IMPLEMENTING SUSTAINABLE WINTER & SUMMER TOURISM IN
NORTHERN & CENTRAL MONTENEGRO:
AN ASSESSMENT OF CURRENT STRATEGIES & NEXT STEPS

A Report to the Rockefeller Brothers Fund and UNDP
Submitted by:
Martha Honey, Ph.D., Executive Director, The International Ecotourism Society, Washington, DC
Arthur DeJong, Development & Environment Resource Manager, Whistler Blackcomb Mountain Resort, Canada
Auden Schendler, Director of Environmental Affairs, Aspen Sustainability Associates, Colorado
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Purpose and Objectives

In September – October 2005, The International Ecotourism Society (TIES) undertook a consultancy for Rockefeller Brothers Fund and the UNDP to further assess the potentials for sustainable tourism development in Montenegro, particularly in the central and northern region. The purpose of this project is three-fold:

1. To assess, through a review of relevant reports and site visits, Montenegro’s progress towards implementation of the Strategic Framework for Development of Sustainable Tourism in Northern & Central Montenegro, which was officially adopted by the government in September 2004. This assessment, written by TIES Executive Director Martha Honey, is presented in Section 2.

2. To analyze, including site visits, the viability of ski resort development in the Zabljak-Durmitor area, as proposed in the report, Program for Development of Mountain Tourism in Montenegro by the International Institute for Tourism (IIT) in Ljubljana, Slovenia. This report was commissioned by the Ministry of Tourism, which has been promoting it as the model for tourism development in the northern region of Montenegro. Arthur DeJong, Development and Environment Resource Manager for Whistler Blackcomb Mountain Resort in British Columbia, Canada carried out this assessment and wrote a report that is included here as Section 3.

3. To provide information on the current “best practices” in ski resort development in North America and, where information is available, in Europe. Auden Schendler, Director of Environmental Affairs at Aspen Sustainability Associations, a company associated with the Aspen Skiing Company in Colorado, was commissioned to undertake this research and prepare a paper that is contained in Section 4. Ford C. Frick, director of a U.S. market research and economic consulting firm, provided input on all sectors of the paper, and was the lead writer for part c and Appendix G of Section 4. Abigail Rome, an ecotourism consultant with TIES, researched sustainable trends in ski resorts in Europe and contributed to sections that have been incorporated into the final version of Section 4.

Since 2004, TIES has been asked by the Rockefeller Brothers Fund and UNDP to provide, on several occasions, expertise to assist Montenegro’s sustainable tourism strategy. In April 2004, I gave a presentation on sustainable tourism to the Prime Minister, Minister of Tourism, and other government and private sector officials from Montenegro at the RBF’s Pocantico Conference Center outside New York City. The talk focused particularly on lessons from Costa Rica, a country used as a model in the Sustainable Framework study and where the delegation visited during the following week. In December, I was invited, along with Oliver Bennett, to give a presentation at the launch of the “Unleashing Entrepreneurship” initiative and publication of the Strategic Framework for Development of Sustainable Tourism which the government had officially adopted in the previous September. During this visit, I met with various government and NGO officials, and visited Lake Skadar. The following May, along with
other international experts, I provided in writing, an analysis of the IIT’s *Program for Development of Mountain Tourism in Montenegro.*

This latest consultancy began in September 2005 with TIES holding discussions with various experts in sustainable ski slope development and management in both the U.S. and Canada. Based on extensive conversations with Arthur DeJong and Auden Schendler, it was agreed that Schendler would put together a small team to write a report on current best practices in ski resort development and DeJong would accompany Martha Honey on a site visit to the Zabljak-Durmitor region on October 10 – 15, 2005. After DeJong left, Honey visited Cetinje, Kotor, Perast, Budva, Ulcinj, and Lake Skadar National Park, as well as Podgorica. During this visit, Honey and DeJong carried out interviews with a wide variety of government, tourism industry, and NGO officials. A complete list of those interviewed is included in part c of Section 2.

The *Program for Development of Mountain Tourism in Montenegro,* with its emphasis on promotion of winter tourism through large capital investment in existing and new ski resorts, marks a deviation from the goals and strategies outlined in the *Strategic Framework,* which are built around the strengthening of a wide range of sustainable tourism activities, mainly in the summer season. This latter strategy utilizes local capacity and resources and requires more modest investments. Yet because the Ministry of Tourism has proposed moving forward with ski resort development, it is necessary to first evaluate this proposal against both the latest in sustainable resort design techniques and the realities of northern and central Montenegro. In addition to site visits, Honey and DeJong interviewed key tourism actors in the Zabljak-Durmitor area to determine their views on the best strategies for increasing sustainable tourism in this region.

The site visits, interviews, and review of various tourism reports, have provided a more complete understanding and assessment of the potential for:

- Summer tourism in northern Montenegro and the range of agriculture and nature-based activities;
- A wider variety of lower investment ?? or ?? cost winter activities;
- The possibilities for linking coastal and northern tourism;
- Sustainable tourism potential in and around Cetinje, along parts of the coast, and at Lake Skadar; and
- Various sustainable tourism projects currently being run by local NGOs and international development agencies.
Assessing Progress in Implementing the Strategic Framework for Sustainable Tourism

By Martha Honey, Ph.D.

This report is based on recent site visits and interviews, as well as a review of a wide variety of tourism reports and correspondence from experts. It is intended first, to help assess the potentials for both winter and summer tourism, second, to present the recommendations for expanding ski resort tourism contained in the IIT’s Program for Development, and third, to discuss where Montenegro is in terms of implementation of the Strategic Framework for Development of Sustainable Tourism in Northern & Central Montenegro. There is a need not only to try to prevent ill-advised projects that are put forth as part of a sustainable tourism strategy, but also to provide concrete assistance in building Montenegro’s capacity to tap into the strong European and North American demand for sustainable tourism. This paper provides an outline of what appear to be the most promising and urgent needs and issues related to expanding and upgrading sustainable tourism, particularly in the Zabljak-Durmitor region.

1. Assessing Winter Tourism: Ski Resorts and Other Possibilities

Since the following two sections, by experts in the sustainable development of ski resorts, provide a solid review of the realities and challenges facing ski tourism in Montenegro, I will merely summarize here the main points raised by those we interviewed, and then lay out my main conclusions.

Those interviewed all expressed strong concern about the recommendations for expanding ski resorts contained in Program for Development report. Everyone we met with in Zabljak, from park officials to tour operators and hotel owners to professional guides, said that they had not been consulted as this report was being prepared, that they did not understand how the recommendations were arrived at, and that they doubted that careful site visits had been carried out in preparing the report. Most importantly, Zoran Vojinovic, President of the Mountaineering Ski Society of Durmitor, told us that he thought the recommendations for new lifts were based largely on a report by a government functionary done in the early 1980s and that no recent assessment had been done for the report. Ferdinand Wieland, the German advisor to the Minister of Tourism, confirmed this, saying that the recommendations for new lifts were based largely on a 1982 study. (It was about this time that the area’s two existing ski lifts – Suvin Kuk, which is in Durmitor National Park and Stuoc, which is owned by the HM Durmitor -- were originally built. Today, the Suvin Kuk lift in the park is operating, but the other, Stuoc, which is now privately owned, is not.)

This could explain why the report is totally silent on four critical issues:

1.) What are the environmental impacts of expanded ski tourism and what measures would be taken to ensure the ski lifts and resorts are developed using the best techniques and practices in sustainable ski resort construction and operations?
Because Montenegro has designated its northern and central region for sustainable tourism development, it would seem imperative to integrate the latest sustainability techniques and practices in the upgrading and expansion of its ski lifts and resorts. Yet not only was this not done, but no environmental impact assessment was undertaken before recommending heavy capital investment in ski lifts in the Zabljak-Durmitor area.

2.) Would construction of new ski lifts inside Durmitor National Park jeopardize the park’s status as a World Heritage Site? As proposed, the new lifts will be built starting at the park’s entrance, which will require cutting of large swaths of trees, and will therefore dramatically alter the pristine character of the park. Many of those interviewed expressed concern that this would mean that Durmitor would lose its World Heritage Site designation.

3.) How is global warming likely to impact the development (including the financing) of ski tourism in northern Montenegro? Today all ski resorts are compelled to try to assess the potential impacts of global warming. Swiss banks, for instance, will not lend to ski areas that operate below 1400 meters. The Zabljak-Durmitor area is considered mid-elevation (between 1400 and 1800 meters), which could be negatively affected by climate change. Yet Tourism Ministry officials confirmed that they have not examined how climate change may affect ski tourism.

4.) What are the realistic requirements for manufacturing snow for the new lifts, what would the equipment cost and is there sufficient fresh water available to make snow? The IIT report makes no mention of the need or cost of snowmaking, the cost of this is not factored into the report’s estimates, and there is no assessment of the availability of water. Yet according to both DeJong and Schendler, no new ski area development takes place today without first ensuring there is sufficient water to make snow. DeJong describes water as “a deal breaker: you must have sufficient water because all resorts must make snow.” A number of those interviewed expressed concern that water shortages already exist in the Zabljak-Durmitor area, noting that the problem is being exacerbated by all the new construction of many private homes. They said that water comes from the lake and already these homes run out of water during parts of the summer months when tourism is high.

As Arthur DeJong details in his report, these four issues should be thoroughly explored as part of a Master Plan before the Ministry of Tourism proceeds with ski resort development.

In addition to these major underlying issues, those interviewed raised a number of other concerns and cautions. All see winter tourism as supplemental to summer tourism and all opposed large investment in new lifts, until the government has addressed other pressing matters, including winter road access, lack of sufficient accommodations, and the need to expand an array of lower investment cost but higher price winter and summer tourism activities (agritourism, bird watching, fishing, game viewing, snow shoeing, cross country skiing, etc.) as well as to promote convention and health/wellness centers.

Those interviewed said that the existing Savin Kuk lift in Durmitor National Park should
continue to operate. Its position is not visible from the park entrance and it does not detract in any great measure from the park's pristine wilderness. One of the mountain guides, for instance, said that the current facilities and trails need to be improved and the safety increased. He said the existing lifts can accommodate 2-3000 persons/day, which is “perfectly sufficient” for current tourism demand, as well as for likely growth in the near future.

Tomo Pojovic, Director of Durmitor National Park, added that he is not opposed to the one lift already in the park because it has existed for 20 years, but that at present the park does not benefit financially from it. He would like to set up a concession system so that the ski resort would have to follow certain rules and pay fees to the park for use of the land. We endorse this idea, and would urge the government and park to work to develop criteria for sustainable tourism, based on internationally recognized best practices (as outlined in Section 4), and begin to implement these practices as the existing lift in the park is upgraded and expanded. The park should require, as a prerequisite for receiving a concession to operate in the park, that the ski lift owner (at present the government) meet certain sustainability standards. This type of ‘green’ certification will help to establish northern Montenegro as a sustainable tourism destination.

There is, however, concern about the wisdom of refurbishing and reopening the privately owned Stuoc lift connected to the Hotel Jezera. While the hotel manager said they do plan to reopen the lift, those interviewed and our site visits reveal a series of challenges and problems: private property (homes and farms) in and near the lift and trails, its southern exposure which means snow melts sooner on these slopes, and the poor state of the existing lifts and slopes. In addition, because of its distance from the currently operating Savin Kuk lift, Zabljak would have to have transport, accommodations, and safety patrols to service both areas – something that would require more infrastructure and add to the costs. Ski expert Arthur DeJong suggested a possible alternative: that the HM Durmitor instead build a snow-tubing run that has proved elsewhere to be very popular with families and would be much less costly than repairing and upgrading the lifts.

While those interviewed see skiing as part of the region’s tourism mix, all expressed grave concerns about the proposal to build new lifts inside the park. Mountain guide pointed out in detail where the five new lifts will cut through the national park. As proposed, they would be clearly visible from the park’s headquarters, would cut through wide swaths of trees, and would go through enormously steep terrains, some of which both he and Arthur De Jong concluded are ill-suited for skiing. Park Director Pajovic said categorically no new lifts should be built in the park. He told us, “To be built, they would have to cut trees and this would have a negative impact on flora and fauna and would totally change the structure of the park.” The Director explained that he has stopped all cutting of wood in the park – something that was done in the past in order to generate revenue for the park.

Those interviewed stressed that before any new investment into ski lifts, the government needs to address the problem of snow removal from the roads. There is at present no international airport in the region and, given the winds, it appears unlikely one could be built to operate in the winter season. Therefore, a good road connection
from the international airport in Podgorica is vital. While road access to the region has improved, virtually everyone interviewed complained about the government’s failure to rapidly and reliably remove snow from the roads. They reported that the region was blocked off and inaccessible for nearly two months last winter. This severely hurt winter tourism and several hoteliers and tour operators said they could not afford another similarly disastrous season. For instance, owner of small hotel, a new, very attractive, small (22 room) hotel in the center of Zabljak, said, “The government needs to clear the roads every day in the winter and clear the trails so that the two lifts can operate.” He added, Last winter we were cut off for two months. One more winter like that and we will be ruined.”

Those interviewed listed a variety of other winter sports that could be promoted at far less cost than building ski lifts. These include cross country skiing, snow shoeing, snowmobiling (outside the park), tobogganing, horse sledding, and snow tubing. In addition, they endorsed the development of indoors activities that can serve both summer and winter tourists. These include conference facilities, health spas and wellness centers, saunas, yoga, and kitchens featuring local and organic cuisine, as well as specialty classes and workshops in local cuisine, herbal remedies, and local folklore and cultural traditions.

In terms of where the Ministry of Tourism stands on moving ahead with ski resort tourism, advisor Wieland stated that no investors have yet been found for the five new lifts proposed to be built inside Durmitor National Park, and that realistically, new lifts are unlikely to be built over the next decade. This is encouraging and should provide sufficient time, as DeJong’s report outlines, to thoroughly assess the capacity of this region for ski tourism.


Summer tourism around Zabljak – in fact tourism during all seasons – has two major assets. One is the World Heritage Site of Durmitor National Park. This should be the centerpiece of any tourism development and marketing strategy. The park’s World Heritage Site designation should be displayed prominently at the park entrance (it is currently not), in all literature and brochures, and on the park, local NGO, and commercial websites. This should be put forward as the area’s main draw, together with the Tara River. It is around this rich and unique park that this area’s international reputation for outstanding nature-based and agritourism can be built.

Hand-in-hand with prominent marketing of the park there needs to be an unyielding resolve to physically protect the park from destructive types of tourism and other economic activities. This is the stated mission of the park director, but his policies are being violated by illegal logging (something we personally witnessed as we came across a group of loggers) as well as by the proposed new ski lifts inside the park.

The second major asset is the tourism tradition and local expertise in the Zabljak-Durmitor region. Tourism has long been the dominant economic activity. Virtually all
those interviewed have been in tourism for many decades, and they fondly recall the era prior to 1990, when tourism in Zabljak was booming with visitors from many countries, including England, Japan, Belgium, Germany, and Denmark. They said that Zabljak was the tourism hub in the region and, typically, summer tourists would spend 7 days in the mountains and 7 days on the coast.

Those interviewed in Zabljak also recall with deep sorrow the hardships of the war years beginning in the early 1990s, and are cautiously optimistic that, with both peace and tourism currently growing, they have turned the corner. (There is obviously some considerable uncertainty about the upcoming referendum on Montenegro’s independence from Serbia and what political and economic impacts that may have. There is also concern about the continuing instability in neighboring Kosovo.)

We were impressed both with the level of skills of these older tourism professionals, as well as their ingenuity and creativity in the face of hardships. Owner of a local tour agency, told of how in the mid-1990s, she persuaded people to begin renting rooms in their houses to local and Slovenian tourists who were visiting the area. She did so both, because there were not enough hotel rooms and because she saw this as a way for her neighbors to earn much needed cash. This practice has grown today into a thriving but fairly chaotic network of local houses and rooms that are rented via websites and word of mouth. Marketing could be improved (as mentioned below) through well organized and attractive websites.

At present there are somewhere between 800 – 1500 beds available in houses in the Zabljak area—surpassing the number of beds available at existing hotels. The numbers of vacation homes and B&Bs are growing rapidly with much new construction underway. Typically, these rental properties do not offer meals. However, there appears to be a strong potential for offering local cuisine, either at independent restaurants or as part of home-stays, home-rentals, and more organized agritourism. Given that local cuisine is both interesting and in practice (rather than intentionally) organic, the Zabljak area could more actively market itself as part of the “slow food” movement and that at least some of the guest houses provide meals featuring local cuisine.

Together with an official from the NGO MOST, we visited one traditional A-frame home where a woman served us a wonderful meal, all from her local garden and farm. There is need to encourage these practices, and for the government, industry associations, and NGOs to collaborate in setting standards to ensure good zoning, quality of service, and sustainable construction and operations. While the star system for rating quality and price is widely used, there is a need to develop a certification program to measure the social, environmental and economic impacts of accommodations, as originally recommended in the Strategic Framework.

Most of the region’s 750 hotel beds are in the older, government-built hotels that are slowly being sold off and (hopefully) refurbished. However, the pace of hotel privatization has been much slower than along the coast. Instead, the most dynamic growth is in vacation homes and small hotels such as the MB Hotel. According to the Ministry of Tourism, there are at present about 75 small hotels (7-20 rooms) in the country. We saw several very attractive operations along the coast (Dvori Balsica in
Ulcinj, for instance), as well as former embassies and government buildings in Cetinje that would make very handsome small hotels. We agree with the assessment of a number of those we interviewed that the future of sustainable tourism is in small, boutique hotels, in vacation homes, and in agritourism and rural home stays.

For the tourist, those interviewed said that summer tourism offers better possibilities than winter tourism. “While we won’t close our doors during the winter, this whole area needs to focus on summer tourism,” said owner of the small hotel from Zabljak. He and others ticked off a long list of reasons: the summer season is longer and sunnier than the winter one; its easier, cheaper, and safer to get to Zabljak-Durmitor by road, more tourists already come during the summer, and they include more foreigners (from Israel, New Zealand, U.S., France, Germany, England, Russia). In contrast, tourism in the winter is largely local, and about half are families.

Today, the Zabljak-Durmitor region feels like a region on the cusp of expansion: new vacation and rental homes are going up across the mountainsides, international tourists are already coming from a variety of countries (Israel, Ireland, UK, Italy, Germany, Russia), the UNDP’s sponsored sustainable tourism festival was enormously popular, the government’s campaign to promote Montenegro cuisine in hotels is very successful, and in just one season, river rafting and, to a lesser extent, fishing on the Tara River, expanded rapidly. According to a draft study (“An Economic Evaluation of the Tara River,” September 2005) for WWF’s Mediterranean Program, tourist activities on the Tara River had so far brought in about €800,000 in 2005, making it “the best year for the last 20 years.” In addition, study rightfully concludes that “there is one more component of indirect economic impact which is not easy to demonstrate. It is the positive impressions that tourists take away with them, the guarantee that those people will return to Tara in the future and that they will share with their friends so that it become the best marketing for tourism in Tara and for rafting and fishing activities.”

We believe the example of river rafting, which received support form the UNDP, local NGOs and the private sector, holds promise in terms of how other sectors of mountain tourism can be grown. We believe focus should be made, in particular, on various other activities within Durmitor Park (hiking, fishing, bird watching, animal viewing), on agritourism (combining home and farm stays with local cuisine), and on wellness and health activities, which can take place in summer and winter. While we did not access the cultural offerings first hand, many of those interviewed talked of the potentials for combining nature and agritourism with visits to monasteries and historic towns in the region – activities that seem to have much potential.

