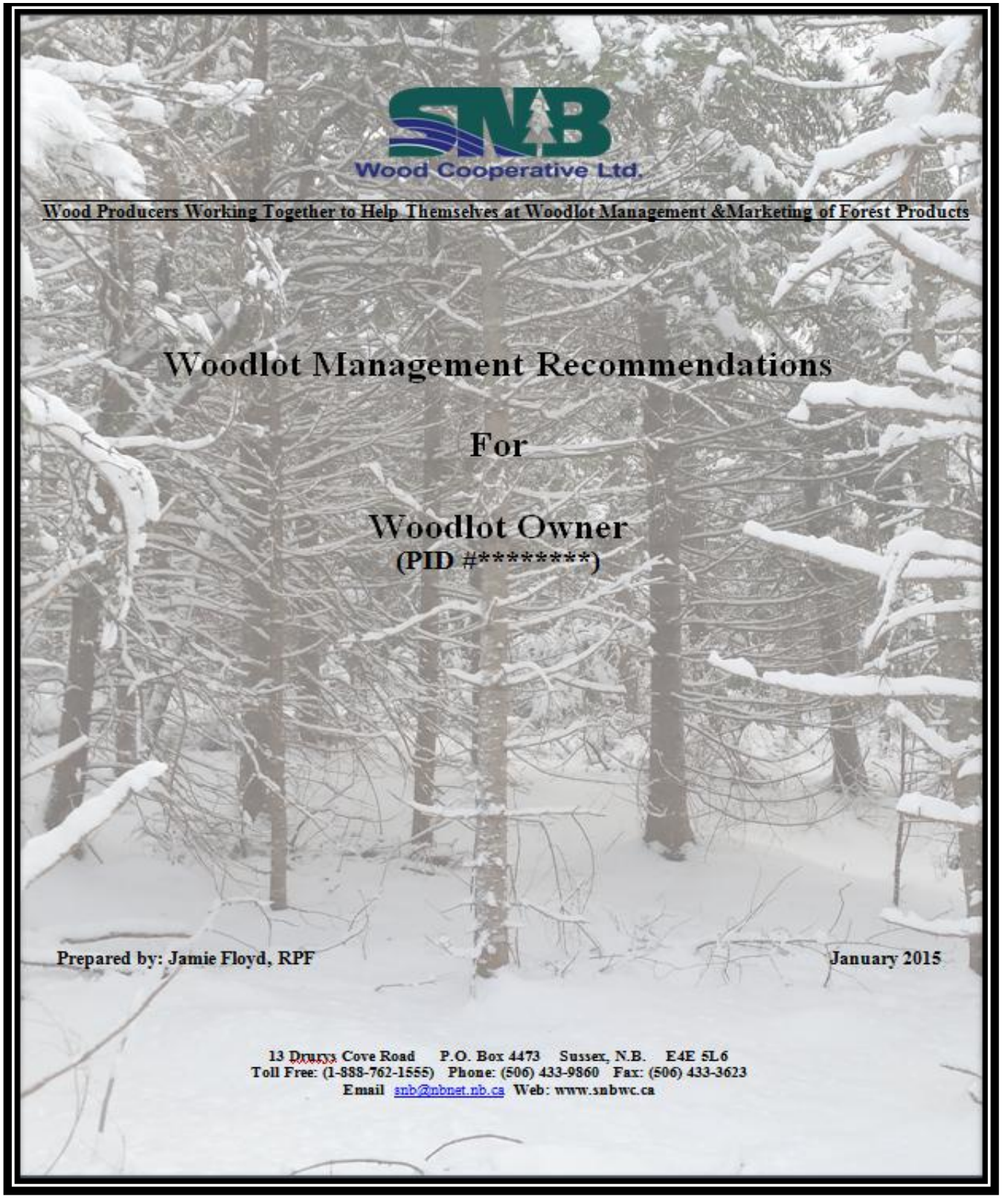


Wood Cooperative Ltd.

Wood Producers Working Together to Help Themselves at Woodlot Management &Marketing of Forest Products

