

Joseph B. Harwood (b.1809 d.1859) built the big house in the early 1850's and the barn in 1852, the year the railroad reached Rupert. The slate roof came by train and was hauled uphill by horse and wagon and cost \$10/square. The barn near the fence was moved east of the house between 1852 and the early 1900's. John Harwood (b.1844 d.1921) is in the middle. Photo: Harwood Family

## Land Use at Merck Forest & Farmland Center 1761 to the Present

*Over the past three years I have been researching the land use history of the Merck Forest and Farmland Foundation land. This article summarizes the effort to collate ownership and land use documents and addresses the themes of human influences on the hilly Taconic farmland of southwestern Vermont.*

- Charles V. Cogbill

The nature of the land at Merck Forest today represents the result of centuries of natural changes overlaid by generations of human activities. The simplified view is that this 3000 acre forest was a consolidation of three old declining farms in the 1940s, now in 200 residual acres of fields and pastures as a demonstration farm, and the remaining 93% of the land covered by second growth woodland. Lost in this story are the specifics of what nameless people did, when, where, how much, and perhaps why.

A few clues to the answers remain in place names such as the Stone Lot, The Gallop (hill on Gallup Rd.), the Wade Lot Road, and Clark Hollow, all of which bespeak the family names of earlier inhabitants. More directly, the "Harwood Farm", one of the three original parcels, still has descendants maintaining contact with Merck Forest.

***"At every turn the land speaks:  
What happened here?  
Is this the result of land  
use history?  
Who lived and worked here?  
When did this change?  
How do we find out?"***

Older residents also remember sheep being pastured on the "Sheldon Farm" and hay harvested on the "Young Farm" in the 1920s. Importantly, one can still find numerous stone walls roughly in eight clusters, some 14 cellar holes, and various even-aged second growth forests scattered around the property documenting earlier agricultural activity. Apparently missing are any unquestionably old forest remnants which have escaped past logging activities and perhaps indicate original conditions. Obviously what we now know about this land is the only partially buried details of lives from yet unknown previous users and managers.

While as a forest ecologist I am primarily interested in the natural condition of the forested landscape, the profound human influence on the forests of New England suggests a different perspective when approaching the landscape history of places like the Merck Forest. Using contemporary written records

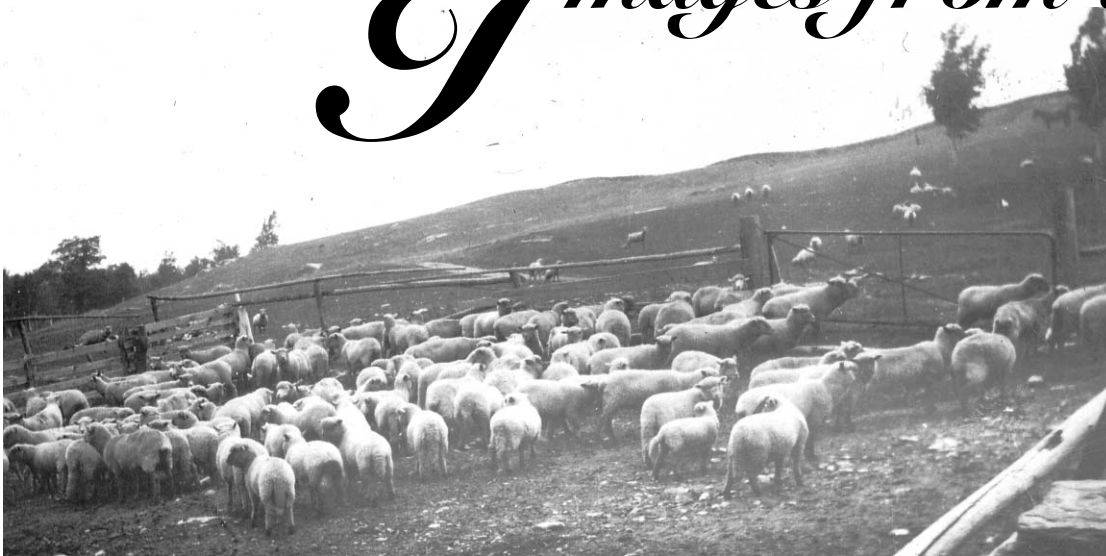
and the study of human activities to understand the past uses of the land is a relatively new discipline in North America, called historical ecology. Combining the environmental and biological records gleaned from field studies with the cultural record is a contemporary and wide-ranging documentation that is truly an "eyewitness" of past

