

Slide 1

Land Use History at Mt. Lebanon Shaker Village



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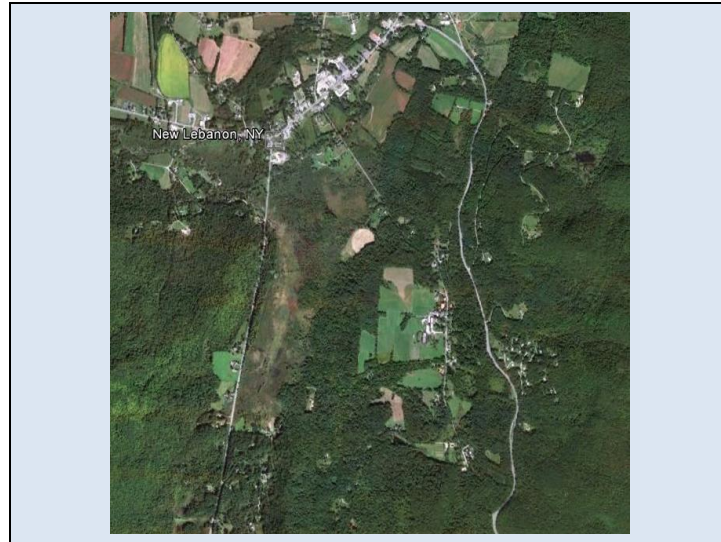
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Introduction

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Recent aerial photograph. You can see Rt. 22, Rt. 20, Shaker Swamp, and Darrow School

Importance of Land Use History

- Understanding the impacts of specific human disturbance on ecology
 - How do natural systems respond to human disturbances overtime?
- Implications for management/planning
- Shaker context - historical preservation

We know that ecosystems are not static but are ever changing. We do not always understand how natural systems change because changes happen on a time scale much longer than our own lifetimes. By studying historical land use we can learn more about how land use has affected the ecological communities we see today. This can give us insight on understanding the human role on the land, and what we want our future landscape to look like.

In the Mt. Lebanon Shaker Village context it is important to document Shaker property boundaries, Shaker artifacts on the land, and how they may have managed their land. This information is needed to tell a complete story of the Shakers at Mt. Lebanon. The museum may want to preserve some of the Shaker working landscape.

Background on Mt. Lebanon Shakers

- 1787 to 1947
- Was the largest of Shaker Villages in the U.S.
 - 550 members by 1860
 - Seven members left in 1947
- More than 6000 acres
- Best known for their herbal medicine and seed industry

Village existed for 160 years. Around 1860 was the height of the Village.

Shaker Families

- The village organized into different families
 - North, Center, Second, South, and East
 - Each had its own agricultural and industrial endeavors. North Family focused on seeds whereas herbal medicine was the focus of the Center Family.
 - Each had their own hierarchy of elders and eldresses, farm deacons, etc.

Shaker Land Use

- Most of agriculture was for their own consumption
 - Dairy (butter, milk, and cheese)
 - Sheep (wool)
 - Pigs
 - Vegetables
- Logging (firewood, building material)
- Extensive water works
 - Various mills (stone, lumber, grist)
 - Reservoirs (drinking water, fire protection)
 - Wash rooms
 - Water in the barns

Most of agriculture was for the Shakers' own sustenance, besides the medicinal and seed aspects.

Sold surpluses, sold wool.

Water works at the village have been studied by the Historic American Landscapes Survey (National Park Service) their Google Earth project is available for download at the Shaker Museum Website.

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Reservoir above the Center Family, view looking west. (Shaker Museum photograph)



Numbers from 1855 Census

- Combined North, Church, and Second Families' numbers
 - Acres Improved: 1512
 - Acres Unimproved: 37
 - Sheep: 1060
 - Cows: 133
 - Hay: 693 tons

Individual family numbers can be seen in the Google Earth project.

Methodology

- Deed searching
- Wall mapping/Field Observation
- Shaker journals and photos



At first Conrad and I decided to focus on land parcels in and around Shaker Swamp. We started with the current landowners' deeds and tried to trace them back as far as possible with the hope of mapping each parcel for each transaction. Then, by looking at the mid 19th century agricultural census returns we would have some information on land use for a given parcel at a given year.

However, we soon learned that the land in the swamp was at some point owned by the shakers and working on that scale, with only agricultural census data, would not be fruitful at this point. The Shaker deed information is filed under the different family names and we do not have the property boundaries of the individual families. The census would likely include Shaker parcels that were scattered around New Lebanon. Individual farm information would provide detailed land use history.

Wall mapping involved walking along stone walls with a GPS. Taking quick tree and understory inventory, noting topography, rockiness, and characteristics of the wall.

