Living on Mt. Whiteface: A reflection on the mutually transformative relationship between mountain and trail worker

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As we started hiking down from our base camp roughly halfway up Mt. Whiteface, a familiar yet odd sort of elation filled my body. The weariness from six plus weeks of hard labor along with the weight on my shoulders and hips from the gear lashed, strapped, packed, and stacked on my back simply melted away. As an involuntary smile spread across my grimy face, my beat up Limmer boots seemed to lighten and began hopping on their own accord from rock to rock along the trail that I had grown to know so well over the past three summers. It was our last pack out on the Blueberry Ledge Trail, and I knew I was going to miss this uniquely special place.

During the summers of 2009, 2010, and 2011, our crew spent over 17 weeks reconstructing the most eroded sections of this popular trail with the help of WODC members, volunteers, and Forest Service personnel. In many ways, the project represented the culmination of my experiences and passions as a trail builder. Rarely does a trail project encompass such staunch wilderness ethics with technical rock work, valued partnerships between federal and local organizations, customized low impact equipment, volunteer participation, a 4000 foot mountain, and some pretty darn good friends.

Its difficult to describe to many people what I do. Partially tongue in cheek, I often say that I spend my days rolling rocks uphill and digging holes in one place just to throw the dirt in another place. That's about it. Nothing to it. Mindless toilsome labor fit for those who are more brawn than brain. In reality, I cannot imagine another occupation that requires such a dichotomy of skill sets.

On the physical side, even the strongest of backs will weaken over time if the labor is not done thoughtfully and efficiently. Even the act of crushing rock (a major component of backcountry trail work) can be elevated to an art form. Proper body mechanics and breathing, reading the grain of the rock, knowing the impacts of a square face vs. a round face vs. a carbide tipped hammer make the difference between being productive and simply wearing yourself out. Similar examples can be made for rolling rocks by concentrating on their balance points, utilizing the mechanical advantage afforded by a 60" long, 18 pound rock bar and a fulcrum, or sizing and digging a hole into which a rock will be placed. These are age old techniques that our parents, grandparents and ancestors were intimately acquainted

with as they settled this land and cleared the forested New England landscape with little more than axes, stock animals and yankee ingenuity. There are great lessons to be found in these simple tools; however that is just part of the story for the modern day trail crew.

We must embrace technology as well, for holding onto tradition without innovation runs the risk of stagnant, antiquated practices. "Looking back while reaching forward" I like to say. With that thought in mind, I spend days in front of the computer and on the phone, researching the tools of the modern day arborist, marine stevedore, cable logger, rock climber, and zip line canopy tour engineer. The steel wire rope coil that weighs 200 pounds has been replaced by a synthetic fiber rope with the same strength that weighs less than 30 pounds. Advancements in mapping technology, satellite imagery, and communications have completely changed the way we view, catalogue, and present proposed developments on the landscape. The pick mattock carried on my back is now complemented by the iPhone carried in my pocket.

As wilderness advocates, we need to use every tool we have to protect what we love. For instance, something as simple as taking digital photos of backcountry work sites before, during and after a reconstruction project is now almost as important as the quality of the work itself. Those photos can be posted online while the crew is still in the woods which allows fundraisers, donors and agency supervisors to tangibly view what they may not be able to get into the woods to see. Although the danger of technology overshadowing traditional skills is a real one and the balance is delicate, I like to think that the inspiration of working in the natural world, amongst the Spruce giants and Bicknell's Thrush, helps to keep my perspective relatively clear.

I've been doing trail and conservation based work as my primary occupation since graduating college in 1998, but even in that first year, it felt like I'd been doing it my whole life; in some ways I have been. Growing up in rural Maine, my schedule when not in school was to grab breakfast, throw some snacks and a canteen of water into a pack and hit the woods with a buddy or a cousin for the day. My parents knew not to expect us back until nightfall, that is unless we got too hungry. With our hatchets and little saws we built forts and hideouts, burrowing under the raspberry bushes and digging out the soil behind an upturned tree for a makeshift bunker. I guess I haven't grown up that much.

While attending college in Minnesota, I lobbied to work on the Conservation and Trail Crew in the arboretum. The "arb" became second home, even when not at

work. I slept there half the nights of the week, often showing up to class with sleeping bag in hand and campfire smoke wafting from my sweater. As a religion major concentrating in natural history, I figured that the only job I was setting myself up for was that of a teacher. My family seems to be inclined to teach- my grandfather, mother, father and both sisters were or still are teachers. Yet all I wanted to do was be outside.

