Strategies for not Losing the Trail in Winter

by Ira Orenstein

One winter day in mid-March my wife Karen and I decided to climb the Hancocks, located in New Hampshire's White Mountains. The forecast for the nearby town of Lincoln called for a sunny day with temperatures reaching 40 degree F and with winds 4-5 mph. An overnight fast moving windy nor'easter deposited 3-5 inches of freshly fallen snow over a base of several feet of snow that accumulated over the winter. Since temperature generally drops 3-5 degrees F for every 1000 feet of elevation gain, we anticipated a mild day by winter standards with summit temperature reaching a high of maybe 25 degrees F. The Mount Washington Observatory (Mount Washington is the tallest peak in the Northeastern United States and boasts some of the worst weather on Earth and the highest recorded ground wind speed at 231 mph) produces a Higher Summits Forecast and temperatures were expected to reach the low twenties F. with winds gusting to 60 mph from the west. On this day, however, we would be more protected as the Hancocks remain below treeline.

The previous evening we checked the "New England Trail Conditions" website and learned that the Hancocks had been recently climbed. We would likely as a result be breaking trail through no more than 4-5 inches of snow depths over an otherwise consolidated surface. We would wear snowshoes to minimize postholing (see "Winter Wandering is Gaining Traction" on the Catskill 3500 Club Hiking Safety Page) even though the trail would be relatively packed down. Crampons would be packed in the event that we encounter icy conditions.

We would aim for a pre-dawn start. Winter daylight hours are short (approximately 9 1/2 hours and 12 hours in the northeast at the beginning and end of winter, respectively) and conditions are often variable (i.e., snow depths, need to change in and out of crampons).

Our late 8:20am start was met by brilliant sunshine that highlighted a beautiful winter wonderland with fresh snow carpeting the ground (we were the first hikers out that morning) and draping the trees. The trail was easy to follow in spite of the newly fallen snow and sparsely placed yellow blazes on the trees. The cold winter left the stream crossings bridged over with ice. We did, however, pack extra socks and plastic grocery bags in the event of an inadvertent foot submersion that could result in potentially serious consequences if not immediately attended to. Our hiking poles came in handy as we probed the ice to corroborate our judgment that the crossings remained stable. We would be equally fastidious on the return as the warm

day and strong sunlight would contribute to higher water and the deterioration of these transient winter stream passages.

The hiking became progressively spectacular as Arrow Slide highlighted by its brilliant snow cover came into clear view along the slope of North Hancock. During the last very steep section on the approach to North Hancock's summit a gentleman passed us from behind, offering to break trail. Upon reaching the top of North Hancock we rested and enjoyed the expansive views unique to winters that bear witness to heavy snow accumulation as we were perched near the tops of the trees, making the walk to the side path that leads to a viewpoint unnecessary.

The gentleman then proceeded to break trail throughout the 1.4 mile ridge walk to South Hancock. The previous day's snow and high winds produced drifts that in many places covered over and obscured the trail. The gentleman, clearly calling upon years of mountain climbing and route finding experience, tackled the task of staying on trail with expedience. Hints to staying on couse were often subtle. Every so often clear confirmation would be acknowledged upon sighting a painted trail blaze that wasn't buried by snow drifts. A slight depression in the snow (the result of a broken in trail being partially filled to its "brim" with fresh snow) would be a strong indication that the trail lied beneath. (Counter-intuitively, late in the thaw season the trail might be slightly <u>higher</u> than the surrounding terrain, forming what is often termed a "monorail." This phenomenon is due to the snow on the trail being compressed by foot traffic, making it denser and slower to melt than the surrounding less consolidated snow. We encountered this situation one week later in more southerly New York's Harriman Park where newly fallen snow obscured the trail. By stepping on the raised monorail we were able to minimize sinking into deep snow just off trail). Any deviation from the trail proper resulted in a plunge into the adjacent deep less consolidated snow.

Sections completely covered by drifts called for the highest level of sleuthing acumen. We would search for saw cuts (places where trail crews cleared the way by cutting away branches. Occasionally one would see areas where horizontal low branches of spruce and fir trees would be shorter on one side of the trunk, evidence that hikers had passed through before, rubbing into and thus snapping off adjacent twigs. Animals often take the "path" of least resistance and share the trail with hikers, leaving tracks that can sometimes be of marginal assistance until the furry navigator decides to veer off and up a tree or in some other direction that may lead the hiker off course.

Fortunately the ridge that we were on was rather narrow, making it hard to deviate too much from the trail proper. And of course, we carried map and compass (and GPS) that could be

called upon to find our way. Even with map and compass, however, the smallest deviations from the trail would result in a slow go as the snow was very deep.

