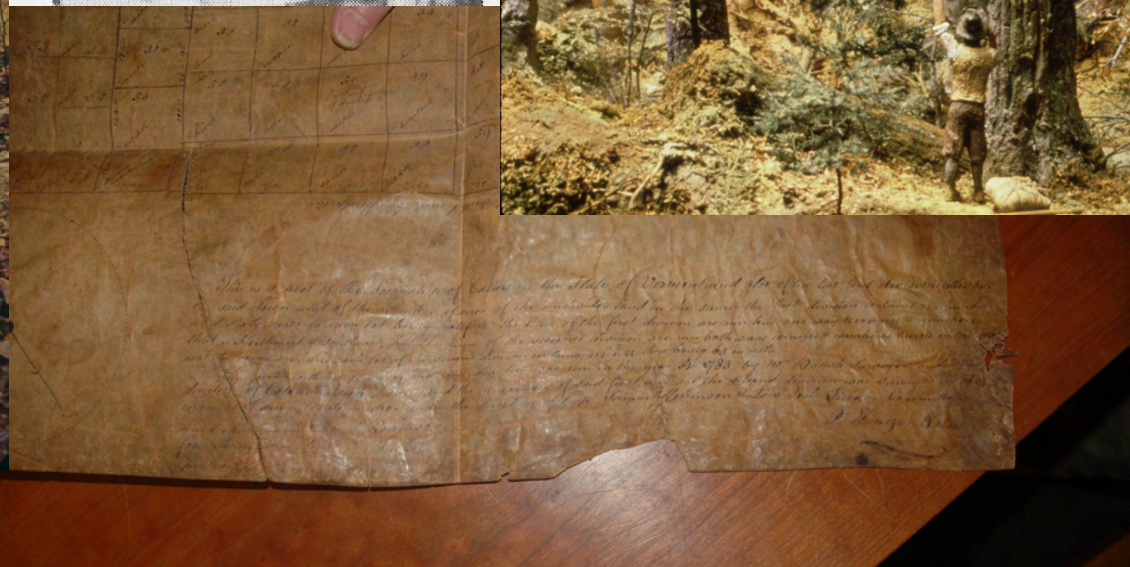
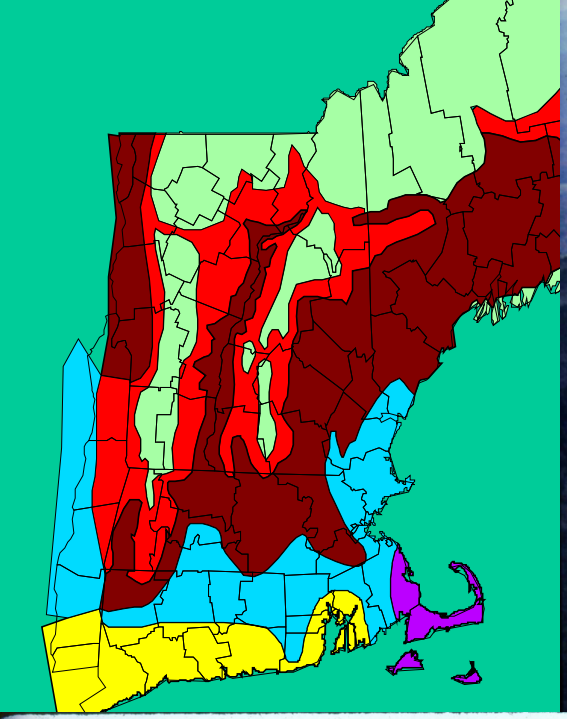
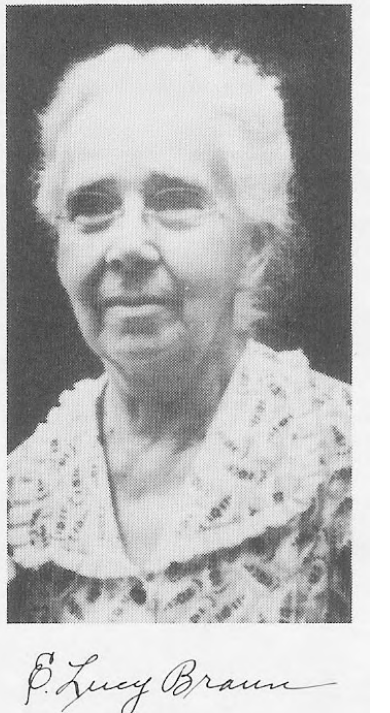
The Original Forests of Vermont

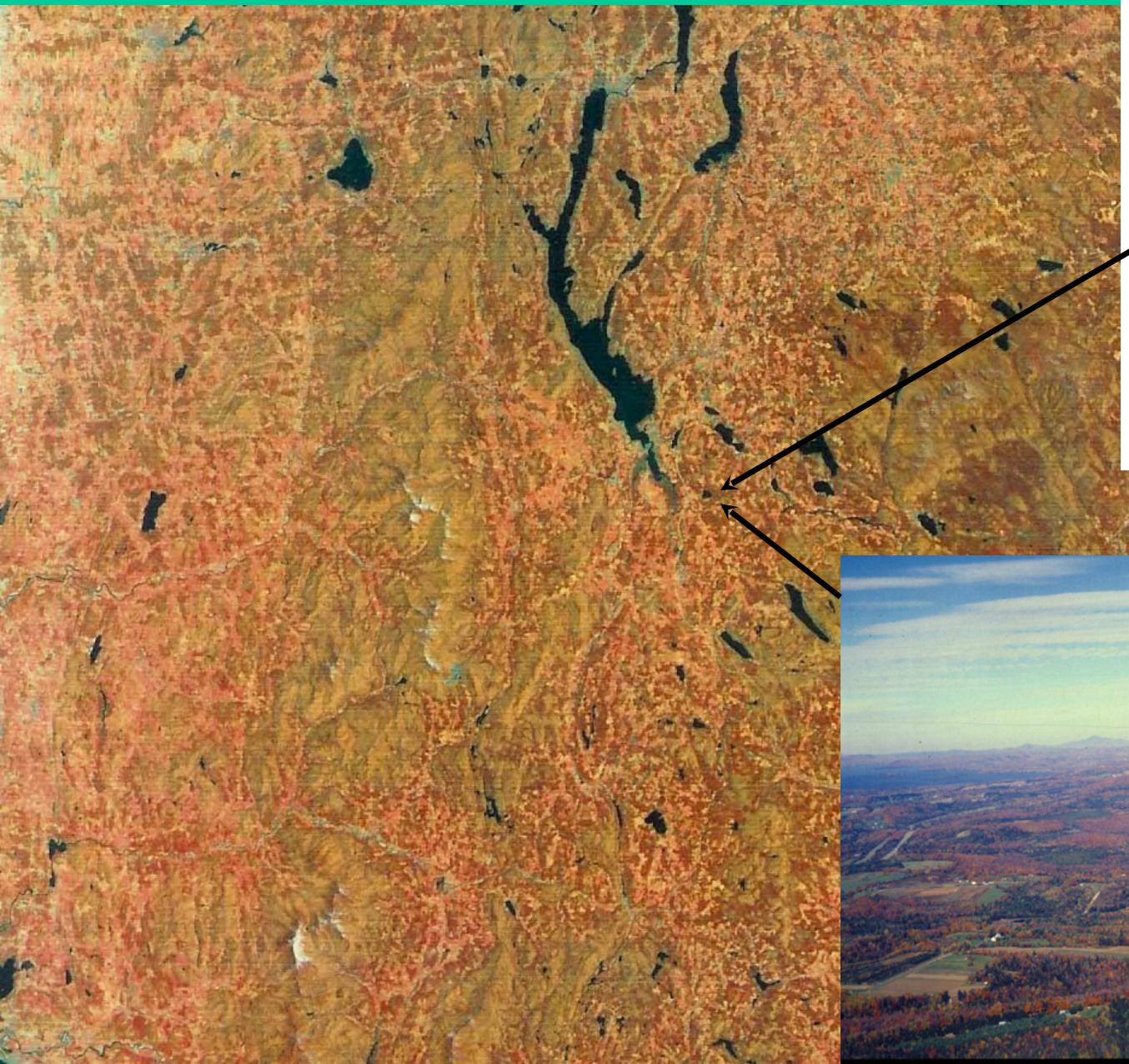




St. Lawrence R.
Mt. Mahtahdin
Mt. Desert
Mt. Monadnock
Hudson R.
Connecticut R.
Martha's Vineyard
Nantucket
Long Island
Sandy Hook



E. Lucy Braun



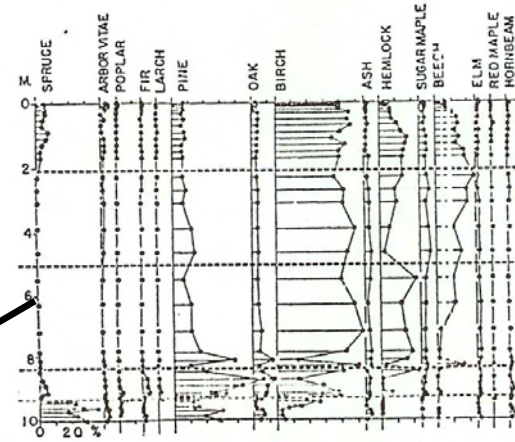
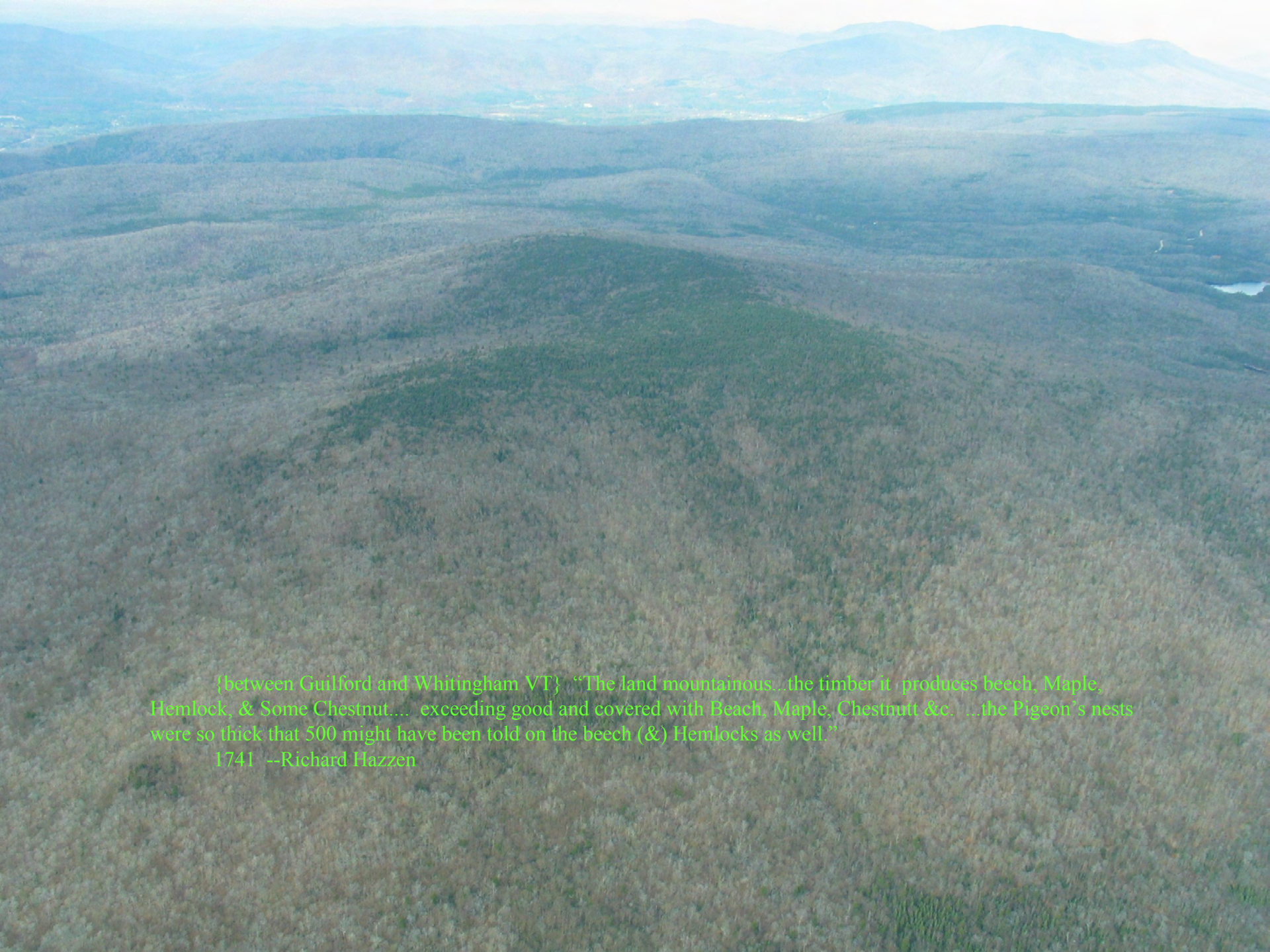
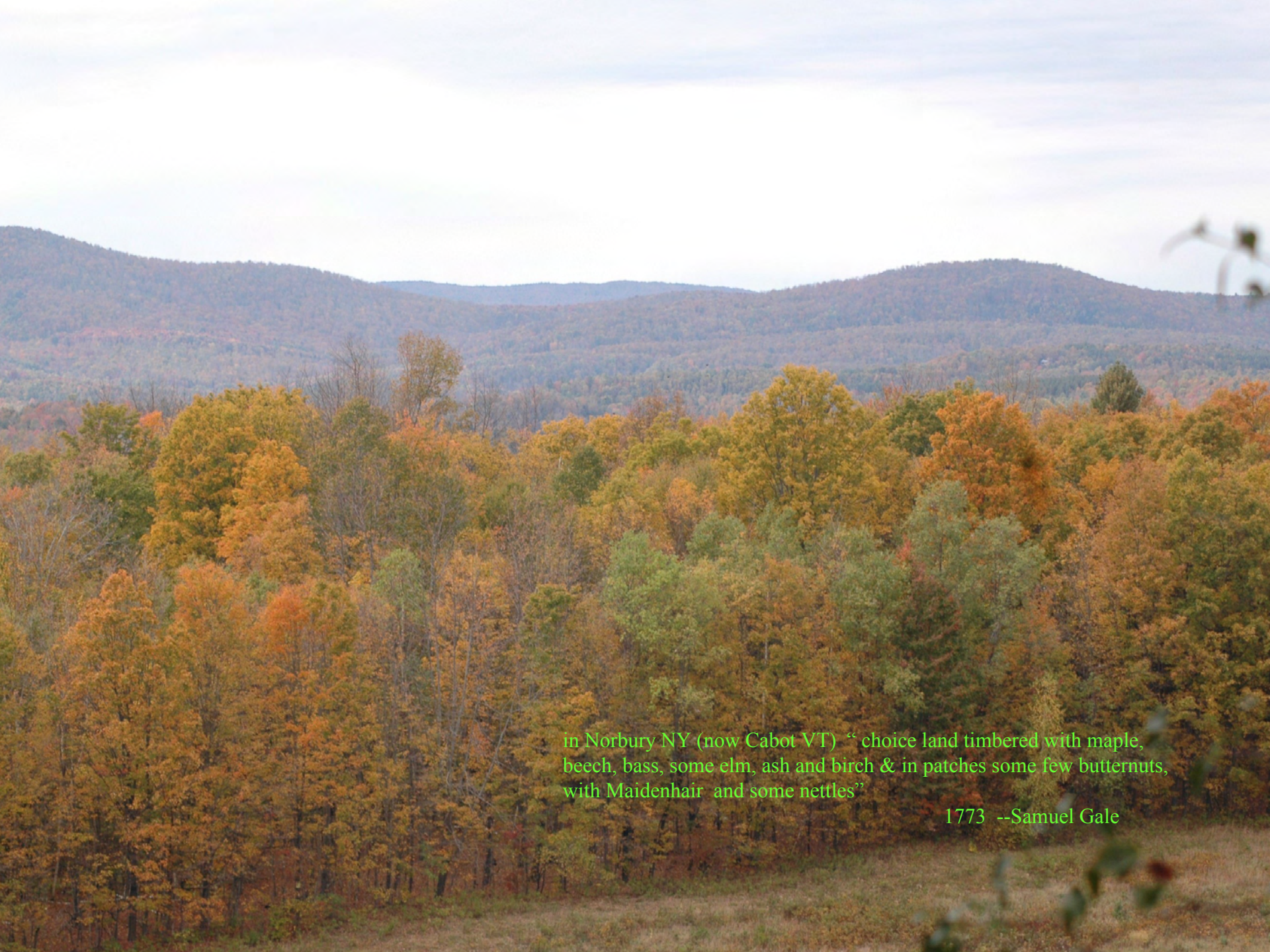


Figure 3. Percentage pollen diagram from Brownington Po
culated as percent total terrestrial plant pollen.
cated to the left, classic pollen zone designations
of the diagram. The lower half of Zone A coul
Pollen Zone," the upper half "Spruce Pollen Zo
by E. S. Deevey, G. B. Deevey, R. H. Davis, an
at the base.



