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**Our Granite Heritage (1/2006)**

“Hey you guys, ya gotta see this rock!” exclaimed the planning board member that had ambled away from the other members comprising a group of about a dozen on a mission to view the site of a proposed development project. That member had, from the beginning, strayed from the main group to the periphery of the site and become awe-struck by a particular rock. I had not intended to point out that great boulder which had puzzled me in previous working sessions on this part of the land owned by the Crotched Mountain Rehabilitation Center in Greenfield.

The hollering by the lone member distracted the several other board members, though they were listening closely to the technical explanations of the project given by the design team consisting of engineers, architects, planners, and myself. The lone member must have considerable influence on the rest because they all turned and started toward his waving arms, leaving the design team with their jaws still in motion. Within seconds all were drawn closely in a circle around the rock; that moment likely being one in which more eyes were upon that granite than any moment since it was so curiously split.

“Wow, this is so unusual,” said the chairman, “are you planning to do anything with this”? The landscape architect in the group, obviously surprised by the interest in the rock, said, “I haven’t thought about doing anything with it, but perhaps I should.” The group took pictures of this large gum drop shaped piece of granite protruding from the line of the stonewall that guards the ruts of a highway long abandoned. By eye, each measured the size of it. “Oh, this is about 5 to 6 feet tall and possibly 8 feet in diameter at ground level,” said one. Others chimed in with agreement. I paid more attention to the gestalt of the rock than I had before and made mental notes of my perceptions. This time it reminded me of an Orca, the killer whale, rising above water with its jaws wide open.

Some members started to count the drill holes spaced about 4 inches apart on the cut-away vertical surface of the rock. Others counted the drill holes on the mirror-image surface along the horizontally inclined granite, the Orca’s lower jaw, which has never moved from its position since the final strike of the hammer that opened the Orca’s mouth. “64 drill holes, what did you find Joe?” said the member counting on the vertical surface. “Yeah, I get the same count,” said the other after counting them on the horizontal piece.

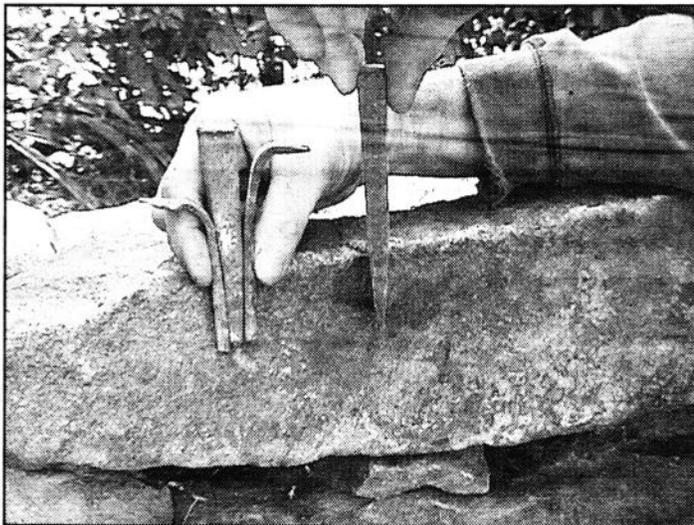
The group spent about twenty minutes around that granite puzzle before they completed their site walk that morning in October. Although it was a perfect day to “ooh” and “aaah” about the expansive view from 2006 *“In the Country”* by Robert Todd

the southerly aspects of Crotched Mountain, I thought that the “take home” moments were captured in the time discussing the granite memorial to somebody’s hard work. Many questions aired; lots of speculative answers heard. “Perhaps hammering on this stone was punishment doled out by a farmer to his son for not doing chores on the farm,” said one of the members. “Most likely it was work unfinished,” said another.

More than the rock itself, I was inspired by the attention focused upon it by people who, perhaps, have not seen many such examples of man’s connection to granite as a resource. From that moment on, my mind traveled away from the group and went into replay mode. Recollections of many locations where I had been touched, as had that planning board member, fast-forwarded in my head. With many of the hundreds of granite bedrock outcrops on the properties I have reconnoitered and surveyed, there is an associated story held in my memory cells.

Often, in my work, I have seen where granite blocks and monoliths have been split from bedrock outcrops along the horizontal rift lines (the direction in which the stone splits most easily like ring segments separated from an onion). I imagined them being carried away by men with ox teams pulling stone boats. Some granite blocks may be seen still waiting in piles near these quarry sites. The telltale marks of man’s endeavors are clearly visible today; the granite resisting the effects of weather during the past 250 years. Sometimes I have imagined the echo of hammer taps upon the chisels used to drill the holes along the desired line of cleavage. It is easy for me to read these stories because I have used the same tools to drill survey marks into stonewall corners. Even with a sharp drill it can take about 10 minutes to make one hole. Stone cutters in this area used hand forged drills with tempered cutting edges to break the granite into dust which was removed several times while cutting each hole using a specially made spoon. I have used a piece of surgical tubing to blow the dust out of drill holes to keep the drill from sticking, only to have the wind blow it into my eyes. After each tap the drill was rotated in the hand so that the chisel would make a round hole.

Plugs and feathers are shown against a stone block as they would appear, in a cut-away view, when inserted in a drill hole. Many of these were used to split granite.



MARK STEVENS PHOTO

Into each hole other hand forged tools were inserted to force the cleavage. These tools were called plugs and feathers. The feathers were half round iron sleeves with their tops bent 90 degrees. The stonecutter placed these in the drilled hole, one on each side. In the space between the feathers he placed the plug, a narrow wedge of hand wrought iron. Plugs and feathers were placed in all the holes drilled along the line of cleavage and a hammer was used to drive the plugs deeper

with successive blows on each set along the line. This procedure resulted in tremendous force against the grain of the granite and it split to reveal a quarried face. I remembered seeing plugs and feathers still in place waiting to be called to duty. I curiously considered what may have halted this work, “perhaps it was a ‘Granite Kiss’ (to borrow Kevin Gardner’s book title), or worse...severe injury suffered while handling granite pieces the stonecutter had already made.”

“Just how important was surface quarried granite to the first settlers in this area”?, I asked myself as I drove back to the office that Saturday morning following the site walk. I began to count the places and situations where quarried granite had been the object of my admiration. My mind’s eye saw courses of granite laid in a retaining wall along the ramp at each end of my barn that made it easy for my grandfather’s team of horses to pull the loaded hayrack into the barn. The top course of the barn foundation is also quarry-cut stone  
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and it has supported the sills above and bonded the stones below in a most secure fashion since 1854. Visualizing the barn as I drove, I counted four granite columns supporting the sill on the open side of the cellar and twelve granite posts that once held rails enclosing the barnyard. My house is also supported by cut granite on the final course of the foundation wall.

Still reminiscing about granite as I drove, I pondered my experiences while traversing old town roads where I have seen hundreds of impressive causeways, stone box culverts, bridge abutments, and quiet granite cellar holes still intact even though the roadways have been long discontinued. The stories I read at each of these sites would fill a book and they linger in my memory even though I have difficulty remembering what I did yesterday. Along the many streams and rivers are beautiful granite dam walls and mill building foundations; the sites of enterprises which supported the cultural beginnings of a community. Even the old railroad rights of way have impressive granite work in the form of culverts and abutments that perhaps represent the most recent use of this native resource.

Early surveyors – those with the most caring conscience and foresight-memorialized town and state boundary corners with magnificent granite posts and then chiseled appropriate initials and dates upon them. I have always spent time in reverent thoughts for those surveyors whenever measuring the location of these too few cultural anchors on our landscape. Surveyors, I believe, feel a kinship to those early surveyors each time they set granite bounds at property corners-I have these strong feelings.

Extensive surface quarrying has ceased in this area even though some can still imagine hearing the echo of a stonemason's hammer tapping the chisels and plugs on the granite hills. Reflecting on the obvious importance of granite resources to the first settlers, I wonder why land records do not contain numerous easements and reservations of quarrying rights as is the case with the other resources (such as timber, water, and minerals) commonly described in the records. The use of granite in construction is now limited and has perhaps been so since concrete became an economical alternative. Though many other stories are stacked in the library of the landscape, those about granite are the most everlasting.

### **What is Water Worth? (2/2006)**

“D\*^+ it!, I’m going to pull that fax line out of the wall” I exclaimed cursedly after being awakened suddenly during the early morning hours by the ringing of line two. My second line into the house is a dedicated fax line that we leave on to serve our home based business. This has caused Laura and me numerous hours of lost sleep-the businesses that insist on making fax solicitations always do so at night to get the best phone rate I suppose. Most of the solicitations are one page zingers intended to catch your eye. When I go to work in the morning, all the way to the front room, I throw these annoying advertisements away in a fit of anger for being awakened by five rings during the night.

That particular morning I picked up the offending facsimile and with a single motion dropped it in the waste basket. As I quickly turned toward my desk to schedule the day, my eyes caught four words on the top of the sheet which captured my interest; “Water...The Next Oil”. Immediately I bent over and plucked it from the other papers in the basket and began reading. Heading the first paragraph was; “In the next 6 years the bottled water industry will grow to over \$420 Billion globally.” Heading the second paragraph was; “Clean Drinking Water is Becoming a Diminishing Resource.” The two final paragraph headings also got me piqued; “Bottled water producers are posting record sales!”, “Royal Spring Water’s Solution to Water Quality and Supply.” “Of course,”! I thought, “This is an ad for stock in water bottling companies.”

I chuckled to myself when I remembered my grandfather’s often repeated remark to me while working in the garden or doing other chores on the farm. I watched as he would push his felt hat back with one hand, wipe the sweat from his brow with the bandana in his other hand, then he would take a long drink from a jug he

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had brought with him. How many times had I heard him say, “Ahhh, water is a wonderful drink Bobby, but it will never sell”? For some reason his prophetic statement and his appearance while standing there in his felt hat, khaki wool shirt, denim bib overalls, and rubber boots, the attire he always wore, was etched in my memory forever.

