SUSTAINABLE SLOPES

The environmental charter for ski areas

INTRODUCTION

The environment is a ski area's number one asset. The founders of the ski industry recognized that fact 60 years ago in choosing some of the most spectacular terrain for establishing ski areas. The natural surroundings are awe inspiring and provide a backdrop unmatched in any other sport. The premier alpine recreation sites we have today were made possible through the vision, pioneering spirit and hard work of our industry's founders. The value of those efforts holds today, as resorts are showcases of quality recreation opportunities for skiers, snowboarders, and countless summer guests as well. Although many forces may draw us to the slopes—the thrill and excitement of sliding down a mountain, the chance to reconnect with family and friends—we can never underestimate the value of the natural surroundings in renewing the human spirit.

As a society, we now find ourselves needing more than ever to escape every day pressures by heading for the outdoors. With that increasing demand comes impacts and a number of emerging environmental concerns that must be addressed proactively. As an industry, we need to apply the same vision and pioneering spirit of our founders to this new set of challenges. It is not enough to simply provide opportunities for fun and recreation; we must also be part of the solution.

We are taking this collective step of adopting our Environmental Charter to demonstrate our commitment to good environmental stewardship. We do so for a number of reasons. We respect the natural settings that we call home and want the same experience to be available for future generations. We are also keenly aware that our guests take the environment seriously and want us to be the most sustainable operations we can be. This means making efforts in all facets of our operations to use natural resources wisely and ensure that similar opportunities are available for future generations. Individual resorts have made great strides on this front in areas such as water and energy conservation, water quality protection, waste reduction, habitat protection, forest and vegetative management, and air and visual quality protection. This Charter will provide guidance for doing so collectively in the years to come.

This document represents a great deal of input, hard work, and energy from people inside and outside our industry. The National Ski Areas Association's (NSAA) Environmental Committee was instrumental in guiding the development of the Charter over the past year. NSAA's Board of Directors adopted the Mission and Vision statements in October of 1999. The Preamble was developed to convey the context of this Charter, provide background on our industry, and identify the purpose, goals, and limits of the Principles. The industry hosted four regional meetings on the Principles during the

1999/2000 season in Colorado, Oregon, Utah, and Vermont to gain input from stakeholders, including federal, state and local government officials, environmental groups, resorts, other recreation groups and academia. The Keystone Center, an independent non-profit public policy and education organization based in Colorado, facilitated these meetings. Our process was inclusive. In total, we invited more than a thousand individuals to participate, of which 200 provided us input over a nine-month period. A sampling of the Participating Organizations is provided on page 5. The Charter reflects this input, and is a much-improved document because of it.

The Principles are the heart of this Environmental Charter. They provide a framework for resorts across the country to implement best practices, assess environmental performance, and set goals for improvement in the future. Undoubtedly the implementation of these Principles may be more difficult for some resorts than others, as resorts vary greatly in their technical expertise and financial resources. Although we have chosen to use the term "ski area" throughout the Principles, the term encompasses a variety of winter and summer resort operations, from large destination resorts to small, local ski hills. Some of the smaller ski areas, in particular, may need more time to fully implement the Principles. Although there are many differences among ski areas, each shares in common a commitment to improved environmental performance and sound environmental stewardship.

We are fortunate to have a solid group of Partnering Organizations—those organizations that support the development of the Principles and are committed to working with us in the future—on board with this Charter. The Partnering Organizations are listed on page 4. In addition to participating in the stakeholder meetings, the Partnering Organizations attended a meeting in Washington, D.C. in March to provide final input on the Principles. They helped make this process a successful one, and we look forward to working with them in their areas of interest in the future.

The Charter also includes an Environmental Code of the Slopes in recognition of the high priority that our guests place on environmental concerns. The Code was developed with input from the stakeholder process to provide snowsports participants and other guests a role in this Charter. We are committed to heightening their awareness of the industry's efforts and educating them on what they can do to help us make sustainable use of natural resources. An outreach campaign on the Code will be developed and implemented at ski areas beginning next season.