Woodlot Management Recommendations

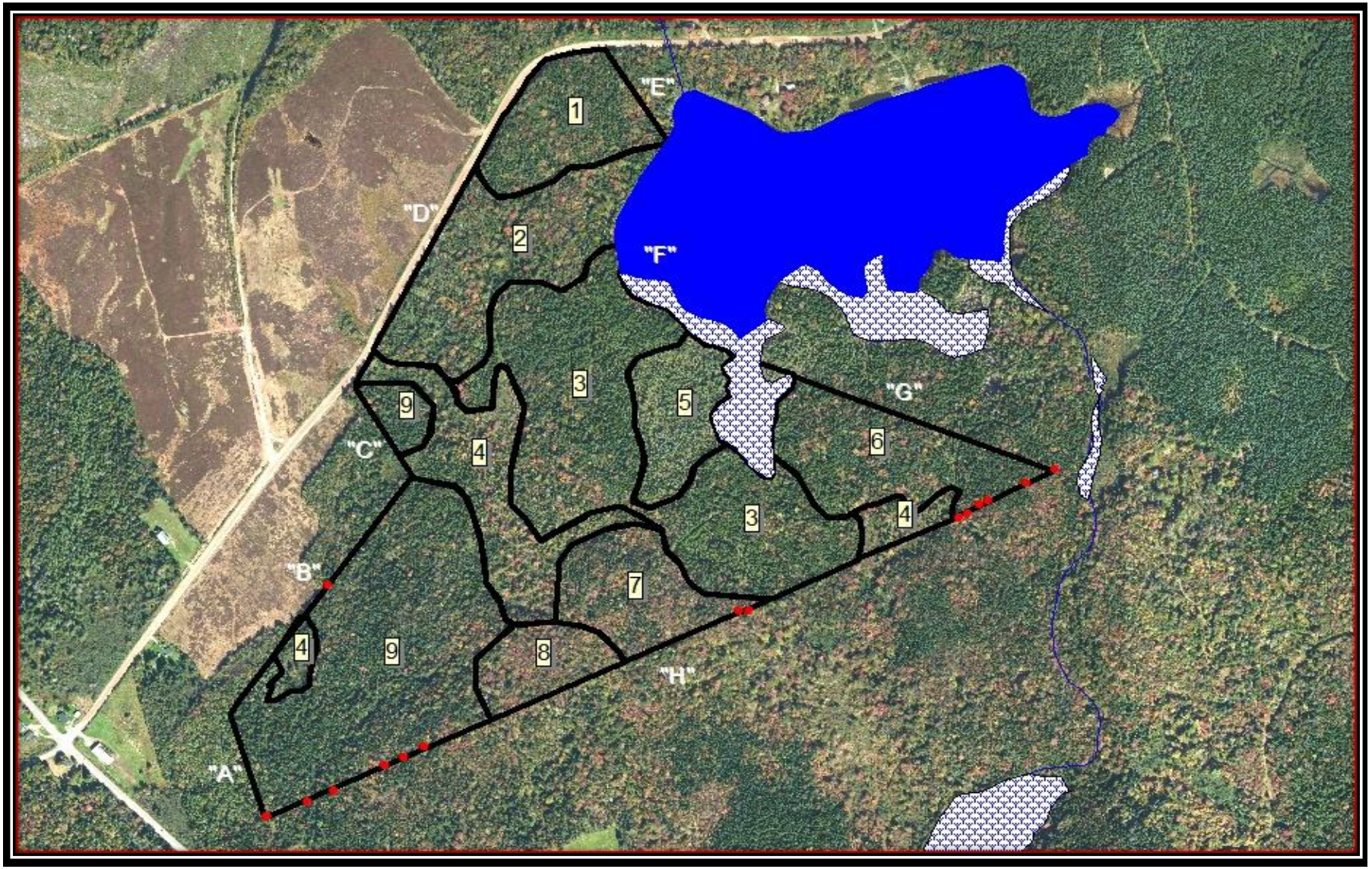
For

Woodlot Owner
(PID #******)**

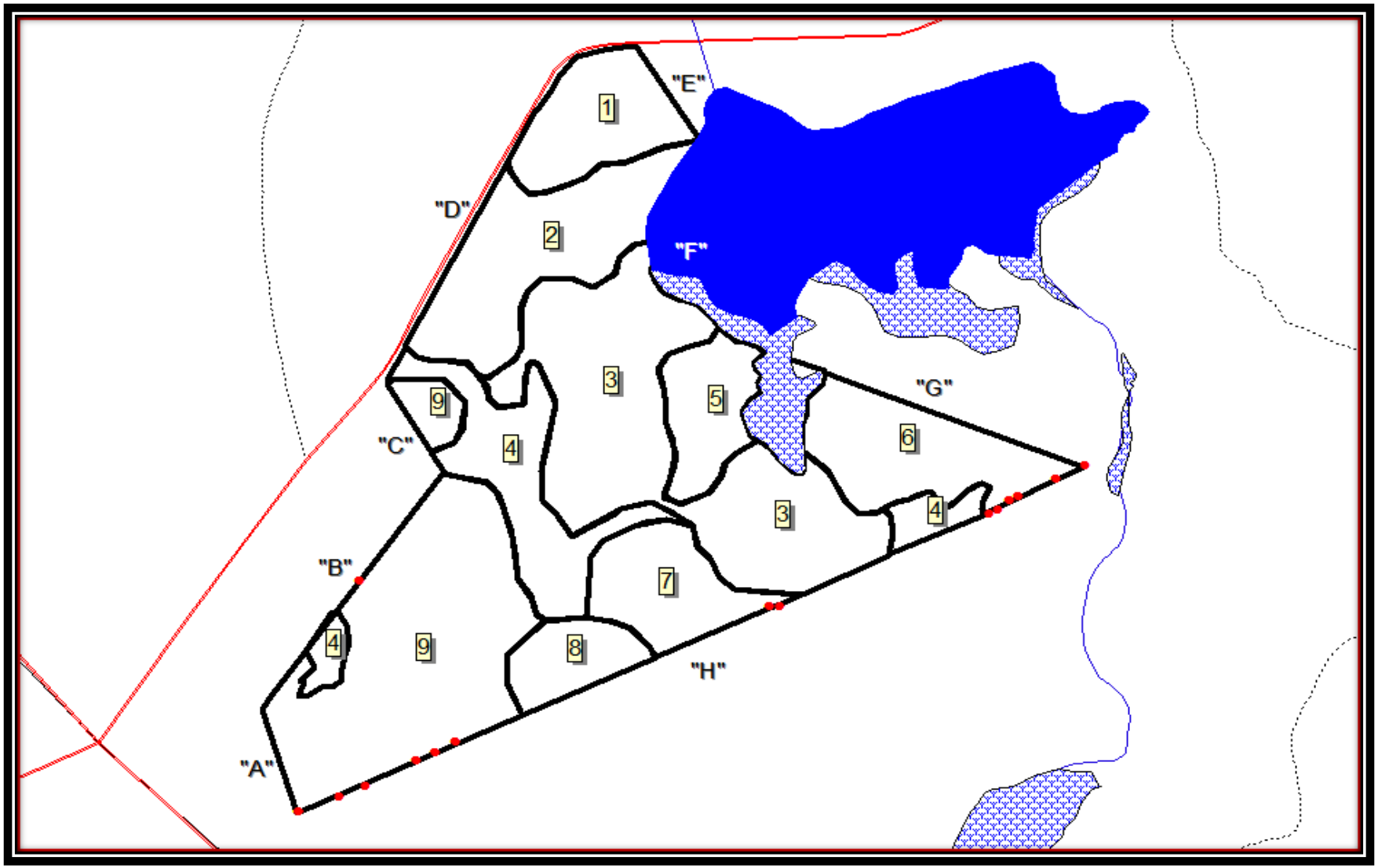
Prepared by: Jamie Floyd, RPF **January 2015**

13 Druryx Cove Road P.O. Box 4473 Sussex, N.B. E4E 5L6
Toll Free: (1-888-762-1555) Phone: (506) 433-9860 Fax: (506) 433-3623
Email snb@nbnet.nb.ca Web: www.snbwc.ca

Woodlot Owner Name



Woodlot Owner Name



Statement of Intent

This woodlot management plan is prepared to:

1.) Identify and clarify the owner's objectives for the woodlot.

2.) Present an accurate description of existing conditions on the woodlot.

3.) Make recommendations consistent with the owner's objectives for woodlot management activities on the woodlot.

4.) Make recommendations, which will improve the overall health and productivity of the woodlot without unnecessary depletion of the woodlot resources.

5.) Create an action plan for woodlot management activities.

WOODLOT OWNER INFORMATION

Owner Name:	********		Woodlot Size:		
Mailing Address:	********	Wooded-	107.5	acres	43.5 ha
		Wetland	3.5	acres	1.4 ha
		Total-	111.0	acres	44.9 ha

Phone No.:
Work:
Cell No.: ********
Other:
Fax:
Email: ********

Woodlot Location: ********
PID No.: ********

NB Atlas Map No.: ********
Aerial Photo: ********

Owner History and Objectives:

*** and his son **** are both Forest Technicians and have there own forest management business. They own all the gear necessary to build roads, cut the wood and truck it to the mill. Any forest management work necessary on any of their woodlots that is required, they will be more than capable of getting it completed.

*****and **** are both interested in improving the health and productivity of their woodlots by salvaging any decadent wood, creating the ideal habitat conditions for deer and other wildlife to thrive in and also to reforest any areas without sufficient natural regeneration remaining after the harvesting has been completed.

Any government or SNB assistance programs are of interest to **** in order for him to reach his forest management goals and objectives.