{between Guilford and Whitingham VT} "The land mountainous...the timber it produces beech, Maple, Hemlock, & Some Chestnut.... exceeding good and covered with Beach, Maple, Chestnutt &c. ...the Pigeon's nests were so thick that 500 might have been told on the beech (&) Hemlocks as well."

1741 --Richard Hazzen


in Norbury NY (now Cabot VT) " choice land timbered with maple,
beech, bass, some elm, ash and birch & in patches some few butternuts,
with Maidenhair and some nettles"
1773 --Samuel Gale

. . . the Green Mountains . . . covered with dense forests, . . . swampy in the valleys, . . . [the] toilsome journey was increased by the gloom of the forest and by the disagreeable smell of the swamps. Mushrooms, moss and similar vegetation grow in great abundance. Often large fallen trunks are so rotten they collapse under the weight of one person. The darkness of the woods, where the sun's rays rarely penetrate, is sometimes such that a very large tree falls of its own weight, tearing up all its roots. The ground, which has never been cultivated, is virtually impenetrable beneath the shallow layer of humus. . .

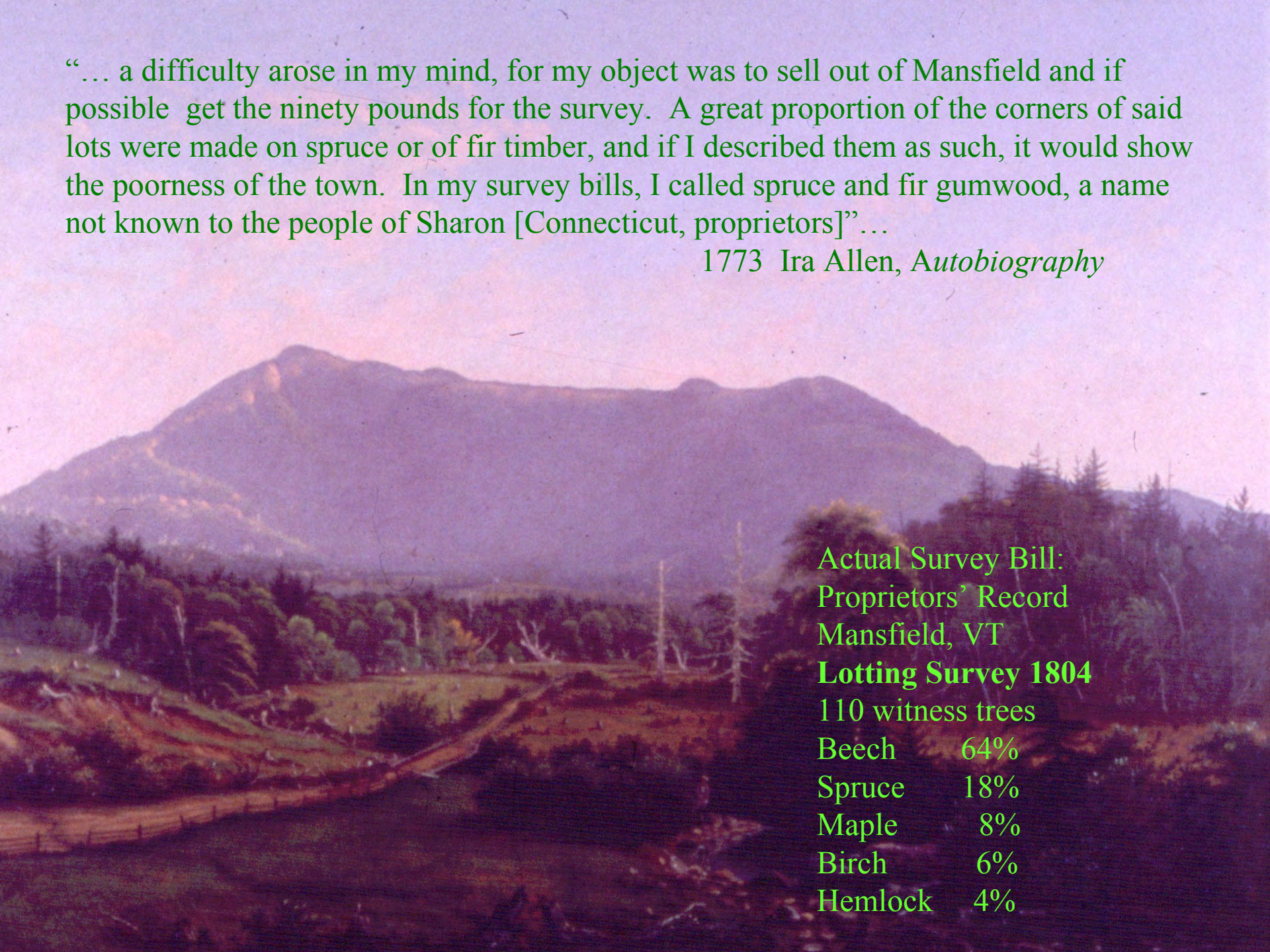
1785 --Luigi Castiglioni between Cavendish and Shrewsbury, Vermont

{between Fairhaven and Rutland}. "The timber here is chiefly Hemlock--Pine--Spruce--Beech--Poplar--Sugar Maple. &c-- no Oak." and later on Pico Peak VT "the Hemlock & Spruce towards the top of a cripply growth, being depressed by heavy snows & cold & very difficulte to come through."

1807 --Frederick Pursh

"… a difficulty arose in my mind, for my object was to sell out of Mansfield and if possible get the ninety pounds for the survey. A great proportion of the corners of said lots were made on spruce or of fir timber, and if I described them as such, it would show the poorness of the town. In my survey bills, I called spruce and fir gumwood, a name not known to the people of Sharon [Connecticut, proprietors]"…

1773 Ira Allen, A*utobiography*



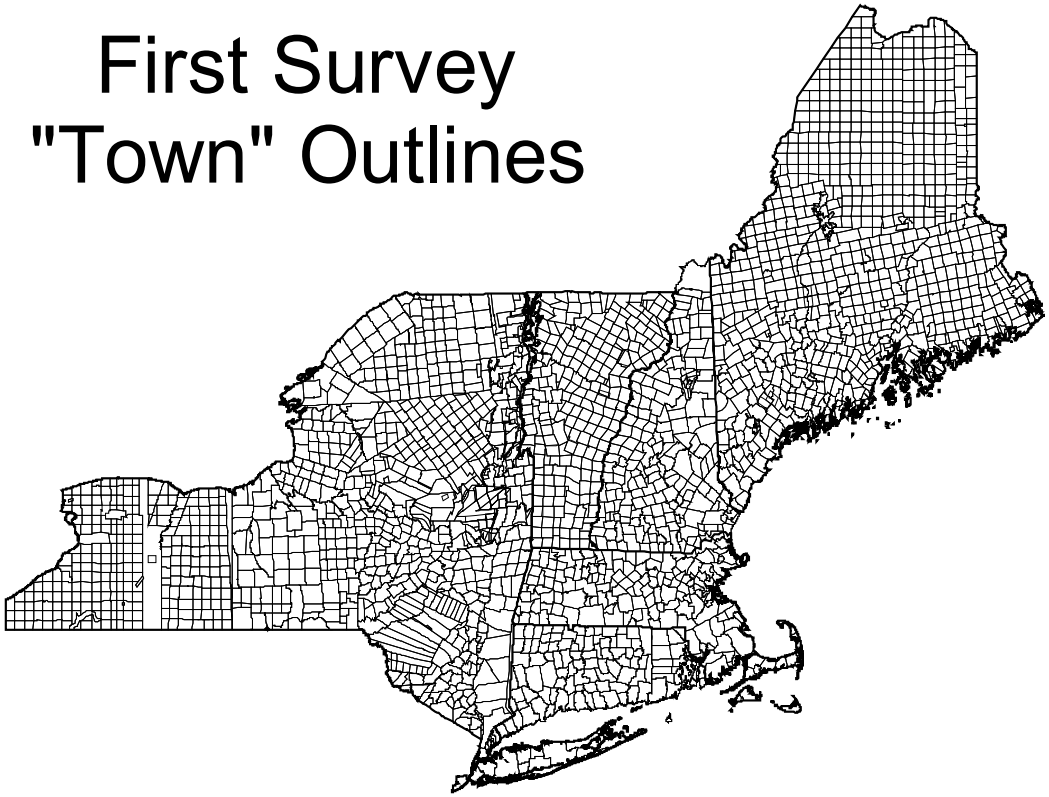
Actual Survey Bill:
Proprietors' Record
Mansfield, VT
Lotting Survey 1804
110 witness trees

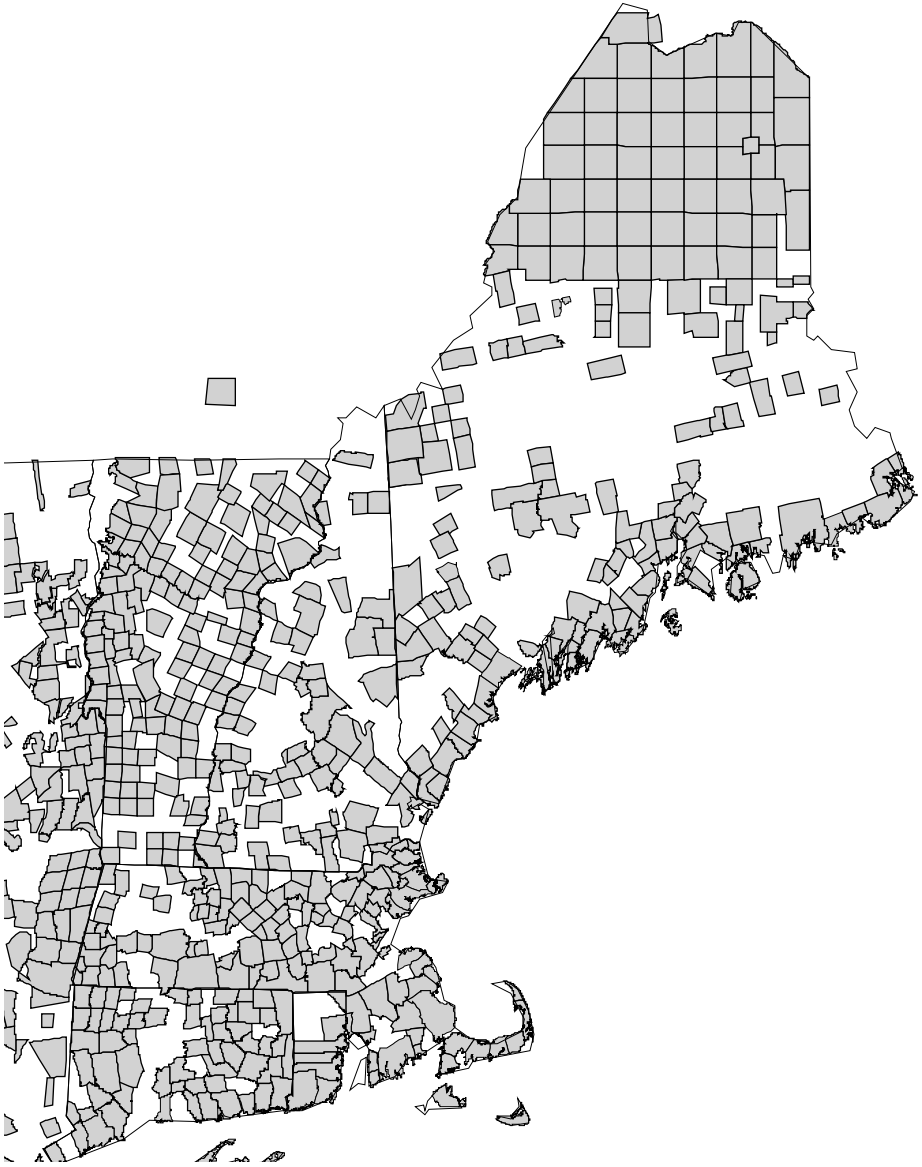
Beech	64%
Spruce	18%
Maple	8%
Birch	6%
Hemlock	4%

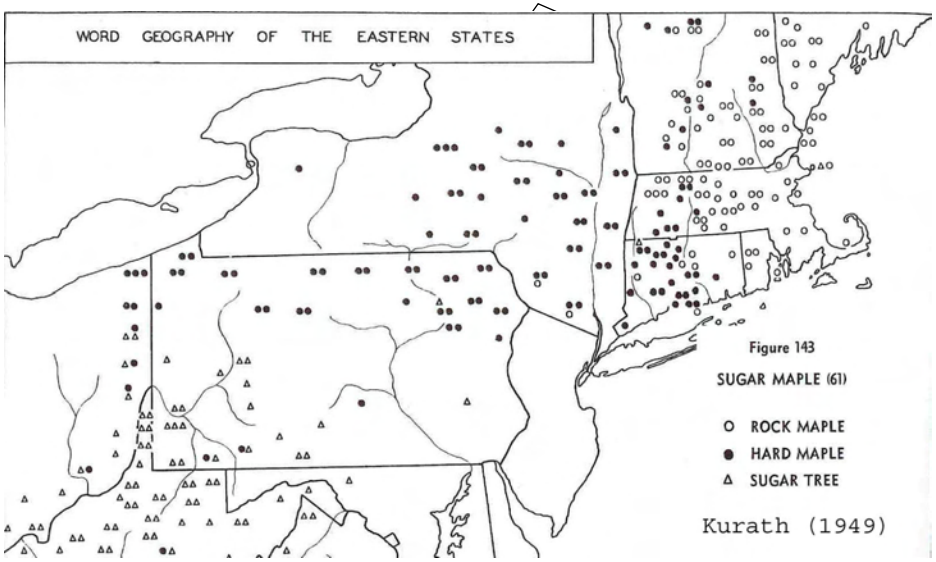
Survey of
Charlotte Town Lots
within lot 54 1st Division
1785-86
188 witness trees

Beech	40%
Maple	17%
-- 2/34 "white maples"	
Hemlock	12%
Pine	9%
-- all "white"	
Ashes	7%
-- both "white" and "red"	
Oaks	5%
-- all "white"	
Basswood	3%
Burch	3%
Witch Hasle	3%
-- {ironwood}	
Elm	1%

