

Cost of thinning woodland for silvopasture

Snake River Farm, Tom Barthel, 1/16/2021

This is about restoring land that has been taken over by an excess of trees and brush.

The Snake River Farm is located in the approximate center of Sherburne County, which is in central Minnesota.

The farm varies from open sandy pastures, to sloping wooded transition strips to low land. The low land is either high organic floodplain or peat.

These lands were annually grazed by bison until 1820.

The land was settled for farming beginning in the 1880's.

The land to be restored was pastured until 50 to 60 years ago.

The end goal is to restore this land to managed, rotated pasture for beef and bison.

For conversation purposes I have identified the land to be thinned as one of the four following types.

1. Heavy wooded with mature trees, younger trees and brush
2. Lighter woods, some mid-life trees, some younger trees and brush
3. Low ground with near 100% brush cover, mostly Alder brush
4. Low ground with clumps of Alder brush and Canary Grass

Equipment used and nominal hourly rates.

Tractor with grapple & operator, \$100/hour

Chain saws and operator, \$30/hour

Clean up, teenage worker, \$12.5/hour

The examples below are an active spreadsheet.

Plug in different numbers for rate or hours and the result will change.

Full cost example

woodland brushland category	tractor grapple operator rate/hour	tractor grapple operator hour/acre	chainsaw and operator rate/hour	chainsaw and operator hour/acre	clean-up worker rate/hour	clean-up worker hour/acre	thinning cost per acre
1	\$100	12	\$30	16	\$12.50	8	\$1,780.00
2	\$100	8	\$30	12	\$12.50	6	\$1,235.00
3	\$100	6	\$30	10	\$12.50	6	\$975.00
4	\$100	4	\$30	8	\$12.50	4	\$690.00

Low-cost example

(family labor at no cost, out of pocket fuel & machinery costs only)

woodland brushland category	tractor grapple operator rate/hour	tractor grapple operator hour/acre	chainsaw and operator rate/hour	chainsaw and operator hour/acre	clean-up worker rate/hour	clean-up worker hour/acre	thinning cost per acre
-----------------------------------	---	---	--	--	---------------------------------	---------------------------------	---------------------------------

1	\$20	12	\$5	16	\$0.00	8	\$320.00
2	\$20	8	\$5	12	\$0.00	6	\$220.00
3	\$20	6	\$5	10	\$0.00	6	\$170.00
4	\$20	4	\$5	8	\$0.00	4	\$120.00

This estimate does not include the cost of fencing or the cost of interseeding.