Woodlot Management Recommendations

Boundary Line Conditions

Line #	Evidence Found	Type of Evidence		
A	No	Painted Blazes	and	Flagging Tape
B	Yes	Barbwire fence		
C	No	Not observed during the field inspection		
D	Yes	East Scotch Settlement Road		
E	Yes	Painted Blazes	and	Flagging Tape
F	Yes	Painted Blazes	and	Flagging Tape
G	Yes	Painted Blazes	and	Flagging Tape
H	Yes	Painted Blazes	and	Flagging Tape

Maintenance required to Lines:

Line "A" was blazed and painted yellow. Line "B" was represented by some old high cut off stumps and barbwire fence. Line "C" were not observed during the field inpsection and should be retraced blazed and painted as soon as possible. Line "D" was represented by the **********. Lines "E", "F" and "G" were easily located and just recently (2-3 years ago) blazed and painted "SNB" blue. Line "H" was blazed and painted yellow on the western end and sporadic old blue and orange painted blazes and flagging tape on eastern end. Line "H" should be blazed and painted in the near future to make it easier to locate.

Other Comments:

Note: Each boundary line for the woodlot has been given a letter of the alphabet designated to it for description purposes. The aerial photograph included with this report, shows all the boundary lines for the woodlot and the corresponding letter designated to it.

Access Conditions:

Overall Rating: Good

Existing roads/trails present:

This woodlot has great access to it with the ********** with a small log loanding already contructed on it. A few old woods roads and skidder trails that have grown in over the years.

Road Upgrades required:

If any forestry treatments are necessary, they would be best completed in the winter months to minimize rutting, due to some of the area being poorly drained. The existing old woods roads and trails cab be easily opened up again once they are cut out with the harvester and travelled upon with the porter or skidder.

Woodlot Management Recommendations

Stand #:	1	Acres:	7.5

Stand Description

Stand Origin:	Thinned Previously
Stand Age Class:	Immature to Mature

Development Stage 1

Species:	Fir	Red Spruce	White Birch	Grey Birch	Yellow Birch
Percentage of Species	75	10	10	< 5	< 5
Average Stand Height(feet):	15-20				
Crown closure(%):	70-80				
Est. Cords/acre:	20-25				

Comments: This stand was pre-commercially thinned in 1999. Excellent tree growth over the years with most of the trees being in the 6"-10" diameter range and exhibiting 30%-40% live crowns.

Woodlot Management Recommendations (continued)

Understory

Species:	Fir	Red Spruce
Percentage of Species	80	20
Average Stand Height(inch):	1-5 feet	
Stocking level(%):	70-80	
Density	Scattered Dense Patches	
Non-commercial species:	Alders, serviceberry, mosses, pin cherry, hardhack, ferns, golden rod and grey birch.	
Comments:	In the dense balsam fir areas, a thick carpet of young balsam fir seedlings can be found along the stand margins or where trees have fallen out of the stand.	

Topographic Conditions

Aspect:	South East
Slope (%):	0-5
Drainage:	Moderate Drainage
Terrain:	Level

Stand Health

Insect Damage:	Present	Type/Extent:	Woolly Adelgid	Moderate
Animal Damage:	Not Present	Type/Extent:		
Wind throw	Present	Type/Extent:		Moderate
Ice Damage	Not Present	Type/Extent:		
Disease	Not Present	Type/Extent:		
Comments:	Heavy mortality was evident from extensive blowdowns, dead standing, broken off trees and thinning crowns found throughout this area. Adelgid damage, heavy winds and old age has caused this stand to deteriorate rapidly over the past several years.			

Wildlife

Habitat suited for:	Deer	Ruffed Grouse	Porcupine	Squirrel
Wildlife Observed	Squirrel			
Options to improve habitat:	n/a			
Comments:	Deer populations are low in this area and only one track was observed. No longer a great area for winter cover and refuge, due to the stand health.			

Environmental Concerns

Wetland:	no	Buffer required:	
Lake	yes	Buffer required:	30 meters
Watershed Area:	no	Name:	
Municipal Boundary:	no	Name:	
Ground prone to rutting:	yes		
Comments:	Some areas are fairly damp and poorly drained. These areas should only be operated on during the frozen winter months. A 30 m buffer will need to be placed along Jacks Lake.		

Stand Recommendation

Type:	Harvest
Treatment Timing (years):	1-3
Comments:	This stand should be harvested to salvage volume and improve the overall health of the stand. After the harvesting is complete, the area should be evaluated for a potential reforestation treatment.

Woodlot Management Recommendations

Stand #:	2	Acres:	13.0

Stand Description

Stand Origin:	A Clear-Cut in Past				
Stand Age Class:	Mature				
Development Stage 1					
Species:	Balsam Fir	White Birch	Red Maple	Red Spruce	Yellow Birch
Percentage of Species	50	25	10	5	5
Average Stand Height(feet):	40-50				
Crown closure(%):	40-50				
Est. Cords/acre:	15-20				

Comments: This area has been developing overtime from being clearcut ~30-40 years ago. The majority of the area is comprised of immature-mature balsam fir patches (6"-8" in diameter), 40-50 feet tall and running ~20 cord/acre, which were too young to harvest in the past. Several immature patches of dense balsam fir, white birch and grey birch, 2"-4" were found throughout as well. Scattered throughout the stand are residual large, mature red spruce, white birch and yellow birch with diameters of 14"-16" and with the red spruce reaching heights of 70-80 feet.

Woodlot Management Recommendations (continued)

Understory

Species:	Fir	Red Spruce
Percentage of Species	80	20
Average Stand Height(inch):	1-5 feet	
Stocking level(%):	70-80	
Density	Scattered Dense Patches	
Non-commercial species:	Alders, hazel bushes, ferns, mosses, bunchberry and sarsaparilla.	
Comments:	In the dense balsam fir areas, a thick carpet of young balsam fir seedlings can be found along the stand margins or where trees have fallen out of the stand.	

Topographic Conditions

Aspect:	South East
Slope (%):	0-5
Drainage:	Moderate Drainage
Terrain:	Level

Stand Health

Insect Damage:	Present	Type/Extent:	Woolly Adelgid	Moderate	
Animal Damage:	Present	Type/Extent:	Deer	Very Slight	Chewed off trees
Wind throw	Present	Type/Extent:		Moderate	
Ice Damage	Not Present	Type/Extent:			
Disease	Not Present	Type/Extent:			
Comments:	Heavy mortality was evident from extensive blowdowns, dead standing, broken off trees and thinning crowns found throughout this area. Adelgid damage, heavy winds and old age has caused this stand to deteriorate rapidly over the past several years.				

Wildlife

Habitat suited for:	Deer	Ruffed Grouse	Squirrel	Rabbit
Wildlife Observed	Squirrel			
Options to improve habitat:	None			
Comments:	Lots of squirrel, rabbit and a few deer tracks observed.			

Environmental Concerns

Wetland:	no	Buffer required:	
Lake	yes	Buffer required:	30m
Watershed Area:	no	Name:	
Municipal Boundary:	no	Name:	
Ground prone to rutting:	yes		
Comments:	Some areas are fairly damp and poorly drained. These area should only be operated on during the frozen winter months. A 30 m buffer will need to be placed along Jacks Lake.		

Stand Recommendation

Type:	Harvest
Treatment Timing (years):	1-3
Comments:	This stand should be harvested to salvage volume and improve the overall health of the stand. After the harvesting is complete, the area should be evaluated for a potential reforestation treatment.

