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THE SEASON OF HERITAGE RECIPES (1/2013)

Now that Thanksgiving and Christmas celebrations have passed my palate and taste buds can finally rest. All that tasting over-worked those sensors but the memories of all the wonderful flavors enjoyed in the presence of friends and family are tucked away for ready recall with all the similar memories of seasons past. It is traditional for the talented cooks in our families to prepare holiday recipes that have been handed down by their ancestors. From these recipes, lovingly prepared by the cooks in my family, come elegant tastes by the spoonful and pleasing aromas by the roomful. Beyond the momentary pleasure of taste is the everlasting feeling of love channeled from the cook in our presence through their favorite dish directly to the heart of those lucky enough to delight in tasting them. Present day cooks often use recipes handed down to them from their parents and grandparents and in so doing bring love and legacy from generations of ancestry.

How much greater could the importance of family recipes be demonstrated than by the article spread across pages 15, 16, and 17, titled, *The Central School Office is Cooking*, appearing in the December issue of this paper right under a picture of the five smiling faces that offered them to the Editor. Of the five recipes printed it is apparent from the preface to at least four that they are heritage recipes: Scandinavian Almond Bars; Homemade Mincemeat; Grandma deMik’s Butter Cookies, and; Mom’s Pork Pies. I could feel the heritage bubbling up from the page as I read them all. The pork pie recipe (French Canadian) and the Almond Bars recipe (Scandinavian) seem to reflect cultural origins, if so, then they add a second dimension to their heritage measure.

My wife Laura draws upon her memory in preparing recipes that are rich in local tradition. They are nearly the same dishes that I remember my Grandmother preparing for the holiday celebrations here during my youth. Surely, the recipe list has been passed down through generations of family cooks since the eighteenth century of New Hampshire’s history. Originally, the ingredients were home-grown, or taken from the forest. The same meats, fruits, and vegetables were used over that time span to prepare meals on several cooking technologies; each method being an improvement over the previous method. The evolution of cooking equipment probably caused the cooks to modify recipes somewhat to accommodate each improvement in cooking equipment. The Todd Homestead exhibits four generations of kitchen technology that have perpetuated the traditional recipes that Laura uses today. First used is the open hearth fireplace equipped with cranes on which hang cast iron pots. Set on the fireplace hearth there is an iron grill on short legs which were forged to set over hot coals. Adjacent to the fireplace is a brick oven with a soapstone mantel and door. The first two generations of cooks (1814 to 1865) in this Homestead used the open hearth with cast iron and crockery pots, plus the brick oven. Cooks of the third generation had the benefit of cast iron wood burning

kitchen ranges with oven, attached water heating tanks, and a warming oven above the cooking surface. My Grandmother was the first to use an electric stove to perpetuate the heritage recipes in this Homestead.

Laura's cooking during the holidays perpetuates the family traditions and the heritage of recipes. Her recipes for the holiday season typically include; roast turkey, an alternative meat (pork, beef, or lamb) mashed potato, squash, scalloped onions, scalloped oysters, pickles, and cranberry sauce. Her deserts usually include; apple pie, pumpkin pie, mincemeat pie, and chocolate cream pie. Though I feel Laura has memorized these recipes, once in a while I see her peek at a much worn reference with numerous dog-eared sheets, upon which are hand written recipes, tucked within the pages, and believed to have been authored by her Grandmother, Frances Larrabee. The Book is titled White House Cook Book: A Comprehensive Cyclopedia Of Information For The Home (1923). It was given to Grandmother Larrabee by her husband George during the same year the book was published. The book was given to Laura's mother, Anne, who then passed it on to Laura. In her use of this cook book I see in Laura the same heritage recipe connections between herself and her Grandmother that I share with my Grandmother.

I have to admit that there are several heritage recipes that I have seen my Grandparents prepare and serve at the dinner table which I have tasted once or twice, but I certainly do not savor them. I believe they have been the delight of prior generations of the family and particularly the early ones. Survival dictated that full utilization of food resources be made. As a youngster, I observed my Grandfather making hog's head cheese on the table in the kitchen. He placed on the table one half a pig's head, including the one ear, (cut in half from nose to the neck) which he had boiled on the wood stove in the kitchen until the meat nearly fell off the bone. Then he separated the meat from the bone and put the meat, excluding the eye ball, in a chopping bowl where he cut it into small pieces. All the small pieces of meat were put back into the pot used to boil the head and he added salt, pepper, sage, and a few other garden spices. Then he put the mixture back on the stove to cook until it was very slimy and jelly-like. Finally, it was removed from the stove and placed in loaf pans to cool. The mixture soon jelled and held together for serving in slices cold or warmed with vinegar. This may be a heritage recipe, but I gagged at the sight of it, a reaction probably due to the sight of Grandpa plucking out the eyeball with the carving knife. Grandpa and Grandma enjoyed this heritage dish regularly.

Pickled pig's feet is also a recipe used and enjoyed by my Great Grandparents and my Grandparents. This heritage food is apparently still favored as I see it stocked in the meat department of local markets once in a while. My up-bringing on the farm put me in touch with the places that pigs put their feet and I have observed the slaughtering of pigs on the farm; particularly disturbing to me was when I watched the removal of the pig's toenail with a hook resembling a bale hook. My Dad would put the hook under the skin at the base of the toenail and give it a yank; the sight of this made me cringe and every time I see a pickled pig's foot the cringe returns. I know that Grandpa cleaned them with a brush and boiled several of them in a pot of water until they were soft and then he packed them in a crock with salt. He liked to eat them for breakfast cooked with an egg batter. This is one heritage food that I will not pass on to my family; I do not think it would be considered a loving thing to do.

Tripe is another heritage food that is not consumed as much as it was during the era of local agriculture. My Grandparents may have been in the last generation to receive the heritage recipe for head cheese, pigs' feet, and tripe. I have eaten fricasseed tripe many times as an adult and liked the taste of it, but I do not think I could pass the recipe along to my family as an expression of my love, at least they would not accept it with that perception.

My first Cousin, Nancy Trelstad, married a man of Norwegian descent and they live in Minnesota where Norwegians settled during the past 150 years. She has shared with my family a traditional delicacy that is served during the holiday season. This is called Lutefisk. It is not a very savory tasting morsel, nor did it have a pleasing smell, but that is due primarily to the way it is cured. Actually, it is cod fish that has been boned, then salted and dried. After drying the cod is soaked in lye for several days at which time it becomes a

gelatinous blob. I asked Nancy why this is a heritage food and she said that it was because it puts people of Norwegian descent in touch with their past. I wonder: should this be a reason why I must continue to eat and serve hogs head cheese and pickled pigs feet so that I can keep myself and my family in touch with our ancestors?

Heritage recipes do indeed link the present generation of a family with their ancestors and they are a way to pass one's love and affection on to the next generation. A perception stemming from eating the unsavory foods such as tripe, head cheese, and lutefisk could be that they confirm our understanding of the hard life and times faced by our ancestors and of their strong faith and will to do whatever was necessary to survive.

NEW BOSTON'S HISTORY IN THE SHADE Part 1 (2/2013)

There has been and will be a lot of attention focused on the history of New Boston during this 250th year of our township's charter. The history of land use and the cultural patterns that are etched on the land by that use is always a tickler for me and I am looking forward to all the events planned for celebration of this anniversary. The subject of this column during the year may be flavored with stories about people and places which support the old adage that history informs the present.

In this story I will attempt to present some of New Boston's history with an emphasis on how the forest influenced the lives and times we now honor. To me this topic is very timely because of a book I recently read by Eric Rutkow, titled American Canopy, published by Scribner in 2012. The author's clever way of telling the history of the United States changed the way I look at the history of our Nation. Rutkow explains how trees and the forest have been symbols for rallying political action, or they have resulted in governmental programs from which we benefit. The Liberty Tree flag became the inspiring icon of Minute Men and of Washington's Militia Men during the Revolution. The largest trees in the world (Sequoia) were of 'spiritual' influence to John Muir, Gifford Pinchot, and Teddy Roosevelt and many others. Thus resulting in the National Park System. The Rutkow story covers eras of our Nation's history up to the present with the same focus.

Prior to the 1763 granting of the our township's charter by the Province of New Hampshire the administration of land development was in the hands of a private company called the Masonian Proprietors. The 'Proprietors' were business men from Portsmouth and they sold lots in this township to settlers. The Proprietors also served as a quasi-governmental body that laid out roads, mill sites, and churches. Mathew Patten's diary states that on July 11, 1763 he went to New Boston with his brother Samuel and met with Captain Chamberlain, the Proprietors' Committeeman, to survey a site for the meeting house and went home on July 13 after completing his contract with the Proprietors. Patten, a surveyor from Bedford, was a key person in the development of this township.