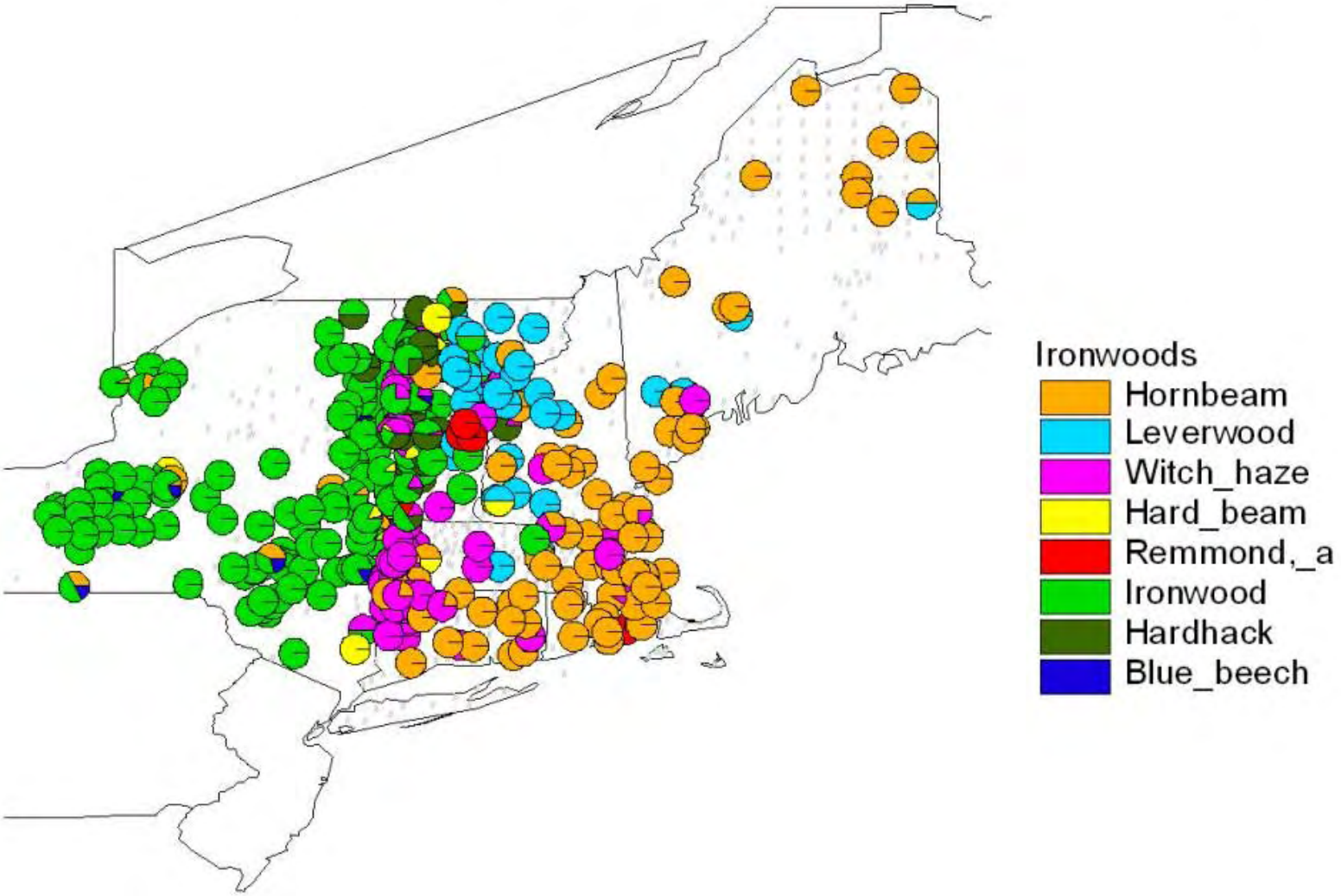
First Survey "Town" Outlines

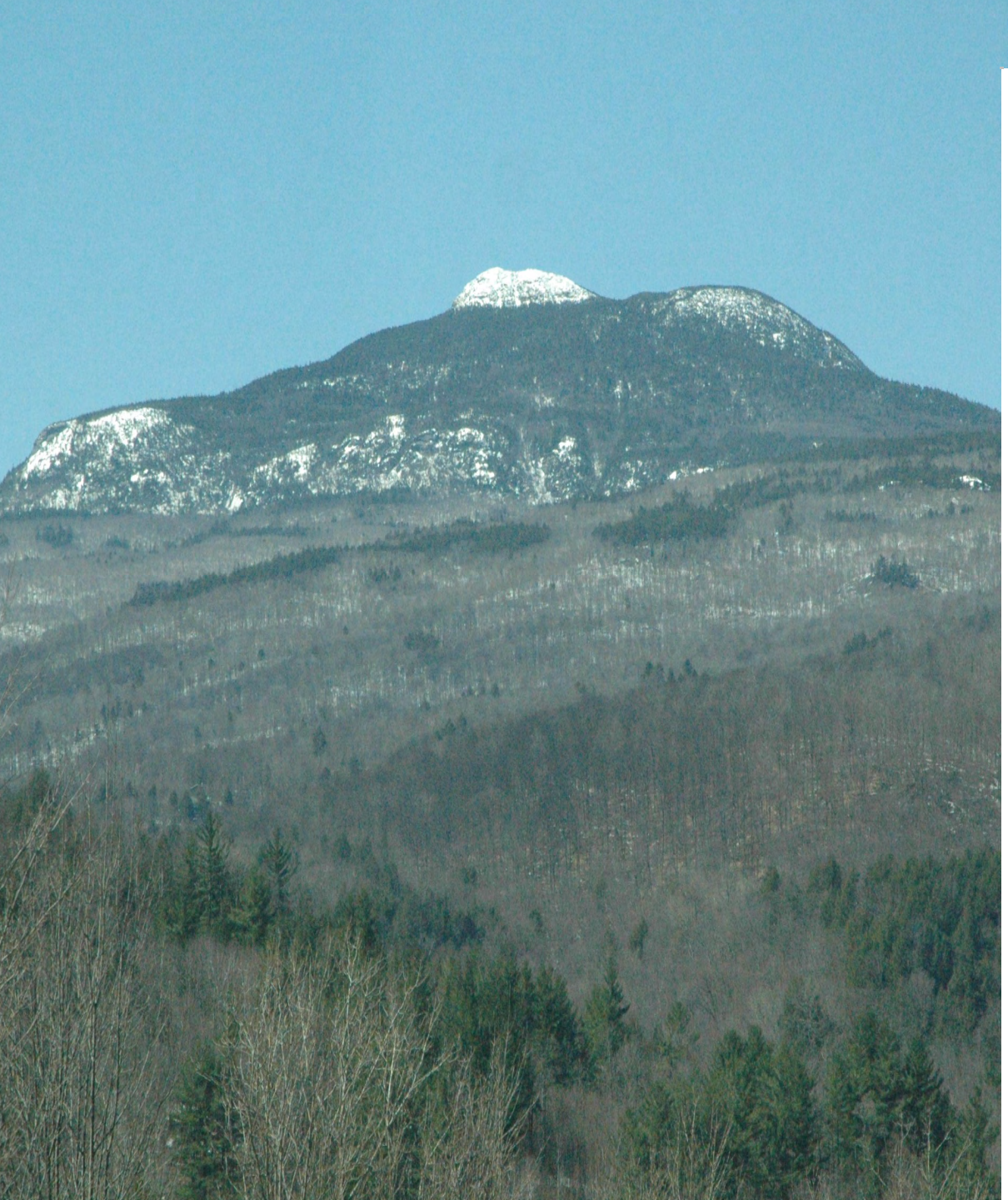





WORD GEOGRAPHY OF THE EASTERN STATES
Figure 143
SUGAR MAPLE (61)
ROCK MAPLE
HARD MAPLE
SUGAR TREE
Kurath (1949)

