Appendix 1

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# **Scoping Outline**

#### GORE MOUNTAIN 2000 UMP/EIS

#### SCOPING OUTLINE

#### EXECUTIVE SUMMARY

#### SECTION I INTRODUCTION

- A. Project Purpose
- B. Location of Property
- C. General Facility Description
- D. History of Ski Center
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# SECTION II UPDATED INVENTORY OF EXISTING RESOURCES, FACILITIES, SYSTEMS AND USE

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- C. Changes in Man-Made Facilities
- D. Changes in Public Use of the Ski Center

### SECTION III MANAGEMENT AND POLICY

- A. Orientation and Evolution of Management Philosophy
- B. Regulatory Issues
- C. Management Goals and Objectives
  - 1. Improve Equipment Reliability
  - 2. Reduce operations and maintenance costs
  - 3. Environmental compatibility
  - 4. Stabilize the local economy
  - 5. Improve trail safety
  - 6. Improve trail selection
  - 7. Improve economic return
  - 8. Increase public access

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- 2. <u>Base and Mountain Lodges and Amenities</u> Rehab/addition to Saddle Lodge

- New Downhill Trails and Lifts
   Beginner trail from Bear Mountain
   Selective trails to 200' wide
   Triple chair (lift 1) replacement
   New Lifts and Trails to Create Connection with North Creek Ski Bowl
- 4. <u>Tubing Hill</u> Bear Mountain two runs and one surface lift
- <u>Snowmaking</u> Tower guns on steep trails Water and air capacity additions
- 6. <u>Sand Pits</u> Two new sand pits
  7. Bear Mountain fire tower/observation tower
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Appendix 2 s Correspondence

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#### DLYMPIC REGIONAL New YORK DEVELOPMENT AUTHORITY

March 1, 2001

To: Attached List of Involved Agencies

Re: Gore Mountain Ski Center

Unit Management Plan Update/ Draft Generic Environmental Impact Statement Notice of Completeness, Notice of Hearing

The Olympic Regional Development Authority as lead agent has accepted as complete for the purposes of commencing public review, a Supplemental DGEIS for the 2001-2006 Gore Mountain Ski Center Unit Management Plan. A SEQRA Public Hearing has been scheduled for 7 PM on April 9, 2001 at the Gore Mountain Base Lodge. Comments will be accepted in writing by the contact person until midnight of May 1, 2001.

The action involves the continuation of management actions approved in the 1995 UMP, in addition to proposed management actions including upgrading the snowmaking system capacity, widening of some trails, ski lift work, development of a tubing hill, designation of two sand pits, and a trail/lift connection to the Town of Johnsburg Ski Bowl Park. The project is located on Peaceful Valley Road, in the Town of Johnsburg, Warren County. Copies of the Supplemental UMP/DGEIS are available for review at Gore Mountain Ski Center, the Johnsburg Town Hall, the Warren County Planning Department at the Warren County Municipal Center, and at ORDA offices at 216 Main Street, Lake Placid, Adirondack Park Agency, Raybrook Headquarters and at the Department of Environmental Conservation Offices in Warrensburg and Raybrook.

CONTACT PERSON: Michael Pratt, Gore Mountain Ski Center, Peaceful Valley Rd., North Creek, NY 12853

Signature; Ted Blazer President, Olympic Regional Dev. Authority

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# Keene Valley Land Exchange With State Nearing Completion After Five Years

bill that brings 144 new acres of Forest Preserve into public hands was finally approved by the NYS Legislature during the last days of the 2000 legislative session, after a five-year delay.

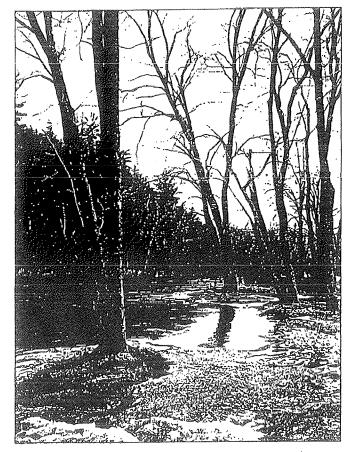
The bill allows the state to move forward with a land swap approved in a Constitutional Amendment and statewide ballot in 1995. The deal granted 12 acres of isolated Forest Preserve to the Town of Keene for expansion of its cemetery in Keene Valley. In exchange, the town turned over 144 acres of riverbank and forest east of State Route 73 and south of U.S. Route 9, along the Ausable River, also in Keene Valley.

The town will demolish the highway garage currently standing south of the current river access lot. The existing parking area, picnic site and fishing access will be maintained by the state.

# North Creek Ski Bowl United With State's Gore Ski Area

The final days of the legislative session brought welcome news to North Creek, when a bill was approved giving the Olympic Regional Development Authority permission to manage the Town of Johnsburg's Ski Bowl, also known as Little Gore, adjacent to Gore Mountain Ski Area.

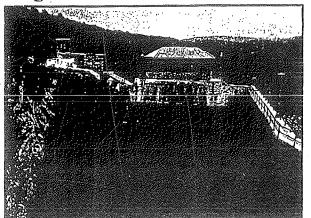
ORDA already manages the Gore operation. It has promised town residents that it will provide night skiing, tubing and free skiing to town children, and will incorporate the Ski Bowl into the Gore operation. Lift ticket buyers can use both facilities.



Along the east bank of the East Branch of the Ausable River, Keene Valley, in April 2000. This stretch is slated to become Forest Preserve. Photo by John F. Sheehan.

Federal Settlement: Great Sacandaga Shore is Forest Preserve

In the first such arrangement in the nation, the state's Hudson River/Black River Regulating District board will jointly manage water levels and water quality on the Great Sacandaga Lake (as well as the operation of two more dams downstream) with dam owner and hydro-power license co-holder, Orion Power. The licenses remain in effect for 40 years. Orion, of Maryland, bought the Sacandaga system's power dams from Niagara Mohawk Fower Corp. last year. Under most federal licenses, the power company alone holds the federal license and has sole discretion over water levels, hours of operation, downstream releases, and most importantly, discretion over all use of the land around the lake. In this case, those functions will be shared by the power company and regulating board, in recognition of the land's Constitutional protection under New York law. The federal license negotiated by the Adirondack Council and a host of other parties over the past nine years (115 meetings) requires: Higher and more consistent water levels, new racks at the dams to protect fish from the turbines, coordinated releases for whitewater recreation, increased funds and water for fisheries management and other environmental enhancements. The lake was created in 1932 to prevent flooding in the Hudson Valley. Photo by Gary Randorf.



Conklingville Dam, Great Sacandaga Lake, will be managed Jointly by Orion Power and state officials.

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The Adirondack Council

Suminer ZER Newsletter

10: Holly Elmer, LA Group FAX: 587-0180 m: Jack Freeman, ADK El: 668-4447, x26 known as "Little"



Dave Gibson. of the Association for the Protection of the Adirondacks. Neucomb Town Supervisor George Canon, Steven Beatty of the National Park Service. and ADK's Jack Freeman gather by the Santanoni Preserve dedicatory plaque. The plaque was unveiled at a celebration held in September. and cites several of Santanoni's unique characteristics. The plaque reads, in part, "Retaining a high level of integrity of setting, plan design. style, materials and method of construction. Santanoni remains an intact and imaginative example of an Adirondack camp."

available. The Web site features a history of the ALSC and its long-term monitoring project; a site map; a listing of research projects; research data on ponds and lakes of the Adirondacks; and monthly chemical updates for "two key monitoring lakes," Big Moose and Willys Lakes.



Visitor Interpretive Center Anniversary Celebrated: The Adirondack Park Agency noted the tenth anniversary of the Newcomb Interpretive Center in the fall of 2000. The center is on Rt. 28N, 14 miles east of Long Lake: It offers trails, indoor exhibits, multi-image presentations on the Park, lectures and programs. It is open daily from 9 to 5, year-round. Admission is free.

Gov. Pataki Earmarks Dollars for the Adirondacks: More than one million dollars were set aside in the fall of 2000 for improvements and repairs in state lands in the Adirondacks and Catskills. ADK's own Neil Woodworth is quoted by WNBZ as saying "the funds will help create more hiking trails. canoe launches, and campsites for all New Yorkers." The money comes from the state Environmental Protection Fund.

