Socio-Economic and Logistical Considerations for Oak Management in an Exurban Landscape

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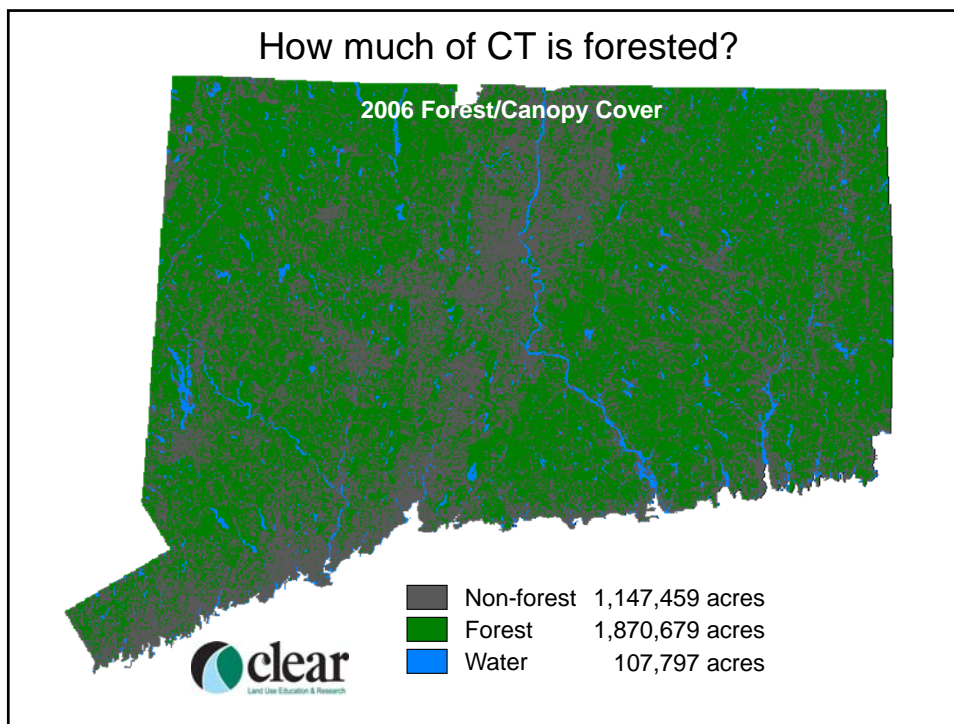**UCONN**
COLLEGE OF AGRICULTURE,
HEALTH AND NATURAL
RESOURCES

- **Forest cover – ownership patterns and attitudes**
- **Relative longevity**
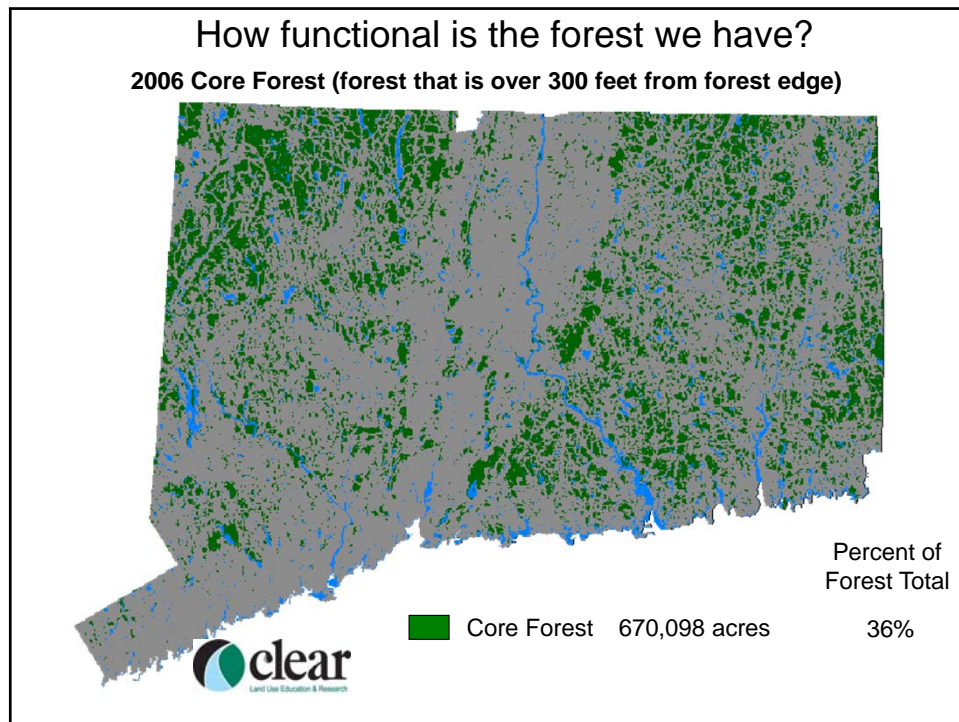- **Tree growth and value change**
- **A small-scale paradigm**

How much of CT is forested?