During the 1.4 mile ridge traverse several caveats came to mind. Even if the trail were well broken in and easy to follow at lower elevations, it would be possible to come to an area higher up where drifting could obscure the way. Add to that the occurrence of high winds on hike day that can erase your foot/snowshoe prints and one might lose the trail and be forced to bushwhack. While bushwhacking may not be a problem for the experienced navigator, deciding to leave you snowshoes at home (because you read on a recent blog that the trail was well trodden) could make progress through deep unconsolidated snow a huge challenge (even with snowshoes!). To make matters worse, spruce and fir trees at higher elevations tend to be short and densely huddled close together (to protect each other from high winds), often making passage an onerous task as the hiker and his/her clothing are prodded and poked. Rime ice accumulating on these trees solidifies them, thus creating an even greater barrier to passage. I am thus reminded that when the winter's snows have accumulated to form a deep base, snowshoes and durable outerwear are to be a part of my standard gear even if they spend the entire day on and in my pack.

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Following is information that applies more to the Northeast's taller peaks north of the Catskills that are generally the home of more severe winter conditions.

"Spruce traps" are formed when very deep snows bury the tops of short trees usually found at higher elevations (like spruce and balsam fir). The unsuspecting hiker can fall through the treetops and get entangled in the web of branches that now surrounds him/her. In the most extreme cases, extrication can be quite enervating. The potential for spruce traps provide another reminder as to the potential hazards of hiking solo.

Above treeline the trail is generally marked with a combination of blazes painted on the ground and boulders as well as with rock cairns (there are no trees to place trail markers on). In winter, the blazes are often hidden under the snow, while rock cairns may have the appearance of "snow ghosts" and can easily be mistaken for small spruce or fir trees cloaked in snow or rime ice and vice versa.

Hiking above treeline in winter provides full exposure that offers many unique challenges. Certainly the ongoing presence of high winds creates a mosaic of deep snow drifts and bare ice. Knowledge of the predicted wind direction can sometimes assist with route planning when there is an option to hike on the leeward side of the mountain. In New Hampshire's Presidential Range, for example, the hiker will generally be more exposed to winds on the western slopes

where the prevailing winds are generally of a westerly direction and where treeline therefore begins at a lower elevation. Often these same high winds can reduce visibility to near zero by creating whiteout conditions where dry loose snow is whipped into the air.

Several precautions can be taken to minimize straying if unexpectedly caught in whiteout conditions. It bears repeating that map and compass (and GPS as a backup – not to be solely depended upon) and knowledge of their usage remains the foundation for safe navigation. Extra copies of a map should be carried by each participant as the wind may tear or take the cartography document that you depend on to flight. Laminating your map will add durability and weather protection. Routes should be planned in detail in the comfort of one's home. Such planning includes accurate determination of intended compass bearings. Doing a "dry run" by hiking the same mountain in mild summer-like conditions (maybe creating a GPS track log along the way) provides familiarity with the landscape (although it may appear quite different in winter).

In conditions with deteriorating visibility the group can be kept together and avoid separation by bringing a cord that all members of the party can hold on to and that permits the leader to advance to seek the next trail marker/cairn while the hiker in the rear remains by the previous marker. Hikers can also spot each other more easily when wearing brightly colored clothing.

Proper planning and preparedness, close attention to the weather forecast with its potential for unexpected change, goal flexibility, on-line trip reports and a healthy respect for the mountains. These are the key ingredients that allow the* hiker *to enjoy the beauty of winter.

Following are some recommended books that provide excellent accounts and educational information about hiking above treeline in winter. The first 3 references were authored by our own Catskill 3500 Club member and Conservation Chair Carol Stone White:

***"Women with Altitude: Challenging the Adirondack High Peaks in Winter"* by Carol Stone White, 2005, North Country Books, Inc.**
***"Adirondack Peak Experiences: Mountaineering Adventures, Misadventures, and the Pursuit of The 46"* compiled and edited by Carol Stone White, 2009, Black Dome Press Corp.**
***"Peak Experiences: Danger, Death, & Daring in the Mountains of the Northeast"* edited by Carol Stone White, 2012, University Press of New England.**
***"Mount Washington in Winter 1870-1871"*; 1871, Chick and Andrews; Facsimile Reprint 1993, Heritage Books, Inc.**

"Bradford on Mount Washington" **by Bradford Washburn, 1928, P. Putnam's Sons, New York; republished in** ***"Washburn, Extraordinary Adventures of a Young Mountaineer"*** **by Bradford Washburn, 2004, Appalachian Mountain Club, Globe Pequot Press, Inc.**

"No Limits but the Sky: The Best Mountaineering Stories from Appalachia Journal" **edited by Christine Woodside, 2014, Appalachian Mountain Club, National Book Network.**

Winter Above Treeline, Backpacker Magazine, October 1994, taken from ***"Wilderness Ethics. Preserving the Spirit of Wildness"*** **by Laura and Guy Waterman, 1993, The Countryman Press.**