

PROPERTY DESCRIPTION

This property is located on Route #205, known as the Klondyke Road, in Kings County. The property is a long strip of land that runs north from the road. There is a beautiful stream about 2m wide half-way through the property with a reasonably healthy riparian zone. Another stream is present in the southeast property corner and a boggy area is located in the northwest corner of the property. As with most Prince Edward Island properties, some sections were farmed in the past and most areas have been heavily harvested at least once. The former agricultural land is in the southern and northern sections of the property. The healthiest and most valuable tree communities are found in the central area of the property and these areas should provide excellent seed sources for other parts of the property.

The property contains six plantations – one black spruce, one white spruce, one red spruce, one red pine and two white pine. The northern end of the property is an old field with a white spruce stand that is now beginning to break up. It is surrounded by clearcuts on the north, west and east, which increases the wind and is speeding up the blowdown of the spruce.

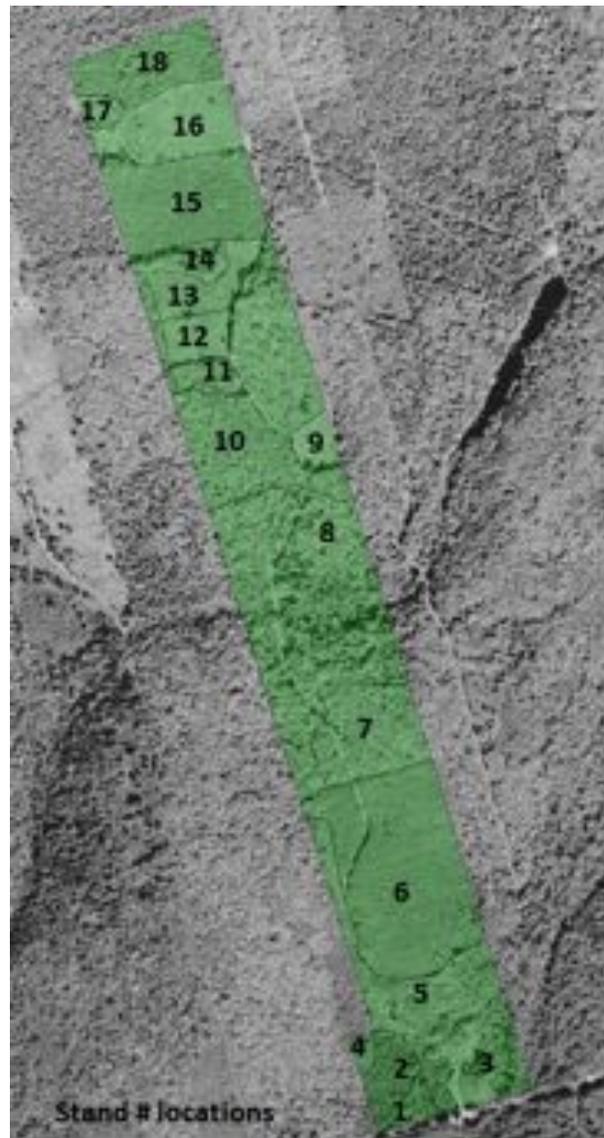
The forest road should provide excellent access but will need extensive work before the northern section can be accessed by any machines. There has been extensive erosion taking place for years on the steep approach from southern side of wooden bridge. The bridge itself is rotting and prevents vehicles from going any further.



Special notes:

This property will be able to produce a variety of fuelwood and hardwood lumber, just from the removal of poor quality trees that can be found throughout the forest. Generally, a sustainable harvest level is approximately 4.5 cubic meters per hectare (one-half cord per acre) annually from healthy Island forests. Sustainable harvesting practices will actually improve the quality of trees within the woodland by the strategic extraction of trees, such as the removal of a cankered American beech overshadowing a young yellow birch.

At the same time, it is critical to ensure that adequate wildlife trees remain throughout the property. In all stands, improving forest health and future woodland value through proper pruning and enhancement plantings makes good sense. The sale of wood products will help fund some of the other silviculture practices that will be carried out on the property, such as pruning and planting, that will not generate any income for many years.



STAND TREATMENTS

Stand #1 (0.36ha): This stand is located in the southwest corner of the property and slopes 16% to the southeast with a relatively even forest floor. This stand is a mix of trembling aspen and white spruce, with some red maple. Many of the trees are crooked or bent over, giving a messy appearance to the stand.