2006 Forest/Canopy Cover

Non-forest	1,147,459 acres
Forest	1,870,679 acres
Water	107,797 acres

clear
Land Use Education & Research

How functional is the forest we have?

2006 Core Forest (forest that is over 300 feet from forest edge)

		Percent of Forest Total
■ Core Forest	670,098 acres	36%

Results from the 2011 National Woodland Owner Survey Connecticut Woodland Owners

Mary Tyrell – Yale School of Forestry and Environmental Sciences

Survey Results – The Basics

- 384 respondents out of 728 surveys
- 53% response rate

- 330 family owners
- 54 other types of owners
  land trusts, clubs, corporations, churches

12/13/2012   ML Tyrell, Yale School of Forestry & Environmental Studies   4

Starting with the numbers.....

138,800 family woodland owners

Own 856,500 acres of forest

~ 47% of Connecticut's forestland

Average parcel size 6.2 acres

9,000 families (6%) own more than 25 acres; represents 56% of family-owned forestland

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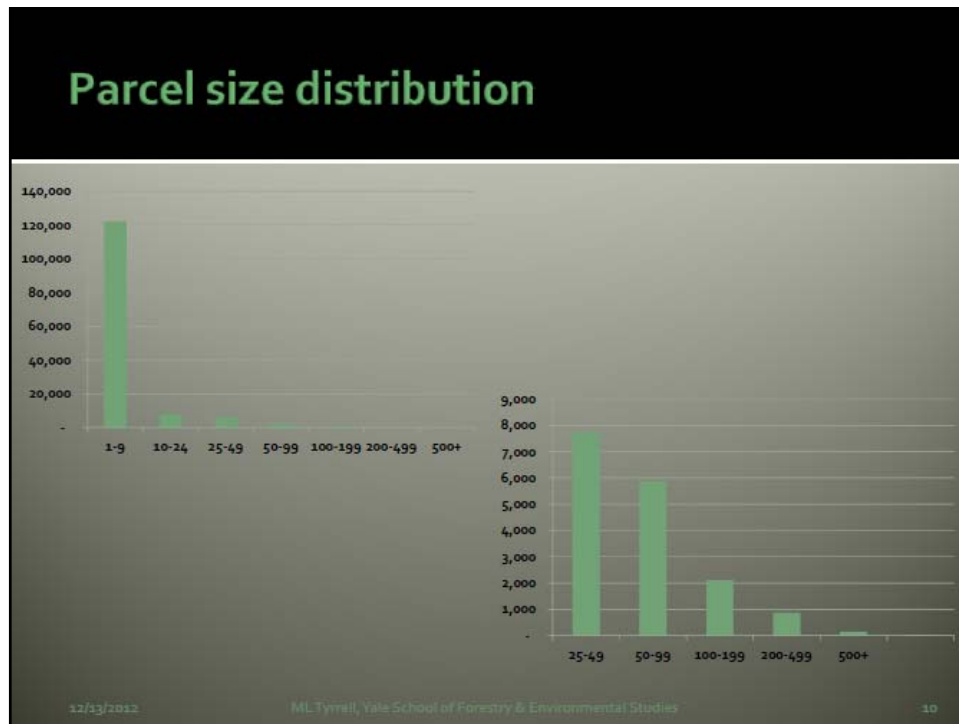## Backyards vs. woodlands

Parcel Size (acres)	Owners		Acres		% of CT Forest	Average parcel size	# Respondents
1 - 9	122,100	88%	281,100	33%	15 – 16 %	2.3 acres	106
10+	16,700	12%	575,400	67%	30 – 32 %	34 acres	217