Ironwood Names in Presettlement Surveys

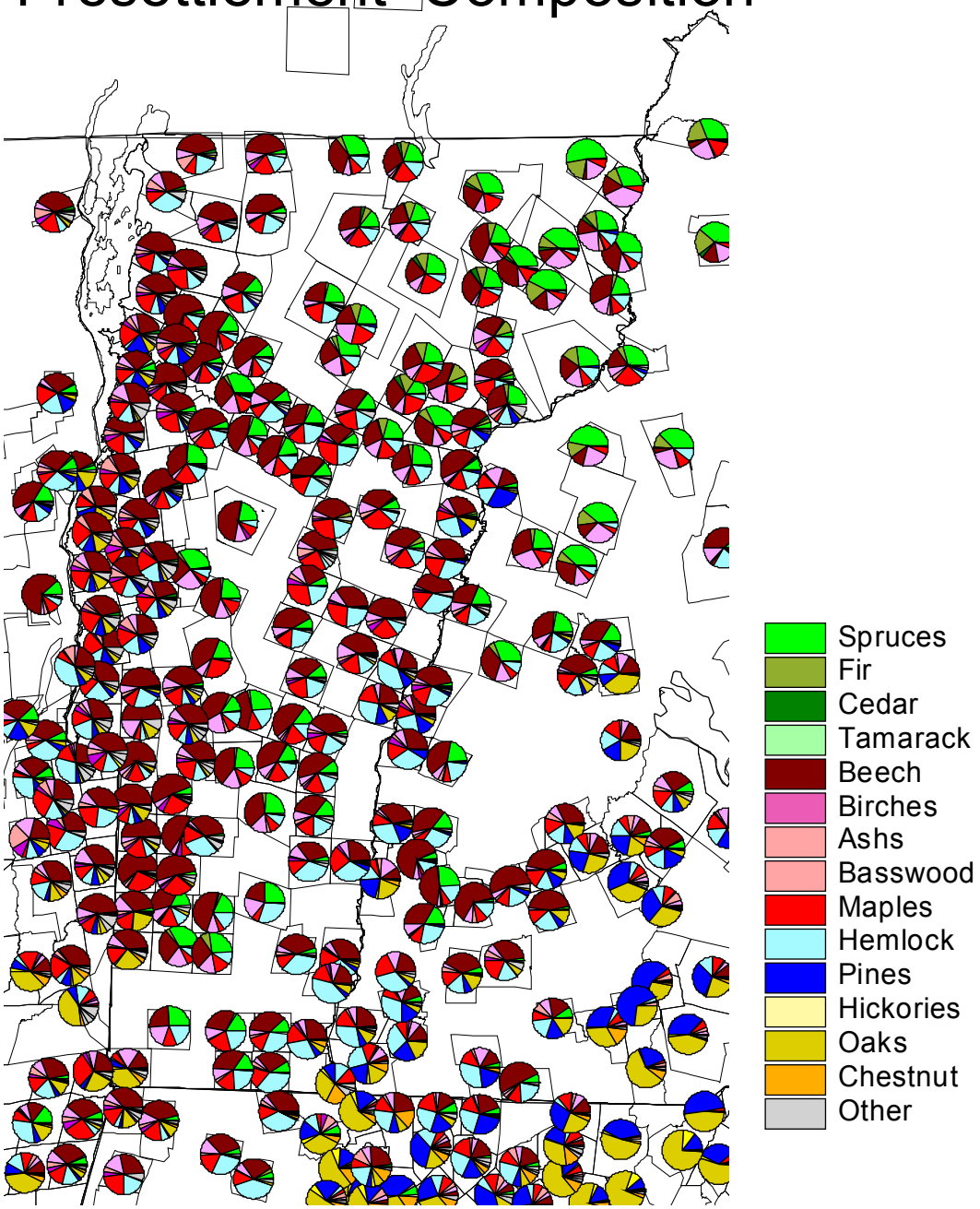


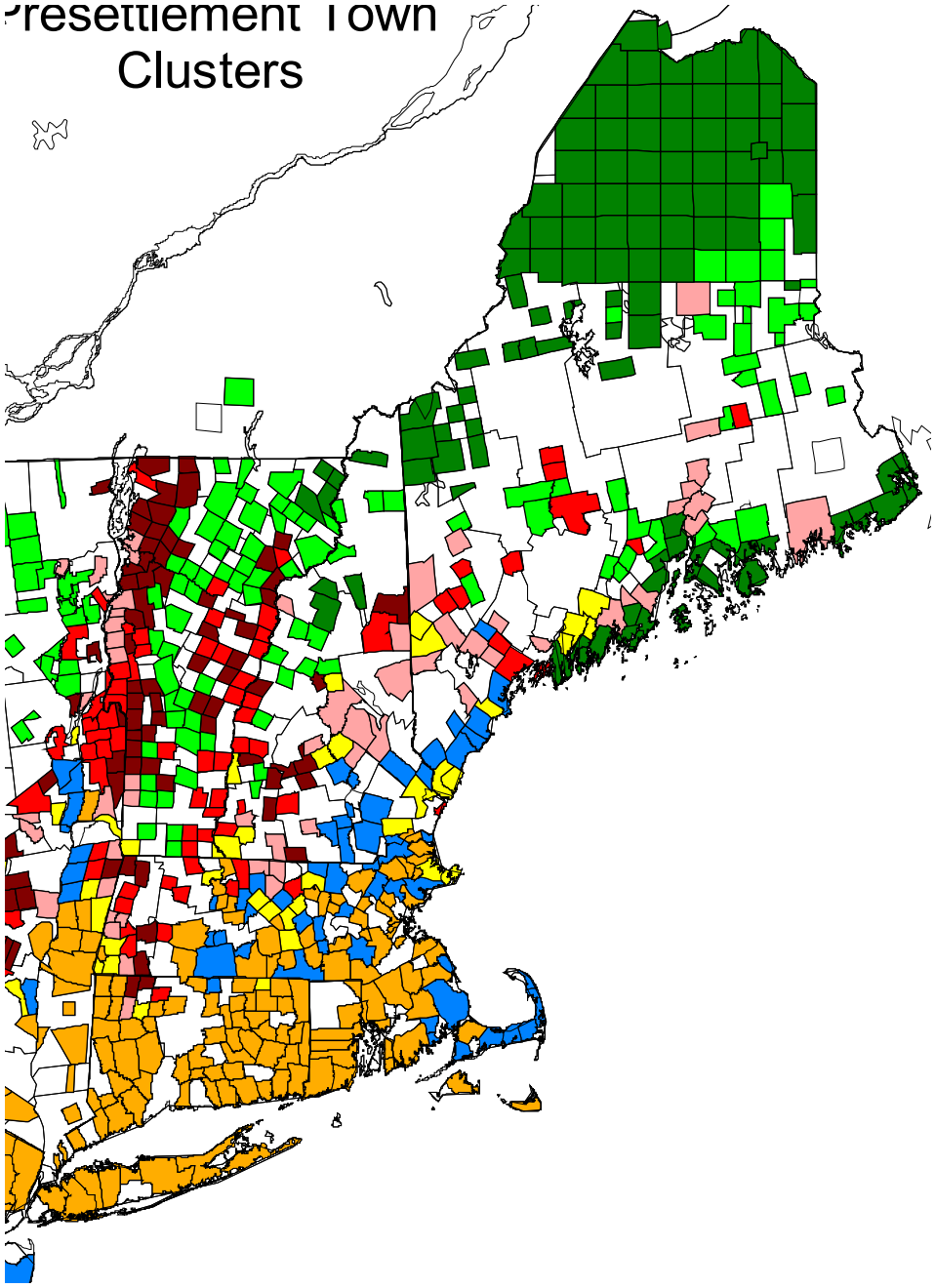


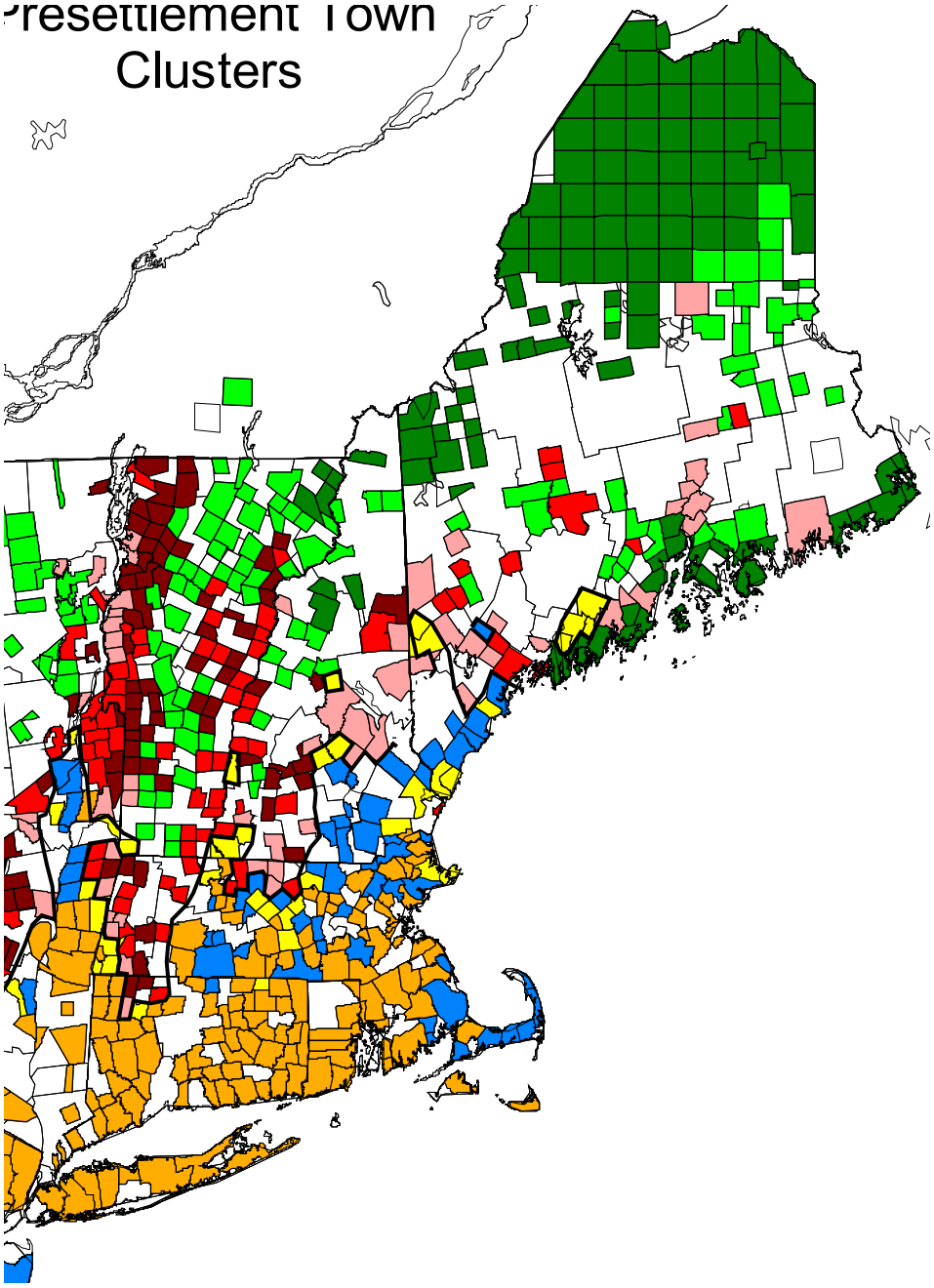
Vermont Original Forest Composition

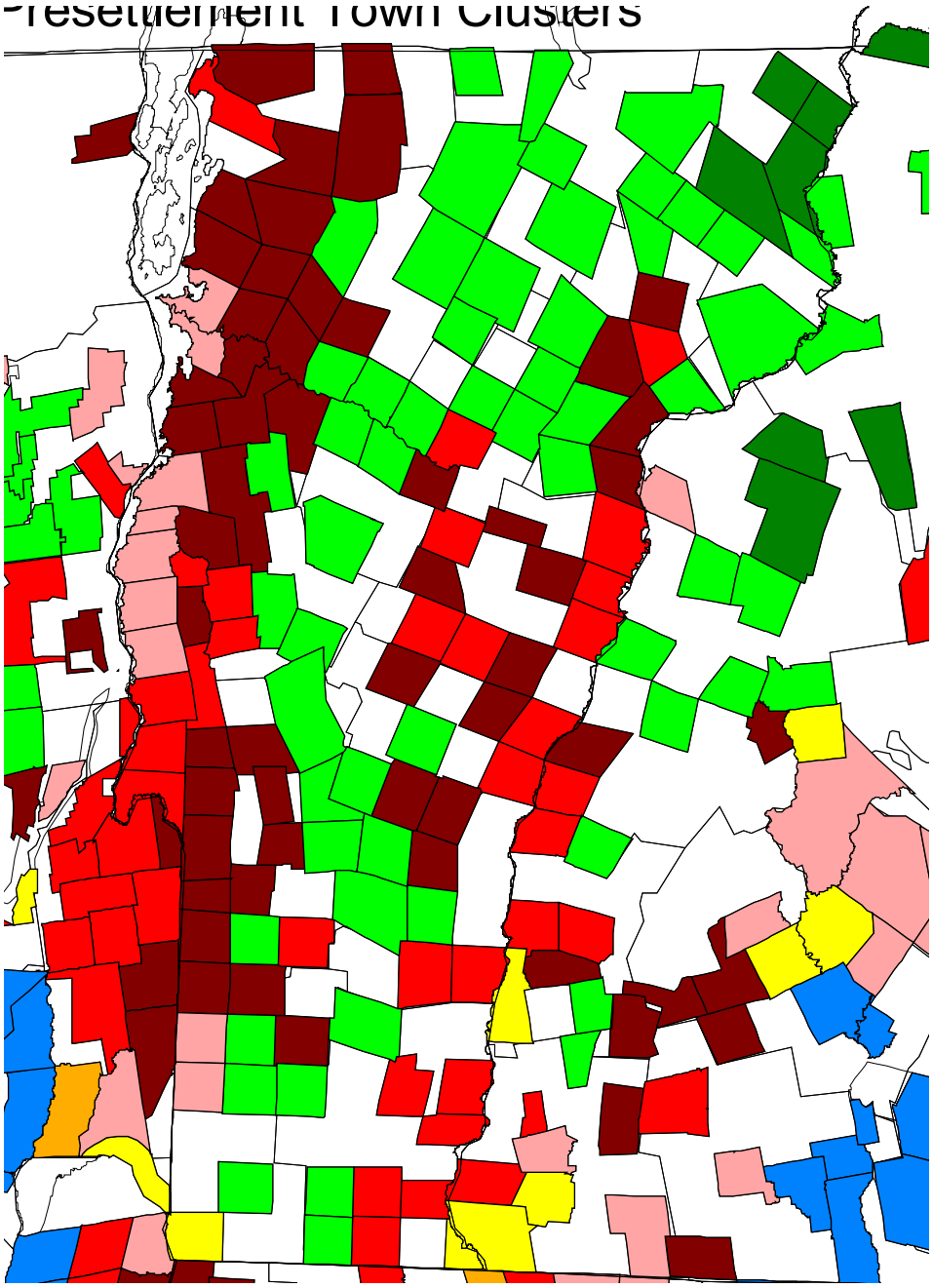
	Presettlement ca. 1800 138 towns 34052 trees
Beech	34.0%
Maples	15.4%
Hemlock	13.4%
Spruces	10.8%
Birches	8.7%
Ashes	2.6%
Oaks	2.6%
Pines	2.5%
Fir	2.2%
Ironwoods	2.0%
Basswood	1.8%
Elms	1.5%
Cedar	0.7%
Juglans	0.3%
Hickories	0.3%
Poplars	0.3%
Chestnut	0.3%
Cherries	0.2%
Tamarack	0.1%
Buttonwood	0.0%
Nyssa	0.0%

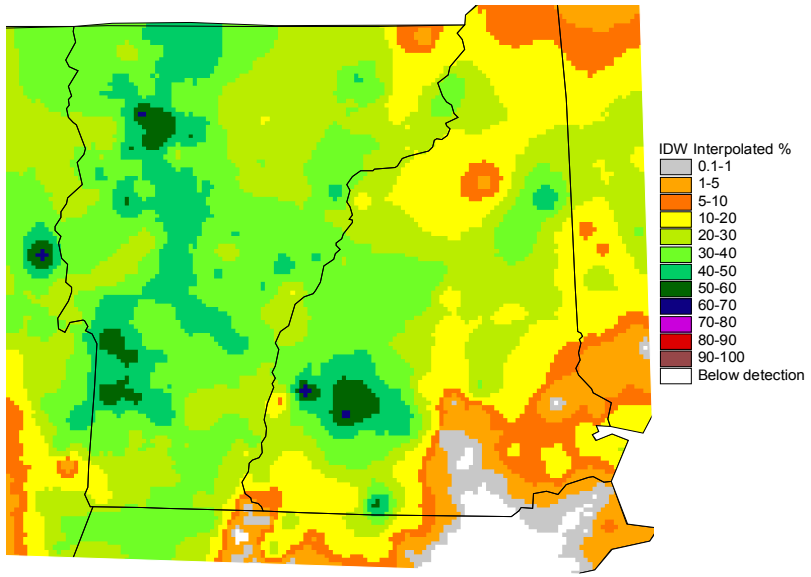
Presettlement Composition

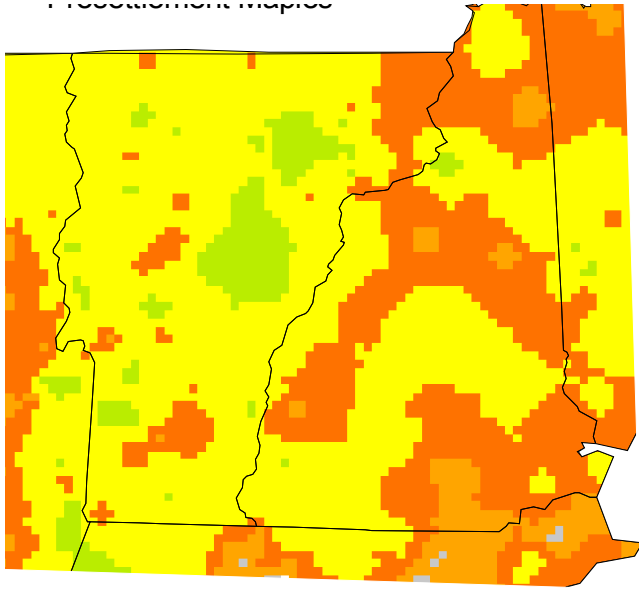


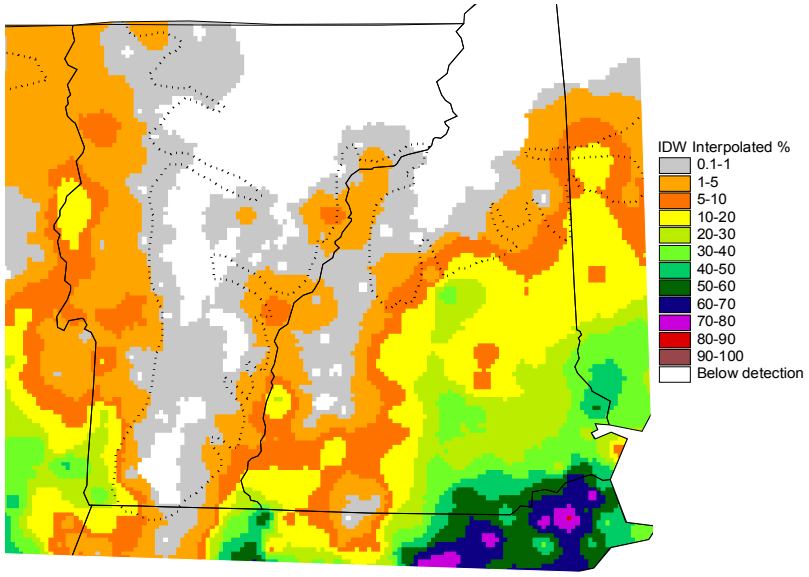

Presettlement Town
Clusters

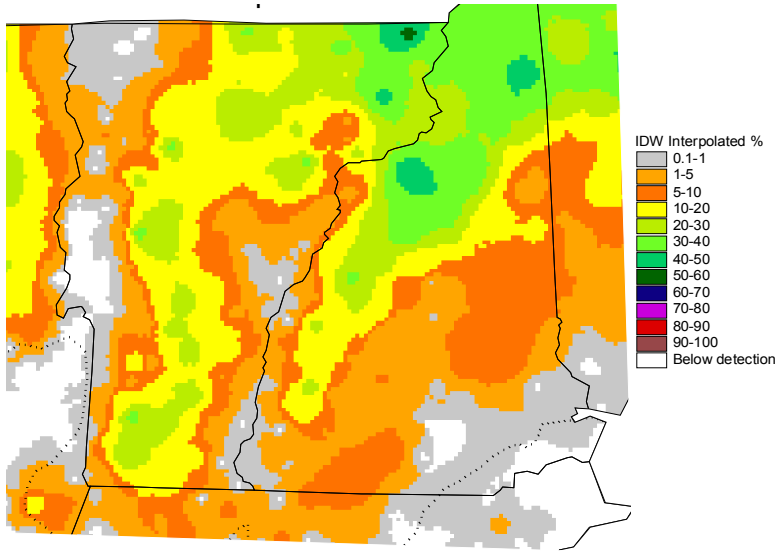

Presettlement Town
Clusters


Presettlement Town Clusters


IDW Interpolated %
0.1-1
1-5
5-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Below detection




IDW Interpolated %
0.1-1
1-5
5-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Below detection


IDW Interpolated %
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1-5
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10-20
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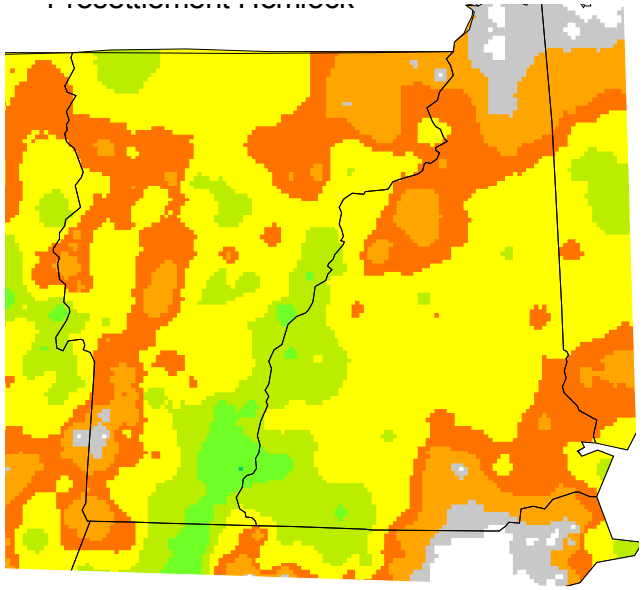
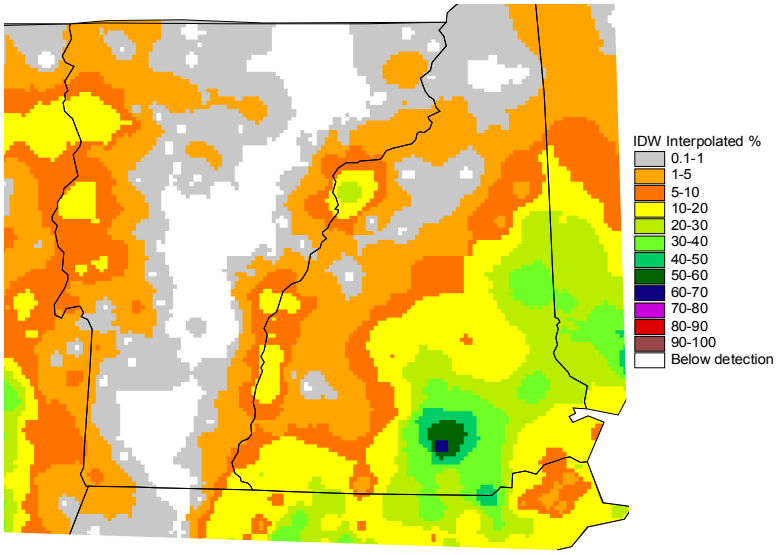
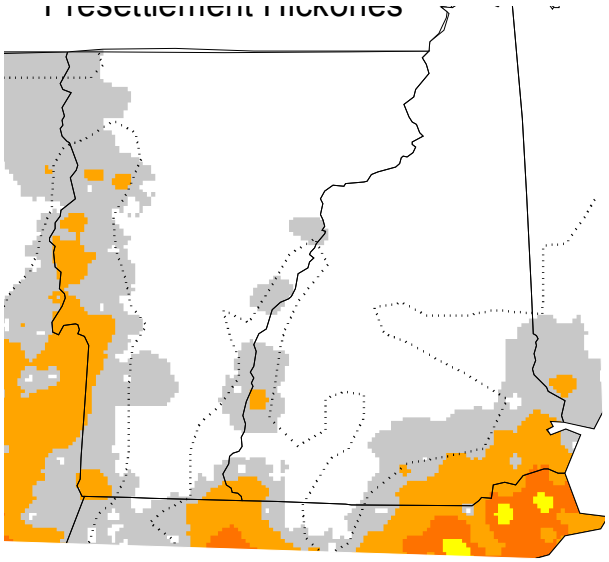
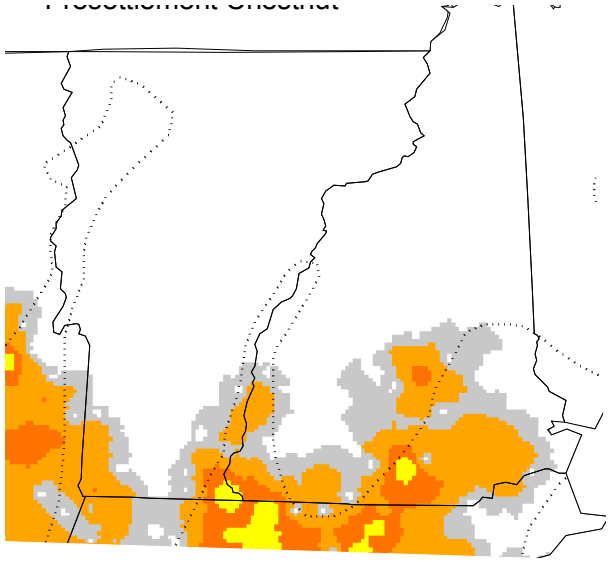
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Below detection