After graduating, I enrolled in an 11 month residential Student Conservation Association (SCA) and AmeriCorps program based in Bear Brook State Park in Allenstown, NH. The focus of this wonderful program is split between environmental education and conservation based activities, with an overarching theme of service based learning. All the participants go through a Conservation Work Skills week where the lessons include building water bars, steps and walls out of rock, trail tread and drainage control, bog bridge and timber based construction techniques, along with the basics of backcountry rigging. All week I was giddier than I had been since building forts in my youth. I had found what I was supposed to do… unfortunately it didn't seem like such a job actually existed beyond the level of a volunteer or conservation corps member.

After the Bear Brook Program ended, I started leading trail crews of high school and college age volunteers for SCA. I researched and analyzed trail building techniques wherever I went, finding great inspiration in the work of the Civilian Conservation Corps (CCC) and the Works Progress Administration (WPA). I worked for masonry companies and two (of the few) well known trail contracting companies on the east coast. SCA continued to send me around the country to lead some of their more challenging backcountry projects and I soaked up the techniques I saw used in the High Sierra of California, the spongy taiga environs of the Alaskan interior, the rock hard red clay of North Carolina and soggy tropical rain forests of Puerto Rico. I was blown away that every local region had developed a unique style of work based on the immediate environment- species of trees, type of rock, weather patterns, and soil structure all affected how that style developed. Finding the sense and spirit of a place seemed to be a necessary component of proper naturalistic trail work.

I feel so fortunate that I am now able to meld the student, the teacher, and the giddy little kid in myself into a niche business that focusses on conservation. The scope of work often seems as varied as the regions I get to traverse. One day I may be assisting a trail advocacy group to plan, design and fund a trail system on a newly conserved piece of land. The next day I may be splitting stone with feathers and wedges for a backcountry rock work project. In the winter, I have taken up low

impact logging and timber stand improvement, where I utilize small tracked equipment to fit the gap in between a horse logger and a skidder operation. I set aside a good chunk of the spring specifically to train SCA crew leaders, volunteers, and other youth corps crews for the upcoming season. I return to Bear Brook every year and it fills me with hope to see faces light up as they learn about crosscut saws, adzes, and other traditional hand tools. In this era of increased mechanization and technology use, widespread obesity, and a disconcerting disconnect from nature, I get to spend days in the woods with some of the next generation of conservation leaders. They inspire me and keep me optimistic that we have not lost sight of where we come from and where we might go from here.

As I finished that final hike down Mt. Whiteface, the elation shifted to fatigue, then soreness- a feeling that most New Hampshire hikers are familiar with. Something in that elation remained though, and it continues still. When you spend your days and nights on a mountain, simple pleasures don't slip past you as easily as in town. Perhaps it's a lesson found while trying to calm your mind from the agitation of black flies in your eyes, ears, and bellybutton. Perhaps it's found in the clarity of the air and color of the trees just after the rain shower passes. As I said before, I do trail work for the sake of the environment, but that may be a bit of a simplification.

In the last three summers, I was able to watch so many people pass by on their way to and/or from the summit of Mt. Whiteface. Some ambled, some huffed and puffed, some sprinted. One family hiked past the day a patriarch passed away- his wife, friends, children, grandchildren, and maybe even great grandchildren. They could think of no better testament to his life than to hike up the mountain. On more than one occasion, a youngster passed us on the way up looking tired and a bit fearful, only to return with a smile and an air of confidence having summited his or her first 4000 foot peak. One man was visiting his wife as he did at least annually, for some of her ashes were scattered from the summit years ago. Another pair of distinguished gentlemen were headed down to a bottle of mid-afternoon champagne after finishing the last of the New Hampshire 4000 foot peaks.
The transformative effect of climbing a mountain is indisputable. I think that for most trail workers, part of the pleasure is in the knowledge that you've helped shape someone else's wilderness experience, if only by protecting it.

A Recap of the Blueberry Ledge Trail Project

Project Planning and Funding

WODC has a long history of wilderness stewardship and trail maintenance; over the years they have explored numerous ways to get work done in the Sandwich Range. Always relying heavily on volunteers, WODC has also raised funds and leveraged their efforts with partners such as the Forest Service to secure SCA trail crews, interns, and local folk to get their annual maintenance needs met. With over 50 miles of trail to maintain, by the time these crews had diligently cleared the trails of blowdowns and cleaned out the drainages, the annual budget was usually exhausted. Numerous larger and more intensive projects were identified, but the crews lacked the time, equipment, and technical experience to tackle them. The Blueberry Ledge Trail was understood to be the top priority due to the number of steep, actively eroding gullies that were threatening to turn the popular hiking trail into something that more closely resembled an Olympic luge course.