3. Assessing Implementation of the Strategic Framework

Unlike the Program for Development, the Strategic Framework continues to offer a road map for sustainable development in central and northern Montenegro and therefore it is important to assess progress in its implementation. The Strategic Framework lists the following “action plans” that are needed in order to develop sustainable tourism in Montenegro:
The Strategic Framework states that Montenegro’s sustainable tourism “cluster” (i.e. and most importantly, the businesses currently or potentially pursuing sustainable tourism) must develop a collective set of common goals for how to move from the current market centered on low paying domestic and regional tourists to a higher end European and North American market.

In my observations, this effort has begun but much remains to be done. There are the beginnings for the formation of some tourism associations, which is being assisted by USAID projects (Booz Allen Hamilton along the coast and CHF in the north). In addition, private hotel owners in Zabljak have a new association (4 members). There is a Hotel and Restaurant Association and Small Hotels Association (34 members), as well as a regional organization, the Balkans Alliances of Hotel Associations. All of these appear largely focused on common marketing initiatives. While important, this is distinct from developing a collective sense of common goals around sustainable tourism.

TIES, as the umbrella organization of some 30 – 40 nationally and regionally based ecotourism associations around the world, is actively involved in helping to create and strengthen associations to promote the principles and practices of sustainable tourism. It would appear that Montenegro could benefit from the creation of such an organization, or at least in the articulation and incorporation within existing associations of a set of core principles on environmental, socio-cultural, and economic sustainability. The two most promising organizations would appear to be the new hotel association in Zabljak and the Small Hotels Association, both of which could benefit from assistance in developing a better understanding of sustainable use of natural resources, of the capacity and skill needs for implementation, and how to build sustainability into marketing strategies.

In addition, NGOs such as MOST can be useful in helping to organize, professionalize, and set sustainability criteria for the growing number of private homes and small farms that are moving into tourism.

The Strategic Framework calls for the development of sustainable tourism certification, especially for hotels, as a way to set standards within the industry and set Montenegro apart from the competition.

Montenegro is using the star system for rating accommodations based on quality, service and price. However, to date, the only concrete action adopting sustainable tourism certification programs designed to measure social, environmental and economic impacts appears to have been the certification of several beaches under the highly reputable Blue Flag program which examines water quality and safety issues, among other criteria. In addition, Ministry of Tourism officials say they want to certify marinas next, also as part of the Blue Flag program. This is a sensible first step since Blue Flag is a well established program and beach cleanliness and safety are vital to tourism. However, these government plans for certification only affect the coast, leaving the Northern and Central region untouched, as well as Lake Skadar National Park and potentially important tourism towns such as Cetinje and Podgorica.

A broad range of Montenegro “stakeholders,” from government and parks officials to
industry officials and NGOs, view tourism certification as beneficial and necessary. Many also warn, however, that it is vital that certification take into account the realities of small and often economically weak businesses, many of which are only now moving into tourism.

As Montenegro contemplates its next steps in certification, it is important to recognize that certification is not only a tool for ensuring sustainable practices and awarding exemplary companies, but it also provides a set of “best practices” that can be useful in improving performance of smaller or newer companies even if they do not formally seek certification. There are many experts and programs that can be helpful. In Latin America, for instance, TIES is part of a large project in five countries that is specifically aimed at developing national certification programs for accommodations and other sectors, and using these programs to improve the quality and environmental and social sustainability of small scale tourism businesses. Both Costa Rica’s Certificate for Sustainable Tourism (CST) and the newer International Ecotourism Standard (IES), developed by Green Globe and Ecotourism Australia are suitable models for smaller businesses, such as many of those in Montenegro.

“Green” tourism certification is most advanced in Europe. There are a several dozen sustainable tourism certification programs in Europe for accommodations, camping, B&Bs and agritourism, including Nature’s Best in Sweden and the Green Tourism Business Scheme in Scotland. In addition, the PanParks certification program for national parks and surrounding “gateway” communities may prove useful to Montenegro. Because of Montenegro’s geographical location and its target market, it seems critical that the country integrate certification into its sustainable tourism strategy.

- The Strategic Framework also proposes several steps for how to implement the goal of “unleashing entrepreneurship” and “making business work for the poor.” These include reform of the law and legal framework and removal of development barriers, cooperation between the public and private sectors, and the implementation of pilot business model/“lighthouse.”

In terms of moving this recommendation forward, UNDP has undertaken a number of steps under the umbrella of “unleashing entrepreneurship.” These include the training of 6 naturalist guides in Zabljak, organizing a highly successful sustainable tourism festival (“Durmitor – Just for You”) in Zabljak last summer, putting new sign boards in Durmitor National Park, and assisting with the development of regulations for the rapidly expanding rafting on the Tara River, among other initiatives. Those interviewed stated that these have been very positive and helpful programs, and that more such concrete, project oriented assistance would be welcome.

In terms of public/private collaboration, one of the most successful developments appears to have been the initiative by the Ministry of Tourism and hotels across the country to promote local cuisine, much of which is organic (in practice, not yet officially certified). This campaign has involved hotels throughout the country and has included the publication of attractive signs and brochures listing participating hotels. This represents not only a worthwhile project in its own right, but also an excellent building block for developing and promoting organic farm and winery tours, homestays on
family farms, tourism festivals promoting local cuisine, and development of organic foods (including herbs, honey, and wines) for the tourism and export markets.

As mentioned above, the Ministry of Tourism’s sell off of state-owned tourism businesses has been less successful in the central and northern region. Designated as a top priority, this is happening most rapidly and systematically along the coast, accompanied by a boom in land speculation for both new hotels and private vacation homes. While a few state-owned properties in the north (such as the Jezera Hotel, ski lift and restaurant in Zabljak) have been sold, much remains in state hands and it is unclear how systematically private investors are being sought. There is, however, a growth of uncontrolled and ill-planned building of private homes in Zabljak and around Durmitor. One of the perhaps unintended but unfortunate consequences of the Tourism Ministry’s proposal to expand ski lifts and resorts in this area has been heightened land sales, new home construction, and speculation in the Zabljak-Durmitor area. A stronger legal framework for land sales and construction of vacation homes and B&Bs, is urgently needed.

While there are now several quasi “boutique” hotels built or renovated by private owners (including the attractive 3 star MB Hotel in the center of Zabljak), there is as yet no true icon hotel that puts into practice the principles of sustainable design and operations. As has been demonstrated elsewhere (Lapa Rios in Costa Rica, Ranweli in Sri Lanka, Maho Bay/Harmony in St. John, Tiamo in the Bahamas), this sort of showcase project could help put Montenegro on the international sustainable tourism map. While there are now a number of luxury hotels under construction or renovation, none incorporates sustainable architectural design and operations. Based on interviews and my own observations, this type of icon project needs a spectacular natural setting (something the urban MB Hotel does not have) and latest techniques in innovative “green” design that incorporate local styles and materials with renewable and local impact materials and techniques. I feel there is an urgent need and ready market for an ecolodge that includes both a wellness and fitness center (yoga, herbal medicines, etc), organic cuisine in its kitchen and in demonstration classes, and perhaps a facility for international conferences. This resort could serve as a hub for nature-based activities as well as trips to farms, wineries, and monasteries and other cultural sites in the area.

One observation is that Montenegro does not seem to have many traditional handicrafts that would be of interest to international visitors. But these may reemerge or develop as tourism increases. This is what has happened in Costa Rica where, 20 years ago, there was a dearth of quality handicrafts, but the rise of ecotourism has led to an explosion of artisanship, which is today producing a creative range of products based on nature, sustainable use of resources, and local customs and traditions. One of Costa Rica’s most famous artisan cooperatives, a woman’s cooperative in Monteverde, has been greatly assisted by several international experts who helped to raise the quality and variety of handicrafts and assist with international marketing. As artisanship expands in Montenegro it is important, as well, to link it in to the principles and best practices of Fair Trade which ensures artisans get a fair price for their work. The Fair Trade movement today is very strong in Europe, growing in North America, and increasingly in demand by customers when they purchase artisan and agriculture products.
The above points represent some of the recommendations for how to move forward with the implementation of the Strategic Framework for Development of Sustainable Tourism in Northern & Central Montenegro. In addition to these areas, which relate directly to the recommendations in the Strategic Framework, there are a number of other areas where assistance and international expertise could be very useful. Let me name just a few priorities where it seems to me both RBF and UNDP could play a constructive role.

• **Development of new areas for summer and winter tourism in the north:** As mentioned earlier, rafting has taken off in just one season of promotion and this serves as an indication of the potential for developing other types of nature-based activities that fit the European and North American demands for sustainable tourism. These include bird watching in Durmitor, animal ‘safaris’ (more research is needed to determine how viable this is in Durmitor national park), fly fishing on the Tara River (probably catch and release trout fishing), mountain biking (this is somewhat developed but needs better organization, promotion and safety procedures) as well as climbing (also very much dependent on safety, modern and efficient rescue service that now does not exist), and, as mentioned above, organic, agri and culinary tourism, and wellness and fitness tours (which will capitalize on the beauty around Durmitor but will need more infrastructure).

• **Developing tourism circuits:** In addition to expanding the range of activities, there is great potential to more aggressively link tourism in the Zabljak-Durmitor area to the coast, Lake Skadar, the former capital Cetinje, and Podgorica. Increasingly, tour buses from Dubrovnik are overnighting in Montenegro, and this can be encouraged by the development of circuits that include a range of nature-based and cultural activities.

• **Promotion of tours to European and North American markets.** While CHF is putting together some tours within Montenegro and working on a website (not yet online), there is a need to begin to bring in foreign tour operators, potential investors, the media, and others who can help to increase sustainable tourism to Montenegro. This needs to be done with carefully crafted and well organized tours, but I believe that TIES could play a constructive role in working with RBF, UNDP, CHF and others to link key foreign firms with the trips and sustainable tourism circuits being developed in Montenegro.

• **Assisting the national parks** including the critical discussion of the need for improved visitor centers (an impressive center is now being developed at Lake Skadar), printed materials, a better website, improved sustainable tourism offerings, and higher fees for foreign visitors. This latter strategy seems crucial to raising more funds for the parks. According to Durmitor Director Pojovic, last year, 60% of visitors to the Durmitor park were foreigners, mostly from Slovenia, Germany, Russia, Israel, Italy, and Bosnia, and 40% were nationals from Montenegro or Serbia. At present both locals and foreigners pay only €1 to visit any of Montenegro’s four national parks and the Ministry of Tourism has been reluctant to charge more. However, around the world, national parks have, over the last 15 years, increased their income by setting up tiered entrance fee systems, which rightly charge foreigners more than nationals. While tour operators and
others typically oppose such increases (in part because their profits often come from charging foreigners package rates for trips to parks which bury the true entrance fee), foreign visitors rarely balk at paying somewhat higher rates. It is vital, however, that this be coupled with improved services in the parks as well as the ability of the park to control and monitor visitors flow. At present because of the “open” nature Durmitor National Park is experiencing difficulty in ability to charge entrance fees as there are numerous entrances to the Park and Park has no capacity all means to control them.

Similarly, it is recommended that the parks system develop a comprehensive policy for concessions. According to Director Pojovic, Durmitor currently receives nothing for the Savin Kuk lift which is located within the park’s boundaries. At Lake Skadar, the park receives only €400/year from the popular, privately owned Pelican restaurant on the banks of the lake. Both these operations could be providing more revenue to the park, and the parks could play a constructive role in setting standards for concessions. Again, this is where certification could be useful. As mentioned above, we would recommend that the sustainable slopes criteria, as described in Section 4, be used to set standards for any upgrading and expansion of ski tourism in northern and central Montenegro. In particular, the park should set standards and should only issue concession licenses if the criteria are met. In Australia, for instance, the Great Barrier Reef National Park gives 15 year operating licenses to boats certified under the Eco Certification program, while non-certified boats get only a 2 year license. While ‘green’ certification is voluntary, the granting of longer licenses has proved to be a strong incentive for companies to become certified.

The Director of Skadar Lake National Park, Zoran Mrdak, is particularly dynamic, entrepreneurial, and committed to ecotourism. He has moved forward to register all private boats operating on the lake, crack down on illegal fishing and land speculation, construct a new restaurant, wine cellar, visitors center, and souvenir shop at the park headquarters, to develop (with USAID assistance) bird watching, and to promote school visits to the lake. Most of the lake’s 20,000 visitors come on day trips from the coast, but it would seem very possible to build circuits that go from the coast to Lake Skadar and possibly Cetinje, and then to the Zabljak-Durmitor region. We would recommend more efforts be made to build nature-based tourism circuits that include both the Skadar and Durmitor parks.

- **Website development:** At present, a good website is absolutely crucial to successful tourism marketing. While CHF is involved in this area, there is a great need for at least one high quality, English language website that markets nature-based and sustainable tourism in Montenegro. The NGO MOST, a leading organization in the Durmitor area, has the beginnings of an excellent website, but it suffers from poor translation and a limited number of pages in English, as well as a lack of clarity in terms of its messages. Since MOST is beginning to market tourism, particularly agritourism, it is important that this website be improved. It should include information on the country’s sustainable tourism commitment and strategy but be very “user friendly” in terms of listing activities and accommodations, with prices and booking information. It should include some packages involving the coast and northern region, as well as a mix of active adventure tourism, soft adventure, health and wellness, and agritourism. It could also serve as a website for promoting Durmitor area tour operators and guides, none of whom have their own websites.
• **Strengthening university programs and distance learning:** It is promising that both at the national university and in one of the new private universities, there is an interest in teaching sustainable tourism and ecotourism principles and practices. Through Dr. Don Hawkins and George Washington University (GWU), the UNDP is beginning to help Montenegro to strengthen these programs. In cooperation with the Ministry of tourism UNDP is supporting implementation of GWU consulting practicum through which 16 students from GWU and 6 students from 2 tourism universities in Montenegro will work for two weeks on sustainable destination management issues in Durmitor area. TIES, together with George Washington University, offers a series of distance learning courses in about a dozen different sustainable tourism topics, (See [http://www.ecotourism.org/index2.php?training](http://www.ecotourism.org/index2.php?training)) and a Sustainable Tourism Certificate for those who complete six courses. TIES network includes many university faculty and international consultants who have led sustainable tourism workshops around the world. It may be worthwhile having further discussions with Montenegro universities to see where outside expertise in curriculum development and delivery would be most beneficial.

The preceding section outlines the main observations and conclusions, which are based on the October tour, interviews with key government, NGO and private sector officials, and a review of the studies done on tourism in Montenegro. This report is complemented by the following two sections on ski tourism. I welcome the opportunity to discuss this report in more detail, including how I and other TIES experts can continue to play a role in building sustainable tourism in central and northern Montenegro.
About TIES

The International Ecotourism Society (TIES) is the world’s oldest and largest ecotourism organization, with members in over 80 countries. TIES, with offices in Washington, DC, Costa Rica and Australia, serves as an umbrella organization for some three dozen national, sub-national and regional ecotourism associations around the world. TIES provides guidelines and standards, training, technical assistance, research, and publications to foster sound ecotourism and sustainable tourism development. TIES is commitment to promoting ecotourism as a tool for biodiversity conservation and poverty reduction, as well as to working to reform the wider tourism industry. TIES recognizes that curbing environmentally and socially destructive practices of the mass tourism industry is vital. Tourism one of the world’s largest industries, the world’s largest employer (employing one in eleven persons globally), and the largest and fastest growing foreign exchange earner in many developing countries.

About the Author

Martha Honey is Executive Director of TIES and Center for Ecotourism and Sustainable Development (a joint project of the Institute for Policy Studies and Stanford University). She has written and lectured widely on ecotourism as a tool for development and conservation and on certification, including Ecotourism and Certification: Setting Standards in Practice (2002), Ecotourism and Sustainable Development: Who Owns Paradise? (1999), and Protecting Paradise: Certification Programs for Sustainable Tourism and Ecotourism (2001, with Abigail Rome). In 2000, she organized the first ever-international conference on “green” tourism certification that took place at the Mohonk Mountain House in New York. For twenty years she worked as journalist, based first in Tanzania and then in Costa Rica. She holds a Ph.D. in African History from the University of Dar es Salaam, Tanzania, and is a Fellow at the Institute for Policy Studies.
THE VIABILITY OF SKI AREA DEVELOPMENT IN THE ZABLJAK-DURMITOR REGION

Presented by Arthur DeJong
Development and Environment Resource Manager
for Whistler Blackcomb Mountain Resort in British Columbia Canada

Whistler Blackcomb is one of the three largest ski resorts in the world hosting over
two million skier visits annually and is a venue city for the 2010 Olympic and Paralympic Games. I have worked for the resort for more than 25 years and continue to travel extensively throughout the world consulting on ski resort development. References in this report are made to Whistler Blackcomb and other ski regions as they share much of the same challenges and opportunities. In this report, when I refer to skiing it also includes snowboarding.

From October 5 to 10, 2005 I had the opportunity to visit the Zabljak-Durmitor region of Montenegro to investigate the potential for further ski area development. My time was spent meeting local experts on tourism and ground truthing existing and potential future ski lift development locations. My observations are first and foremost based on what I learned from listening to the local experts.

Very limited documentation was available on current and planned facilities for skiing. The only ski area expansion plans available were found in the *Program for Development of Mountain Tourism in Montenegro* by the International Institute for Tourism, Ljubljana. **A fundamental weakness in the report is the proposal for ski expansion specifically in the Durmitor area.** For example, on page 147 a chart shows the assessment of ski area potential close to Zabljak-Durmitor to support a skier capacity of nearly 19,000. This should be expressed as a concept only. **The current capacity of the area is less than 10% of the expressed potential. Such significant expansion needs in-depth analysis that is articulated into a Master Plan which then validates what is practically possible for development.**

To reach a capacity of 19,000 (or even a fraction thereof) is a significant capital investment. Facilities required to support such a number (i.e. hotels, restaurants, base facilities, lifts, roads, water, sewer treatment, etc.) will cost hundreds of millions of dollars. Such large scale capital development requires extensive ski area planning. Not only would poor planning be costly, but alternative land use may be jeopardized after a ski area is created. **The *Program for Development of Mountain Tourism* report does not acknowledge that a high level of ski area planning in the form of a Master Plan is required to verify ski area development viability in the Zabljak-Durmitor Region.**

**>> Ski Area Planning**

**Effective ski area planning** should ensure the creation of innovative and well balanced ski area developments that take into account the physical capacities of the land to support skiing, followed by an understanding of the impact (environment, social and economic) such a development might have. As such, the planning process of a ski area moves through a sequence of events beginning with the Vision (expression of interest); followed by the generation of the Concept (the proposal); culminating in the creation of a Master Plan.

Master plans encourage and foster well balanced, environmentally sensitive ski area development that responds to the needs and expectations of the skier market while
having a positive social and economic impact on the local community and state. Ski area Master Plans provide the necessary detail to determine and illustrate development potential, leading to the creation of appropriate plans and proposed actions that should result in the establishment of a successful ski area.