I suppose to grandpa and his contemporaries, during this period in my youth from about 1948 to 1953, water was not a commodity, but a free, readily available resource for everyone to use and enjoy. Grandpa’s farm was served by a hand dug well on a hill about a thousand feet from the buildings. The water flowed by gravity from that well through a ¾ inch diameter lead pipe to a “Y” connection—one pipe went to an old whiskey barrel and also to a wooden watering trough under a lean-to in the barnyard. When the barrel and the watering trough filled it “wasted” the excess water through a drain to a ditch. The second pipe delivered cool clear water to the faucet at the kitchen sink in the house. The faucet was always open and water ran freely into a galvanized pail which overflowed into the wooden sink and to a lead pipe that carried the excess flow through the house wall to a ditch that attracted leopard frogs and butterflies as I recall.

The economy and simplicity of this system supplied at least two generations of my ancestors and the farm animals that they raised here. A dipper was hung for all to use at the old whiskey barrel under the lean-to and another dipper was hung on the kitchen wall near the pail in the sink. To my knowledge no one was made sick by drinking water from the dippers. Neither pathogens in the water or the heavy metal (lead) molecules scrubbed from the lead pipes it traveled in caused illness.

I took the advertisement with me to my desk and finished reading the fantastic income projections claimed. Then I slipped into a state of wonderment about how water supply dynamics have changed in my lifetime; those moments stolen from my duties. My water supply is from a drilled well just outside the west door of the ell. The supply is adequate, but the quality is poor. As with most drilled wells in the neighborhood, the water is highly mineralized, iron being the most obnoxious. We have a water treatment system that treats the water to a level of adequacy for satisfactory use. The system was just replaced at a cost of \$2500 and it requires a supply of chemical and filters at substantial cost. In addition, Laura buys a “mega pack” of bottled water every time she goes grocery shopping. My water is not supplied simply and economically in comparison with my Grandparents’ system.

My thoughts about water expanded to global proportions; more time stolen from the task of planning the day. My simple perception of water supply economics today is that the world population increases logarithmically while the supply of fresh water remains static. This follows conventional economic theory; the law of supply and demand in action. Unfortunately, this perception may not be true because the supply of pure fresh water is diminishing as stated in the header to the second paragraph of the advertisement that brought me to this meditation.

With increasing population comes increased intensity of land use which in turn leads to pollution of surface water sources. Erosion and sedimentation from construction projects, decreased areas of vegetation, increased area of impermeable surfaces, fragmentation and loss of wetlands, and acid rain are all contributing to water quality degradation.

I recalled reading many sources warning that groundwater aquifers are now being pumped at a rate faster than they can be replenished, particularly in the western U.S. Reputable sources say that 80 to 90 percent of the total available fresh water comes from aquifers. This becomes more important to life when we consider that surface water quality is becoming less potable. Understanding of the groundwater portion of the hydrologic cycle is not well established, but the interdependence of surface water and groundwater is acknowledged and a source of concern since they are in a continuous process of exchange. The existence of Super Fund site cleanup projects in the area and the knowledge of the astronomical cost of restoring these polluted aquifers provide empirical understanding that once an aquifer is polluted it is nearly impossible to purify it.

Uncertainties about aquifers go beyond the issue of water quality. Aquifers transcend political and jurisdictional boundaries on the surface. The question of groundwater ownership is not well established and there are conflicting opinions. Some say that groundwater is owned by the state under the “Public Trust Doctrine” while others claim that the private landholdings over groundwater sources have the right to use it subject to the “rule of reasonable use”. One owner has a right to withdraw groundwater in a context of similar groundwater use by his neighbors. I believe we are fortunate that the New Hampshire legislature has established a policy of use and protection of aquifers by adopting the Groundwater Protection Act (RSA 485-C) which seems to marry the two doctrines of common law.

“Oh,oh, I’ve got 10 minutes before my staff arrives for assignment”, I warned myself. “OK, what can I do to avoid paying as much for water as I do for oil”, I said to myself. “Hm, I mused as I composed a list: 1. work to protect wetlands and surface waters; 2. encourage land uses that minimize impermeable surfaces; 3. discourage incompatible land uses on known aquifers; 4. encourage low impact development with ground water infiltration practices installed close to the source of increased runoff (roofs, driveways, parking areas); 5. strive to maintain forest and vegetation cover in the Piscataquog watershed; 6. promote recycling and safe waste disposal, and I reserve the right to add others to the list as I think of them. I have to go to work now.

There is one thing for sure, I will not respond to the advertisement and buy the stocks it recommends. The corporations listed in the ad, like heros of the day, that are “jumping into this lucrative market” reads like a ‘Who’s Who’ in the world of super fund site creators. It seems that all the huge corporations that stole our aquifers for use as waste disposal sites initially have now discovered that they can make billions by getting into the clean water business. How ironic is that!

I chuckled as I thought to myself, “Grandpa, I wish you were here so that I could tell you how wrong you were about the value of water! I would also give him a bottle of Whichity Spring and tell him that I paid as much for it as he probably made in a day during most of his working life. He probably would have replied with his usual, “Oh Pshaw” – I never figured out what that meant.

### **Games: Fourth of July Parade Theme (3/2006)**

The force of excitement and enthusiasm was with the group of volunteers at the Fourth of July Association’s kick-off meeting in January. It has been the custom of this organization to dedicate the first meeting of the new year to goal setting, choosing the parade theme, and outlining the plans for staging New Boston’s largest town-wide celebration for our most important national holiday. The energy level that I sensed inspired me and welled up emotions of pride and of resolve to make this year’s celebration the best of any in the past 75 years. The members of this committee showed me even stronger conviction and purpose than ever. As the meeting got underway, I thought to myself, There is no way we can fail.

Prior to the start of the meeting, the room was abuzz with suggestions for the parade theme which increased the level of energy I felt in the room. At the scheduled meeting time the Association Chair, Laura Todd, called the meeting to order and immediately put the parade theme selection first on the agenda to capture the group’s momentum. Lots of suggestions were made; some were sublime, some ridiculous, and others practical. Like people playing a game of Charades, the group called out ideas in rapid succession. It is fluky that American Games was the winning theme.

My purpose in this column is to pass on the exhilarating drive of the Association members to organizations and groups from various roads and neighborhoods. Hopefully they will use that same drive to organize and begin thinking about their float designs, and my gibberish about games will spark ideas! The Fourth of July 2006 will soon be a tomorrow.

Since that very motivational meeting in January, I have been thinking about the theme we chose and I am struck by the extreme generality of the subject and the seemingly limitless float motifs that could pass the judges' stand. I am certainly no expert on games and have only my life experience and memories to draw from. Further, I am a dinosaur when it comes to the use of computers to do research. However, I did use a search engine on my laptop to access "games." Obviously, that was a mistake because I got 2,758,238 hits. "Wow," I exclaimed to myself out loud, "this is way beyond the scope of my commitment to this column." To narrow my search for that magic source that would list "American Games," I typed those words into the search engine. This narrowed my sources alright – only 1,236,542 hits. I scanned a few of the pages upon pages of sources and was awed by the number of entries related to video and computer games; titles ranged from computer game history to thousands of different game titles.

My pursuit was diverted while I spent about twenty minutes playing the tic-tac-toe game that came up on one page. I was feeling good that I beat the computer six games to four, with 16 draw games. I then proceeded to rely more upon my intuition: I soon realized that games have been played by all cultures since the beginning of human civilization 4000 years ago. An idea came to me as my house cats chased each other through my office; it is not only members of the species *Homo sapiens* that play games, animals play as well. I have observed wild animal behavior that could only be described as play, but perhaps people who study animal behavior would say the activity is programmed in their DNA as a survival mechanism. I silently wondered if human game playing could have originated in the same manner.

To help make order out of my ideas I began to classify the subject of American games into similar categories to better understand the entire realm of opportunity. First, there are those games played with a ball in one form or another including not only conventional balls, but also the odd-shaped "balls" including hockey pucks, footballs, badminton "birdies," tetherballs, paddleballs, curling stones and marbles.

Numerous games come to mind that form a second category characterized as play without accessories. I remember those enjoyable times playing traditional games on the schoolyard during recesses. Prominent in my memory are: Red rover, hide and seek, king of the hill, tag and red-light. More formal games in this category were organized by teachers and recreation department staffers and played during "field days." Track and field events head the list and they transcend all levels of school competition to Olympic competition.

The third category in my personal classification system is games played with accessories. I am thinking of numerous card games, including those that involve betting. During the latter years of New Boston High School, the senior classes made money to fund trips by sponsoring card games in the lower town hall. Whist and cribbage were favorites among parents and elders in town. Other games such as Dominoes, checkers, chess, jacks, darts, target shooting, jumping rope, dice, musical chairs, snow skiing, water skiing, weightlifting, roller skating, skateboarding, bingo, and spin-the-bottle constitute a small portion of this classification.

A "game" that has been played in New Boston and other towns in the northeastern U.S. that have the same "special accessories" is handtub pumping competitions, or musters. The old "Constitution" handtub is an antique horse-drawn tank with a pump which is hand-powered by several men. This "tub" was used for fire fighting before the days of combustion engines. The Constitution competed in firemen's musters in New England and won a majority of them by pumping a stream of water accurately over the longest distance. Hopefully this local treasure will be in the parade again this year.

Newer versions of games are played with expensive high-tech accessories. Racing with automobiles, bicycles, boats, motorcycles and snowmobiles is popular. Truck and tractor pulling, plus chainsaw speed cutting are games seen in town annually during the fair. That my grandson and kids in his generation would sooner play computer and video games than play baseball is shocking to me. A recent *60 Minutes* program featured computer gaming, and while I watched I was stricken by culture shock. A world championship of 2006 "*In the Country*" by Robert Todd

computer game competition highlighted on the show was unimaginable. Orienteering games with the aid of global positioning systems (GPS) is gaining popularity-this I can relate to and encourage!

My third and final category is the group of games involving animals. Horse and pony pulling continues to be popular at our own Fourth of July Celebration and is also a favorite event at the Hillsborough County Fair. Sled-dog racing is an important game in the arctic and northern temperate regions. The amazing Iditarod race from Anchorage to Juneau, 1000 miles long, is the ultimate test of human and animal endurance and perseverance. Horse racing and dog racing are both popular in America. Bordering on absurdity are the games of donkey basketball and donkey baseball. I played both when I was young and I learned that to play, one has to be at least as smart as the donkey.

An innovative game of chance involving animals that may have originated in New Hampshire is cow-plop bingo. Players buy chances on one or more squares in a grid that has been marked on the ground in a cow pasture. After a predetermined time period, the player who bet on the square on which a cow-plop, a.k.a. meadow muffin, has been deposited wins the "pot." Such fun is this!