IDW Interpolated %
0.1-1
1-5
5-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Below detection

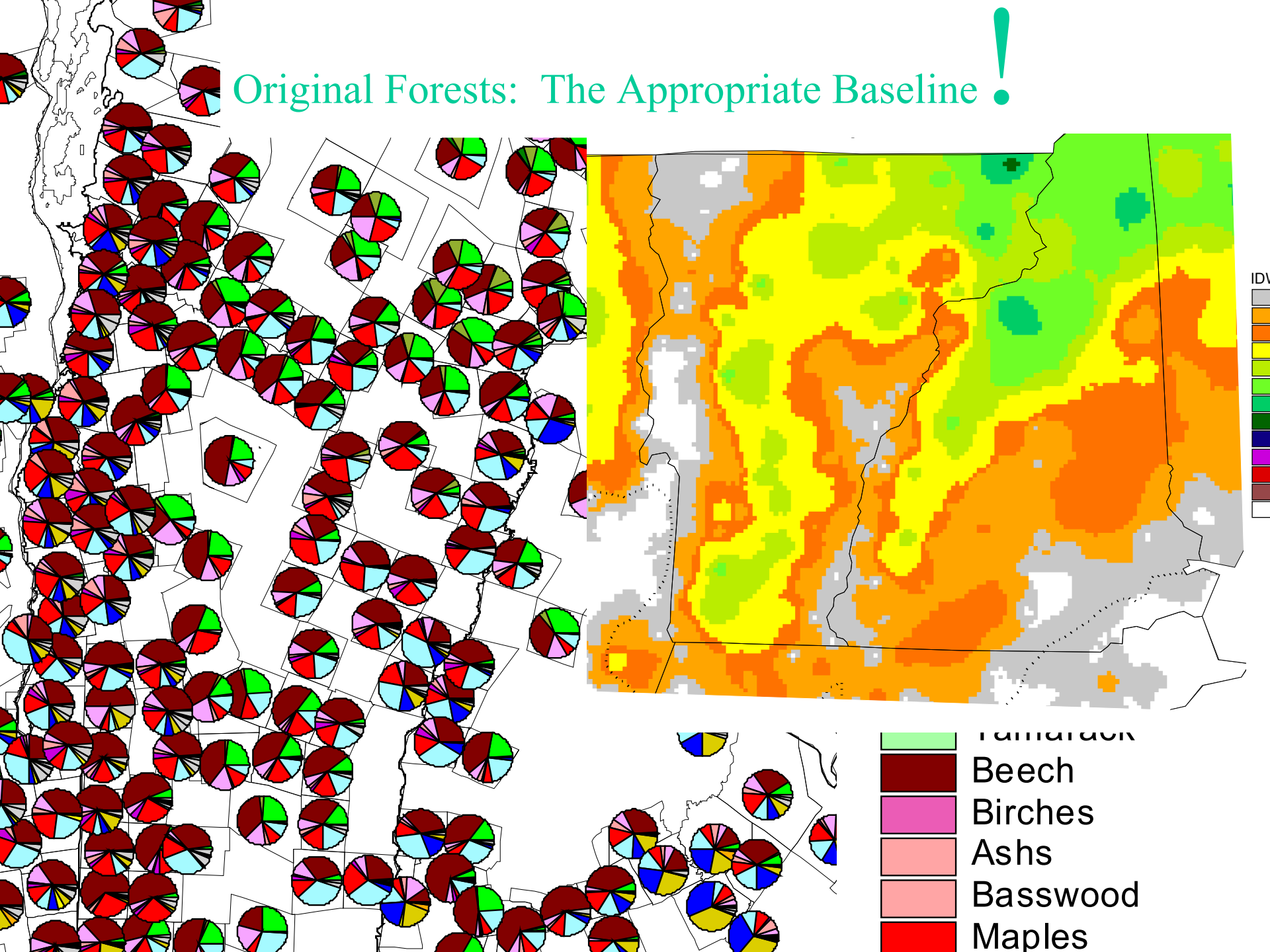




Original Forests: The Appropriate Baseline

Original Forests: The Appropriate Baseline ?

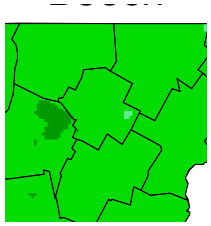
Original Forests: The Appropriate Baseline !

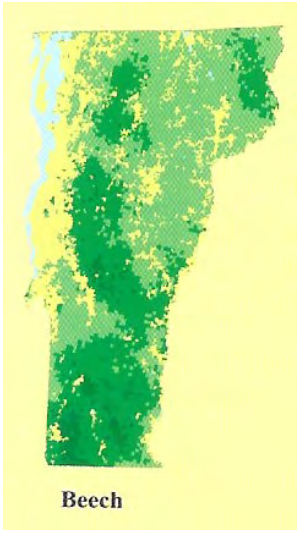


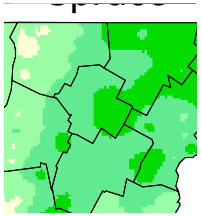
Change of Forest Composition in Vermont

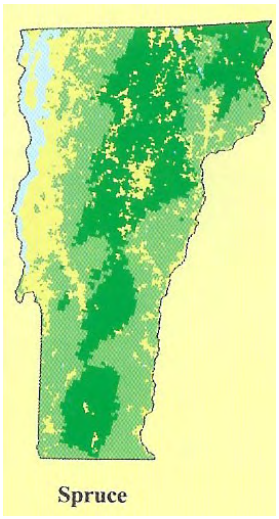
	Presettlement ca. 1800 138 towns 34052 trees	FIA 1997 all ??	Change Del Ratio 1997/1800
Cherries	0%	4%	22.1
Poplars	0%	2%	7.1
Fir	2%	12%	5.4
Maples	15%	33%	2.1
Cedar	1%	1%	1.9
Ironwoods	2%	4%	1.8
Ashes	3%	3%	1.3
Tamarack	0%	0%	1.3
Birches	9%	11%	1.3
Hickories	0%	0%	1.0
Pines	2%	2%	1.0
Spruces	11%	7%	0.7
Elms	2%	1%	0.4
Hemlock	13%	5%	0.4
Oaks	3%	1%	0.4
Beech	34%	10%	0.3
Juglans	0%	0%	0.1
Basswood	2%	0%	0.1
Chestnut	0%	0%	0.0
Buttonwood	0%	0%	0.0
Nyssa	0%	0%	0.0

