

Overview:

This post-harvest inventory was conducted on the ±61 acre harvest conducted in the winter of 2014-15 on the “Breezy Knoll Lot” located in Leyden State Forest in the town of Leyden. The harvest was a group selection system using openings of approximately ⅓ acre to convert a Norway spruce/white pine plantation to a mixed white pine and northern hardwood forest type more typical of the area. The harvesting was done with a tracked cut-to-length harvester and wheeled forwarder. Prior to the harvest, scattered northern hardwood and Norway spruce advance regeneration was present throughout the area, along with dense hay-scented fern. A power line corridor bisects the harvest area.

A post-harvest inventory was conducted in which 16 points were systematically located in the harvest area. At each point, overstory trees (≥ 1 in. DBH) were sampled using horizontal point sampling with a BAF 40_{ENGLISH} angle gauge; understory trees (< 1 in. DBH and ≥ 3 in. tall) were sampled using circular plots of fixed radius 3.8 ft.; and CWD was sampled using line intersect sampling with single 5 ft. long transects. Field inventory was conducted during September 2019, under dry summer conditions using standards set forth in the DCR: DSPR Post-management Inventory Protocol. Photographs were taken at 5 of these plots.

Overstory observations:

Silvicultural treatments consisting of row thinning and pre-commercial thinning were done in 1968. The 2014-15 harvest created ⅓ acre groups, and when possible sited then against the power line corridor. Hardwood trees (predominantly black cherry, black birch and sugar maple) were retained and the remainder of the area consists of residual white pine and Norway spruce. Some overstory trees have been damaged post-harvest by wind events resulting in broken tops and a few blown over trees. This process was occurring prior to the harvest due to disease and many of these trees have fallen to the ground. The overall condition of the overstory is good with the hardwood trees taking advantage of the additional growing space created by the openings. Norway spruce and eastern white pine compose 65% of the 144 ft²/ac basal area of live trees ≥ 1 in. DBH. 36 snags per acre ≥ 5 in. DBH are present.

Understory observations:

Prior to harvest, conditions were favorable for a large cohort of white pine and various hardwood species to become established in the understory. Favorable growing conditions of high, scattered shade have allowed many saplings to grow more than 2 ft. in height per season. Sunlight penetration to the forest floor has allowed huckleberry, low-bush blueberry, and other herbaceous plants to flourish. Invasive species, including Japanese barberry and oriental bittersweet have been observed as isolated individuals in the understory. Black birch, sugar maple and black cherry compose 73% of the 9,218 trees per acre < 1 in. DBH.

Coarse woody debris observations:

Harvesting operations scattered CWD evenly throughout the project area. Slash was run over by equipment during harvesting and no observed piles exceed 2 ft. tall. Most of the medium and small fine woody material (< 1 in. DBH) is decomposing or non-existent. Bark is loose or sloughing off all larger

pieces. 3,141 ft³/ac of CWD were present, with 100% of that in pieces; no piles were selected in to the sample. The plantation had been experiencing moderate mortality due to adverse growing conditions and incursion by several diseases. Large diameter (>16" DBH) standing snags are present in the overstory and many of these are falling to the forest floor adding to the CWD created by the timber harvest.

Photographs:



Figure 1. Dense carpet of ferns in the central portion of the harvest area.



Figure 2. Black birch regeneration present in opening created by harvest.



Figure 3. Large diameter CWD in the foreground with regeneration in an opening created by the harvest in the background.

STANDING LIVE TREES;
ALL SIZES -
STAND TABLE

COMMON NAME SPCD HT (FT) / DBH (IN) CLASS	Norway spruce		eastern white pine		eastern hemlock		red maple		sugar maple	
	91 BA	91 TPA	129 BA	129 TPA	261 BA	261 TPA	316 BA	316 TPA	318 BA	318 TPA
3.0 IN ≤ HT < 4.5 FT.	0	64	0	128	0	0	0	320	0	1344
4.5 FT ≤ HT < 10.0 FT.	0	0	0	0	0	0	0	0	0	0
10.0 FT ≤ HT < 15.0 FT. / < 1.0 IN. DBH	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	5	28
8	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
12	3	3	3	3	0	0	0	0	0	0
14	3	3	0	0	0	0	0	0	3	3
16	3	2	3	2	0	0	0	0	0	0
18	11	6	13	8	3	2	0	0	0	0
20	19	9	13	6	0	0	0	0	0	0
22	3	1	11	4	0	0	0	0	3	1
24	5	2	3	1	0	0	0	0	3	1
26	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0
30	3	1	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0
≥50	0	0	0	0	0	0	0	0	0	0
TOTALS	48	90	45	152	3	2	0	320	13	1377

STANDING LIVE TREES;
ALL SIZES -
STAND TABLE

COMMON NAME	yellow birch		sweet birch		hickory spp.		American beech		white ash	
SPCD	371	371	372	372	400	400	531	531	541	541
HT (FT) / DBH (IN) CLASS	BA	TPA	BA	TPA	BA	TPA	BA	TPA	BA	TPA
3.0 IN ≤ HT < 4.5 FT.	0	0	0	4865	0	64	0	576	0	1216
4.5 FT ≤ HT < 10.0 FT.	0	0	0	0	0	0	0	64	0	64
10.0 FT ≤ HT < 15.0 FT. / < 1.0 IN. DBH	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
4	3	33	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
8	0	0	3	8	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	3	3
14	0	0	3	3	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0
18	3	2	0	0	0	0	0	0	0	0
20	0	0	3	1	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0
≥50	0	0	0	0	0	0	0	0	0	0
TOTALS	5	34	8	4877	0	64	0	640	3	1284