conditions. Using this basis, one can study changes in land use over time and analyze the specific effects that humans have had on the vegetation, soils, and forests. With its intense and changing land use through settlement, clearing, cultivation, pasturing, logging, farm abandonment, and woodland management since the 1780s, the Merck Forest is an ideal location for application of the historical ecology methodology. In addition to deriving a baseline of land use conditions from different periods, this study serves as a case study of land use history and provides specific historic resources to managers and educators at this site.

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*Charlie Cogbill is a native Yankee from the Berkshires in Massachusetts. He received his undergraduate degree from Dartmouth College and graduate degrees from Cornell University and the University of Toronto. For the past 25 years he has been a freelance forest ecologist living in Plainfield Vermont, while studying the history and dynamics of the vegetation of the Northeast. He has active research interests in dynamics of red spruce forests, old growth forests and their ecology, alpine vegetation of the Appalachians, historical ecology of northern New England, and the identification and assessment of natural areas. He presently is an adjunct faculty member at the University of Maine and Sterling College and the historical ecologist on the Hubbard Brook Long-Term Ecological Research Program.*

# Images from the Past



Sheep at the corner of Old Town and Stone lot road circa 1920. Sheep Fever, a boom in the demand for sheep products in the first half of the 1800's, was the driving force that led to the clearing of much of the land on Vermont's hill farms, including those on Merck Forest. By the 1850's, nearly two thirds of the land that is now Merck Forest was cleared for pasture and hay, and hundreds of sheep roamed the mountainsides. Only the very tops of the mountains remained forested. After the 1850's the demand for sheep dropped and much of the land eventually began to revert to forest. Butter, cheese, and potatoes became the main crops through the 1900's. Over time all but one of the farms gradually failed and were abandoned. The last operating farm on Merck Forest land was the Harwood farm that operated in the 1940's. In 1950 that became Merck Forest.



## Thank you

We are very grateful to David Harwood for sharing his family's photographs.

Ruth M. Rasey Simpson, a sixth generation descendant of Vermont's original settlers, wrote *Out of the Saltbox*, *Heartbeat of History* and *Hand-Hewn in Old Vermont* chronicling life on "Windy Summit".

Currently, *Heartbeat of History* is the only one in print.

John Harwood, shown here mowing hay above our main barn circa 1910. In the years after the Civil War, horses became the primary work animals of the farm. They were faster than oxen and more suited to the new farm equipment. They could help gather maple sap, rake and load hay, reap and bind grain, plant, cultivate and harvest vegetables. Today we find that horses are still efficient workers on our farm that can even out-perform tractors for some tasks.



This patchwork of fields around the farm in the early 1900's shows that a wide variety of crops were being grown. Corn, barley, oats, potatoes and hay were important crops. This diversity of crops may have helped the Harwood farm keep going when others around it failed. Our fields today are strikingly similar in layout and complexity.