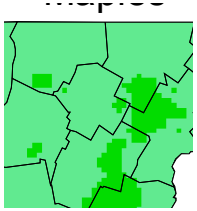
Forest Composition ca. 1800 ➔ 2000

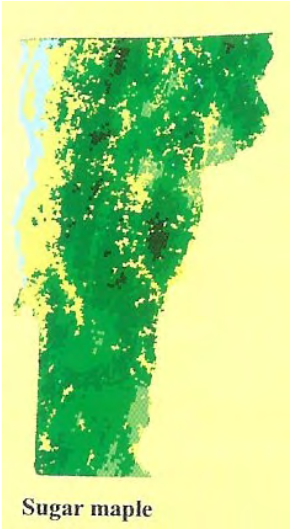


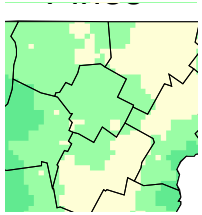


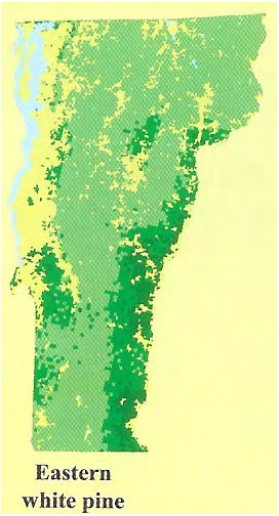




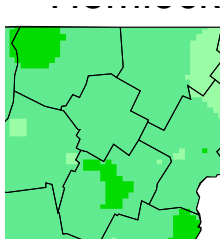


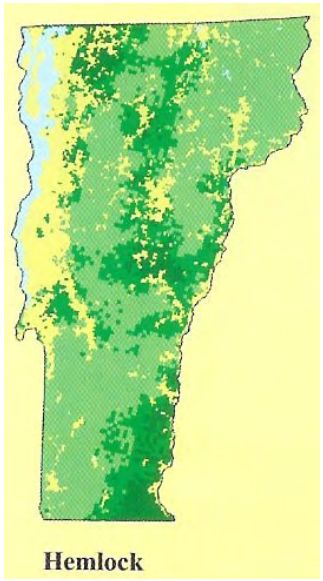


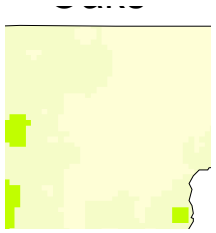


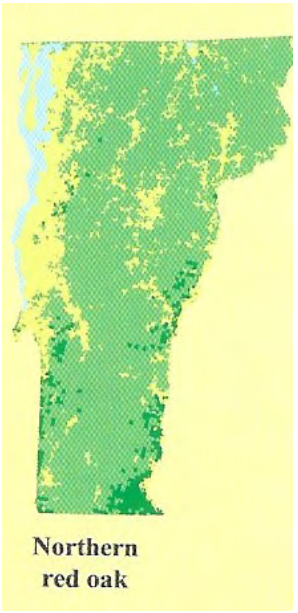


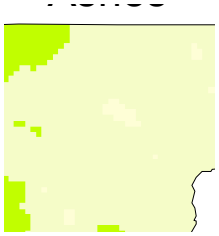
Forest Composition ca. 1800 ➔2000

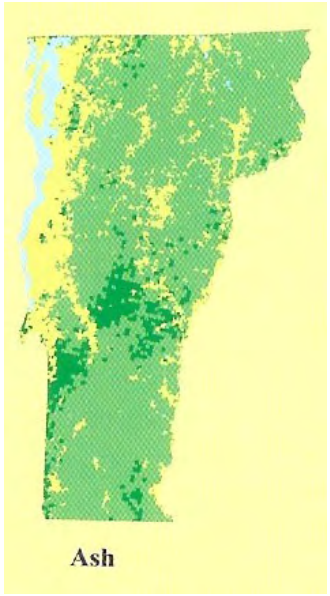


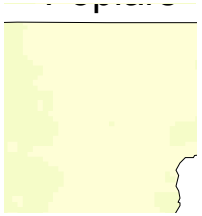


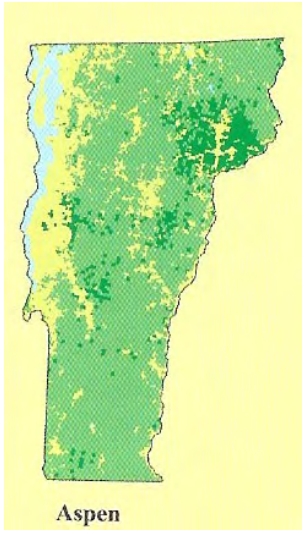


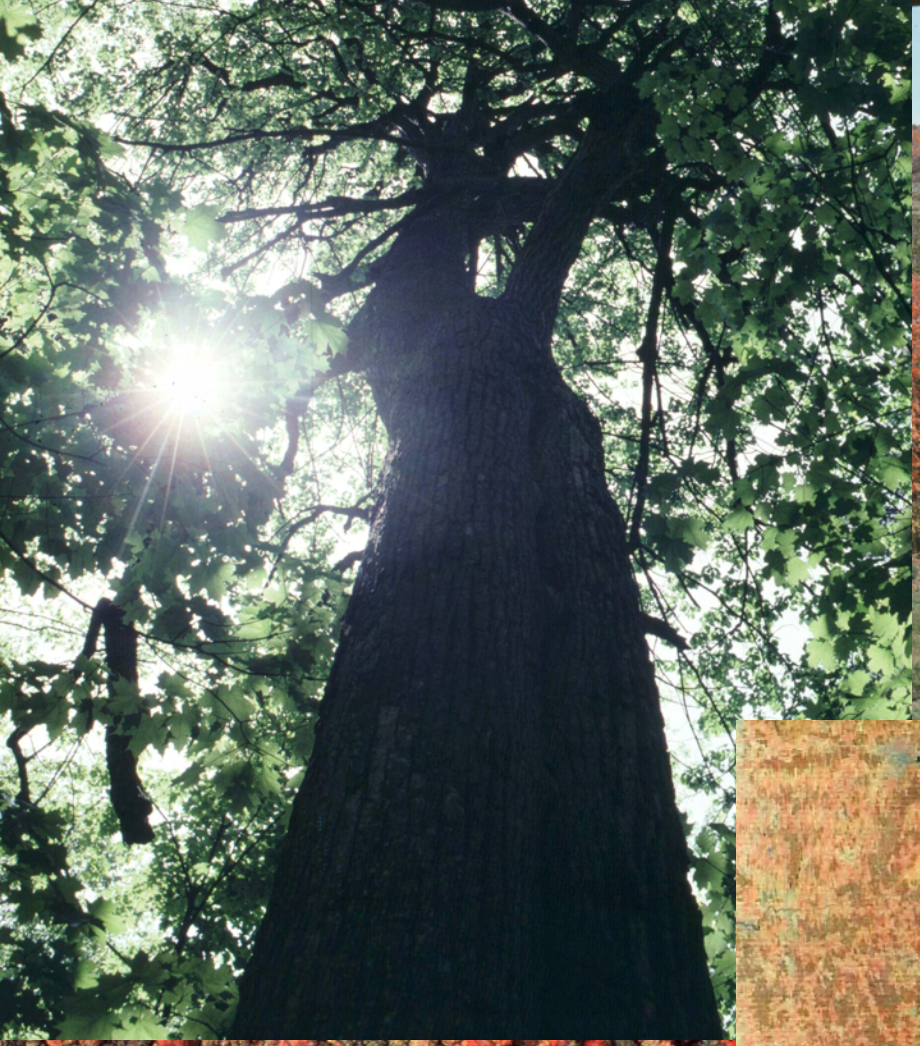


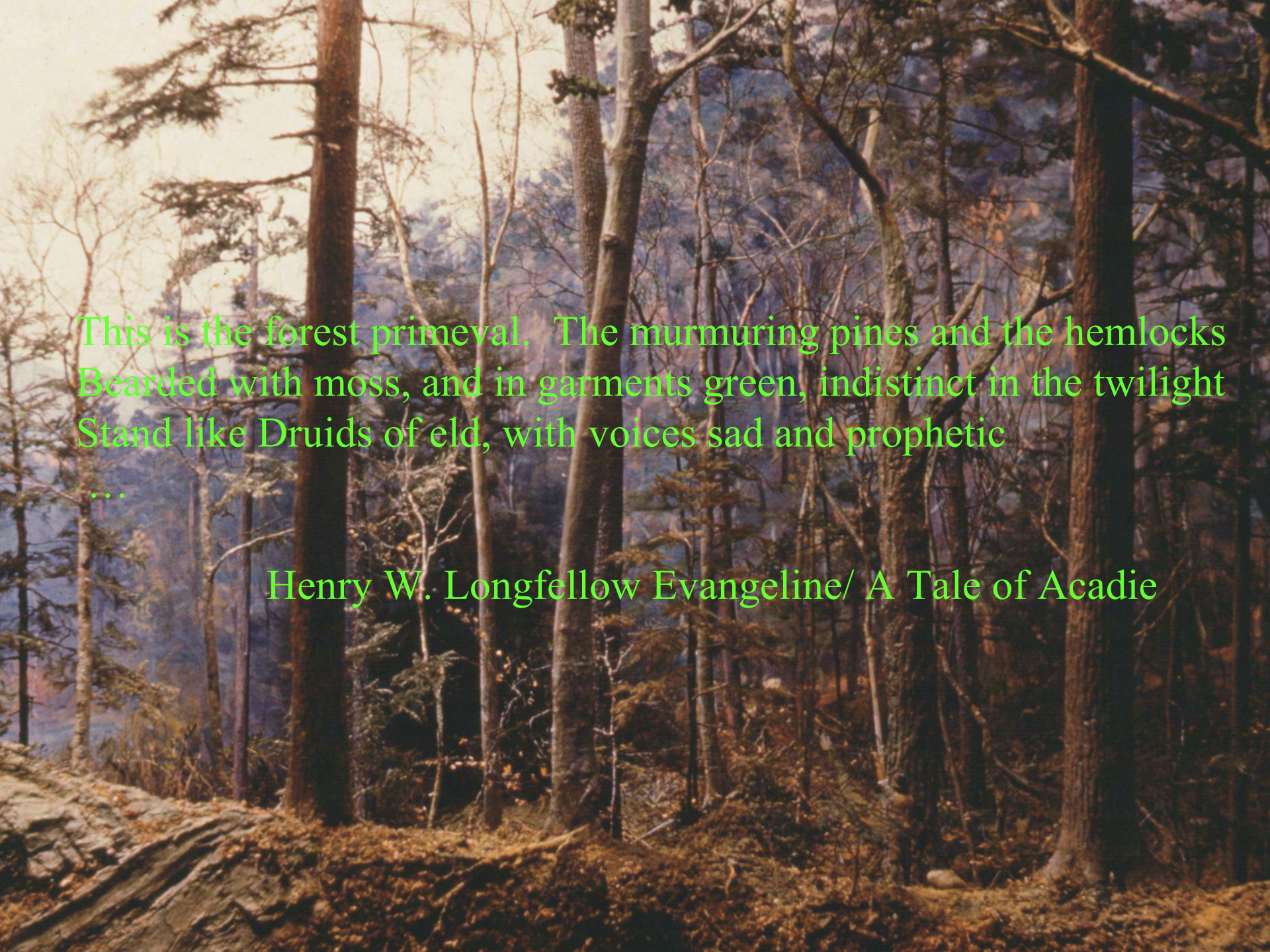


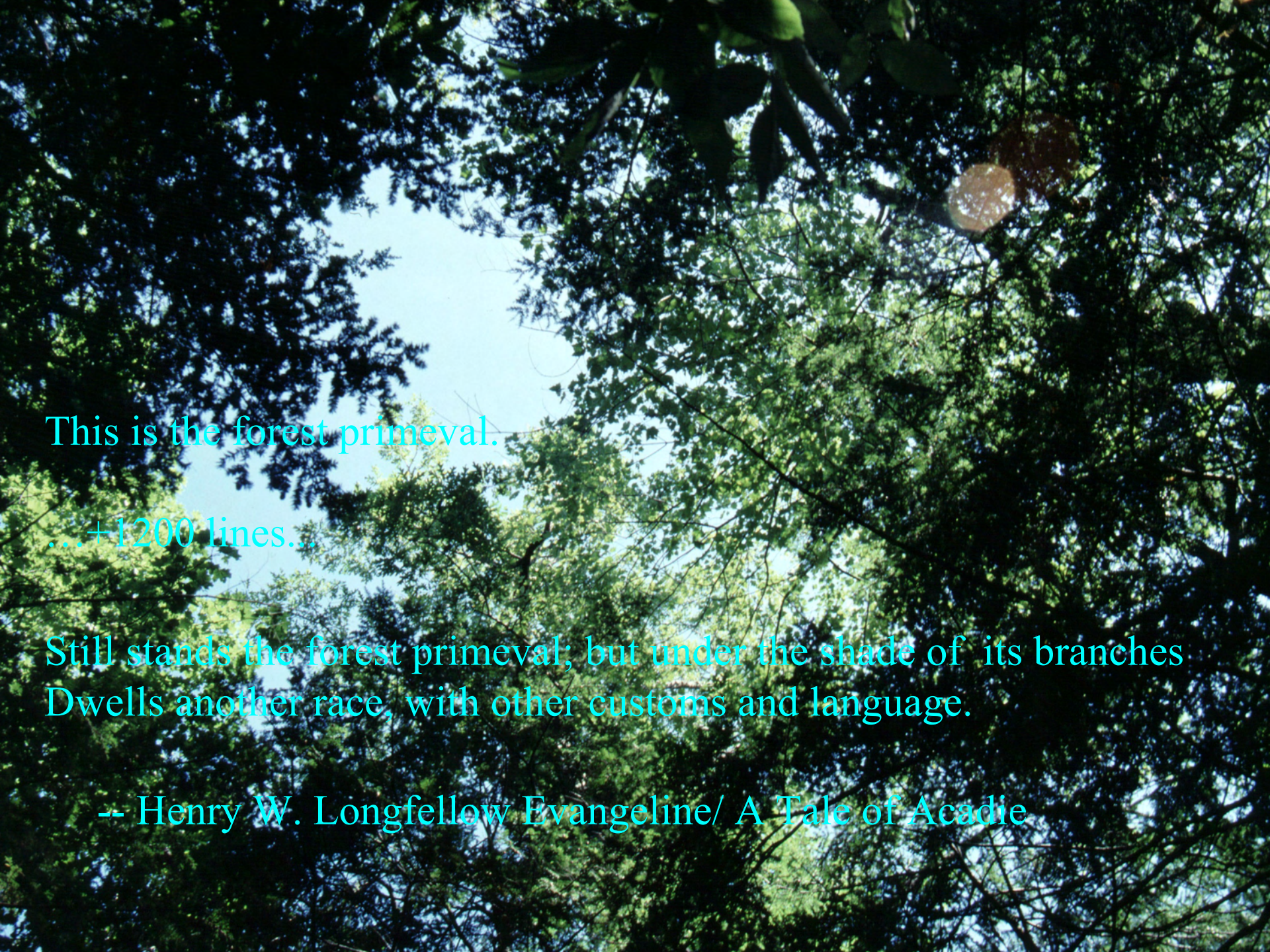




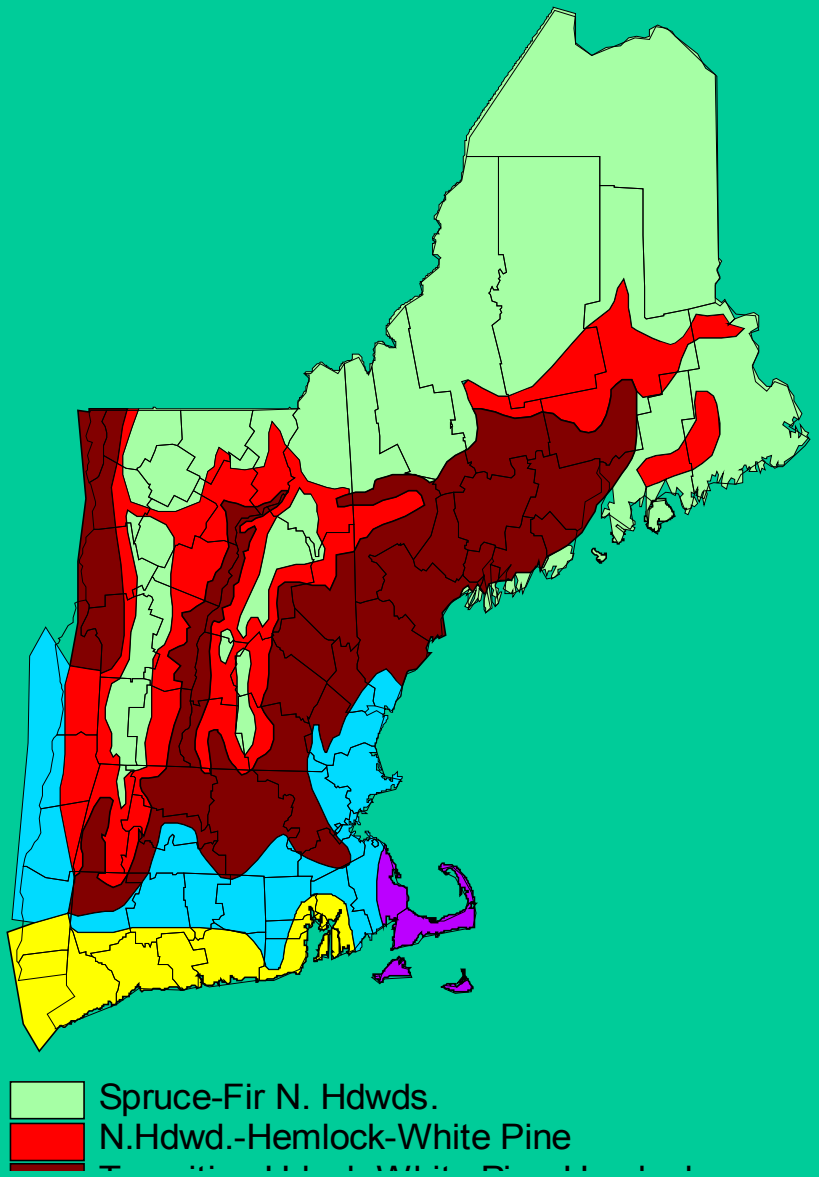




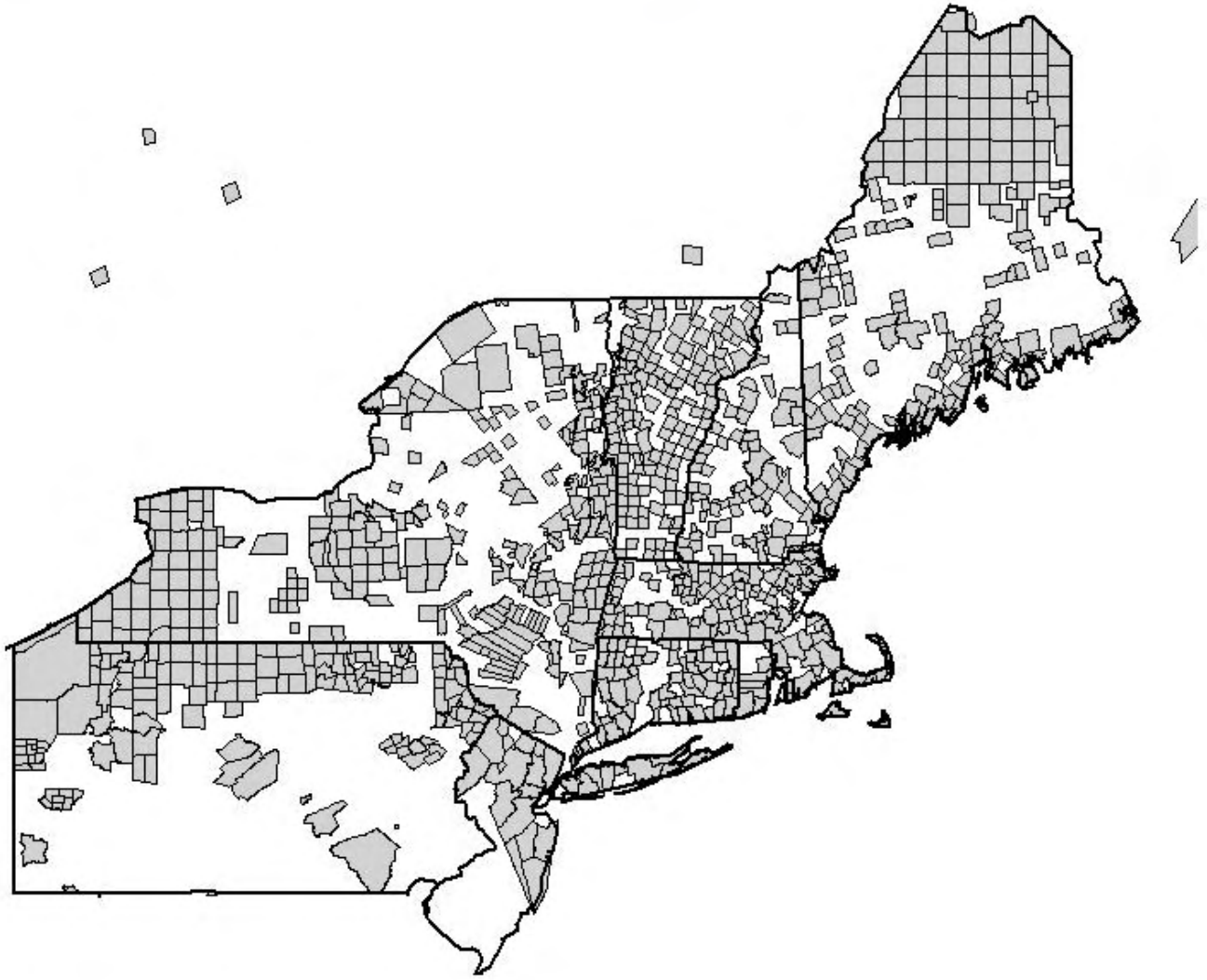

This is the forest primeval. The murmuring pines and the hemlocks
Bearded with moss, and in garments green, indistinct in the twilight
Stand like Druids of eld, with voices sad and prophetic
…
Henry W. Longfellow Evangeline/ A Tale of Acadie


This is the forest primeval.
...+1200 lines...
Still stands the forest primeval; but under the shade of its branches
Dwells another race, with other customs and language.
-- Henry W. Longfellow Evangeline/ A Tale of Acadie

Westveld 1955



Town-wide Presettlement Surveys



Chittenden County Historical Land Use

	% in forest	% in farms
1770	98%	0%
1850	48%	82%
1860	43%	82%
1870	35%	13%
1880	**21%**	100%
1997	**85%**	??

always open	2%
always woodland	0%
always woodlot	5%
reforested tilled land	19%
reforested pasture	37%
maintained open	37%

Vermont Historical Land Use

	% in forest	% in farms
1770	98%	1%
1850	56%	70%
1860	52%	72%
1870	47%	31%
1880	43%	82%
	min: 42%	
1997	**78%**	??