Woodlot Management Recommendations

Stand #:	3	Acres:	25.0

Stand Description

Stand Origin:	Partial Harvested in Past
Stand Age Class:	Immature to Mature

Residuals

Species:	Fir	Red Spruce	White Birch	Red Maple	Cedar
Percentage of Species	40	20	20	10	5
Average Stand Height(feet):	40-50				Black Spruce
Crown closure(%):	60-70				5
Est. Cords/acre:	20-25				

Comments: This area has been developing overtime from being clearcut ~30-40 years ago. The majority of the area is comprised of immature-mature balsam fir patches (4"-7" in diameter), 40-50 feet tall and running ~20 cord/acre, which were too young to harvest in the past. Scattered throughout the stand are patches of large, mature red spruce, 6"-12" in diameter and reaching heights of 60-70 feet. A few open grown areas are found throughout with covered mostly with shrubs, mosses and a few scattered non-commercial hardwoods.

Woodlot Management Recommendations (continued)

Understory

Species:	Fir	Red Spruce	Grey Birch
Percentage of Species	80	10	10
Average Stand Height(feet):	5-15		
Stocking level(%):	20-30		
Density	Scattered Dense Patches		
Non-commercial species:	Grey birch, winterberry, wild raisin, lambkill , bunchberry, sphagnum moss, blueberries, ferns, and sarsaparilla.		
Comments:	Dense patches of advanced balsam fir regeneration was observed scattered throughout the area. Heavy patches of ferns observed in the open areas of the stand.		

Topographic Conditions

Aspect:	South East
Slope (%):	0-5
Drainage:	Imperfect
Terrain:	Hummocky

Stand Health

Insect Damage:	Present	Type/Extent:	Woolly Adelgid	Moderately Severe
Animal Damage:	Not Present	Type/Extent:		
Wind throw	Present	Type/Extent:		Slight
Ice Damage	Not Present	Type/Extent:		
Disease	Not Present	Type/Extent:		
Comments:	Heavy mortality was observed in all of the immature-mature balsam fir and some of the mature-overmature red spruce and white birch. Many dead standing, broken tops and thinning crowns were observed.			

Wildlife

Habitat suited for:	Deer	Wood Pecker	Rabbit
Wildlife Observed	n/a		
Options to improve habitat:	n/a		
Comments:	Great bedding area for the local deer herd. A few deer tracks and trails observed.		

Environmental Concerns

Wetland:	yes	Buffer required:	
Lake	yes	Buffer required:	30m
Watershed Area:	no	Name:	
Municipal Boundary:	no	Name:	
Ground prone to rutting:	yes		
Comments:	Some areas are fairly damp and poorly drained. These area should only be operated on during the frozen winter months. A 30 m buffer will need to be placed along Jacks Lake and the adjacent wetland.		

Stand Recommendation

Type:	Harvest
Treatment Timing (years):	1-3
Comments:	The balsam fir, white birch and any decadent red spruce, should be harvested from this area ASAP before any further volume is lost. Some of the immature red maple should be left to further develop and for a future seed source.

Woodlot Management Recommendations

Stand #:	4	Acres:	12.0

Stand Description

Stand Origin:	Natural				
Stand Age Class:	Wetland				
Development Stage 1					
Species:	Fir	Black Spruce	Red Maple	Red Spruce	White Birch
Percentage of Species	60	15	10	5	5
Average Stand Height(feet):	30-40				Tamarack
Crown closure(%):	5-10				5
Est. Cords/acre:	0-5				

Comments: Wetland area with a small stream running through the middle. Very stunted growth for all softwood trees and heavy mortality in white birch trees. A few dry islands with some 3"-6' immature balsam fir are scattered throughout but generally are found along the stand margins.

Woodlot Management Recommendations (continued)

Understory

Species:	Fir	Black Spruce	Red Spruce
Percentage of Species	80	10	10
Average Stand Height(feet):	5-15		
Stocking level(%):	5-10		
Density	Scattered Dense Patches		
Non-commercial species:	Alders, bog laurel, rhodora, blueberries, winterberry, wild raisin, lambkill, bunchberry and sphagnum moss.		
Comments:			

Topographic Conditions

Aspect:	South East
Slope (%):	0-5
Drainage:	Very Poor
Terrain:	Level

Stand Health

Insect Damage:	Present	Type/Extent:	Woolly Adelgid	Slight
Animal Damage:	Not Present	Type/Extent:		
Wind throw	Present	Type/Extent:		Very Slight
Ice Damage	Not Present	Type/Extent:		
Disease	Not Present	Type/Extent:		
Comments:	Very stunted tree growth throughout.			

Wildlife

Habitat suited for:	Beavers	Ducks	Moose	Porcupine
Wildlife Observed				
Options to improve habitat:				
Comments:				

Environmental Concerns

Wetland:	yes	Buffer required:	30 meters
Stream:	yes	Buffer required:	30 meters
Watershed Area:	no	Name:	
Municipal Boundary:	no	Name:	
Ground prone to rutting:	yes		
Comments:	Very sensitive area that should not have any forest management operations attempted in.		

Stand Recommendation

Type:	Leave to Provide Wildlife Habitat
Treatment Timing (years):	n/a
Comments:	

Woodlot Management Recommendations

Stand #:	5	Acres:	5.5

Stand Description

Stand Origin:	Wetland				
Stand Age Class:	Wetland				
Development Stage 1					
Species:	Black Spruce	Fir	Tamarack	White Birch	Red Spruce
Percentage of Species	65	20	10	< 5	< 5
Average Stand Height(feet):	20-30				
Crown closure(%):	5-10				
Est. Cords/acre:	5-10				

Comments: Black spruce bog area. Very stunted growth for all softwood trees and heavy mortality in the white birch trees. A few dry islands with some 3"-6" immature balsam fir are scattered throughout but generally are found along the stand margins.

Woodlot Management Recommendations (continued)

Understory

Species:	Black Spruce	Fir	Red Spruce		
Percentage of Species	80	10	10		
Average Stand Height(feet):	5-15				
Stocking level(%):	30-40				
Density	Scattered Dense Patches				
Non-commercial species:	Alders, bog laurel, rhodora, blueberries, winterberry, wild raisin, lambkill, bunchberry and sphagnum moss.				
Comments:					

Topographic Conditions

Aspect:	South East
Slope (%):	0-5
Drainage:	Very Poor
Terrain:	Level

Stand Health

Insect Damage:	Present	Type/Extent:	Woolly Adelgid	Slight
Animal Damage:	Not Present	Type/Extent:		
Wind throw	Present	Type/Extent:		Moderately Severe
Ice Damage	Not Present	Type/Extent:		
Disease	Not Present	Type/Extent:		
Comments:	Very stunted tree growth throughout. Heavy mortality in the black and red spruce, with many dead standing stubs and thinning crowns observed.			

Wildlife

Habitat suited for:	Rabbit	Porcupine	Moose	Deer
Wildlife Observed				
Options to improve habitat:	None			
Comments:	Lots of rabbit tracks and a great sanctuary for deer.			

Environmental Concerns

Wetland:	yes	Buffer required:	30 meters
Stream:	yes	Buffer required:	30 meters
Municipal Boundary:	no	Name:	
Ground prone to rutting:	yes		
Comments:	Very sensitive area that should not have any forest management operations attempted in.		

