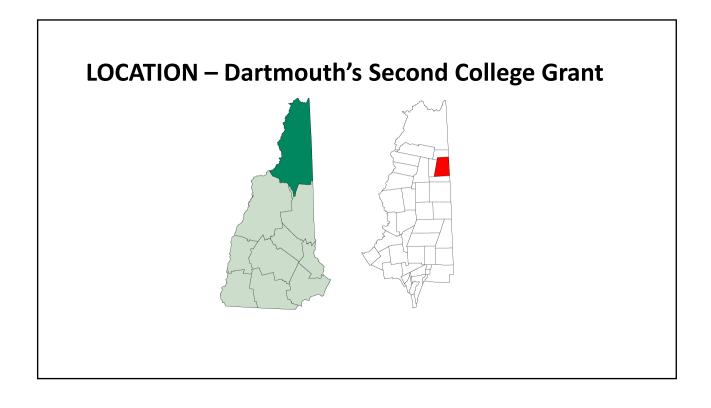# Economics of Northern Hardwoods
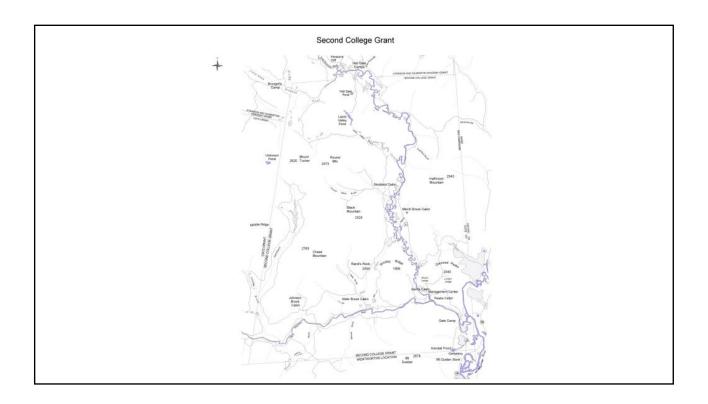
Northeast Silvicultural Institute
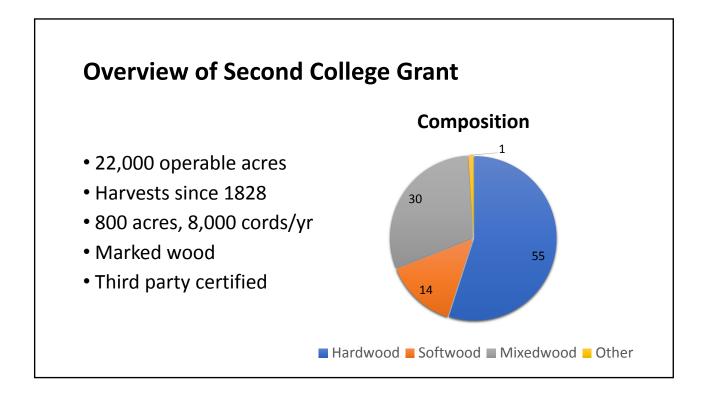## September 5, 2018

Kevin Evans

Director of Woodlands
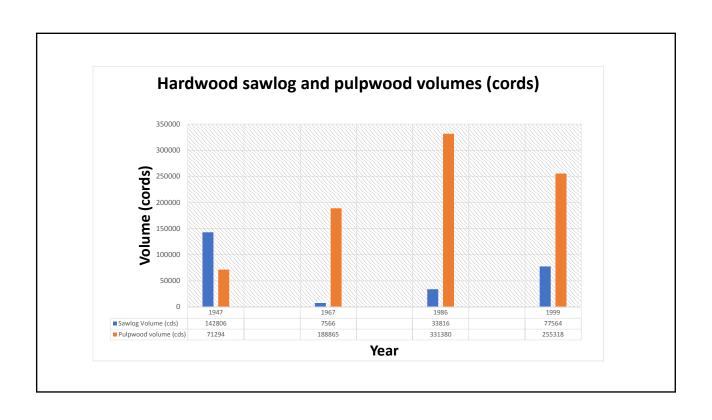
Dartmouth College

We will:

• Look at examples of how silviculture has increased value of a forest and a specific hardwood stand at the Second College Grant

• Reflect on how increases in grade change also increases tree value and subsequently stand value