Jerry Grant the director of collections and research at the Shaker Museum was a huge help and resource. He gave me access to shaker journals he transcribed as well as access to other resources and photographs.

Journal work involved reading Jerry's transcriptions and picking out excerpts that referred to land use. Specifically I was looking for field names or land units that came up frequently in the journals. I also pulled information on the "swamp", and misc. interesting information (i.e. phenology, or references to gathering)

Field Observation

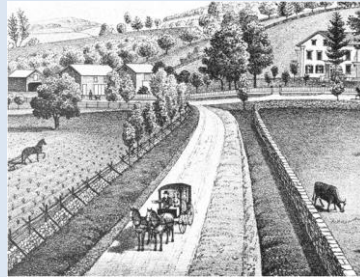
- Tree Species
 - Wolf trees
 - Multi trunked?
- Understory Species
 - Invasives
- Topography and micro-topography
- Rockiness
- Stumps



See Google Earth project for information on wolf trees.




Wall Characteristics

- Height, and width.
 - To contain sheep, walls had to be at least 4.5' tall
- Barbed wire?
 - Became available in the 1870's
- Size of rocks in wall



Understory Species

- Multi-flora rose
- Barberry
- Honeysuckle
- Red Cedar or Juniper
- Buckthorn




Multiflora rose can be a sign of previously heavily grazed land. Grazers avoid eating multiflora rose because of its thorns. Therefore, its numbers increase in pastures, and it can easily out-compete other plants. Multiflora rose is intolerant of shade.

Garden escaping invasives like barberry, and honeysuckle like to invade abandoned heavily disturbed and nutrient rich soils. Barberry is also thorny and avoided by grazers.

Red cedar is also a sign of heavily grazed land because it is not palatable to grazers.

Buckthorn. This invasive was sometimes used as a hedge row plant for making impenetrable fences. I have seen it often along stone walls.

- Microtopography
 - Pillows and cradles
 - Plow terraces and troughs
- Rockiness
 - Outcrops and Boulders

A photograph of a forest floor covered in fallen leaves, showing signs of tree blowdowns and microtopography. The image shows several trees with roots exposed and soil mounds, which are referred to as 'pillows' and 'cradles' in the text. The ground is covered in a thick layer of brown leaves, and the trees are mostly bare, suggesting a late autumn or winter setting.

Pillows and cradles refer to evidence from tree blowdowns. When a tree is blown over the roots excavate soil leaving a depression or “cradle”. When the tree and root wad decay they create a mound or “pillow”. (Larger the tree, larger the pillow and cradle)

If there are large pronounced pillows and cradles this would be evidence of a site that may not have been cleared or completely cleared. If there are small pillows and cradles you may be able to infer that the land was not plowed and probably used as pasture. If pillows and cradles do not exist this may be evidence of plowing which would have removed pillows and cradles.

If numerous boulders and rock outcrops are found within walls it is likely that the land was used as pasture. Haying would not have been practical with abundant rock features on the land.

The photo on the slide is described on the Google Earth project under “View Looking N.E”

Stumps and multi-trunked trees

- Evidence of logging
 - If there is a stump without deadfall trunk
- Multi-leader white pine
 - Tree grew in the open



See Google Earth for explanation on multi-leader white pines.

To map the parcel we first plotted the survey notes in ArcGIS but because the landscape is not flat (and ArcGIS is in 2D) the plotted area was much larger than it should have been. To correct this we referred to the deed for references to roads, landmarks, and adjacent property owners. We used the 2009 and 1942 aerial photographs to find evidence of stone walls or other obvious land boundaries. Other references included a shaker property map that Jerry Grant dug up for us, the 1851 Otley Atlas, and current property boundaries. By using these references we were able to move parcel lines to where they seem to best fit. Overall, there are certain areas we are fairly confident on and some which are more of a guess, but it is a good start. Since we feel reasonably confident about the general lines in and around the Swamp proper, this map gives evidence that the Shakers owned most of the Swamp in 1839.