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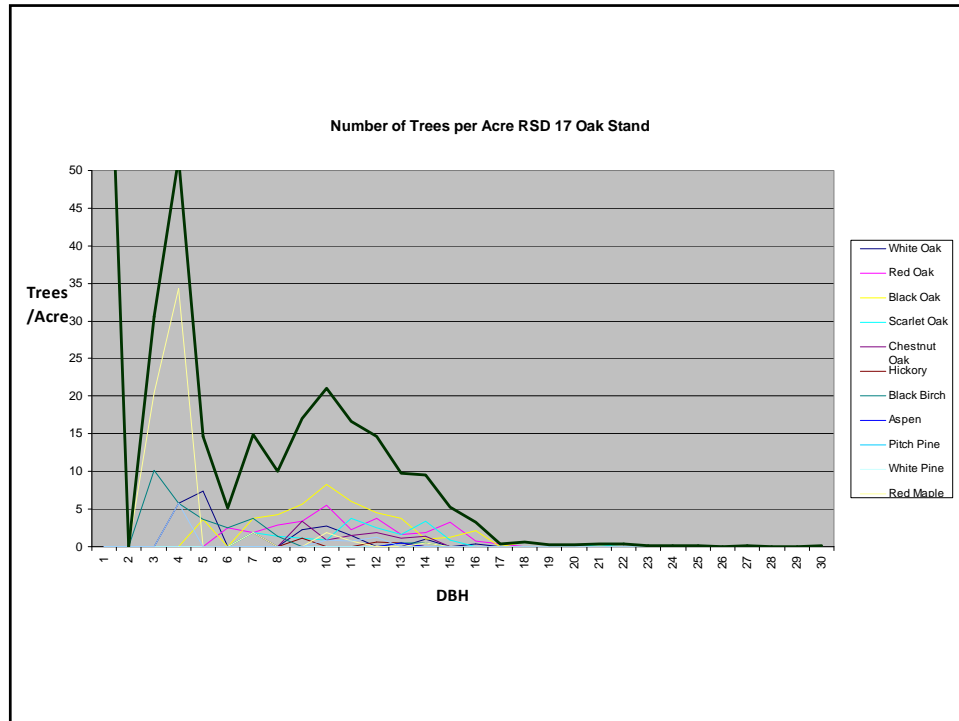
Parcel size distribution

Woodland Ownership

- Half the forest resource is private/family owned
- Family and other ownerships smaller than 25 acres occupy almost half of the private forest acreage in CT.
- Timber value is low on the priority list, (for most woodland owners) until...
- The concept of a 100-year rotation? irrelevant
- High-production mechanized harvesting operations?
     also irrelevant
- None of that means that tree values are not important

Relative Longevity

- Age of oak trees on my property in Higganum are estimated to be 108 years; charcoal-harvest-sprout origin, **even-aged**…
- Black and scarlet oaks there are old trees (125)
- Red oaks there are middle-aged trees (250)
- White oaks there are relatively young trees (400)