Right: Gathering hay, early 1900's. This hayfield was located on a part of Merck Forest that was the Harwood farm below the Visitor Center. Not many years after this photo was taken, the field was abandoned and it grew back to forest. The foundation of this barn and some of the haying equipment can still be found in the woods that now grow on this site. Thousands of acres of our forests have grown up from fields like

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**Farm Production on Merck Forest Property (3000 acres) on US Agricultural Census Schedules**

Year	Farms	Acres	Improved	Woodland	Milk cows	Milk (gal)	Butter (#)	Cheese (#)	Sheep	Potatoes (bu)	Oats (bu)	Corn (bu)	Grains (bu)	Hay (tons)	Maple (#)
1880	5	2311	1266	945	114	900	8410	0	138	1450	1150	210	40	219	2450
1870	6	2797	1782	1015	104	0	2000	15700	273	1660	910	162	110	328	1090
1860	5	2585	1700	885	81	0	2250	1950	440	880	452	290	67	305	2060
1850	5	2688	2045	593	33	0	1950	7500	791	870	765	600	420	395	700

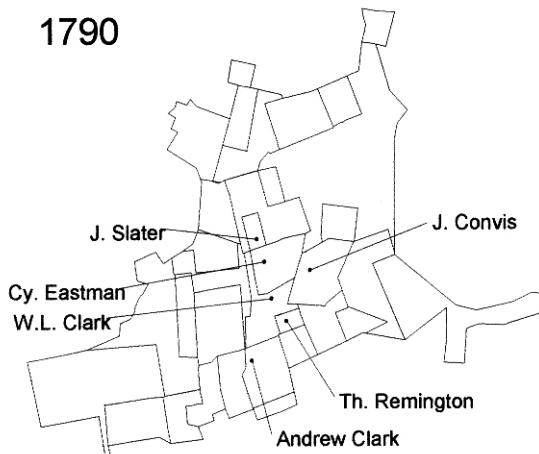
# Land Use Activities of Merck Forest & Farmland Center

What follows is a chronological presentation of the dominant land use activities on Merck Forest. This history is split into seven periods which represent major differences in the dominant use. This overview is keyed to a graphic summary on cadastral maps which indicate patterns and ownership of parcels in eight time layers from first land division for settlement in the 1780s to just before reassembly into a single ownership in 1950. The narrative also previews some themes and provides data supporting the interpretations of the human influences.

## Presettlement Period (1761-1788)

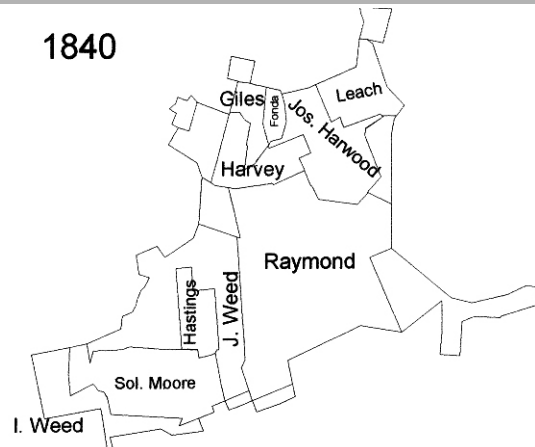
Rupert was granted by the Governor of the Colony of New Hampshire to 64 Proprietors in 1761. Early land divisions split Rupert into a diffuse crazy quilt of surveys and pitches of "shares" rather than a geographically coherent array of many nearby towns. After 1765, the 1st and 2nd lotting divisions of the town resulted in European settlement on the prime farmlands on floodplains of the Mettowee River of East Rupert and the White Creek Flats of Mill Brook in West Rupert. Starting in 1785, the backlands on Merck Forest were granted by the Proprietors to individuals, predominantly in the 5th and 6th divisions. Based on 241 trees cited in presettlement surveys, forests over all of Rupert, consisted of a mixture of types dominated by beech (61% of early survey witness trees), maple (27%), and oak (2.5%). There was a minor component of other species such as birches, elms, basswood, hickory, spruce, poplar, hardhack, and pegwood, but no pine nor hemlock were recorded in the early town surveys. The original woods of Merck Forest were completely forested and dominated by much the same hardwood species found there today, including a scattering of oak, but significantly had more spruce than other areas of the town.