The Proprietors contracted with settlers to build and operate sawmills; paying them for their efforts with grants of land. Grants of lots to prospective settlers were subject to the condition that a house be built and that land be cleared for crops; failure to comply resulted in forfeiture of the land. This development plan was inherently based on an abundance of water and trees.

Branches of the Piscataquog were well situated and suited to provide the power to saw the lumber needed to build permanent homes. The land adjacent to the river was densely stocked with large white pine trees. The records indicate that the pine trees in this watershed were the largest of any in the area, some stumps were so large that an ox team could be turned around upon them. The hills of the watershed had dense hardwood forests dominated by the grand American Chestnut; red oak, sugar maple, beech, and hemlock were present in lesser numbers but of equally large diameters.

The first settlers were also bound by time limits within which to establish a homestead. With sawn lumber not yet available to meet their needs, settlers cut trees standing adjacent to their chosen home sites and then used the round logs to erect their first dwellings upon stone foundations. Several years later these settlers built frame homes with lumber as it became available. The first log dwellings were abandoned or used for sheltering livestock. Clearing the forest to provide shade-free fields in which to plant crops for the family and for livestock fully engaged the settlers for a time.

The magnificent Chestnut trees on their land dropped large, sweet, nuts in great quantities. Chestnuts were critical to survival of the first families and their livestock during the period of cropland establishment and after that time as supplemental nutrition. These folks supplied themselves with the meat of wild game that also depended on the Chestnut and Oak trees in the forest for their food. By this time in our history the settlers had learned from the native Americans how to use the sweet sap of the Sugar Maple to make sugar to satisfy their taste buds and nourish their bodies.

Unfortunately, the settlers' use of the forest on their lots was not unlimited. In the conveyance of their lots to settlers the Proprietors reserved the rights held by the King of England to cut and take without payment all White Pine trees for masting the Royal Naval fleet. Harvesting and exporting of pine trees were destined to make the Royal fleet the greatest in the world at a time when mast trees were not available to the King from any other source. The King's law prohibiting the harvest of mast trees by settlers was called the Broad Arrow Act due to the shape of the marks placed on them by the Surveyors of the King's Woods who went through the southeasterly portion of the Province marking trees and enforcing this law.

I believe that our local settlers were greatly enflamed by their inability to cut the King's mast trees, but I know of no recorded local incident which resulted in physical conflict. The Weare History quotes the law that surely affected the settled families in New Boston for a period of fifty years after 1722, the date of the Parliament's action. This Act states in part: "...making it a penal offence to cut white pine trees in our province without our majesty's royal license". The fine for cutting any white pine tree of the growth of twelve inches in diameter and under at three foot from the earth was 5 pounds for every such tree; from 12 inches to eighteen inches 10 pounds; eighteen inches to twenty four inches 20 pounds; and twenty four inches and more 50 pounds; and the lumber made from such trees was forfeited to the King. Further, if the offender did not pay the fine, then he was to be put in prison and kept there till his majesty's officers should see fit to let him out.

The Broad Arrow law was not at first rigorously enforced by Governor Benning Wentworth in the new townships, including New Boston. But in the seacoast area it was enforced to the extent that it ensured that enough masts were available to supply the Royal Navy. Benning Wentworth resigned in 1766 and John Wentworth was appointed to replace him. Under Governor John Wentworth's reign the law was strictly enforced throughout all the southern towns in the Province.

As the Surveyor of the King's Woods, John Wentworth appointed deputies in the new townships wherever White Pines grew. All new settlers coming to New Boston after 1766, 3 years after the date of our charter, were required to have one of Wentworth's deputies come to their lot and mark all pine trees that were reserved for masts. Settlers were given a royal license to cut all other pine trees on their land, provided they paid a tax collected by the deputy.

The Weare History chronicles an incident that occurred on the Piscataquog River in Weare, just north of the Northeast corner of New Boston which must have been alarming to the early settlers in New Boston. In the winter of 1771-2 John Sherburn, a deputy Surveyor of the King's Woods, came to mills on the north branch of the Piscataquog River and proclaimed that many white pine logs were property of the King. The mill men were arrested and summoned to appear in court in Portsmouth on February 7, 1772. The accused were represented by Samuel Blodgett, Esq. of Goffstown. The matter was settled with the millmen being directed to pay a fine and to surrender all the King's logs to the Deputy Surveyor of the Kings Woods. Blodgett turned out to be a

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hypocrite with respect to his representation of his clients in Weare because he also was appointed to be a deputy Surveyor of the Kings Woods and the matter was put in his hands to settle. He then attempted to collect the fines on behalf of Governor John Wentworth, but the Weare millmen vehemently refused to surrender, or to make payment of the fines charged against them.

Samuel Blodgett, under his new authority, issued a warrant and deployed the County Sheriff; to deliver the warrants; to take the millmen into custody, and; to take into his possession the King's logs and lumber. The sheriff and deputy went dutifully to the Mudgett mill on April 13, 1772. Mudgett promised to give bail the next morning. That night Mudgett's friends met and formed a plan. Early in the morning the group went to the tavern and awoke the Sheriff and Deputy, took their weapons, then beat them severely with sticks, put them on their horses and sent them away with no invitation to return. The Sheriff went to Bedford and enlisted Col. Goffe to send troops to capture the rioters, but when he arrived the millmen and their friends had disappeared. (This event is also noted by Mathew Patten in his diary.) Sheriff Whiting did not give up and soon captured one of the rioters and took him to jail; others gave bail.

From the perception of New Boston settlers, the strict enforcement of the Broad Arrow law leading up to the above event had to be, in my opinion, the most frightening and oppressive of all the intolerable acts which compelled our militia to rebellion and participation in the Revolution.

New Boston History in the Shade, Part 2 (3/2013)

Provincial Governor John Wentworth continued to be a sharp thorn in the progress of settlement in New Boston. He sent his deputies into the township to strictly enforce the King's ownership of all the white pine trees suitable for masting his Navy. It is likely that the forest clearings made by the settlers on which to grow crops came under strict scrutiny by the Governor's Deputy Surveyors of the Woods. The strict enforcement by the Deputies would seem to contradict the conditions of settlement imposed by the Masonian Proprietors upon those to whom the Proprietors made grants before the township was chartered by the Province of New Hampshire. The enforcement also seems to have been in direct conflict with the intent of the Incorporation Document dated January 31, 1763.

Land grants to settlers required that a certain amount of land be cleared for crops and that a house of a certain size be built on the property during a given time under the penalty of forfeiture. This mandate would have been confounded by the Deputy Surveyors of the Woods because the first homes were constructed of round logs, most likely white pine that was claimed by the King.

The 1763 Charter stated that The Province and the established settlers would benefit from incorporation by "...maintaining good order and encouraging the culture of the lands...". It may be that Governor Benning Wentworth did intend to bring the good fortune he promised in his charter and he showed this tendency by his leniency in enforcement of the Broad Arrow Act. Benning's 'neglect' of the King's timber interests resulted in his removal from office in 1767 and he was replaced by John Wentworth, his nephew.

Governor John Wentworth, in his duty as Surveyor of the King's Woods, immediately hired numerous deputies to strictly enforce the Broad Arrow Act in accordance with the King's order. At that time Great Britain had an extreme shortage of ship timbers, mast timbers particularly, and he ordered harvesting and shipment of this commodity to begin at once.

Though I have not read of the effect of the Broad Arrow Act in New Boston, I am inclined to state that local settlers may have been poorly treated. There must have been growing tension between Loyalists and Patriots. Were Loyalists given gratuitous treatment regarding the trees on their lots? I would bet that Loyalists were the ones hired to do the harvesting of the mast timbers. The income from harvesting would have greatly

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enriched the local economy, particularly during the winter, and that enrichment would most likely have been put into Loyalists' hands.