Drainage: high

Watercourse: no

Ploughed: yes

Origin: partial cut

Dominant and codominant trees:

#1: trembling aspen	45% of stand	age: 20	Diameter: 16.3cm	Ht: 20m
#2: white spruce	40% of stand	age: 25	Diameter: 16cm	Ht: 14.7m
#3: red maple	10% of stand	age: 20	Diameter: 13cm	Ht: 14.4m
#4: gray birch	5% of stand	age: 15	Diameter: 12.7cm	Ht: 13.1m

Tree source: stump sprout and root sucker - 20%; seed - 80%; plantation: 0%

Maturity class: immature

Canopy description: tall, open and patchy

Stocking: fully stocked

Tree quality: low

Regeneration <5m: medium #1: balsam fir Ht: 0.3m; #2: striped maple Ht: 0.1m;

#3: trembling aspen Ht: 0.1m

Tree species: trembling aspen, red maple, grey birch, white birch, striped maple, white spruce, balsam fir

Other plants: pin cherry, speckled alder, European mountain ash, bayberry, blueberry, raspberry, white violet, starflower, old man's beard, two different sedge (spp)

Total % ground cover: 10% moss; 0% shrub; 0% flower; 5% tree; 85% leaf litter

Coarse woody debris amount: low

Size of CWD: small

Number of snags: low

Quality of snags: low

Wildlife: snowshoe hare browse, red squirrel feeding

Treatment:

1. Prune and release and good quality red maple.
2. Enlarge existing openings for plantings and harvest any good quality wood during that process. Plant sugar maple, yellow birch, eastern hemlock, red spruce, white pine, witch hazel and highbush cranberry.
3. Girdle 2-3 of the larger, poor-quality trembling aspens to create snags trees for cavity nesters.

Stand #2 (0.67 ha): This stand is a typical black spruce plantation, with some white spruce that has naturally seeded in. The stand is located in the front of the property on the western hand side of the forest road. For the most part, the forest floor is devoid of vegetation, except for a few small areas. Some of the black spruce is hybridized with red spruce.

Drainage: high

Watercourse: no

Ploughed: yes

Origin: old field, plantation

Dominant and codominant trees:

#1: black spruce 90% of stand age: 31 Diameter: 14.5cm Ht: 10.3m

#2: white spruce 10% of stand age: 31 Diameter: 15.1cm Ht: 10.5m

Tree source: stump sprout 0%; seed - 10%; plantation - 90%

Maturity class: immature

Canopy description: closed and dark

Stocking: fully stocked

Tree quality: medium

Regeneration <5m: almost none

Tree species: black spruce, white spruce, balsam fir, grey birch, trembling aspen, red maple

Other plants: European mountain ash, clintonia, narrowleaf goldenrod, whorled wood aster, Canada goldenrod

Total % ground cover: 25% moss 0% shrub 0% flower 0% tree 75% leaf litter

Coarse woody debris amount: low

Size of CWD: small

Number of snags: low

Quality of snags: low

Wildlife: heard Canada geese, chipmunk, red squirrel

Treatment:

1. This stand needs an increase in biodiversity. Cut three 8-10m diameter patches in the spruce and plant red oak, yellow birch, white ash, white pine, eastern hemlock, American mountain ash and beaked hazelnut.

Stand #3 (1.15 ha): This stand is located in the southeast corner of the property and slopes towards the south. The stand is a mix of different plant species and tree ages, as the original homestead was in this area. Remnants of the old orchard remain, as do many non-native species that were used for landscaping in the area. There are still large open areas around the old house foundation. In the southeast section of the stand, there is a small watercourse with a flood plain containing a lot of speckled alder. There are large eastern larch growing along the west stream bank of the stream. There is garbage in this area from an encampment

Drainage: high

Watercourse: yes

Ploughed: yes

Origin: old field

Dominant and codominant trees:

#1: trembling aspen 50% of stand age: 30-40 Diameter: 21.5cm Ht: 19m

#2: white spruce 30% of stand age: 50-60 Diameter: 16 cm Ht: 12.2 m

Tree source: stump sprout 0%; seed - 100%; plantation - 0%

Maturity class: mix of immature and mature trees

Canopy description: patchy with some openings

Stocking: understocked

Tree quality: medium

Regeneration <5m: medium low #1: sugar maple Ht: 0.1m #1: balsam fir Ht: 0.5m

Tree species: trembling aspen, red maple, yellow birch, grey birch, sugar maple, white birch, American elm, wild apple (spp), white spruce, eastern larch, balsam fir

Other plants: pin cherry, alternate-leaf dogwood, European mountain ash, serviceberry, wild raisin, several non-native species of rose, speckled alder, downy alder, rosa rugosa, Japanese honeysuckle, ninebark, barberry, raspberry, bayberry, blueberry, Virginia creeper, aster (spp) narrow-leaf goldenrod, Canada goldenrod, Canada thistle, wild strawberry, hawkweed, sunflower, fireweed, dandelion, common speedwell, wood fern, old man's beard

Total % ground cover: 0% moss; 50% shrub; 25% wildflower; 10% tree

Coarse woody debris amount: low-medium

Size of CWD: small

Number of snags: medium

Quality of snags: high

Wildlife: sapsucker drilling on trees, signs of predation leaving only grouse fathers, hummingbird, black-throated green warbler, white-throated sparrows, blue-headed vireo, northern parula, American robin, dark-eyed junco, lots of woodpecker nesting and feeding holes in dead elm trees.