## Settlement and Small Farm Period (1788-1820)



The first farm properties on Merck land were settled in Clark Hollow (from the Sugar House and south to the slopes of Haystack) by an closely intermarried group of Yankee immigrants. Andrew Clark from Pelham, Massachusetts settled first in 1788 and by 1790 there were about six separate small farm properties in the Hollow. Also there was a small mill established immediately to the south in Kent Hollow (established by Samuel Kent in 1782) and by 1796 another mill above the current village of East Rupert, both of which which were providing sawn boards for buildings and local milling of grains. In 1791, a road was built from Kent Hollow to Clark Hollow and soon after the Draper Rd or later Convis Road reached from west of the "Gap" into the northwestern section of Merck Forest. Within the next decade at least three more farms were established at the periphery of the original Clark Hollow, and three new settlers were established in the northern half of the property. Thus within 15 years of first settlement there was a well established farm neighborhood community of at least a dozen self-sustaining farms within Merck Forest. Interestingly the current stone walls and cellar holes are closely associated with these early property boundaries and farmstead locations.

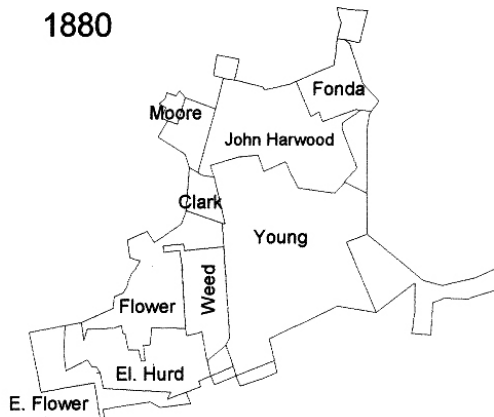
## Consolidation Farming Period (1820-1850)



The first established farms were generally not maintained within the same family, but bought by later settlers, often offspring of other Rupert residents. Following this pattern, the Harwood family (who originally emigrated from Bennington in 1787) expanded a series of farm properties in the "Gap" and created a farm for Joseph Harwood in 1830. In addition, the new owners such as the James Weed (with his father and brothers) and Bernice Raymond were accumulating large blocks of mountain land. Judging from the later land divisions and "pitching" (surveying one's own vacant land), the upland surrounding the farms wasn't utilized until the 1830s when it was being converted to pastures and woodlots. This was part of a trend to gradually consolidate the farms into larger properties and by 1850 the number of

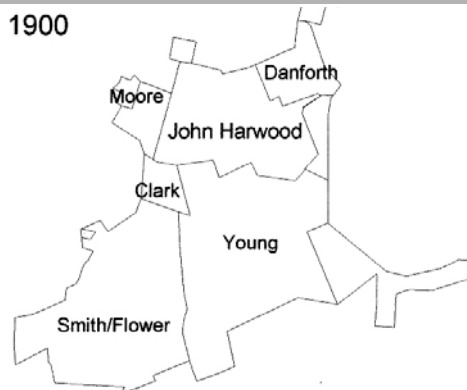
farms had declined to only five, whose boundaries remained relatively constant for the next hundred years. These farms supported some cultivation of crops and dairy (butter and cheese) production, but the dominant occupation was sheep pasture with nearly 800 sheep maintained over the Merck property by 1850. In addition the two local sawmills were owned by local farmers and in 1850 Elishu Flower's mill in Kent Hollow was cutting 80 M board feet of boards while John Harwood's mill to the north was cutting 130 M board feet of spruce logs to make boards, clapboards and joists.