An extreme level of manual labor and a great many teams of oxen were employed to move masts from New Boston to the Merrimack River. Records indicate that the men attached large wheels and/or runners to the logs to facilitate hauling them along the roads. Presumably the haul route would have been along what is now River Road (Route 13) to South Mast Road (Route 114) in Goffstown, then along Mast Road and Varney Street (Route 114A). From the junction of Varney Street and Second Street there appears to be no road presently mapped that connects with the landing that was situated just downstream of the confluence of the Piscataquog River with the Merrimack River (Bedford History). By scaling the route from a street atlas I believe the masts from New Boston were hauled at least 12 miles to the landing at the Merrimack in West Manchester. From the landing they were rafted downstream on the Merrimack River with many other masts delivered there from Weare and Goffstown to the point of shipment to Great Britain. I am completely awestruck by thinking about the work described in this paragraph and I have great respect for the men that accomplished it be they Loyalist or Patriot.

The discontent amongst settlers brought on by Governor John Wentworth's Broad Arrow Act enforcement and by the other intolerable acts imposed by the King resulted in a decade of rebelliousness. Governor John's well-being became threatened and he chose to flee to New Brunswick in 1772. There were no mast timbers harvested and shipped from New Boston following Governor John Wentworth's departure.

Following the Revolution Americans shouldered the tasks of building a new nation. Seemingly, in little more than a generation, the majority of the landscape changed from mostly forest to mostly open land. 75% of New Boston would be cleared of trees and made ready for grazing by livestock and to grow crops. The walls served as a place to put the rocks removed from the soil and as fences to contain animals grazing within the pastures. This great effort resulted in about 400 miles of stonewalls that to this day link us to the past. They represent the self-expression of our ancestors in the integration of economic and aesthetic values on each acre.

Stonewalls were constructed to about three feet tall; the height to which a man could reasonably lift stones. Containment of grazing animals required a little more effort. Again the settlers went to the forest and harvested American Chestnut trees for use in raising the level of their stone fences to contain sheep and cattle. Chestnut pole timbers twelve feet long were split with an axe into rails and were then laid with ends overlapping on top of the wall. These rails were held in place by two chestnut poles, one driven in the ground on each side of the wall and crossing over the top of two overlapping rails. The stone and chestnut fences were soon tested by flocks of sheep that were brought to New Boston at the beginning of the 19th century.

Early settlers brought a few sheep with them and the wool was homespun. Large flocks were not raised because wolves and bears frequently preyed on the sheep and the breeding stock could not be sustained. However, the nearly complete clearing of the forest discouraged the predators and the 'Sheep Craze' began during the first decade of the 19th century. The story of this phenomenon was told to New Boston citizens a short time ago by Steve Taylor, former New Hampshire Commissioner of Agriculture, as part of the 'Perspectives' program at the Community Church. For about 30 years the landscape and economy of New Boston were predominantly dominated by Merino sheep. A Vermonter, William Jarvis, is credited with bringing Merino sheep to New Hampshire. The bleat of sheep must have been heard along most roads in this township when the population of the flocks peaked at several thousand as it did in many other towns in this state and in Vermont (Vermont Historical Society, on line). Many of New Boston's old homesteads were built and paid for by farmers that raised sheep and then sold the wool to mills that were built in the area.

Jarvis became a wealthy agent for importation of Merino sheep from Spain and for distribution of breeding stock to settlers in the northeast. The wool of this species was considered the finest and softest in the world and the settlers that raised flocks of them fell into a booming economy that soon made them wealthy.

Textile mills were built along the major rivers and they provided lucrative markets for wool. The most attractive and perhaps one of the earliest woolen mills that I am aware of is located in New Ipswich at the junction of Routes 123 and 124 on the Souhegan River at a place called High Bridge.

Unfortunately, the sheep craze busted nearly as fast as it boomed. By 1835 there were forces that broke the local economy driven by wool, perhaps the major factor was increased sheep raising and wool production at lower costs in other parts of America. In New Boston the settlers (farmers) restored their livelihood by raising dairy animals. Early breeds of Devon, Durham, and Ayrshire were common here. The sheep economy did show some improvement in the 1860 decade whereby the number of sheep kept in flocks by local farmers rose to a total of 723 (History of New Boston).

What about the status of New Boston's forest following the transition from wool production to dairying and then from the sharp decline in available farm labor that turned to industrial employment? As a forester, I can predict that the forest did then what it always does following disturbance; whether it be agricultural clearing, wildfire, clear cut harvesting, or hurricane, it grows a new forest of early successional species. Many of New Boston's pastures abandoned after the sheep bust were, by the end of the Civil War, covered with young forests dominated by white pine, grey birch, red maple, red oak, white ash, and black cherry. At that time farmers were harvesting the wood in the young forest, particularly the hardwood, and marketing it as firewood to village and city dwellers.

In Part 3 of this historical series I will continue my discussion of the role played by trees in the history of New Boston.

New Boston History in the Shade, Part 3 (4/2013)

Raising Merino sheep and the sale of their much favored fleece overshadowed other components of New Boston's economy until the sheep craze quite suddenly ended in the 1830's. Then, rising to the forefront of local employment and trade was the harvesting of wood for domestic use by families and for marketing to other homeowners that did not stack their own supply. Old men, young men, boys, (girls?), and horses spent months in that endeavor each year. At that time in our history, homesteads were large, but un-availed of insulation and storm-windows, nor did they have efficient heating technology. One of the sources I used in this series of the column (Eric Ruthkow, 2012) states in his book that until 1840 95% of the energy consumed by American Homesteads came from burning wood and that more wood was used for fuel than for any other purpose. By association I believe homesteads in New Boston burned an equivalent amount of wood.

Most homesteads, the one I now live in being typical of those, had at least six fireplaces which may have lost 90% of the heat up the chimney with the smoke. Cooking in the farm kitchens was done in large brick and stone fireplaces on long-handled wrought-iron grills set over the fire and in cast iron pots hung high over the fire on cranes attached to the side of the fireplace. Though the heat from the fireplace used for cooking was welcome in the winter it must have been unwelcome in the summer.

The massive brick cooking appliance in this homestead takes up a large portion of the kitchen and dining room. It was built in 1852 or 1853 and used by two generations of family cooks. The fireplace component was used to heat the dining room and cook the meals. The structure includes a water heating component consisting of two large copper kettles set into the bricks over enclosed fire places with steel doors equipped with draft controls. The kettles have a capacity of 30 gallons each and were used daily to heat water for doing the dishes, for washing the babies, and for scalding chickens and hogs. A third component of this mid-1800 state of the art kitchen is the brick oven used for baking bread, pies, and beans. Use of the old kitchen was described to me by my grandmother who used the brick oven for cooking Thanksgiving meals for the family when I was a hungry pre-teenaged kid (198-1950). I believe that the type of brick kitchen appliance in this homestead is similar to those used in New Boston homesteads during the period of 1850 to about 1900.

I can not visualize how much firewood was consumed yearly in this and other homesteads, so I engaged in some speculation about the use of wood by people living in New Boston between 1800 and 1850. First, I counted all the home sites appearing on the 1858 Atlas of New Boston. Though the drafting of the Atlas is not very clear, I came up with a total of about 220 homesteads. Then I drew upon my memories of stories that my grandparents told me about life in the early days. I remember being told that this Homestead consumed about 24 cords of wood per year for heating the house and for cooking in the fireplace, in the brick oven and for heating water. Much wood was needed for fires under the copper kettles that heated water, 30 to 60 gallons at a time. The memories of Grandpa's and Grandma's stories about farm life supports my Grandfather's claim that 24 cords per year may be typical of the wood consumption in New Boston homesteads.

Grandpa operated a sawmill and also operated the dairy farm with a crew of 8-10 men. Some of his men were older than the rest and in the winter an older man roomed and boarded at the homestead. His job was to stoke the fireplaces in the bedrooms to maintain comfort levels for the children, for the boarding schoolmarms, and for the boarding sawmill workers. I presume that he also filled a bed warmer with red-hot charcoal and used it to warm beds between the sheets. Prior to meal preparation the hired hand had to fire-up and regulate the kitchen fires (cooking hearth, brick oven, and the kettle fireboxes) in a manner timely for the cook to prepare the meals for a half dozen hungry souls. His duties also included taking out ashes from all fires and carrying firewood into the house from the woodshed, oh my aching back! To some degree, I presume this task list to have been mimicked in nearly every other homestead in town during the period of 1850 to 1900.

