

HUMAN USE MANAGEMENT IN MOUNTAIN AREAS

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Mountain Culture programs at the Banff Centre promote the understanding and appreciation of the world's mountain places by creating opportunities for people to share – and find inspiration in mountain experiences, ideas, and visions.

MANAGING LOCAL / REGIONAL VISITOR EXPECTATIONS IN MOUNTAIN ENVIRONMENTS

The Mount Mansfield Experience

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Introduction

Managing recreational visitors in sensitive mountain environments can indeed be challenging. Visitors have certain expectations about what a mountain environment has to offer and about the activities they wish to pursue and how these activities will be managed. These expectations may vary according to whether the visitors have traveled long distances to the site for a one-time visit or are local residents who frequent the area on a regular basis. Successful management depends on not only knowing who the visitors are but also knowing something about their expectations.

Local and regional visitors present particular challenges to managers. They tend to visit frequently and to have an intimate knowledge of the mountain environment, and they often claim a personal stake in the area. Usually better informed than long-distance visitors, they may well serve as your strongest allies in conservation efforts, but they can be highly critical of or resistant to management decisions that would restrict their activities.

Managers can incorporate a variety of tools and techniques in their efforts to manage recreational visitors. For example, in providing information for visitors, one can use signs, exhibits and brochures as well as off-site media outlets (i.e. newspapers, radio, television). Staff can be placed in the field in order to provide interpretive information and to enforce rules and regulations. When selecting techniques, managers need to understand who their audience is. Knowing the visitors and their expectations will help in determining the appropriate messages and the media to be used.

The Mount Mansfield Experience

The mountains of Vermont have long hosted a variety of recreational activities. Hikers and sightseers flock to their summits to enjoy the fresh air and scenic views. A few of the very highest mountaintops are home to the only natural alpine communities in the state. These relict Communities - with their sparse and stony soils, extreme exposure, steep slopes, short growing season and uncommon biota - are fragile and easily disturbed by human activities.

The summit ridgeline of Mount Mansfield, Vermont's highest mountain at 4393 feet, harbors the largest expanse of alpine habitat in the state. Many of the area's plants and animals are rare, with a number of them listed as threatened or endangered. The mountain annually attracts tens of thousands of visitors who reach the summit by way of numerous hiking trails, an auto toll road and an aerial gondola. Visitors include many one-time destination tourists who tend to

access the mountain via the toll road and the gondola, as well as numerous local people who generally hike to the summit and are often repeat visitors. Mount Mansfield is also home to a major ski resort and, because of its height and accessibility, is the site of extensive telecommunications facilities.

Historically, these activities on the mountain have resulted in a myriad of disturbances including trampled vegetation, soil loss, species decline and extirpation, habitat fragmentation, ground- and surface-water contamination, aesthetic blight, and overcrowding. Managers have responded by developing and applying a variety of successful programs aimed at controlling these impacting activities and at restoring degraded landscapes.

A key factor in this effort is a unique partnership that includes the major landowners on the mountain (the University of Vermont and the State of Vermont Department of Forests, Parks and Recreation), a major ski area (Stowe Mountain Resort) and a statewide hiking and environmental organization (the Green Mountain Club). These partners provide a variety of resources that help support a mix of site-conservation approaches including public-education programs, trail-design and -construction techniques, visitor-management activities and site-restoration efforts.

Over the thirty years that these programs have been in place on Mount Mansfield, site managers have learned much through trial and error and have developed a keen appreciation of the complexities of managing mountain environments. What has become apparent over the years is that management programs must remain fluid and dynamic in order to respond to the changing nature of visitor use and resulting impacts. What has also become apparent is the importance of understanding who visitors are and what expectations they have in order to better select and craft programs that will effectively communicate the desired message and accomplish management objectives. Following are some examples of how managers on Mount Mansfield are dealing with these challenges.

