes plants, mosses and fungi

GROUP SELECTION SYSTEM
- An adaptation of the selection system, a *silviculture system* that removes some mature and/or unhealthy trees and leaves most trees to grow and regenerate the forest
- By removing groups of trees, creates *canopy gaps* where young trees can grow
- Favors mid-tolerant species that need some direct sunlight to thrive (see *tolerance*)

HABITAT
- Food, water, shelter, cover and other elements of the environment that living organisms need to survive

HARDWOODS
- Trees which are deciduous

HARVESTING
- The process of cutting trees to make wood products or fuelwood

HECTARE
- An area of land equal to 10,000 square metres (100 metres by 100 metres)
- An area of land equal to 2.47105 acres

Ground cover

HIGH-GRADING
- A form of logging that removes the most valuable trees and leaves the less valuable *species* to grow and regenerate the forest
- Changes the species composition in a forest
- Can reduce the future commercial value and health of the forest

MAST
- The fruit and seeds produced by trees and shrubs
- An important source of food for wildlife
- Soft mast are fleshy fruit such as berries
- Hard mast are shelled nuts such as acorns

Mast

MERCHANTABLE WOOD
- The part of a tree or a stand that is of commercial value for products such as lumber and veneer
- Determined by tree size and quality
- Usually a tree must be at least 10 centimetres in diameter to be considered merchantable

MICROSITE
- The site occupied by a tree

MICROCLIMATE
- The growing conditions in a small area
- Includes many aspects of the environment, such as temperature, humidity and soil conditions

NURSE CROP
- Trees that provide the shelter, shade and moist conditions that other species need to grow

NURSE LOG
- A decaying log on the ground that provides the moist, fertile conditions some tree species need to germinate and grow

Pruning

OLD GROWTH
- A forest that has a large number of the features found in the forests that grew before European settlement
- Southern Ontario's old-growth forests contained a great diversity of habitats and species, as well as trees of many ages and sizes

ORGANIC LITTER
- The layer of decomposing leaves, bark, twigs and other organic debris that lies on the forest floor

PRUNING
- Removing dead and living branches from trees
- Reduces the size of the knots in the wood and increases a tree's value for wood products such as lumber and veneer

REFORESTATION
- Establishing a new forest after the trees are cut

REGENERATION
- Young trees (noun) or the process of growing young trees (verb)
- The growth of young trees can be promoted through natural or artificial means
- Trees naturally regenerate by producing seeds or by *coppice growth*
- People artificially regenerate forests by dispersing seeds, planting trees or stimulating coppice growth

RELEASING
- Removing the vegetation near a tree that might compete with it for sunlight, water and nutrients
- Increases a tree's growth rate and chances of survival

REMOVAL CUT
- The second cut in the shelterwood *silviculture system*
- Mature trees are harvested after young trees are established below them
- Increases the growth and survival rates of young trees by providing full sunlight

SALVAGE CUT
- The process of harvesting dying or dead trees
- Used to salvage valuable timber and fuelwood and to prepare sites for *reforestation*
- Often used in forests that have been damaged by insects, disease, or fire, or to restore native vegetation to sites that were planted in the past with non-native species

SELECTING (MARKING)
- The process of choosing trees to grow as future sources of wood products or fuelwood, wildlife habitat or sources of seed for *regenerating* the forest

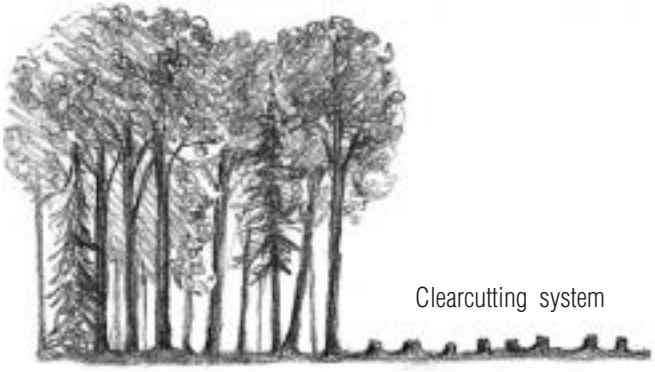
Releasing

SEED CUT
- The first cut in the shelterwood *silviculture system*
- Removes about half of the mature trees in a stand
- Creates space so that the remaining trees can develop large crowns
- Trees with large crowns produce more seeds and the shade that many species need to germinate and grow