For estimating purposes, I assume that for a considerable time, 200 homesteads in town used 24 cords for domestic purposes. Therefore, about 4800 cords (200 X 24=4800) went up in smoke in New Boston each year (think about the cloud of smoke that darkened the sun in the morning over the valley in New Boston village). At that time wood was cut in bolts 4 feet long and measured in piles four feet high with each 8' long pile comprising one cord. For full comprehension of how much wood was used each year in the township, I multiplied 4800 cords by 8 feet and divided that amount by 5280 feet to arrive at 7.27 miles of wood-4800 cords stacked end to end. This pile would, by scale, be about one half mile longer than the width of New Boston measured east to west. This measure represents a lot of labor and I respect the people that exhausted themselves in this accomplishment while also exhausting the forest resource in the township.

The mid-nineteenth century was a cusp in life style and local economy here; behind was the wood and agriculture based economy, going forward in time there emerged a new economy based on coal, steam, and iron. People were drawn to the fountains of this new economy. Amoskeag Mills on the Merrimack River in Manchester staked its influence on the area in about 1840 and introduced the use of high technology for that time. About this time the steam engine came into general use and it powered many adaptations. New Boston's small water-powered mills diminished in number and output. The area of industrial development at Gougeville on the South Branch of the Piscataquog River was prosperous for a time and then diminished to quiet senescence and liquidation during the 1890's.

I surmise that the forest resource on the landscape in this township may have diminished to a point of concern by townspeople following 50 plus years of heavy harvesting. During the period of 1850 to 1900 there were in society several influential figures that changed the way citizens looked at the use of the landscape and the contribution of trees to natural beauty. Ralph Waldo Emerson's lectures on Nature during the 1840's and 1850's may have influenced citizens in New Boston to think about the future of the forest and the beauty of the landscape overall. Henry David Thoreau wrote on his observations of Nature and the value of preserving it for the benefit of human welfare. In 1853 a 700 acre parcel was purchased by New York City for five million dollars for use as a park. Perhaps some unknown group of New Boston citizens committed to the dogma of these thinkers sensed the need to do in central New Boston what New York and F. L. Olmsted did in Central Park.

I have not found any source that gives me a name or names of residents that were compelled to plant American elm trees at roadsides in our village. This I do know; during my school days (1948 to 1958) I was attached to the beauty and immensity of at least two dozen elms along the south side of River Road and on each side of Meeting House Hill Road through the village. There were also two or three elms on the south side of Mill Street adjacent to the Presbyterian Church. Though I never measured these icons of the village, I believe the diameters would have measured 30 to 40 inches and they would have been at least 80 to 90 feet in height.

I have examined old photographs at the Historical Society indicating that most of the elm trees survived the fire of 1887 and they survived two floods (1936 and 1938). I know they were standing on the day we celebrated the 200th anniversary of New Boston. However, at that time their crowns displayed 'yellow flags' indicative of the Dutch Elm Disease that would eventually kill them all by 1967 at the age of about 114 years (I calculate they were planted about 1853).

When I started this series I thought I could say it all in three issues of the Bulletin, but I must continue next month with part 4.

(Part 4 is not available as a Word document. A scanned image of the printed article follows on the next page.)

In the COUNTRY

with Robert Todd

NEW BOSTON HISTORY IN THE SHADE (PART 4)



Following the Civil War, our town waned in population, but not in its spirit. Entrepreneurs took up new technologies made mostly of iron; not crafted in local blacksmith shops, but purchased from manufacturing plants from away. Local farmers eased their labor with the use of mowing machines drawn by a team of horses in lieu of teams of men mowing with scythes.

The iron mold-board plow, also drawn by horses or oxen, may have been the greatest agricultural implement ever invented; it eliminated hand labor in preparing ground for crops. Crop production increased greatly per unit of input measured by the sweat of the brow.

Forest products continued to play a significant role in the local economy in the second half of the 19th Century. Water powered sawmills were replaced by steam engines to spin the saws that converted second growth white pine logs to boards and timbers. The site-based water powered mills could not compete with the steam powered mills, that were moved from woodlot to woodlot along with the two legged and four-legged laborers to operate them.

To harvest the timber, mill owners employed several two-man crews equipped with crosscut saws, sharp axes and pockets full of hardwood wedges. Felling, as it was called, required skillful crews to make the proper cuts and to place wedges directing all the trees to fall in the same direction. Once a tree was on the ground, the crew used their axes to remove all the limbs from the tree. These limbs, and small trees were also cut and piled in windrows so that they would be out of

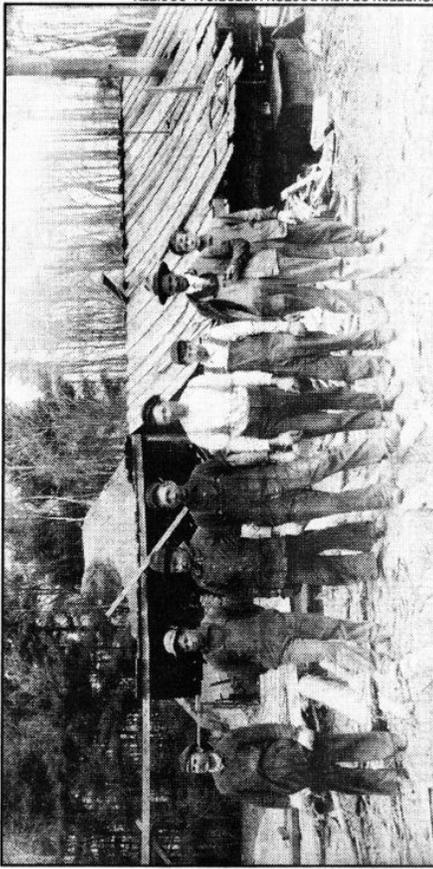
the path (skid trail) of horse teams hauling scoot-loads of logs.

Skillfully, the loggers sized up each tree with scale sticks before using their long cross-cut saws to "buck" the delimbbed trees into logs of 10-, 12-, 14- and 16-foot lengths. Another tool called a cantidog (a stout handled tool with a spike on the end and an iron bent into an arc shape hinged to the handle) was used by the loggers to roll logs into place on the uphill side of the skid trail. Then they rested their tired muscles.

Several teams of horses were kept in a stable at the mill site. Each teamster was responsible for feeding, watering, grooming, stable cleaning and driving his team of horses. He would inspect each horse daily for bruises, lameness and general health, particularly the condition of the horses' shoes. Usually the mill owner had a blacksmith on the crew who made horseshoes and carefully fitted them to each horse as well as assist with general mill repairs.

The teamster harnessed his team and hooked the leather harness to a scoot (a low sled with wooden runners) that hauled a load of several logs. In the forest, the loggers helped load the scoots by rolling logs up inclined poles from ground to scoot and then the teamster drove his team to the skidway at the sawmill where he rolled off his load.

A sawmill crew consisted of at least five men: a sawyer, a take-away man who removed boards as they came off the saw, a man who rolled logs from the skidway to the saw carriage, and a crew of two who used a horse team to haul boards to the "sticking" area where lumber was stacked in rows sepa-



Fred Chancy and some of his relatives at their portable sawmill.

rated by narrow sticks to dry.

This method of logging and sawmilling was called clear-cutting and the mill stayed on a property until all the timber was cut off, at which time it was taken down and hauled to the next property. Several mill hands, teamsters and loggers usually lived in moveable shanties erected in close proximity to the mill site. Some of the crew lived with their families in the shanties, hence the name "shanty town."

The forest industry sustained the economy and added cultural diversity to the communities in which the mills were located. The clear-cut properties quickly regenerated another pine forest. Unfortunately, this land use trend contributed to changes in wildlife habitat and by the end of the 19th century, the eastern mountain lion, wolf, turkey, coyote, passenger pigeon and bear had been extirpated in this township.

Maple syrup production in New Boston was a beneficial use of the forest, particularly where large maple trees were near the farm buildings. The first settlers boiled maple sap to make sugar; not so much for its commodity value as for its domestic use as a sweetener and flavoring. The preparation of maple sugar came at a time of the year when other chores may have been less demanding upon the

farmers.

Perhaps at mid-century, maple sugar did become a commodity that bolstered local incomes, as it does today. The U.S. Commissioner of Agriculture's report of 1860 shows that New Hampshire produced 1,300,000 pounds of maple sugar in 1850. That sounds like a lot, but it computes to be only about five pounds per capita per year. The report indicates that 9,800 gallons of maple syrup were made in New Hampshire that same year.

John Chapman, commonly known as Johnny Applesseed, most likely did not bring the seeds of his legacy to New Boston, but before he died in 1845 he had been responsible for encouraging settlers in the mid-Atlantic section of our developing country to cultivate orchards. New Boston orchards were a good source of cash shortly after their establishment on the abandoned sheep pastures in the 1830 decade.