•Look briefly at a pre-commercial thinning in Bartlett northern hardwood stand #22
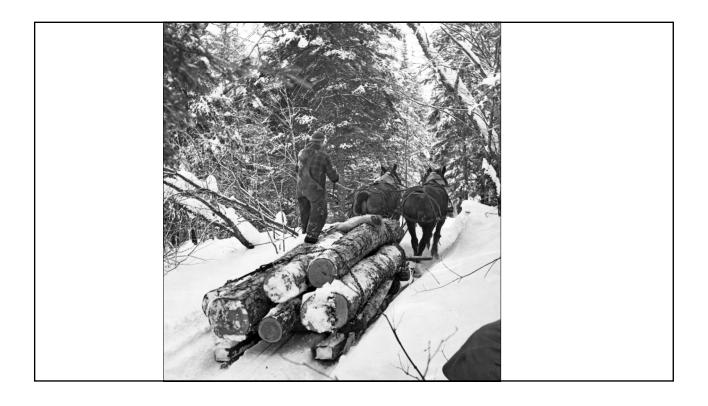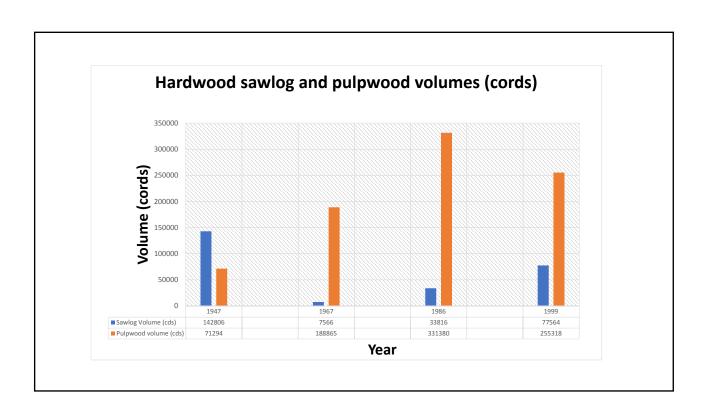
• Talk briefly about markets

LOCATION – Dartmouth's Second College Grant

Second College Grant

Overview of Second College Grant

- 22,000 operable acres
- Harvests since 1828
- 800 acres, 8,000 cords/yr
- Marked wood
- Third party certified

Composition

| Hardwood | Softwood | Mixedwood | Other |

Hardwood sawlog and pulpwood volumes (cords)

	1947	1967	1986	1999
Sawlog Volume (cds)	142806	7566	33816	77564
Pulpwood volume (cds)	71294	188865	331380	255318

Year

Hardwood sawlog and pulpwood volumes (cords)

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■ Sawlog Volume (cds)	142806	7566	33816	77564
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Volume (cords) — Year

Hardwood sawlog and pulpwood volumes (cords)

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Volume (cords) — Year

Merrill Brook

HISTORY			1999 INVENTORY	2001 HARVEST	2001 POST HARVEST INVENTORY	2016 INVENTORY
HARVEST LATE 1950'S		BA	100		74	105
		TREES/ACRE	192		142	183
DIAMETER LIMIT CUT		MSD	9.7		10	10.3
PRIMARILY SAWLOGS		VOLUME (CORDS)	33		22	34
		PULP	26	2500 (92%)	18	21
		LOGS	7	472 (8%)	4	13

Summer 2001 and 2016 Comparison

Look at Grade increase

Grade	Venner AAA	Veneer A	Sawlog Prime	Sawlog Select	Sawlog #1	Pallet
Specs	16" 4cf	12" 4cf	14" 3cf	12" 3cf	10" 2cf	8" 1cf
Market price (mbf)						
Hard Maple	$4,000.00	$2,500.00	$825.00	$600.00	$450.00	$250.00
Yellow Birch	$3,500.00	$2,500.00	$600.00	$450.00	$350.00	$250.00

Conclusions: Economic Assessment

- At both 2016 and 2026 value, **pre-commercial thinning not worth the investment** at low, high interest rates
- Commercial thinning increases plot value, generates revenue mid-rotation
  - At 2016 value, low interest rate, **reference** and thinned plots worth more
  - At 2016 value, high interest rates, **thinned** and reference plots worth more
  - At 2026 value, low interest rate, thinned plots worth more
  - At 2026 value, high interest rates, **thinned** and plots where paper birch left worth more

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