**Finger Lakes Updates:** The Finger Lakes Trail System added two new lean-tos in the summer of 2000. One is located on the Conservation Trail in Cattaraugus County (FLT map CT-4), and the second is on Rogers Hill in Schuyler County (map M-15). The Genesee Valley Chapter of ADK also reports improvements to the old roadway heading east up the hill from NY Rt. 70A. Culverts were replaced. erosion control was implemented, and a bridge was installed.

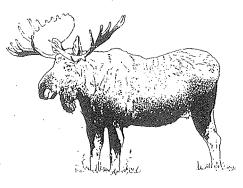
#### Long Path Relocation Opened:

Over five miles of Long Path relocation in the central Catskills is now open to the public. The new segment begins on the Willow Trail 1.6 miles north of the Mt. Tremper Fire Tower and is part of an 11.8-mile relocation that replaces over six miles of road walking. For information: Peter Senterman, 845-221-4392.

Changes at North Creek Ski Bowl: North Creek Ski Bowl (also known as "Little Gore") has been put under the management of the Olympic Regional Development Authority (ORDA), which also manages the adjacent Gore Mt. Ski Area. ORDA intends to incorporate the Ski Bowl facility into the Gore Mt. operation, and one lift ticket will cover both facilities.

**New Edition:** The third edition of the West Hudson Trails two-map set is now available from the New York-New Jersey Trail Conference. The set features Orange County's Storm King and Schunemunk Mountains and Black Rock Forest hiking areas. The maps are five-colored, and are printed on waterproof, tearproof Tyvek.

Trail Updates: The Red Hill Trail. which leads to a newly restored fire tower, is open to the public. Located in the southern Catskills, the trail can be found on New York-New Jersey Trail Conference's Catskill Trails map #43. On the AT, a pedestrian bridge across Dunnfield Creek in Worthington State Forest has been repaired. The Ramapo-Dunderberg Trail, which can be found on the Trail Conference's Harriman-Bear Mountain Trails map #4, has been relocated. The new trailhead is just south of the parking area on the west side of Rt. 9W, opposite Old Ayers Rd. to Jones Point. The trail is marked with red-on-white blazes.



**Moose Fatality:** On a single night in October, two moose were struck by cars in the Tupper Lake area. The first moose, a 700-pound 1½-year-old bull, was killed: the second lived to stagger off the road. Neither resulted in any injury to the drivers or passengers.

Jan-Feb., 2001 Adirondac

#### STATE OF NEW YORK EXECUTIVE DEPARTMENT

## ADIRONDACK PARK AGENCY

P.O. Box 99, Route 86 RAY BROOK, NEW YORK 12977 (518) 891-4050 FAX: (518) 891-3938

#### MEMORANDUM

TO: Dan Fitts

FROM: Chuck Scrafford Cui

DATE: August 31, 2000

SUBJECT: Amendment to the Gore Mountain Unit Management Plan

Attached is a request from Michael Pratt, General Manager of the Gore Mountain Ski Center to amend the unit management plan for the Ski Area to allow the construction of a trail off Bear Mountain, the terminus of the new gondola. Currently the two trails off Bear Mountain are rated "more difficult" and "most difficult" presenting a challenge out of proportion to the skills of beginner and lower intermediate skiers. The proposed trail would traverse more gentle slopes and be an easier trail to ski. This would allow all accessing Bear Mountain to ski terrain consistent with their ability and allow dispersal of skiers to all parts of Gore Mountain. Skier safety and experience and skier distribution are key management objectives for the operation of the Ski Area.

The proposal involves cutting 1050 feet of trail to a width of 200 feet. This will require cutting 1838 trees 3-4 inches dbh and 1902 trees over 4 inches dbh. The cleared area will be approximately 5.7 acres. The proposed trail is well within the Constitutional limits set for both the total miles of trails allowed at Gore Mountain and the miles of trails that may be 200 feet wide. Article XIV allows up to 40 miles of trails to 80 to 200 feet in width provided not more than 8 miles of such trails are in excess of 120 feet wide. There are 28.5 miles of existing and approved (but not yet constructed) alpineski trails at the Gore Mountain Ski Area of which 4.4 miles either are or are proposed to be cleared to 200 feet.

ORDA has prepared and filed a Negative Declaration in the Environmental Notice Bulletin. As of this date there has not been any public comment. Mike Pratt will forward copies of any comments they receive, which will be provide to you and the Agency members.

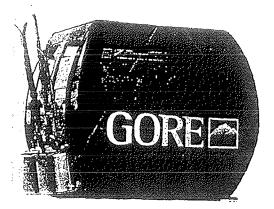
As you know, Gore Mountain is in the process of a comprehensive update of its unit management plan. In order to provide adequate time for review and public comment, that process will not be completed until late fall or early winter. The proposal for the above trail is being presented as an amendment to the current plan to allow it to be Memorandum to Dan Fitts August 31, 2000 Page 2

constructed and in service this winter. The need described above is immediate for this season and Gore's management feels it cannot wait until next year to solve this problem.

Staff concurs that this trail proposal merits consideration as an amendment to the current unit management plan. Staff further recommends that the Agency find that the proposed amendment complies with the guidelines for management and use of ski areas set forth at pages 30 and 32 of the Master Plan.

CWS:hs

cc: State Land Team





Peaceful Valley Road, P.O. Box 470, North Creek, NY 12853 GOREMOUNTAIN.COM Phone 518-251-2411 Marketing Fax 518-251-2073 Administration Fax 518-251-5171

August 11, 2000

## Memorandum

 To: Ted Blazer – Olympic Regional Development Authority Chris Conway – Olympic Regional Development Authority Tom Wahl – Department of Environmental Conservation Tom Martin – Department of Environmental Conservation Karen Richards – Department of Environmental Conservation Gary West – Department of Environmental Conservation John Banta – Adirondack Park Agency Chuck Scrafford – Adirondack Park Agency Henry Savarie – Adirondack Park Agency

From: Michael J. Pratt

Re: 2000 Gore Mountain Supplemental Unit Management Plan & 1995 Unit Management Plan Amendment

The schedule to complete the Supplemental Unit Management Plan in time for the September approval of the Adirondack Park Agency proved to tight. In order to provide more review time, easier public comments and ensure the collaborative product we all wish to endorse, the Supplemental Unit Management Draft has not been declared complete by the Olympic Regional Development Authority.

Gore Mountain needs to construct the easier trail off Bear Mountain for this snow season. The trail name is Foxlair. This project is being requested as an amendment to the 1995 plan.

The 2000 Gore Mountain's Supplemental Unit Management Plan will be completed in as timely a fashion as the SEQRA process allows.

Thank you for your understanding and cooperation.

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF LANDS AND FORESTS

110011111111

Forest PReserve Project Work Plan

for

Construction of New Facilities and the Expansion or Modification of Existing Facilities

# FY XXX 2000- AUGUST

Region/Facility 5

Project Title & Location PARKING LOTS Land Classification INTENSIVE USE

Project No. 00-03

GORE MOUNTAIN SKI AREA

Description & Justification (Attach Sketch Map Showing Location and other Required Supporting Documents):

CUT EASIER TRAIL - FOXLAIR

Description of Use of Motorized Equipment or Motor Vehicles, if any:

EXCAVATORS, BULLDOZERS, WOOD CHIPPERS

Prepared

8/11/0

Date:

APPROVALS OR DISAPPROVALS

Date: R ٨C

Regional Forester

Date:

Regional Supervisor for Natural Resources

Date:

Regional Director or Division Director

Date: 1

Director of Lands & Forests

Comments:

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# DRAFT AMENDMENT GORE MOUNTAIN SKI CENTER UMP

# **BACKGROUND**:

A Unit Management Plan for the Gore Mountain Ski Center was first completed in 1987. In May of 1995, DEC Commissioner Michael Zagata approved an amended UMP completed by the Olympic Regional Development Authority. As with the original plan, the revision focused on operation of the ski area.

Development of the approved 1995 UMP management actions included construction of the Northwoods Gondola, which provides access to the summit of Bear Mountain. Three trails developed off the Bear Mountain summit, Kill Kare, Pine Knot and Fairview are rated as "more difficult" and "most difficult" due to the relatively steep slopes these trails occupy. It is necessary to provide an easier way to descend Bear Mountain. An easier trail, referred to as Foxlair, which occupies relatively more gentle slopes, is proposed to be located on the east side of Bear Mountain, descending to the existing beginner trail, Sunway.

