

Wood Energy in New Hampshire

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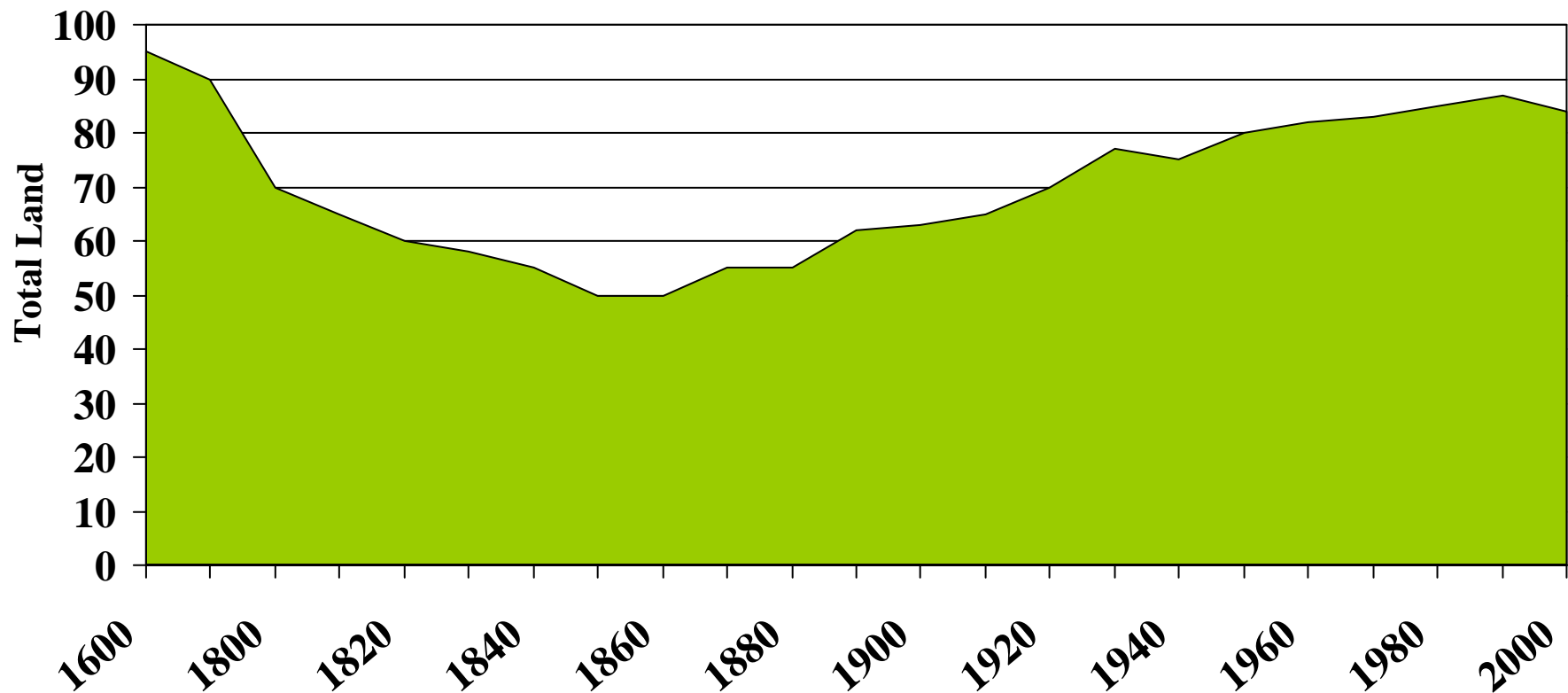