In looking over the foregoing paragraphs, I realize that the origin of most games mentioned is not likely to be American. However, for the purposes of choosing a parade theme, I suspect that a game any of us have played will be considered American. Otherwise, parade float designers may be limited to lacrosse and the game called "Indians and Jack Rabbits"; the only games that I am aware of with unquestioned Native American authenticity.

My feelings on the importance of games to human welfare have been reinforced by preparing this column. I believe that fitness of mind and body, the world and local economy, character building, social adaptation, and even community building are all greatly enhanced by game-playing. I believe that the gaming spirit people have is an evolutionary trait carried forward from the beginning of civilization. That DNA message may be responsible for our presence on earth today.

I hope that this column delivers some inspiration. The Fourth of July Association is excited to hear from you because the members want and expect to carry on the tradition of the New Boston parade and to hand down a legacy of memories for others to enjoy. When you have a float title in mind, please register your design by calling Paula Bellmore, Parade Chairperson, at 487-xxxx, or by email at xxxx.

May the force now be with you.

### **My Education in Ecology Began On the Farm (4/2006)**

From age 6 to 10 approximately, I explored the fields, wetlands, forest, and gardens. I was alone and attentive in my observation of plants, animals, and insects that fascinated me. The world I observed was mystical and imaginatively perceived. Farm animals and the house cats also had a role in permanently fixing memories that are still easily and fondly recalled. These early observations took on new meaning when I was formally schooled in the theories of ecology by high school teachers and college professors. I believe lessons learned on the farm birthed my desire to learn and better understand nature.

Beatrix Potter's stories; Peter Rabbit, Squirrel Nutkin, and others, were read to me by my mother and grandmother during my childhood. The way she personified the characters in these stories framed the way I saw the natural world at that time. A memory that lingers in my mind involved my father and his honey bees. In fact, the stories he told and the observation of his bee work were the most influential of all lessons I was to learn on the farm.

In the barnyard of my grandmothers farm there was a small wooden building, perhaps eight feet long, six feet wide, and about six feet tall. It was open on the south and had a shingled roof sloping to the north. Inside of this lean-to building was a bench raised up from the ground about 18 inches on which were set three white boxes. I came to understand that the white boxes were the home of independent nations. Each nation was ruled by a queen attended by several kings and thousands of workers. My understanding of the nations was at first mystical and enchanting, perceived in the style of Ms. Potter.

Many times Father told me not to bother the nations he called honey bee hives because the queen's army would attack me and hurt me. Having been stung by ants, wasps, and yellow jackets before, I did not have to be told again. Only one time did I inadvertently provoke an attack by the queen's army-that was when I hit a baseball against the hive. Immediately I dropped the bat and ran into the farmhouse and the security of my grandmother's presence.

Several times I watched from a safe position, pointed out by Father, as he worked with the bees. It was early spring as I recall, and he was dressed in a manner very amusing to me. On his head he placed a netting of window screen that surrounded his face and neck. The screen was fitted to a cloth top with a hole that allowed the crown of his wide brimmed felt hat to protrude. Also attached was a cloth bottom that covered his neck and held tightly against his shoulders by elastic straps that puckered his shirt at his underarms. He had tied strings around his pant legs below the top of his boots. In a little wooden box with a metal nozzle he had placed a piece of burlap set afire with a match. Each time he squeezed the box smoke came out of the nozzle. He set the box down and put on canvas gloves with long gauntlets closed tight with elastic cords. I laughed at this performance because I thought my father looked like a circus clown.

Then he picked up a basket filled with other paraphernalia and went to the hives. I watched him work as he forced smoke into each hive entrance to calm the bees. In a few minutes he took off the hive covers and inserted a square wooden frame on top of the hives. Other rectangular wooden frames were set on their side into slots. He later explained what he was doing. The square boxes he said were "supers" and the rectangular frames held "combs" which the worker bees would fill with honey. He smiled when he told me that soon the worker bees will be taking nectar from the spring flowers on the farm, including clover and dandelion, from which they will make honey. He said that later in the season he would take out the frames and harvest the honey for topping my toast and oatmeal. I remember looking forward to that day.

I kept asking Father when he would be taking honey from the bee hive. He took time to explain the many things that were happening in the hive, some bee tasks I understood, others I did not understand until I was an adult, particularly that part about "...the birds and the bees..." Honey harvesting was a time I remember well and it became one of the most happy memories of being with my father. He used my grandmother's kitchen table as his work space. Father held in one hand a frame containing the heavy combs that he had just taken from the hive, short end upright, on sheets of waxed paper. In the other hand he held a long kitchen knife that Grandmother had heated in hot water. He drew it across the frame cutting and melting the wax caps off the cells in the comb. He hurried because the liquid honey began to run out onto the wax paper. My mouth watered when the sweet smell of fresh honey tickled my nostrils. Quickly he turned the frame and cut the caps off the cells on the other side of the comb.

The combs were then taken out of the wooden frames and placed in a large pan to catch the escaping honey. I was delighted when Father broke off a small piece of comb, still dripping with honey, and gave it to me. That moment was second only to the times when Grandfather gave me the wooden paddles from inside the ice cream maker after freezing a batch of his creamy vanilla ice cream. Grandmother then took over and canned the honey in Mason jars, some jars had pieces of comb as well as the light amber colored, sweet-scented liquid. I decided that my grandparents' house was the place to be during the summer and fall.

One time I was playing in the backyard and was distracted by loud buzzing noises. Streams of bees emerged from one of the hives and they circled loudly over my head. I felt surprise and fear. I looked up and saw a solid mass of bees suspended from a limb on the butternut tree. The mass grew fast and looked like an elongated football perhaps two feet long and eight inches in diameter. I ran to the barn where Father was working and told him about the bees. Instinctively, he gathered a new hive box, a pruning saw, and a ladder. The ladder he put against the limb; the hive box he put on the ground underneath the limb. Carefully, he climbed the ladder and sawed the limb off. Slowly, he descended the ladder holding the limb with the swarm of bees still attached.

Father held the swarm in front of the hive box entrance and gave his arm an abrupt forceful shake. The entire buzzing mass fell onto the ground and at once started to enter the hive. Father backed away and joined me to watch the phenomenon. I felt like a hero when he put his hand on my shoulder and praised me for noticing the bees and telling him about the swarm. Pride swelled within when he told me that the bees would have left the farm as soon as a scout bee found a cavity in a tree suitable to start a new life as “wild bees” and we would not have any more honey.

Soon after, my father stopped tending the beehives. Sadly, I watched the bee house decay until it was just a pile of rotten wood. I did not ask why he stopped and he never told me. My interest in bees was passed over for little league and other teenage attractions.

As I matured, the significance of my father’s bee keeping took on a greater meaning than the mystical one I held as a child. I learned more about bee biology and the role they play in ecology, the science of the interaction between living organisms and the environment. Without bees and other pollinators, blossoms would not become fruit and every wild creature in the food chain would be at risk. Food production as we know it would be drastically changed. At present wild bee populations are greatly diminished and farmers face increasing costs to have their crops pollinated by bees from rented hives.

As I write this reminiscently, I feel a kinship to Beatrix Potter; she and I had a similar childhood blessed with closeness to nature. Her’s was one that motivated the writing of beautiful stories for children that have entertained and taught generations. Mine was one that influenced a meaningful life’s vocation. But, this is not about me-it is about bees, a precious natural resource that should not be taken for granted.

### **Womb With A View (5/2006)**

On a bright spring day grandfather took Theodore by the hand, together they hiked to a place not far from home. This place has been grandfather’s personal spiritual mecca to which he has made an annual pilgrimage since he was Theodore’s age. The place is not common on the landscape, but it has characteristics which make it the mother of all places on the landscape. There had been several days with the temperature ranging between 40 and 50 degrees and the bud scales were busting open just enough to reveal the green within. From his yard grandfather had been hearing the quacking of wood frogs coming from the direction in which they were hiking.

Shortly, the two came to a depression in the landscape, shaded by white pine and hemlock trees that seemed like giants to Theodore. “Shh” said grandfather with an index finger touching his lips, “we must not talk and we need to walk gently to the pool.” The chorus of many frogs from the small pool brought excitement to Theodore’s face. The two slowly and quietly approached to within view of the dark water that reflected the grandfather’s image; however ice lingered in the center of the pool. The frogs must have sensed the presence of the two intruders because several of the frogs stopped calling and the others in the chorus stopped in sequence, all were still within a few seconds.

Grandfather held tightly to Theodore to confine his high energy and then motioned with his hand to focus the youngster's attention to water now still. Within a few minutes, hours in Theodore's mind, a small nose came to the surface, then another. "Look, I want to catch one" said the boy and the noses all disappeared again. Grandfather lead the way around the pool as the boy followed. He bent down to look for the typical gelatinous masses, speckled with darkly colored eggs, attached to stems in the water, there were none. "Mmm, maybe too early", "male frogs calling females and they have not arrived" grandfather speculated while hoping that Theodore would understand that statement without having to get into the details of the deep secrets about the origin of life.

Grandfather recalled his experiences here as a youngster. He visualized the times he came here and scooped up wood frog egg masses and brought them home in a pail to watch the hatching of minute tadpoles that soon died. He had regretted his disturbance to the pool and the life within and silently vowed to teach Theodore about the importance of this small pool and to have more respect for the life within. He hoped that the boy would listen to more that he would say about vernal pools in general, this one representing only one type.

Theodore's lessons have only begun and grandfather has had but a few opportunities to talk with him about the unique role of vernal pools in the survival of many species. Often grandfather mindfully lists the topics he should tell the youngster who has already demonstrated an instinctive interest in biology.

Building an understanding in Theodore's sharp mind about the character of a vernal pool is probably the first thing I should do thought grandfather. Too often, a vernal pool is disturbed or destroyed by someone that does not know how a vernal pool looks. Some vernal pools only have water in them for a short time. At least two months of inundation is a must for a water body to function as a vernal pool. Typically, a vernal pool is small; grandfather's pet pool is an oblong about 70 feet in length with a maximum width of about 50 feet. One type of vernal pool is formed in a cup shaped depression in the underlying bedrock; others are on knob and basin topography defined as an assemblage of small mounds and ridges of earth that surround depressions that collect runoff. Grandfather's vernal pool is a kettle hole caused by a block of glacial ice that settled and melted in the sediment washed off the melting ice sheet as it receded about 10,000 years ago. The hole left by the ice block is called a kettle because of its shape. This particular pool is permanently inundated by the discharge of ground water into the kettle.