This amendment is necessary in order to allow for negotiable terrain for virtually all skiers accessing the summit of Bear Mountain. This trail will enhance the skiers experience and increase the accessibility of the facilities at Gore Mountain.

# **OBJECTIVE OF AMENDMENT:**

To amend the current Unit Management Plan to include a specific project to implement the objective of improving public access to Gore Mountain, and enhancing the skiers experience.

# **PROPOSED MANAGEMENT ACTION:**

The following project would be added to the existing UMP, Section IV, A:

A new easier trail, to be referred to as Foxlair, will extend from the summit of Bear Mountain down the approved Sagamore trail, and descend eastward to the existing beginner Sunway trail. Foxlair is proposed to be approximately 200 feet wide and 1,050 feet long, and will require the removal of approximately 1,838 trees that are 3-4" dbh and 1,902 trees that are greater than 4" dbh. The proposed work plan is attached.

# SCHEDULE OF IMPLEMENTATION

It is estimated that this proposed management action could be accomplished in time for the 2000 winter ski season.

ID#	

Date

State Environmental Quality Review

#### NEGATIVE DECLARATION

Notice of Determination of non-Significance

### August 11, 2000

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (New York State Environmental Quality Review Act) of the Environmental Conservation Law.

The Olympic Regional Development Authority, as lead agency, has determined that the proposed action described below will not have a significant effect on the environment and a draft environmental impact statement will not be prepared.

NAME OF ACTION: Amendment of the 1995 Unit Management Plan for the Gore Mountain Ski Center.

SEQR STATUS: Type I

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**CONDITIONED NEGATIVE DECLARATION: No** 

**DESCRIPTION OF ACTION:** The Olympic Regional Development Authority proposes to adopt an amendment to the Unit Management Plan for the Gore Mountain Ski Center. The amendment will provide for the development of an easier trail by which to descend the summit of Bear Mountain, which is accessed by the recently constructed Northwoods Gondola, thus improving outdoor recreational opportunities at Gore Mountain.

LOCATION: Warren County, Town of Johnsburg, New York State Forest Preserve lands classified as the Gore Mountain Ski center.

**REASONS SUPPORTING THIS DETERMINATION:** The action proposed (ski trail development) implements the objective of improving public access to Gore Mountain, as stated in the 1995 Update and Amendment to the Gore Mountain Ski Center UMP.

Development of 1,050 feet of ski trail will result in the cutting and clearing of understory vegetation in the 200 foot wide trail corridor, altering a maximum of 5.7 acres. This will increase the amount of downhill ski trails on the mountain from 28.5 miles of approved (some not yet constructed) alpine ski trails to 28.7 miles, well below the 40 miles as authorized by the New York State Constitution.

Trail development will involve cutting approximately 1,838 trees that are 3 to 4" dbh, and 1,902 trees that are greater than 4" dbh.

Established trail construction and maintenance techniques as described in the Appalachian Mountain Club's Field Guide to Trail Building and Maintenance (2<sup>nd</sup> edition) will be utilized to minimize soil erosion. These techniques include employing drainage dips, ditches and water bars.

No known significant habitats or archeological resources have been identified in or adjacent to the project area.

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### FOR FURTHER INFORMATION CONTACT:

Michael Pratt Gore Mountain Ski Center PO Box 470 Peaceful Valley Road North Creek, NY 12853

A COPY OF THIS NOTICE SENT TO:

John Cahill, Commissioner New York State Department of Environmental Conservation 50 Wolf Road Albany, NY 12233-0001

Stuart Buchanan, Regional Director – Region 5 New York State Department of Environmental Conservation PO Box 296, Rte. 86 Ray Brook, NY 12977-0296

Daniel Fitts, Executive Director Adirondack Park Agency PO Box 99 Ray Brook, NY 12977

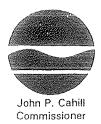
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# Table 5-1. Summary of Vegetation Impacts

	Sagam	ore Trail	Foxla	ir Trail	Tubin	g Park	LIRI	1 Trails	Lift 1:	2 Trails
	j	Trees > 4" dbh	Trees 3-4" dbh	Trees > 4" dbh	Trees 3-4° dbh	Trees > 4" dbh	Trees 3-4*	Trees > 4" dbh	Trees 3-4"	Trees > 4"
Sugar Maple	43	298	10	72	-	-	840	3,411	1,619	1,760
Beech.	43	112	10	27	-	-	937	602	3,939	4,027
Yellow birch	-	30	-	7	-	-	-	433	209	290
White Birch	260	358	· 537	735	393	381	443	2,229	-	694
White ash	-	11	-	3	-	-	-	205	-	38
Black Cherry	-	-	-		-		-	36	-	2
Ironwood	22	19	6	5	-	-	161	99	30	18
Red Spruce	27	42	56	87	43	59	-	81	-	2
Red Maple	<u> </u>	1	-	0	-	-	60	215		585
basswood	-	17	-	5	-	-	-	14	-	3
Red Oak	-	3	<del>.</del>	1	-	-	127	277	209	335
Hemlock	•	-	-	-	-	-	-	11	-	, 0
Balsam Fir	563	393	1,161	811	895	875	602	j 364	-	-
Striped Maple	-	7	-	2	-	-	1,047	171	-	132
Aspen		· ! -	-			-	-	-		68
Mountain Ash	27	71	56	146	43	68	-	-	-	-
total trees cut	985	1,361	1,838	1,902	1,376	1,383	4,218	8,150	6,007	7,953
Clearing acreage	5	.2	5	.7		.6	42	2.4		12

# Estimated number of trees to be cut for new and widened trails, ski lifts, and sand pits.

New York State Department / f Environmental (Conserva Division of Fish, Wildlife & Marin/ Resources Wildlife Resources Center - New York atural Heritage Program 700 Troy-Schenectady Road, Latham, New York 12110-2400 Phone: (518) 783-3932 FAX: (518) 783-3910



July 17, 2000

Richard P Futyma The LA Group 40 Long Alley Saratoga Springs, NY 12866



Dear Mr. Futyma:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to the proposed State Land Unit Management Plan - new ski trails proposed, areas as indicated on the map you provided, located in the Town of Johnsburg, Warren County.

We have no records of <u>known</u> occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not mean, however, that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site, but rather that our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should <u>not</u> be substituted for <u>on-site</u> surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals, and plants, significant natural communities, and other significant habitats. For information regarding regulated areas or permits that may be required under state law (e.g., <u>regulated</u> <u>wetlands</u>), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Teresa Mackey, Information Services NY Natural Heritage Program

Enc. cc:

Reg. 5, Wildlife Mgr. Reg. 5, Fisheries Mgr.

#### STATE OF NEW YORK EXECUTIVE DEPARTMENT ADIRONDACK PARK AGENCY

P.O. Box 99, Route 86 RAY BROOK, NEW YORK 12977 (518) 891-4050 FAX: (518) 891-3938

February 1, 2000

Mr. Michael J. Pratt General Manager Gore Mountain Ski Area P.O. Box 470 North Creek, NY 12853

Dear Mike:

We are pleased to support your application for an award from the National Ski Area Association for excellence in environmental group relations. Working with you, your staff at Gore Mountain and Ted Blazer, President and CEO of the Olympic Regional Development Authority, is always a positive experience.

Gore Mountain Ski Area being, located in the Adirondack Park on State Forest Preserve Lands, is required to prepare a management plan for operation of the ski center including all proposed capital improvements. The Adirondack Park Agency is responsible for approving the ski area's management plan. Among the specific findings of the Agency is a formal determination that the management of the area is compatible with the character of the Adirondack Park and that it minimizes impacts to the Park resources.