The ski industry has an opportunity to be leaders among outdoor recreation providers and other businesses in promoting environmental awareness and striving to be a model of sustainable development. It is our hope that all ski areas will take advantage of that opportunity by endorsing this Charter, committing to implementing it, and helping us provide information to the public on our collective progress under it.

On behalf of NSAA, we are grateful to all of the individuals, organizations and agencies outside the industry that provided input, and the Keystone Center for their superb facilitation of this process. This is truly a beginning, and we look forward to working with all of you in the years to come. 🌲

—Michael Berry, National Ski Areas Association President
June 14, 2000

ENVIRONMENTAL VISION STATEMENT

To be leaders among outdoor recreation providers through managing our businesses in a way that demonstrates our commitment to environmental protection and stewardship while meeting the expectations of the public.

ENVIRONMENTAL MISSION STATEMENT

Ski areas across North America provide a quality outdoor recreation experience in a manner that complements the natural and aesthetic qualities that draw all of us to the mountains. We cherish the outdoors and respect the alpine environment in which we live and work. We are committed to improving environmental performance in all aspects of our operations and managing our areas to allow for their continued enjoyment by future generations.

PARTNERING ORGANIZATIONS

The Principles were developed through a stakeholder process facilitated by the Keystone Center. Input was sought from a wide variety of interests, including federal, state and local governmental agencies, environmental and conservation groups, other outdoor recreation groups, and academia. The "Partnering Organizations" listed below support the ski industry's development of the Principles and are committed to working with the industry on their particular areas of expertise and interest as the industry moves forward to implement the Principles.

Colorado Department of Public Health & Environment
Conservation Law Foundation
U.S. Department of Energy
U.S. Environmental Protection Agency
USDA Forest Service
Leave No Trace Inc.
The Mountain Institute
National Fish & Wildlife Foundation
National Park Service Concession Program
2002 Olympics Salt Lake City Organizing Committee
Teton County, Wyoming
Trust For Public Land

This list will be revised periodically. Please check www.nsaa.org for updates.

PARTICIPATING ORGANIZATIONS

Individuals from the following organizations and agencies provided input on the Principles through the stakeholder process. Participation does not imply that these individuals or organizations support the Principles.

The Alford Design Group, Inc.	(Peter Alford, Jr., Peter Alford Sr.)
Cirrus Ecological Solutions	(Neal Artz, Scott Evans)
Citizens Allied for Responsible Growth	(Dana Williams)
Colorado Department of Public Health & Environment	
Colorado Mountain College – Ski Area Operations	(Curtis Bender, Paul Rauschke)
Colorado Ski Country USA	(Melanie Mills)
Conservation Law Foundation	(Mark Sinclair)
Economics Research Associates	(Greg Cory)
Environmental Defense	(Jennifer Pitt)
Green Mountain Club	(Ben Rose)
Innovation Works	(Mary Lou Krambeer)
Jack Johnson Company	(Brooke Hontz, Lauren Loberg)
Kimley-Horn & Associates, Inc.	(Jim Fletcher)
Leave No Trace Inc.	(Amy Mentuck)
Lyndon State College	(Catherine DeLeo, Ph.D.)
National Environmental Trust	(Jan Pendlebury, Kevin Curtis, Laura Culberson, Paul Blackburn, Susan Sargent)
National Fish and Wildlife Foundation	(Cinda Jones)
National Park Service	(Wendy Berhman)
The Nature Conservancy	(Liz Schulte, Angela Koloszar)
Normandeau Associates	(Al Larson, P.G.)
North Fork Preservation Alliance/Sundance Resort	(Mary Morrison)
Northwest Colorado Council of Governments Q/Q Committee	(Lane Wyatt)
ORCA – Trade Association of the Outdoor Industry	(Myrna Johnson)
Pacific Northwest Ski Areas Association	(Doug Campbell)
Park City Municipal Corporation	(Richard Lewis, Myles Rademan)
Pioneer Environmental Services, Inc.	(Roy Hugie)
Outward Bound USA	(Craig Mackey)
Salt Lake Organizing Committee for the Olympic Winter Games of 2002	(Diane Conrad, David Workman)
s.e. group	(Ted Beeler)
Sierra Club – Utah	(Jock Glidden)
Sierra Club – West Virginia	(Paul Wilson)
Ski Areas of New York	(Rob Megnin)
SKI Magazine	(Andy Bigford)
Ski Maine Association	(Greg Sweetser)
The Citizens Committee to Save Our Canyons	(Gavin Noyes)
Surfrider Foundation/Snowrider	(Jen Ader, Darryl Hatheway)
Teton County, Wyoming	(Ann Stephenson)
The Groswold Ski Company	(Jerry Groswold)
The Mountain Institute	(Jane Pratt)
Town of Mammoth Lakes	(Bill Taylor, Mike Vance)
Trout Unlimited – Colorado Chapter	(Melinda Kassen)
Trout Unlimited – Oregon Chapter	(Jeff Curtis)
Trout Unlimited – Utah Chapter	(Paul Dremann)
Trust for Public Land	(Doug Robotham)
University of Colorado – Center for Sustainable Tourism	(Charles Goeldner)
U.S. Department of Energy	
U.S. Environmental Protection Agency	
U.S. Forest Service	
Vermont Natural Resources Council	(Stephen Holmes)
Vermont Ski Areas Association	(Bill Scheer)

