

Project Subject/Title: Star Lake Red Pine Plantation Management

County: Vilas

TRS: T41N R8E sec. 5

Contact Person: Jeff Olsen, 715-385-3362

Type Of Prescription: thinning

Year Initiated: Results from 8 thinnings (1943-1999)

Abstract/Prescription:

The Star Lake red pine plantation was originally a horse pasture owned by the Wilson-Salsich Company. Original stand type (presettlement) was white pine. In 1913 the site was scalped with grub hoes and hand planted with (PR, PW, PS, and PP). Tree seedlings (2 year) from the Trout Lake nursery were planted at a density of 930 trees/acre. This became the first nursery from grown stock in Wisconsin.

In 1929 and 1934 the trees were pruned to 7 ½ feet. In 1943, two 1 acre plots were established. All trees within the plot were numbered. One plot was thinned and the other used as a control (no thinning). The effects of thinnings on tree diameter and height growth were studied. Thinning schedules were every 5 years for the first twenty years and every ten years there after. In the year 2011 the stand will be 100 years old.

Results:

- Although the total number of trees has been reduced in the thinned plot, there is no significant difference in the total cumulative volume produced in each plot.
- No significance difference in the height of average dominants.
- There is a significant difference in the average diameter in the thinned plot versus the control. (the thinned plot average diameter was much larger).
- Tree mortality occurred on the control plot but not on the thinned plot.

Discussion:

- Select proper species per site...trees out of their native range very seldom grow well (ponderosa and scotch pine).
- Use even aged management techniques.
- Pruning 150 crop trees/acre to 9feet at 20 years and 17 feet at 34 years recommended.
- First thinning should be at 18-32 years and every 10 years thereafter.

Site statistics:

Enclosed Documents

STAR LAKE PLANTATION

In 1911, the first state tree nursery was established at Trout Lake where the forestry headquarters is now located. In 1913, two year old red pine seedlings were ready to be transplanted into the forest. The Star Lake site was at that time an old horse pasture stripped of all vegetation. The site is a peninsula point jutting out into Star Lake. There was a large saw mill located just east of the peninsula where many horses were needed to move the large pine logs around the mill yard. The peninsula was a handy place to fence off the neck and turn the horses loose when they weren't needed at the mill.

The year is 1913. The mill is now closed down and the pasture vacated. The large white pine forests of Northern Wisconsin were now totally decimated. Some old timers stated that if you stood on any high knob around the Star Lake/Trout Lake area you could see all the way to Woodruff-Minocqua. Fred Wilson, one of the first state foresters, oversaw the original planning of the Star Lake site. Frail little seedlings barely three inches tall were planted--THE BEGINNING OF A NEW FOREST.

The first management of the planted trees occurred in 1929 and again in 1934 when the trees were pruned (lower branches removed). In May 1943, two one-acre plots were delineated within the plantation. Each tree within each plot was assigned a number and so marked. One plot was scheduled to be managed and the other, a control plot, left unmanaged to achieve its natural evolution.

Meticulous records have been kept of all volumes (pulp and saw logs) removed from the managed one-acre plot. The following decades of information has been published in forestry textbooks and used to educate foresters and the general public. Foresters have come from all over the world to learn firsthand what careful forest planning can achieve.

As you view the stand today reflect for a moment on the history of the site, the thousands of interested students and professionals that have stood where you now stand. If you listen carefully you may still hear the steam engine at the saw mill as the large saw bites into yet another three foot diameter white pine log. Look around, you may see the shadows of the horses waiting patiently for the happy-go-lucky lumber jacks to return when this forest once again reaches maturity.

STAR LAKE PLANTATION - SUMMARY TABLE - RED PINE - ONE ACRE PLOT
THINNED PLOT

Age Years	Top Height Feet	Stand Density S % H	Stem Count	Diameter Range	RESULTANTS		Basal Area Sq. Ft.	Periodic	Peeled Stem Volume - Cubic Feet		Annual In Periodic	
					Mean Tree Height Feet	D.B.H. Inches			Total	Cumulative Cut		Cut as % of Total
32	42	17.2	836 -256	1.8-9.9 1.8-9.0	41	6.2 5.0	174 -34	2,880 540	2,880	540	18.7	156
37	49	17.7	580 -150 430	3.1-10.7 3.1-8.8 5.0-10.7	48	7.1 6.0 7.5	162 -30 132	3,120 940 2,580	3,650	1,080	29.5	167
43	57	17.7	429 -109 320	5.1-11.2 5.1-10.5 6.0-11.2	56	8.1 7.4 8.3	153.5 -740 121	3,580 -740 2,840	4,660	1,820	39.1	209
50	66	17.6	320 -80 240	6.3-12.2 6.3-10.8 7.6-12.2	65	9.3 8.3 9.7	152 -30 122	4,300 -820 3,480	6,120	2,640	43.1	181
58	74	18.3	240 -55 185	8.4-13.4 8.4-12.4 9.2-13.4	73	10.9 10.1 11.1	154 -30 124	4,930 -960 3,970	7,570	3,600	47.6	176
67	82	18.7	185 -45 140	10.0-15.0 10.0-14.8 10.6-15.0	80	12.4 11.6 12.6	155 -34 121	5,550 -1,200 4,350	9,150	4,800	52.5	

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