Treatment:

1. Prune and release any good quality crop trees.
2. There are some large trembling aspen that could be girdled to increase the number of large snag trees for wildlife.
3. This area will primarily be used to demonstrate restoration. Plant or underplant sugar maple, red oak, white ash, white pine, eastern hemlock, witch hazel and highbush cranberry in suitable areas throughout the stand.

4. There is a large Norway maple close to the forest road in the northern section of the stand. It should be cut before it starts spreading and establishes itself in the stand and later in the rest of the property.

Stand #4 (0.13 ha): This tiny stand is located in a small area north of Stand # 2. It is comprised almost entirely of large-tooth aspen.

Drainage: high

Watercourse: no

Ploughed: yes

Origin: clear cut

Dominant and codominant trees:

#1: large-tooth aspen 95% of stand age: 40+ Diameter: 27cm Ht: 23.2m

Tree source: stump and root sprout - 80%; seed - 20% plantation 0%

Maturity class: mature

Canopy description: tall

Stocking: full

Tree quality: high

Regeneration <5m: #1: balsam fir Ht: 0.1m #2: sugar maple Ht: 0.1m

#3: white spruce Ht: 0.1m

Tree species: large-tooth aspen, American beech, sugar maple, yellow birch, white birch, red maple, white spruce

Other plants: wild raisin, wood fern, Indian pipe

Total % ground cover: 0% moss 0% shrub 0% flower 5% tree 90% leaf litter

Coarse woody debris amount: low

Size of CWD: small

Number of snags: none

Quality of snags: N/A

Wildlife: golden-crowned kinglet

Treatment:

1. Prune and good quality sugar maple, yellow birch and clean American beech.
2. Harvest some of the large-tooth aspen to give room to others in the stand.
3. Underplant the area with eastern hemlock, red spruce, witch hazel and hobblebush.
4. Any poor quality large-tooth aspen that are losing vigour can be girdled to improve the area for cavity-nesting birds.

Stand #5 (1.89 ha): This stand is the first hardwood stand as you are heading north along the forest road. The stand has high-quality trees and is dominated with sugar maple with a mix of trembling aspen and American beech. The western section of the stand has slightly larger trees, while the eastern section has some clean young beech. There are patches of relatively mature trembling aspen and balsam fir scattered throughout the stand. The area above the old homestead has a lot of sugar maple regeneration. There has been some experimental planting of ground hemlock in this stand. While many are surviving, the results to date are not encouraging.

Drainage: high

Watercourse: no

Ploughed: no

Origin: clear cut

Dominant and codominant trees:

#1: sugar maple	35% of stand	age: 35	Diameter: 13.8cm	Ht: 15.1m
#2: red maple	25% of stand	age: 35	Diameter: 14.8cm	Ht: 15.6m
#3: trembling aspen	25% of stand	age: 35	Diameter: 32cm	Ht: 21.1m
#4: American beech	10% of stand	age: 35	Diameter: 14.3cm	Ht: 15.3m

Tree source: stump sprout - 60%; seed - 40%; plantation: 0%

Maturity class: mature

Canopy description: tall and closed, with side light

Stocking: full

Tree quality: medium high

Regeneration <5m: medium #1: balsam fir Ht: 0.5m #2: sugar maple Ht: 0.1m

#3: American beech Ht: 0.1m #4: trembling aspen Ht: 0.1m #5: red maple Ht: 0.1m

#5: yellow birch Ht: 0.1m

Tree species: sugar maple, red maple, trembling aspen, American beech, yellow birch, grey birch, white birch, striped maple, white pine, white spruce, balsam fir

Other plants: pin cherry, ground hemlock, blueberry, Canada goldenrod, hawkweed, wild lily-of-the-valley, aster (spp), sedge (spp), Indian pipe, hay-scented fern, wood fern, lung lichen

Total % ground cover: 0% moss 0% shrub 0% flower 20% tree 75% leaf litter

Coarse woody debris amount: low

Size of CWD: small

Number of snags: low

Quality of snags: medium

Wildlife: Swainson's thrush

Treatment:

1. Prune and release any good quality sugar maple, yellow birch, white birch, red maple and clean American beech. This should produce small amounts of fuelwood. Regular interventions will eventually turn this area into a high-quality hardwood stand.
2. Underplant the area with a mix of red spruce, eastern hemlock, yellow birch, beaked hazelnut, witch hazel, hobblebush, round-leaf dogwood, Christmas fern, interrupted fern, hairy sweet cicely, yellow violet, and other rare wildflowers as they become available.

Stand #6 (4.22 ha): This area is very similar to Stand #5 but younger. The stand looks healthy and could produce good-quality hardwood lumber in the future with appropriate treatments. The stand slopes to the east and close to the middle of the stand is a dump site along the forest road.