The current management plan for the ski area includes a number of significant capital improvements, including expansion of lift capacity, withdrawing water from the Hudson River for snowmaking, adding a new mountain to the area, building a new lodge on the summit of Bear Mountain, and increasing parking capacity which could adversely affect the Park's resources. Your sensitivity to environmental issues and thoughtful, solution oriented approach to them made our review more of a collaborative pro-active effort at environmental protection instead of an adversarial encounter between recreation and the environment. Mr. Michael J. Pratt February 1, 2000 Page 2

Involving all the stakeholders, skiers, other recreationalists, environmental organizations, the community of North Creek, local government and involved state agencies, early and throughout the process built trust and confidence in Gore Mountain's ability to meet its management objects and remain committed to the Adirondack Park, its residents, and its resources. Your efforts resulted in a process that is a model for bringing diverse interests groups and governmental agencies together on sensitive environmental issues.

We look forward to working with you to update the Gore Mountain Ski Area management plan.

Sincerely,

Daniel Ø. Fitts Executive Director

DTF:nmh:chz cc: Richard H. Lefebvre Charles W. Scrafford For Immediate Release:

# SIX SKI AREAS RECOGNIZED FOR ENVIRONMENTAL EXCELLENCE AT THE SKIING COMPANY'S GOLDEN EAGLE AWARDS PRESENTATION

#### Stowe Mountain Resort of Vermont Captures Highest Honor

Orlando, FL, May 6, 2000 – The Skiing Company, publishers of SKI, SKIING and FREEZE Magazines, announced today Stowe Mountain Resort as the recipient of the Golden Eagle Award for overall environmental excellence at the Golden Eagle Awards Breakfast during the National Ski Area Association's convention in Orlando, FL. Six Silver Eagles were presented in the following categories: Area Visual Impact- Vail, Colorado; Environmental Education- Mad River Glen, Vermont; Environmental Group Relations- Gore Mountain, New York, Energy Conservation- Aspen Skiing Company, Colorado; Wildlife Habitat- Stratton, Vermont and Water Conservation-Aspen Skiing Company.

#### Golden Eagle:

#### Overall Ski Area Operation- Stowe Mountain Resort, Vermont

Facing major competition from ski conglomerates, consequent loss of market share, the challendes of an aging facility and the potential loss of critical snowmaking capacity, Stowe had to make some major dianges. Stowe hosted meetings with 27 organizations to create the Stowe 2000 Collaborative Master Planning Initiative. It includes several key elements: enhanced snowmaking capabilities; water quality improvements; and on-mountain improvements including expanded base lodge, new trails, lifts and a hamlet-scale settlement at the first of Spruce Peak for a residential base. The process also brought about several adjustments including the elimination of a proposed ski trail, relocation of a new lift, wetland preservation, stream restoration and enhancement and commitments to incorporate the principles of sustainability. The Community Plan provided a much speeded template for future project planning throughout Vermont. (Finalists: Whistler/Blackcomb, BC and Aspen Sking Company)

#### Silver Eagles:

ET 2

#### Area Visual Impact- Vail, Colorado

In creating the 885-acre Blue Sky Basin, years of innovative planning, hard work and collaboration with federal, state and local agencies helped create a new era in ski trail design. Other than roads and lift corridors, the area was constructed without conventional ski trails. Only braided winding trails and thinned glades exist aside from natural openings which minimizes visual impact as well as potential impact to wildlife and existing native vegetation. Strict adherence to a well-conceived plan and to mitigation efforts puts the resort on the cutting edge of rail design by creating "backcountry skiing in-bounds" while still preserving much of the pristine forest that creates that experience. Blue Sky Basin is a showcase of how a collaborative process between the ski industry and environmental agencies can work toward a common goal -- producing a unique skier experience wittleremaining sensitive to the environment, both visually and biologically. (Finalists: Steamboat, CO and Stevers Pass, WA) Energy Conservation- Aspen Skiing Company, Colorado

ASC, winner of the 1998 and 1999 Golden Eagle Award for Overall Ski Area Operations, returns withianother outstanding program. Initiatives in this area include: extensive lighting retrofits in the Gondola building and locker rooms; a renewable-energy program using wind power to supply 30% of the energy needs of the Sundack Restaurant and 100% of the energy required to power the Cirque lift; energy-efficient washers in employee housing; an EPA Energy Star Buildings program to improve efficiency in 60% of the company's buildings; a 75% sciendy of employee bus passes; a \$1.8 million annual subsidy of skier shuttles and a formal employee van-podiprogram. One of ASC's most important achievements in this area has been the fitting out of the Sundeck Restaurant with a host of environmental and energy-saving features: a deck made from recycled materials, elimination of CFCs in refrigeration, and energy-efficient lighting, windows and shades. It is one of only ten buildings in the US to achieve certification by the US Green Building Council's Leadership in Energy and Environmental Design (LEED) program, the first national rating system for green buildings. (Finalists: Killington, VT; Mount Bachelor, OF)

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#### SIX SKI AREAS RECOGNIZED... ADD ONE

#### Water Conservation- Aspen Skiing Company, Colorado

In an effort to reduce water use and improve the quality of the local watershed by reducing pollution and funding water-related environmental projects, ASC instituted a hotel water-saver and contributed more than \$18,000 to fund water conservation through ASC's employee Environment Foundation. Some of the initiatives include: a switch from solvent-based to water-based parts washers in vehicle shops to reduce hazardous waste generation and solvent leakage; installation of a high-efficiency horizontal-axis washing machines in employee housing; a fluorescent bulb recycling program to prevent mercury from leeching into local groundwater and development of a landscaping plan for the new Sundeck restaurant that uses native grasses which eliminates irrigation beyond the initial establishment period. (Finalists: Angel Fire, NM; Smuggler's Notch, VT)

#### Wildlife Habitat Protection- Stratton Mountain Resort

Vermont requires that two acres of land be offered as mitigation for every acre affected by a ski area's development. Stratton's 1999 Master Plan was nearly 18-to-1. The plan weighs the overall impact of facilities and human activity on wildlife and takes extraordinary steps to enhance habitat. The area sponsored studies that provide tlata instrumental to understanding of how activity impacts regional wildlife. The area funded a \$100,000 grant to launch a six-year radio telemetry study designed to identify key components of critical black bear habitat and determine how the black bear responds to changing land use. (Finalists: Aspen Skiing Company; Mont Tremblant, Quebec) Environmental Group Relations- Gore Mountain, New York

In 1994, Gore Mountain formulated a five-year plan, a long-term upgrade of the ski area to modernize the 30-yearold facility. Since it is surrounded by forever-wild Adirondack Park, environmental compatibility was identified as a primary goal of the plan. The area has since exceeded this goal by not simply following environmental regulations, but by becoming a proactive pioneer that combines skiing and environmental concerns to develop in an environmentally sensitive manner now and in the future. The process supported by such groups as the Sierra Club, Adirondack Nature Conservancy, Audubon Society, and Trout Unlimited involved the presentation of the area's goals and vision, inviting group concerns, and then addressing them. (Finalists: Copper Mountain, CO: Aspen Skiing Company)

#### Environmental Education- Mad River Glen, Vermont

Prior to its purchase by the Mad River Glen Cooperative in 1995, the area was at risk of being adduved by a corporate resort operator. The Cooperative was organized for skiers and locals to preserve the area's heritage and landscape. It developed a sustainable recreational development plan that protects the integrity of the area's natural resources. It instituted naturalist programs to educate and raise awareness of the public about the conservation of the area's mountain environment. The programs have grown from weekend snowshoeing programs to slide shows to weekend ecology and wildlife workshops to the Northern Forest Stewardship Conference, founded to create an open dialogue on how recreational facilities can foster the conservation of natural resources while remaining economically viable. (Finalists: Mammoth, CA; Crystal Mountain, MI)

The Golden Eagle Awards were established in 1993 by Times Mirror Magazine's Skiing Company to recognize the environmental achievements of ski areas. In spite of the many examples of ski areas benefiting the environment, the positive environmental impact is not often mentioned. The judges were: Michael Berry, president of the National Ski Areas Association, Andy Bigford, Editor-in-Chief, SKI Magazine, Jerry Blann, Chairman, National Ski Area Assoc.'s Environmental Committee, Christin Cooper, former U.S. Ski Team Olympian, Rick Kahl, Editor-in-Chief, SKIING Magazine, Joyce Kelly, former Director, Wildlife Habitat Council, Francis Pandolfi, formar Deputy Chief. David Rowan, Editor and Publisher of Ski Area Management, U.S. Forest Service and Jack Zehren, President of the architectural firm Zehren & Associates.