Another type of vernal pool may be created by an ox-bowed reach of a river channel. These are cut-off from the main stream and typically produce specific amphibian life. Man has inadvertently caused another type of vernal pool. Gravel pits excavated by man may function as a vernal pool under certain conditions.

Grandfather considered that he must mention to Theodore that all of the vernal pool types share some common characteristics. The most critical fact is they do not have a habitat that supports fish, the primary predator of vernal pool babies. One trait that indirectly contributes to the maternity room function of a vernal pool is a shady spot in the forest. Too much sunlight overheats the pool water and kills the immature life forms. Further, the landscape surrounding a pool must be suitable habitat for the adult stages of species that are birthed by vernal pools. Most such species spend their adult lives burrowed in the forest soil within a range of 500 feet to 1400 feet from the vernal pool. The small animals must be able to travel to and from the pools for reproduction. Roads, skidder ruts, and open land inhibit travel by the amphibians and a population unable to return to its home "pool" will die out.

The elder remembered one of Theodore's questions, "what lives in a vernal pool?" This must be discussed with him in detail thought grandfather. The answer to this question is complex and requires a thoughtful approach. Some species will reproduce in vernal pools and also breed in other wetlands, one such species is the spring peeper. So, this species is not entirely dependent on vernal pools. Grandfather remembered reading a list of native species that only reproduce in vernal pools. Therefore, observation of

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breeding adults plus infant forms of any species on that list confirms that the pool is one of these valuable wombs of Nature.

On that list is the wood frog already familiar to Theodore, others are not as common. The spotted salamander is another, grandfather remembers that he has only seen a few adults of this species, but has seen many in vernal pools. Blue-spotted salamanders, Jefferson salamander, Silvery salamander, Tremblay's salamander and Marbled salamander are other species that depend on vernal pools for life.

The frogs and salamanders are the most obvious species to reproduce in a vernal pool. Wood frogs are much in view on their way to the pools on a rainy evening in late March through mid-April, some get crunched under car tires while crossing the highway. Salamanders are visible in the pools alongside the frogs, but are not frequently seen traveling in the upland to and from the pool. Occasionally they are seen crossing roads. With salamanders and frogs, there are other less conspicuous species in the vernal pool. Most of these species require considerable skill to identify. Grandfather thinks that he can tease Theodore's inquisitive mind to take up the study of biology and become an expert. Among the hard to identify species are Diving Beetle larvae, Whirligig Beetle larvae, Dobsonfly larvae, Caddis flies, and Damselfly larvae.

Other unique life forms also depend on vernal pools and some do not actually leave the small site. Grandfather thinks to himself how unlikely it may be that Theodore will believe him when he says that Fairy shrimp and Fingernail clams are part of the vernal pool ecology. Theodore spends a lot of time at the Sea Coast Science Center and knows a lot about the well known marine crustaceans. The vernal pool crustaceans are tough because their amazing eggs survive the dry soil of the pool and then hatch when the spring inundation comes.

Although not dependent on vernal pools for survival, there are other species that spend some part of their life in them. A list prepared by grandfather would include all turtles. He remembers the thrill of seeing a rare Blanding's turtle on several occasions near vernal pools. Toads, snakes, jumping mice, and small mammals stop at them for rest and refreshment. Birds nest on vegetation in the vicinity of these small sites. The key to the ecological functioning of the landscape is the spacing of vernal pools between the other more obvious wetlands. In this juxtaposition they serve as stepping stones linking wetlands and creating corridors for wildlife movement.

At the very least grandfather wants to pass on to Theodore some knowledge and understanding about the importance of these pools to ecological integrity and how to identify them when he sees them. Hopefully, Theodore can pass the knowledge on to someone else, and that knowledge will minimize the risk of damage or destruction of vernal pools. At best, thought grandfather, Theodore will become a grandfather himself and bring his grandchildren to look into Nature's womb. They, in the circle of family life, will learn and develop their own inherent respect for vernal pools.

### **A Day On The Farm: May 26, 1863** (published June 2006)

The family began the day at 5:00 AM; hired workers had begun their day a half hour earlier to do barn chores. The cows eagerly headed up to their stanchions when brought in from night pasture and with hungry tongues scooped the ground meal and shorts given to them by Mr. York. Mr. Green set the milk strainer in a forty-quart jug and joined York at the string of cows to be milked. The morning was cool and a sweet grassy aroma rose in the steam from the first squirts hitting the bottom of each pail. The men alternated down the string and their hardened forearm muscles delivered pail after pail to the jugs until all cows had been relieved of their heavy load. "The girls did well this morning", said Green as he tallied 2 full jugs and part of a third. "Ayuh", answered York, "the boss will be bragging to Mr. Dodge about his Jerseys."

The hired men drove the cows out to pasture and quickly put the cans in the milk house to cool. York and Green, both in their 60's, still had strength to sling the 120 pound cans into the cooling tank. James was lucky to have his help because of the war. He had advertised repeatedly in The Weekly Union and these men came to work for \$5.00 a week plus room and board.

Green and York smelled sausage cooking and their steps quickened. Before entering the kitchen door they heard the boys jesting while mowing hay in the lower field. Frank, being the oldest son of James was in charge of his two younger brothers, George and Arthur. Together they skillfully worked as a team mowing "scythe by scythe". Green heard Frank holler, "watch out-I'll cut your legs off" and said to York, "that Frank will push his brothers to get the piece mowed before they start for school."

In the kitchen, good wife Abigail was busy preparing breakfast for the hired men while her daughters, Alice and Lizzie, were busy cleaning the table after serving the boys. Emma was feeding the baby and watching the kettle of curds and whey heating on the stove. James had eaten breakfast with the boys and left to hitch old Jack to the surrey. Frank would drive Jack with his brother and three sisters in the surry to Francestown Academy, the nearest private high school, with a list of distinguished alumnae including Franklin Pierce and Levi Woodbury, a U. S. President and a Secretary of the Navy, respectively. Jack was eager to trot the five miles and looked forward to standing by in the adjacent horse shed until after school was out.

James stood and proudly waved to his children as the surry carried them off trailing dust. He thanked God for having the good fortune to send his children to the Academy were they would be prepared for college training to be ministers, doctors, and teachers. With time for this one dream only, he went in and sat down with the hired men to plan the day.

York said, "first, I'll move the sheep to the hill pasture and feed the hogs", he asked, "what's next?" The farm animals included 3 horses, 20 sheep, 15 hogs, 14 milk cows, 5 steers, and about 50 chickens. The market for agricultural produce had been exceptionally strong since the beginning of the war. James was motivated by this to increase his farming enterprise considerably. "Mr. Green, you can use Molly and the new mould board plow to turn over the Andrew's field so we can get our corn in before the end of the month", said James. "Ayuh, should have about half of it done by milking time...I'll take a gallon of Abigail's good switchell with me to keep me going and I'll work right through 'til supper", said Green.

"Well York, I guess you could hitch Dick to the new seed drill and put in the barley and buckwheat on the piece that Green prepared yesterday." "Daoh, that's nearly four acres and Dick is not used to workin' single." In the previous ten years there had been many new inventions that increased farm production. James had purchased the seed drill and he was hoping that this would increase York's efforts. James had been thinking of soon buying one of those new horse drawn mowing machines so that his boys would have more time for study. "If you do not get the planting done, I know that the experience you gain today with the new drill will make you more efficient tomorrow, Mr. York", said James as he got up to talk with Abigail. The hired men left the table and went to the barn to prepare for their day in the field.

James asked "what's ahead of you today dear wife?" "I plan to finish pressing the curds that Emma drained off before leaving for school...we should have about 5 pounds from that kettle. Then I have washing and ironing to do before starting supper, and I would like to churn some butter", she went on with a groan. "James, do you suppose that you could take me to the city on Saturday?" she asked with a hopeful tone, "I want to pick out a new dress for summer church sessions." "I'll think on it...lots of work to be done here", he said, regretfully thinking that his answer would be no.

Home manufacturing of clothing had decayed recently due to the great increase in technology and James fretted about this. He thought it would lead to extravagance in dress and to more dependence on others. It took

him a while to balance his reasoning and accept the notion that buying new farm equipment and also buying a new dress for Abigail would provide a better life for his family.

James picked up his felt hat and journal, wished Abigail a good day, and went to harness Sadie, the new mare he named after his baby. His first task was to drive up to John Newton Dodge's farm to settle accounts that had been open since last fall. James had sold hay to John this past winter amounting to \$71.55 and he had shod a horse for him at a charge of \$0.64. James conducted a part-time blacksmith shop, a carriage shop, and also shod horses in addition to managing his 230 acre farm. John was in the house working on a catalog of purebred Short-Horn Cattle that he intended to sell, including 25 young bulls, cows, and heifers. James was happier to talk with John about farming than he was to get his account settled. When the talk centered on business John gave James \$12.00 in cash and credited the balance toward James' note that secured money he had borrowed for equipment purchase. John Dodge was the wealthiest farmer in New Boston and did a lot to help other farmers.

Following considerable discussion about farming affairs and the war, James spoke his best wishes to John for the health of his herd and family. Back at the farm he ate some head cheese, bread, and a piece of mincemeat pie before sitting at his desk to write letters and journal entries. Abigail had just finished pressing the cheese and she joined him to prepare their profession of faith for the Sunday membership meeting at the First Presbyterian Church. James was startled when the clock struck twice, "oh glory, I have to be on my way with the milk." York had just finished the seeding and helped James hitch Dick and Sadie to the freight wagon. They loaded the 5 jugs that had been cooling since last night's and this morning's milking and slid them up against the headboard and chained them in place. James tucked three buffalo robes over and around the jugs to insulate them from the afternoon sun while on the six mile trip to Parker's Station.

With foamy sweat clinging to their traces, the team delivered the load to the train depot with little time for loading and packing the cans in ice before the whistle sounded the train's departure for Boston. James rested himself and his horses as the train disappeared from view and the whistle became fainter at stops down the line. James walked the team to the granite watering trough and let the horses slowly drink before reining them toward home. Most of the way home James sang hymns aloud. At supper he enjoyed the children's tales of their day in school.