Several letters found in the attic of this homestead, written by my Great Grandfather James, tell me that apple orchards were well established on his farm before 1850. A letter, dated 1850, sent by him from the gold mining town of Columbia, California, commands his brother to take care of the orchard until he returned.

New Boston History in the Shade - Part 5 (6/2013)

In this column I will ‘time travel’ through the first half of the 20th Century of New Boston’s history with a focus on living within the forested landscape. The 20th Century opened with what may have been the time our citizens began to look at forests in a different way. This change may have been influenced some by what was happening on the National landscape, but more likely by what was happening in New Hampshire. The Society For The Protection of New Hampshire Forests was organized in 1901. This conservation group has the reputation of being the most respected conservation organization in America through its success in conserving about 186,000 acres, to date, in this state. This success is measured in part by a significant acreage of protected properties in New Boston. Locally, a Nature Study Club was organized about 1900 and engaged members in hiking on roads and trails in Town to observe plants and wildlife. The organization was active up until about the beginning of World War 1. My Grandmother was a member of the Club and I’ll bet this experience resulted in her life-long love of Nature. She persistently tended her gardens throughout her lifetime and she passed this love on to me.

The seeds of a conservation ethic germinated early in the 20th Century in this Township despite a continuing drop in its population. By 1920 the population had dropped to 768 and the closing of the J.R. Whipple Company slammed the door on the local economy. Reverend Louis Swanson, to whom this publication is dedicated, came to town in 1911 and soon rose to a giant’s stature and lifted from the doldrums the spirits of citizens. Local lore holds that the Reverend was most instrumental in arranging and staging a huge effort by volunteers to erect the beloved green grandstand on the land given to the town by Mr. Fitzgerald, son-in-law of J. R. Whipple. With respectful thoughts and hands, directed by Glen Dodge, this grandstand was recently taken down and replaced with one similar to the original, but just a bit shorter in length.

The dear Reverend cradled the infant beginnings of local interest in conserving the forest by facilitating the creation of ‘groves’ along the River Road (Route 13 from New Boston to Goffstown). He convinced several landowners to gift the Town with strips of land along each side of the road which were over a mile long. These forests are to be kept forever green. A plaque attached to a boulder commemorates one of the protected parcels as Swanson's Grove (1932). His effort has since resulted in the River Road being designated a Scenic Drive by the N.H. Department of Transportation, which bestows special recognition and status in the State’s management of the road. I contend that this giant step by a giant of a man established the standard for conserving our natural resources, particularly natural beauty that continues to inspire us.

Citizens of New Boston hung on to their faith and were uplifted by the opportunity stemming from the use of the automobile and from electrification of all areas in town beyond the limits of the village that had been ‘in the light’ since Page Wilson put the lamplighter out of a job before 1900. The population of New Boston hit the bottom of its decline during the 1930’s. The stock markets crash resulted in un-employment nation wide. Students graduating from high school or college could not find jobs.

The depression affected the welfare of local citizens in the same manner that the Chestnut Blight affected the local forest, except that the latter would never be reversed. In 1904, just before Louis Swanson was welcomed to town, a fungus/virus arrived in New York on a shipment of plants from Asia. This harmful complex of organisms soon found its new home very favorable to its life style, particularly attractive to the complex was the American Chestnut. However, nurserymen quickly discovered that its new host received no such benefit from its visitor. The chestnut species declined from being the most valuable tree in the forest to a subordinate existence as a shrub, ever subject to successive re-infection by Chestnut Blight.

In New Boston, the once most desirable tree is now only present in the name of a road and the name of a hill. I stand in reverence each time I find a fallen chestnut tree covered with moss and lichen, still in a remarkably woody condition after about fifty years of exposure to sources of rot and consumption. I become
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further respectful of this species when in my work as a surveyor, I continue to find chestnut posts faithfully holding barbed wire marking a property line through the forest from which these posts were cut long ago. I ask myself; how can a tree so basic to New Boston's ecology and culture disappear from our landscape. Can it ever rejuvenate itself from the old root systems in the soil by some miracle? U.S. Forest Service scientists work steadily on hybridizing our native chestnut with non-native chestnut trees that are naturally resistant to the disease. Other scientists work on manipulating genes of the virus to make it incapable of infection.

While the Chestnut Blight disaster came upon our local forest, the men and women of our local citizenry held on to their faith, redoubled their devotion to family and to this community throughout the Great Depression. It is obvious that some local men were enrolled in the Civilian Conservation Corps that was a big part of President Franklin Roosevelt's New Deal. Although, I have not researched the names of men who were trained and employed in forestry programs of the New Deal, I do know that there were many acres in New Boston that were reforested with red pine seedlings grown at nurseries managed by the State of New Hampshire and subsidized by the Federal Government. These seedlings were planted by CCC laborers on private lands. During my career I have managed land with stands of red pine and I was told by the owner of the land that the seedlings were planted by CCC labor and that the seedlings were trucked from the State Nursery to the property. I wish that I had then asked the owner if he knew the names of local men in the CCC crew.

The Civilian Conservation Corps brought together two of the Nation's greatest resources, young men and forest land. This unprecedented legislation was passed March 31, 1933, and was terminated in June of 1939. Just prior to the termination of the act a disastrous hurricane struck New England and the forests of New Boston were not spared. To varying degrees, trees on local forested properties were leveled, one tree on top of another forming an impenetrable maze. This amount of downed timber constituted a significant proportion of the forest and if that timber was not soon sawn into lumber it would represent an untimely loss in local property values. Wood boring insects and wood rotting fungus promised to be the agents of destruction of downed timber during the next year and the sawmill industry could not possibly process that amount of timber in such a short time.

The demonstrated success of the Civil Conservation Corps over the six years of its existence easily led to passage of a congressional act to establish the North East Timber Salvage Administration (NESTA). The United States Forest Service (USFS) was charged with the administration of the Act. The USFS empowered its staff to hire loggers and truckers to cut the downed timber into logs and then hire truckers to haul the logs to local ponds where they were to be stored. The USFS staff had the authority to inspect and designate the log storage ponds. This agency then contracted with portable sawmills to set up at the pond and then to saw the logs into lumber. USFS staff paid each landowner for logs removed from their lands. I do not know how far down the lumber production and marketing chain Federal funds were used to make this program work, but I am told that all expenses of production were paid out of those funds.

The book titled The Francestown History, John Schott, Town of Francestown (1972) explains how Scobey Pond was designated by the Forest Service to be a holding pond for logs and that a portable sawmill was established on the north shore to saw the logs. Schott states that submerged logs remaining from the program are still visible in the Pond. My Dad (Laban Todd) told me that during 1939 and 1940 he worked with his team of horses bringing logs to road side as part of the salvage program on properties in this part of our Township. Since this Town has no published history since Cogswell (1864) it is not easy to find reliable information about its history over the past 150 years. Histories of adjoining towns provide some clues, such as Schott provides about timber salvage.

NEW BOSTON WAS CRADLED IN THE VILLAGE ON THE HILL (8/2013)

This column has a theme that is not unique to New Boston; it was played out in the historical development of many New Hampshire towns. The choice of place for developing this town's center was based upon the customs of other towns in southern New Hampshire. Central, or near central, sites were chosen by the first boards of selectmen as the place of religious observance and political decision making. In some towns that were laid out in patterns of lots and ranges there were lots designated for civic use and the selectmen did not have to find a site for such functions. New Boston was laid out in lots, but there was no central lot designated as a village place. I will attempt to relay the process of historical development of the first village site in New Boston, that being the 'upper village' so called.

New Boston was incorporated under the province of New Hampshire on February 18, 1763. The first selectmen were elected by the citizens gathered at the home of Thomas Cochrane in the place that we now call the 'upper village' (History of New Boston Elliott Cogswell, 1864). At this first meeting a vote authorized the construction of a town pound near the corn mill. It may have been at this first meeting that a vote was passed appointing Mr. Cochrane as chairman of a committee to find a suitable site for a meeting house. Other members of the committee included Mathew Patten and his brother Samuel of Bedford. Mathew Patten was a surveyor of local repute and his services were needed to find the most suitable site for building the first meeting house and then to survey the site and make a plan of it.

Mathew Pattern, his brother, and John Chamberlin attended to their duty in June of 1763 to select a site for a meeting house in lot 79 near the grave of a small child. The lot containing one acre was laid out and marked and it included the gravesite of the unknown child. The Selectmen accepted the Committee's report and plan on July 24, 1763. The Selectmen noted that the site had an inspiring view of the river valley and the land beyond; it was centrally located and accessible. The place was soon to be considered the most sacred place in Town.