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The Skiing Company, based in Boulder, Colo., is the division of Times Mirror Magazines that publishes SKI. SKIING, FREEZE, Skling Trade News and SkiNet.com. TMM titles include: Field & Stream, GOLF MAGAZINE. Motor Boating & Sailing, Outdoor Explorer, Outdoor Life, Popular Science, Ride BMX, Salt Water Sportsman, Senior Colfer, Snap BMX, Snowboard Life. Today's Homeowner, TransWorld SKATEboarding, TransWorld SNOWboarding, TransWorld STANCE, TransWorld SURF and Yachting.

Contact: Sara Delekta

The Skiing Company Work: (212) 779-5172 Cell: (917) 868-4502 sara.delekta@tmm.com



New York State Department of Environmental Conservation MEMORANDUM

To:Dick Grebe, Region 5, Ray BrookFrom:Jim LyonsSubject:Gore Mountain Fire Tower Inspection & Analysis

Date:

12/8/99

Per request I have evaluated the Gore Mountain Fire Tower for structural integrity and with consideration to the possibility of rehabilitating it and opening it for public use. I've attached a report outlining the current state of the tower and my recommended course of action.

Basically I am recommending that the Department does not pursue opening this tower to the public. This structure is not in any imminent danger of *falling down* or otherwise failing in its current capacity as a stalk for microwave antennae. But that said, the fact remains that this tower has already been extensively modified to the point that predicting its behavior is no longer an exact science. The multiple and sundry repairs and retrofits that have been made to it over the years have, in effect, conspired to preclude it from functioning as, and in my opinion even appearing as, an original Aermotor fire tower. If such a facility is desired on Gore Mountain then the public would be best served with a bought or borrowed tower installed at another location on the mountain.

Please let me know if you have any questions or if I can be of any further assistance on this project.

Thank you.

cc:

A. Niles T. Wolf R. Fenton

T. Miller

C. Vandrei

Mike Pratt - Gore Mountain Ski Center



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Thank you.

cc: T. Miller A. Niles T. Wolf R. Fenton C. Vandrei

Mike Pratt - Gore Mountain Ski Center

# Appendix 3

# Gore Mountain Water Quality Monitoring

# Gore Mountain Water Quality Monitoring

# 1. Introduction

In accordance with the 1995 Gore Mountain Unit Master Plan (UMP), water quality in streams around Gore Mountain was monitored between 1995 and 1999. Water quality monitoring was performed in response to concerns expressed during the UMP public review process (1995 UMP FGEIS Section 2.02). Concern was expressed that construction of new ski trails and other improvements described in the 1995 UMP could potentially impact water quality in the brooks that drain the areas of proposed improvements. Water quality data collected to date indicates that ski area improvements that have been made between 1995 and 1999 have not resulted in either increased sediment loading or increased nutrient loading to the streams around Gore Mountain.

#### 2. Sampling and Testing

Water samples were taken from Straight Brook and Roaring Brook during base flow conditions and during storms with and without snow cover. Samples were collected during all seasons over the five-year period. Roaring Brook was sampled above the North Creek Reservoir and downgradient of the ski trails and lift on the northern portion of the ski area. This allowed for collecting samples prior to dilution and particulate settling that would occur in the reservoir. The Straight Brook sampling location was located at an existing cross country ski bridge downstream of the new trails constructed on the south face of Bear Mountain.

Collected water samples were tested for a number of parameters described in the 1995 UMP. The certified professional sewage treatment plant operator at Gore Mountain conducted analyses for some parameters. Other parameters were tested at an outside laboratory accredited by the New York State Department of Health.

The following is a list of the analyses performed on the samples taken from Straight Brook and Roaring Brook.

<u>Parameter</u>	<u>Units</u>	<u>Test Method</u>
Conductivity	umhos/cm at 25°C	EPA 120.1
pH	standard units	EPA 150.1
Total Suspended Solids (TS	SS) mg/l	EPA 160.2
Ammonia	mg/l	EPA 350.2
Total Phosphorus (TP)	μg/l	EPA 365.2
Temperature	°F	at sample point
Turbidity	ntu	standard neptholometer
Dissolved Oxygen (DO)	mg/l	DO meter/titrate calibration
		(temperature compensated)

Table 1, "Gore Mountain Stream Monitoring Program, Straight Brook" and Table 2, "Gore Mountain Stream Monitoring Program, Roaring Brook" contain the results of the sample analyses.

## 3. Data Processing

The data in Tables 1 and 2 were analyzed to determine if there were any trends in the data over time. Theoretically, construction of improvements covered under the 1995 UMP could have resulted in increased nutrient loading and also erosion and sedimentation in the two creeks. This theoretical increasing in loading would have a cumulative affect with indicators of nutrient loading and sediment loading increasing over time.

Generally speaking, the following were the major improvement activities undertaken at Gore Mountain for the time when water quality data was being collected.

1995 - Straight Brook Lift and work road near the North Lift

1996 - Snowmaking Pipeline and Glades on the east side of Straight Brook

1997 – Beginner Area

1998 - Trail near Straight Brook, East Side Lift Line, and work road to Bear Mountain

1999 – Gondola installed and three trails on Bear Mountain

Water Quality Data collected over the 1995-1999 period were first separated by year. The data were then further stratified into base flow conditions and storm/melt conditions. Thus for the parameters listed above there were yearly data for both base flow and storm conditions. Table 3, "Straight Brook Monitoring Results" and Table 4, "Roaring Brook Monitoring Results", presents the sampling data separated by years, by parameter, and base flow versus storm conditions.

Tables 3 and 4 show that in numerous instances sample levels were below laboratory detection limits, as indicated by the "<" symbol. In order to be able to make statistical comparisons of this data it was necessary to assign a value to those samples that were below laboratory detection limits. The assumption was made that all values less than the laboratory detection limits were one-half of the detection limits.

Table 5 "Straight Brook Statistics", and Table 6, "Roaring Brook Statistics", summarize the data for the monitoring period. These data were used for the statistical comparisons between years contained in Table 7, "Straight Brook – Comparison of Years" and Table 8, "Roaring Brook – Comparison of Years", present the statistics for each of the parameters and flow regimes over the five year period. For each parameter/flow condition/year combination a 95% confidence interval ( $\checkmark = 0.05$ ) was calculated. Where the 95% confidence interval of two years overlapped it was determined there was no significant difference between the years for that particular parameter/flow condition.

4. Results

In almost all instances there are no differences in measured parameter levels over the five-year period.

4.1 Erosion and Sediment Loading

Parameters used to analyze any potential increase in erosion and sediment loading were primarily conductivity, total suspended solids (TSS), and turbidity. Measuring conductivity is a simplified method for determining the amount of total dissolved solids (TDS) which is the filterable residue dissolved in water. TSS, as its name implies, is a measurement of materials that do not dissolve in water. Turbidity is a more composite parameter representing light attenuation due to the combination of dissolved and suspended inorganic matter as well as organic matter, humic compounds and colloidal materials.

Base flow conductivity was the same in Straight Brook for all five years. Levels were generally between 10 and 30 umhos/cm but in 1996 and 1997 levels as high as 144 and 589 were measured. These anomalies resulted in elevated mean values and wide confidence intervals. Conductivity in Straight Brook during storm events did show some statistically significant variation between years with conductivity generally decreasing between 1995 and 1999 indicating slight decreases in dissolved solids in Straight Brook.

Roaring Brook conductivity levels similarly decreased when levels in 1995 and 1999 are compared. Year-to-year decreases were not statistically significant. This trend occurred in the data collected for both storm events and base flow conditions.

Roaring Brook TSS levels under base flow conditions did show some year-to-year variability, but no clear trend over time. Levels in 1995 and 1997 were lower than other years with the samples taken in 1995 (1 sample) and in 1997 (2 samples) all having TSS levels below the 1 mg/l detection limit. A single TSS sample taken in Straight Brook under storm condition did not allow for the calculation of a 95% confidence interval and is likely the reason that 1995 levels were higher than 1999 levels. All other years were similar.

TSS base flow levels in Roaring Brook were the same for all years. There were also no statistical year-to-year differences in Roaring Brook TSS levels for storm events.

There was no year-to-year variability in turbidity levels in either brook for either base flow conditions or storm conditions. This would be expected given the lack of variation in the dissolved fraction measured by conductivity and the solids components measured by TSS.