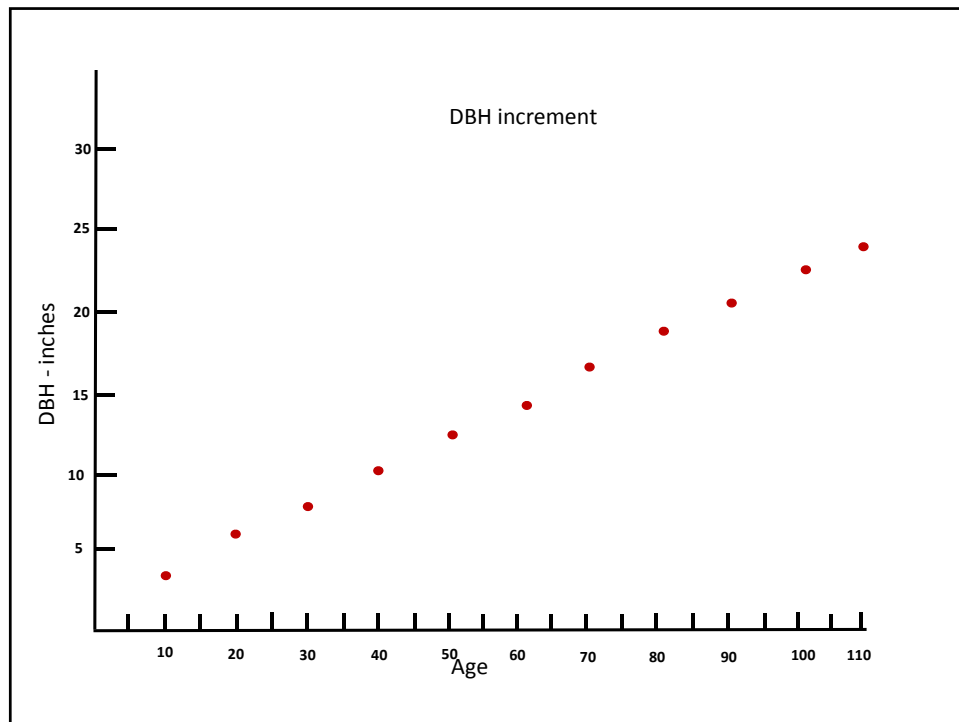| Stand Table for RSD 17 Oak Stand					Number of Trees per acre, Species X Diameter (#trees tallied X cf / #plots)								
					# of plots	20							
Species DBH	White Oak	Red Oak	Black Oak	Scarlet Oak	Chestnut Oak	Hickory	Black Birch	Red Maple	Beech	Aspen	Pitch Pine	White Pine	TOTAL
1	0	0	0	0	0	0	0	92	0	0	0	0	92
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	10	20	0	0	0	0	31
4	6	0	0	0	0	0	6	34	6	0	0	0	52
5	7	0	4	0	0	0	4	0	0	0	0	0	15
6	0	3	0	0	0	0	3	0	0	0	0	0	5
7	2	2	4	2	0	0	4	2	0	0	0	0	15
8	0	3	4	1	0	0	1	0	0	0	0	0	10
9	2	3	6	1	3	1	0	0	0	0	0	0	17
10	3	6	8	1	1	0	0	2	1	0	0	0	21
11	2	2	6	4	2	0	0	1	1	0	0	0	17
12	0	4	4	3	2	1	0	0	1	0	0	0	15
13	0	2	4	2	1	1	1	0	0	1	0	0	10
14	1	2	1	3	1	0	0	0	0	0	0	0	10
15	0	3	1	1	0	0	0	0	0	0	0	0	5
16	0	1	2	0	0	0	0	0	0	0	0	0	3
17	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	1	0	0	0	0	0	0	0	0	0	1
19	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL:	23	31	46	18	10	2	28	151	9	1	0	0	319

Number of Trees per Acre RSD 17 Oak Stand

A nice red oak…

26" DBH; 90 ft total ht;
2.5 logs merch ht; 600 bf tree scale

At stumpage value of $200.00/mbf
tree value = $120.00

DBH increment

Log Price Comparisons - red oak logs

Label	Specification				$$$/MBF
• Veneer 1	22" dib; lengths 8'6", 9'6", 10'6";			4 cf	$1900
• Veneer 2	14 to 21"dib	same lengths;		4 cf	$1300
• Prime	16"+ dib;	8'6" to 16'4"		3 cf	$ 800
• Select	13 to 15" dib	8'6" to 16'4"		3 cf	$ 700
• Number 1	12" + dib	8'6" to 16'4"		3 cf	$ 550
• Number 2	12" + dib	8'6" to 16'4"		2 cf	$ 400
• Number 3	10" + dib	8'6" to 16'4"		sound	$ 225

Tree Value (as logs)

26" DBH; 90 ft total ht; 2.5 logs merch ht; 600 bf tree scale
At stumpage value of $200.00/mbf tree value = $120.00

Logs (roadside, truckload quantity):
1.   12 ft; 4 cf; 22 in dib 260 bf @ $1900 = $494.00
2.   10 ft; 2 cf; 16 in dib 110 bf @ $ 400 = $ 44.00
3.   10 ft; sound 12 in dib 55 bf @ $ 225 = $ 12.38
4.   8'6"; sound 10 in dib 30 bf @ $ 225 = $ 6.75

                                    Total: $557.13
Minus logging expense @ $150.00/mbf - $ 90.00
                      Roadside value: $467.13

This is the exception.

It is the reason we have high-grading.

But it is also the reason we should grow trees to the next best grade.

A Reminder about Geometry:

Volume increases with the square of the diameter:

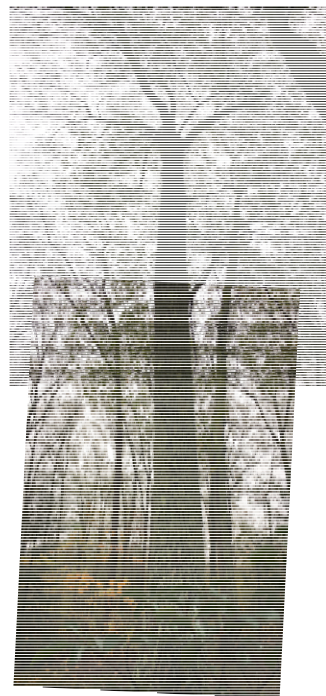**Average annual increment has been about .225 inches.**
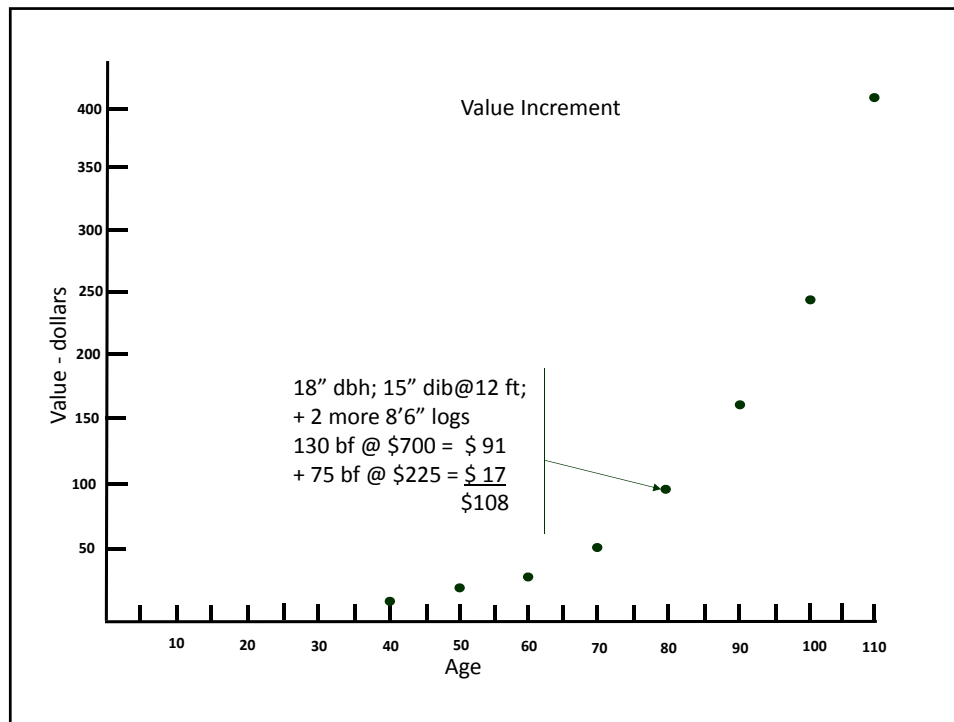
14.000 dbh = 1.069 sq ft ba
14.225 dbh = 1.104 sq ft ba

20.000 dbh = 2.181 sq ft ba
20.225 dbh = 2.231 sq ft ba

Along with price jumps…

Value Increment

18" dbh; 15" dib@12 ft;
+ 2 more 8'6" logs
130 bf @ $700 = $ 91
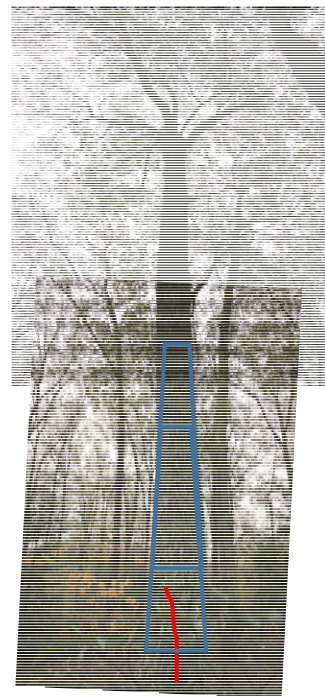+ 75 bf @ $225 = $ 17
                        $108