### Diversified Farming Period (1850-1880)



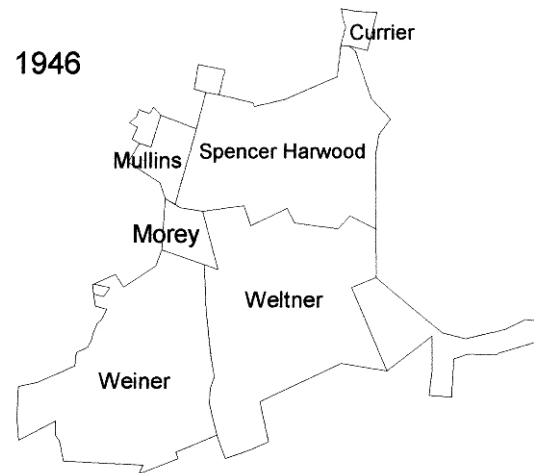
The greatest farm production was reached in about 1870 when 60% of all Merck land was cleared in five or six farms. There was a gradually decreasing number of sheep pastured down to about 100 animals in 1880. Compensating, however, was greatly increased dairy production and more crops produced, increasing gradually with oats and corn for cattle and potatoes and maple sugar (up to 2000 pounds each year) for human consumption. Much of the milk from over 100 cows was used in the manufacture of nearly 16,000 pounds of cheese at the local cheese factory. Several of these farms were run by tenant farmers while the owners were businessmen involved in other businesses (for example Bernice Raymond was a banker in Manchester, W. Clemons co-owned a cheese factory in Rupert and the Flower family owned the saw mill in Kent Hollow). The surrounding woodlands were increasingly used for logging as the single local mill in Kent Hollow was cutting 150 M to 200 M board feet through the period.

### Expanding Woodlands Period (1880-1920)



As the farming economy wound down, the ownership pattern stabilized with a pattern of three large holdings. Although some farming continued on the same five basic farms until the 1920s, decline was rapid with pastures reforesting, rapidly decreasing the open land, and the town road through the property was abandoned. There was increasing turnover of ownership, and when Joseph M. Harwood died in 1933, land owners were no longer resident on the land. Local timber barons such as S.H. Dole and Arthur Bonneville owned thousands of acres of timberland to the south of Merck Forest and were running their own large sawmill processing local timber supplies.

### Logging Period (1920-1950)



The switch to using the land for its timber resources continued as the Young farm was sold to the West Rupert Timber Company in 1907, and then owned by a series of timber companies until 1938. Similarly the Sheldon farm was sold in 1920 to Thomas Hunter the proprietor of the old Bonneville Sawmill. The harvests were apparently regular, with woods roads threading through the second growth forests on old pastureland and into the uncut timber on the old woodlands beyond the formerly cleared land. A few open pastures were maintained where the most long-lasting farming had been practiced.

### Demonstration and Education Period (1950-present)

Starting in the 1940s, George Merck started the acquisition of the three parcels which make up the heart of Merck Forest. These were transferred to the Merck Forest and Farmland Foundation in 1950. With the later addition of surrounding adjacent parcels, the Merck Forest came under consistent management for the first time since 1785.

# Harwood Probate Inventory Lists- *a father and son's legacy*

Probate inventories of the farmers at Merck Forest offer a fascinating window into their farms and their lives. The inventories list every possession from teaspoons to oxen. We have included probates of Joseph Harwood who died in 1843 and his son Joseph B. Harwood who died 16 years later in 1859. The two probates appear to show rapid changes in the fortunes of the Harwood farm. The younger Harwood died with nearly 3 times the wealth of his father. Much of this wealth is in the number of sheep on the farm which goes from 96 sheep worth a \$1 each to 460 sheep worth \$5 each. The younger Harwood built the beautiful big barn which still stands on our farm today, and the big white house. His years may have been the most profitable for hill farming at Merck Forest.