# 4.2 Nutrient Loading

Ammonia and total phosphorus (TP) were the two parameters measured to quantify nutrient loading in the two brooks.

Ammonia levels in Straight Brook exceeded the 1 mg/l laboratory detection limits in only one sample taken during storm event in 1996. Ammonia levels were 1.1 mg/l in this sample. All other storm sample levels were <1mg/l. Base flow ammonia levels in Straight Brook were the same for all years, all less than the detection limit.

The same patterns of ammonia occurred in Roaring Brook. All base flow samples were <1 mg/l. All storm event samples were less than 1 mg/l with the exception of two events where ammonia levels were 1.1 mg/l in 1997 and 1.6 mg/l in 1996. There were no differences in year-to-year ammonia levels in Roaring Brook.

Straight Brook TP levels during base flow sampling were the same in all years except for 1996. In 1996 all TP base flow samples were less than the 10 mg/l detection limit. For storm event sampling in Straight Brook there were no differences in TP levels between any of the years.

TP levels were the same in Roaring Brook for all years under base flow conditions. There was also no difference in TP levels for any of the years under storm flow conditions in Roaring Brook.

The lack of variation in ammonia and TP levels over the last five-year period demonstrates that improvements at Gore Mountain have not resulted in increased nutrient loading to the nearby streams.

4.3 Other Parameters Monitored

In addition to the parameters described above, pH, temperature, and dissolved oxygen (DO) were also monitored.

For both streams the only variation in pH was for Straight Brook in 1995 when the single storm event sample had a pH of 4.2. This was lower than other years. All other years for Straight Brook and all years for Roaring Brook had similar pH for base flow and storm event conditions.

The only variation found in the DO data was a lower value for Roaring Brook in the only base flow sample taken in 1995. All other years for both streams had DO levels that did not vary from one another.

There are no trends in temperature to analyze because sampling dates varied from year to year. This data was collected only to have available in the event that anomalies occurred in other data that could some how be related to unusual temperature conditions.

## 5. Conclusions and Recommendations

The water quality data collected for the period 1995 to 1999 in Straight Brook and Roaring Brook demonstrate that the improvements at Gore Mountain have not impacted local water quality or downstream water quality.

It is recommended that the current sampling program be modified to provide data that lends itself better to future analyses. Because of the small number of samples in some of the data once it is stratified between years and also between base flow and storm conditions, high rates of variability sometimes make for wide confidence intervals that could potentially mask possible trends.

By increasing the sampling frequency, while at the same time decreasing the number of parameters tested for, a better data set can be developed for approximately the same costs.

It is recommended that attempts be made to take monthly samples during base flow conditions and during storm events. It is recognized that this may be difficult during the summer months when flows in the brooks are very low or non-existent and in mid-winter when ice cover may impede sampling. However, a data set of 10 to 12 samples for each year would very likely reduce the variability in the data and allow for a more rigorous analysis.

Recommended parameters to continue to test for should include conductivity, TSS, and TP. Testing for these parameters would still provide the data necessary to continue to evaluate potential impacts from increased nutrient loading and erosion and sedimentation as a result of future improvements at Gore Mountain. To date, no such impacts have occurred based on the data collected between 1995 and 1999.

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Straight B	rook				1997				· · · · · · · · · · · · · · · · · · ·
					·				
	Parameters	_ <u></u>							
Sampling	Conductivity	pH	TSS	Ammonia	Total Phosphate-P	Temperature	Turbidity	Dissolved Oxygen	Discharge
Dates	(umhos/cm@25°C)	(su)	(mg/l)	(mg/l)	(ug/l)	(°F)	(ntu)	(mg/l)	(cfs)
11/3/1999	21	6.80	2.0	<1.0	8.0	47.7	.54	10.1	Storm/Melt Event
10/27/1999	21	7.40	<1.0	<1.0	21	40.5	.51	10.7	Baseflow
9/17/1999	18	5.55	<1.0	<1.0	8.0	50.5	1.31	9.2	Storm Event
7/27/1999	31	6.9	<1.0	<1.0	43	62.1	.39	8.0	Baseflow
5/27/1999	13.6	6.25	<1.0	<1.0	<2.0	45.5	.22	8.4	Storm Event
5/4/1999	14.1	5.1	1.0	<1.0	16	41.2	.31	8.5	Baseflow
12/1/1998	18	5.42	3.5	<1.0	26	40.1	.59	11.64	Storm/Melt Event
11/6/1998	24	6.92	2.5	<1.0	14	33.9	.22	11.75	Baseflow
8/24/1998	20	6.31	27	<1.0	22	59.2	3.17	9.47	Storm Event
6/15/1998	19	5	1.0	<1.0	160	53	.65	10.10	Storm Event
6/12/1998	28	6.77	6.5	<1.0	10	51.6	.83	9.86	Baseflow
1/4/1998	31	5.98	<1.0	<1.0	30	27.7	.19	12.30	Storm/Melt Event
10/27/1997	29	5.7	1.0	<1.0	500	32	1.14	12.04	Storm Event
9/7/1997	27	6.9	4.0	<1.0	20	48.2	.52	7.92	Storm Event
				<1.0					
8/11/1997	31	6.56	<1.0		29	55	.23	9.93	0.0023-0.00669 cfs Baseflow
6/17/1997	23	7.6	8.0	<1.0	18	48	.97	10.25	Storm Event
4/17/1997	144	6.1	<1.0	<1.0	10	33.3	.39	13.62	Baseflow
2/28/1997	15	6.2	<1.0	<1.0	19	29	.32	14.2	Storm Event (2/27 rain .5")
12/2/1996	23	10	5.5	<1.0	<10	28	.78	8.7	Storm/Melt Event (Nov. rain 4.24"
11/7/1996	14	6.3	3.0	<1.0	<10	38	.19	9.3	Baseflow (Oct. rain 3.86")
9/9/1996	28	6.4	6.0	<1.0	20	54	.91	8.9	Storm Event
8/14/1996	589	6.6	<1.0	<1.0	<10	56	.31	8.0	Baseflow
6/7/1996	22	6.1	42	<1.0	30	46	2.83	10.32	Storm Event
3/26/1996	25	5.5	<1.0	<1.0	<10	28	.27	12.36	Baseflow
2/23/1996	24	5.2	3.0	1.1	10	29	.56	10.6	Storm/Melt Event
2/5/1996	25	6.3	<1.0	<1.0	<10	27	.33	14.61	Baseflow
10/17/1995	37	4.2	2.0	<1.0	<10	42	16.4	9.1	Storm Event 3.48 cfs
6/21/1995		6.7	<1.0	<1.0	30	· 52	.34	8.9	
6/1/1995	28		<u> </u>		- <u></u>	56		0.3	Baseflow .1109 cfs
5/31/1995						57			Baseflow .59 cfs
3/7/1995	26	6.1	Alkalinity 2.8	<1.0	10				Baseflow 1.65 cfs