PREAMBLE

OUR VALUES

- 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.

BACKGROUND ON THE PRINCIPLES

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

- 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.

ENVIRONMENTAL PRINCIPLES

VOLUNTARY ENVIRONMENTAL PRINCIPLES FOR SKI AREA PLANNING, OPERATIONS AND OUTREACH*

I. PLANNING, DESIGN AND CONSTRUCTION

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.

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, stormwater 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 on page 14).

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 use

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 Trace™ 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
- ✓ 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 or recycling 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 landfilling

✓ 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 Skecology® 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. ♣

NEXT STEPS FOR SKI AREAS

➡ Endorsing the Environmental Charter and making a commitment to implement the Principles over time.

➡ Adopting environmental mission statements, policies or programs that reflect or expand upon the Environmental Charter and demonstrate your commitment to environmental protection and stewardship.

➡ Designating an "Environmental Charter contact" at your resort.

➡ Conducting audits and gathering data to measure, document, and report your progress toward implementing the Principles.

➡ Using the Principles as a framework, targeting areas for improved environmental performance.

➡ Supporting research on, exploring, and applying technologies that conserve natural resources.

➡ Developing comprehensive programs for waste reduction, product reuse and recycling.

➡ Participating in existing programs that help foster effective environmental management and policies or measure environmental improvements.

➡ Developing Environmental Management Systems over time which are tailored to your operations.

➡ Sharing data and innovative environmental solutions with other resorts and the industry as possible.

➡ Taking active steps to educate employees, guests, and the general public about the Environmental Charter and the ski area's environmental policies and practices.

ENVIRONMENTAL CODE OF THE SLOPES®

WHAT SKIERS, SNOWBOARDERS AND SKI AREA GUESTS CAN DO TO HELP

❋ Follow the Leave No Trace™ Principles of outdoor ethics when visiting ski areas:
- **Plan ahead and prepare:** Know the regulations and special concerns for the area you'll visit, prepare for winter weather, and consider off-peak visits when scheduling your trip.
- **Dispose of waste properly:** Recycle your glass, plastics, aluminum and paper at resorts. Reuse trail maps on your next visit or recycle them rather than throwing them away. Never throw trash, cigarette butts or other items from the lifts.
- **Respect wildlife:** Observe trail closures, seasonal closures, and ski area boundaries. These closures are in place not only for your safety, but the well being of plants and animals located in sensitive areas. In summer, stick to designated trails when hiking and biking to avoid disturbances to vegetation and wildlife.
- **Be considerate of other guests:** Respect other guests, protect the quality of their experience, and let nature's sounds prevail.