## October 1843 - Joseph Harwood Estate

### Real estate

205 acres called the Bushee Lot in said Rupert	\$1783.00
100 acres called the Home Lot	\$1000.00
Half of 170 acres called the Gallop Lot	\$115.00
<b>Total</b>	<b>\$2898.00</b>

### Personal Estate

1 Dark brindle white face cow 13.; 1 brindle white face cow 13.	\$26.00
1 Speckled cow 13.; 1 large red cow 13.; 1 3 year old Brindle cow 12	\$38.00
1 red 2 year old cow 11.; small red cow 10.; red lop horned cow 13	\$34.00
1 year old bull 4.50.; 2 - 3 year old steers \$32.; 1 year old heifer 6.	\$42.00
2 year old heifers 10.; 2- 2 year old heifers \$20.; 3 calves 6.	\$36.00
Gray mare 30.; Gray Horse 60.; Dark gray horse 70.;	\$160.00
1-3year old colt 40.; 700 lbs live hogs 21.; 8 thousand shingles 10.	\$71.00
8 shocks wheat 3.; 12 shocks rye 3.; 36 shocks oats 7.2.; oats and peas 7.50	\$20.50
20 tons hay on Bushee lot \$100.; 11 tons hay on Home lot 55.; 1 acre corn 10	\$165.00
2 acres potatoes 48.; 1800 lbs cheese 90.; 27 lbs log chain 2.7	\$140.00
Double wagon 12.; single wagon 24.; buffalo skin 5	\$41.00
Double harness 25.; part of old harness 4.; old saddle .50	\$29.50
Lumber sleigh 15.; ox rings and staples 1.50; 2 scythes and 3 snaths 3.	\$19.00
Set whiffletrees double and clevis .75; Drag & teeth 3.75; 2 hoes .50	\$5.00
Old shovel .12; caldron kettle 4.50; iron bar 1.; pair bob sleds 2.	\$7.62
Third of old fanning mill 1.; sickle .50; plow clevis .50	\$2.00
2 small grindstones .62; neck yoke 1.50; marking iron .50	\$2.62
hand saw 1.; iron square 1.; two inch auger .75	\$2.75
pincers, shoe hammer and float .50; half bucket .34; whipstalk .25	\$1.09
40 sap buckets	\$2.40
4 bed ticks, bedstead covers and bedclothes 68.; maple table 4	\$72.00
chest drawers 3.; light stove 1.50; small stove, shovel, and tongs 8.	\$12.50
looking glass 1.; set of teas 1.50; 9 large plates.90	\$3.40
2 sets tea spoons .75; Server.25; deep plate.08	\$1.08
cooking stove and furniture 12.; 26 tin milk pans 5.75	\$17.75
2 kitchen tables 1.; 6 kitchen chairs.75; 6 old windsor chair 1.25	\$3.00
rocking chair .25; time piece 4.; pine chest 1.25; pine chest .75	\$6.25
brass kettle 2.50; small kettle .50; 3 milk pails .50; old stove 1.	\$4.50
garden rake .50; dung fork .75 hay fork .37; horse rake 6.	\$7.62
96 sheep @ \$1 each = \$96.; cash on hand \$84.12	\$180.12
<b>Total</b>	<b>\$4053.60</b>



The "big" barn as it looks today. Built in 1852 by Joseph B. Harwood, it has stood the test of time and provided housing for many animals.