Roaring Br	ook								
	Parameters								
ampling	Conductivity	pH	TSS	Ammonia	Total Phosphate-P	Temperature	Turbidity	Dissolved Oxygen	Discharge
ates	(umhos/cm@25°C)	(su@16.2°C)	(mg/l)	(mg/l)	(ug/l)	(°F)	(ntu)	(mg/l)	(cfs)
11/3/1999	17	6.12	<1.0	<1.0	12	46.8	.49	10.6	Storm/Melt Event
10/27/1999	17	7.08	<1.0	<1.0	8.0	40.6	.34	10.7	Baseflow
9/17/1999	18	6.70	<1.0	<1.0	10	50.7	1.26	9.1	Storm/Melt Event (H. Floyd)
7/27/1999	35	6.9	<1.0	<1.0	13	61.5	.43	8.1	Baseflow
5/27/1999	14.7	6.05	<1.0	<1.0	<2.0	45.1	.20	11.3	Storm Event
5/4/1999	15	5.4	2.0	<1.0	42	40.3	.29	8.6	Baseflow
12/1/1998	19	6.04	3.5	<1.0	19	39.2	.45	10.3	Storm/Melt Event
11/6/1998	37	6.82	2.0	<1.0	26	33.6	.20	11.64	Baseflow
8/24/1998	26	6.27	63	<1.0	161	58.6	24.1	9.51	Storm Event
6/15/1998	18	5.36	3.5	<1.0	140	51	1.03	9.98	Storm Event
6/12/1998	32	6.68	5.5	<1.0	79	51.3	.61	9.98	Baseflow
1/4/1998	32	6.41	4.0	<1.0	20	27.5	.45	10.78	Storm/Melt Event
10/27/1997	28	6.1	1.0	<1.0	30	33	2.53	11.56	Storm/Melt Event
9/7/1997	35	6.8	<1.0	<1.0	30	8.5	.97	8.03	Storm Event
8/11/1997	38	6.5	<1.0	<1.0	1,300	53.4	.29	8.15	est.0.00669-0.01115 cfs Basefiow
6/17/1997	29	7.3	5.5	<1.0	<10	48.7	.83	9.85	Storm Event
4/17/1997	130	5.9	<1.0	<1.0	10	33.1	.34	13.55	Baseflow
2/28/1997	17	6.1	<1.0	1.1	22	30	.37	8.82	Storm/Melt Event
1/17/1997	Heavy Icing, can't sample	······································							Baseflow
12/2/1996	23	5.7	14	1.6	<10	29	.89	8.9	Storm/Melt Event
11/7/1996	18	6.3	2.0	<1.0	<10	37	.24	11.1	Baseflow (10/96 3.86" rain)
9/9/1996	41	6.3	2.0	<1.0	<10	54	.32	8.5	Storm Event
8/14/1996	830	6.5	<1.0	<1.0	<10	53	.27	7.8	Baseflow
7/31/1996	Unable to Sample		1						Storm Event
6/7/1996	29	5.9	3.5	<1.0	20				6/12/96 6.46 cfs Storm Event
3/26/1996	30	6.2	1.0	<1.0	<10	27	.23	12.1	Baseflow
2/23/1996	26	5.8	<1.0	<1.0	10	28	.48	8.1	Storm/Melt Event
2/5/1996	30	3.1	<1.0	<1.0	<10	27	.27	8.55	Baseflow
10/17/1995	29	5.7	<1.0	<1.0	<10	42	.88	8.91	Storm Event 4.03 cfs
6/21/1995	38	5.4	<1.0	<1.0	10	62	.31	7.7	Baseflow 0.065 cfs
6/1/1995			]						Baseflow .44 cfs
5/31/1995									Baseflow .48 cfs
3/7/1995	36	5.5	Alkalinity 7	<1.0	10				

# Table 3Straight Brook Monitoring Results

Straight Br	ook-1999						ļ	
conduct.						MEAN	ST DEV	N
conduct.	base	21	31	14.1		22.0	1	
	storm	21	18	13.6		17.5		3
		<u> </u>	10	10.0			0.7220071	
рН								
	base	7.4	6.9	5.1		6.5	1.209683	3
	storm	6.8	5.55	6.25		6.2	0.626498	3
TSS					~ <u></u>			
	base	· <1	<1	1		· · · ·	(	3*
······································	storm	2	<1	<1				3* 3*
Ammonia			· .					
	base	<1	<1	<1	<u></u> _	<1		3*
	storm	<1	<1	<1		<1		3*
TP								
···	base	21	43	16		32.0	14.36431	3
	storm	8	8	<2				3*
Turbidity								
	base	0.51	0.39	0.31		0.5	0.100664	3
	storm	0.54	1.31	0.22		0.9	Commence and the second state of the second st	3
DO								
	base	10.7	8	8.5		9.4	1.436431	3
	storm	10.1	9.2	8.4		9.7	0.85049	3

# Table 3Straight Brook Monitoring Results

Straight B	rook-1998			; ;				
0000				· · · · · · · · · · · · · · · · · · ·	<u> </u>	MEAN	STDEV	
conuct.								
	base	24	28	:		· 26	2.828427	2
	storm	18	20	19	31	22	6.055301	4
рН								
	base	6.92	6.77	1		6.845	0.106066	2
	storm	5.42	6.31	5	5.98	5.6775	0.582201	4
TSS								
	base	2.5	6.5	1	*****	4.5	2.828427	2
	storm	3.5	27	1	<1		14.34399	4*
Ammonia								· · · · ·
	base	<1	<1 .			<1	9	2*
	storm	<1	<1	<1	<1	<1		4*
TP								
	base	14	10			12	2.828427	2
	storm	26	22	160	30	59.5	67.07955	4
Turbidity								,
	base	0.22	0.83	1		0.53	0.431335	2
	storm	0.59	3.17	0.65	0.19	1.15	1.362057	4
DO							· · ·	
	base	11.75	9.86			10.81	1.336432	2
	storm	11.64	9.47	10.1	12.3	10.88	1.315355	4
						1	·	. <u> </u>

# Table 3Straight Brook Monitoring Results

Straight B	rook-1997							· · · · · · · · · · · · · · · · · · ·
			· · · ·			MEAN	STDEV	N
cond.								
	base	31	144			87.50		2
	storm	29	27	23	15	23.50	6.191392	4
pН								
	base	6.56	6.1			6.33		2
	storm	5.7	6.9	7.6	6.2	6.60	0.828654	4
TSS								
	base	<1	<1			<1		. 2*
	storm	1	4	8	<1			4*
Ammonia	3							
	base	<1	<1			<1		2*
	storm	<1	<1	<1	<1	<1		4*
ТР								
	base	29	10			19.50	13.43503	2
	storm	. 500	20	18	19	139.25	240.5014	4
Turbidity								
	base	0.23	0.39			0.31	0.113137	2
	storm	1.14	0.52	0.97	0.32	0.74	0.381958	4
DO								
	base	9.93	13.62			11.78		2
	storm	12.04	7.92	10.25	14.2	11.10	2.666363	4
·								

Table 3Straight Brook Monitoring Results

Straight Br	nok 1996	1 1 1 1				······································		
Straight Di	00K-1990					MEAN	STDEV	
cond.								
	base	14	589	25	25	163.25	283.8807	4
	storm	23	28	22	24	24.25	2.629956	4
***************************************					·····			
pН								
	base	6.3	6.6	5.5	6.3	6.18		4
	storm	10	6.4	6.1	5.2	6.93	2.112463	4
TSS			•					······································
	base	3	<1	<1	<1			4'
	storm	5.5	6	42	3	14.13	18.62961	4
Ammonia								
	base	<1	<1	<1	<1	<1		4*
	storm	<1	<1	<1	1.1			4'
ТР	<u> </u>							
	base	<10	<10	<10	<10	<10		4'
	storm	<10	20	30	10		· · · · · · · · · · · · · · · · · · ·	4*
Turbidity							6	
	base	0.19	0.31	0.27	0.33	0.28	0.061914	4
	storm	0.78	0.91	2.83	0.56	1.27	1.049984	4
DO								
	base	9.3	8	12.36	14.61	11.07	2.986273	4
	storm	8.7	8.9	10.32	10.6	9.63	0.968642	4

	1	able	3	
Straight	Brook	Mon	itoring	Results

Straight Br	ook-1995	:				
				MEAN	STDEV	
Cond.					<u> </u>	
	base	28	26	27	1.414214	2
	storm	37		37		1
рН			·			
	base	6.7	6.1	6.4	0.424264	2
	storm	4.2		4.2		1
TSS				· · ·		
	base	<1		<1		1*
	storm	2		2		1*
Ammonia						
	base	<1	<1	<1		2*
	storm	<1		<1		1
TP						
	base	30	10	20	14.14214	2
	storm	<10		<10		1*
Turbidity						
	base	0.34		0.34		1
	storm	16.4		16.4		1
DO						
	base	8.9	· ·	8.9		1
	storm	9.1		9.1	1	1

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		able 4	
Roaring	Brook	Monitorir	ig Results