Throughout, an emphasis is placed on the necessity to recognize that to maintain a sustained high level of environmental quality while offering dynamic resort experience, any prospective ski area development site has maximum capacities and absolute limits to growth. These capacities must be calculated and respected. The Ljubljana report needs to recognize this.

Understanding the capacity of the land to accommodate a ski area, in terms of the development goals and objectives, is the cornerstone of developing a Master Plan. All the various capacities of a prospective ski area development need to be brought into balance including defining the physical limits to growth. Physical limits to growth include reliability of snowfall and maximum terrain available for skiing. This then becomes the baseline to establishing a phased development process that in turn enables the determination of the capacity for the skier market to support the development in light of distances to market and competition. Subsequently, the economic feasibility of the ski area development can be initiated and development impact analyses (environmental, economic, social and competitive) can be completed. The results of the impact analyses are the basis for refinements to the plans and ultimately to the economic and financial feasibility studies of the proposed ski area development.

At each of these stages, as the level of detail increases, the act of planning a successful ski area must result in the positive response to the following four questions.

1) **Physical Reality**: Does the proposed development or expansion area have the physical capability and climatic conditions to support the development of a ski resort?

2) **Environmental Reality**: Can a ski area be developed within the study area in an environmentally sustainable and responsible manner?

3) **Social Reality**: Should a ski area be established in light of the existing development, community needs, alternative proposals, and competing facilities?

4) **Economic Reality**: Does it make sense to develop the ski area in light of capital costs and the ability of the market to support such development?
1) PHYSICAL REALITY

Does the proposed development or expansion area have the physical capability and climatic conditions to support the development of a ski resort?

This is the fundamental question for determining the viability of ski area development which will reveal the full potential of the proposed ski area. This includes ensuring there is enough acreage and variety of slopes to meet the market needs of beginners to experts and that sufficient land is preserved to provide for the necessary support facilities (arrival roads, skier drop off zones, walking distances, base lodges and village development).

In the *Program for Development of Mountain Tourism* report there are three proposed lift locations at Zabljak-Durmitor (page146; lifts 2, 3 and 4). Upon further investigation during my visit, it was apparent that the terrain these proposed lifts were intended to service is not suitable for skiing. The terrain that these lifts would access is either too steep or too flat. It was confirmed by a local expert that this terrain is likely no more than 10% skiable.

In many cases throughout the ski industry, lifts are developed to act as transportation to lifts where snow and terrain are available. This is common in Europe where village elevations are too low for snow. I investigated the possibility of similar lifts for this area; however the physical limitation would make the lift development plan uneconomical. In North American ski resorts, the economic rule is to use the fewest lifts possible to access the greatest amount of terrain for skiing. To be efficient, the terrain accessible from a chair lift must be at least 50% skiable terrain.

Not only are lifts 2,3 and 4 placed inefficiently, they are also positioned in the gateway to Dumitor Park. These lifts and associated tree removal would visually scar the park, diminishing it as a protected wilderness and endangering it as a World Heritage Site.

The terrain investigation included both the operating ski area (Savin Kuk) and the closed facilities (Stuoc) at Zabljak-Durmitor. At the closed facility an unusual discovery was made – although two fixed grip chair lifts were built, the terrain which the chairs service was not shaped or recontoured for skiing. In all my travels throughout American, Northern and Eastern European ski areas I have never seen this. Ski trails need to be smoothed out with earth moving equipment so they can open with the least amount of snow possible. They must also cut into the fall line (as opposed to side hill) of the slope which creates a natural flow for moving down the slope on skis.

This symptom of limited planning and knowledge of ski area development leads to economic consequences. If a lift investment is made the terrain that it services must be developed to ensure the ski experience is optimized. Terrain development often only costs a fraction of a ski lift. The developed terrain should also match the capacity of the lift. The lifts currently being used in winter operation at the Savin Kuk area did have well groomed slopes that appeared to match the lift capacity.

**Stuoc, because of the poor condition of its lifts, low elevation, southern aspect, challenges with private property and no trail development likely cannot succeed**
in reopening. From a manpower perspective, it is inefficient to operate two small areas in the same community because of duplications of management and labour.

Another physical reality and the greatest threat in the ski industry today is climate change. This is probably best illustrated by some European banks not providing loans to ski areas that operate below 1400 meters. North American ski areas are also under threat of climate change. American destination ski resorts have invested significant capital to compete in the international market place and are having to invest even more to adapt to and mitigate climate change.

The Whistler Blackcomb ski resort has invested over 200 million dollars in on-mountain ski facilities and village real estate values are in the several billion dollar range. Climate change is threatening this investment. Climate change has been a reality for Whistler and the global industry for some time. The Whistler area is surrounded by glaciers which have been receding for over one hundred years. Glaciers are the most sensitive ecosystem to temperature change and in effect are nature’s thermometer. Glacier recession is so vivid in our area that any lingering doubt about climate change is erased.

An important question during the 1990s was whether global warming could be attributed to human activities or natural variability, such as sun-spots and volcanic activity. The UNEP and the Intergovernmental Panel on Climate Change (IPCC) has established itself as the most authoritative source of information on climate change. Drawing on a network of hundreds of experts around the world, the panel engages in a meticulous process of collecting, synthesizing, and peer reviewing an enormous body of literature spanning dozens of fields that relate to climate change. In each of three IPCC assessment reports (released in 1990, 1995, and 2001), the mandate has been to assess available scientific information on climate change, its potential impacts, and possible response strategies. The first two assessments provided the basis for negotiating the 1992 Rio Treaty and the 1997 Kyoto protocol. The finding of the third assessment report has set the stage for the most current round of climate negotiations. This report notes that “an increasing body of observations gives a collective picture of a warming world and other changes in the climate system” including widespread decreases in snow cover and ice extent in the Polar regions. The culprit primarily being fossil fuels increasing greenhouse gases.

The panel concluded that the 1990s were likely the warmest decade and 1998 the warmest year since instrument record taking began in the 1860s. In Whistler this is taken very seriously. Programs are in place to both adapt and mitigate climate change. Conservation methods to lower the use of fossil fuels and electricity are the most immediate opportunity to mitigation. Pursing renewable energy generation such as wind and micro hydro are longer term steps. However the reality for ski areas is the need to adapt to operating on less reliability and depth of snow pack.

Whistler is adapting by investing over 17 million dollars in snowmaking over the next five years. Heavy earth moving equipment is being used to make the ski trails flatter, allowing us to open with less snow. Aggressive revegetation prescriptions are being applied to provide a thick blanket of grass between the earth and snow to reduce not
just erosion but also the melting effect of ground temperature. Master Plans are being changed to recon?gure ski lift systems higher where the snow level is more reliable. Land negotiations and exchanges have been made with the provincial government to secure high elevation terrain within the ski area. Whistler has over 7000 hectares of terrain with over 40% above 1800 meters. Our climate models indicate that in order to sustain the resort as a successful ski area into the mid century almost all our future skiing will be developed above 1800 meters. Massive snowmaking infrastructure is being put in place to supplement skiing below 1800 meters.

Knowing what we know now about climate change, we would not make the large investment again in skiing. We would be far more diversified with greater focus on summer experiences as opposed to snow sports. Summer experiences like hiking, mountain biking, and ecotourism activities require far less capital investment and are not necessarily vulnerable to climate change. In fact, climate change would likely be a benefit to almost all alpine non winter activities.

It is imperative that before any significant capital is dedicated to ski development in the Zabljak-Durmitor region in-depth studies are completed on the current and future reliability of snow. Although the Durmitor region is not below 1400 meters, it appears to have little terrain above 1800 meters that is suitable for skiing. It would be considered a mid-elevation ski zone and consequently has the potential to be negatively affected by climate change.

Alternatively not every area in the world will be warmer as a result of global warming. Weather studies need to be made in the region to determine what the local trends are. If local glaciations indicate a retreating snow pack, it is safe to say that the local climate is following the global trend.

Snowmaking is now considered essential for ski area development. Even in a favorable high elevation climate, snow may not arrive on time for a ski area to be competitive in a regional or destination market. Installing snowmaking is like purchasing the necessary insurance for many millions of dollars required to build lifts, lodges, ski trails and other ski area infrastructure. One of the greatest challenges for ski resorts is the fact that the busiest and most profitable time is at Christmas, which is relatively early in the ski season. I have experienced that the snow pack can be minimal until January which can financially punish a ski area unless its snowmaking system is adequate.

Intrawest (parent company of Whistler Blackcomb and largest mountain resort developer in the world) will not consider any new ski area development without the reliability of enough water resources to fill an adequately sized snowmaking system. This has become a stumbling block for the potential of Intrawest developing skiing in China. China, with over a quarter of the world’s population, only has about 7% of the world’s fresh water. Climate change rears its ugly head once again as it is depleting water sources, and this must be carefully quantified to determine the long term availability for a ski resort operation. If ski development is to be pursued in the Durmitor region, water resources need to be verified along with all the necessary environmental impact assessments.
2) ENVIRONMENTAL REALITY

Can skiing be further developed within the Durmitor in an environmentally sustainable and responsible manner?

An environmental inventory of flora and fauna is first required to determine potential impacts – typically by a Biologist. We know that the Durmitor Park has animal species rare to Europe including Chamois, bear, and wolf. The park has over 172 kinds of birds including eagles, falcons, and black groube. Over 1500 types of plants have been identified among which some are rare and under protection. Because of its varied and well preserved natural and unique land forms of high peaks and canyons, endemic and rare plants and animal life, and natural springs, Durmitor has been named a National Park and World Heritage Site on the list of international nature preserves.

Having been in over 20 countries throughout Europe, this is the first ecologically rich and intact alpine ecosystem that I have experienced. This park should be protected for its ecological value alone, however there is also a profound economic argument. Sometimes the best economic choice is also the best environmental one.

There are many destination, regional, and local ski areas spread throughout Europe. Why would a region like Durmitor spend significant capital in ski development in an attempt to compete in a highly competitive no growth industry when it has attractions that no other tourism competitors have? Protected raw nature appeals to a much larger market than skiing ever will. Europe is an aging society which is not good news for the ski industry as people ski less as they get older. Inversely, as people age their interest in nature based or ecotourism forms of activity increases.

The market reality is that environmental protection and profitability are strongly interdependent. Ski area development should not conflict with this. Ski area development in the region can negatively affect the ecological integrity of the Durmitor Park nature preserve and surrounding region. This would only reduce the appeal and consequently its growth and profitability as a center for mountain tourism.
3) SOCIAL REALITY

Should a ski area be established in light of the existing development, community needs, alternative proposals, and competing facilities?

Local community members were all outspoken about the lack of reliable highway services and road closures during the winter months causing winter tourism to be unreliable. A severe snowstorm closed the region for weeks last winter reiterating that highway access is the Achilles heel of winter tourism in Zabljak-Durmitor. All the locals we interviewed were somewhat perplexed about any plans for ski area expansion without addressing the road access issue first.

Community members were very supportive of pursuing alternative winter sports to alpine skiing such as further development of the cross country (nordic) skiing conducive topography, ice skating, snowshoeing, and building a tube park as a feature attraction for families.

Smaller ski areas in North America are finding that tube parks are much less costly to develop than a ski experience and far more profitable. Unlike skiing the guest using the tube park does not need to go through the costly and timely process of buying equipment and taking lessons. Tube parks provide immediate gratification for guests and are particularly popular with children. Our market research in Whistler shows that children would often prefer to go tubing as opposed to skiing.

The Durmitor community is in support of skiing as it is part of the attraction to rebuild tourism in the region. However, the local consensus was that summer tourism is the main driver for rebuilding the economy. Montenegro and neighboring Dubrovnik host a considerable amount of tourists during spring, summer and fall looking for daily excursions to regions like Durmitor. This could be directly related to the highways reliability during these months.

The consensus was that the development of winter activities should complement summer tourism but never compete or conflict with it. What this means is as non-winter tourism grows and more hotel beds are built, winter activities need to be developed to keep the occupancy at viable levels without affecting what brings tourists to Durmitor during the spring, summer and fall. Durmitor Park is the main draw and the local community members were very clear that ski area development in the park would be negative overall for tourism in the park region.

We have a similar situation with Canada’s most popular National Park, Banff/Jasper. Over 5 million tourists visited the area last year. The main attraction is summer activities as winter business represents only about 15% of the overall number. The primary economic focus will always be
summer activities in this region.

**4) ECONOMIC REALITY**

Does it make sense to develop skiing in light of capital costs and the ability of the market to support such development?

The economic reality of the Zabljak-Durmitor ski areas is that it cannot compete with the destination ski market. When compared to destination resorts throughout North America and Northern Europe the following deficiencies are found: Extremely poor winter road access, no regional airport, limited quality hotel accommodations, not enough reliable high elevation terrain and snow pack, not enough suitable ski terrain for expansion to meet destination skier expectations, current ski lift systems do not meet destination expectations, and limited base area and night time facilities. The capital costs to become competitive in the destination market amount to hundreds of millions of dollars and this case, a mid elevation resort could not be competitive.

This situation is very similar to a recent project I had undertaken to evaluate the potential of ski development in Romania. Romania has a number of local and regional ski areas. They had hoped to compete in the western European market but for almost all the same reasons will not succeed. Their focus now will be to grow skiing regionally. With the economy being rebuilt, it is expected that more Romanians will be able to afford skiing. It may attract a small percentage of Hungarians who cannot afford the ski resorts of the west and also have no ski area options within their own country. Romania’s future in skiing is principally a national market and such is the case with Montenegro-Serbia.

Pursuing a “budget” destination skier is not viable as skiers are more value based than simply budget orientated when making their consumer choices. Skier expectations are established from the major destination ski areas that they have visited, consequently budget skiers tend to visit major destination resorts during discounted non holiday periods when the pricing is reduced allowing enjoyment of amenities at a fraction of the peak season prices. Skiing in general is not a budget orientated sport as the startup cost for equipment and clothing is significant. It is likely that ski areas in Montenegro will not appeal to the destination skier including the budget orientated. The extra costs of travel to Montenegro as compared to most European ski centers will immediately eliminate any savings for the skier.

With improved winter access, Durmitor can compete very successfully in the regional market. As described by a local expert, the best ski terrain and snow pack in Montenegro and Serbia is in this area. If the access issue can be resolved, a Master Plan for all winter sports should be developed. This Master Plan should not be the primary tourism development document for the region but rather flow from a larger summer tourism Master Plan that would be the overall strategy for the revitalization and growth of tourism in the region. The winter plan would then be designed to compliment and not compete with summer development; striving to keep local employment and hotels as active as possible allowing local economy to build vitality in the more
The region fundamentally needs higher quality three star hotels to grow tourism and these facilities cannot succeed on a three to four month busy summer period and close their doors for the remainder of the year. Such hotels must remain open with enough business to justify operations. Therefore winter sports play an essential role in tourism development. However, investments in winter sports need to be carefully calculated. Skiing facilities are likely the most expensive infrastructure in any form of recreational tourism development. In North America, ski areas can only succeed in recovering the many millions of dollars invested in ski lifts and snowmaking through the sales of expensive real estate in their base areas. Capital dollars are best spent on amenities that enhance the feature attraction of the area. The question that a tourism operator needs to ask is what is the primary attraction of the resort area that sets it apart from competitors?

>> IN SUMMARY, the high costs of ski area expansion is not economically viable in Zabljak-Durmitor. The region has very poor winter road access and no airport. The elevation is significantly vulnerable to climate change. The quality and quantity of available terrain can only compete with other ski areas in Montenegro - Serbia.

Ski area expansion would damage the natural appeal of Dumitor Park which is the main reason tourists visit the area. Protecting the park provides the best and likely only means of rebuilding and growing tourism for the local economy.
Newly installed solar photovoltaic panels at the Aspen Highlands Ski Patrol Headquarters generate power equivalent to riding a bike 1,600 kilometers daily, and keep 2,980 kilograms of carbon dioxide out of the atmosphere annually.
Introduction

The purpose of this particular chapter of the Report is to provide background for Montenegrin decision makers, now trying to determine the best, most sustainable path to economic development. In this part, authors have not tried to address the question of whether ski resorts are the most appropriate way to achieve sustainable development, bearing in mind that four-season economic development is vital to the success of local communities, and that ski resorts are likely just a part of that equation. Rather, we are simply sharing the North American (and primarily U.S.) experience with ski resort construction and operation, including successes and failures in sustainable development initiatives. We have also included some examples of environmentally sensitive innovations in ski resorts from Western Europe. Resorts in the U.S. and Canada have been struggling with the issue of ski areas sustainability for some time now, and the industry as a whole has taken steps to create an environmental framework for the industry.

Historically, U.S. ski resorts had not been widely subject to scrutiny from the government, the environmental community, or the public. Ski resorts generally exist in settings that are rural, pretty, and visibly green. Conventional wisdom was that they most likely have little impact given the lack of “in-your-face” smokestacks, waste piles, and toxic effluent. As a result, resort operators never saw their businesses as significantly damaging. In fact, a close look at ski resort operations suggests a host of major impacts: enormous energy use for lifts, snowmaking and buildings that results in significant greenhouse gas emissions; air pollution associated with snow grooming equipment, local transit and visitor travel to the resort; major impacts to waterways due to snowmaking, which extracts water when streams are low, threatening habitat. By being job centers in fancy mountain towns, ski resorts drive sprawl, since workers are forced to live miles away, where real estate is cheaper. And the above is just a cursory list. There are impacts to wildlife, water quality, habitat, and on and on.

The sustainability movement within U.S. ski resorts can be said to have begun after October 18, 1998 when an enormous fire caused $12 million worth damage at the Vail ski area in Colorado. A group called the “Earth Liberation Front” (ELF) claimed responsibility for this act of sabotage which it said was carried out “on behalf of the lynx” (a North American wildcat). Although the ELF’s action was roundly condemned by environmentalists and community leaders, it arguably served to mark a broad public environmental awakening to the environmental impacts of ski resorts in the U.S. It also sparked an awakening among many owners, managers, and employees of ski resorts that environmental issues were important to guests, the community and in particular to employees. The result was a feverish burst of activity, dialogue, and action on the

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1 Attached as an appendix is the paper “The Rough Road to Sustainability in Aspen: How Mistakes can be the Next Great Tool in Sustainable Business.” It is a rare example of shared failures—most article on sustainable business/development only cover successes. But we don’t learn from hearing about success.

2 The National Ski Areas Association Sustainable Slopes program is discussed in great detail—with references to useful resources, in Appendix A.

3 Some resorts, including Vail and Aspen, had had environmental programs in place before the fires.
subject of ski area sustainability.

In 2000, the U.S. National Ski Areas Association released its Environmental Charter for Ski Areas, which was signed by 170 resorts, or 71% of the ski areas in the United States. (See Appendix). Although the charter served mostly as a commitment and a cookbook for how to “green” a ski area, it was the first time the industry broadly acknowledged its environmental impact and pledged to take action.

At the same time that the national association was working on a greening program, a nonprofit environmental group called the Ski Areas Citizen’s Coalition\(^4\) created an environmental “report card” that graded the performance of ski resorts. Many well-loved and popular resorts got grades of D and F, and the report was covered by the \textit{New York Times} and other media. It was a black eye for the industry, and further encouragement to change.

By sharing our experience we hope Montenegro can avoid the mistakes and pitfalls we encountered, learn from our successes, and garner some insight from what we perceive to be the “best practices” available today, even if we ourselves haven’t executed those practices perfectly. In short, this paper is written with humility in the face of the enormous and challenging task at hand, and the hope that Montenegro will far surpass the best North American economic development has to offer.