Stand Recommendation

Type:	Leave to Provide Wildlife Habitat
Treatment Timing (years):	n/a
Comments:	

Woodlot Management Recommendations

Stand #:	6	Acres:	9.5

Stand Description

Stand Origin:	Thinned Previously			
Stand Age Class:	Immature			
Development Stage 1				
Species:	Fir	Red Spruce	White Birch	Red Maple
Percentage of Species	50	10	15	5
Average Stand Height(feet):	15-20			
Crown closure(%):	70-80			
Est. Cords/acre:	20-25			

Comments: This was an even-aged, softwood stand. The stand was previously pre-commercially thinned in 1999. The pre-commercial thinning treatment has created a more productive forest, as less competition has allowed the stand to gain more volume. There were some areas growing better then others, based on the soils and drainage levels. The better drained, richer soils, were producing taller, more productive trees. Small pockets of alders, and suppressed fir/spruce were located in the low lying, poorly drained areas. The stand averaged 6-7 inches at breast height.

Woodlot Management Recommendations (continued)

Understory

Species:	Black Spruce	Fir
Percentage of Species	80	20
Average Stand Height(inch):	1-5 feet	
Stocking level(%):	5-10	
Density	Light	
Non-commercial species:	Lambkill, Labrador tea, blueberries, wild raisin, speckled alders, and mountain holly.	
Comments:	The advanced regeneration was suppressed.	

Topographic Conditions

Aspect:	Flat
Slope (%):	0-5
Drainage:	Moderate Drainage
Terrain:	Level

Stand Health

Insect Damage:	Not Present	Type/Extent:	Woolly Adelgid	Slight
Animal Damage:	Not Present	Type/Extent:		
Wind throw	Not Present	Type/Extent:		
Ice Damage	Not Present	Type/Extent:		
Disease	Present	Type/Extent:	Witches Broom	Slight

Comments: The overall health was good; however, the quality of the spruce was much higher then the quality of the fir. The balsam fir was beginning to show some signs of decay in places.

Wildlife

Habitat suited for:	Moose	Bear	Deer
Wildlife Observed	n/a		

Options to improve habitat: Leaving this stand to develop naturally would help provide cover, and maintain the riparian buffer.

Comments: Cover is an important component to winter habitat.

Environmental Concerns

Wetland:	yes	Buffer required:	30 meters
Stream:	yes	Buffer required:	30 meters
Watershed Area:	no	Name:	
Municipal Boundary:	no	Name:	
Ground prone to rutting:	yes		

Comments: This stand was prone to rutting, and should be considered for a winter harvest only. A 30 meter riparian buffer is required. Approximately 30% of the basal area within the buffer zone may be harvested with proper environmental permits.

Stand Recommendation

Type: Commercial Thinning

Treatment Timing (years): 4-5

Comments: Some areas would benefit from a commercial thinning treatment in the next 1-3 years, while other areas should be assessed in the next 4-5 years. Other areas would not qualify for a commercial thinning treatment, due to the high density of balsam fir, and/or white birch. This was not a high priority stand due to the location, and amount of volume to be removed. Leaving this stand to develop naturally would benefit both the wildlife and environment.

Woodlot Management Recommendations

Stand #:	7	Acres:	7.0

Stand Description

Stand Origin:	A Clear-Cut in Past				
Stand Age Class:	Mature				
Development Stage 1					
Species:	Balsam Fir	White Birch	Red Maple	Red Spruce	Yellow Birch
Percentage of Species	40	30	10	10	5
Average Stand Height(feet):	40-50				
Crown closure(%):	40-50				
Est. Cords/acre:	10-15				

Comments: Very similar to Stand #2 only on a dry, south facing knoll. This area has been developing overtime from being clearcut ~30-40 years ago. The majority of the area is comprised of immature-mature balsam fir patches (6"-8" in diameter), 40-50 feet tall and running ~20 cord/acre, which were too young to harvest in the past. Several immature patches of dense balsam fir, white birch and grey birch, 2"-4" were found throughout as well. Scattered throughout the stand are residual large, mature red spruce, white birch and yellow birch with diameters of 16"-18" and with the red spruce reaching heights of 70-80 feet.

Woodlot Management Recommendations (continued)

Understory

Species:	Fir	Red Spruce
Percentage of Species	80	20
Average Stand Height(inch):	1-5 feet	
Stocking level(%):	10-20	
Density	Scattered Dense Patches	
Non-commercial species:	Alders, hazel bushes, ferns, mosses, bunchberry and sarsaparilla.	
Comments:	In the dense balsam fir areas, a thick carpet of young balsam fir seedlings can be found along the stand margins, or where trees have fallen out of the stand. Very acidic ground.	

Topographic Conditions

Aspect:	South East
Slope (%):	0-5
Drainage:	Moderate Drainage
Terrain:	Level

Stand Health

Insect Damage:	Present	Type/Extent:	Woolly Adelgid	Moderate	
Animal Damage:	Present	Type/Extent:	Deer	Very Slight	Chewed off trees
Wind throw	Present	Type/Extent:		Moderate	
Ice Damage	Not Present	Type/Extent:			
Disease	Not Present	Type/Extent:			

Comments: Heavy mortality was evident from extensive blowdowns, dead standing, broken off trees and thinning crowns found throughout this area. Adelgid damage, heavy winds and old age has caused this stand to deteriorate rapidly over the past several years. Most white and yellow birch are very stunted, with crooked stems and heavy limbs.

Wildlife

Habitat suited for:	Deer	Ruffed Grouse	Squirrel	Rabbit
Wildlife Observed	Squirrel			
Options to improve habitat:	None			
Comments:	Lots of squirrel, rabbit and a few deer tracks observed.			

Environmental Concerns

Wetland:	no	Buffer required:	
Stream:	no	Buffer required:	
Watershed Area:	no	Name:	
Municipal Boundary:	no	Name:	
Ground prone to rutting:	yes		

Comments: Some areas are fairly damp and poorly drained. These area should only be operated on during the frozen winter months.

Stand Recommendation

Type:	Harvest
Treatment Timing (years):	1-3

Comments: This stand should be harvested to salvage volume and improve the overall health of the stand. After the harvesting is complete, the area should be evaluated for a potential reforestation treatment.

Woodlot Management Recommendations

Stand #:	**8**	Acres:	**4.0**

Stand Description

Stand Origin:	A Clear-Cut in Past			
Stand Age Class:	Sapling			
Development Stage 1				
Species:	Red Maple	White Birch	Grey Birch	Yellow Birch
Percentage of Species	50	30	10	5
Average Stand Height(feet):	40-50			
Crown closure(%):	80-90			
Est. Cords/acre:	5-10			

Comments: This area was clearcut ~30-40 years ago. This scenic, unique hardwood knoll area, has developed into a very thick, dense stand with diameters in the 4"-6" range. Many of trees in the area have grown from stump sprouts with generally 5-7 stems in each clumps. This stand appears to be situated on a gravelly knoll by the looks of the slope (20%) and topography. A couple beech and balsam fir were observed.