It was a weary James that clerked the District 13 School meeting in the school house at the corner that evening. Superintendent of Schools, Alexander Gregg, was present to observe and provide guidance. The main business of the evening was to provide for furnishing the school with three cords of 4' wood, cleft, sawed open once, and put into the shed. Clayton Starrett bid of the wood \$3.50 per cord. The committee also voted to buy chalk, a broom, a dipper, and to repair the schoolhouse for a total budget of \$39.91. The committee voted to set the number of weeks of instruction for the year. 17 Students were enrolled under the teaching of Ms. Colburn and Mrs. Shedd.

So ends this day at 9:00 PM.

## **Reviewing the Recent Floods (7/2006)**

*Original title: RISKS AND AVOIDANCE OF FLOOD DAMAGE*

Saturday, June 17<sup>th</sup> [2006] was the day Laura and I planned to finish planting our garden; the weather was warm and sunny. However, since we began planting the garden on Memorial Day weekend, more heavy rain had fallen. Although we had seen some damage to our planting from the vantage point of the driveway, it was not until this morning that we walked to the nicely tilled soil lying in eager repose to accept its usual role.

There should have been some perception of trouble when we saw the eroded swale carved several inches into the soft soil with small puddles glistening in the grooves. Our plastic and hay mulch had been pulled from the beds, though secured by long metal staples, and left snarled at right angles to the plant rows. With my intention being to straighten and secure the plastic, I did not anticipate what was to occur. Two steps onto the area I was halted by a suction that nearly pulled off my rubber boots that sunk ankle deep into the saturated soil. “Good thing you had your boots on”, Laura said with a laugh. “You got that right”, I replied. We decided this was not the day to finish planting our garden. In hopes that the soil would drain and be workable in a few days we put our tools and seeds away. There is a risk that our plantings will not mature before first frost. Oh well, we have to make the best of unusual conditions.

While slowly returning to the house from the garden plot we praised our good fortune in not having more serious damage to our property. “A lot of our friends have water in their basements”, said Laura. I added, “yeah, and I know a family that lost their driveway because a culvert washed out. I read that about 70 homes in the Lynchville and Danis Park neighborhoods in Goffstown are uninhabitable due to flood damage. . .that is most sad.” Laura posed, “how about the Suncook River in Epsom changing its course for over a mile?” I responded, “I read the story about that in the Concord Monitor. That river is of the same order as the Piscataquog River from the confluence of the South Branch and the Middle Branch at Gregg Mill Road and I can not imagine the impact of something like that happening in New Boston.”

With our gardening plans postponed by lingering effects of the recent storms, I sat at my desk to write this column and am obviously full of thoughts and concerns about the drama played out by our recent weather. Not in my lifetime have I seen such a performance by a cast of climatic characters. My thoughts centered on the causes and effects locally. This paper reported (June 2006) the many road washouts that cut routes of access in and out of town in all directions it seems, except Route 13 south. The editor’s front page article highlighted a well coordinated emergency response effort involving the Police, Highway, and Fire personnel, in addition to many volunteers. The article reported the cost to repair damage overall may total \$700,000 with FEMA reimbursing most of this total.

I asked myself, could the peak flow from the storms have been heightened by the residential development that has occurred during the past ten years. It is a fact that development increases peak flow runoff. Published sources show me that storm water run off from a forest can vary from 1% to 20% of rainfall. When that same forest is converted to a residential lot the fraction of the rainfall that runs off from a site increases to a range of 25% to 40%. This is because of the impervious surfaces and less pervious land uses that are added to the land in lieu of forest. Probing into this reasoning, I realized that a significant portion of the Cochran Brook watershed has been developed. The culvert through which this brook passes under Bedford Road failed and the entire road base and paved surface was relocated to a downstream swamp.

To be convinced that the road losses are related to increased peak storm water flows and not to an anomaly in weather patterns I considered other road washouts. Peacock Brook took out the Tucker Mill Road just south of the Weare Town Line. I know from my own familiarity with the Peacock Brook watershed that it is mostly in Weare and that it is predominantly forest. No correlation there between development and damage.

Weather patterns since May 12 of this year are the most unusual of any I can remember. For my observations to be meaningful, recorded weather data must reflect unusual precipitation levels. I went to the internet web site of the USDA and read the Weather and Crop Bulletin. One of the tables in the current report stated that the precipitation for this area since January 1 has exceeded the normal rainfall total by 154%. This statistic is the third largest percentage of any area within the continental United States. Only Fresno California and Winemucca Nevada had precipitation levels exceeding the normal by greater percentages than Concord, N.H. Surprisingly, I could not find any reports confirming my observation that most of the rain contributing to this amazing data has occurred since May 12. Next, I viewed the Natural Resource Conservation Service web site and found a table that states the probability of occurrence for various rainfall depths for Hillsborough County. A 6.3 inch rainfall during a 24 hour storm is statistically expected to occur once in 100 years. I believe I heard the WMUR-TV weather report state the rainfall of about this amount on one of the days during that fateful weekend.

This cursory review of weather statistics points out that the recent storm is likely to have been a weather anomaly that may not happen more than once in 50 years up to perhaps once in 100 years. This unusual storm event coupled with my understanding that most standards for public works projects, except for major bridges and dams, call for designs to handle storms that have a frequency of occurrence of once in twenty-five years. Assuming that all the culvert crossings in the town roads that washed out were designed to carry the peak rate of runoff from a twenty-five year 24-hour rainfall, it is most likely the damage incurred has resulted from the extreme weather conditions, not from development.

This is not to say that it is okay to be complacent about the impact of land development on peak runoff, or to jump to the conclusion that all culverts in the town road system must be replaced with larger culverts having the capacity to accept a peak flow expected to occur once every 100 years. Storm water management plans in land development projects in town should continue to be designed to limit post development runoff rates to pre-development runoff rates for a storm event that would occur once in two years. The runoff should be retained as close to the source of the increased flow (the building site) as possible. This not only minimizes down stream flood damage but also reduces the non-point pollution of down stream water resources that happens during the “first flush” of run off. Studies have shown that the runoff from “hard” surfaces during the first few minutes of a storm is most damaging to the environment because it carries the pollutants that accumulated on the surface such as hydrocarbons and dog feces. Land use planning should employ an array of strategies to incorporate a range of lot densities, incorporating adequate open space, preserving wetland buffer strips, and minimizing land disturbance overall.<sup>1,2</sup>

A simple time value of money calculation may show that the seemingly huge local flood damage repair estimate does not justify replacement of town road culverts with pipes having larger flow capacity. With everything in life there are risks that are acceptable. We invest in the stock market with some of our funds going for high risk stocks. We buy lottery tickets knowing that there is a very high risk that we will not win. Our town government invests tax revenue in road drainage infrastructure that has a 4% chance of failure each year. Assuming that my interpretation of the recurrence interval for the recent 24-hour rainfall event is between once in fifty years and once in 100 years, the average would be once in 75 years. This amounts to a 1.33% chance of failure each year. Using an interest rate of 6%, the present value of the \$700,000 loss is about \$8,840. This figure would probably not cover the cost of installing one culvert large enough to handle a peak flow from a storm with a chance of recurring once in seventy five years. I suggest accepting this risk and holding the course on town road drainage system design standards.

<sup>1</sup> U.S. Environmental Protection Agency, Protecting Water Resources With Higher-Density Development, Publication Number 231-R-06-001, Washington, D.C. 20460, June 2001.

<sup>2</sup> U.S. Environmental Protection Agency, Using Smart Growth Techniques as Stormwater Best Management Practices, Publication Number 231-B-05-002, Washington, D.C. 20460, May 2002.

STATE vs. NEW BOSTON  
**A Cloud Over The  
Second NH Turnpike**  
(8/2006)

Self sufficient agriculture depended on a circle of skilled artisans, particularly harness makers, blacksmiths, millers, and many others. This close circle of neighbors all depending on the other for livelihood formed the communities that are held in awe and envy today. Self sufficiency in this area, Francestown and New Boston, lasted little more than a quarter of a century. In 1799, straight as an arrow shot from Amherst, came a vector destined to change the regions economy and its community dependency forever.

Surveyors staked a line through the southwesterly portion of New Boston and continued right through Francestown village on what is now Main Street. This line of stakes became a road; the route of wagons carrying goods to and from small communities along it to larger communities accessed over connecting roads all the way to Boston. From Francestown the very useful soapstone, discovered in 1792, was transported to shops in towns and cities to the southeast of these communities except during the winter due to poor or lacking maintenance.

Stage coaches brought travelers bi-weekly from the cities at the beginning of turnpikes connecting with the Second New Hampshire Turnpike. Cattle and sheep passed along the Turnpike in droves to and from summer pastures in the area. Peddlers and tradesmen, such as shoemakers and tin knockers, made their way to these communities over the turnpike. Agricultural and forest products went by teams from the area to commercial centers and on their return the teamsters brought rum and store goods.

After the revolution the State of New Hampshire found that it was an economic necessity to connect those communities settled in the valley along the Connecticut River with communities in the southern parts. Our state government and private enterprise made it possible to accommodate this need. Several private companies were granted “franchises” to own, construct, and maintain roads for commerce. These roads were called turnpikes, taking their name from the pike or pole which turned on an axle to allow travelers to pass once they paid their toll. One can still trace on maps of New Hampshire the lines of three parallel systems of turnpikes running from southeasterly portions of the state northwesterly to the Connecticut River.

On December 26, 1799 the Proprietors of the Second Turnpike Road in New Hampshire became incorporated by the New Hampshire Legislature and the franchise empowered them to build a private road from the lottery bridge in Claremont to the plain in Amherst (the Amherst Town Common area was known as the plain). They soon built the road and operated it, repaired it, and took tolls until June 1837, when the legislature repealed the charter and the proprietors abandoned the road. Some say the reason for abandonment was due to the legislature imposing a tax on the turnpike making it impossible for the proprietors to operate at a profit and they went bankrupt. A compounding reason was that a network of roads established by towns and counties provided adequate “free” travel that took away the source of income the Turnpike Corporation once enjoyed. I suspect a more compelling reason for bankruptcy was the toll rate control imposed on the corporation by the state agency regulating the franchises. It is believed that this control was similar to the rate control power that the Public Utilities Commission has over the rates charged by public utility companies.