The paper is divided into four sections:

**Section I** is a discussion of sustainable resorts and best practices.\(^5\)

**Section II** is a discussion of the pros and cons of new, planned ski villages versus integration of ski development into existing, traditional communities.

**Section III** asks how resort communities benefit from having a year round economy and explores the steps resorts have taken to move from winter skiing to a more diverse year-round visitor economy.

**Section IV** presents one approach to sustainable economic development, pioneered at Rocky Mountain Institute, which attempts to focus the benefits of development on the local community.

**Appendix A** contains the key sections of Sustainable Slopes’ “Voluntary Environmental Principles for Ski Area Planning, Operations and Outreach,” followed by a discussion of the National Ski Areas Association Sustainable Slopes Program. These offer a template for green development that Montenegrin resorts may wish to follow.

\(^4\) http://www.skiareacitizens.com/index.html
\(^5\) Many of our case examples come from our own business, Aspen Skiing Company, because sustainable development has been elemental to our work in the past decade. We have, however, made an effort to include a broad range of examples from elsewhere in the U.S., Europe and Canada.
I. What is a Sustainable Resort, and what is a Sustainable Economy?

The crux question of this report is: “What does a truly sustainable ski resort look like?” And just as important, what is a sustainable economy? While there may be none in the world today, there are several resorts in North America that exhibit best practices in given areas. In the following section, we’ll explore what defines a sustainable economy and resort, and look at what might define a model “green” ski resort.

What is a Sustainable Resort?  

At Aspen Skiing Company, we define sustainability as the ability to remain in business forever. An obvious requirement of that goal, then, must be stewardship of the mountain environment from which we derive our profit. But that doesn’t mean setting unrealistic goals: many definitions of sustainability insist on zero waste, and zero emissions, for example. We believe that true sustainability can be achieved while still generating some level of pollution. The planet has the capacity to accommodate some wastes, it simply can’t absorb the huge amounts we’re currently producing. This perspective, not typically fronted in the sustainability world, is important because it correctly makes sustainable development seem more achievable than it currently is perceived. In fact, once resorts have cut emissions to a sustainable level, it may then be possible to eliminate them entirely as a result of new technologies and insights. Too often, the ambitious goals of sustainability proponents destroy people’s hopes before they’ve even started a project, because it seems like an impossible task.

What then, does a sustainable resort look like? We’ll now examine components of an ideal sustainable resort. Case studies of best practices are scattered throughout this section.

Climate Change Strategy

“We are suffering badly from climate change anyway and our skiing days are numbered—only getting 50,000+ skier days a year now, when we used to have 200,000. But we have developed a year-round product and are heading steadily in the direction of sustainability and education. We’re hoping to get EMAS accredited in the next 12 months and are developing sustainability in our own operation as well as trying to educate our public.”

—Dr. Cathy Mordaunt, Ecologist, Cairn Gorm Mountain, Australia

Sustainable ski resorts must have a climate change strategy, since this issue affects the...
future of the entire industry. A comprehensive strategy must include a plan to reduce a resort's overall emissions through efficiency and renewable energy purchases and generation. It must also include broader efforts towards building national policies and programs to address climate change, because eliminating one's own (or an entire industry's) emissions won't, by itself, keep the climate stable. Equally important, resorts must have a plan for what to do when climate changes impact their resort business. Some American resorts are moving to increased snowmaking (to build snowpack during periods of cold temperature) or improved download capacity on chairlifts as a way to ski just the upper parts of a mountain when higher temperatures melt out lower slopes.

As the quote above indicates, countries are already experiencing the effects of climate change. Scottish resorts also appear to be experiencing the impacts of global warming. “Temperatures have risen to the point where artificial snow is melting faster than the snow machines can churn it out,” Bill Wright of the Cairngorms Campaign environmental group told Reuters news agency. “The Scottish skiing situation is verging on crisis,” he said. "It's hard to resist the conclusion that global warming is a factor."9

The likely future that will result from global warming only emphasizes the need for a year-round tourism economy, where what once were summer activities can increasingly provide income as winter recreation disappears. As the above quotes suggest, such change is already occurring at resorts in Scotland, which are moving away from ski-based economies. Some are successfully transitioning to non-winter sports based economies, or going out of business.10 Aspen Skiing Company, for instance, expects climate change to have profound impacts on its business in 50 years and has therefore been transitioning to a four-season economy.

Strategic planning around climate is important no matter how optimistic resort planners are. It may become impossible to finance ski resorts, regardless of actual climate change on the ground: In Switzerland, for example, “banks have stopped lending to resorts below 1,500 meters, worried that they will never get their money back.”11

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11 “Scottish Skiing Meets Global Warming.” [9]
Best Practices in Climate Protection: LeSki

England based LeSki, owner of 25 chalets and three resorts in the French Alps, has partnered with Climate Care, a nonprofit climate change advocacy organization (www.climatecare.org) to offset greenhouse gas emissions associated with travel to and from the resort for guests and staff. This program is superior to American counterparts, offered at several ski areas including Mount Hood Meadows, which offer guests the opportunity to offset their travel at a small fee. Unlike the Mt. Hood program, LeSki takes responsibility for the emissions, must pay a price out of its own pocket, ensures that the offsets happen, and doesn’t put the onus for climate protection on the guest. ¹²

Montenegro, with mountains on the order of 1,500 meters to 2,100 meters, is certain to face all of the above challenges. Yet despite the imperative to incorporate global warming strategies into ski resort planning in Montenegro, the Program for Development of Mountain Tourism in Montenegro, produced by the International Institute for Tourism in Ljubljana, ¹³ fails to even mention of climate change. This is akin to discussing the history of Montenegro without mentioning the Petrovic-Njegos family. It is, to use an American expression, the elephant in the room: hard to ignore. Fortunately, other stakeholders in the Montenegro economic development process seem to have a good understanding of this concern. ¹⁴ In summary, it would seem fool hearty to direct large quantities of investment dollars into ski resorts without careful consideration and planning.

¹² Details at: http://www.skiclub.co.uk/skiclub/news/item.asp?intCategoryID=1&intItemID=3151
Case Study: Addressing Energy Use at Aspen Skiing Company (ASC)

Climate change and energy use are essentially the same issue. Ski resorts use an enormous amount of energy. ASC, for example, which hosts 1.3 million skiers annually on four mountains and two hotels, alone uses $US 1.6 million worth of electricity annually. (That’s 81 billion kilojoules.) Most of this electricity comes from coal, and creates significant pollution, including NOx and SOx, which are precursors to acid rain and regional haze. Electricity use also contributes to greenhouse warming.

ASC’s approach to reducing the impact associated with energy use is a combination of efficiency and purchases of renewable energy. The company buys 5% of its electricity as renewable energy, paying a premium to the local utility for wind power. Efficiency projects include green building, lighting and compressor retrofits. ASC is a member of the Chicago Climate Exchange, a legally binding, voluntary emissions trading program, and has committed to reducing its emissions by 10% by 2010 based on a 1999 baseline. In addition, ASC has been involved in political advocacy, lobbying congress for a federal renewable energy bill, and helping to pass similar legislation on the state level. Political advocacy may be the most important work ASC does on climate, since if the ski industry eliminated all its emissions, ski resorts would still suffer until the rest of the world cuts emissions as well.

Green Development

Green development is an approach to construction, management, and planning that aims to reduce the impact of buildings and developments on the environment. Architect Ed Mazria estimates that almost half of all greenhouse gas emissions come from buildings. Given that climate change is the single most important long term business issue facing the ski industry, resorts should be addressing construction. If you don’t have a green building program, you aren’t a green resort, period.

Green building design has blossomed in the past two decades, and there are increasingly good books, online resources, and contractors available to help owners create model green developments. Some of the best resources are listed in the footnotes.

In general, green development takes into account issues like location, transportation,
and urban planning, as well as energy use, indoor air quality, water consumption, lifecycle environmental impact of materials used, and the long-term use of the building.

One of the most exciting developments in the green design arena in the past few years has been the creation of an internationally recognized third party certification system for green buildings. The U.S. Green Building Council’s Leadership in Energy and Environmental Design Program (LEED, for short) is the first widely recognized stamp of approval for green developers. Even one LEED building in a resort adds enormous credibility to any new project, and helps builders understand what it means to be truly green. 18

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**Best Practices: ASC Snowmass Golf Clubhouse and Condos**

In 2004, Aspen Skiing Company (ASC) completed a golf clubhouse and associated condominiums in Snowmass Village. Both structures are heated and cooled by water-source heat pumps in nearby ponds, which are used as a heat source in the winter and heat dump in the summer.

The Clubhouse achieved Leadership in Energy and Environmental Design (LEED) certification at the silver level. As of today, there are only 7 LEED certified buildings in Colorado, and only four certified at a level of Silver or higher.

The Clubhouse has also won the 2005 Renewable Energy in Buildings Awards from the Colorado Renewable Energy Society.

Other sustainable features include:

- Half the wood in the clubhouse is certified as sustainably harvested.
- Paints, sealants, glues and particle board are all low toxicity.
- The roof has an insulation rating of R-55.5, well above code.
- The carpet is a recycled product that is fully recyclable, made by green carpet manufacturer Collins and Aikman.
- The bathrooms use Australian dual flush toilets and code-beating showerheads.
- The heat pumps are free of both ozone-damaging chlorofluorocarbons and their second generation replacements, hydrochlorofluorocarbons, which also damage the ozone layer.
- The building was fully commissioned, meaning the heating and ventilation system was inspected by a third party to make sure it works to specifications.
- The exhaust fans in the kitchen run on variable speed motors to save energy.
- The garage exhaust system is super-efficient to save energy. In fact, the building as a whole beats the local energy code by more than 50%.
- The lighting is entirely efficient compact fluorescent fixtures.
- The building is 100% wind powered.
- An educational sign inside the building teaches guests about green design.

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ASC has a set of green building guidelines that requires that all new construction meet strict environmental standards.

**Progressive Urban Planning**

Western Europeans have a better handle on state-of-the-art urban planning and village design than Americans. The most environmentally crucial aspect of new resort development is proper planning. Well-planned towns and new resort developments incorporate principles of “New Urbanism,” many of which are based on European models:

- Pedestrian friendly villages that are often car-free (many European resorts are car-free today)
- Transit-Oriented-Design that clusters development around mass transit centers and enables people to thrive without heavy dependence on automobiles. Obviously, a first-rate mass transit system is crucial. Resorts can improve on or create their own mass transit systems through vanpools, car share programs, or subsidies of existing mass transit.
- Mixed commercial and residential developments that allow people to live where they work, reducing the need to travel for goods and services.
- Open commons and porches that face the street to encourage community.
- Traffic calming measures like narrow streets, pedestrian crossings and “bulb-outs” on street corners that accommodate pedestrians and discourage car use.
- High density development inside urban centers taking advantage of existing infrastructure.

This last point is of critical importance—it helps prevent low density sprawl, which is currently plaguing the western United States, particularly resort communities.

In fact, it’s increasingly accepted that dense development saves energy. According to a report in the September issue of *Environmental Building News*, the leading American Journal of green construction, “The average urban household in the U.S. uses 320 million BTUs (338,000 mega joules) of energy each year, compared to 440,000 million BTUs (464,000 mega joules) for the average suburban household,” according to John Holtzclaw of the Sierra Club and Jennifer Henry of the U.S. Green Building Council. Their findings, presented during the Congress for the New Urbanism conference, were published in the June 2005 issue of *New Urban News*. “New Urbanism is the magic that can bring about a substantial reduction in the driving that we do,” says Holtzclaw. Just increasing the housing density from three to six units per acre (7 to 15 units per hectare)

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19 One of the leading practitioners of New Urbanism is Peter Calthorpe, a California planner. His book *The Next American Metropolis: Ecology, Community and the American Dream* (Princeton, 1993) is a valuable text on the subject.
saves more energy per household than Energy Star.”

One of the key lessons of New Urbanist development: smaller is often better. And it’s certainly more energy efficient.

**Best Practices in Planning: Zermatt, Switzerland**

The resort town of Zermatt, at the foot of the Matterhorn, has a population of 5,500 that mushrooms in winter to 16,000 with tourists. The town has been closed to automobiles since 1966. Private transportation ends 5 kilometers from the resort, at Tasch, where shuttle buses run every 20 minutes. Zermatt effectively abandoned the effort, common in most resort communities, to build enough roads and other car-related infrastructure to accommodate predicted growth. As a result, that money is available for other community needs. Part of the reason Zermatt closed itself to cars is that local politicians thought growing traffic would have severely negative effects on quality of life. Other car-free resorts in Switzerland include Riederalp, Saas-Fee, Rigi, Stoos and Wengen.²²

In 2002, Zermatt created a council of planning firms to highlight areas of conflict between construction projects and nature. The working group’s role has subsequently been expanded to encompass supervising environmental work, advising on environmental issues, and preparing environmental reports on planning applications.

**Best Practices in New Development: Northstar at Tahoe, New Mexico**

East West Partners, a developer based in Vail, Colorado, (www.eastwestpartners.com) is in the process of completing a large resort development called Northstar, at Lake Tahoe, California. The project includes approximately 213 residences and 140,000 square feet of retail combined in mixed-use buildings, all being built for LEED certification at a level just below silver.

There are several interesting—even radical—aspects to the development:

**Certification:** East West’s efforts to LEED certify the entire village is one of the earliest attempts at comprehensive (versus project based) certification, and points the way to a new use of LEED, possibly as a municipal code. East West also plans to “Audubon certify” its golf course, a third party rating that is considered state of the art in the environmental

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²² Details on Zermatt and other carfree areas at http://www.carfree.com/ Details on Zermatt Sustainable Skiing at http://bergbahnen.zermatt.ch/e/about-us/umweltschutz/
community.

**Infill:** The project is being constructed mostly on already used terrain—a parking lot, and lots with existing buildings which were deconstructed instead of being demolished. The project is, for the most part, surrounded by existing development.

**Transfer Tax for Open Space:** East West built in a “transfer tax”—a tax on real estate transactions—that supports an open-space preservation fund. The transfer tax is set up so that it continues through property resales, terminating at some point in the future. Crucially, the open space acquisition fund is run by a *third party* local land trust.23

**One to One Conservation Easement/Development Match:** For each acre of land developed, East West donated one acre of land into a conservation easement24 run by the same third party land trust that administers the open space acquisition fund.25

**Stewardship of Mountain Habitat:** In the U.S., ski resorts typically operate on public lands with permits from the federal government. A resort usually operates in a portion of a larger "permit area" into which the resort can expand later. In short, there is permitted land not currently in use that resorts can expand into later. East West created a third party habitat management plan for these lands, including monitoring at ski area’s expense to standards accepted by a third party. The future potential development plan was arrived at through discussions with environmental groups, and designed to avoid damage to sensitive or critical habitat, like areas that are home to the endangered California Spotted Owl or old growth forests. East West also agreed to other non-disturbance practices that went beyond standards required.

### Affordable Housing and Transportation

Two aspects of good planning in resort communities are affordable housing and transportation, both of which have high potential to reduce environmental impacts from commuting. The problem is that property in resort communities tends to appreciate rapidly, driving lower income workers (on which the resort depends) farther and farther away. It is in a resort community’s interest to maintain and/or develop affordable housing for employees and residents. Without such accommodation, teachers, firemen, grocery clerks, librarians—the heart of a community—don’t live in the community in which they work. While commuting has environmental impacts (traffic, air pollution from tailpipes and road dust), it also has business impacts on a resort itself. Prohibitive housing prices make it harder to retain employees, who will look for work closer to home. Aspen is widely known for its aggressive affordable housing programs, but still the bulk of workers commute each morning, some from as far away as 100 kilometers.

23 Personal communication with David Corbin, who was a Vice President at Booth Creek Holdings, the operator of the ski area associated with Northstar. September 22, 2005
24 A conservation easement is a legal agreement that protects a piece of property from development, maintaining it as open space, usually forever.
25 Personal communication with Aaron Revere of East West Partners, September 23, 2005.
Reducing Impacts of Ski Trails

Impacts to habitat—to riparian areas and to the watershed as a whole are probably the second largest component of a ski resort’s “ecological footprint” next to energy use. Impacts include: erosion from ski slopes (which can cause sedimentation into streams from runoff that may include herbicides and other pollutants), snowmaking (withdrawal of water from streams during periods of low flow), pollution from solid waste, snowcats and snowmobiles, habitat fragmentation, disruption of migration routes, and pollution associated with the consumption of fossil fuels. When creating a new resort, how trails are cut and laid out is critical to the sustainability of the resort. Avoiding wetlands and other sensitive terrain, as well as cutting the trails properly, is crucial.

Erosion and Habitat Fragmentation

In the 1960s, resort developers typically clearcut forests to create ski trails, clearing the land of stumps with a bulldozer. This process removed topsoil and native vegetation as well. Equally bad, the ski runs typically followed the fall line uninterrupted. As a result, stormwater ran downhill unimpeded, causing erosion and sedimentation in waterways. Later, noxious, invasive weeds moved in. Such plants take over not just disturbed areas, but invade native areas, eliminate forage for wildlife, and threaten agriculture, from ranching to farming. Once cut, ski trails impact wildlife through habitat fragmentation and broad destruction of subnivian (under snow) zones.

New trails can be designed in less harmful ways. The ski run called Long Shot, on Snowmass at Aspen, for example, completed in 1996, is a continuous S-curve, which allows forested land to absorb and filter runoff, and eliminates a direct run where stormwater can gather speed and cause erosion. Islands of trees left in the trail allow animals to cross slopes one piece at a time, avoiding predators.26 “Foliage height diversity” (different sized trees) at the trail margins help reduce the “edge effect,” an abrupt transition from ski run to forest, which is disruptive to wildlife. The run itself was never stripped of topsoil. In fact, many stumps, root systems and low-lying vegetation were left to hold soil in place, with stumps “flush cut” to ground level. The same practices were used when developing Telluride, Colorado’s Prospect Bowl. In fact, the company won an environmental award for its work there.

Reducing Impacts of Snowmaking

Snowmaking is environmentally detrimental. It pulls water from streams at times of low flow, damaging aquatic habitat. However, today snowmaking is an unfortunate reality of remaining viable in the ski industry. ASC has been implementing techniques to increase the efficiency of snowmaking, reducing water and energy use, and keeping more water in the streams. Techniques include:

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26 A snowshoe hare, for example, is beautifully adapted to deep snow—its huge paws allow it to move rapidly, floating on the surface and avoiding predators like coyotes and foxes. But on hardpack ski runs, their advantage disappears.
• **Making snow when it’s cold.** This sounds obvious, but many ski areas manufacture snow regardless of temperature. Not only is the efficiency of the process extremely low, but the snow simply melts, if it forms at all. ASC has extremely advanced forecasting to predict snowmaking temperature, and did the first research in the industry on the correlation between snowmaking efficiency and temperature.
• **Making terrain features such as half-pipes and jumps out of dirt, not snow.** Since this requires less snow, this technique has the potential to save millions of gallons annually. We have built one half-pipe on Snowmass out of dirt. We estimate it will save 3 million gallons of water and $15,000 in associated energy use. (From snowmaking and snowcats.) For the Winter X Games, ASC built an even larger pipe out of dirt, accounting for 4 million gallons of saved water.
• **Increase water storage.** On-mountain reservoirs allow snowmakers to blow snow over an extended period of cold weather without depleting streams to levels that damage wildlife. They also reduce energy use because water can be pumped at low pressure to fill the reservoir, but it leaves the pond at the high-pressures (and cold temperatures) needed for snowmaking, thanks to gravity and cold nights.
• **Modernize snowmaking equipment.** New guns on Snowmass, installed in 1997, are radically more efficient than older technology. Snowmaking controls can further boost efficiency.