SILVICULTURE
- The science of growing trees

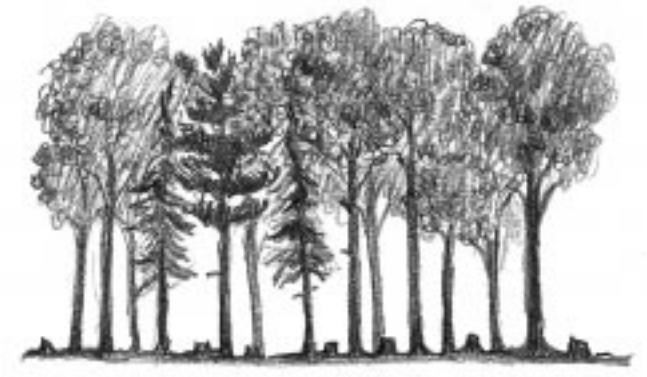
SILVICULTURE SYSTEMS
- Methods for growing, *harvesting* and *regenerating* trees
- Three main systems are used in Ontario: clearcutting, selection and shelterwood

1. Clearcutting
- All trees in a stand are removed at the same time
- The *clearcut* area can be planted with seedlings after the harvest or left to regenerate naturally



Clearcutting system

2. Selection System
- Individual trees or groups of mature and/or unhealthy trees are harvested
- Leaves most of the trees and a variety of *age classes* to grow and regenerate the forest



Selection system

3. Shelterwood System
- Mature trees are harvested in a series of two or more cuts
- Encourages *natural regeneration* in the shelter and shade of the remaining trees
- The first cut, called a *seed cut,* removes about half of the large trees, leaving the rest to develop large *crowns,* which provide seeds and shade for *regeneration*
- Subsequent cuts, called *removal cuts,* are conducted when saplings are well-established beneath the mature trees
- By removing the mature trees, the final cuts provide the new growth with sunlight and room to grow

Shelterwood system

SNAG
- A standing dead tree that is decaying
- Can provide habitat for many species
- Can be a safety hazard during logging operations

SPECIES
- A group of plants, animals or other life forms that can interbreed

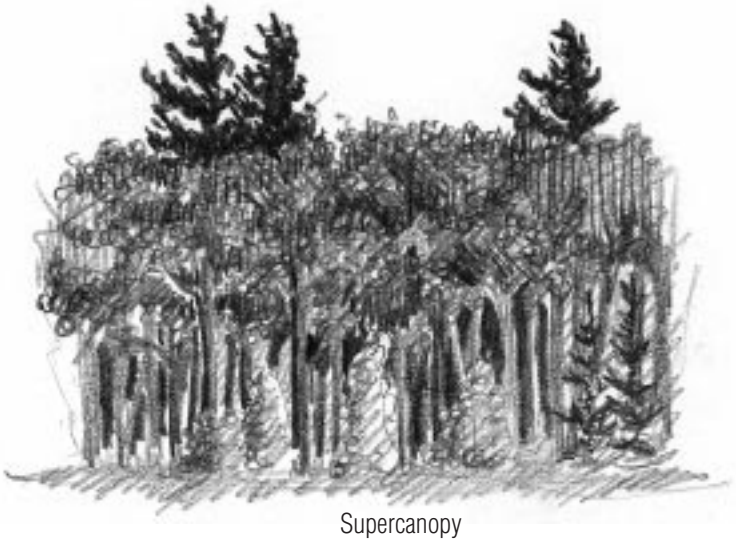
STAND
- A group of trees that can be distinguished from other vegetation by its composition, age, arrangement or condition