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NH is 84% Forested



Trend of Forest Land Cover in New Hampshire 1600-2005



Source: UNH Cooperative Extension

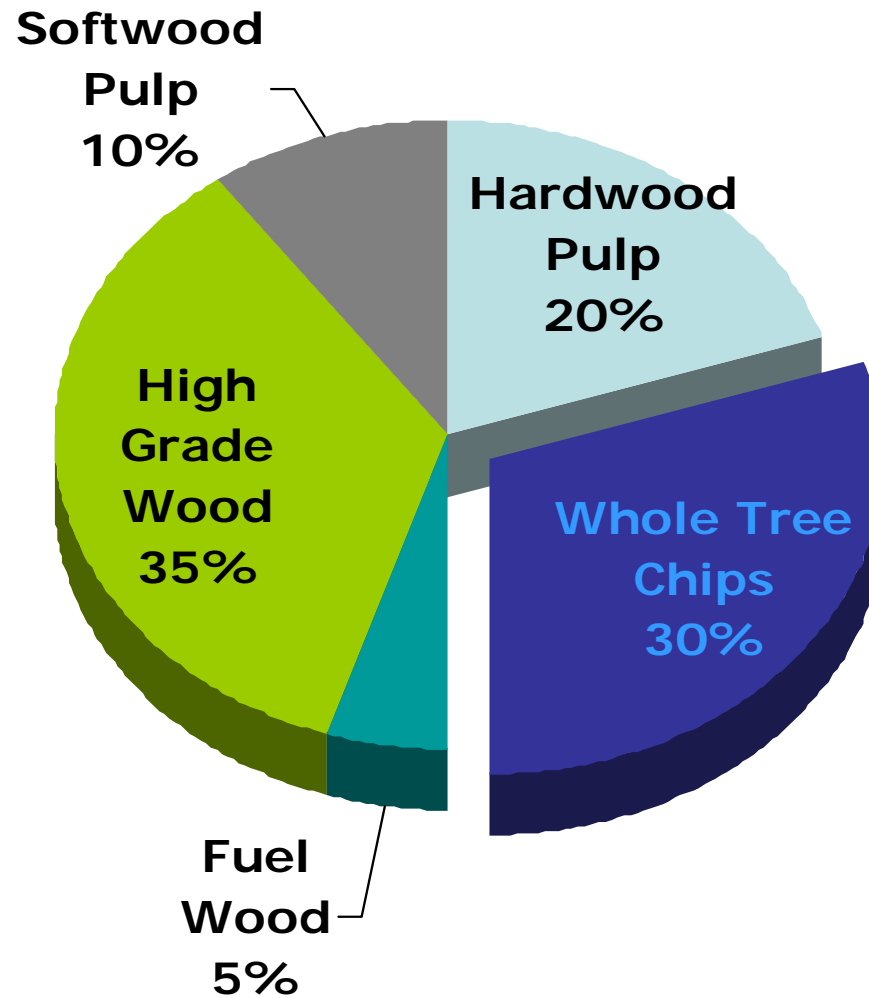
Number of Harvests per County

County	2000	2001	2002	2003	2004
Belknap	244	218	213	192	202
Carroll	436	338	349	322	372
Cheshire	355	290	321	306	339
Coos	379	313	313	314	367
Grafton	667	612	533	521	597
Hillsboro	497	424	378	375	377
Merrimack	571	555	484	441	494
Rockingham	262	296	248	207	251
Strafford	172	146	112	113	145
Sullivan	264	229	258	265	283
Total	3847	3421	3209	3056	3427

Note: These numbers reflect # of harvest not the size. For example a timber harvest in Coos County may be 10,000 acres and one in Strafford County. 20 acres.

Source: NH Dept. of Revenue Administration

Products from the Forest



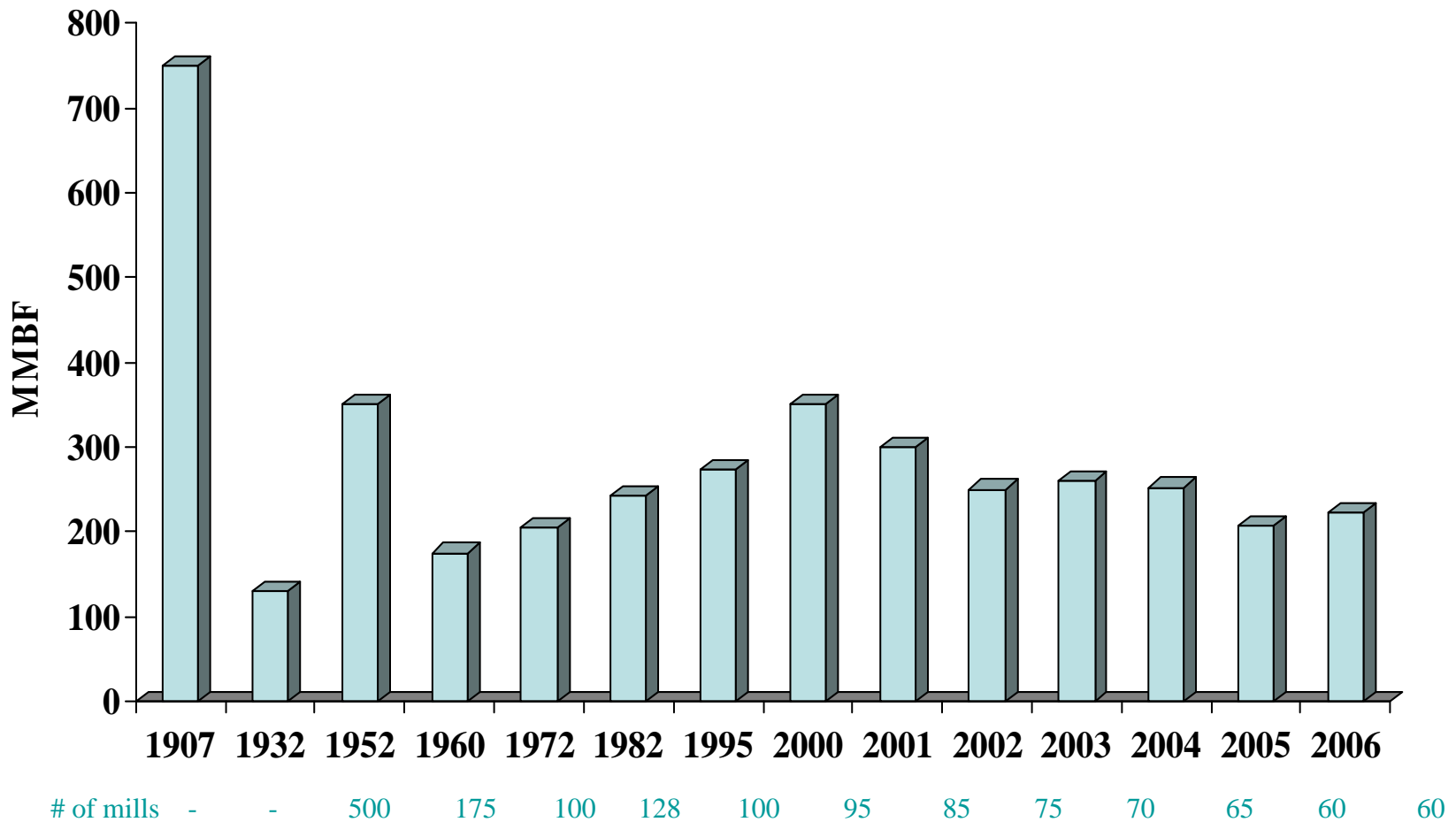
Source: NH Division of Forests and Lands