Some of the typical rates granted to the Second New Hampshire Turnpike Company included:

*Every ten sheep or hogs. . . . . 1 cent per mile;*  
*Every ten cattle. . . . . 2 cents “ “ ;*  
*Coaches with 4 horses. . . . . 3 “ “ “ ;*

The rates did not apply to persons traveling to church or those passing along the turnpike from their home to the home of a neighbor.

The influence of the turnpike on New Boston was unlike that upon Mont Vernon and Francestown because it passed through the southwestern part of town. The route shunned the settled parts and intercepted only three minor town roads; accessing, perhaps not more than that number of farms and mills. Hence, it may be understandable that the Town of New Boston did not respond to the demands of angry travelers using the road after the turnpike corporation stopped maintaining the highway. From June of 1837 until August of 1839 the public continued to use the road but the town provided no maintenance and refused to acknowledge it as a public highway. In contrast, the towns of Francestown and Mont Vernon had laid out public highways on the former turnpike road and had maintained the road accordingly.

The angry travelers then turned to the state for relief. Attorney Daniel Steele represented the Town of New Boston in the Superior Court (then called the Court of Common Pleas) case brought against the town by the state during the August term of 1839. The indictment by the State's Attorney General alleged that the road was a common highway used by the public and the town was bound by law to repair it.

Judge Gilchrest reviewed the case and offered extensive support for his decision in the December 1840 term of the court. He decreed that the Town of New Boston was discharged from any liability for maintenance of the former turnpike road. A key reason for his decision was that the Turnpike Corporation's grant of a right to lay out a highway was not different from any other authority to lay out a highway. Therefore, abandonment of the turnpike constituted a discontinuance and the town had no obligation to repair the road. Judge Gilchrest went on to say that the period of time, merely two years, was not sufficient to establish public rights to use the former toll road.

I have made several attempts to research records of Town Meeting dated after the Court made the decision in 1840 to discharge the Town from maintenance liability and have found no record of a town road layout over the old turnpike road. For several years the town report carried warrant articles requesting action by town meeting on this issue. Each time the article was defeated. One has to conclude however that the town took up maintenance of the highway beginning shortly after the court decision.

However, the town meeting records include one layout record of a new highway to replace about 2300 feet of the old turnpike road in a section that was too steep for easy travel and maintenance. The new layout imposed a graceful southwesterly bowing alignment into an otherwise straight route through town. The new route followed the contour rather than going up a slope of about 15% on the north face of a hill and down a steeper slope on the southerly aspect. A great folly employed by the original turnpike corporation was the adage that the shortest distance between two points is a straight line, a principle that applies to geometry, but not to travel over our New Boston hills and swamps. This highway layout, made many years following the court decision, is the only action taken by the town relative to the old Second New Hampshire Turnpike.

Presumably, Francestown, Lyndeborough, and Mont Vernon laid out town roads over the old turnpike route with the same four rod width (four rods equals 66 feet) shortly after abandonment by the bankrupt turnpike corporation. A few people having reason to concern themselves about certain questions, myself included, wonder about the status of this road now maintained by the town. Except for the highway layout found in the town meeting records that describes the width (four rods) and location of a new highway in place of the old turnpike, the historical inference is that all other portions of the turnpike in this town are prescriptive highways. The width of these portions is no longer 4 rods, but a width of the maintained highway surface plus the width of shoulders and side slopes necessary to support the road. In my work I find this prescriptive width to be between about 33 feet and about 50 feet.

When I travel over the Second New Hampshire Turnpike, not only in New Boston, but over its route in other towns where it is recognizable and still traveled from Amherst to Claremont, I reflect on its importance to commerce and to communication in the region during the early years. It is particularly awesome when I think about the historical as well as the economic context. The growth of this area from the era of subsistence agriculture until the onset of the industrial era is undeniably tied to roads. The turnpikes were the forerunners of connecting road systems we now use. The turnpike that eclipsed our town, nevertheless linked continuous turnpikes from the West Boston Bridge in Cambridge to Claremont, New Hampshire. These pikes included the Middlesex Turnpike in Massachusetts (laid out in 1807) and the Amherst Turnpike (laid out in 1812).

### **Land Information (9/2006)**

It seems that each generation has its own technology boom. For my great grandparents it was the railroad and the amazing telegraph (the talking wire). Even greater technological benefits were experienced by my grandparents. Electricity and automobiles (horseless buggies) brought a worldly air to society. Grandfather was the first of my ancestors to leave the ground in a flying machine. By the end of the Second World War technological advances came in rapid succession so that my parents and I shared some of the excitement. Television was the most captivating; space travel was the most awesome. In these times, my son and I similarly share generation skipping advances. The introduction of computers and computer software has been the most powerful influence on our careers as surveyor and mapping software professionals respectively.

For nearly three decades we have lived in an information society. Our economy is driven, to a large degree, by services related to gathering, storing, and analyzing information for use in all aspects of life. These uses are evolving at an incomprehensible rate. It is humorous to reflect on the way my firm gathered land information when it began in 1972. Mechanical transits and steel tapes were our data gathering tools in the field; slide rules and mechanical calculators were our data processing tools. Supplemental information was gathered in hard copy format from federal and state government sources and transferred by projection to our maps. Output for client use was hand-drafted and copied by a blueprint machine and reports were generated on a mechanical typewriter. This land information was paid for by our clients and the information was seldom recorded for public use. It was infrequent that our information was shared and, more importantly, it was our stock in trade. Land information, as stock in trade, is now insignificant as a revenue source for my company.

Recent trends in the surveying and mapping industry cause companies like mine to expend increasing effort and capital on meeting the land information needs of our clients. Our field data gathering tools have evolved to electronic distance measuring and angle sensing devices combined with a computer in one tripod mounted instrument. The geographic positioning system (GPS) is becoming a standard tool for precise measurement, not only for surveyors, but for use in ground, water, and air navigation. Increasingly, the surveying and mapping industry is required to reference measurements to the state plane coordinate system so that the work product can be related accurately to other surveys and to more universal mapping systems on the local and state level.

This development in surveying practice is good because it allows us to furnish the client with a product that includes land information gathered from other sources. Digital tax maps are quite commonly available even in small communities. This information is helpful in preparing land use applications. Larger communities with computer based geographic information systems (GIS) have land data that can be transferred electronically to a map at a minor percentage of the cost that would be incurred by independent data gathering. In addition to their commodity value, GIS maps are useful in town wide land use decision making by planning boards. Fire and emergency management staff are greatly empowered by the use of the maps. Highway departments find them useful as do the conservation commissions, school boards, and tax assessors.

Peterborough, Concord, and Goffstown are towns notable for their very accurate and useable GIS information. I have purchased, for a reasonable fee, and successfully used land information from these sources to supplement data acquired in the field by my firm. Land use regulations in these municipalities require that plans and maps prepared in the private sector for subdivision and site plan applications be furnished to the town in electronic (digital) format so their GIS can be inexpensively kept up to date. This philosophy of sharing and integration of data between the private and public sectors benefits everyone.

The Complex Systems Research Center (CSRC) at UNH in Durham is the home for GRANIT, the geographic information system for the entire state of New Hampshire. Much information at this source is free and can be downloaded from the website, other information is sold for the cost of preparing and delivering data to any customer, either a private or government user. In the library of data available at CSRC are included: county soil surveys; topographic maps; national wetland inventory maps; flood insurance rate maps (FIRM); and orthophotos (aerial photographs that have been rectified to eliminate the displacement of images due to tilt of the airplane and the difference in ground elevation across the photographic image to create a true scale suitable for use as a map).

Aerial photographs and images gathered from satellites in orbit are constantly adding information to data bases. This information can be purchased from the people in the business for reasonable rates. I subscribe to Mapttech, a company that provides aerial images on CD's. The clarity of the detail on Mapttech images varies in proportion to the density of population and intensity of land use. I can see the seats at Fenway Park on images the company has for the Boston area, but I can not clearly see an automobile parked in my dooryard on the images of the New Boston area. Companies that gather images of the earth have the technology and economic incentive to obtain images on a regular basis, usually every two years.

A big change has occurred in the way surveyors control their work product. Traditionally, surveyors provided maps with the necessary land information to meet the needs of their clients. Topographic contours, soil series, boundary lines, wetland boundaries and easement lines were all drawn on plans for the client to use in obtaining land use permits. Until recently land information was not shared, coordinated with, or integrated with small scale maps of an entire town for everyone to use. What was once the client's property has become public property.

Recently, many towns and municipalities have adopted land use regulations that specify how surveyors shall gather and present land information to the regulatory boards and departments that are reviewing the land use applications they are representing. These rules specify, for the most part, that the data presented by surveyors must be compatible with the mapping software used locally. Some towns are so bold as to require electronic data from surveyors in anticipation of one day having a GIS. However, it is the towns and cities that have (GIS) that benefit most from these requirements. Basically, the surveyor provides a CD with the electronic version of his maps to the local GIS operator who incorporates the information into GIS for public use. Over time this data gathering technique results in a more complete and accurate GIS for no cost to the taxpayer.

The graphic information in the GIS relates to the spatial attributes of the land. The GIS links the spatial data sets to descriptive data sets by geography. For instance, if New Boston had a GIS, my home lot would have a specific geographic location. The descriptive data associated with my home would include: deeds in the chain of title; physical address; flood plain elevation; land area; assessed valuation; building permits; building size and use; septic system permits; owners name and address; zoning district; description of soil series on the parcel; vegetation cover types, and; possibly census data. All the information in the GIS can be used by all town departments for planning and management decisions. The data in the GIS is also an important resource to users including at least the following: surveyors, foresters, soil scientists, wetland scientists, engineers, landscape architects, real estate agents, and appraisers.

Now is the time for New Boston to begin planning for GIS use. GIS analysts have estimated that 90% of all town decisions are related to geography and land use. It is reasonable to assume that our town government experiences this same percentage. GIS is the tool that is most suited to analyze alternative decisions, provide data to support decisions, and to expedite these decisions. Implementation requires a person trained to operate and maintain the GIS, hardware, software, and a database. The operator, hardware, and software may be put in place at the outset. In contrast, the database is usually developed over time. Maintenance of the system is a perpetual task and a key to its value.