Summit Caretaker Program

Early efforts to manage visitor activities on Mount Mansfield consisted of installing signs along the summit ridgeline, asking visitors to stay on designated trails and to observe other regulations. These limited efforts did not noticeably reduce impacts. In the mid-1970s, a more fully developed program was implemented. Each year, from late May through October, summit caretakers are stationed along the ridgeline. Their major responsibility is to approach visitors and to politely explain to them why it is important to stay on the trails and not step on the fragile alpine vegetation. They also point out other regulations concerning camping and open fires, answer questions regarding the local ecology, offer visitors orientation and information about trail conditions and the weather, carry out trail maintenance and assist in first-aid and search-and-rescue efforts.

The summit caretakers receive extensive orientation and training at the beginning of the season, including instructions about how best to communicate information to different visitors. They quickly become experienced at identifying the difference between a through-hiker with a large backpack and well-worn attire and a group of auto tourists milling around the summit parking lot, and can craft their approach and message accordingly. In particular, local hikers and

frequent visitors may require only a courteous "hello" and current information on trail conditions and the weather.

This very successful program has been in operation for over 25 years. All four partners participate by providing funding and in-kind resources and by assisting with orientation and training. The Green Mountain Club serves as the program administrator, hiring and employing the summit caretakers and handling day-to-day and seasonal operations.

Other Educational and Informational Efforts

Although the Summit Caretaker Program serves as the focal point for management on Mount Mansfield, there are other techniques used to communicate with visitors. Signs are still used on the mountain, although they are more creatively designed and strategically placed so as to better reach intended audiences. Efforts are also underway to regionalize sign designs and to use consistent texts in order to avoid confusion and conflicting messages. This could be particularly helpful in managing local and regional visitors.

Recently, a visitor centre was constructed adjacent to the summit parking area on Mount Mansfield. This facility's prime function is to serve as a "first stop" for auto tourists by providing basic orientation and management information. Although hikers and frequent visitors rarely enter the centre, an exhibit outside the building often catches their attention since it displays current trail conditions and weather information. These visitors may also leave messages at the centre and with the attending summit caretaker, who usually takes advantage of these contacts to convey other important information.

In addition to various printed brochures, trail guides, outside exhibits and other on-site educational and informational efforts, managers on Mount Mansfield have used local media outlets to communicate with visitors. Newspaper articles and radio and television messages are used on occasion to inform local visitors about new management policies and site conditions. Each spring, for example, as snow melts off the mountain, trails at higher elevations become muddy and prone to erosion. The Green Mountain Club uses local media outlets to remind hikers of their policy of closing these trails until they have had a chance to dry up. These outlets may also be good for the placement of promotional and public-relations materials and can provide venues for the exchange of ideas and the airing of concerns.

Trail-development and Site-enhancement Techniques

One of the main management challenges in alpine ecosystems is to keep people on designated trails and off fragile alpine vegetation. In addition to providing visitors with information about this management objective in the hope of achieving compliance, there are a number of trail-development and site-enhancement techniques that can be employed to help in this effort. On Mount Mansfield and elsewhere, managers have studied both the physical characteristics of trails and the behaviors of various people as they hike through the alpine environment. These observations have led to the development of management techniques that, where applied, can encourage hikers to stay on trails.

Paint blazes, cairns (rock piles) and scree walls can all help better define trail routes, preventing hikers from unintentionally leaving the trail. The use of puncheons or bog bridges through wet areas and of step-up stones in steep sections, can encourage hikers to stay on the trail and find

sure footing. Even the simple placement of a low brush pile or a length of rope strung along the side of the trail can discourage off-trail wanderings.

The trick to applying these techniques is to **know** something about how hikers move along the trail, keeping in mind that casual walkers out for a stroll are likely to behave differently from through-hikers laden with large backpacks. Another important consideration, particularly germane to local and experienced visitors, is to avoid applying these techniques to excess. A contrived or overly designed trail system where visitors have a sense of being controlled or manipulated may not sit well with those whose expectations are for a more natural experience.