There are two theories that might explain this “mega deed”. One theory is that In 1830 the Shakers were forced to put their land in trusts so the Shakers appointed trustees that would represent the Shakers regarding legal matters. This legislation was a result of the public becoming uncomfortable with the Shakers communalism. In 1838 the trust law was abolished. This supposedly gave free reign to anyone who was ever a Shaker to claim Shaker Land. Therefore, the Shakers may have wanted to legally make claims to their current land holdings to protect their assets. (Jerry Grant email communication, 2012)

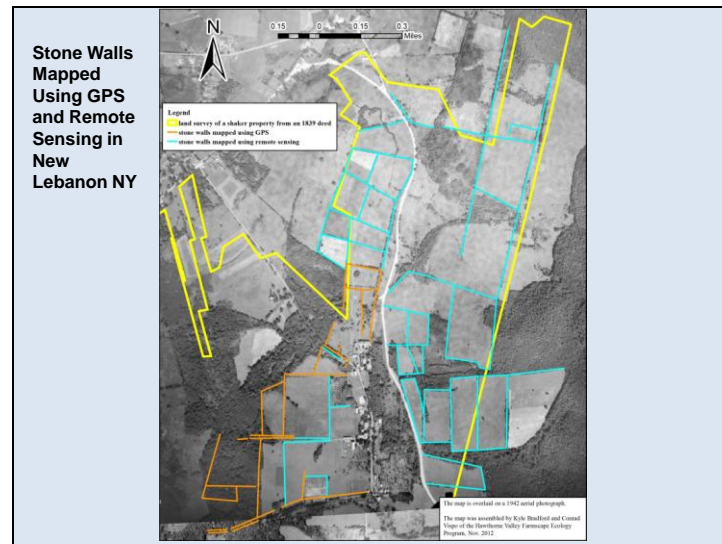
The other theory involves a request made to New York State government by former Shakers to investigate the Shakers. In Levi Beardsley’s (New York State Senator at the time) *Memoir (1852)* he explains how in 1838/39 accusations were made against the Shakers concerning their lifestyle. Levi explains how former Shakers came forward giving their testimony about the strictness and abuse to children and demanding investigations into their practices. Levi’s committee was invited to a Shaker Village in Niskuana (Niskayuna, NY??). After the visit Levi concluded that no legislation needed to be put in place against the Shakers. He saw nothing offensive about them, and did not see them as dangerous in any way. Because of this government investigation the Shakers may have thought it best to put their assets in order with the County Clerk. (Ruth Piwonka email communication, 2012), (Beardsley, 1852).

This large parcel is continuous, a crucial part to their success agriculturally and industrially. They were able to use all of the resources from the mountain streams and springs to the Swamp.

Even though they had huge land holdings they still were not self-sufficient. In the mid-1800s when rail was introduced, Northeast farmers could not compete with farms in the Midwest for grain. It made most sense for Shakers and others to import grain from the Midwest.

They also used land in Michigan, Pennsylvania and Massachusetts for timber.

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Map is overlaid on a 1942 aerial photograph. The remote sensed wall lines are drawn based on this 1942 aerial.

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"Groves"



In the journals there are many references to "Groves". These areas were where Shakers may have had ceremonies or services, and picnics. (Shaker Museum Photo)

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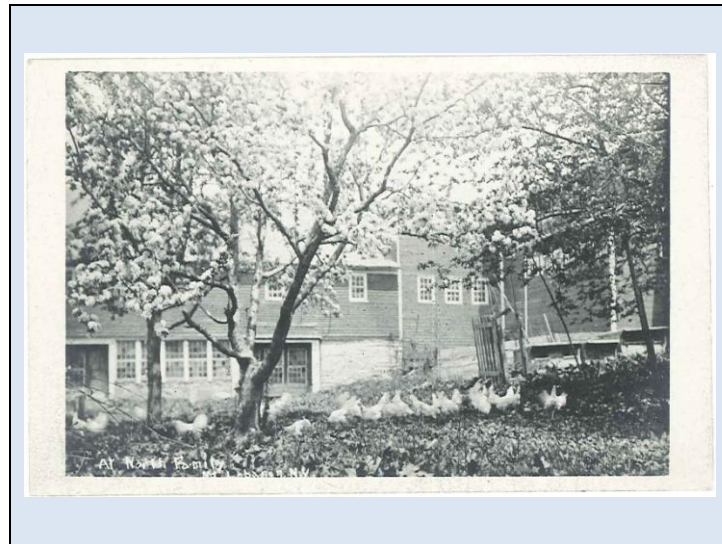
(Shaker Museum Photo)

“Union Grove”

- 1866 apr: Set out 13 Pear trees in **Union Grove**. Also Chesnut 1, Pople 3, Beech 1, Walnut 3, Hemlock 3, Black Ash 1, Ash 4, Horse Chesnut 4, and Shad[e] trees 4
- 1866 may: Set out in **U[nion]. G[rove]**. 9000 Strwberry plants the Great Rupell(?) And Downers Prolific(?).
- 1867 apr: Set out in **U[nion]. Grove** . Locust 70. Pear 80. Peaches 50. Norway Spruce 40. Arbor Vitae 20. Tulip tree 1. N. Maple 1. Brasie(?) Rose 1. Phil[]a Raspberry 1. Juniper tree 1. L Ball 1. Fringe(?) 1. Set in [illegible] Garden Block(?) Cap 200. [NN, Shaker Collection, mss. no. 20]
- 1870 apr: Tap some maple trees in **Union Grove**. Set out 70 alcanthas, some locust trees and 300 evergreens in Union Grove. [NN, Shaker Collection, mss. no. 20]