Historical Use and Legacy

assume: originally open 2%
maintained open is complement of today forested less wetlands etc.
always woodland resid of max farm ownership
always woodlot half of min woodlot for conversion to open/developed
reforested till is residual of improved farmland
reforested pasture is 80% of the max cultivated times the tilled ratio

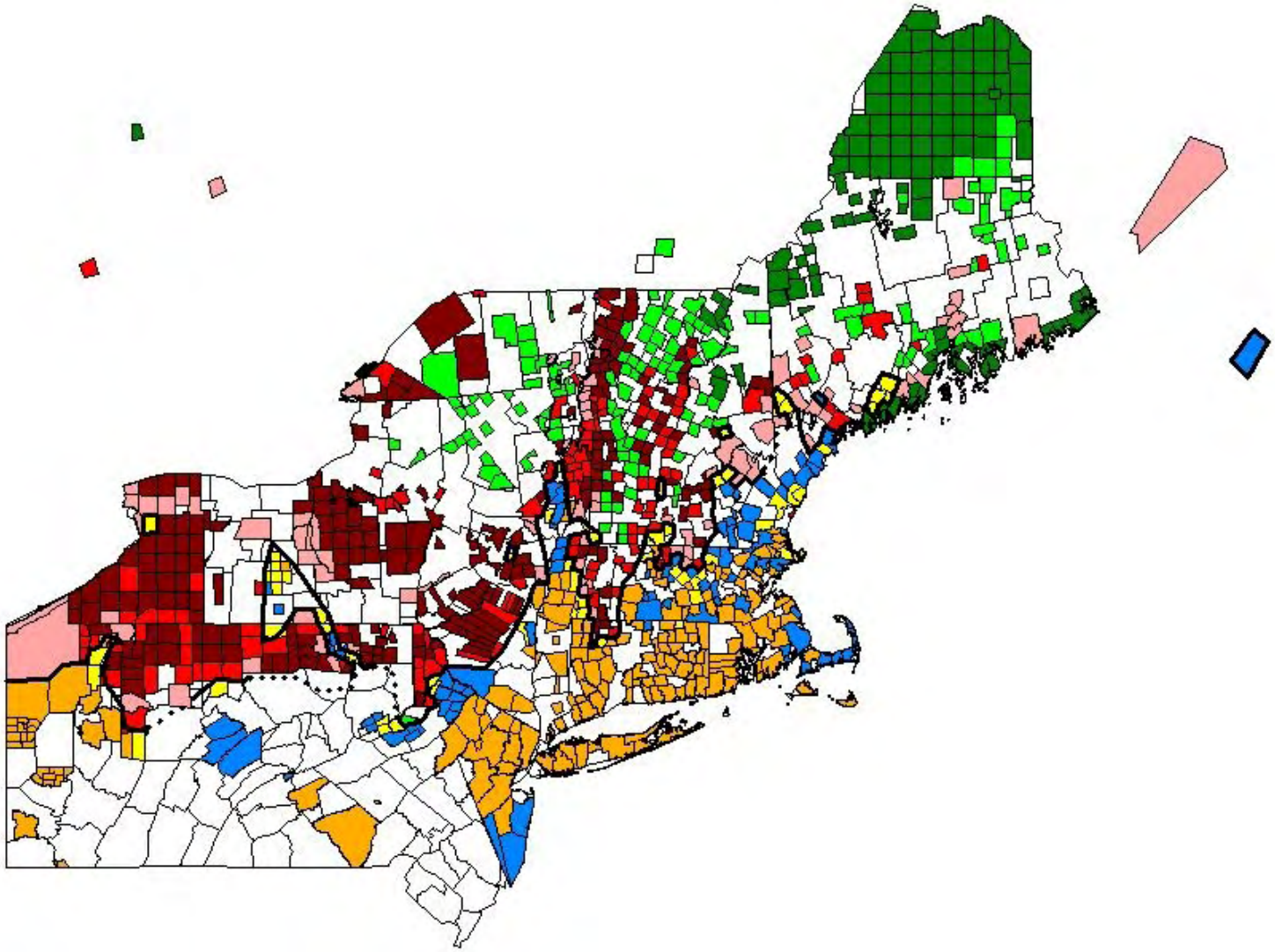
always open	2%
always woodland	18%
always woodlot	12%
reforested tilled land	23%
reforested pasture	26%
maintained open	20%

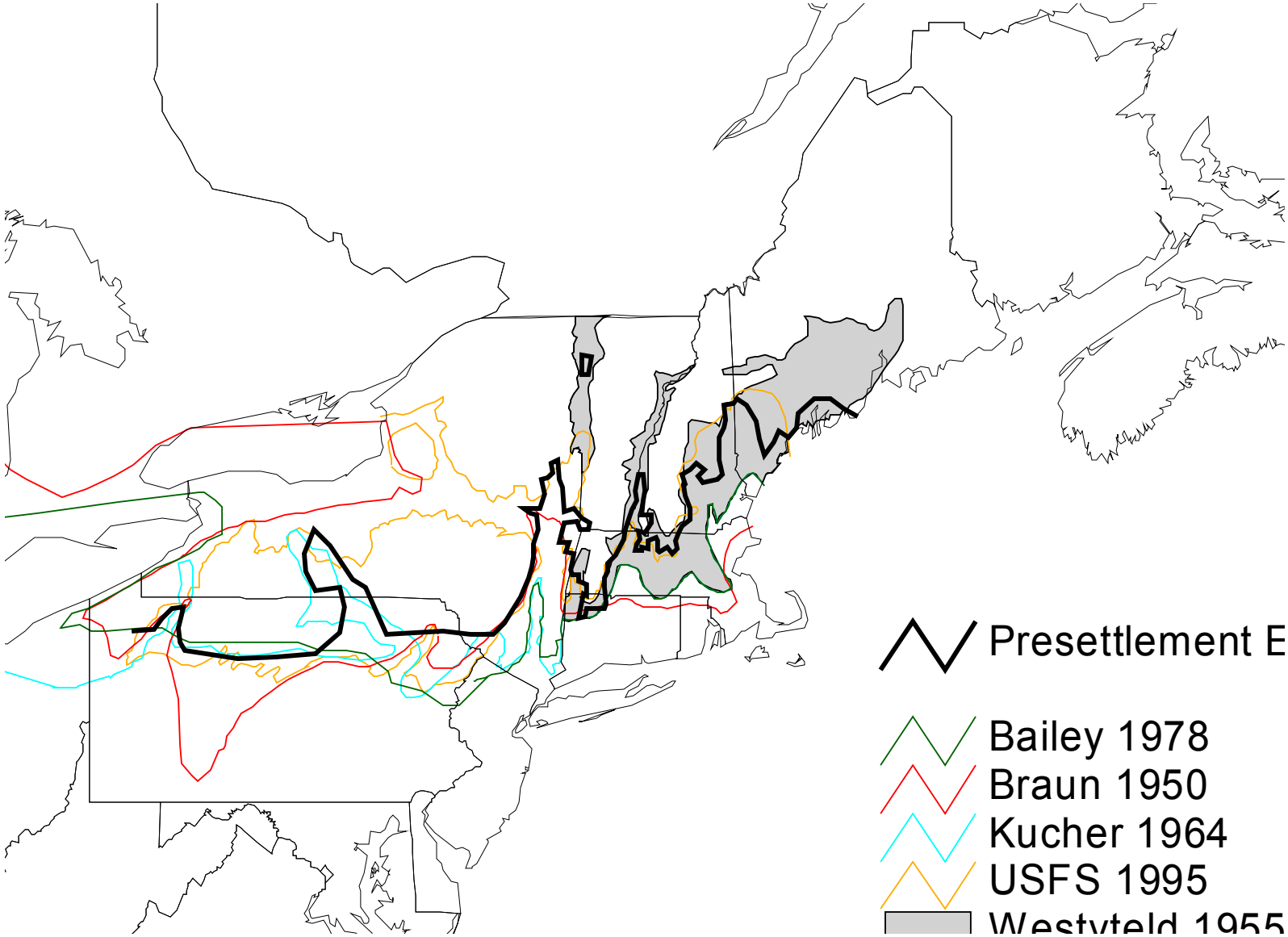
Town-wide witness tree surveys tallied in Northeastern states

Region	Towns	Trees	Trees/Town	
ME	186	22,505	121	
NH	66	21,110	320	
VT	137	34,014	248	
MA	117	52,427	448	
CT-RI	69	47,258	685	
NY	271	56,776	210	
PA	144	32,278	224	
All	1015	271,573	268	37 ha/tree

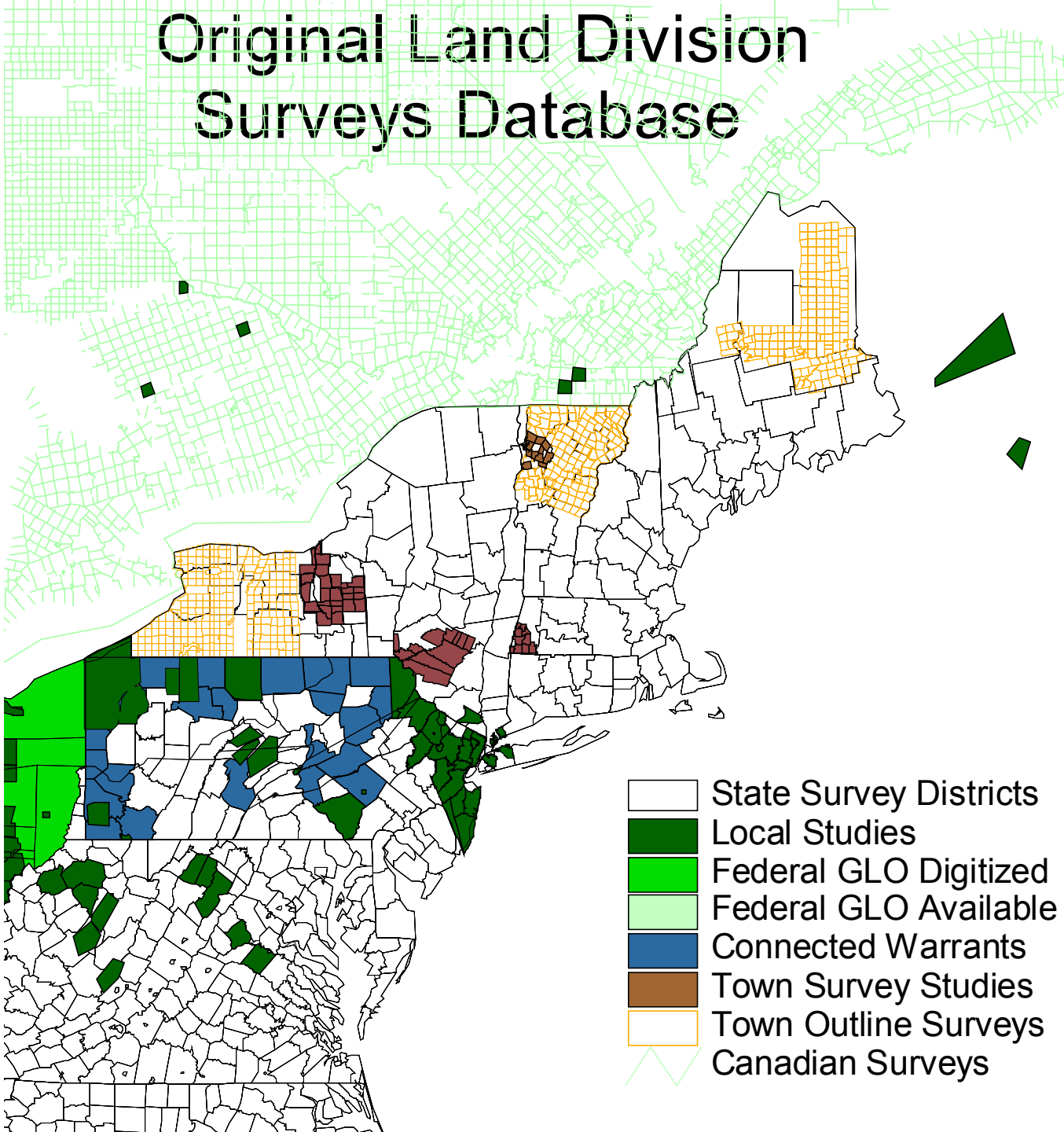
49%	lotting surveys
14%	connected warrants
13%	outline surveys
12%	combination of surveys
8%	deeds
2%	road surveys
1%	freq of mentions