Subsequent town meetings, 1764-65 were held in the home of John McLaughlin. The first meeting in the new Meeting House was held in 1767 and Reverend Solomon Moor became the first minister to preach in the new House of Worship. I would presume that the road leading to this site soon became known as Meeting House Hill Road. This name still reminds travelers of the way to this significant place.

The Town Selectmen voted to build a town pound near the Meeting House to replace the log enclosure formerly used as a pound. The new pound was built of stone and it was eventually taken down. Having researched the deeds in the Town Cemetery chain of title, I have read the deed describing the Town Pound lot. It was situated just southerly of the small structure that serves as the Cemetery Superintendent's storage building. That would put the pound within about 200 feet of the Meeting House site (now commemorated by an ornate cast iron fountain). Could the juxtaposition of the Town Pound and Meeting House have been the reason for the pound's short term existence?

Adjacent to the Meeting House the Town built a Sessions House in 1769. This was a one room building where folks came to warm themselves after sitting for hours in the poorly heated Meeting House. The Sessions House is no longer in existence, but I have to wonder if the Cemetery Superintendent's storage building, formerly the hearse house, is the original Sessions House. Cogswell suggests, however that, "not a few went further to John McLaughlin's tavern where they warmed the inner as well as the outer man". I believe Cogswell because the remains of the old tavern are less than about 700 feet from the Meeting House site. The McLaughlin Tavern is said to have been located on what appears to be the remains of its stone foundation in the newest section of the cemetery.

The 'upper village' had been the economic center of the Township for several years prior to incorporation of the Town and it continued to be viable for at least a quarter century. Several enterprises were established on the hill in 1760 (Cogswell). There was a slaughter house and tannery on the brook that runs through the upper village; John McLaughlin was a merchant and tavern keeper; a Mister Lamson had a store; Abraham Wason had a tavern; and several mercantile proprietors operated in a building known as the 'Long Hall' which also served as a school. Cogswell does not provide the location of the Long Hall, nor is it a site known to me or others to whom I inquired.

Several early roads contributed to the economic importance of the 'Upper Village for at least a quarter century. These highways linked this place to established settlement in towns to the south and west; Goffstown, Derryfield (now Manchester), Amherst, Nashua, and Londonderry. Settlers from the hill farms in the western, eastern, and northern parts of town came to Meeting House Hill to attend religious services in the Meeting House and Town Meetings also held there,

After about 50 years the old Meeting House was not providing the civic and religious needs of townspeople and a movement began to build a much more functional meeting house. A group of parishioners formed a stock company for the purpose of building the new Meeting House. In 1822 the company offered 100 shares. The shareholders purchased 2 acres of land at the northeasterly corner of roads now known as Bedford Road and Molly Stark Lane (the New Boston Historical Society has erected a stone monument with plaque to commemorate this site).

The frame of the new Meeting House was raised in 1823, for which occasion the stockholders purchased for the crew's consumption one barrel of India rum, 3 gallons of brandy, and a half box of lemons. The committee superintended the spirits and the raising happened without incident (Cogswell).

New Boston's hillside village held its prominence as the center of civic affairs until about 1825 when a transition began. Merchants began to move their businesses to the lower village, then called Water Village. Among the business owners that made the transition from the upper village were Tewksbury, Burr, and Lawrence. In 1832 the Baptist Meeting House was built on what is now the town common. Two school districts near the town center were combined in a large schoolhouse built in 1856 at the site of the present N.B. Fire Department. Cogswell apparently does not give us the date on which the Town House in the lower village was constructed, but he did write that it was constructed in part with timbers salvaged from the first Meeting House that may have been taken down shortly after 1823.

There are a number of towns in our area that were born on a hill. Typically, the location for a meeting house was one of the first decisions made by the selectmen and the preferred location seems to have been on a prominent central hill. Coming next were businesses that catered to the needs of the community. Most of these hill communities had a short life because economic development was accommodated more by plains and by highways tracking through valleys and along rivers. In writing this column I had to wonder why the hills were originally chosen for development.

I referred to Lot, Range, Village And Common: The Organization Of Space In Early New Hampshire And Its Mark On The Landscape, by William Wallace (1986) for insight. Wallace states that one reason hills were chosen for development is because they were defensible in the event of attack. I discount this as the reason in New Boston because the Indian War was over in 1763. Natural beauty and the inspiration of a long view is another reason given by Wallace. I accept this as a compelling factor for Mathew Patten having chosen the hillside. Finally, Wallace says that hills reflect religious significance. Could this feeling stem from Sermon on The Mount, Mathew, Chapter 5-7?

The history of the first village in this township will be featured on a bus tour on October 6 sponsored by the New Boston Historical Society. Nona Poole, Gail Parker and I will be doing the narration on the bus tour 2013 "*In the Country*" by Robert Todd

through the first village in addition to other historical sites and features beyond the limits of the first village. Put this on your calendar and watch for starting times of the two consecutive tours over the same route.

A Tree Touched by Dinosaurs (9/2013)

A gift received from a friend has become a symbol of great reverence I hold for a tree species that is unique among those in the entire plant kingdom. This is a story about the tree species and why I am sentimental about it. Four years ago Lyn Lombard gave me a small plant pot in which there was a tree seedling. It had a stem 16 inches tall and about ½ inch in diameter to which there may have been about six bright green leaves attached. These leaves seemed too large in relation to the diminutive stem and I knew from the fan-shaped leaves with lobes along their leading margins that it was a Gingko seedling (Latin name Gingko biloba), often called Maidenhair Tree.

My first task in the process of introducing this baby tree to the landscape around the Todd Homestead was to find an appropriate site for it to spend its life which could span more than 200 years. I needed to know if my baby could survive in this environment, though I knew that others of this species have survived in this area. To be sure I consulted my reference authored by Michael A. Dirr, titled Manual Of Woody Landscape Plants; Their Identification, Ornamental Characteristics, Culture, Propagation and Uses, Stipes Publishing Company, Champaign, Illinois (1990). Dirr says that Gingko thrives in Plant Hardiness Zones 3-8. Since New Boston is on the margin between Zones 3 and 4, I was satisfied that my baby Gingko would have a safe home, not too hot and not too cold. Dirr also says that Gingko trees reach a height of 80 to 100 feet and a variable spread of 30 to 40 feet. Visualizing how my Gingko would fit among other large trees on my grounds I chose a site centered between the large Norway spruce trees that I planted in 1968, these are now large trees and there is a space of about 100 feet between the two groups of Spruce. The soil on my site is loamy sand, well drained, and fully exposed to the sun. Gingko trees like these conditions and I planted my baby in confidence that it would like its new home.

The first season I watered the little seedling several times and also fertilized it with 10-10-10 granulated fertilizer; it flourished. Just as the growing season ended I was saddened when the little tree was inadvertently struck by the lawn trimmer. The seasons' growth was obliterated and the tiny stem wounded. Then, I set a warning stake at its side, a measure I should have taken when I planted the seedling. My Gingko demonstrated the resilience for which it is known by healing its stem and sprouting a new leader during the second growing season in its new home. The third growing season it did quite well and in the current season the new growth measures 15 inches at this time. I am very happy that the sapling now measures a total height of nearly 42 inches.

Having been made proud by the growth of my seedling I had to share the experience with Lyn and to thank her again. She holds some of the sentiment that I have for this species and she showed me the Gingko sapling that she is growing in her yard. Then she proudly shared with me the story about the Town Common Tree Planting Project that was implemented in concert with the Gazebo construction project. Prior to Lyn's briefing I did not know the details about the Tree Planting Project; the Gazebo seemed to be more obvious and more hyped. Lyn loaned me the booklet that was prepared in March 1994 as an application document requesting cost share funds from the Federal Government under the Land and Water Conservation Fund (LWCF). This program was administered by the State of New Hampshire Department of Resources and Economic Development. Our Select Board and the Recreation Department supported the project. David Hulick, representing the Recreation Department steered the effort that resulted in a brilliantly assembled application booklet. Five cooperating local businesses committed to implementing the project. This group included Lyn Lombard doing the planting design; Geoffrey Katz's Apple Barn providing plants and supplies; Steve Stokes of Hort. Tech Outdoor Services signed on for planting and maintenance, and; Bo Strong agreed to excavate tree planting pits. All services, plants, and materials for the project cost \$7,680 and fifty percent of

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this amount was matched by the LWCF. This program resulted in the planting of 16 trees around the Town Common that today add a beautiful backdrop for events regularly held at the Gazebo and contribute greatly to the overall natural beauty of the village. Not since the demise of the American elm trees (during the decade of 1955-1965) that were planted about 1850 around the Town Common and central streets has the village been so pleasing to inhabitants.