Other aspects of sustainable resort development:

**Solid Waste Management:** Good solid waste management programs have recycling “capture” rates of higher than 20%. Recycling rates for glass, plastic and cans at Whistler/Blackcomb, British Columbia, Canada, exceed 50%, a number that is boosted by the fact that Canada has a “bottle bill” that pays a fee for recycled materials. Vail resorts in Colorado claims similarly high capture rates, without a bottle bill. Food composting programs, either at the landfill (where wood wastes are ground up and composted) have been successful at many resorts, including Keystone. Grinding, then composting, old structures is becoming standard practice, at least in Colorado. Grinding cuts volume by a factor of five, saving transportations costs. Since landfills want the wood pulp for compost (they mix it with sludge) they will often waive tipping fees. And by keeping construction and demolition waste out of the landfill, resorts help extend the life of local landfills. (Almost half the waste filling up landfills in resort communities is construction and demolition waste.)

**Purchasing:** Corporate purchasing programs can have enormous influence on the practices of other companies, and on the availability of sustainable products. Large corporate buyers exert significant influence over vendors—if a Vail Resorts or a Intrawest says: “We want 50% post-consumer content recycled paper and biodegradable forks, or we’ll switch to another supplier,” they’re going to get it. Aspen Skiing Company recently purchased $250,000 worth of office equipment. In its request for proposals, the company asked for the environmental credentials of the potential suppliers. Since price and quality were roughly equal, ASC selected the vendor with the best environmental record. This incentivized that company to become even greener, since it saw economic advantage. Later, one of the businesses that didn’t win a contract asked ASC why they didn’t win. ASC explained further driving change: the business is
now economically motivated to become greener.

**Environmental Management Systems (EMS) and Certification:** Progressive environmental businesses—even resorts or communities—increasingly have “environmental management systems.”—operational standards and procedures for managing environmental risk. Think of an EMS as the environmental equivalent of a company’s accounting protocols, GAAP principles, for example, which help a company manage its finances and gives it credibility in the business community. An EMS helps a company organize, disseminate, and implement a comprehensive approach to managing environmental issues.

An EMS can be third party verified, which adds a level of credibility to a business’s environmental efforts. The well-known third party certifier is the International Organization for Standardization, or ISO, based in Geneva. Their environmental standard is known as ISO 14001. In the U.S., resorts may be moving towards this third party stamp of approval. Aspen Skiing Company has received certification, and Jackson Hole Resort is aggressively pursuing it. Sun Peaks Resort in British Columbia is the only other North American ski area to achieve ISO 14001 certification. U.S. National Park Service concessionaires, like Xanterra, Vail Resorts (not the ski area arm of the company), and Delaware West, all have EMSs that are ISO 14001 certified.

**II. Planned vs. Organic/Traditional Villages**

What’s more sustainable, from an economic and environmental perspective—a planned resort, built from scratch in a previously undisturbed, or minimally used, site, or a resort integrated into an existing community?

The generally accepted argument is that planned resorts create sprawl by forcing employees and guest to commute to a new area, which requires all the same infrastructure as an existing town. The result is a negative impact on all the aspects of a sustainable resort described above, from transportation to energy use and onsite housing. Why not use the established community, which is more authentic anyway, indicative of local culture and history?

Despite the conventional wisdom, a planned resort arguably presents designers with an opportunity to address, from the start, all the sustainability related issues addressed previously in this paper—in particular issues of transportation and access, urban design, and employee housing. In a perfect world, such planned communities could be models of environmental responsibility, because centralized infrastructure and resources would be built around the worksite—the mountain—minimizing the need for transportation and preventing, by design, sprawling communities.²⁷

Forcing a ski resort to locate in an existing town as opposed to creating a planned

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²⁷ Such a model community was created from scratch near Ithaca, New York. Details at: [http://www.rand.org/publications/MR/MR855/mr855.ch5.html](http://www.rand.org/publications/MR/MR855/mr855.ch5.html). Note that existing communities can be redeveloped using infill techniques, but it’s more difficult than starting with a blank slate.
community is not necessarily a good thing. Telluride, Colorado, for example, which developed Mountain Village in an alpine meadow more or less on the ski hill, may well be better off from a purely functional standpoint having the planned development available to provide a bed base, siphon off the wretched excess, and take growth pressure off the town center. (Though the environmental impacts of the development, by most measures, were enormous.) The same goes for Teton Village, which serves a similar role for Jackson; Mt Crested Butte and the town of Crested Butte; and even Snowmass and Aspen.

In September, the New York Times reported on the battle over an old hotel—the Bellview Biltmore in St. Petersburg, Florida—that neatly illustrates a part of the debate over new/planned versus traditional resorts. “A yearlong fight over the fate of the Biltmore has led to the resignation of a city attorney, divided preservationists and created an even wider gulf between groups that advocate a new Florida and those who want to protect the old one. City Commission meetings have drawn overflow crowds, and yard signs championing ‘Save the Biltmore’ dot the lush, tidy yards of Belleair.” The problem illustrated here is economic obsolescence when “sustainable” is understood to mean "sustain the status quo," as opposed to "capable of accommodating change and continuing to thrive." Sometimes having that new, planned resort next door allows a community to accommodate market change while maintaining the core attraction. This argument is addressed in detail in Appendix G.

A final argument for a planned community is that a new, plush, fancy resort development can capture the upscale market previously unwilling to visit older, or more run-down resorts in existing communities. This, idea, however, seems flawed. Nothing is less sustainable than an economy built on the capricious whims of the well to do—people who have the capacity to go anywhere and tend to follow fashion. Economic sustainability is mostly defined by an economy that has the "ability to self adjust to changing economic pressures"—it’s not clear that narrowing the market is in keeping with that concept.

It’s helpful to take a look at the real world to understand the relative merits of planned vs. organic resort communities. There are models of community owned resorts, integrated into existing communities, in the U.S., some of them quite successful. According to Hal Clifford, the author of a critique of the large corporate ski industry called Downhill Slide:

“Perhaps the most famous nonprofit, cooperatively owned ski area in the nation is Mad River Glen [in Vermont]….It was founded in 1948 with a charter that reads, ‘A ski area is not just a place of business, a mountain amusement park, as it were. Instead, it is a winter community whose members, both skiers and area personnel, are dedicated to the enjoyment of the sport. Today, Mad River Glen, which has about two thousand co-op members, is a real village….There are no buildings in this village, but there is a great deal of community among the people who ski here, along with all the messiness and contentiousness that comes in an authentic community where people care about what is

at stake."\textsuperscript{29}

In fact, small, local, or community-owned U.S. resorts like Mad River Glen, Bridger Bowl in Montana, and Bogus Basin in Idaho, have been called the future of sustainable skiing. They have been in business for half a century, and are small, local establishments that can weather down trends because they have a local base and low capital expense. Meanwhile, the ski industry as a whole in the U.S. may be threatened or dying. Skier and snowboarder visits to resorts have been more or less flat for more than 20 years, based on statistics from the National Ski Areas Association. While demographic changes (including the ‘echo-boom’ generation) may change that situation, skiing is now more like ballroom dancing was in the 50s than the computer industry in the 90s.\textsuperscript{30}

From a long-term perspective, the sport has no future without an ability to recruit new participants. Planned luxury villages, with high overhead and corresponding high room and lift prices, don’t address the need to recruit new skiers. Locally based resorts do this.

According to Bob Ackland, former president of American Skiing Company, one of the big three ski corporations in the U.S. (Vail Resorts and Intrawest are the other two), who is now General Manager at Mad River Glen: “There are too many big ski areas. I think these big ski areas are going to become more exclusive. They’ve become more expensive, and that can’t bring new people into the sport. That’s where there needs to be some shrinkage. You could rejuvenate the community ski area. Then you have a chance at generating new skiing revenue and generating new skiers.\textsuperscript{31}

Terry Minger, who was Vail’s first town manager and later helped develop Whistler in Canada, offers a compelling argument for integrating resorts into established communities. For a long time Minger thought that “you could solve a lot of these problems through good urban design and architecture and all that, and you can, but ultimately, it’s still the people. It’s the soul. Good architecture and good siting and planning are essential, but that’s just the beginning. That’s not the end of the thing. That’s what’s been missing.”\textsuperscript{32}

\section*{III. Moving to Year-round}

\textit{How do resort communities benefit from having a year-round economy? What steps have resorts taken to move from winter skiing to a more diverse year-round visitor economy? What have been the results, and what can we learn as recommendations for new resort efforts?}

\textbf{Resort Evolution}


\textsuperscript{30} There is some debate on this issue, even between the authors of this paper. BBC Research and Consulting recently released a paper titled: “The American Ski Industry: Reasons for Optimism in the 21\textsuperscript{st} Century.” www.bbcresearch.com.

\textsuperscript{31} Clifford, pp. 231-232. [38]

\textsuperscript{32} Clifford, p.237.
In the West, most ski resorts originated in old mining towns (e.g. Aspen, Breckenridge, Crested Butte, Telluride), or simply vacant meadows (Vail, Copper Mountain, Keystone). New England ski towns have more varied economic origins, but they still tended to develop in areas that were in economic decline before skiing reinvigorated the local economy. Entering these small quiet economies, skiing and associated tourism quickly became the dominant economic force, and it required very little economic pressure to convert a dying mining town into an early version of a “ski town.”

Sun Valley, Idaho and Aspen, Colorado were the first Western ski towns, but these were quickly joined by a dozen or more new variations during the 1950s and 60’s. Over this same period, skiing and ski towns entered a period of symbiotic co-evolution during which the sport of skiing grew and diversified, quickly transforming their host communities.

As shown in Exhibit 1, skiing as a sport has evolved rapidly in its relatively short life, growing from an exotic adventure (the 1950’s) to a highly refined sport (Killy and Klammer in the 1960’s), and then ultimately morphing into a recreational attraction and then into a comfortable amenity that reinforces a large and diverse lifestyle and real estate economy.

All this time, as the sport of skiing was changing, ski towns were co-evolving with the ski business. In the early years, ski towns offered only modest accommodations and visitor services, befitting a highly seasonal, four-month activity. Capital investment was low, access difficult and skiing’s economic influence small and narrowly focused. In the 1970’s, as skiing become intertwined with alternative lifestyles and broader cultural change, ski towns emerged as an attraction in and of themselves—becoming synonymous with alternative lifestyles and the rural, anti-establishment culture of the time. The Baby Boom and skiing matured together, with skiing ultimately becoming one of many amenities in a second home/real estate driven, quality of life economy. Even as the sport of skiing slowed, the business of resort towns prospered.
These trends, and the process by which ski towns leveraged off skiing to become resorts and lifestyle communities, is shown in Exhibit 2.

Skiing’s growth slowed during the early 1990s, but the ski communities’ economic activity accelerated, as quality of life, increasingly sophisticated visitor services, and growing multi-seasonality ushered in an era of rapid expansion and urbanization. By the mid-1990s, most major ski resorts were running short of developable land, and were unable to sustain the demand for in-town housing, visitor lodging, second homes, and retail and service support. By the turn of the 21st Century, skiing, although still the iconic element of the local economy, had become one of many lifestyle amenities—one attraction among many that supported a large, geographically decentralized and diverse lifestyle economy. The quality of life (QOL) community, driven by redevelopment and real estate, visitor services and amenities emerged to replace the older, traditional skiing based economy:
Exhibit 3.
Quality of Life Community

As the economy matured, traditional resort towns found themselves part of a growing regional economy in which the latest round of growth was occurring in the next town “down-valley,” where land was still available, prices reasonable, and the weather more attractive for an aging local population. Suddenly, resort town populations were aging, and prime resort property was absorbed by older, multi-home owners, inducing an ironic “graying” in what were once the poster communities for alternative and youthful lifestyles.

These new quality of life communities are a product of many factors, but mostly reflect an aging, prosperous Baby Boom generation—now less able and less inclined to engage in strenuous activities—who seek more passive social, cultural and entertainment attractions. As evidenced in Exhibit 4, the resort economy is now increasingly tied to real estate sales, housing development and renovation.
Exhibit 4. The Real Estate Economy

In sum, over a relatively short period, ski towns have been reinvented and repositioned themselves a number of times, driven more by external changes in market demography and preferences, than by conscious planning or community driven strategies.

**Seasonality**

Ski resorts have witnessed some 50 years of continual market change. During this period, virtually all elements of the resort experience—food, lodging, recreation, access, communications, and the communities themselves—have been remodeled or reinvented. Many factors have contributed to this evolution, but few influences have been as pervasive, or as critical to an area’s overall success, as the stimulation of a successful year-round economy.

For years, ski resort development interests talked about creating a better summer and shoulder season business, as an obvious way of making greater use of the capital investment already made in winter visitor services, and as a means of retaining a year-round labor force and supporting a fuller more diverse community. Progress was slow until a combination of fortuitous market changes made repositioning the resort summer market a reasonable prospect.

Some resorts, such as Jackson Hole, because of their proximity to other attractions, e.g. national parks, already had strong summer markets. The city of Aspen has always enjoyed a stronger than average summer season, owing in part to the presence of the Aspen Institute and the associated conferences and festivals that were part of the original Aspen mountain retreat concept. Similarly, the town of Telluride, even before skiing, enjoyed a reasonable summer visitation business, based on the area’s extraordinary setting and its close proximity to a large Texas market, which was anxious to get out of the summer heat. Nevertheless, for most Western resorts, summer was, and is, a slower season than winter, at least as measured by hotel occupancy, retail sales or lodging taxes.

Conversely, for most New England resorts, summer and fall are traditionally strong seasons—although summer tends to focus on southern lakes or seashores, and activities are...
more broadly dispersed than in winter. In New England, skiing initially brought some seasonal balance to the summer based visitor economy. On the other hand, summer seems to have spawned its own beast—outlet shopping, which brings all the charm of a bad regional mall to otherwise attractive places like North Conway, New Hampshire or Freeport, Maine. Colorado (Silverthorne) has a smaller, less intrusive version. For most Western resorts, summer has witnessed considerable growth, particularly in the past 15 years. Some common elements are evident:

- **Effect of Second Home Ownership:** Second homeowners are generally frequent summer visitors. The increase in second homeowners, who often bring family and friends, has created a critical mass of well-to-do summer visitors.

- **Aging Demographic:** The aging of the resort market, coupled with the down valley migration of resort influences, helped spawn a massive investment in mountain golf starting in about 1990. Many resort areas in Colorado, such as Eagle County and the Roaring Fork Valley (Pitkin/Garfield Counties), saw golf course activity increase from two or three courses to a dozen or more in a period of ten years. Golf also supports real estate and has contributed to the downvalley migration of skiing's influence.

- **Access:** For many years, Aspen and Jackson Hole were the only major resorts, along with Utah resorts near Salt Lake City, which had convenient local air access. The Steamboat Ski Area was one of the first to offer private inducements to airlines for winter flights, and they were soon followed by Crested Butte (Gunnison), Vail (Eagle County) and others. More recently, similar inducements have been made to support summer air flights, generally by the same resorts. The impact of second home development, an aging market attracted to the lighter recreation alternatives in summer, and increased air access all combined to spur summer visitation.

- **Telecommunications:** Advances in telecommunications have been critical to summer visitation. The mountain resorts used to be isolated, but now second home owners and tourists alike can stay in constant communications with their homes and office, which reduces a major barrier in a market that serves many dual-income households and requires a major travel commitment.

- **New Funding:** Many resorts have instituted sales or lodging tax or other fees that are dedicated to marketing, events, conference centers and promotions. Often these public funds focus on summer or airline support, in the belief that summer remains a strong opportunity, and that the ski area will cover winter. Collectively, these funds have made a difference in spurring summer activity.

- **Arts, Culture and Events:** As the resorts have matured, arts and cultural attractions have become an important component of the amenity mix. The Aspen Music Festival and the Aspen Institute programs were some of the early initiatives and now virtually every resort has music, film, dance, symphony, hot-air balloon festivals, museums and ‘idea based” events. The Telluride Film Festival and the Telluride Blues Festival are some of the best known and most successful. On any given summer weekend there are dozens of events in the mountain resorts.
Cultural Facilities: Summer festivals and events have been facilitated by the construction or existence of expensive specialized facilities. The Wheeler Opera House in Aspen, the Ford Amphitheater in Vail, and the Vilar Center in Beaver Creek are examples of venues that support a largely summer based series of events and activities. Similarly, Jackson, Wyoming supports a new arts center and a successful wildlife museum; Crested Butte and Mountain Village (near Telluride, Colorado) are in the process of feasibility studies for arts, recreation and entertainment centers and Copper Mountain has an arts center in its new village expansion proposal.

Biking: Ski resorts have been a major beneficiary of a growing American interest in mountain biking and road biking. Road biking activity has benefited from considerable investments in bike trails, where it is possible to connect with multiple resorts without leaving a separated bike trail. In fact, one will soon be able to travel from Breckenridge to Aspen, some 100 miles, virtually without leaving a trail. The combination of mountain biking, which skews a little younger, and road biking, which enjoys a broad demographic market, has proven a powerful stimulant to summer business.

Golf: Golf (which presents its own environmental challenges) has become a major element of mountain resort summer attractions, although it’s difficult to say whether golf is a reason summer activity has grown, or whether golf is the product of increased summer interest. Whether cause or effect, golf is part of the summer equation. Eagle County, the Roaring Fork Valley (Aspen area) and Teton County Wyoming have seen the greatest investment in new golf courses and, not coincidently, these are also the areas with the most pronounced second home economies, and the most rapid housing growth.

In sum, summer and off-season activity in the mountain resorts developed by a fortuitous combination of market maturity and an opportunistic resort business community. No single resort development strategy appears to be the most successful in luring summer business, but virtually all resorts support summer arts, events, golf and biking as the mainstay of summer attractions. These are supported with investments in summer marketing, cultural facilities, airports and separated biking trails.

Multi-seasonal business presents obvious investment advantages, and generally provides the local community with a more efficient and sustainable business environment. Summer in the mountains is an extraordinary experience, made only better by the attractions and facilities developed to attract and retain visitors.

Ironically, summer activity, with a smaller number of persons than winter, can have greater environmental impacts, because guests are not concentrated on a relatively small mountain, and they tend to be in cars and in town. Because summer activities are more dispersed, despite lesser levels of sales and visitor counts, summer highway traffic congestion often exceeds its winter parallel, while winter activity, with its mountain focus and cold climate, tends to generate far higher use of mass transit.
IV. How Does an Established Community Maximized Local Benefit from its Resort Economy?

"The mountains of Montenegro, while possessing outstanding scenic beauty, suffer from poverty and de-population."–Oliver Bennett

There are few roadmaps for developing communities sustainably. While many people are doing components of the larger sustainable development picture (green building, smart growth) there are few models for how to go about it.