Woodlot Management Recommendations (continued)

Understory

Species:	n/a	n/a	n/a	n/a	n/a
Percentage of Species	n/a	n/a	n/a	n/a	n/a
Average Stand Height(feet):	n/a	n/a	n/a	n/a	n/a
Stocking level(%):	n/a	n/a	n/a	n/a	n/a
Density	n/a	n/a	n/a	n/a	n/a

Non-commercial species: Bunchberry, mosses, blueberries, ferns, goldenrod and sarsaparilla.

Comments: No regeneration was observed.

Topographic Conditions

Aspect: North East

Slope (%): 15-20

Drainage: Moderate Drainage

Terrain: Hummocky

Stand Health

Insect Damage:	Not Present	Type/Extent:
Animal Damage:	Not Present	Type/Extent:
Wind throw	Not Present	Type/Extent:
Ice Damage	Not Present	Type/Extent:
Disease	Not Present	Type/Extent:

Comments: The trees are currently growing well with full healthy crowns found throughout.

Wildlife

Habitat suited for: Deer Wood Pecker Rabbit

Wildlife Observed: n/a

Options to improve habitat: n/a

Comments: Great refuge area for the local wildlife.

Environmental Concerns

Wetland:	no	Buffer required:
Stream:	no	Buffer required:
Watershed Area:	no	Name:
Municipal Boundary:	no	Name:
Ground prone to rutting:	no	

Comments:

Stand Recommendation

Type: Harvest

Treatment Timing (years): 20-22

Comments: This stand is currently doing well on its own and simply needs more time increase in size and volume.

Woodlot Management Recommendations

Stand #:	9	Acres:	24.0

Stand Description

Stand Origin:	A Clear-Cut in Past				
Stand Age Class:	Immature to Mature				
Development Stage 1					
Species:	Balsam Fir	Red Spruce	White Birch	Red Maple	Yellow Birch
Percentage of Species	70	10	10	5	< 5
Average Stand Height(feet):	40-50			Cedar	Trembling Aspen
Crown closure(%):	40-50			< 5	< 5
Est. Cords/acre:	10-15				

Comments: Very similar to Stand #2 only a much higher fir content. This area has been developing overtime from being clearcut ~30-40 years ago. The majority of the area is comprised of immature-mature balsam fir patches (6"-8" in diameter), 40-50 feet tall and running ~20 cord/acre, which were too young to harvest in the past. Several immature patches of dense balsam fir and a few white birch, 1"-3" were found throughout as well. Scattered throughout the stand are residual large, mature red spruce, white birch and yellow birch with diameters of 16"-18" and with the red spruce reaching heights of 70-80 feet. A small brook was observed along the northern boundary of Stand 10. Along the brook there were some mature-overmature balsam fir 6"-10" and were starting to decline quickly.

Woodlot Management Recommendations (continued)

Understory

Species:	Fir	Red Spruce
Percentage of Species	80	20
Average Stand Height(inch):	1-5 feet	
Stocking level(%):	10-20	
Density	Scattered Dense Patches	
Non-commercial species:	Winterberry, hazel bushes, ferns, mosses, bunchberry and sarsaparilla.	
Comments:	In the dense, decadent balsam fir areas, a dense carpet of young balsam fir seedlings can be found along the stand margins, or where trees have fallen out of the stand. Very acidic ground.	

Topographic Conditions

Aspect:	North East
Slope (%):	0-5
Drainage:	Moderate Drainage
Terrain:	Level

Stand Health

Insect Damage:	Present	Type/Extent:	Woolly Adelgid	Moderate	
Animal Damage:	Present	Type/Extent:	Deer	Very Slight	Chewed off trees
Wind throw	Present	Type/Extent:		Moderate	
Ice Damage	Not Present	Type/Extent:			
Disease	Not Present	Type/Extent:			

Comments: Heavy mortality was evident from extensive blowdowns, dead standing, broken off trees and thinning crowns found throughout this area. Adelgid damage, heavy winds and old age has caused this stand to deteriorate rapidly over the past several years. Most white and yellow birch are very stunted, with crooked stems and heavy limbs.

Wildlife

Habitat suited for:	Deer	Ruffed Grouse	Squirrel	Rabbit
Wildlife Observed	Squirrel			
Options to improve habitat:	None			
Comments:	Lots of squirrel, rabbit and a few deer tracks observed.			

Environmental Concerns

Wetland:	no	Buffer required:	
Stream:	yes	Buffer required:	5m
Watershed Area:	no	Name:	
Municipal Boundary:	no	Name:	
Ground prone to rutting:	yes		

Comments: Some areas are fairly damp and poorly drained. These area should only be operated on during the frozen winter months.

Stand Recommendation

Type:	Harvest
Treatment Timing (years):	1-3

Comments: This stand should be harvested to salvage volume and improve the overall health of the stand. After the harvesting is complete, the area should be evaluated for a potential reforestation treatment.

Recommended Action Plan
For
Woodlot Owner Name

Priority	Stand	Activity		Valid Until
1	**n/a**	Perform described boundary line work	*	
2	**1, 2, 3, 7, 8 & 9**	Harvest		2018
3	**6**	Commercial Thinning	*	2020
11	**4 & 5**	Leave to Provide Wildlife Habitat		n/a

*** Stands which may qualify for assistance.**

Commonly Used Forestry Terms

Afforestation The establishment of a tree crop on an area from which it has always or very long been absent, i.e.: fields, pits, etc.

Age Class A distinct group of trees or portion of growing stock recognized on the basis of age.

All-aged A forest, crop, or stand that contains trees of all, or almost all, age classes, including those of exploitable age.

Artificial Regeneration Renewal of a tree crop by direct seeding or by planting seedlings or cuttings.

Basal Area The basal area of a tree is the area in square meters (or feet) of the cross section at breast height of the stem.

The basal area of a forest, stand or forest type is the area in square meters (or feet) per hectare of the cross section at breast height of all the trees.

Bush-hogging/cutting The removal of undesirable woody plant species (bushes) from a site in preparation for afforestation.

Canopy The more or less continuous cover of branches and foliage collectively by the crowns of adjacent trees.

Chemical Weed Control Plantation tending performed by applying herbicides to kill competing vegetation.

Clear-cut Harvests The harvesting of all merchantable trees from an area of forest land.

Commercial Thinning A thinning which yields harvested trees of commercial size and value, which are removed from the site for commercial or consumptive purposes.

Coppice Method A method of regenerating a forest stand in which the cut trees produce sprouts or suckers.

Crop Tree Any tree selected to become or forming a component of the final crop.

Crop Tree Release The removal of trees from the dominant and co-dominant crown classes to favour the crown development of selected crop trees of those same crown classes.

Crown The part of a tree bearing live branches and foliage.

Crown Closure The assessment of the proportion of the ground covered by the forest canopy overhead; normally expressed as a percentage; 100% being completely closed in.

Development Cutting In the shelterwood system, cutting to free or release the established seedlings to develop rapidly in height and more rapidly than undesirable competitors.