Defects

22", 12-foot log, 3 cf; 260 bf @ $800 = $208
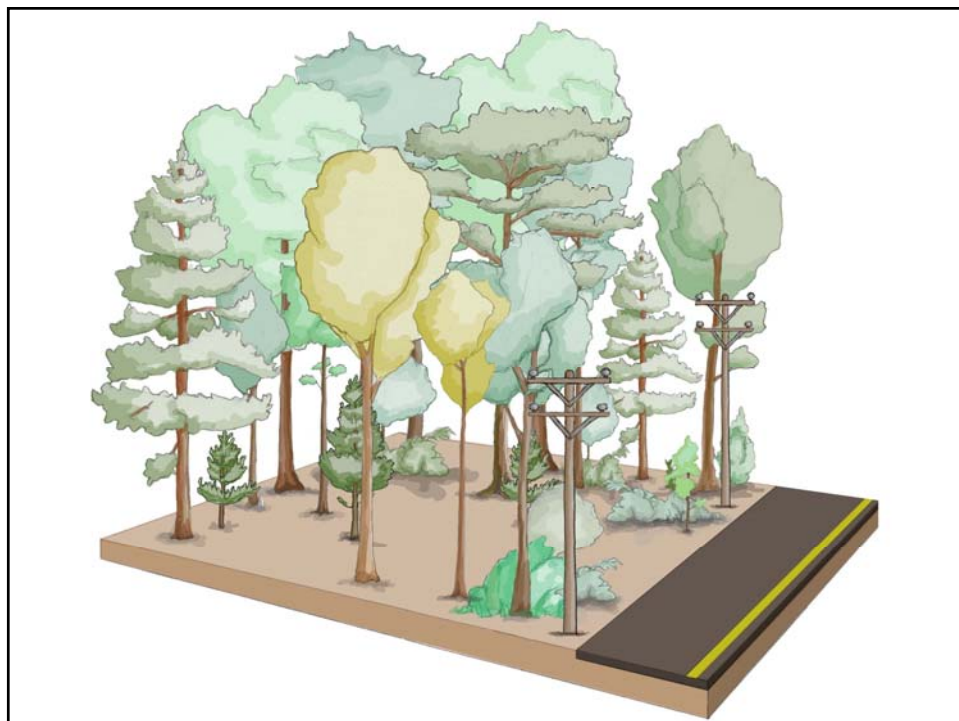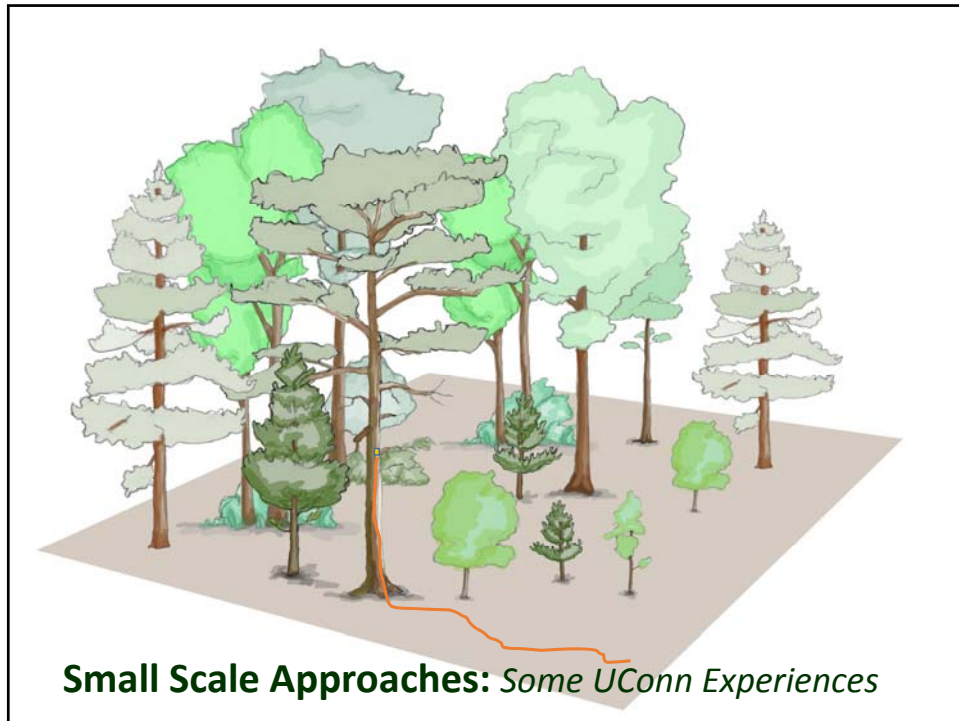
22", 8'6" log, 4 cf; 170 bf @ 1900 = $ 323.

Seamed base will be removed.

"Grade Index": (?)
Number of clear faces on the best 10 feet
of the first log.

Small Scale Approaches: *Some UConn Experiences*

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e UConn Experiences

Small Scale Approaches:
an idea for small acreages?

- Scale appropriate equipment
- Right training (technique!!)
- Knowledgeable forester
- More detailed marking tally
- Foster small-scale contractors
- Log-making 101
- What works on 5 acres
  will also work on 5 of 50 acres

Thank you