Vermont Alpine Areas Assessment Project

It is important for managers to periodically assess how well their programs are working rather than assume that all efforts are successfully achieving desired objectives. Assessments can both point to successes and identify program elements that need revising or possibly elimination. In the early 1990s, managers of Mount Mansfield, who were faced with budget constraints that would possibly affect various program elements, decided that it was time to take a look at how well they were doing. The Vermont Alpine Areas Assessment Project was therefore undertaken in order to take a critical look at the effectiveness of the Summit Caretaker Program and other current efforts and to propose means of improving these efforts or to suggest alternatives where necessary. This assessment was carried out for Mount Mansfield and two other alpine areas in Vermont where similar management programs were in place.

The assessment included two types of surveys. A visitor survey was handed out and was completed by approximately 500 people at each alpine area. This survey consisted of a series of questions ranging from the point of origin and the destination of visitors to their knowledge level of management policies and their opinions of various management-program elements. Observation surveys were also conducted at several locations within each alpine area. These surveys involved stationing observers along the trails to quietly observe and record visitor behavior. Information collected included group size, approximate age distribution of visitors, and which visitors stepped off the trail and where and for what reasons. In addition to these surveys, the assessment also involved interviewing summit caretakers and program administrators in order to assess their views on the effectiveness of various program elements. Information was also sought from similar programs and efforts throughout the region by contacting program administrators and conducting field visits to alpine sites in Maine, New Hampshire and New York.

Data gathered from the surveys enabled managers to develop a comprehensive profile of visitor use and behavior. The surveys were also instrumental in identifying visitors' feelings towards various management efforts and their needs for additional information. Specifically, managers realized that local and frequent visitors had different opinions regarding certain program elements and different information needs from those of one-time visitors. As a result, summit caretakers were instructed to revise the ways in which they interacted with various types of visitors. The information needs of different visitors were also accommodated.

The Challenges of Managing Winter Use

A particular management issue that has recently surfaced on Mount Mansfield is the increase in winter recreation activity. There is concern both *with* the potential impacts of these activities on the mountain's environment and with the apparent conflicts that are increasingly occurring between different recreational groups. Mount Mansfield has had a long and illustrious history as a location for alpiniskiing, Stowe Mountain Resort being one of the first areas developed in the United States. The mountain is especially known among locals and those seeking extreme skiing and snowboarding for its easily accessible, *off-trail*, high-elevation alpine terrain. Some of this terrain is also popular for snowshoeing, backcountry skiing and winter mountaineering.

Initially, managers raised concerns over the potential impacts of these activities, specifically alpine skiing and snowboarding, and considered closing the summit area to these uses. There was a very swift and vocal outcry from local skiers, who criticized managers for acting without evidence and requested that managers and skiers work co-operatively in order to identify impacts and, if necessary, take mitigating steps. Managers took the skiers up on their offer, and on further investigation it was determined that there were minimal impacts attributable to skiing off the summit. Damage, however, was occurring along the paths created by skiers during their ascent to the summit. The rerouting of these paths to less sensitive areas and the placement of signs and trail markers has lessened these impacts considerably. Local skiers have also offered to act as volunteer winter summit caretakers and to communicate with their peers about the sensitivity of the alpine environment.

Another issue that has recently emerged is the conflict between alpine skiers and snowshoers. Apparently, there are several trails that are popular with both groups and conflicts arise when those descending on skis meet up with those ascending on snowshoes. Letters from angry snowshoers have appeared in local newspapers, and the Green Mountain Club reports hearing from them as well. Managers have decided that this type of conflict can be resolved by designating certain popular snowshoeing trails as off limits to skiers and to communicate this management decision by appealing directly to the skiers' sense of respect towards other recreationists on the mountain.

In summary, the Mount Mansfield experience highlights some of the challenges facing managers responsible for the stewardship of alpine ecosystems. Working with local and regional visitors can be particularly challenging, but gaining their co-operation and support can reap considerable rewards. And, finally, it behooves managers to exhibit *diligence* in their efforts to protect these alpine ecosystems, to employ *diversity* in developing management-program elements, and to remain *dynamic* in the face of the ever-changing nature of visitor use.