Rocky Mountain Institute’s Michael Kinsley is one of the leading thinkers and practitioners of sustainable economic development. He points out that one of the transitions that has occurred in the field of international development is that agencies are realizing that imposed external “solutions” often fail. Despite that, a broader, more integrative approach to sustainable development—one that involves locals and seeks internal solutions, an approach that is not just about business, but about community—is hard to grasp, and doesn’t seem to take with economic development experts. For example, it’s not always easy for people to make the connection between energy efficiency and economic development, even though the connection is real: a household energy efficiency program in Sacramento, California, for example, created some 800 jobs.

Kinsley takes pains to differentiate between economic growth versus economic development:

“The assumption that economic prosperity requires growth seems so reasonable that most of us don't think much about it. After all, it's what we've always been told; politicians, business boosters, economists, and the media all seem to take it for granted. The assumption is so pervasive that virtually every American community is looking for ways to grow out of its economic problems, even when those problems are themselves the result of growth.

The trouble is, the word ‘growth’ has two fundamentally different meanings: ‘expansion’ and ‘development.’ Expansion means getting bigger; development means getting better, which may or may not involve expansion. This is no mere semantic distinction. Many communities have wasted a lot of time and energy pursuing expansion because that's what they thought they needed, when what they really needed was development. To avoid confusion, let's define growth here only as getting bigger—expansion—and development as getting better.

Though a sound economy requires development, including vigorous business activity, it doesn't necessarily require expansion of community size. An analogy can be made with the human body. Human growth after maturity is cancer. When a town continues to expand after maturity, its cancer becomes manifest in many ways: spiteful controversy, higher taxes, traffic, sprawl, lost sense of community....

But after reaching physical maturity, humans continue to develop in many beneficial and

interesting ways: learning new skills, gaining deeper wisdom, cultivating new relationships, and so on. Similarly, a community can develop itself without necessarily expanding. It can create affordable housing, protect public safety, and improve employment, health, cultural, and educational opportunities. In fact, a good definition of development is the creation of jobs, income, savings, and a stronger community.” 

This is not to say that all expansion is bad, but it’s essential to distinguish it from development in order to make choices that truly benefit the community.

Kinsley’s approach to communities in decline seems apropos of the situation in Montenegro:

“Business failures, loss of jobs and population, lack of opportunities for young people, deteriorating infrastructure, loss of hope…these are some of the daunting problems of a declining community. The local economy is probably based on one or two salable resources such as timber, coal, wheat, or a manufactured product. Such communities may seem prosperous until the international economy makes a slight ‘adjustment’ and their products are no longer worth more than the cost of production.

When a community’s basic industry is threatened, the usual response is to call for economic development—any economic development. Local government officials come under intense pressure to do something. Residents want to see action. Traditionally this translates into a single, cure-all strategy: business recruitment, which, when pursued indiscriminately, can be termed smokestack-chasing. Chambers of commerce and development groups across the country commonly fall victim to the siren song of business recruitment.

Whether it chases smokestacks or superstores, a community pays… [a] price that is impossible to measure: lost opportunities. By the time residents realize they’ve squandered precious time and money on inappropriate recruitment efforts, years may have been lost—years when the community could have been pursuing more practical and sustainable development options.”

Kinsley and others have outlined reasons why new business recruitment isn’t necessarily the best approach to economic development. The Economic Renewal philosophy includes a four step program that helps get around the one-size-fits all growth approach:

- **Plug the leaks.** Inefficient economies leak resources. For example, dollars spent on energy, food, water and health care often leave town for good, even though such services and goods could be provide locally. Taking energy as an example: by making a community more energy efficient, homeowners have more money to spend, increasing economic vibrancy, and contributing to the “multiplier effect” whereby dollars recirculate within a community.

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• **Support existing businesses.** Too many communities woo outside businesses while overlooking the wealth-creating power of their own entrepreneurs. Locally owned businesses tend to be more responsive to local needs and values, and more likely to stand by the community through thick and thin. Supporting them also keeps more dollars circulating in the local economy.

• **Encourage new local enterprise.** As with existing businesses, new businesses will contribute far more to the local economy if they’re locally owned. A town that’s plugging leaks and supporting existing businesses is an exciting place to start a new one.

• **Recruit compatible new businesses.** "Smokestack-chasing”—the indiscriminate courting of outside corporations—is a risky, high-stakes game that has left many a small town in the lurch. However, having pursued the previous three steps, a community will be in a stronger position to recruit new businesses that are compatible with its values and needs.”

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Economic Renewal in Switzerland
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An example of a form of Economic Renewal in action is the St-Martin Township, in Val d'Herens, Switzerland. That township reconsidered tourism activities through the lens of cultural, natural and agricultural sustainability, with the hope of stopping emigration of the local population (leakage!) by strengthening the local economy. The project emphasized traditional mountain agriculture and architecture in place of winter skiing. It is also an example of the increasing awareness and emphasis on cultural and built heritage within local communities and within the growing tourism arena. St-Martin set objectives in its attempt to integrate agriculture with tourism. Priorities included protecting traditional architecture, and growth restrictions. The goal: emphasize the quality of mountain life. Echoes of the quality of life community discussed in Section III suggest the European and American resorts are following similar trends.\[45\]

Kinsley notes that stores with outside ownership, like Polo or The Gap in the U.S. “are the Wall-Marts of exclusive resorts. They have the same fundamental negative effect: draining local wealth from the community. *Local businesses generate roughly three times more local economic benefits than chains delivering similar products* [Italics added]. Towns where a large percentage of businesses are externally owned are little more than conduits for someone else’s profits. In short, in order to develop a viable local economy, don't put all your attention on maximizing throughput (the velocity of the primary industries) such as exports and tourism. Rather, focus on capturing the maximum value from the money that does come from the outside, that is, maximize the

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local economic multiplier, recirculate the community’s dollars by increasing the number and size of local transactions. This approach not only creates more jobs per throughput [e.g. skier days], it also makes a community more resilient and able to withstand downturns.\textsuperscript{46}

Economic renewal is not the only framework for thinking about sustainable development, but it is a good one. Another approach is The Natural Step, created by the Swedish oncologist Dr. Karl Henrick Robert.\textsuperscript{33} One of the first cities to adopt the framework was Whistler, BC, which provides an example of collaboration among multiple entities, including the municipality and the ski resort.\textsuperscript{34} And Northampton County, Virginia, illustrates still another approach, described in Appendix E.

Conclusion

Photos of Aspen and many other western U.S. ski towns from 100 years ago show a picture of environmental devastation: trees are scarce, water is murky, and hillsides are denuded of vegetation and wildlife. Today, Aspen is considered one the most beautiful cities in the United States. Though Aspen is far from perfect, it and other ski communities are demonstrating that small town economies can benefit from moving from extractive industries to attractive ones. If managed properly, the ski resort industry can be an appropriate and environmentally acceptable option for sustaining local economies.

On balance, it seems to make sense to integrate resort developments into existing communities, for several reasons: integration helps avoid the need for new infrastructure and helps reduce the impacts of sprawl; perhaps most important, the resort can offer a unique cultural experience impossible to recreate in new, planned resorts.

It also makes sense to plan for four-season use purely from an economic standpoint. Most ski resorts suffer from negative cash flows during off-season and even for the first month or so of operations. Utilizing resorts to their full capacity—and taking advantage of nearby tourist attractions based on an area’s natural capital—like national parks—makes economic sense, and may make communities more resilient in the event of climate, demographic, economic or cultural change.

Ample models of sustainable development exist—this paper has just scratched the surface. The unifying feature of most of the sustainable design strategies discussed here—from village planning to green building design—is that if integrated early in the design phase, they need not cost more, and ultimately save money for operators, provide a better experience for guests, and produce a better product.

With adequate research and planning, Montenegro can create a sustainable foundation

\textsuperscript{46} Personal communication with Michael Kinsley, September 27, 2005.
\textsuperscript{33} http://www.naturalstep.org/
\textsuperscript{34} Details are available at http://www.whistleritsournature.ca/ and http://www.whistleritsournature.ca/speakersseries/proceedings.html#chapter1.
for its economy based on environmental stewardship and thoughtful, human-scale development that will be a model for the planet and a international symbol of respect for the natural world.

About the Authors

Primary author **Auden Schendler** is Director of Environmental Affairs at Aspen Skiing Company. Aspen Skiing Company has won more than 30 awards for pioneering sustainable business practices in the ski industry, including green construction, climate protection, energy efficiency, ISO 14001 certification, sustainability reporting, employee-supported environmental philanthropy, use of biodiesel in snowcats, wind power purchases, environmental education, and political activism. ASC's work has been covered widely in the media, including the *Wall Street Journal*, the *New York Times*, *Outside*, *Businessweek*, *The News Hour with Jim Lehrer*, *the Financial Times*, *Newsweek*, *Architectural Record*, and all the major ski industry media. As Director of Aspen Sustainability Services, Auden has consulted to the Australian Ski Industry, the U.S. hotel industry, and other businesses and private foundations. His writing on sustainable business has been published in *Harvard Business Review*, the *Journal of Industrial Ecology*, *Corporate Environmental Strategy*, *Green@Work* and many other journals. Auden is a LEED accredited professional, and serves on the Governor of Colorado’s Pollution Prevention Advisory Board.


Contributing author **Ford C. Frick** who provided input on the whole paper, and was lead writer for section III and Appendix G, is a Managing Director of BBC Research & Consulting, a Denver based market research and economic consulting firm. Mr. Frick specializes in resort and community development economics and tourism planning. Assignments typically involve financial feasibility analysis, economic impact assessments, redevelopment strategies, business valuation, or market research. Resort clients include ski area operators, development interests, federal agencies and local governments. Many recent projects have focused on resort community development issues and commercial revitalization efforts, including projects in Aspen, Vail, Telluride and Steamboat Springs, Colorado; Mammoth Lakes, California; Jackson Hole, Wyoming; and Lake Tahoe, Nevada. Mr. Frick’s views on the future of tourism, recreation and resorts have been quoted in *Forbes Magazine*, *The New York Times*, *The Journal of the Federal Reserve*, *USA Today* and *The Wall Street Journal*. He is a frequent speaker and author on resort development trends and implications.

**frick@bbcresearch.com**,  [www.bbcresearch.com](http://www.bbcresearch.com).

APPENDIX A:

Sustainable Slopes: An Environmental Charter for Ski Areas

The following are the most important parts of Sustainable Slopes’ original Environmental Charter for the Ski Industry. This could be an invaluable tool for Montenegro: it neatly outlines all the major environmental issues facing ski resort developers, and as such serves as a “cookbook” for creating a green resort.

PREAMBLE

Like their guests, ski area operators and employees enjoy the outdoors, appreciate the alpine environment and consider it their home. A strong environmental ethic underlies our operations, makes us stewards of the natural surroundings, and is the basis for our commitment to constant improvement in environmental conditions. The recreation opportunities that ski areas provide contribute to improving the quality of life for millions of people each year, and the natural surroundings greatly enhance those experiences. In providing quality, outdoor recreation opportunities, we strive to balance human needs with ecosystem protection. Ski areas are well suited to accommodate large numbers of visitors because of their infrastructure and expertise in managing the impacts associated with those visits. By providing facilities for concentrated outdoor recreation in limited geographic areas, ski areas help limit dispersed impacts in more remote, wild areas. Ski areas operate within and are dependent on natural systems including ecological, climatic and hydrological systems. These dynamic systems can affect our operations, just as we have effects on them. We are committed to working with stakeholders to help understand and sustain the diversity of functions and processes these systems support. In addition, ski areas operate within rural and wild landscapes that are valued for their scenic, cultural, and economic characteristics. We are committed to working with stakeholders to understand and help maintain those characteristics which make these landscapes unique.

Given the ski industry’s dependence on weather, climate changes that produce weather patterns of warmer temperatures or decreased snowfall could significantly impact the industry. Accordingly, the industry is committed to better understanding the actual and potential impacts of climate change, reducing its own, albeit limited, emission of greenhouse gases, and educating its customers and other stakeholders about this issue. Along with environmental concerns, ski area operators are deeply concerned with the safety of our guests. We take safety into account in the design and operation of ski areas, and in some situations need to place the highest priority on safety.

OUR VALUES

The ski industry is composed of a diverse group of companies, varying in size, complexity, accessibility to resources, and geographic location. These Principles are

35 For the full document see http://www.nsaa.org/nsaa/environment/sustainable_slopes/charter2k.pdf.
meant to be a useful tool for all ski areas, from local ski hills to four season destination resorts, whether on public or private land. Our vision is to have all ski areas endorse these Principles eventually and make a commitment to implementing them. Some smaller areas that endorse these Principles may be limited in their ability to make progress in all of the areas addressed.

BACKGROUND ON THE PRINCIPLES

The Principles are voluntary and are meant to provide overall guidance for ski areas in achieving good environmental stewardship, not a list of requirements that must be applied in every situation. Recognition must be made that each ski area operates in a unique local environment or ecosystem and that development and operations may reflect these regional and operational differences. Each ski area must make its own decisions on achieving sustainable use of natural resources. While ski areas have the same goals, they can choose different options for getting there.

The Principles are meant to go “beyond compliance” in those areas where improvements make environmental sense and are economically feasible. Ski areas should already be meeting all applicable federal, state, and local environmental requirements. Through these Principles, we are striving to improve overall environmental performance, whether it be in the form of achieving efficiencies, sustaining resources or enhancing the public’s awareness of our special environment.

The Principles encourage ski areas to adopt the “avoid, minimize, mitigate” approach to natural resource management. Avoidance should be the first consideration when outstanding natural resources or settings are at stake.

The Principles recognize that ski areas have some unavoidable impacts. At the same time, ski areas strive to maintain the integrity of the environments in which they operate, by contributing to the sense of place in mountain communities and being good stewards of natural resources.

The Principles are aimed at improving environmental performance at existing ski areas, and can serve as helpful guidance for planning new developments. The Principles cannot fully address when and where new ski area development should occur, as that issue should be addressed on the merits of each individual project and in consideration of the specific characteristics of a particular location. What might be beneficial development in one location could be inappropriate in another.

Ski areas are concerned about the larger issues of growth and sustainable development in mountain communities. Key issues of community planning, such as protecting viewsheds, quality of life, and open space, are inherently linked to our business and the quality of experience of our guests. While the Principles cannot address fully some of the larger issues of growth in mountain communities, the ski industry is committed to working with stakeholders to make progress on these issues of concern to mountain communities. Many of the concepts in these Principles can provide leadership in confronting those issues. The Principles were developed through a collaborative dialogue process where input and awareness, not necessarily consensus on every
issue or by every group, was the goal. The Principles represent the major areas of agreement for ski areas and Partnering Organizations. These Principles are a first, collective step in demonstrating our commitment to environmental responsibility. We hope that this initiative will help us better engage our stakeholders in programs and projects to improve the environment.

VOLUNTARY ENVIRONMENTAL PRINCIPLES FOR SKI AREA PLANNING, OPERATIONS AND OUTREACH

*In planning and designing trails, base areas and associated facilities, ski areas have the opportunity to explore ways of integrating our operations into natural systems and addressing short and long-term environmental impacts to natural resources. There may also be opportunities to address past disturbances from historical uses that have occurred in the area and mitigate the unavoidable impacts from future ones.*

I. PLANNING, DESIGN AND CONSTRUCTION

**Principles:**
- Engage local communities, environmental groups, government agencies and other stakeholders in up front and continuing dialogue on development plans and their implementation
- Assess environmental concerns and potential restoration opportunities at local and regional levels
- Plan, site and design trails, on-mountain facilities and base area developments in a manner that respects the natural setting and avoids, to the extent practical, outstanding natural resources
- Emphasize nature in the built environment of the ski area
- Make water, energy, and materials efficiency and clean energy use priorities in the design of new facilities and the upgrading of existing facilities
- Use high-density development or clustering to reduce sprawl, provide a sense of place, reduce the need for cars and enhance the pedestrian environment
- Meet or exceed requirements to minimize impacts associated with ski area construction

**Options for getting there:**
- Engaging stakeholders collaboratively on the siting of improvements and the analysis of alternatives
- Complementing local architectural styles, scale, and existing infrastructure to enhance the visual environment and create a more authentic experience for guests
- Respecting outstanding natural resources and physical “carrying capacity” of the local ecology in planning new projects
- Using simulation or computer modeling in planning to assist with analyzing the effects of proposals on key natural resources and viewsheds such as visual modeling or GIS
- Designing trails with less tree removal and vegetation disturbance where feasible
- Incorporating green building principles, such as using energy, water and material efficiency techniques and sustainable building practices
- Using long-life, low maintenance materials in building
Including parks, open space and native landscaping in base area developments
Seeking opportunities for environmental enhancement and restoration
Maximizing alternate transportation modes in and around the base area
Minimizing road building where practical
Selecting best management practices (BMPs) for construction sites with stakeholder input
Applying sound on-mountain construction practices such as over-snow transport techniques, storm water control or phasing of activities to minimize disturbances to natural habitats

II. OPERATIONS

In the day-to-day operation of ski areas and associated facilities, there are many opportunities for stewardship, conserving natural resources, and achieving efficiencies. Taking advantage of these opportunities will not only benefit the environment but can also result in long-term cost savings.

WATER RESOURCES

Water is an important resource for ski areas as well as the surrounding natural environments and communities, and should be used as efficiently and effectively as possible.

Water Use for Snowmaking

Principles:
- Optimize efficiency and effectiveness of water use in snowmaking operations
- Conduct snowmaking operations in a manner that protects minimum stream flows and is sensitive to fish and wildlife resources (see Fish & Wildlife Principles).

Options for getting there:
- Using appropriate technology and equipment to optimize efficiency
- Inspecting and monitoring systems to reduce water loss
- Using reservoirs or ponds to store water for use during low flow times of the year and to maximize efficiency in the snowmaking process
- Working with local water users and suppliers to promote in-basin storage projects to offset low flow times of the year
- Installing water storage facilities to recapture snowmelt runoff for reuse
- Inventorying water resources and monitoring seasonal variations in stream flows
- Supporting and participating in research on the ecological impacts of snowmaking

Water Use in Facilities

Principle:
- Conserve water and optimize efficiency of water use in ski area facilities

Options for getting there:
Conducting water use audits and investigating methods and alternative technologies to reduce water consumption
Installing water efficient equipment in facilities such as low-flow faucets and toilets
Participating in existing water conservation and linen and towel re-use programs such as EPA’s WAVE® and Project Planet® programs for lodging
Educating guests and employees about the benefits of efficient water use

Water Use For Landscaping and Summer Activities

Principle:
Maximize efficiency in water use for landscaping and summer activities

Options for getting there:
Incorporating water efficiency BMPs in planning and design phases
Planning summer uses in conjunction with winter uses to maximize the efficiency of necessary infrastructure
Using drought-tolerant plants in landscaped areas
Using native plant species where appropriate
Using water efficient irrigation and recycling/reuse technologies
Using compost in soil to increase water retention and reduce watering requirements
Inspecting and monitoring systems to reduce water loss
Watering at appropriate times to minimize evaporation
Educating employees about efficient water uses

Water Quality Management

Principle:
Meet or exceed water quality-related requirements governing ski area operations

Options for getting there:
Participating in watershed planning, monitoring and restoration efforts
Using appropriate erosion and sediment control practices such as water bars, revegetation and replanting
Maintaining stream vegetative buffers to improve natural filtration and protect habitat
Applying state-of-the-art or other appropriate stormwater management techniques
Utilizing oil/water separators in maintenance areas and garages
Using environmentally sensitive deicing materials
Encouraging guests to follow the Leave No Trace36 principles of outdoor ethics

Wastewater Management

Principle:
Manage wastewater in a responsible manner

Options for getting there:
Planning for present and future wastewater needs with adjacent communities

36 See http://www.lnt.org/programs/lnt7/
Using appropriate wastewater treatment technology or alternative systems to protect water quality
- Connecting septic systems to municipal wastewater systems where appropriate
- Exploring the use of decentralized or on-site treatment technologies where appropriate
- Re-using treated wastewater/greywater for non-potable uses and appropriate applications
- Monitoring wastewater quality

ENERGY CONSERVATION AND USE

Ski areas can be leaders in implementing energy efficiency techniques and increasing the use of renewable energy sources within their operations to conserve natural resources, reduce pollution and greenhouse gases and reduce the potential impacts of climate change.