Fred "The Finder" Lavigne worked closely with Cristin Bailey and Jana Johnson of the USFS, Saco Ranger District, to record the locations on the Blueberry Ledge Trail that suffered severe and accelerated erosion while still having some soil base above the granite bedrock. The November issue of the 2008 WODC Newsletter depicts one such eroded area with the caption wishing next year's trail crew luck [check this citation]. After significant head scratching about how to get the needed work done, I received a call from Fred Lavigne requesting ideas for the project. Jack Waldron applied for a Recreational Trails Program (RTP) grant that could address some of the reconstruction. The Forest Service offered a challenge grant to match the club's raised funds and the 2009 budget was determined. After a site visit with Jack, Fred, Jana, Bailey, and myself, the project goals for the year were set. The contracted Off the Beaten Path (OBP) crew managed to finish all the highest priority areas and start a few more.

After a very accomplishing year in 2009, the USFS Saco Ranger District decided the Blueberry Ledge Project was well suited for a portion of the American Reinvestment and Recovery (AARA) funds they received. WODC had to nearly double its operating budget and actively recruit more volunteers to cover the match, but as per usual, Jack, Fred, and others found a way to make it happen. An AARA funds audit in 2010 found the Blueberry Ledge Trail project to be successful in terms of emphasis on partnerships, quality of work, transparency of

costs, clarity of work reports and photo documentation. The result was that on our final day of work in 2010, WODC trail worker Dan Newton hiked up with the news that unspent federal AARA dollars were being earmarked for Blueberry Ledge for 2011! This unexpected news was delightful validation that the work put in by WODC, USFS, and Off the Beaten Path was seen nationally as a good model. WODC vowed to match the federal dollars with the needed volunteer hours and the result was another year of work on the trail.

2011 proved to be just as accomplishing as the previous years, with the majority of the WODC volunteer labor working on a relocation lower down on the trail. The OBP crew finished installing steps on all the severely eroded slopes, working their way up the mountain to above the junction of the Tom Wiggin Trail. We then worked our way back down doing smaller patchwork staircases and erosion control work to finish off the season.

Low Impact Trail Construction- Tools and Techniques

Trail work often involves a combination of balancing hiker safety and convenience with resource protection. The work on Blueberry Ledge was prioritized heavily in terms of resource protection. Some hikers love the new steps, some feel that it makes the climb more difficult. Others don't appreciate the "built" feel of a rock staircase, citing that it takes away from the wilderness character of a place. I enjoy hearing all these perspectives; however, in my mind, I am doing work for the mountain as much as for those who climb it. Mt. Whiteface is the client as well as the teacher. The mountain is scarred by erosion from our presence, yet it offers all the resources we need to armor that scar and minimize the damage, sometimes in a beautiful way. All we have to do is bring the tools. It only makes sense that we try and work with the least amount of impact possible. With that in mind, our crew employed specialized equipment to transport stone, soil and crushed rock from outside the trail corridor to the work sites.

We had two hand powered Griphoist brand winches (2000 and 4000 pound strengths) that were used individually or together to pull rocks along the ground or more frequently, lift them into the air. Using the aerial rigging system commonly referred to as a "highline" or "skyline", rocks can travel down a synthetic fiber rope that has the same strength and stretch as wire rope. The load's momentum is slowed by another fiber rope that feeds through a belay device so that everything moves in a controlled fashion. Safety is paramount when using rigging so each component is used within a specified working load limit- generally set at a maximum of 20% of its actual breaking strength.

Using the highline, we could find a quarry site of good rocks off trail and uphill of the work area and fly them to the work area. Sometimes we were able to place the rocks into holes directly off the highline. Sometimes we had two lines set up so that a rock could fly to the trail on one line and down the trail on another without ever touching the ground. This sort of rigging increases efficiency, reduces strain on the back, and limits the impacts of rolling rocks across the fragile mosses, plants, and root systems of the subalpine ecosystem.

Our work on Mt. Whiteface consisted of building flights of rock steps that climbed out of the entrenched trail with a rock water bar at the top to divert water out of the trail corridor. Large "gargoyle" or scree rocks were placed on the sides of the steps to deter hiker traffic and stabilize the gully. The rocks were generally dug in about ⅔ to ¾ of the way into the ground, so that a step with a six inch rise would be buried 18-24 inches below the surface. When necessary, carbide tipped hammers and chisels were used to shape the stone for a better fit. The result is a very solid staircase that sheds water off the trail and will last centuries. After the stones are set, we naturalized and restored all signs of our work. Our aim is that the first hiker who travels up a completed staircase doesn't realize that the work is new and cannot find where any of the rocks came from.

Results

Blueberry Ledge Trail: Work Log Totals 2009-2011

Rock steps installed: 288 (787 cu. ft.)
Gargolyes/ Scree rocks installed: 640 (1203 cu. ft.)
Rock drainages constructed: 26
Soil displaced: 1266 cu. ft.= 46.9 cu. yds.
Trees transplanted: 139
Area restored/rehabilitated: Approx. 7729 sq. ft.
Weight of material moved (solid rock, crushed rock, and soil): Approx. 176.5 tons or 353,000 pounds

Hours:

Total contracted hours on project: 2,586.5

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