Drainage: high

Watercourse: no

Ploughed: no

Origin: clear cut

Dominant and codominant trees:

#1: sugar maple	30% of stand	age: 25	Diameter: 10.3 cm	Ht: 14m
#2: American beech	30% of stand	age: 25	Diameter: 8.7cm	Ht: 12.7m
#3: trembling aspen	20% of stand	age: 25	Diameter: 16cm	Ht: 17.2m
#4: white birch	10% of stand	age: 25	Diameter: 10.5cm	Ht: 14.3m

Tree source: stump sprout: 15% seed: 85% plantation: 0%

Maturity class: mature

Canopy description: tall and closed

Stocking: overstocked

Tree quality: medium

Regeneration <5m: low #1: balsam fir Ht: 0.1m

Tree species: sugar maple, American beech

Other species: red maple, striped maple, pin cherry, European mountain ash, wild raisin, alternate-leaf dogwood, wild lily-of-the-valley, starflower, hawkweed, aster species, sedge species, wood fern, Indian pipe,

Total % ground cover: 15% moss 0% shrub 0% flower 0% tree 25% fern 60% leaf litter

Coarse woody debris: low # **Snag trees:** low **Quality of snags:** medium

Wildlife: sapsucker tree marks, black-capped chickadee, gold crown kinglets

Treatment: Prune and release first. Maybe return to the cut wood (trembling aspen) to make patches. Ironwood, red oak, eastern hemlock, red spruce would be good species to add in this stand.

Stand #7 (1.68 ha): This is a nice looking stand and has nice multi-age trees great for wildlife habitat. The stand slopes north on a 10% angle and had a nice ground plant community including several small hobblebush shrubs and some Indian cucumber root. There also was a large-tooth aspen 66cm diameter. In the northeast section of the stand is a small area where an old clear cut was made resulting in younger trees. Many striped maple were observed in this stand.

Drainage: high **Watercourse:** no

Ploughed: no

Origin: partial cut

Dominant and codominant trees:

#1: sugar maple	60% of stand	age: 55	Diameter: 25cm	Ht: 23.1m
#2: red maple	20% of stand	age: 50	Diameter: 22cm	Ht: 18.3m
#3: white birch	10% of stand	age: 55	Diameter: 26.2cm	Ht: 20.8m
#4: yellow birch	5% of stand	age: 80	Diameter: 20.5cm	Ht: 19.1m

Tree source: stump sprout: 10% seed: 90% plantation: 0%

Maturity class: mature

Canopy description: tall closed with side light

Stocking: fully stocked

Tree quality: medium

Regeneration <5m: #1: striped maple Ht: 0.1m #2: balsam fir Ht: 0.5m

#3: sugar maple Ht: 0.1m #4: red maple Ht: 0.1m #5: American beach Ht: 0.2m

Other plant species: large-tooth aspen, striped maple, red elderberry, ground hemlock, hobblebush, ground pine, wild lily-of-the-valley, clintonia, starflower, pyrola spices, wood fern, hay-scented fern, running clubmoss, old man's beard, lung lichen, Indian pipe

Total % ground cover: 10% moss 5% shrub 0% flower 5% tree 60% leaf liter

Coarse woody debris: low # **Snag trees:** low **Quality of snags:** high

Wildlife: sapsucker tree marks, nuthatch

Treatment: Selective harvest of white birch, red maple and sugar maple. Prune and release the north east corner of the stand. Tack the worst of the trees out first. Plant some white pine, red spruce, alternate-leaf dogwood, beaked hazelnut, witch hazel, ferns and wildflowers.

Stand #8 (5.39 ha): This stand is located on either side of the stream that crosses in the middle of property. This stand is characterized by the presence mature eastern hemlock throughout the stand and very big trees with other multi-aged trees. The south area of the stream is north facing on a 20% slope and the other side of the stream is south facing on a 10% slope. The northwest section was harvested and is more open and has more hardwoods with lots of ground hemlock where as the northeast section is much denser and has the heist population of eastern hemlocks in the stand.

The steam has a riparian area spanning 25m wide on each side of the stream and looks like an alder swale. A red spruce 72 cm in diameter and 25m tall was found on the south side of the stream. An old camp fire site close to the wooden bridge just up the north steam side was discovered.

Drainage: high **Watercourse:** yes, there is a year round stream flowing west to east in the stand.

Ploughed: no

Origin: partial cut

Dominant and codominant trees:

#1: red maple 23% of stand age: 90 Diameter: 29.8cm Ht: 21.5m

#2: sugar maple 23% of stand age: 90 Diameter: 30.3cm Ht: 20.6m

#3: eastern hemlock 23% of stand age: 250 Diameter: 50.8cm Ht: 19.1m

#4: yellow birch 21% of stand age: 70 Diameter: 20.5cm Ht: 17.6m

#5: red spruce 10% of stand age: 150 Diameter: 47.8cm Ht: 24.4m

Tree source: stump sprout: 0% seed: 100% plantation: 0%

Maturity class: mature

Canopy description: tall, closed with the odd open area.