STANDING LIVE TREES;
ALL SIZES -
STAND TABLE

COMMON NAME SPCD HT (FT) / DBH (IN) CLASS	black cherry		TOTAL	TOTAL
	762 BA	762 TPA	BA	TPA
3.0 IN ≤ HT < 4.5 FT.	0	512	0	9090
4.5 FT ≤ HT < 10.0 FT.	0	0	0	128
10.0 FT ≤ HT > 15.0 FT. / < 1.0 IN. DBH	0	0	0	0
2	0	0	0	0
4	0	0	3	33
6	0	0	5	28
8	5	16	8	23
10	0	0	0	0
12	3	3	11	14
14	3	3	11	10
16	3	2	8	6
18	5	3	35	20
20	0	0	35	16
22	0	0	16	6
24	0	0	11	3
26	0	0	0	0
28	0	0	0	0
30	0	0	3	1
32	0	0	0	0
34	0	0	0	0
36	0	0	0	0
38	0	0	0	0
40	0	0	0	0
42	0	0	0	0
44	0	0	0	0
46	0	0	0	0
48	0	0	0	0
≥50	0	0	0	0
TOTALS	19	539	144	9377

**STANDING DEAD TREES;
≥ 1 IN. DBH -
STAND TABLE**

COMMON NAME SPCD HT (FT) / DBH (IN) CLASS	Norway spruce		eastern white pine		eastern hemlock		red maple		sugar maple	
	91 BA	91 TPA	129 BA	129 TPA	261 BA	261 TPA	316 BA	316 TPA	318 BA	318 TPA
3.0 IN ≤ HT < 4.5 FT.	0	0	0	0	0	0	0	0	0	0
4.5 FT ≤ HT < 10.0 FT.	0	0	0	0	0	0	0	0	0	0
10.0 FT ≤ HT < 15.0 FT. / < 1.0 IN. DBH	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
6	3	14	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0
10	0	0	3	5	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
14	0	0	5	5	0	0	0	0	0	0
16	0	0	3	2	0	0	0	0	0	0
18	5	3	5	3	0	0	0	0	0	0
20	5	2	3	1	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
24	3	1	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0
≥50	0	0	0	0	0	0	0	0	0	0
TOTALS	16	20	19	16	0	0	0	0	0	0

**STANDING DEAD TREES;
≥ 1 IN. DBH -
STAND TABLE**

COMMON NAME SPCD HT (FT) / DBH (IN) CLASS	yellow birch		sweet birch		hickory spp.		American beech		white ash	
	371 BA	371 TPA	372 BA	372 TPA	400 BA	400 TPA	531 BA	531 TPA	541 BA	541 TPA
3.0 IN ≤ HT < 4.5 FT.	0	0	0	0	0	0	0	0	0	0
4.5 FT ≤ HT < 10.0 FT.	0	0	0	0	0	0	0	0	0	0
10.0 FT ≤ HT < 15.0 FT. / < 1.0 IN. DBH	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0
≥50	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0	0

STANDING DEAD TREES;

≥ 1 IN. DBH -

STAND TABLE

COMMON NAME	black cherry		TOTAL	TOTAL
	762	762		
SPCD	BA	TPA	BA	TPA
HT (FT) / DBH (IN) CLASS				
3.0 IN ≤ HT < 4.5 FT.	0	0	0	0
4.5 FT ≤ HT < 10.0 FT.	0	0	0	0
10.0 FT ≤ HT < 15.0 FT. / < 1.0 IN. DBH	0	0	0	0
2	0	0	0	0
4	0	0	0	0
6	0	0	3	14
8	0	0	0	0
10	0	0	3	5
12	0	0	0	0
14	0	0	5	5
16	0	0	3	2
18	0	0	11	6
20	0	0	8	4
22	0	0	0	0
24	0	0	3	1
26	0	0	0	0
28	0	0	0	0
30	0	0	0	0
32	0	0	0	0
34	0	0	0	0
36	0	0	0	0
38	0	0	0	0
40	0	0	0	0
42	0	0	0	0
44	0	0	0	0
46	0	0	0	0
48	0	0	0	0
≥50	0	0	0	0
TOTALS	0	0	35	36

COARSE WOODY DEBRIS SUMMARY (DEAD; >45° FROM VERTICAL; ≥ 3.0 IN DIA; ≥ 3.0 FT LENGTH)

PIECES/ AC	PIECE CF/AC	PILES (DIMENSIONS)/AC	PILE CF/AC	PILE DEPTH CF/AC	TOTAL CWD CF/AC: PIECES + PILE DIMENSIONS	TOTAL CWD CF/AC: PIECES + PILE DEPTH
620.5	3140.6	0.0	0.0	0.0	3140.6	3140.6