Photo: Debra Fuller

**November 1859 -  
Joseph B Harwood Estate**

Home Farm 585 acres	\$6000.00
Equal undivided half of page farm 15 acres	\$450.00
460 sheep @ \$5 each	\$2300.00
6 cows @ \$15 each	\$90.00
1 Yoke of oxen @ \$90.; 1 two year old @ \$12.; 3 yearlings	
1 Span of Horses @ \$175.; 1 old mare @ \$25.; three year old colt @ \$125	\$325.00
5 Hogs @ \$7 = \$35.; 1800 lbs wool @ .47c = \$846.; 100 tons hay @ 10.	\$1881.00
30 bushels wheat @ \$1.25= \$45.; 150.bushels oats @ .40c = \$60; 1 double harness \$20.	\$125.00
Single Harness \$12.; Double wagon \$35.; Double Wagon \$5.; Single wagon \$35.	\$87.00
Ox Cart \$10.; Pair short sleighs \$20; Pair long sleighs \$20.; Single Sleigh \$10.	\$60.00
1/2 fan mill \$10.; 1 single sleigh \$2; 4 Shovels \$1.; 12 manure & hay forks \$3	\$16.00
2 Harrows \$10.; 2 plows \$7.; 2 cultivators \$2.; 6 hay rakes \$1.	\$20.00
Sap utensils \$18.; 2 iron bars \$2.; 5 log chains \$6.; roping chain \$4	\$30.00
2 ox yokes \$3.; Carpenter bench & tools \$10.; 5 bushels grass seed \$10.; Grindstones \$2	\$25.00
4 Ladders \$2.; 250 pounds of cheese @.08 20.; grain cradle 2.; Lumber \$10.	\$34.00
Cookstove \$12.; parlor stove \$4.; 1 set chairs \$6.; rocking chairs \$2.	\$24.00
looking glass \$4.; settee \$3.; spring bed \$8.; mattress \$4.	\$17.00
Secretary \$4.; Cash on Hand \$100	\$104.00
4 scythes and snaths \$2.; 2 beadstead \$6.; beds and bedding \$62.;	\$70.00
Notes and demands	\$2200.00
<b>Total amount of personal estate</b>	<b>\$7550.00</b>
<b>Total am't Real estate</b>	<b>\$6450.00</b>
<b>Total am't of appraisal</b>	<b>\$14,000.00</b>



# Insights on the Use of Merck Forest

The story of Merck Forest is indeed a wonderful case study of agricultural history of hill farming in the Taconics. The back valley (Clark Hollow) was settled fairly early (1788) and maintained a remarkably large number of small farms (12) which quickly spread onto the surrounding slopes. Evidently, most of the foundations and stone walls on the property date from this early period of small farm occupation. In contrast to the Hollow farms at the southern end, the classic upland Harwood Farm (1830-1924), at the northern end of the Merck Forest, was essentially a later expansion of the family's holdings. It was successfully maintained by 5 generations of Harwoods and lasted longer than most other hill farms in the town. Interestingly the Harwood farm was not the chief farm of the family nor the dominant farm on the property until near the end of its existence.

With business diversification through the 1800s, the farms switched their emphasis from sheep to cheese and finally milk, and by

the turn of the 19th century had declined to only adjuncts of larger businesses and run by tenant farmers. The woodlands on the higher hills, such as those on Master Mountain and Burnt Hill, were acquired later as part of larger "farm" holdings, but never really farmed. In contrast to the intensively farmed land, these "backlots" were not settled or walled, but were used primarily for logging after the middle of the 19th century.

Interestingly, the place names given properties (Wade lot (1817-1828), Gallop Lot (8 months in 1819), Stone Lot (1865-68), Young Farm (1879-1907), Sheldon Farm (1902-1920)) are generally short-term ephemeral or recent owners. Apparently names of the first owners, long-term residents, or large-scale owners do not provide distinctive, unambiguous names.

Although the general outlines of the history of the Merck Forest is emerging, there is still more work to pursue. In addition to unraveling

some difficult ownership knots and tracking obscure parcel ownership, much of the peripheral woodland have not yet been searched either in archives or in the field. The next phase of this project is to complete the title work and begin to align the documentary and on-site layers into a single narrative. For example it will be informative to associate the placement of cellar holes with the actual owner on specific farmsteads, to derive the exact alignment of stone walls with property boundaries of specific fields, or to confirm association of forest stands with specific fields or dates of abandonment. Particularly exciting will be the search for the cellar holes of Thad Remington and J. Slater on the property which have building locations cited in deeds, but as yet not found on the ground. All of this will flesh out the interpretation of the current use of the forest as well as provide a revealing, complete and usable history of the Merck Forest beyond the rather trite "three old declining farms".



The farm today. Photo: Ken Smith