In reading the booklet Lyn loaned me I noted that the plant list included; Blue spruce, Tree lilac, Dogwood, Maples, Magnolia, and one Gingko. I had to see that Gingko! With a quick scan of the Town Common I located the tree of interest standing alone at the northeasterly corner of the turf near the entrance to the grandstand and ball field. Meeting this tree, which may be the largest Gingko in New Boston, was at first a melancholy experience; there was a deep wound 36 inches long on the north face of its trunk, and the mulch placed at the base of the tree was piled up against the trunk (this is a harmful practice and should be corrected). Then I let go of my sadness when I realized that the wound was originally about 5 inches wide and is now at its greatest breadth only about 1.5 inches wide; evidence of a strong will to live. To confirm its rate of growth I measured the height and diameter at breast height (DBH) and noted that it is now 22' tall and 5.5 inches DBH. So how much has this tree grown since it was planted, I asked myself. Lyn Lombard's tree list in the application booklet called for the Gingko to be 2 inches in caliper, but the height was not given, however the nursery standard for height of a 2-2.5 inch caliper tree offered for sale at a nursery is 13 feet. Using this information as a basis I then calculated that the Gynkgo on the Town Common has grown 9 feet in height in 18 growing seasons since it was planted and it has increased about 4 inches in diameter (at caliper height). I calculate this rate of growth to be 9.6 feet in a 12 year span and Dirr states that a healthy growth rate should be about 10 feet in 12 years. Therefore, despite the wounding and the poor mulching practices observed the tree has a relatively good growth rate. Again, this species has shown me how tough it is.

Fortuitously, much more information about the Gingko specimen came before my eyes just as I was preparing the outline for this article. Right on the front page of my Arborist News, Volume 22, Number 4, (a monthly publication of the International Society of Arboriculture) appeared the words "The Story of the Gingko". After pulling my socks back up, I immediately turned to page 63 and read the article by Roger Cohn titled "Gingko: The Life Story of the Oldest Tree on Earth". (This article can be read on line at <http://e360.yale.edu>). The article contained information that I have not previously studied and it strengthened my attachment to the specimen I planted in my yard four years ago

The history of the Gingko is unmatched by other species I have ever learned about! Cohn refers to fossil studies indicating that the tree's existence can be dated back 200 million years. Is this before Stephen Spielberg's Jurassic Park? If my recall that the evolution of humanity has been going on for the past 25 million years is correct, then Gingko is very old in comparison to mankind. The species has no living relatives and it has survived many ecological changes in the earth's environment that even the mighty dinosaur couldn't survive! The Gingko loved to travel, starting first in China (it is still there), then rooting and routing across Asia and around the world. This species was once a dominant part of the pre-historic forest on the North American continent before moving on. It was reintroduced to America in 1784.

Cohn offers some philosophy on what man can learn about survival from the Gingko that may be worth considering. He states "Obviously we're evolved to live in the present, so we're focused on the short term. One of our biggest shortcomings is that we can not see the long term, and this is reflected in the way we respond to all kinds of environmental issues". Perhaps we should mimic the Gingko and take the long view as we think about our relationship to the Natural world.

Attacked by Gallant Soldiers (11/2013)

Suddenly they appeared in the narrow planting space between the black plastic strips we laid down to prevent weeds from growing. Last year they were seen for the first time in our family garden, but we defended our vegetables by pulling the small force of invaders one by one as they appeared amongst our vegetable seedlings. During the season just completed our forces were not prepared to defend our vegetables and some were completely overrun. As one invader was eliminated, another popped up to take its place.

When we understood the seriousness of the situation we considered a tactical approach to repel future invasions. First, we did research to identify the intruder and to learn how we might resist its attack in the 2014 growing season. I consulted a reference book on my shelf (Common Weeds of the United States, Agricultural Research Service of the U.S. Department of Agriculture, 1971) and identified the invader to be Gallant Soldier. As with many other un-welcome plants, our invader was introduced to American gardens from Mexico and South America and it now successfully occupies almost all of North America under most environmental conditions. The map of this plant's range, appearing in my reference, indicates it has marched from the northerly limits of its range to over run our garden.

I read other sources found on Google that describe this plant and learned that my observations compared well with published documents appearing on the internet. The plant has a very dense fibrous root system, a fact confirmed by personal observation. Reportedly the plant grows fast from a short stout stem and erupts into a tangling mass of fine thread-like branches tipped with a small yellow flower. My experience this season reflected what disturbed me in reading about its invasive tactic. Just as our vegetables were approaching maturity the Soldiers' slim flower stems became inseparably entangled with my staked-up tomato plants. Additionally, the Soldiers knitted their fibrous root systems to the root systems of our beets, carrots, and beans so tightly that they could not be pulled without also pulling the vegetable plants. So, therefore, I helplessly stood by, unable to rescue my vegetables until we decided to pull both attacker and victim at the same time.

Our experience with the Gallant Soldiers brought recall of past experiences with invasive weeds. When I was young and marginally helpful to my Grandfather and Dad with the task of weeding the garden on this very same plot of land, I remembered the invasive weeds that we fought. One that I clearly remember was Purslane. It had a prostrate growing habit with thick juicy stems that spread out over the ground to a diameter of up to 2'. Grandpa cut the tap root with his hoe and filled his wheelbarrow with the plants pushed it to the hog pen. Happy pigs scrambled to lunch on the juicy weed. I remember occasionally eating this plant in a salad that Grandmother prepared. I can say that I was not fond of the tart taste and crispness of the reddish stems, but I enjoyed the small fleshy leaves. In researching this plant I learned that while the USDA considered this plant a noxious weed it also touts its healthy content of Omega 3 fatty acid. We do not have much of this weed in the garden anymore, but we would eagerly swap it for the incredibly aggressive Gallant Soldiers.

I also remember my childhood experience with a garden weed that Dad showed me how to pull up, oh joy! Dad called this plant pigweed and he also fed it to the pigs. I was impressed with this weed, more widely known as lambsquarters, because it grew to be almost as tall as I was at that time. It usually had a tap root which could easily be plucked from the ground and it tended to have only one generation during the growing season. In direct competition with the garden plants it grew tall with one straight stem and as such was not so competitive as other weeds discussed in this column, but it also assumed a bushy habit and in this form it outgrew the garden plants. We usually eliminated all of them in one session of weeding; a sharp contrast to the multiple weeding sessions required to hold off the progressive replacements of the Gallant Soldier weed. This lambsquarters plant was another of the edible weeds fit for the table. Its large leaves and seed heads were sweet and tender in the salad bowls put before me at Grandma's table.

In researching weeds for this column I was surprised, but not impressed, by the fact that Gallant Soldier plants, also known as quick weed, are reportedly edible and healthy when consumed as a pot herb. In the two growing season that we have had to deal with this weed, I have not looked upon this weed as anything other than an enemy, nothing about it is palatable to me. Just learning the fact that one Gallant Soldier plant can produce up to 75,000 seeds in one season is enough to make me puke! How did it get its name anyway?

While we busily engage ourselves in gardening I often wonder how the militant weeds arrive within striking distance of the land on which we prefer to grow vegetables and why we have been plagued by different species during my lifetime of preparing a garden in this same spot. Considering the troublesome appearance of Gallant Soldier, will there be another even more destructive weed to conquer our garden in the future? How do they get here anyway?

The first question is most likely answerable with a yes; my observation is that there are many invasive species that seem to spread into our forests from the boundaries of urban areas. It seems that the list of invasive species threatening our forests is ever increasing. This trend complicates and minimizes forest management efforts that are intended to sustain the species of trees that contribute to our economy and to maintaining the wildlife habitat niches provided by the native trees in our forest.

The answer to the second question may not be as easy to answer and may be speculative at best due to the complexity of plant material distribution networks. I do not know the answer; so I will exercise my license to speculate a little based on my education and experience. I believe weed seeds come with the vegetable seeds we purchase from our suppliers and there are several to choose from in this area. It is impossible in my opinion to purchase weed free packages of vegetable seeds from major suppliers. Further, it is unlikely that the major suppliers of plants can furnish containers of green house grown plants with soil that is weed free. It is ironic that we actually buy the weed seeds that hitch a ride in the same packages and pots containing the vegetable seeds and plants.