Stocking: fully stocked

Tree quality: high

Regeneration <5m: medium #1: striped maple Ht: 3m #2: balsam fir Ht: 1m

#3: red spruce Ht: m #4: red maple Ht: 2m #5: sugar maple Ht: 1m #6: eastern hemlock Ht: 1m #7: yellow birch Ht: 2m #8: white pine Ht: 0.2m

Other plant species: white spruce, American beech, white birch, serviceberry, red elderberry, alternate-leaved dogwood, speckled alder, mountain maple, beaked hazelnut, ground hemlock, willow, wild rose, raspberry, clintonia, bunchberry, sarsaparilla, goldthread, avens species, tall white aster, wild strawberry, fireweed, common lady's-slipper, veronica, Canada goldenrod, wild lily-of-the-valley, twinflower, white violet, creeping buttercup, Clubmoss species, sweet cicely, rattlesnake fern, wood fern, lung lichen, Indian pipe, polypore

Total % ground cover: 0% moss 40% shrub 0% flower 15% tree 20% fern

Coarse woody debris: low # **Snag trees:** medium **Quality of snags:** high

Wildlife: red squirrel, hermit thrush, black-capped chickadee, grouse, old beaver marks, gold crown kinglet, hairy woodpecker, red-eye vireo,

Treatment: Protect this area and do enrichment plantings where needed probably focusing on the riparian area and the north west section of the stand. This stand could be sued as an educational site.

Stand #9 (0.33 ha): The stand is located in the middle of the property along the east boundary. This stand is supposed to be a young white pine plantation but white pine were only seen along the north and west edges of the stand. The stand is very thick and hard to move though. Pin cherry is the dominant species of the stand with some red maple growing amongst it. There also is a lot of raspberry growing in the stand. In the northwest corner of the stand are two old wood piles and a large eastern hemlock growing between the two piles. There is extensive eastern hemlock regeneration in that area of the stand.

Drainage: high **Watercourse:** no

Ploughed: no

Origin: clear cut

Dominant and codominant trees:

#1: pin cherry 45% of stand age: 20 Diameter: 6.4cm Ht: 9.5m

#2: red maple 40% of stand age: 20 Diameter: 5.8cm Ht: 8.2m

Tree source: stump sprout: 25% seed: 75% plantation: 0%

Maturity class: immature

Canopy description: short closed

Stocking: overstocked

Tree quality: medium low

Regeneration <5m: #1: balsam fir Ht: 0.5m

Other plant species: white pine, sugar maple, grey birch, white birch, yellow birch, ground hemlock, raspberry, bunchberry, wild strawberry, Canada goldenrod, wood fern, Indian pipe

Total % ground cover: 0% moss 40% shrub 0% flower 30% tree

Coarse woody debris: low medium # **Snag trees:** low **Quality of snags:** medium

Wildlife: snowshoe hare scats

Treatment: Prune and release all red maple and other crop trees of interest.

Make four 5m diameters openings in the stand for planting sites. Plant yellow birch, American beach, red oak, white ash, striped maple, sugar maple, hobblebush, wild raisin and which hazel

Stand #10 (3.84 ha): This stand gently slopes south. The majority of the trees in the stand look even-aged and there are signs of partial cut activities because of the presence of stump sprout trees. The stand is predominantly a deciduous stand of red maple, sugar maple and some yellow birch with a few balsam firs.

Drainage: high **Watercourse:** no

Ploughed: no

Origin: partial cut

Dominant and codominant trees:

#1: red maple	35% of stand	age: 60	Diameter: 25cm	Ht: 19m
#2: sugar maple	25% of stand	age: 60	Diameter: 26cm	Ht: 18.5m
#3: yellow birch	15% of stand	age: 40	Diameter: 19.9cm	Ht: 17.7m
#4: white birch	15% of stand	age: 40	Diameter: 16.8cm	Ht: 19m
#5: balsam fir	5% of stand	age: 45	Diameter: 21.1cm	Ht: 17.7m

Tree source: stump sprout: 15% seed: 85% plantation: 0%

Maturity class: mature

Canopy description: tall

Stocking: fully stocked

Tree quality: medium high

Regeneration <5m: high #1: balsam fir Ht: 0.3m #2: red maple Ht: 0.2m #3: sugar maple Ht: 0.1m #4: striped maple Ht: 0.1m #5: white spruce Ht: 0.1m #6: American beech Ht: 0.2m

Other plant species: raspberry, clintonia, bunchberry, starflower, wood fern, bracken fern, lung lichen, old man's beard, sedge spores, ground hemlock, hay-scented fern, ground pine, aster spores, wild lily-of-the-valley, wild cucumber, pyrola spores, eastern hemlock,

Total % ground cover: 0% moss 35% shrub 0% flower 25% tree

Coarse woody debris: medium # **Snag trees:** medium **Quality of snags:** medium

Wildlife: crow, snowshoe hare

Treatment: Under plant with eastern hemlock, white pine, red spruce and remove some of the red maple trees to let light in and boost natural regeneration growth.