Diameter at Breast Height (DBH) The stem diameter of a tree measured at breast height (1.3 m above ground level). Unless otherwise stated, applies to the outside bark dimension.

Diameter Limit Harvesting Removal of all merchantable trees above a specified minimum diameter, which in mixed stands may vary with species.

Direct Seeding The artificial systematic sowing of seeds by manual or mechanical means in an area on which a forest stand is to be raised.

Ecosystem The sum of the plants, animals, environmental influences, and their interaction within a particular habitat.

Epicormic Shoot A shoot arising from a dormant or adventitious bud on the stem or branch of a woody plant.

Establishment The process of developing a crop of seedlings to the stage at which the young trees may be considered established. i.e.: safe from normal browsing and no longer in need of special protection or special tending, but only routine cleaning, thinning and pruning.

Even-aged A forest stand or forest type in which relatively small age differences exist between individual trees. The differences in age permitted are usually 10 to 20 years, if the stand will not be harvested until it is 100 or 200 years old. Larger differences up to 25% of the rotation age may be allowed.

Even-aged Systems Silviculture systems in which stands have an even-aged structure.

Fill-Planting The planting of trees in naturally regenerated areas of 40% to 60% natural stocking to achieve the desired level of stocking; usually 90%.

Final Removal In the shelterwood system, the last removal cutting of the parent stand canopy often successful natural regeneration has established and is free to grow.

Fords A crossing located in a watercourse where the water is shallow enough to be travelled by a motor vehicle and where the banks and the bed of the channel are stable enough that use of the crossing will not result in any disturbance to the channel.

Full Planting The reforestation of a site of less than 40% natural stocking to achieve 90% stocking.

Group Selection Method A method of regenerating uneven-aged stands in which trees are removed in small groups.

Herbicide Any chemical preparation used to kill or inhibit the growth of forbs, grasses, woody plants, and their seeds.

Hy-grade Harvesting A partial harvest removing only the most valuable species or trees of desirable size and quality without regard for the condition of the residual stand.

Immature In even-aged management, those trees or stands that have grown past the regeneration stage but are not yet mature.

Indiscriminate Clear-cut Harvesting Clear-cut harvesting applied to an area of forest land in the absence of the consideration of the knowledge of silvics appropriate to the area.

Inter-Planting The up-grading of the stocking on a previously full-planted site to achieve 90% stocking.

Irregular Shelterwood System Harvest cutting in which opening of the canopy is irregular and gradual; generally in groups, with the final cutting often in strips; regeneration is natural; the regeneration interval is long, often up to half the rotation, and the resultant crop considerably uneven-aged and irregular.

Live-Crown Ratio A rough but convenient index of the ability of a tree's crown to nourish the remaining part of the tree; it is the percentage of length of stem having living branches.

Mature In even-aged management, those trees or stands that are sufficiently developed to be harvestable and that are at or near rotation age (includes over-mature trees and stands for which an over-mature class has not been recognized).

Mechanical Site Preparation The full or partial preparation of a site for afforestation by mechanical means as opposed to manual or chemical.

Merchantable Of a tree or stand that has attained sufficient size, quality and/or volume to make it suitable for harvesting. Does not imply accessibility, economic or otherwise

Mixed stand A stand composed of two or more species in which less than 30% of the trees in the main crown canopy are of a single species.

Mortality Death or destruction of forest trees as a result of competition, disease, insect damage, drought, wind, fire, old age, and other factors, excluding harvesting.

Mowing The removal of herbaceous vegetation by mechanical means from a site in preparation for afforestation.

Natural Regeneration A tree crop which has been renewed by natural seeding, sprouting, suckering or layering.

Old growth A stand of mature or over-mature trees relatively uninfluenced by human activity.

Over-mature In even-aged management, those trees or stands past the mature stage.

Partial Harvest Any harvest in which only part of the stand is harvested.

Plantation Cleaning A release treatment made in a plantation not past the sapling stage to free the favoured trees from less desirable species of the same age that over-top them or are likely to do so.

Plantation Tending The removal (manual, chemical, etc.) of competing vegetation from a recently established plantation for the purpose of achieving a "free-to-grow" state for the crop trees.

Pre-Commercial Thinning A thinning that does not yield trees of commercial size or value, usually designed to improve crop spacing (density) in stands of the regeneration to sapling development stage.

Prescribed Clear-cut Harvesting The application of the knowledge of silvics, in the determination of clear-cut harvesting as a silviculturally sound method to harvest an area of forest land.

Pre-scribed Harvesting Any harvest performed by following a written statement which is based upon the knowledge of silvics as applied to the site, usually defining the objectives to be attained and critical factors to be involved in aspects of the harvest.

Pruning The removal of live or dead branches from standing trees by natural or artificial means.

Reforestation The artificial regeneration of a site from which a forest stand has been removed, typically in a "cut-over" state.

Regeneration Cut Any removal of trees intended to assist regeneration already present or to make regeneration possible.

Release Cutting Freeing a group of trees from more immediate competition by cutting or otherwise eliminating growth that is over-topping or closely surrounding them.

Residual Removal The removal of established residual trees from a previously disturbed site, where they would hinder the development of a new crop of natural or artificial regeneration; crown closure is usually less than 25%.

Rotation The time period from the regeneration of crop trees through to harvestable timber

Salvage Cutting The harvesting of trees that are dead, dying, or deteriorating (e.g.: because of over-maturity or materially damaged by fire, wind, insects, fungi or other injurious agencies) before their timber value becomes worthless.

Sanitation Cutting The removal of dead, damaged, or susceptible trees, essentially to prevent the spread of pests or pathogens and so to promote forest hygiene.

Sapling A loose term for a young tree no longer a seedling but not yet a pole, about 1-2 m high and 2-4 cm in dbh, typically growing vigorously and without dead bark or more than occasional dead branches. Also, a young tree having a diameter at breast height greater than 1 cm but less than the smallest merchantable diameter.

Scarification Breaking up the forest floor in preparation for artificial regeneration, natural seeding or the occurrence of coppice or sucker growth.

Seed Cutting In the shelterwood system, usually the first cutting to encourage the development of thrifty seed bearers and to open up enough vacant growing space in a single operation to allow the establishment of regeneration.

Seed Tree Method A method of regenerating a forest stand in which all trees are removed from an area except for a small number of seed-bearing trees that are left singly or in small groups. The objective is to create an even-aged stand.

Selection Harvesting Periodic cutting of trees chosen individually or by groups, in order to recover the yield and develop or maintain a balanced un-even aged stand structure, while providing the cultural measures required for tree growth and seedling establishment. The cuts are usually a mix of regeneration cuts and stand development cuts and will provide the opportunity for regular entries without ever clear cutting the stand.

Self-pruning The inherent ability of a tree species to shed dead branches at their junction with the live stem.

Semi-Commercial Thinning A thinning that yields trees of both commercial and non-commercial size or value, usually designed to improve crop spacing and crown development, in stands of the sapling to young development stage.

Shade Tolerance The relative capacity of a species to become established and persist under a canopy.