❋ Carpool with friends and family or use transit to avoid traffic when travelling to and within the ski area.

❋ Turn off the lights when leaving your room and reuse bath towels and linens to help conserve energy and water.

❋ Use washable tableware and silverware in cafeterias and lodges instead of paper or plastics to help us reduce waste.

❋ Take advantage of environmental or alpine education programs offered at ski areas to learn more about the surrounding environment and how to help protect it.

❋ If you have kids, get them involved in environmental and alpine education programs at a young age.

❋ Support "clean up days" or other environmental programs at your local ski area.

❋ Provide feedback and let ski areas know how they can improve their environmental performance. ⚑

ENDORSING SKI AREAS

THE FOLLOWING SKI AREAS HAVE ENDORSED THE ENVIRONMENTAL CHARTER AND ARE COMMITTED TO IMPLEMENTING THE PRINCIPLES.

Alpine Meadows Ski Resort (CA)
Alta Ski Area (UT)
Alyeska Resort (AK)
Anthony Lakes Mountain Resort (OR)
Arapahoe Basin (CO)
Arizona Snowbowl (AZ)
Aspen Highlands (CO)
Aspen Mountain (CO)
Aspen Skiing Company (CO)
Attitash Bear Peak (NH)
Balsams Wilderness (NH)
Bear Creek Ski & Recreation Area (PA)
Beaver Creek Resort (CO)
Berthoud Pass Ski Area (CO)
Big Bear Mountain Resort (CA)
Big Mountain Ski & Summer Resort (MT)
Black Mountain Ski Area (NH)
Blacktail Mountain Ski Area (MT)
Blue Mountain Resorts Limited (Canada)
Bogus Basin Resort (ID)
Bolton Valley Resort (VT)
Boreal Mountain Resort (CA)
Boston Mills/Brandywine Ski Resort (OH)
Breckenridge Ski Resort (CO)
Bridger Bowl Ski Area (MT)
Bristol Mountain Ski Resort (NY)
Brodie Mt. Ski Resort (MA)
Bromley Mountain Ski Resort (CVT)
Brundage Mountain Resort (ID)
Buttermilk Mountain (CO)
Camelback Ski Area (PA)
Cannon Mountain (NH)
The Canyons (UT)
Cataloochee Ski Area (NC)
Copper Mountain Resort (CO)
Cranmore Mountain Resort (NH)
Crested Butte Mountain Resort (CO)
Crystal Mountain, Inc. (WA)
Crystal Mountain Resort (MI)
Discovery Ski Area (MT)
Denton Hill Family & Ski Resort (Ski Denton) (PA)

Devil's Head Resort (WI)
Dodge Ridge Ski Area (CA)
Dyer Mountain Associates, LLC (CA)
Eagle Crest Ski Area (AK)
49 Degrees North Ski Area (WA)
Gore Mountain Ski Area (NY)
Grand Targhee Ski & Summer Resort (WY)
Greek Peak Ski Resort (NY)
Gunstock Area (NH)
Heavenly Ski Resort (CA)
Hidden Valley Ski Area (MO)
Holiday Valley Resort (NY)
HooDoo Ski Area (OR)
Hunter Mountain (NY)
Hyland Ski & Snowboard Area (MN)
Jackson Hole Mountain Resort (WY)
Jiminy Peak – The Mountain Resort (MA)
Keystone Resort (CO)
Killington Resort (VT)
Kirkwood Mountain Resort (CA)
Lookout Pass Ski & Recreation Area (ID)
Loon Mountain Recreation Corp. (NH)
Lost Trail Ski Area (MT)
Loveland Ski Area (CO)
Mammoth Mountain Ski Area (CA)
Massanutten Ski Resort (VA)
Mission Ridge (WA)
Mohawk Mountain Ski Area (CT)
Monarch Ski & Snowboard Area (CO)
Mont Ste. Marie (Canada)
Montana Snow Bowl (MT)
Mount Shasta Board & Ski Park (CA)
Mount Snow Resort (VT)
Mount Sunapee Resort (NH)
Mountain Creek (NJ)
Mountain High Resort (CA)
Mt. Ashland Ski Area (OR)
Mt. Bachelor Inc. (OR)
Mt. Hood Meadows Ski Resort (OR)
Mt. La Crosse, Inc. (WI)
Mt. Rose - Ski Tahoe (NV)