Stand #11 (0.31 ha): This stand was clear cut in the late 80's and has since regenerated mostly in a maple stand. The stand has a good ground plant community but has a high number of stems per acres making it overstocked creating a closed canopy in the stand. Many of the stems are from maple stump sprout that reduces the average tree quality.

Drainage: high **Watercourse:** no

Ploughed: no

Origin: clear cut

Dominant and codominant trees:

#1: sugar maple 35% of stand age: 20 Diameter: 9.7cm Ht: 13.3m

#2: red maple 30% of stand age: 20 Diameter: 10.3cm Ht: 12.8m

#3: white birch 15% of stand age: 20 Diameter: 14cm Ht: 10m

#4: pine cherry 5% of stand age: 20 Diameter: 8.3cm Ht: 9.5m

#5: trembling aspen 5% of stand age: 20 Diameter: 14.9cm Ht: 14m

Tree source: stump sprout: 60% seed: 40% plantation: 0%

Maturity class: immature

Canopy description: sort and closed

Stocking: overstocked

Tree quality: medium

Regeneration <5m: low #1: red maple Ht: 0.2m

Other plant species: gray birch, whit spruce, balsam fir, striped maple, bunchberry, jewelweed, blackberry, wood fern, bracken fern, ground hemlock, sedge spices, ostridge fern, false Solomon Seal, mountain ash, sarsaparilla, painted trillium, hawkweed, ground pine, wild lily-of-the-valley, starflower, bleubeed lily, wild raisin, common elder, wild strawberry,

Total % ground cover: 10% moss 10% shrub 30% flower 0% tree

Coarse woody debris: low # **Snag trees:** low **Quality of snags:** low

Wildlife: Black-capped Chickadee, Ovenbird, Raven

Treatment: Remove some of the maple stump sprouts and make 5 openings of 5-10m circumference, plant red oak, eastern hemlock, American beech, white pine, and some shrub spices such as beaked hazelnut.

Stand #12 (0.51 ha): This stand was clear cut in the late 90's and was planted as a red spruce plantation but most of the red species are only 0.1 to 0.3m tall today. Trembling aspen has taken over and thrived in this stand and became the dominant species with some grey birch.

Drainage: high **Watercourse:** no

Ploughed: no

Origin: partial cut

Dominant and codominant trees:

#1: trembling aspen 75% of stand age: 10 Diameter: 7.6cm Ht: 8.3m

#2: grey birch 20% of stand age: 10 Diameter: 8cm Ht: 9.5m

Tree source: stump sprout: 20% seed: 70% plantation: 10%

Maturity class: mature

Canopy description: small and closed with plenty of side light

Stocking: overstocked

Tree quality: medium

Regeneration <5m: some #1: Ht: balsam fir 1.5m #2: sugar maple Ht: 0.3m

Other plant species: white birch, sugar maple, red maple, balsam fir, strip maple, pin cherry, bayberry, raspberry, bunchberry, sarsaparilla, hawkweed, wild strawberry, aster species, Canada goldenrod, narrow-leaf goldenrod, sedge species

Total % ground cover: 0% moss 5% shrub 80% flower 5% tree

Coarse woody debris: low # **Snag trees:** no **Quality of snags:** no

Wildlife:

Treatment: Prune and release all crop trees creating opening in the trembling aspen and plant white pine, yellow birch, sugar maple, striped maple, red oak, white ash, American beach and shrubs for fruit to enhance wildlife.

Stand #13 (0.78 ha): This stand is part of the same clear cut as stand #12 that was cut in the late 90's and was planted as a white spruce plantation. The white spruce hasn't put much growth since planted and are now dominated by trembling aspen that has taken over and thrived in this stand and became the dominant species.

Drainage: high **Watercourse:** no

Ploughed: no

Origin: partial cut

Dominant and codominant trees:

#1: trembling aspen 95% of stand age: 10 Diameter: 8.6cm Ht: 10.1m

Tree source: stump sprout: 15% seed: 65% plantation: 20%

Maturity class: mature

Canopy description: tall and closed

Stocking: fully stocked

Tree quality: medium high

Regeneration <5m: low #1: balsam fir Ht: 1m

Other plant species: grey birch, with birch, sugar maple, red maple, balsam fir, striped maple, pin cherry, beaked hazelnut, blackberry, raspberry, bunchberry, purple violet, Canada goldenrod, wild strawberry, hawkweed, Indian pipe, sedge species

Total % ground cover: 5% moss 0% shrub 0% flower 20% tree

Coarse woody debris: medium # **Snag trees:** low **Quality of snags:** medium

Wildlife:

Treatment: Prune and release all crop trees. Plant yellow birch, red oak, with pine, American beech, Eastern larch (but in the more open areas), shrubs, ferns and wildflowers for wildlife. If seed is available, red oak and with pine seed could be a good means for adding those species in the stand. If planted white pine would need winter protection agent's mice and snowshoe hare.