Budgeting for a GIS is unique in that there are several sources of revenue. Once operational, it begins to pay back in user fees. An impact fee charged against all lots created in a subdivision and on non-residential site plan applications can be adopted without real estate tax consequences. The last source of funding is the use of a capital reserve fund in the capital improvements program. Another aid to funding is that development of the GIS can be phased and paid for as each phase is completed.

It has been said that all decisions are made on the basis of judgments. The question is whether those judgments have to be made in the fog of inadequate data, unclear issues, and a muddle of conflicting opinions, or whether they can be made on the basis of adequate, accurate information. A GIS in New Boston will ensure the latter.

### **HERITAGE PLANTS (10/2006)**

Early one morning about three weeks ago Laura bounced into my office with an excitement that first alarmed me. She whooped, “look what the plant angels left on our doorstep.” I dropped what I was doing and delicately held, like it was a baby, the pot that held a newly sprouted twig. This was a cutting from a Hydrangea shrub that had been planted and nurtured by my Grandmother. More than forty years after her death Grandma had given me another inheritance. She had loved that shrub and cared for it an untold number of years. The old-fashioned Hydrangea gave peace and contentment to her and now through its off-spring it may continue to enrich my life by its link to her life. My eyes watered and I felt a tingling of nerves as I gazed at the single slender stalk full of leaves and supporting a grand blossom head nearly as large as those of its mother standing in the back yard. I believed it too would be proud of her infant clone.

Grandma’s Hydrangea has been showing signs of maturity, cavities in its main stem threatened her posture, and her crown is thinning dramatically. Laura and I were married under her arching branches and the reality of losing her is slowly and reluctantly accepted. We have ruled out the possibility of moving this matriarch to a new place in the yard; her advanced age and fragile stems would most likely contribute to sure death. The option we took was to ask Abby MacFarland and Cat Flores (the plant angels) at “House By The Side of The Road” in Wilton to attempt cloning the mother. They agreed and during early May, Cat Flores took a softwood cutting from one of the old plant’s most vigorous stems. I am not sure what magic they performed, but it worked a miracle.

Later in the day I carefully planted the baby sprout in a mixture of topsoil and compost and have since watered it regularly. We shall feel better as the mother plant continues its graceful decline while the sprout grows quickly to nearly her size.

My plant inheritance surrounds me at the homestead and at times I feel more of my ancestors’ touch from the plants in the yard than I do from living in the same house that they lived in for five generations. There are a number of plants that have persisted through successive generations of my family. There are no certain dates of when some of these plants took up residency here. However, there are some clues in dusty old photographs in the attic. One such photograph, dated August 1895, shows my favorite tree, an eastern red cedar

gracing the border of our backyard, when it was about four feet tall as gauged by the height of my Great-grandfather standing beside it. This plant is another of my living connections to the past.

We care for many perennials in plant beds on the property. These plants have persisted from generations past, at least back to my Grandmother's stewardship. Peonies, hostas, day lilies, phlox, maiden hair ferns, and iris plants are the most prevalent of our heritage perennials. Periodically, we divide the roots and tubers and replant them, hoping always that they will come back with vigor anew.

I have to give credit to other inheritances related to plants that are residing with us in the Homestead. Black Walnut trees yielded boards with magnificent color and grain from which my Grandmother's dining room table is made. It has been told that the table was a wedding present to her. A cousin who has a reverence for wood and is also skilled in woodworking recently refinished the table and rehabilitated its numerous loose joints. Another piece that I feel emotionally attached to is a top-opening blanket chest. This huge chest is primitive in appearance, but has incomparable character. The sides, top, and ends of the chest are formed from single, knot free, white pine boards twenty inches wide, one inch thick, and seven feet two inches long. The chest was assembled, not with fancy joinery but with hand forged nails. Its color is that "pumpkin pine" color typical of dense old growth heartwood. I presume the boards in this chest were sawn from timber on the property by my Great, great-grandfather about 1814.

I have been telling a story of my personal plant inheritance. But, plants have different meanings to different people. These meanings go beyond the personal feelings I have and beyond what any other person may feel about plants. My neighbor, Jon Brooks, expresses his art in plant media. Therefore, he may have a very different personal feeling about his plant inheritance. On a cultural level my feelings and his feelings about our green inheritance may be quite similar. We may both appreciate the inherent values of all plants in the biome and we work together in a small way to perpetuate these values for future generations and to sustain the ecological functions of plants benefiting all forms of life in their own right.

The many different cultures on this planet see their green inheritance from often opposing perspectives—none of the cultures is any less dependent on plants than the other for survival. A suburbanite eating his breakfast of Wheaties, sugar, toast with marmalade, and coffee is hardly aware of consuming plants and his relationship with the plant world. He may only be concerned that on his vacation he will have a park on which to hike and camp and to view wildlife from a distance. This is his green inheritance, his collection of heritage plants. At the other extreme are the indigenous cultures of the world. These people are in direct contact with their heritage plants on a daily basis. Their green inheritance is a source of survival. Food, shelter, clothing, and medicine are converted from plants. Plants also appear to be connected with the spiritual beliefs of indigenous people. On a trip to Alaska in 2004, I was awed by the display of totem poles carved from red cedar more than two-hundred years ago. Early medicine men of indigenous tribes preached that one should honor the plants that sustained them because they are relatives and are made of the same stuff as their bodies are made of.

Our own culture has attached symbolic meaning to heritage plants. The Weare History tells the story of the Pine Tree Riot that occurred two years before the Boston Tea Party, but which may have been just as pivotal in the destiny of the colony. On April 14, 1772, after the Sheriff and his deputy arrested a local man for cutting what by British law were the King's pine trees, a skirmish broke out and about twenty angry citizens of Weare freed the man then beat the Sheriff and his deputy and ran them out of town. Following this incident two regiments of soldiers came to make arrests, but could only bring one suspect to jail. A bronze plaque was set in a grindstone to commemorate this event and it states in part that it was "one of the first acts against the laws of England".

In my work I am constantly alert for place names and road names because these names may be clues to placing deed descriptions. A significant number of such names are correlated with plant species. When I read a deed for land in New Boston that describes it being on Chestnut Hill Road, or that the land is on Chestnut Hill, I

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have a pretty good idea where it is. The Chestnut Hill section of town was once covered by a forest dominated by Chestnut trees. The remains of Chestnut trees killed by the blight are more prevalent in this section of town than in any other section. It is not uncommon to find the trunk of a large chestnut stub lying on the ground that matches a corresponding call in a deed for a property corner. I consider this practice of place naming to be part of our society's plant heritage.

In this article I have spoken about what heritage plants mean to me and have shown what the green inheritance means to our society as a whole. If some of my notions could be taken to heart, perhaps our personal lives would become enriched and more satisfying. Further, by embracing the concept that plants are our green inheritance, our society may be more interested in abiding by and supporting the laws written to sustain and protect this principle. I am thinking primarily of the Scenic Road statute and the Forest Harvesting statute. Perhaps this will also influence people to speak up in support of preserving individual heritage plants that are in danger of destruction by "agents of progress" such as when the heritage oak at the junction of Gregg Mill Road and Route 13 was threatened by a plan to "improve the intersection" to accommodate a residential development.

### **A Legend Revisited (11/2006)**

By the Englishmen's calendar Merruwacomet knew that this was April 1705. In contrast, his time ticked away by seasons – not months. This was the season of "fish" at the traditional fishing grounds along the major rivers in the region of what is now Massachusetts and southern New Hampshire. Other times in the native calendar were seasons for planting maize, or for hunting of big game. For most of his life he had in this season followed his instincts and worked with other members of his village at places where fish could be taken with little effort with weir, net, or spear.

Though he was the grandson of Masconnomet, chief of the Agawam tribe that had inhabited the north shore of what is now Massachusetts for perhaps ten thousand years, he had been raised in a family that for three or four generations lived in a period of cultural transition. His Agawam ancestors, part of the Penacook confederation of tribes, had been friendly toward the white men since about 1620 when the whites commenced settlement on tribal lands. His people were not hunters and gatherers as were the tribes in northern New England. Instead, they raised crops, fished, and hunted around family villages. Women of the tribe planted and tended crops of maize, beans, pumpkins, melons, squash, and gourds in fields cleared from the forest by burning, they picked the berries and fruits, as well as making and maintaining their wigwams. The men fished, hunted, and conducted warfare when necessary to protect their tribal lands.

The native's way of life was not much different from the European settlers' ways after their arrival. The English influenced the natives to accept Christianity and to become educated in the white men's ways. John Eliot had painstakingly translated the Bible to the Algonkian language spoken by tribes in southern New England. The greatest difference between the cultures and a cause of some tension was the concept of property and the rights of individuals to private property. On the whole Merruwacomet and his people lived peacefully among the whites even as they continued to intrude upon the tribal lands which the whites found well suited to their method of agriculture. A secondary factor leading the natives to foster friendly relations with the whites was that the whites created a defensive wall protecting native villages from attack by other tribes, particularly by northern Abnaki tribes. Abnaki people had been furnished firearms by the French and agitated by them to make war against European settlers and natives friendly to them.

This April, as always, Merruwacomet's spirit unleashed a compelling motivation, shared by other men of his village, to join kinsmen at the fishing grounds. He counseled with the villagers and they planned the trip from their village located on a plain just south of the confluence of the Merrimack and Nashua Rivers to Namoskeag, a distance of about 18 miles. The great falls at that site, now called Amoskeag, had for nearly  
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12,000 years been the most favored fishing place for the Penacook tribes. Tribes were attracted here by the easy capture of migrating fish that became concentrated in eddies at the base of the falls which slowed the fish. Tons of Salmon, shad, alewives, eels, and sturgeon were taken by native people that came here to fish, then to celebrate. Members of many tribes took advantage of this opportunity to feast, dance, tell stories, take wives, and trade goods.

Early that April morning the small group shouldered their pack-baskets and eagerly followed Merruwacomet north along a well established path near the Merrimack toward Namoskeag. The small group arrived there well after the sun passed mid-day. The scene appeared hectic and the smell of rotting fish guts filled their nostrils. Women were busy on the west bank dressing and flaking fish brought in baskets by the older children. Some younger children and elders laid fish flakes on racks over smoky fires. Men were working amongst the frantic masses of fish that darkened the whirlpools. They filled their canoes with smaller fish lifted from the pools with dip nets; larger fish were speared with forked sticks and dropped over the gunwales. An occasional sturgeon six feet long weighing eighty pounds would be harpooned and taken ashore by two men hauling a rope of braided cedar bark strung through a hole cut in the creature's jaw.