The invasion of the Gallant Soldier weed causes us to think about the available best management practices (BMP) for weed control before next planting season. The first BMP that comes to mind is the 'easy out' approach by applying pre-emergent herbicides. Though this method is used by commercial gardeners in New Hampshire, we are reluctant (read 'scared') to adopt it without individual counseling by a weed control specialist from the University of New Hampshire Cooperative Extension Service. I do not recommend anyone attempting this BMP without such counseling.

A second method of weed control may be to find a source of weed free seeds and plants shipped in containers of weed free soil. We have no experience with any such sources; however, we noticed relatively local sources that may answer that demand. Does any reader know a source we can contact?

We have also considered moving the garden site from its present location that obviously has an abundance of weed seed stashed in between soil particles. This idea meets with resistance when discussed by the gardeners because of its potential loss of heritage in that there has been a garden at its present location for over 100 years.

Sometimes brilliance stems from silliness and in such light we have considered planting no vegetable seeds next spring. In lieu of the usual planting we would apply lime and fertilizer, then use the tiller on the garden to loosen the surface and awaken the weed seeds. As soon as the Gallant Soldiers, Purslane, Pigweed, and any other weeds that may be in the soil emerge we will start picking these plants. We will harvest and prepare the weeds for consumption as fast as we can; the excess weeds we will freeze, can, dry, or pickle. Perhaps we will buy a pig to help us eat the excess. This option may be more acceptable when we add up the costs we can avoid which include: price of seeds; price of plants; and all the labor that could otherwise be billable if applied to the business. This option could lead to a dilemma: how do you weed a weed garden?

Tracing a New Meaning of Progress (12/2013)

As I look back on my career over the past four decades I feel that my land use services have influenced thousands of landowners in making decisions about using their land. Those decisions are now predominantly manifested on the landscape by residential house lots and new roads. When I stand back and look at this phenomenon I see a reflection that progress has been measured by the number of acres of forest and agricultural land that has been converted to residential sprawl.

We have been rich in land in this country for our entire history, but that measure of progress is changing before our eyes. Our land and all the things that it does and provides are becoming increasingly scarce. Progress, as measured directly by the number of acres of development on the land and by the miles of road built is not sustainable. The important thing is the quantity of resources we consume and demand, because all of them ultimately come from one place, the land.

The required reading for a course I took at the beginning of my career, titled Land-Use Planning A Casebook on the Use, Misuse, and Re-use of Urban Land, Charles M. Haar, 2nd Edition, Little, Brown, and Company, Boston (1971), predicted that over 80% of residential growth in America would occur on suburban and rural landscapes. I have not researched the credibility of this prediction, but as one having been involved in that process, I feel that it is accurate. In New Boston, I have seen the character of our community change from one dependant upon local agriculture, forestry, and the services supporting that land based economy, to one based on manufacturing and technical services supported by a commuting labor force.

I credit the Planning Board's review and guidance given to land developers from the beginning of the housing boom of the 1970 decade to the recession beginning about 2008 for having minimized the impact on the well-being and convenience of our community. In parallel with the fast pace development and quickly declining local economy I began to hear people talk about and ask questions about sustaining life as we know it in light of un-bridled sprawl.

The first and most compelling question I heard was; "are the benefits accruing from land development, particularly industrialization, worth the loss of water quality in our Nations Rivers"? The answer became strikingly apparent to me while conducting my duties as the land manager at Fort Devens, Massachusetts, through which the Nashua River flows. This river was considered one of ten most polluted rivers in the Nation in 1969. The only functions and values the River provided was disposal of untreated sewage, elimination of toxic wastes, and discharge of industrial wastes. All other benefits to the public had been depreciated in favor of benefit to a few industries. River front property values became depreciated to the extent that they contributed little to the local tax base.

I soon learned by observation and participation that private efforts can influence public opinion and effect National Policy even though that effort is driven by one person with a small group of followers. This realization came from my participation in the Nashua River Cleanup Committee in 1969 (later to become the Nashua River Watershed Association) and the efforts of its President, Marion Stoddart, who has become a legend in achieving environmental protection in her own lifetime. My hands were literally on the throttle of policy change when I gave U.S. Senator Ted Kennedy, Fitchburg Mayor Flynn and Marion Stoddart a three mile boat ride downstream from Fort Devens on the Nashua River. Following his boat ride Kennedy declared that he was so enlightened by his view and the showing of public opinion that he would go back to Washington and call for an appropriation to fund the river clean up. He further stated that no agricultural or recreation use of the River can be realized until the cleanup is completed. My involvement with Marion Stoddart and the Nashua River Watershed Association was an inspiration to me and I may have infected folks in New Boston with that inspiration and the potential value of having a watershed group in the Piscataquog River watershed.

From that small influence, a dedicated core of people created the Piscataquog Watershed Association (PWA) in 1969. The successor organization, Piscataquog Land Conservancy, is proving its effectiveness and value by the extent of land protection (5500 acres and growing) it has brought to the communities in the watershed. I see this achievement as a strong indication that there is a sustainable land use ethic alive and well in the Piscataquog watershed.

National policy on water pollution took a giant step forward when Congress passed the National Environmental Protection Act calling for productive harmony between man and Nature. I believe this was the first statement made by our National government that recognized the value of natural resources to the survival of mankind. Under this act all Federal Agencies are required to assess the environmental impacts of their activities and to receive a permit from the Environmental Protection Agency to go forward.

The Clean Waters Act was adopted in 1972 and its goal was to eliminate the discharge of toxicants into waters of the U.S. The State of New Hampshire adopted regulations and established agencies that created administrative rules for all to follow in land use initiatives so as to protect natural resource functions and values and overall environmental quality. The New Hampshire Department of Environmental Services (NH DES) is charged to enforce on a statewide platform the objectives of the Clean Waters Act. NH DES administers nearly 100 permits, licenses, certificates, approvals, and notifications concerning air quality, drinking water, surface water, wetlands, groundwater, septic systems, subdivisions, hazardous wastes, and other aspects of land use.

Though I find the plethora of Federal, State, and Local land use regulations very difficult to understand and comply with in a timely manner, I can see the need to comply, and I will comply with them to the extent that I am able. This is because I believe these rules ensure a reasonable degree of ecological sustainability that was not possible to attain prior to the 1960 decade. There is now a grand framework of local, state, and federal policy and regulations that should guide the development and use of our natural resources for the benefit of all citizens.

In parallel with the national initiative to sustain the values of natural resources over the past 30 or more years is the outstanding work of private local and regional land trusts that are very active in protecting the soil, water, forest, wildlife and natural beauty in their locale. From the outside looking in, it appears that our society over all has a land ethic that will set sustainable standards for measuring and implementing progress in the future.

Why then am I not seeing in my consultations with clients that they all have strong connection to the land and its resources? I find that the majority of private land owners do not understand that their land contributes to their personal health and welfare. I think that they believe their food, clothes, and other desired goods come from the 'Walmarts' of the day and that the majority of them do not realize the goods they buy there have been hauled in trucks, trains, airplanes, and ships from all corners of the world.

In my consultations, I am stunned that most landowners do not understand the functions and values of the soil, water, and plants on their own property and on local land. Further, most do not understand their property rights and the rights of abutting landowners. It is astonishing that most landowners have no understanding of hydrology or how they manage rainfall runoff from their property affects their neighbor's property. Such general ecological principles, and others, are not understood by most and this leads to conflict between neighbors and communities.

I firmly believe that a sustainable land ethic has to be taught in our school systems as it was in the majority of schools three to four decades ago. Agricultural education programs were offered in nearly all high schools state wide and graduates left with a strong land ethic. Animal husbandry, forestry, plant science, and fruit culture were primary courses taught in these programs. I know of only two high schools in the state that offer such courses today: Alvirne and Colebrook high schools.

Proudly, I can report on the promising curriculum being developed at the High Mowing School in Wilton which is a private high school using the Waldorf style of education. The objective at this school is to have courses in plant propagation, animal husbandry, and forestry. These courses will be in classrooms, greenhouses, and on the land. They will be taught for a full term and will be core course level. A direct benefit to the school community will be that produce grown will be prepared and served in the school cafeteria. I see this effort as being an incubator for graduates with strong land ethics.