4/'05 – 3/'06 Harvest Information

County	Harvest #	Whole Tree Chips Tons	Pulpwood Tons	Fuelwood Tons	Sawlogs 1000 board ft.
Belknap	202	48,872	37,795	2,457	10,815
Carroll	372	72,542	100,156	2,609	19,980
Cheshire	339	49,529	60,179	8,247	23,240
Coos	367	125,757	503,534	4,980	47,535
Grafton	597	170,425	190,079	5,985	33,982
Hillsboro	377	117,150	42,970	8,334	27,051
Merrimack	494	142,571	69,653	6,882	31,413
Rockingham	251	60,823	24,429	5,137	12,437
Strafford	145	38,871	17,474	3,486	9,413
Sullivan	283	35,890	30,413	3,907	13,717
Totals	3427	862,430	1,076,682	52,024	229,583

Information source: NH Division of Forests and Lands

New Hampshire Lumber Production History



Source: NH Division of Forests and Lands
and USDA, Forest Service

Wood Fuel Supply



- **Roundwood** (firewood)
- **Pellets** (from sawdust, paper or chips)
- **Chips**
 - whole tree from the woods
 - bole chips from the woods or chipping plants
 - pulp quality chip from sawmill or chipping plant
 - chips from other sources of clean wood – pallets



NH's Wood to Energy Plants

Plant	MW	Tons
Hemphill, Springfield	13.8	208,000
Bridgewater, Bridgewater	15	229,000
Pinetree, Tamworth	20	286,000
Pinetree, Bethlehem	15	227,000
Whitefield, Whitefield	13.8	187,000
PSNH, Portsmouth	50	450,000

1,587,000 Tons (mostly wood's-run biomass)

Nearby:

Rygate Power, Rygate VT	20	250,000
Sappi, Westbrook, ME		400,000

Other:

New England Wood Pellet, Jaffrey 80,000 (mostly sawdust) and increasing



NH Wood Energy Plants – Smaller, heat only
Crotched Mountain, Greenfield, NH
12MMBtu, Messersmith





WOOD FUEL COMPARISON:

Best Applications for Woodchips

- Larger facilities
- Where fuel cost savings are very important
- Larger schools (more than 40,000 sq. ft.)
- Where there is room for: new boiler room, fuel storage bin, tractor-trailer access
- In/near forested areas with an active forest products industry

Hanover High School
187,000 sq. ft.
\$63,000 savings



Merrimack Valley Schools
233,000 sq. ft.
\$53,000 savings so far







Typical Messersmith
installation at the
Merrimack Valley
Schools, Penacook

5 Million Btu Boiler

NH Audubon Center, Concord Tarm wood pellet system





Wood Pellets



Characteristics

- Uniform shape and size
- Dry (4-6% moisture)
- Energy dense (7,750 Btu/lb, 6% moisture)



Pricing

- Per ton
- Plus delivery charge

Availability

- Bulk suppliers in Massachusetts and New Hampshire

WOOD FUEL COMPARISON:

Best Applications for Wood Pellets

- Residential use (stoves & central heat)
- Small commercial facilities
- Small schools (under 40,000 sq. ft.)
- Locations with limited space
- Sites not far from a pellet plant

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