Northstar-at-Tahoe (CA)
Nub's Nob Ski Area (MI)
Okemo Mountain Resort (VT)
Otis Ridge (MA)
Panorama Resort (Canada)
Paoli Peaks (IN)
Park City Mountain Resort (UT)
Pat's Peak Ski Area (NH)
Pebble Creek Ski Area (ID)
Peek 'n Peak Resort (NY)
Pelican Butte Corporation (OR)
Pomerelle Mountain Resort (ID)
Powderhorn Resort (CO)
Powder Ridge Ski Area (CT)
Purgatory Resort (CO)
Red Lodge Mountain (MT)
Red River Ski Area (NM)
Seven Springs Mtn Resort (PA)
Shawnee Peak Ski Area (ME)
Sierra Summit Mt. Resort (CA)
Sierra-at-Tahoe Ski Resort (CA)
Silver Creek Ski Resort (CO)
Ski Bluewood (WA)
Ski Cooper (CO)
Ski Liberty (PA)
Ski Plattekill (NY)
Ski Roundtop (PA)
Ski Snowstar Winter Sports Park (IL)
Ski Windham (NY)
Sleepy Hollow Sports Park Inc. (IA)
Smuggler's Notch Resort (VT)
Snowbasin Ski Area (UT)
Snow Creek Ski Area (MO)
Snow Summit Mt. Resort (CA)
Snowbird Ski & Summer Resort (UT)
Snowmass Ski Area (CO)
Snowshoe Mountain (WV)
Soda Springs Ski Area (CA)
Solitude Mountain Resort (UT)
Spirit Mountain (MN)
Squaw Valley Ski Corp. (CA)
Steamboat Ski & Resort Corp. (CO)
Stevens Pass (WA)
Stowe Mt. Resort (VT)
Stratton Mountain (VT)
Sugar Bowl Ski Resort (CA)
Sugarbush Resort (VT)

Sugarloaf USA (ME)
The Summit at Snoqualmie (WA)
Sunburst Ski Area (WI)
Sundance (UT)
Sunday River Ski Resort (ME)
Sunlight Mountain Resort (CO)
Swain Ski & Snowboard Center (NY)
Taos Ski Valley (NM)
Telluride Ski & Golf Company (CO)
The Temple Mountain Ski Area (NH)
Tenney Mountain Ski Area (NH)
Timberline Four Seasons Resort (WV)
Timberline (OR)
Tremblant Resort Inc. (Canada)
Triple M-Mystical Mountain Magic (NM)
Vail Mountain (CO)
Vail Resorts, Inc. (CO)
Wachusett Mountain Ski Area (MA)
Welch Village Ski Area (MN)
Whistler & Blackcomb Resorts (Canada)
White Pass Ski Area (WA)
Whiteface Mt. Ski Center (NY)
Whitetail Resort (PA)
Wildcat Mountain Ski Area (CT)
Willamette Pass Ski Corp. (OR)
Williams Ski Area (AZ)
Winter Park Resort (CO)
Wintergreen Resort (VA)
Wolf Creek Ski Area (CO)

ENDORSING ASSOCIATIONS AND AFFILIATES

American Association of Snowboard Instructors
Colorado Mountain College - Ski Area Operations
Colorado Ski Country USA
National Ski Patrol
Pacific Northwest Ski Areas Association
Professional Ski Instructors of America
Ski Areas of New York
Ski Maine Association
Ski New Hampshire
Ski Utah
University of Colorado Center for Sustainable Tourism
Vermont Ski Areas Association

(Please see www.nsaa.org for updates and revisions to this list.)