STOCKING
- A relative measure of the quantity of trees in a stand
- Can be expressed in terms of crown closure, and number of trees, basal area or volume per hectare

SUCCESSION
- The process of change that occurs naturally in a forest over time as one community of living organisms replaces another
- In southern Ontario, open fields and meadows often succeed to forests of intolerant species (see *tolerance*), which later evolve into mixed forests

SUPERCANOPY
- A cluster of vegetation composed of tall trees that poke through the canopy
- Usually conifers, such as white or red pines
- Provides landmarks and nesting spots for birds

Snag and coarse woody debris



Supercanopy

TENDING

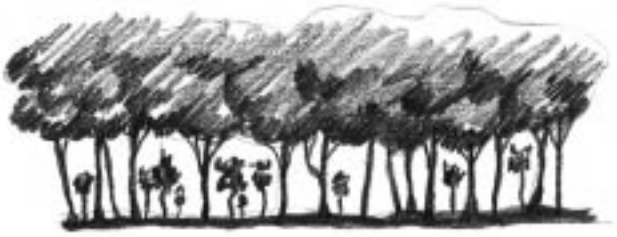
- Caring for trees
- Can include *thinning, pruning* and other measures to reduce competition
- Increases survival rate, growth rate and commercial value of trees

THINNING

- Removing some trees from a *stand*
- Decreases the density of a forest, reduces competition and gives the remaining trees room to grow larger and faster

TOLERANCE

- The ability of a plant to germinate and grow in shade
- Tolerant *species,* such as maple, hemlock and beech, can grow in shade
- Mid-tolerant species, such as oak, ash and white pine, need some sunlight to survive
- Intolerant species, such as white birch, poplar and black cherry, need full sunlight — also referred to as pioneer species
- The growth rate of all species, including tolerant species, increases when the plants are exposed to more sunlight



Tolerant species can grow in shade

Mid-tolerant species need some sunlight to survive

Intolerant species need full sunlight

Tree marking

TREE MARKING

- Selecting and marking trees to be *harvested* and trees to be left to grow
- Trees are usually marked with paint on the trunk
- In Ontario, yellow paint indicates trees that are to be cut and blue paint indicates trees that are not to be cut

UNDERPLANTING

- Planting young trees under a *canopy* of mature trees

Underplanting

UNEVEN-AGED FOREST

- A forest with trees of all ages and sizes, usually with at least three *age classes*

WOLF TREE

- Large tree, generally of poor form, with a large *crown*
- Provides good shade but crowds out young trees

USEFUL CONVERSIONS

Area — Imperial Units	Metric Equivalents
1 acre	0.404686 ha
1 square foot	0.0929030 m^2
1 square inch	6.4516 cm^2
1 square mile	2.58999 km^2
1 square yard	0.836127 m^2

Length — Imperial Units	Metric Equivalents
1 chain (66 ft)	20.1168 m
1 foot	0.3048 m
Dbh (4.5 ft)	1.3 m
1 inch	2.54 cm
1 mile	1.60934 km
1 yard	0.9144 m

Ratios — Imperial Units	Metric Equivalents
1 cord per acre	8.95647 m^3 (stacked)/ha
1 cubic foot per acre	0.0699725 m^3/ha
1 square foot per acre	0.229568 m^2/ha
1 ton (2000 lb) per acre	2.24170 t/ha

Volume— Imperial Units	Metric Equivalents
1 cord (128 stacked ft^3)	3.62456 m^3
1 cubic yard	0.764555 m^3
1 board foot	0.0024 m^3
1000 foot board measure (fbm)	195 ft^3
1000 foot board measure (fbm)	4.4 m^3
1 gallon	4.54609 l

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