Shelterwood Cut Any regeneration cutting in a more or less regular and mature crop, designed to establish a new crop under the protection (overhead or side) of the old, as typically in shelterwood systems, or where the resultant crop will be more or less regular.

Silviculture The application of the knowledge of silvics in the continuous cycle of stand establishment, development, harvesting, establishment ..., to meet the needs and values of landowners and society on a sustainable basis.

Site Preparation The preparation of sites for afforestation, including the removal of undesirable vegetation, and preparation or provision of top soil, as necessary.

Slash The residue left on the ground after felling and tending and/or accumulating there as a result of storm, fire, girdling or poisening

Snag A standing dead tree from which the leaves and most of the branches have fallen.

Spacing The distance between trees in a plantation, a thinned stand, or a natural stand.

Stand A community of trees possessing sufficient uniformity in composition, age, arrangement, or condition to be distinguishable from the forest or other growth on adjoining areas.

Stand Development Any treatment in a stand during that portion of the rotation not included in the stand harvest (final) or establishment periods. The primary objective of the group of treatments is to improve stand volume, quality and/or piece size for the future.

Stand Establishment The process of developing a crop (forest stand) to the stage at which the young trees may be considered established, i.e.: safe from normal browsing and no longer in need of special protection or special tending, but only routing cleaning, thinning and pruning.

Stocking A qualitative expression of the adequacy of tree cover on an area, in terms of crown closure, number of trees, basal area, or volume, in relation to a pre-established norm. In this context, "tree cover" includes seedlings and saplings; hence, the concept carries no connotation of a particular age. Stocking may be described in regionally or locally developed classes, or as a percentage of regional or local normal standards, which vary according to site-specific conditions.

Strip Clear Cutting Removal of the crop in strips in one or more operations, generally for protecting fragile sites, or visually apparent view scapes.

Strip Shelterwood System A shelterwood system in which regeneration cuttings are carried out on fairly narrow strips, generally against the prevailing wind, and progress rapidly; regeneration is mainly natural, the regeneration interval is short, and the resultant crop fairly even-aged and regular.

Sustainable Forestry Management of forested area in order to provide wood products in perpetuity, soil and watershed integrity, persistence of most native species and maintenance of highly sensitive species or suitable conditions for continued evolution of species.

Thicket A dense growth of small trees or bushes.

Two Pass Harvesting The cutting of an even-aged stand in two distinct harvesting interventions of variable intervals, usually to remove the shorter lived, intolerant species and to allow the longer rotation species to be harvested in the second intervention, thereby capturing potential morality in the interim.

Two-Storied Stand A forest stand in which two height classes of considerable difference occur, the overstory and understory. The term is not applicable to a forest in process of reproduction, in which the appearance of two stories is due to a seed tree or shelterwood cut before final cut.

Under-Planting The planting of young trees under the canopy of an existing stand.

Uneven-aged A stand which contains three or more well-defined age classes of trees intermingling on the same area.

Uneven-aged Systems A silviculture system in which stands have an un-even aged structure of 3 or more age classes.

Uniform Selection Method Is a method of selection harvesting in which trees are removed more or less uniformly throughout the stand. This treatment is aimed at the creation or maintenance of balanced uneven-aged (3 or more age classes) stands which will provide the opportunity for regular entries, without ever clearcutting the stand.

Uniform Shelterwood System A shelterwood system in which the canopy is opened fairly evenly throughout the regeneration area; regeneration is mainly natural, though it may be supplemented artificially; the regeneration interval is fairly short and the resultant crop more or less even-aged and regular.

Variable Thinning The removal of trees to control stand spacing and favour desired trees using a combination of thinning criteria/methods without regard to crown position.

WOOD MEASUREMENT CONVERSION FACTORS

Notes on Units:

- λ One GMT (green metric tonnes with bark on)
- λ M3 (cubic meters, solid wood, no bark)
- λ STM3 (stacked cubic meter, no bark)
- λ Cunit (solid wood, no bark)
- λ Cord (with bark on)
- λ ODMT (oven dry metric tonne, solid wood, no bark)
- λ MFBM (1,000 foot board measure, solid wood, no bark)

SOFTWOOD

UNITS	GMT	M3	STM3	CUNITS	CORDS	ODMT	MFBM
ONE GMT	1.00	1.16	1.99	.41	.55	.41	190
M3	.87	1.00	1.72	.35	.47	.35	164
STM3	.51	.58	1.00	.21	.28	.21	84
CUNIT	2.45	2.83	4.88	1.00	1.33	.99	464
CORD	1.84	2.12	3.62	.75	1.00	.74	348
ODMT	2.47	2.87	4.92	.99	1.32	1.00	471
MFBM	5.26	6.10	11.98	2.16	2.87	2.12	1,000

HARDWOOD OR BIRCH

UNITS	GMT	M3	STM3	CUNITS	CORDS	ODMT	MFBM
ONE GMT	1.00	.95	1.89	.34	.52	.53	171
M3	1.04	1.00	1.97	.35	.54	.55	179
STM3	.53	.51	1.00	.18	.28	.28	91
CUNIT	2.95	2.83	5.57	1.00	1.54	1.56	505
CORD	1.92	1.84	3.62	.65	1.00	1.01	329
ODMT	1.90	1.82	3.59	.65	.99	1.00	325
MFBM	5.85	5.61	11.05	1.99	3.04	3.10	1,000

POPLAR

UNITS	GMT	M3	STM3	CUNITS	CORDS	ODMT
ONE GMT	1.00	1.03	1.69	.37	.46	.41
M3	.97	1.00	1.64	.35	.44	.39
STM3	.59	.61	1.00	.22	.28	.24
CUNIT	2.74	2.83	4.57	1.00	1.25	1.11
CORD	2.19	2.26	3.62	.80	1.00	.89
ODMT	2.47	2.54	4.12	.90	1.13	1.00

USEFUL CONVERSIONS

Area – Imperial Units	Metric Equivalents
1 acre	0.404686 ha
2.47105 acres	1 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

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) per acre	2.234170 t/ha
1 miles per gallon	0.354006 km/L

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

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
1,000 foot board measure (fbm)	195 ft^3
1,000 foot board measure (fbm)	4.4 m^3
1 gallon	4.54609 L

CONVERSION FACTORS FOR ROUNDWOOD

	Multiplied By	Softwood	Cedar	White Pine	Hardwood	
m.f.b.m.		6.1	6.1	6.1	6.1	= m^3
m^3 st		0.5836*	0.5625*	-	0.5078*	= m^3
Cord		2.11526*	2.03881*	-	1.84055*	= m^3
Cunit		2.83168	2.83166	2.83168	2.83168	= m^3
* 2.44 m Rough Pulpwood						

CONVERSION FACTORS FOR SAWMILL RESIDUE

	Multiplied By	Softwood	Poplar	Hardwood	
Bone Dry Tons (BDT)		2.593	2.310	1.6837	= m^3
Green Tons (GT)		1.297	1.155	0.818	= m^3
Bone Dry Tonnes (BDt)		2.860	2.546	1.804	= m^3
Green Tonnes (Gt)		1.430	1.274	0.903	= m^3
NOTE: Oven Dry is Same as Bone Dry					