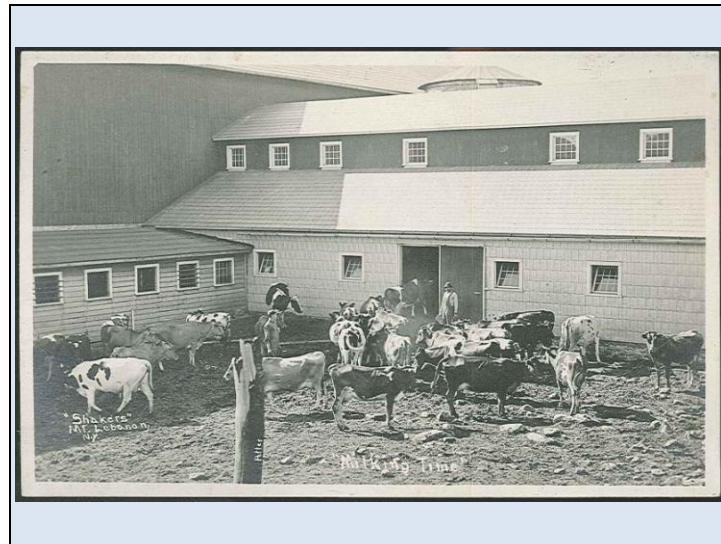
Excerpts from North Family Shaker Journals about the “Union Grove”

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(Shaker Museum Photo)

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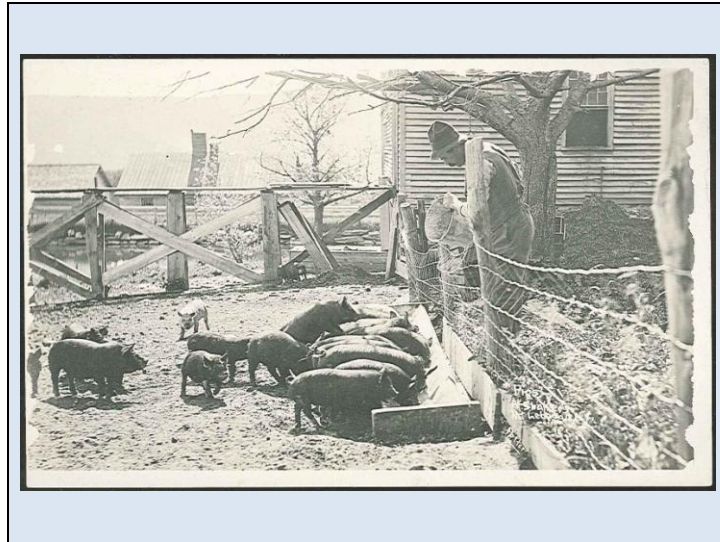
Not the Stone Barn so not the North family. Church Family? (Shaker Museum Photo)

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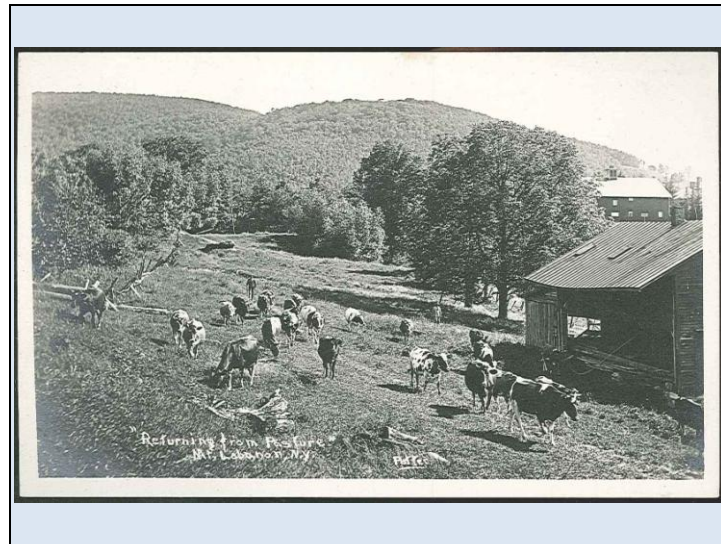
Shaker Museum Photo

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Shaker Museum Photo

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I believe this is looking south. Cows returning from mountain meadow? (Shaker Museum Photo)

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Shaker Museum Photo

“salting the calves”

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Small scale row crops (Shaker Museum Photo)

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