Energy Use for Facilities

Principles:
- Reduce overall energy use in ski area facilities
- Use cleaner or renewable energy in ski area facilities where possible
- Meet or exceed energy standards in new or retrofit projects

Options for getting there:
- Auditing current usage levels, and targeting areas for improvement
- Developing an energy management plan that addresses short and long term energy goals, staffing, and schedules for new and retrofit projects
- Orienting buildings and their windows to maximize natural light penetration, reduce the need for artificial lighting and facilitate solar heating and photovoltaic electricity generation
- Using solar heating or geothermal heat pumps for heating air and water
- Using timing systems, light management systems and occupancy sensors
- Performing lighting retrofits to provide more energy efficient lamps, retrofitting exit signs to use low watt bulbs, calibrating thermostats, and fine tuning heating systems
- Using peak demand mitigation, distributed, on-site power generation and storage, and real time monitoring of electricity use
- Working with utilities to manage demand and take advantage of cost sharing plans to implement energy savings
- Entering into load sharing agreements with utilities for peak demand times
- Partnering with the U.S. Department of Energy and state energy and transportation departments to assist with energy savings and transit programs
- Participating in energy efficiency programs such as EPA/DOE’s Energy Star™
- Educating employees, guests and other stakeholders about energy efficient practices
- Installing high efficiency windows, ensuring that all windows and doorways are properly sealed and using insulation to prevent heating and cooling loss
- Minimizing energy used to heat water by using low-flow showerheads, efficient laundry equipment, and linen and towel re-use programs
- Investing in cleaner or more efficient technologies for power generation, including wind, geothermal, and solar power generation, fuel cells and natural gas turbines and generation from biomass residues and wastes
- Purchasing green power, such as wind-generated power, from energy providers

**Energy Use for Snowmaking**

**Principles:**
- Reduce energy use in snowmaking operations
- Use cleaner energy in snowmaking operations where possible

**Options for getting there:**
- Using high efficiency snow guns and air compressors for snowmaking operations
- Upgrading diesel motors or converting them to alternative clean energy generation sources
- Using real time controls, sensors and monitoring systems to optimize the system and reduce electrical demand
- Using on mountain reservoirs and ponds to gravity feed snowmaking systems where possible
- Using distributed, on-site power generation to avoid or reduce peak demands from the utility grid
- Purchasing green power from energy providers

**Energy Use for Lifts**

**Principles:**
- Reduce energy use in lift operations
- Use cleaner energy in lift operations where possible

**Options for getting there:**
- Using high efficiency motors
- Upgrading diesel motors or converting them to alternative clean energy sources, such as fuel cells or microturbines
- Using renewable energy sources
- Purchasing green power from energy providers

**Energy Use for Vehicle Fleets**

**Principles:**
- Reduce fuel use in vehicles used for ski area operations
- Use cleaner fuel where possible

**Options for getting there:**
- Providing shuttles or transportation for guests and employees
- Using energy efficient vehicles
- Using alternative fuel or hybrid electric engines in ski area fleet vehicles including shuttles, trucks, snowcats and snowmobiles
- Conducting regular maintenance on fleet vehicles

**WASTE MANAGEMENT**

*The Principles below incorporate the “REDUCE, REUSE, RECYCLE” philosophy of waste management to help ensure materials are being used efficiently and disposed of only after consideration is given to reusing them. Reducing waste helps protect natural resources, reduce pollution, greenhouse gases, and energy use by decreasing the need to produce new materials, and minimizes disposal costs.*

**Waste Reduction**

**Principle:**
- Reduce waste produced at ski area facilities

**Options for getting there:**
- Conducting an audit of waste production to establish a baseline and track progress toward reduction
- Purchasing recycled products
- Purchasing products in bulk to minimize unnecessary packaging
- Encouraging vendors to offer “take-backs” for used products
- Educating guests and employees about reducing wastes generated at the area and following the Leave No Trace™ Principles such as “pack it in, pack it out”

**Product Reuse**

**Principle:**
- Reuse products and materials where possible

**Options for getting there:**
- Using washable or compostable tableware/silverware in cafeterias and lodges
- Encouraging guests to reuse trail maps
- Composting food wastes, grass clippings, and woody debris for use in landscaping and revegetation areas
- Exploring opportunities for reusing products (e.g., building materials, lift parts and equipment, and office supplies)
- Joining EPA’s WasteWise® program

**Recycling**

**Principle:**
- Increase the amount of materials recycled at ski areas where possible

**Options for getting there:**
Making recycling easy for guests by offering containers and displaying signage in facilities and lodges
Recycling office paper, cardboard, newspaper, aluminum, glass, plastic and food service waste
Recycling building materials as an alternative to land filling
Partnering with local governments on recycling in remote communities where recycling programs are not readily available
Encouraging vendors to offer recycled products for purchase
Educating guests and training employees on recycling practices
Setting purchasing specifications to favor recycled content and specifying a portion of new construction to require recycled content

Potentially Hazardous Wastes

Principle:
Minimize the use of potentially hazardous materials, the generation of potentially hazardous wastes and the risk of them entering the environment

Options for getting there:
Safely storing and disposing of potentially hazardous materials such as solvents, cleaning materials, pesticides and paints
Recycling waste products such as used motor oil, electric batteries, tires and unused solvents
Reshelving and reusing partially used containers of paint, solvents, and other materials
Purchasing non-hazardous products for use when effective
Properly managing fuel storage and handling
Maintaining or upgrading equipment to prevent leaks
Initiating programs to reduce the occurrence of accidental spills or releases
Installing sedimentation traps in parking lots
Educating employees on the requirements for properly handling hazardous wastes
Reclaiming spent solvents
Coordinating with local area emergency planning councils for response in case of a spill or release

FISH AND WILDLIFE

Ski areas operate within larger ecosystems and strive to be stewards of fish and wildlife habitats. They need the cooperation of other landowners, managers, local communities and other stakeholders for an effective ecosystem management approach. There are measures ski areas can take to better understand, minimize, and mitigate impacts to fish and wildlife, and in some cases, enhance habitat, particularly for species of concern. The benefits of these measures include promoting biodiversity and the natural systems that attract guests to the mountain landscape.

Principle:
- Minimize impacts to fish and wildlife and their habitat and maintain or improve habitat where possible

**Options for getting there:**
- Supporting and participating in research of fish and wildlife populations and their interactions with ski areas
- Inventorying and monitoring fish and wildlife and their habitat, particularly protected species
- Using snowmaking storage ponds or reservoirs to store water for use during times of low stream flows to help protect aquatic habitat
- Conducting activities and construction with sensitivity to seasonal wildlife patterns and behavior
- Siting and designing trails and facilities to include gladed skiing areas, linkage of ungladed areas to maintain blocks of forested corridors and inter-trail islands to reduce fragmentation where appropriate
- Limiting access to, or setting aside, certain wildlife habitat areas
- Using wildlife-proof dumpsters or trash containers
- Creating or restoring habitat where appropriate, either on- or off-site
- Using land conservation techniques such as land exchanges and conservation easements as vehicles for consolidating or protecting important wildlife habitat
- Participating in ecosystem-wide approaches to wildlife management
- Providing wildlife education programs for employees, guests, and the local community such as Skecology® and the Leave No Trace™ Principles of respecting wildlife

**FOREST AND VEGETATIVE MANAGEMENT**

*Ski areas recognize the importance of stewardship in managing the forests and vegetation that support ecosystems and allow for public recreation opportunities. Sound forest and vegetative management can benefit fish and wildlife habitat, water quality and viewsheds and reduce erosion, pollution, and greenhouse gases.*

**Principle:**
- Manage effects on forests and vegetation to allow for healthy forests and other mountain environments

**Options for getting there:**
- Inventorying and monitoring forest and vegetative resources
- Adopting vegetative management plans
- Minimizing the removal of trees through the careful siting and design of trails
- Using over-snow skidding to remove logs for new runs during times of sufficient snow cover
- Using aerial logging where economically feasible
- Removing dead and diseased trees, with consideration to habitat value, to promote healthy forests and public safety
- Revegetating roads that are no longer used
- Revegetating disturbed areas with native plant species and grasses, recognizing that faster growing, non-native species may be needed to address erosion
- Revegetating disturbed areas as quickly as possible following disturbance
- Limiting disturbance to vegetation during summer activities
- Assessing the role of forest stands in reducing greenhouse gases
- Providing signage informing guests of sensitive vegetation areas
- Using traffic control measures, such as rope fences, on areas with limited snow coverage to protect sensitive vegetation and alpine tundra
- Reducing or eliminating snowcat and snowmobile access to sensitive areas with limited snow coverage
- Planting at appropriate times to minimize water use while optimizing growth
- Employing practices to control invasive or noxious weeds

**WETLANDS & RIPARIAN AREAS**

*Ski areas recognize that wetlands and riparian areas are crucial components of the alpine ecosystems in which they operate.*

**Principle:**
- Avoid or minimize impacts to wetlands and riparian areas, and offset unavoidable impacts with restoration, creation or other mitigation techniques

**Options for getting there:**
- Inventorying and monitoring wetland and riparian areas
- Limiting snowmaking and grooming equipment access to wetlands and riparian areas if snow cover is inadequate to protect them
- Limiting guest access to wetlands and riparian areas and vernal pools if snow cover is inadequate to protect them
- Engaging in restoration, remediation and protection projects
- Establishing buffers and setbacks from wetland and riparian areas in summer
- Managing snow removal and storage to avoid impacting wetlands and riparian areas as feasible
- Supporting or participating in research on functions of wetland habitats and riparian areas
- Using trench boxes to minimize impacts to forested wetlands from construction of utility lines

**AIR QUALITY**

*Ski area guests and operators value fresh air as an integral part of the skiing experience. Although there are many sources in and around the community that, combined, may compromise air quality, ski areas can do their share to help minimize impacts. Some of the many benefits of cleaner air and reduced air pollution include enhanced visibility and lessening human influences on climate change, which is of particular concern to ski areas given their location.*
Principles:
- Minimize ski area impacts to air quality
- Reduce air pollution and greenhouse gas emissions as feasible

Options for getting there:
- Reducing air pollutants and greenhouse gas emissions from buildings, facilities and vehicles through clean energy and transportation-related measures identified in these Principles
- Using dust abatement methods for dirt roads during summer operations and construction
- Revegetating as appropriate to control dust
- Reducing the sanding and cindering of ski area roads by using alternative deicing materials
- Sweeping paved parking lots periodically
- Reducing burning of slash through chipping or other beneficial uses
- Limiting wood burning fireplaces or using cleaner burning woodstoves and fireplaces and installing gas fireplaces
- Working with local and regional communities to reduce potential air quality impacts

VISUAL QUALITY

Scenic values are critical to surrounding communities and the experience of guests. Although ski area development is a part of the visual landscape in many mountain areas, it can be designed and maintained in a manner that complements the natural setting and makes the natural setting more accessible to guests. Where opportunities for collaboration exist, ski areas should also consider working with appropriate partners in the protection of open lands that help define the visual landscape in which their guests recreate.

Principles:
- Create built environments that complement the natural surroundings
- Explore partnerships with land conservation organizations and other stakeholders that can help protect open lands and their role in the visual landscape

Options for getting there:
- Planning with landscape scenic values in mind
- Minimizing ridgeline development where feasible
- Promoting protection of open space elsewhere in the community to enhance regional viewsheds
- Applying local architectural styles and highlighting natural features to minimize disruption of the visual environment and create a more authentic experience
- Using visual simulation modeling in siting, planning and design to assist in demonstrating visual effects of projects
- Designing lifts and buildings to blend into the natural backdrop or complement the natural surroundings
- Constructing trails to appear as natural openings
- Using non-reflective building products and earth tone colors on structures
- Planting trees or other vegetation to improve visual quality
Incorporating low level lighting or directional lighting to reduce impacts of lights on the night sky while recognizing safety, security, and maintenance needs

Keeping parking areas free of debris and garbage

Placing existing and new utility lines underground to reduce visual impacts

TRANSPORTATION

Travel to and within ski areas has unavoidable impacts. Through transportation initiatives, ski areas can do their part to help ease congestion and impacts to air quality and improve the ski area experience. (See related topic of ski area vehicle fleets under Energy Principles.)

Principle:

Ease congestion and transportation concerns

Options for getting there:

Providing employee transportation benefits, including shuttles, bus passes or discounts, van pools, and ride-share incentives

Providing and promoting ski area guest transportation through shuttles or buses

Offering and promoting carpooling or HOV incentives for guests such as discounts or preferred parking in proximity to lodges

Offering and promoting non-peak travel incentives for guests such as Sunday night stay discounts

Increasing density in base area development when appropriate to reduce the need for vehicle use

Supporting and participating in transit initiatives in the community and region

Working with travel agents to market and promote “car free” vacation packages

III. EDUCATION AND OUTREACH

Because of their setting in an outdoor, natural environment and the clear connection between that natural environment and the guest experience, ski areas have an excellent opportunity to take a leadership role in environmental education and in enhancing the environmental awareness of their guests, surrounding communities, and employees.

Principles:

Use the natural surroundings as a forum for promoting environmental education and increasing environmental sensitivity and awareness

Develop outreach that enhances the relationship between the ski area and stakeholders and ultimately benefits the environment

Options for getting there:

Training employees and informing guests of all ages about the surrounding environment

Promoting the Environmental Code of the Slopes©

Educating stakeholders about these Principles and the Environmental Charter for Ski Areas
Providing leadership on environmental concerns with particular importance to the alpine or mountain environment, such as climate change
Dedicating personnel to environmental concerns and incorporating environmental performance measures and expectations into departmental goals
Dedicating a portion of the ski area’s website to environmental excellence and the Environmental Charter
Offering Skicology® or other environmental education and awareness programs that provide on-mountain instruction and offer classroom information for use in schools
Partnering with local school systems, businesses and the public on initiatives and opportunities for protecting and enhancing the environment
Displaying interpretive signs on forest resources, vegetative management and fish and wildlife
Publicly demonstrating a commitment to operating in an environmentally sensitive manner by adopting these Principles or addressing environmental considerations in company policies or mission statements
Creating funding mechanisms for environmental outreach projects
Promoting the ski area’s environmental success stories or specific measures taken to address water, energy, waste, habitat, vegetation, air quality, visual quality or transportation concerns
Encouraging employees to participate in community environmental initiatives
Supporting initiatives to reduce snowmobile noise and emissions
Asking guests their opinions about ski area environmental programs and initiatives and using their feedback to improve programs and the guests’ experiences.
APPENDIX B

Rocky Mountain Institute’s Nine Tools for Economic Renewal

In more than a decade of field-testing Economic Renewal, RMI staff have worked with dozens of successful, resourceful communities. Based on their inspiring experiences, here are nine tools for harnessing the four principles of Economic Renewal:

- **Ask why.** Asking why shifts the focus from particular proposals, which may divide the community by appealing to entrenched positions, to the underlying goals that unite the community. Having asked why, you can then choose the best way to achieve those goals rather than narrowly focusing on one-size-fits-all solutions.

- **Manage demand.** "Demand management" starts by asking what job the user wants done, and then determining the most efficient way to do it. It usually turns out that no kind of new supply can compete with the more efficient use of what you've already got.

- **Pursue development, not necessarily growth.** Growth, in the sense of expansion, is an increase in quantity; development is an increase in quality. True, expansion creates jobs; but sustainable development puts people to work, too, without the problems often associated with physical expansion.

- **The bigger the solution, the harder it is to pull off,** the longer it takes, and the greater the risks. Small solutions are usually faster, more flexible, less expensive, and more manageable than large ones.

- **Ceding your community’s future to disinterested outsiders is likely to lead to delay, disappointment, and an unacceptable loss of control** over the outcome. In contrast, local people—especially local business people—have a vested interest in seeing your community thrive.

- **Increase the “multiplier effect.”** When a dollar enters a community and is then spent outside the community, its benefit is felt only once. Keeping dollars recirculating multiplies their benefit, adding more value, paying more wages, financing more investments, and ultimately creating more jobs.

- **Find hidden local skills and assets.** Virtually every community has some unique asset or skill that can be put to work creating wealth. The trick is to examine your community with a fresh eye. Opportunities may be right there for everyone to see but waiting for someone like you to recognize them and put them to work.

- **Build social capital.** A community's most important strength is the capacity of its people to work together for the common good. Like more conventional forms of capital, this "social capital" is essential to successful development.

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37 Available at http://www.rmi.org/sitepages/pid361.php.
- **Organize regionally.** The human scale of a community—which is its strength on a social level—can make for limited economic options and few opportunities to make business connections. A smart development effort looks for ways to tie in more fully to the regional economy.

More details on ER are available at [www.rmi.org](http://www.rmi.org) under the “Communities” link.
APPENDIX C

Case Study: Corporate Mission and Guiding Principles at Aspen Skiing Company (ASC)

Pat O’Donnell, a lifelong environmentalist and outdoorsman, took over as ASC CEO in 1997 with three conditions: first, company employees, using a collaborative process, would create a set of “guiding principles,” so that the business would be values based, not purely dollar driven; second, O’Donnell asked for the creation of an Environmental Affairs Department to assess the company’s environmental impacts and take steps to address them; third, he asked that the company create an “Environment Foundation,” an independent nonprofit funded by employee payroll deductions, matched by ASC and again by the Aspen Valley Community Foundation. The Environment Foundation’s mission would be to protect and preserve the Roaring Fork Valley environment. Below, some of the programs that have evolved as a result of the guiding principles and the creation of the Environmental Affairs Department.

ENVIRONMENT FOUNDATION: With 41% participation from Aspen Skiing Company employees, the foundation has donated over $800,000 over eight years to trail maintenance, open space preservation, air and water quality monitoring, environmental and historical education, and other local environmental causes.

SUSTAINABILITY REPORT: ASC developed the ski industry’s first Sustainability Report in 1999-2000. Now in its fourth edition, the report tracks ASC’s environmental impacts by documenting resource use, the pollution associated with that use, and what we’re doing about it. The report showed us that energy use is by far the highest priority environmental impact, as it contributes to air pollution and global warming (both a direct threat to the company’s business and the community). As a result, many of ASC’s programs are energy oriented. The Sustainability Report, and other information on ASC programs, is available on what was the first comprehensive environmental website in the industry: www.aspensnowmass.com/environment.