Stand #14 (0.63ha): This stand is located north of the immature spruce plantations and slopes to the northeast. The stand is at a tipping point where the white spruce and trembling aspen are dying and being replaced by the next successional species. There is a lot of coarse woody debris throughout the stand that makes it hard to work through but has a nice amount of tree regeneration which gives the stand a lot of potential. Balsam fir regeneration dominates the west section of the stand.

Drainage: high **Watercourse:** no

Ploughed: no

Origin: partial cut

Dominant and codominant trees:

#1: white spruce	30% of stand	age: 30	Diameter: 25.9cm	Ht: 17.8m
#2: white birch	20% of stand	age: 60	Diameter: 24.2cm	Ht: 23.1m
#3: trembling aspen	20% of stand	age: 50	Diameter: 36.3cm	Ht: 23.2m
#4: sugar maple	15% of stand	age: 50	Diameter: 32cm	Ht: 19.4m
#5: red maple	10% of stand	age: 50	Diameter: 29.9cm	Ht: 17.8m
#6: yellow birch	5% of stand	age: 40	Diameter: 19.3cm	Ht: 11.2m

Tree source: stump sprout: 0% seed: 100% plantation: 0%

Maturity class: mature

Canopy description: tall and closed

Stocking: fully stocked

Tree quality: medium low

Regeneration <5m: medium #1: red maple Ht: 4m #2: striped maple Ht: 0.3m
#3: yellow birch Ht: 0.2m

Other plant species: bunchberry, starflower, bracken fern, wild lily-of-the-valley, ground pine, pyrola, ground hemlock, wild raisin, pin cherry, strip maple.

Total % ground cover: 10% moss 0% shrub 0% flower 30% tree 60% leaf litter

Coarse woody debris: high # **Snag trees:** high **Quality of snags:** medium

Wildlife: black-capped chickadee, snowshoe hare browsing, skunk scent, gold crown kinglet, crow,

Treatment: Drop dead wood to the ground to provide room for plantings. Plant red oak, white pine, white ash, hobblebush, which hazel. This stand would be a good place to plant species that will propagate seed in the rest of the stands and property.

Stand #15 (2.25 ha): This is a typical red pine plantation planted in the late 80's early 90's. The forest floor is very even indicating the stand was ploughed in the past. There is very little vegetation growing beneath the trees and the ground is covered by a thick layer of pine needles. The stand increasingly slopes south the further south the stand goes. The red pine in this stand has little to no weevil damage.

Drainage: high **Watercourse:** no

Ploughed: yes

Origin: clear cut

Dominant and codominant trees:

#1: red pine 95% of stand age: 20 Diameter: 19cm Ht: 13.1m

#2: trembling aspen 5% of stand age: 15 Diameter: 9.7cm Ht: 12.2m

Tree source: stump sprout: 0% seed: 5% plantation: 95%

Maturity class: mature

Canopy description: closed

Stocking: fully stocked

Tree quality: medium

Regeneration <5m: medium #1: balsam fir Ht: 0.3m #2: white spruce Ht: 0.1m

#3: red maple Ht: 0.1m

Other plant species: pin cherry, grey birch, large-toothed aspen, wild strawberry, white aster, sedge species hawkweed, red elderberry, bayberry, bunchberry, starflower, bracken fern,

Total % ground cover: 0% moss 0% shrub % flower 0% tree 90% leaf litter

Coarse woody debris: low # **Snag trees:** low **Quality of snags:** low

Wildlife: snowshoe hare browsing

Treatment: Use existing openings and enlarge those areas or make small patch cuts to create planting sites. The openings should be 8-10m in diameter and as many as 10 in the stand. In each open patch plant 3-4 trees and 6 shrubs. Plant sugar maple, striped maple, American beech, yellow birch, red oak, eastern hemlock, white pine, red spruce, white hazel, wild raisin, alternate-leaved dogwood, yellow violet, and fern species.

The goal in this stand would be to go from a mixed deciduous and coniferous stand with a good community of shade tolerant shrubs, wildflowers and ferns to a pure red pine stand with little diversity.

Stand #16 (1.49 ha): This is an immature white pine plantation that was planted 10 years ago and has a substantial amount of trembling aspen and grey birch growing amongst it. The white pine has some signs of weevil but for the most part the trees look okay.