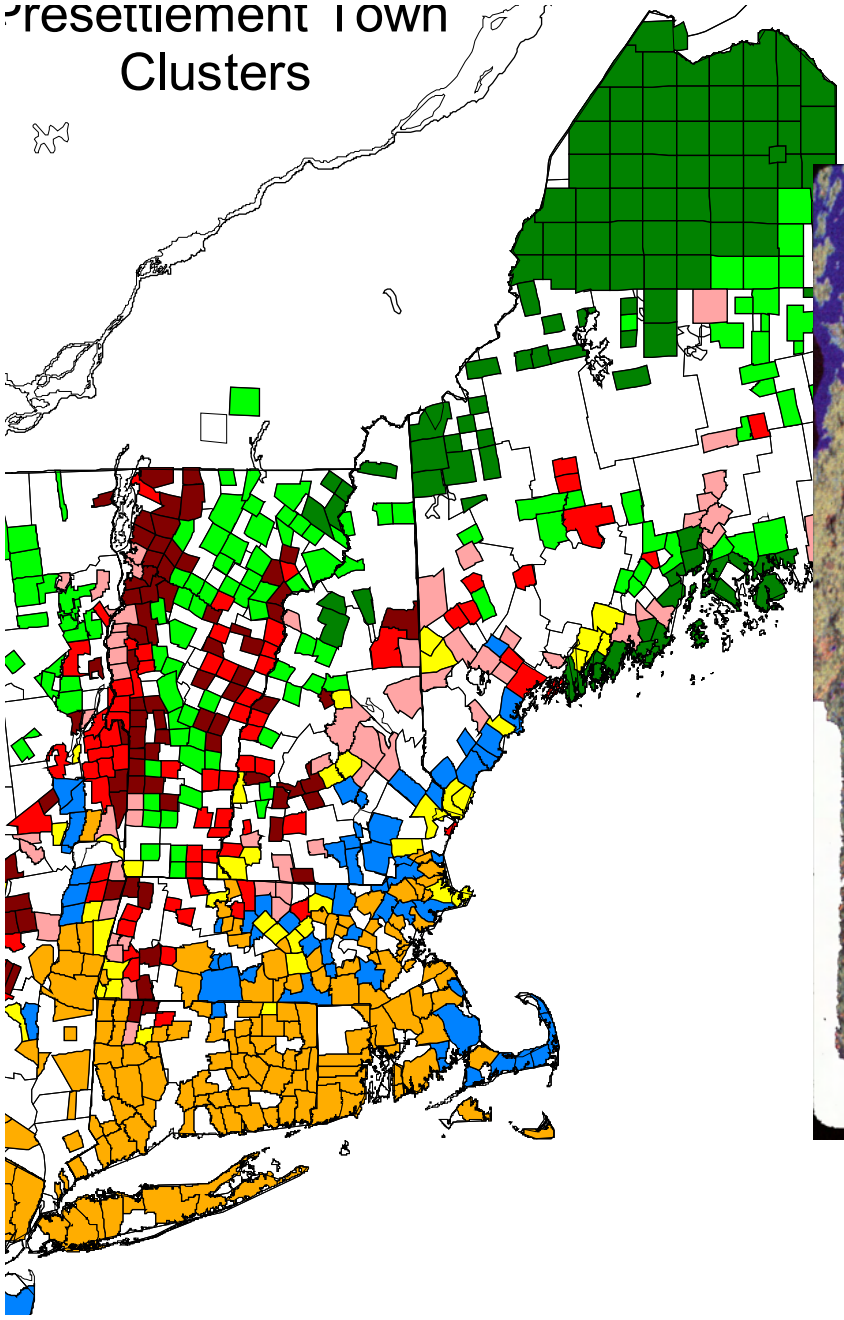
Presettlement Town Clusters

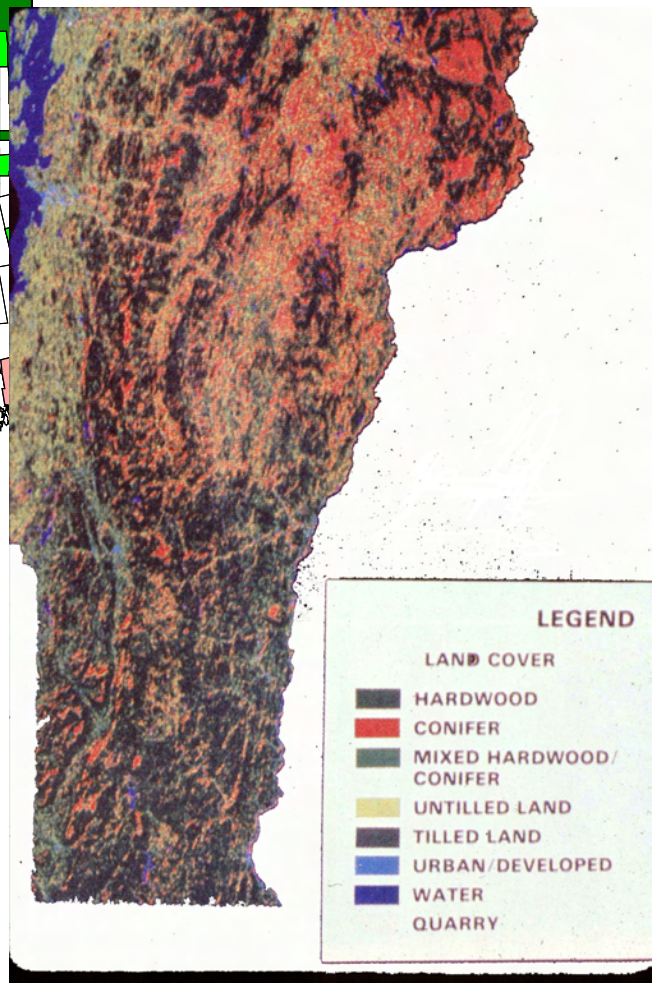



Presettlement E
Bailey 1978
Braun 1950
Kucher 1964
USFS 1995
Westvteld 1955

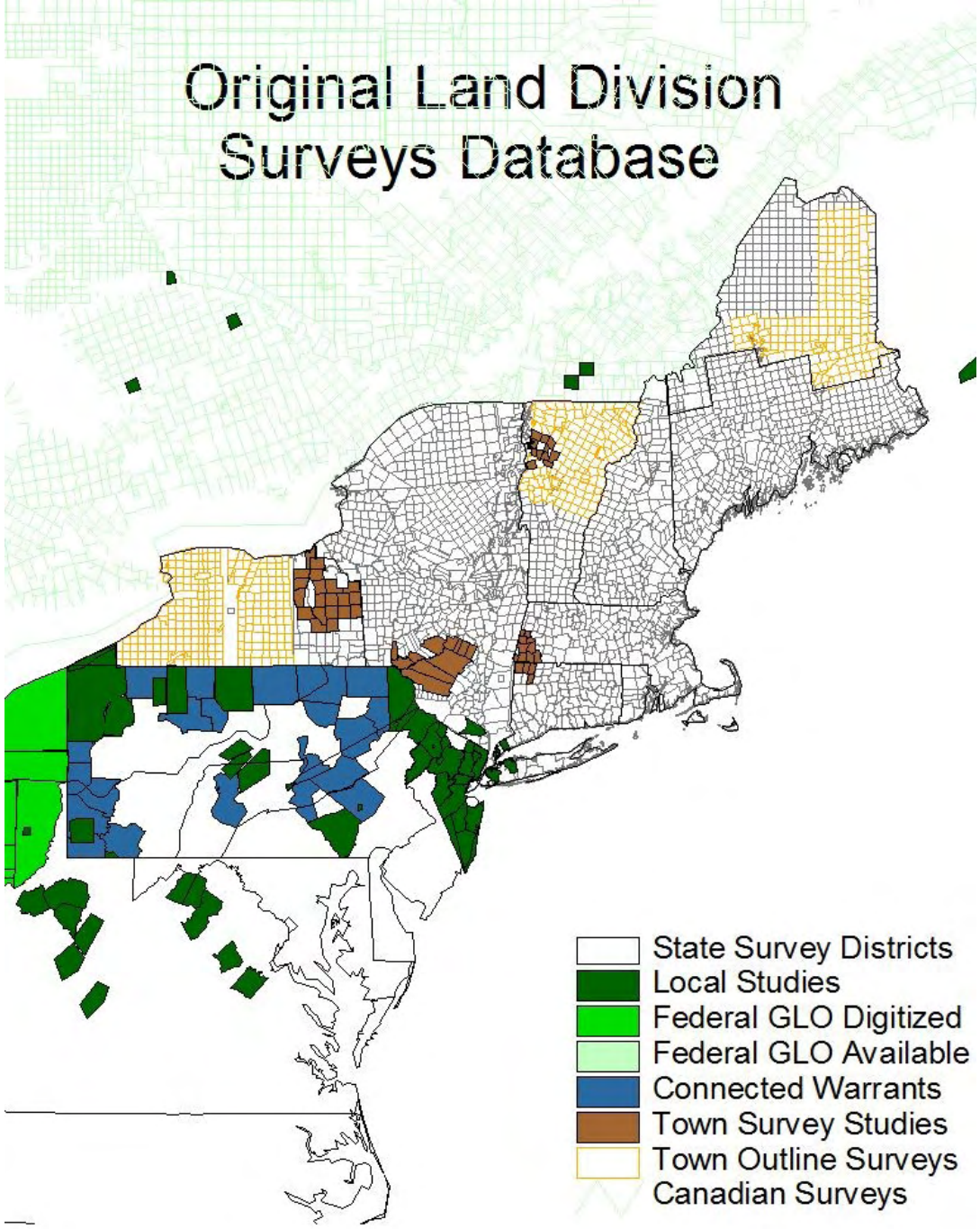
Original Land Division Surveys Database

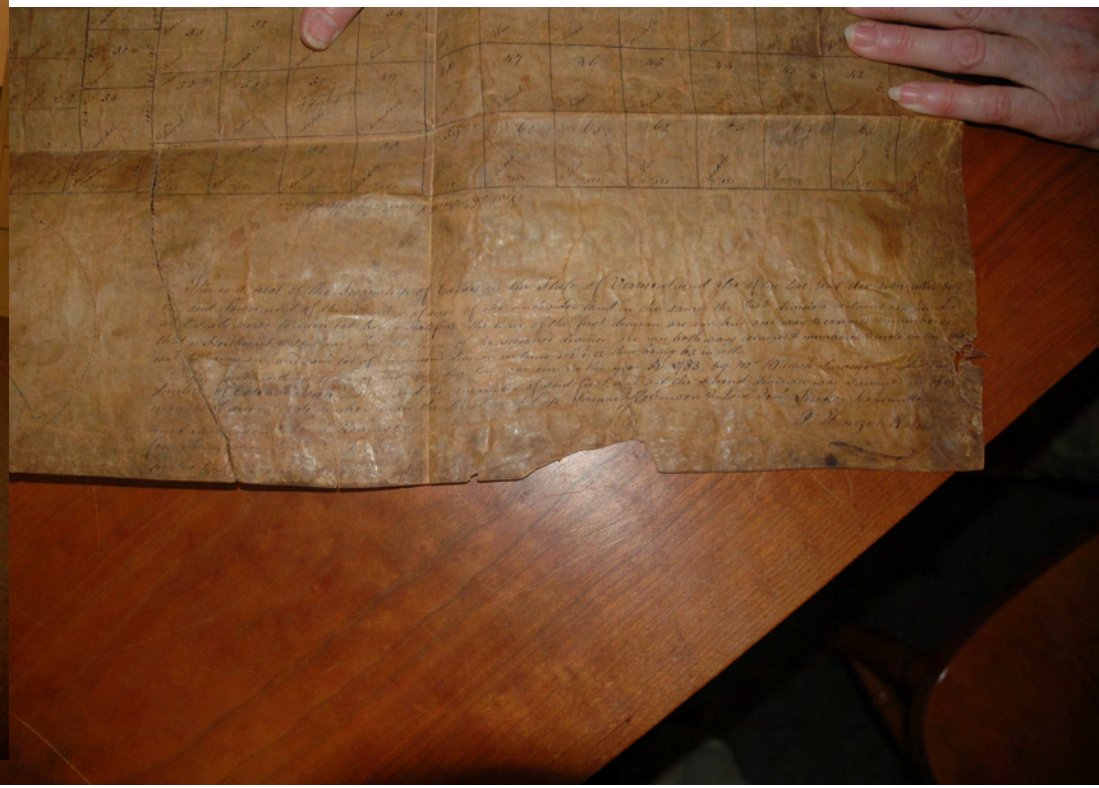


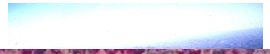

Presettlement Town
Clusters

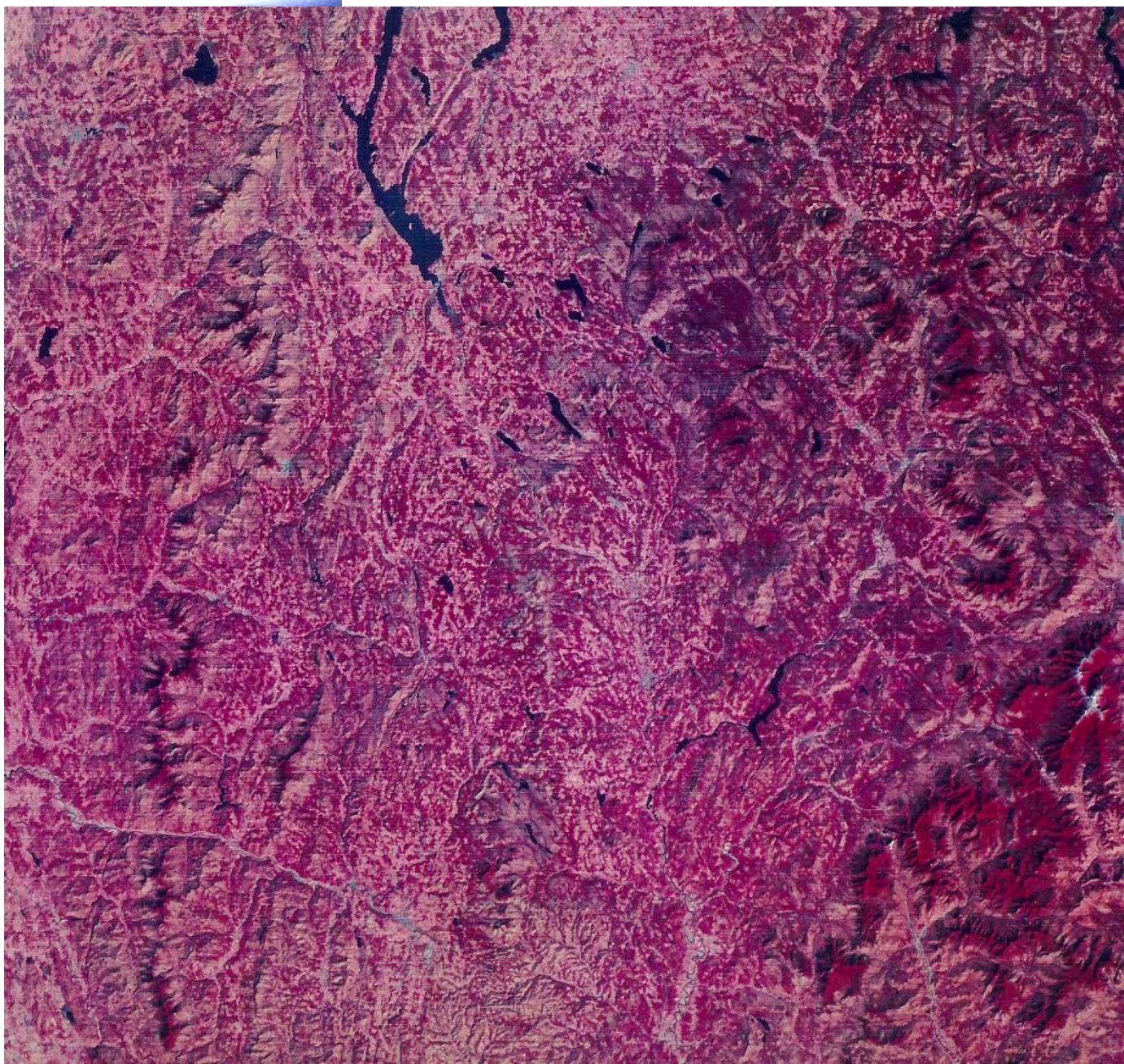

LEGEND
LAND COVER
HARDWOOD
CONIFER
MIXED HARDWOOD/
CONIFER
UNTILLED LAND
TILLED LAND
URBAN/DEVELOPED
WATER
QUARRY

Original Land Division Surveys Database

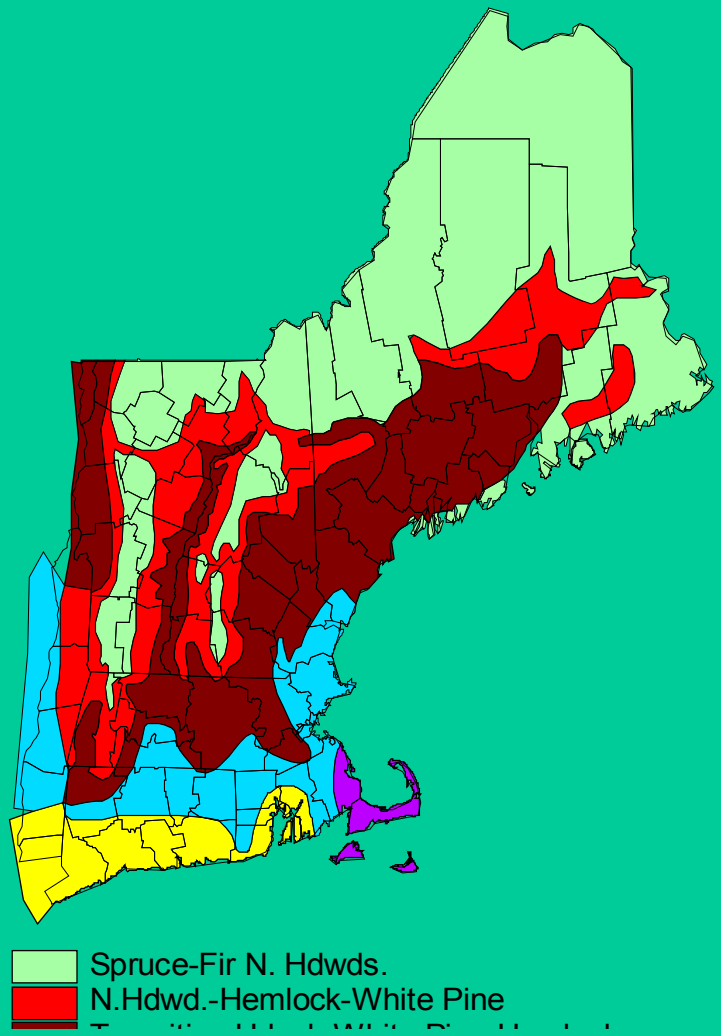








Westveld 1955



between Guilford and Whitingham VT "The land mountainous...the timber it produces beech, Maple, Hemlock, & Some Chestnut.... exceeding good and covered with Beach, Maple, Chestnutt &c. ...the Pigeon's nests were so thick that 500 might have been told on the beech (&) Hemlocks as well." 1741 --Richard Hazzen

in Norbury NY (now Cabot VT) " choice land timbered with maple, beech, bass, some elm, ash and birch & in patches some few butternuts, with Maidenhair and some nettles" 1773 --Samuel Gale

between Fairhaven and Rutland VT "The timber here is chiefly Hemlock--Pine--Spruce--Beech--Poplar--Sugar Maple, &c-- no Oak." and later on Pico Peak VT "the Hemlock & Spruce towards the top of a cripply growth, being depressed by heavy snows & cold & very difficulte to come through." 1807 --Frederick Pursh

The Forests of New England