Merruwacomet's senses were soon numbed to the unpleasant odors as he and his group greeted old friends and immediately joined in on the excitement at the scene. That evening they reveled in reunion, took part in the dancing and religious ceremony giving praise to their gods for the bountiful supply of fish that was sent to them. This seasonal gathering of native people at Namoskeag contributed greatly to strengthening the ties between the several Penacook tribes. The participants did not foresee that within the lives of their next generation the white settlers would take over these fishing grounds and drive the natives away. By 1753 Captain John Stark would have built a garrison less than a mile from the village of Namoskeag that would secure the white's hold on the falls and fatefully bring an end to this native tradition. Merruwacomet could not have imagined that within one hundred and five years from this day the fish migration would also be gone.

Had Merruwacomet realized his friendship and aid to the white settlers would bring extirpation to his people, his culture, and to the ecological functions of the Merrimack that sustained the tribes, it is quite certain that he would not have worked as a guide to white explorers seeking to expand their settlements over all tribal lands. Today he was content with one foot in his native culture and the other foot in the white man's world.

Merruwacomet's small family group participated in the work and celebration for three days. During that time Merruwacomet spoke with the others in his family about making a canoe to use on the Merrimack, particularly to carry home the dried and smoked fish from the annual event. The group concurred that they would return to their village the next day and Merruwacomet would scout the Piscataquog watershed to locate a downed chestnut tree large enough for a canoe. If he were to be successful, all the men would return with him and spend the several days necessary to shape it into a canoe by burning and chopping. Then, they would launch it into the Piscataquog and travel the two rivers back to their village on the Merrimack. They knew the natural resources in the tributary watersheds well and that abundant chestnut trees were to be found along the Piscataquog. One surely would be windthrown, or beaver girdled to facilitate felling by burning off the remaining stem.

Merruwacomet made his plans to walk up the main stem of the Piscataquog River to the south branch and to continue westerly upstream along the south branch to where he knew chestnuts grew on the steep slopes of the river valley. He anticipated return to the village in not more than 4 days.

His journey to the chestnut forests near the Piscataquog was a distance of about twelve miles. There he engaged himself intently on searching for a canoe tree. He did not know that he had been spotted by a party of three Abnaki men who were also scouting the area, not for canoes, but for scalps of white men and of the Penacook tribesmen friendly to the whites. The Abnakis whooped and fired their muskets at Merruwacomet, but his intimate knowledge of the area and his experience in previous attempts on his life gave him the

advantage. As he sprinted through the open woods he formulated an escape plan. He was so much faster than his enemy by being unarmed and without a pack, so he slowed his pace along a southerly running brook that he knew led to a hill about a mile and one half away that has a gradual incline from the north which ends suddenly at a cliff.

When he neared the hill, Merruwacomet again slowed so as not to be lost by his pursuers in the near twilight, and then when they were in sight he sprinted again to the precipice and hid himself under an overhanging ledge. His would-be assassins were unaware of the cliff and stumbled in loose rock before they could stop and all plunged to their death.

Readers may have figured out that this is a tale about the life and times of Joe English who unknowingly contributed to the ultimate demise of his people and culture. Joe left his legend and place names for all to revere or to be sorrowfully reminded of the human tragedy that manifested itself during the century following his death at the hands of natives encouraged to make war by the French who also wanted to take over this land. The legend may also remind us of the ecological tragedy that was to strike the Merrimack and its great fish migrations over Amoskeag Falls. The mighty dam built across these falls and all the other dams downstream powered a regional economy while permanently altering the ecological systems of the Merrimack River basin.

### **Holidays At The Homestead (12/2006)**

During the Thanksgiving holiday just past and now with the anticipation of the Christmas holiday coming on, there is a continuous high energy level bouncing off the walls of the house at Todd's Corner. Memories of many past gatherings are resurrected from brain cells which have not been tickled since the 2005 season. In a continuum many precious new memories have been and more will be cached in brain cells for recall next year and for every year thereafter. My personal experience in this pleasing aspect of life causes me to wonder if memories are passed from one generation to the next attached to DNA. Some have speculated that DNA encoding is responsible for the origin of music and language, so I presume it may be the same with the traits of memory and family heritage.

When I was young the holidays were celebrated at this house with my grandfather and grandmother, many cousins, aunts, uncles, brothers and sisters. When I vividly recall those seasons past it is apparent that the young gave love, respect, and strength to the elders; it was the elders who gave love, respect, and wisdom to the young in a mutual exchange. Now, as an elder, I see myself in the image of my grandfather. I get a transcendental feeling that the spirits of all who celebrated here are stitched together in family tradition. The homestead itself seems to strengthen the holiday celebration as if it were a living being. I doubt that the memories I have and the memories being inscribed by my young descendents would be as secure and transmittable were it not for this Old Homestead being the center of holiday celebrations.

Memories I hold of holidays with elders in my family are relayed to my grandchildren in stories. The stories my elders told me are also relayed to my descendants, thereby inspiring family heritage. What I fear happening is that my family members may become so widely cast over the planet that it will be difficult to sustain our family ties and culture. The time may come when this Old Homestead, nearing its 2014 bicentennial date as the home of six family generations, will pass to persons outside the family. The mirrors will reflect no images and the walls will speak no words except those of people with shallow roots.

It has not been unusual for as many as forty relatives to come to the Homestead during this season throughout the tenure of successive grandparents. The one inherent benefit of the many holiday seasons celebrated here is the bonding of family members; there is both inter-generational and intra-generational bonding that lasts a life time. I treasure the bond I hold with my cousins, maybe we do not see one another a lot, but that does not lessen the friendship which may be as strong as the feeling between siblings. The seasonal  
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gathering here of aunts and uncles, nieces and nephews has developed into treasured relations that are held beyond the death of the elders.

The bonding of relatives is stimulated by their togetherness in preparation of the holiday meals. In my grandmother's day preparation for the holiday meal went on throughout the year. Planting potatoes and vegetables in the garden was done with love and anticipation of the holiday season. The effort of nurturing the garden with tender care during the summer and the careful preserving of vegetables by canning and drying reaped dividends on the holidays. I remember my grandmother being busy all day in the kitchen after grandfather had harvested the vegetables as they became mature during late summer.

Making mincemeat seemed to take so much time. I would go to the farm in the morning and find the old folks working. Several times during the day I would visit and still they would be working. Both grandma and grandpa worked happily together to do all the grinding, dicing, mixing, and canning. The beef had to be run through the grinder, green apples were chopped; fifteen other ingredients were added to the mixture and then canned in quart jars. It always made me feel good to see my grandparents work so happily together. Many years after gram had passed away I was reading her mincemeat recipe and in that I may have discovered a possible reason for their enduring happiness through those hectic days. One of the seventeen ingredients in mincemeat was brandy.

Grandfather spent many hours in the kitchen preparing hogs head cheese on the kitchen table. I watched while he whistled his way through the process that began with placing the following parts of a pig in a large pot of boiling water on the wood stove; one head, sawed in half lengthwise, both ears, its four feet, and a couple pounds of trimmings from the choice cuts he had already processed. These pig parts were boiled until the meat nearly fell off the bones and then he placed the parts on a cutting board and separated all the meat from the bones. This pile of grisly, shapeless pig flesh was then stuffed through the hand cranked meat grinder into a large bowl. With his hands he mixed in the spices, salt and pepper. Then he dropped it back into the same kettle to cook some more.

He placed the cooked mixture in a muslin bag and pressed it between two boards weighted down by grandma's flat irons. After it was cold enough he placed the mixture in a loaf pan. The elders enjoyed this food sliced cold, or warmed slightly in a pan of hot vinegar.

I have to admit that not all experiences of the Holiday seasons of my youth were enjoyable, however they were no less memorable. The mincemeat pies that all my relatives favored so much were not palatable to me. To this day, I will not eat a piece of mincemeat pie. Watching grandpa make the hogs head cheese was indeed very memorable. The images of him making this old fashioned delicacy were disgusting and the repulsive taste and smell of it constitutes the most unpleasant holiday food experience of my youth.

Grandmother and her daughters and even some of the older grandchildren worked together baking rolls, pies, red kidney beans, chicken pies, and of course the traditional turkey. The large kitchen was alive with energy, laughter, and storytelling. This was the real thing and lasted for two days usually. The energy and happiness I observed was exciting to me. The cooking aromas that wafted through the house still tickle my nose. The treat that set the stage for the Holiday feasts was the bottomless bowl of cinnamon roll-ups placed on the counter throughout the pie baking marathon. This is one tradition that I enjoy as a grandfather even as much as did my grandfather.

I believe that an important family relationship that came out of the Holiday season celebrations was the bonding between cousins. I have very fond recall of playing with my cousins while waiting to be called in to the feast. Red Rover, Hide and Seek, Kick the Can, Dodge Ball and other games sealed the friendship between us, competitive though it may have been. As a youngster, the first crush I had on a girl was on my cousin. I never told her that, but we have been good friends since.

The feasts put on by my grandparents, aunts, and uncles are unforgettable. I liked most the deserts for which I always had room. Pies included pumpkin, apple, squash, chocolate cream, and mincemeat (yuk). There was also the pungent gingerbread topped with whipped fresh Jersey cream. I managed to have one of each throughout the afternoon. One lesson I learned is that when you drop gingerbread with whipped cream on the floor it always lands whipped cream side down. What has not changed since I was a kid is the tantalizing aroma of food and the many different flavors heightened by the use of traditional spices. Grandfather always said Grace, which I thought took forever. Now that tradition falls on me and I try to remember to keep it short, but reverent.

Now that I am the elder of the family I will strive to make the Holiday season at the Old Homestead such that at the end of the day my grandchildren will go home with the same cherished memories that I took home from here after being with my grandparents, omitting of course the hogs head cheese, and with mincemeat pie being optional. I will also tell stories that pass on the traditions and heritage of this family. Finally, I will insist that all the young cousins play games outside, or inside, but I would prefer that they not be computer games, so as to encourage personal bonding among them. Above all else, I believe the securing of family bonds to be the most important.

Happy Holidays all!