BIODIESEL: ASC uses clean, renewable, domestically manufactured soybean-based biodiesel fuel in all company snowcats. ASC uses 50,000 gallons of pure biodiesel on four mountains in a single winter season. (Pure biodiesel is mixed with regular diesel at a 20% blend. ASC burns 260,000 gallons of this mixture each winter.) Biodiesel blends of 20% have been shown to reduce emissions of particulates and carbon monoxide by 10%, and unburned hydrocarbons by 20%.

GREEN BUILDING: ASC is the only resort in the industry with a green building policy. We built one of the first U.S. Green Building Council LEED (Leadership in Energy and Environmental Design) certified buildings in the U.S.—the Sundeck Restaurant on Aspen Mountain, and recently completed a second LEED (Silver) building, the Snowmass Golf Clubhouse, which beats energy code by 63% using ground source heat.

38 Available at: http://www.aspensnowmass.com/companyinfo/guidingprinciples/?isSummer=0
39 Alta, a ski resort in Utah, recently released its first Sustainability Report, the second in the industry. Similarly, more and more resorts—including Steamboat Springs and Arapahoe Basin, have followed ASC’s lead and created their own employee based environment foundations.
pumps. See [www.usgbc.org](http://www.usgbc.org). ASC has also built green time share units (heated and cooled using a local pond), a green ski patrol headquarters (with the largest solar photovoltaic array in the ski industry on its deck) and is currently working on a green base development at Snowmass.

**CLIMATE POLICY/RENEWABLES:** ASC committed to reduce greenhouse gas emissions by 10% by 2010 based on a 1999 baseline. We are pursuing this through renewable energy purchases (which accounted for 5% of our power in 2005), and energy efficiency, mostly in the form of snowmaking efficiency and compressor and lighting retrofits. ASC has done 15 lighting retrofits in the past four years, including the entire Little Nell Hotel. The retrofit in the garage alone will eliminate 140,000 kilograms of greenhouse emissions annually.

**MICROHYDRO ELECTRICITY:** An outgrown of ASC’s climate policy was an effort to develop onsite renewable power. After exploring a variety of options, including solar and wind, ASC decided to integrate a small hydroelectric system into the Snowmass Mountain snowmaking system, to take advantage of spring runoff. The 115kw turbine runs every spring, and generates enough power for about 40 homes year round.

**BASE VILLAGE AT SNOWMASS:** ASC is in the process of developing a $(US) 400 million base village at Snowmass, with 600 residential units and 100,000 square feet of commercial space. The development is occurring within the town boundaries in Snowmass Village, on existing parking lots and building sites, and will serve as a centralized location for mass transportation. (Old buildings were deconstructed and composted, rather than being sent to the landfill. This practice saves money but also keeps the landfill from filling up, a problem in resort communities where half of all waste generated comes from construction and demolition of buildings.) ASC and development partner Intrawest have committed to exceeding the local energy code by 30%, meaning all buildings in the village will be 30% more energy efficient than typical new construction in Snowmass. Four buildings will be LEED certified. Details on the village’s environmental measures are available at: [www.aspensnowmass.com/images/general/BaseVillageEditorial.pdf](http://www.aspensnowmass.com/images/general/BaseVillageEditorial.pdf)
APPENDIX D

Best Practices:
Xanterra Resorts Sustainable Cuisine:
Food That Promotes Health and Environmental Protection

Xanterra Parks and Resorts is the largest concessionaire to the U.S. National Parks Service, operating hotels, restaurants, and gift shops at Yellowstone, Crater Lake, Grand Canyon, Zion and Everglades National Parks. Their sustainable cuisine program, which began in 2000 with a company-wide seafood policy requiring that all 64 restaurants in the company serve only sustainable seafood, has grown into a nationally acclaimed sustainable cuisine program.

In 2000, Xanterra began recommending fish from Marine Stewardship Council-certified sustainable fisheries and those that were harvested using sustainable practices, following the Monterey Bay Aquarium Seafood Watch protocol and the Audubon Society’s Living Oceans Seafood Guide. The company also stopped serving four species of seafood—Chilean sea bass, Atlantic swordfish, Blue fin tuna and shark—because the survival of those species is threatened by over-fishing, or they are harvested in ways that damage the environment.

Xanterra then became the first U.S. hospitality company to be granted “Chain of Custody” certification from the Marine Stewardship Council. The company became a corporate member of the Chef’s Collaborative, a national network of more than 1,000 members of the food community that promotes sustainable cuisine.

Since then, Xanterra’s sustainable cuisine menu offerings have grown substantially, including the additions of:

• Oregon Country Natural Beef, produced by a cooperative of family-run ranches that raises cattle using sustainable practices including eliminating growth hormones and feed additives and maximizing the use of natural resources like water and vegetation.

• Niman Ranch pork and Montana Legends beef, produced from hormone-free animals fed natural feeds and grazed using low-impact methods.

• Wine produced from organically grown grapes or by using other sustainable agricultural practices at several Xanterra restaurants. A full one-third of the wine list at the Grand Canyon Lodge is comprised of wines produced using sustainable agriculture or organic farming techniques, grown without chemical fertilizers, weed killers, insecticides, or other synthetic chemicals.

• Marine Stewardship Council Certified sustainably harvested Wild Alaskan salmon.
• Abalone produced by Abalone Farm—a California facility that uses state-of-the-art sustainable practices. Due to the rapid decline in the coastal wild abalone population, commercial abalone diving is illegal in U.S. waters. Abalone Farm operates an aquaculture facility that grows abalone without harming resources.

• Silk brand organic soy milk.

• Organic Fair Trade Certified Coffee from Green Mountain Coffee Roasters. The coffee is grown without pesticides and harvested in a way that supports wildlife and migratory bird habitats, using a shade growing method that requires only partial cutting of the rainforest. The Fair Trade certificate means that it is purchased from local farmers at a fair price.

BEST PRACTICES: WHERE'S THE BEEF? ASC BUYS LOCAL

Two of the principles of Economic Renewal—plugging leak and supporting existing businesses—can be neatly achieved by local sourcing of goods and services. One example is a local beef purchase program that ran at ASC and in Steamboat Springs, CO.

As is the case around many ski areas, property values in the Roaring Fork Valley are at a premium. As a result and because of depressed beef prices, cattle ranchers have sold farmland to developers. Prompted by the desire to preserve open space and rural areas in the Aspen community by supporting local ranchers, ASC decided to purchase beef locally and sell it in its restaurants. In 1999, ASC purchased $4,000 worth of beef from local ranchers, and in 2000, ASC purchased $11,000. The locally produced beef costs ASC twice as much per pound as beef produced elsewhere. Although the extra cost could be passed on to its customers, ASC is absorbing the additional cost. However, a brewery in Steamboat Springs, Colorado sells a burger with beef purchased from a local rancher for $1 more than nonlocal beef burgers, and the local beef burger outsells it by 2 to 1. An added benefit associated with the locally purchased beef in Aspen is that it is produced without hormones, chemicals, or antibiotics.

Aspen Skiing Company’s local beef program ran for three years, but fell apart when local ranchers couldn’t provide the beef in as timely a fashion as larger suppliers. A missed shipment of beef to a slopeside restaurant can mean hundreds, if not thousands, of dollars in losses. The lesson? Not all good ideas are easily implemented in the real world.
APPENDIX E

Northampton County, Virginia


“Northampton County, Virginia, is often cited as a model of small-town and rural sustainable development. Northampton County is the southernmost county on Virginia’s Eastern Shore, forming the gateway to the Chesapeake Bay. The county is rich in natural and cultural assets including beaches, marshes, barrier islands, tidal creeks, woodlands, historic villages, and farms. It includes a diverse habitat for over 260 species of birds and countless other fish and wildlife species. The county also has been one of the poorest in Virginia. In 1991 the Virginia Coastal Resources Management Program of the Virginia Department of Environmental Quality (DEQ) approached the county with a four-year match-free grant proposal, a Special Area Management Plan (SAMP) for sustainable development, to create enforceable policies to protect coastal habitat and promote economic development. A partnership of federal, state, and local governments was formed. With a $1 million grant from the National Oceanic and Atmospheric Administration (NOAA) under the Coastal Zone Management Act, the Virginia Coastal Program hired a local project coordinator and a citizens’ Sustainable Development Task Force was created. The task force held a series of community meetings. Northampton County’s Board of Supervisors also supported this effort.

This community task force created a Sustainable Development Action Strategy based on the Special Area Management Plan. This strategy targets six industry areas for sustainable development and links each with key asset protection policies. The targets are to develop:

1. The heritage tourism industry while protecting natural and cultural assets.
2. Seafood and aquaculture industries while protecting water quality.
3. New industries, including an eco-industrial park, while protecting sense of place, quality of life, and the groundwater.
4. The agriculture industry while protecting productive land, including sensitive habitats.
5. Arts, crafts, and local product industries while preserving culturally diverse authentic communities.
6. Research and education facilities while protecting natural and cultural systems.

Northampton County has already begun implementing these projects. This initiative has shown some initial success, and the group continues to leverage resources for its project implementation. Additional support and resources have been acquired from the Department of Transportation, the Economic Development Administration, the U.S. Department of Agriculture, the U.S. Fish and Wildlife Service, the Environmental Protection Agency, and industry.
The following two examples illustrate the project’s progress. The first illustrates how the Special Area Management Plan developed birdwatching tourism while protecting habitat, and the second focuses on the Port of Cape Charles Sustainable Technologies Industrial Park (STIP).

Beginning in the fall of 1991, the Virginia Coastal Program contracted with various agencies and organizations to research bird habitat requirements in the area, particularly neotropical migratory songbirds and colonial water birds. In 1993, the Virginia Coastal Program initiated the annual Eastern Shore Birding Festival. The Eastern Shore Chamber of Commerce now organizes the event, which is funded largely through the SAMP for sustainable development and is put on through the efforts of many federal, state, and local agencies and private citizens. The festival celebrates the annual fall migration of songbirds, raptors, shorebirds, and other birds. Over 160 species are usually seen during the Festival weekend and several hundred thousand dollars are brought in by the birdwatchers.

The Port of Cape Charles Sustainable Technologies Industrial Park (STIP) is an eco-industrial park project. Funded by a unique partnership of federal, state, private, and county investments, the STIP is starting to attract businesses committed to profitability, the environment, and the community. The park will incorporate local enterprises as well as new industry as it tries to create more sustainable products and production practices. The STIP will attempt to demonstrate advanced facilities in resource efficiency and pollution prevention and model symbiotic relationships among industrial processes. STIP’s first tenant—a manufacturer of photovoltaic energy equipment—is already in place.

Through many different project activities and its ability to leverage support and resources from many different stakeholders and sources, Northampton County’s sustainability effort illustrates how rural communities and small towns can make progress toward sustainability.”
While it doesn’t necessarily follow that economic and environmental sustainability depends on a vibrant, authentic community, the diversity of a community has long been held up as a crucial to sustainable development. In Aspen, the economic and age diversity of the population is as critical to the guest-service industry as it is to a healthy ecosystem. Although issues such as equity and population diversity may not readily come to mind in sustainability circles, they are a core part of today’s sustainability discussions. As Karl-Henrick Robert and his colleagues at The Natural Step, a Swedish approach to thinking about sustainable development have said, “In the sustainable society, basic human needs must be met with the most resource efficient methods possible, and their satisfaction must take precedence over luxury consumption.” In contrast to the beauty and relative health of the surrounding environment, the city of Aspen is rapidly becoming a monocultural community dominated by wealthy second homeowners who drive up the cost of real estate and drive out low-income workers. This has a direct impact on the guest-service industry because of its dependence on skilled and unskilled labor. Expensive homes, often empty in the winter, take the place of cheaper, higher density units that might house teachers, fire fighters, street cleaners, hotel workers, and lift operators. As a result, the community loses its vibrancy and diversity and ASC loses employees. David Tilman, a conservation biologist, has shown that increased biodiversity tends to improve the health and stability of natural systems, making them more resilient when disrupted. The same is potentially true for ski towns. As socioeconomic and cultural homogeneity increase, the economy may be at risk, cultural development may slow, and stagnation may set in. Moreover, the consequence of a wealthy, aging population is that ski towns have fewer customers, because as people age, fewer engage in on-mountain sports. To survive, destination resorts need a constant source of new guests. For example, ASC has made substantial efforts to bring in ESPN’s winter X Games, which would attract a younger generation of visitors. Monoculture may also affect the environment. Hotels and resorts that cannot develop new guest sources may eliminate environmental staff (as another Colorado ski area did in 2002) and avoid new environmental initiatives in response to declining revenues. Stagnating towns may find that their tax base declines, making less money available for public works, parks, open space preservation, stream enhancements, and other aspects of environmental protection.

In response, ASC subsidizes mass transit by over $1 million annually, because many employees commute from far away, where housing prices are cheaper. ASC also owns employee housing (currently about 300 units) that enables people to live where they

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41 http://www.naturalstep.org/
work. This provides an additional business benefit beyond the employee/employer relationship. Similar to Henry Ford, who voluntarily increased the minimum wage in the early 1900s so that more people would be financially able to buy cars, ASC supports community affordable housing because it creates both employees and guests.
APPENDIX G

Case Study:
“Market Sharing” in Tourism Communities in the Western U.S.

As discussed previously in this paper, Montenegro will have to address the question of whether it is best to develop new villages or integrate new resorts into existing town. It’s useful to look at the Western U.S., if only to understand what happened there as a reference.

Throughout most of the West, tourism markets have grown rapidly in recent years, and community ‘inter-town” market sharing is more the rule than the exception. Most Western resort towns spawned economically affiliated communities many years ago, as the economic influence of tourism and related development spread to nearby towns. Locally, this is often called the “down-valley effect” because the core resorts started at the top of the valley and over time their influence spread down to the lower valley towns—the only direction that offered additional land and typically a warmer climate. As a result, entire valleys, and even multiple valleys, became economically codependent.

In fact, a number of predictable relationships have evolved based on proximity to the core resort, as illustrated by the following chart:

For Western resorts towns, economic codependency and co-evolution has been a reality for many decades:
Breckenridge, the county seat as well as the largest and oldest resort town in Summit County, Colorado, shares the local tourism market with the towns of Frisco, Dillon and Silverthorne. Copper Mountain and Keystone Resorts, which are unincorporated resort complexes, also participate in Summit County’s resort marketplace. Many resort economies, which began in a single town, such as Aspen, Breckenridge or Vail, have grown to encompass multiple local communities with each offering a different mix of resident and visitor services and market orientation. There is considerable economic strength in this diversity of offerings and each community responds differently to changing economic pressures.

Snowmass Village, which developed in the mid-1960s about 10 miles from Aspen, has long been in the economic shadow of Aspen, even though the Snowmass Ski Area supports over twice the skier volume as Aspen Mountain. The town of Aspen has a relatively small tourist bed base, but continues to have a far larger and more successful commercial/retail core. Recent studies indicate that Snowmass guests, despite nearly 100,000 square feet of retail development within the town, still spend over 50 percent of their retail expenditures outside of Snowmass Village, principally in Aspen. In essence Aspen exported its bed base and maintained its scale and core downtown.

A year-round gondola attaches the towns of Telluride and Mountain Village; the latter is a newly incorporated municipality. Mountain Village has a strong accommodations market, but its retail community continues to struggle. From a business perspective, most local observers would agree that the Mountain Village has been a beneficial addition for Telluride—absorbing some of the growth pressure from a physically constrained town and providing a modern bed base that Telluride could not replicate. The overall market is far stronger because of the presence of both communities.

Crested Butte begot Mt. Crested Butte in the early 1970’s, Mt Crested Butte has the preponderance of beds and immediate adjacency to the ski area, but the old town of Crested Butte remains the active retail and commercial center of the valley. Crested Butte’s historic charm and local resident orientation remains the defining element of the local tourist experience.

Although both areas are in the same municipality, the old town of Steamboat Springs competes with and compliments the far newer Steamboat Village, which has the majority of the transient bed base and adjacency to the mountain. The old town core, with its traditional western ambience, walkable grid street system and mixed-use commercial environment remains the healthier retail and residential environment.

Jackson is unusual in that it is both a gateway city for the national park system, a winter ski town and a high-end second home resort. Durango, Colorado; Mammoth Lakes California; and Flagstaff, Arizona have some similarities, but Jackson’s three-tier tourism market (second homes, national parks and skiing) is unique and offers far greater economic stability.
Lessons Learned

With the exception of Mammoth Lakes (CA), Jackson, Wyoming is the only Rocky Mountain resort community that has maintained a virtually exclusive hold on a region’s destination tourism and local resident commercial business. In most instances, the tourism business originated in one town, but long ago spread into multiple communities—each offering a different mix of prices, skiing proximity, amenities and ambiance. In almost all instances, each community has found its own market niche and the regional market has prospered as a result of broadened market offerings.

Despite the new competition, the primary resorts, particularly those that have history, authenticity, appealing ambience and a well-maintained commercial core, have generally fared well (e.g. Steamboat, Breckenridge, Aspen, Crested Butte, Telluride). Meanwhile, the newer resort towns, even with new bed base and proximity to skiing have struggled to define themselves, support a broad commercial core, and overcome their single purpose origins. (Snowmass, Telluride Mountain Village, Teton Village at Jackson, the village a Aspen Highlands.)

Generally, the introduction of a new resort concentration has broadened not balkanized the overall regional market. As a rule, new projects have a greater ability to respond to changing visitor preferences and can offer a modern, market appropriate product. Thus far, new projects have not replaced the authenticity, vitality, diversity and character offered at the core resort. The creation of multiple urban centers in a single regional resort has not meant a mass migration out of the older resort, but rather an expansion of market opportunities: Snowmass can serve families better than Aspen; Mt Crested Butte can accommodate visitor volumes that would have overwhelmed the historic Crested Butte; Mountain Village offers single family homes that are impossible to develop in Telluride, etc.

For the most part, these “competing” towns have developed a synergistic relationship by a normal market winnowing process. Each community capitalizes on its own strengths and develops a corresponding market niche. Rarely are those niches exclusive and each community shares some portion of the market with the other. For example, Mountain Village, which is adjacent to Telluride, offers an entirely different ambience than Telluride. Visitor surveys indicate that Mountain Village guests prefer some of the Village’s offerings, particularly its newer accommodations and quiet atmosphere, but they also enjoy having access to Telluride’s shops, restaurants and attractions. It is the combination of the two communities that is successful. If Mountain Village accommodations were not available, these visitors would more likely go to another resort than stay in Telluride. Similar synergies hold true for the other multi-resort markets. A similar response should be expected in Jackson. The downside: new, planned mountain villages like the one at Telluride, the Intrawest development at Keystone, and many others are ghost-towns in the summer and off season, because they have no organic community.

The above discussion is meant to be a nonpartisan exploration of the evolution of resort communities in the West. Though many of the ancillary resorts seem to complement existing communities, the creation of new resort communities from scratch also
promotes sprawl, as discussed previously in this paper, which has a host of environmental and economic impacts, from increased resource use, to consumption of open space and agricultural land for housing, to traffic jams, school overcrowding, and regional air pollution.\textsuperscript{44}

\textsuperscript{44} Details on urban and rural sprawl, as well as solutions to the problem, are available at \url{http://www.smartgrowthamerica.org/}. 
Appendix H

“The Rough Road to Sustainability in Aspen: How Failure Can be the Next Great Tool in Sustainable Development,” by Auden Schendler, attached as a PDF.