Drainage: high **Watercourse:** no

Ploughed: yes

Origin: clear cut

Dominant and codominant trees:

#1: white pine 30% of stand age: 10 Diameter: 9.8cm Ht: 6.3m

#2: trembling aspen 30% of stand age: 10 Diameter: 7.5cm Ht: 9.7m

#3: grey birch 25% of stand age: 10 Diameter: 8cm Ht: 8.7m

#4: pin cherry 15% of stand age: 10 Diameter: 6.2cm Ht: 9.1m

Tree source: stump sprout: 15% seed: 55% plantation: 30%

Maturity class: mature

Canopy description: short and closed with lots of side light

Stocking: overstocked

Tree quality: medium low

Regeneration <5m: medium #1: white spruce Ht: 0.5m #2: red maple Ht: 2m

#3: balsam fir Ht: 0.5m

Other plant species: white spruce, red maple, grey birch, white birch, raspberry, bayberry, aster species, wild strawberry, narrow leaf goldenrod,

Total % ground cover: 5% moss 0% shrub 50% flower 15% tree

Coarse woody debris: high # **Snag trees:** medium **Quality of snags:** medium

Wildlife: snowshoe hare browsing, grouse scats

Treatment: Prune and release all potential crop trees and do some enrichment plantings. Create 20 openings 5-10m in diameter by removing some of the least valuable trees from planting areas. Plant yellow birch, red oak, eastern hemlock, white ash, white pine, which hazel, hobblebush, wild raisin, alternate-leaved dogwood, wildflowers and ferns.

Stand #17 (0.20 ha): This stand is a swamp. There are no open water areas but water does come up when walking on the moss and vegetation that grows there. The stand was never ploughed for obvious reasons but all the land around it was. The stand is open with some black spruce growing a bit everywhere. The ground vegetation is predominantly covered with sphagnum moss, ferns and sedges. There also was a good pink lady's slipper population.

Drainage: low **Watercourse:** swamp

Ploughed: no

Origin: partial cut

Dominant and codominant trees:

#1: black spruce 85% of stand age: 20 Diameter: 12.9cm Ht: 11.2m

#2: grey birch 15% of stand age: 15 Diameter: 5.1cm Ht: 5.7m

Tree source: stump sprout: 0% seed: 100% plantation: 0%

Maturity class: mature

Canopy description: open

Stocking: understocked

Tree quality: low

Regeneration <5m: low #1: grey birch Ht: 1m #2: red maple Ht: 0.5m

Other plant species: speckled alder, blueberry, pink lady's slipper, cinnamon fern, sedge spp., sphagnum moss spp.

Total % ground cover: 90% moss 0% shrub 5% flower 0% tree

Coarse woody debris: low # **Snag trees:** low **Quality of snags:** low

Wildlife: raven

Treatment: Keep as a plant reserve.

Stand #18 (1.33 ha): This stand is located at the north end of the property and is an old field white spruce stand mixed with some white birch and trembling aspen. The stand is very open and has no protection from any sides since all the neighboring forests were cut down. The stand offers little protection against the winds as it blows right through the stand and between the tree stems. There are very few tree snags in the stand but lots of coarse woods debris, either the trees are alive and standing or dead and on the ground.

Drainage: high **Watercourse:** no

Ploughed: no

Origin: clear cut

Dominant and codominant trees:

#1: white spruce 55% of stand age: 60 Diameter: 25.3cm Ht: 19.4m

#2: with birch 30% of stand age: 40-50 Diameter: 16.9cm Ht: 19.5m

#3: trembling aspen 15% of stand age: 60 Diameter: 30.2cm Ht: 22.3m

Tree source: stump sprout: 0% seed: 100% plantation: 0%

Maturity class: mature

Canopy description: tall and very open

Stocking: understocked

Tree quality: medium

Regeneration <5m: high #1: white spruce Ht: 0.5m #2: trembling aspen Ht: 0.2m

#3: balsam fir Ht: 0.5m

Other plant species: starflower, Indian pipe, old man's beard, wild lily-of-the-valley, sheep laurel, pyrola species

Total % ground cover: 80% moss 0% shrub 0% flower 5% tree

Coarse woody debris: very high # **Snag trees:** medium low **Quality of snags:** low

Wildlife:

Treatment: Under plant and increase diversity in the stand. Plant Yellow birch, red oak, sugar maple, white pine, which hazel, wild raisin, alternate-leaved dogwood

Priorities:

1. Do plantings and create openings first as to not waste any time on growing potentials in stands # 1, 2, 3, 4, 9, 11, 12, 13, 15, 16 and 18.
2. Prune and release all crop trees in stands # 1, 3, 4, 5, 6, 7, 9, 11, 14 and 16 to promote high value and healthy tree growth.
2. Help speed up the transition of all plantation stands to a mix wood stand in areas of Stand # 2, 9, 12, 13, 15 and 16.
4. Harvest some of the trees in Stand # 3, 4, 6, 7, 10, and 15 if appropriate.
5. Enhance riparian areas in stand # 3 and 8
6. Plant more shade tolerant shrubs to increase diversity, increase food sources, provide habitat, and, in general, improve the health of the forest.
7. Stands # 8 and 7 should be protected for their unique features and could be used as educational peruses and a forestry reference for the present and future.

Additional comments: Direct seeding of red oak and witch hazel should be tested where possible as an inexpensive but effective way to propagate these high-value and rare species.