Roaring Bi	ook-1999						
conduct.					MEAN		N
	base	17	35	15		.3 11.0	
	storm	17	18	14.7	16	6 1.7	3
pH .							
	base	7.08	6.9	5.4	E	0.9	3
	storm	6.12	6.7	6.05	6	0.3 0.4	3
TSS							
	base	<1	<1	2		· ·	3*
	storm	<1	<1	<1		<1 N/A	3
Ammonia							
	base	<1	<1	<1		<1 N/A	3
	storm	<1	<1	<1		<1 N/A	3
TP	1	ļ					
····· • ······························	base	8	13	42	. 21	.0 18.4	3
	storm	12	10	<2	······································		3*
Turbidity		-					
	base	0.34	0.43	0.29		0.4 0.1	3
	storm	0.49	1.26	0.2		0.7 0.5	3
DO							
~~	base	10.7	8.1	8.6		).1 . 1.4	3
	storm	10.6	9.1	11.3	1(	).3 1.1	3

# Table 4Roaring Brook Monitoring Results

Dooring D	rook 1009					· · · · · · · · · · · · · · · · · · ·			
Roaning B	rook-1998						EAN	STDEV	N
						IVI	EAN	SIDEV	IN
conuct.		07					04.5		
	base	37	32	40			34.5	3.5	2
	storm	19	26	18	32		23.75	6.55	. 4
pН									
	base	6.82	6.68			· <u></u>	6.75		2
	storm	6.04	.6.27	5.36	6.41		6.02	0.47	4
TSS									
	base	2	5.5	Ţ			3.75		2
	storm	3.5	63	3.5	4		18.5	29.67	4
Ammonia									
	base	<1	<1				<1	N/A	2
	storm	<1	<1	<1	<1		<1	N/A	4
TP							.,		
	base	26	79			· · · · · · · · · · · · · · · · · · ·	52.5	37.5	2
	storm	19	161	140	20		85.0		4
Turbidity						·			
	base	0.2	0.61			· · · · · · · · · · · · · · · · · · ·	0.405	0.3	2
	storm	0.45	24.1	1.03	0.45		6.508		4
DO	;					· · · · · · · · · · · · · · · · · · ·	`		
	base	11.64	9.98			· · ·	10.81	1.174	2
	storm	10.3	9.51	9.98	10.78		10.1	0.535	4
					· · ·	; 			

Page 2

		able 4	
Roaring	Brook	Monitoring	Results

							1	
Roaring Bi	rook-1997	· · ·						
						MEAN	STDEV	N
cond.	<u> </u>							
	base	38	130			84		2
	storm	28	35	29	17	27.3	7.500	4
рН								
	base	6.5	5.9			6.2	0.424	2
·	storm	6.1	6.8	7.3	6.1	6.6	0.585	4
TSS						·······		
	base	<1	<1			. <1		2*
	storm	1	<1	5.5	<1			4*
Ammonia								
······································	base	<1	<1			<1	N/A	s 2*
	storm	<1	<1	<1	1.1			4*
TP								
	base	1300	10			655	912.168	2
	storm	30	30	<10	22	······································		4*
Turbidity								
	base	0.29	0.34			0.315	0.035	2
	storm	2.53	0.97	0.83	0.37	1.2		4
DO								
	base	8.15	13.55			10.85		
	storm	11.56	8.03	9.85	8.82	9.6		
·	<u>i</u> !							

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# Table 4Roaring Brook Monitoring Results

Roaring B	rook-1996								
							MEAN	STDEV	N
cond.									
	base	18	830	30	30		227.00		4
	storm	23	41	29	26		29.75	7.89	4
pН									
	base	6.3	6.5	6.2	6.1		6.28		4
	storm	5.7	6.3	5.9	5.8		5.93	0.26	4
TSS		٠ 			· · · ·				
	base	2	<1	1	<1				4*
	storm	14	2	3.5	<1				4*
Ammonia									
	base	<1	<1	<1	<1		<1	N/A	4
	storm	1.6	<1	<1	<1				
TP									
	base	<10	<10	<10	<10		<10	N/A	4
	storm	<10	<10	20	10				
Turbidity									
	base	0.24	0.27	0.23	0.27		0.25	0.02	4
	storm	0.89	0.32	2.32	0.48		1.00	0.91	4
DO						·····			
	base	11.1	7.8	12.1	8.55		9.89	2.04	4
	storm	8.9	8.5	9.87	8.1		8.84	0.76	4
								· · · · · · · · · · · · · · · · · · ·	

# Table 4Roaring Brook Monitoring Results

Deedee D	1005						- \
Roaring Br	тоок-1995 Т				DAT" A NI	OTOFU	A 1
					MEAN	STDEV	N
Cond.							
	base	38			38		1
	storm	29	36		32.5	4.9	2
pН							
	base	6.4			6.4	N/A	1
	storm	5.7	6.5		6.1	0.6	2
TSS							······
	base	<1			<1	N/A	1
	storm	<1		······································	<1	N/A	1
Ammonia							
	base	<3			<1	N/A	1
	storm	<1	<1		<1	N/A	2
TP						· ·	
, , , , , , , , , , , , , , , , , , ,	base	10			10	N/A	1
	storm	<10	10				2*
Turbidity							
	base	0.31			0.31	N/A	1
	storm	0.88			0.88	N/A	
DO							
	base	7.7			7.7	. N/A	1
	storm	8.91			8.91		1

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### Table 5 Straight Brook Statistics

STRAIGHT BROOK						
Base Flow Conductivity	1999	1998	1997	1996	1995	
Mean	22	26	87.5	163.3	27	
StDev	8.5	2.83	79.9	283.88	1.4	
N	- 3	2	2	4	2	
95% Conf.	9.62	3.92	110.73	278.20	1.94	
Storm/Melt Conductivity	1999	1998	1997	1996	1995	
Mean	17.5	22	23.5	24.3	37	
StDev	3.72	6.06	6.19	2.63	0	
N	3	4	4	4	1	
95% Conf.	4.21	5.94	6.07	2.58	#NUM!	
Base Flow pH	1999	1998	1997	1996	1995	
Mean	6.5	6.85	6.33	6.2	6.4	
StDev	1.21	0.11	0.33	0.47	0.4	
Ň	3	2	2	4	2	
95% Conf.	1.37	0.15	0.46	0.46	0.55	
Storm/Melt pH	1999	1998	1997	1996	1995	
Mean	6.2	5.68	6.6	6.9	4.2	
StDev	0.63	0.58	0.83	2.1	0	
N	3	4	4	4	1	
95% Conf.	0.71	0.57	0.81	2.06	#NUM!	
Base Flow TSS	1999	1998	1997	1996	1995	
Mean	0.7	4.5	0.5	1.13	0.5	
StDev	0.29	2.83	0	1.25	0	
N	3	2	2	4	1	
95% Conf.	0.33	3.92	#NUM!	1.22	#NUM!	
Storm/Melt TSS	1999	1998	1997	1996	1995	
Mean	1	8	3.38	14.1	· 2	
StDev	0.87	12.73	3.45	16.28	0	
× N	3	4	4	4	1	
95% Conf.	0.98	12.48	3.38	15.95	#NUM!	
Base Flow Ammonia	1999	1998	1997	1996	1995	
Mean	0.5	0.5	0.5	0.5	0.65	
StDev	0	0	0	0	0.3	
N	3	2 #NU IN/I	2	4	2	
N 95% Conf.	#NUM!	#NUM!	#NUM!	#NUM!	0.42	
Storm/Melt Ammonia	1999	1998	1997	1996	1995	
Mean	0.5	0.5	0.5	0.65	2	······································
StDev	0	0	0	0.3	0	
N	3	4	4	4	1	
95% Conf.	#NUM!	#NUM!	#NUM!	0.29	#NUM!	
Base Flow TP	1999	1998	1997	1996	1995	· · · ·
Mean	26.7	12	19.5	5	20	· · · · · · · · · · · · · · · · · · ·
StDev	14.4	2.8	13.44	0	14.1	
N	3	2	2	4	2	1
95% Conf.	16.29	3.88	18.63	#NUM!	19.54	
Storm/Melt TP	1999	1998	1997	1996	1995	
Mean	5.7	59.5	139.3	16.3	5	
StDev	4.04	67.1	240.5	19.06	0	
N	3	4	4	4	1	рай түр үлтэр дарта нь нээдэлжээ <u>сарта нээжээ</u> н үлээ Т
95% Conf.	4.57	65.76	235.69	18 68	#NUM!	

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# Table 5Straight Brook Statistics

Straight Brook (cont.)						
Base Flow Turbidity	1999	1998	1997	1996	1995	
Mean	0.4	0.53	0.3	0.28	0.34	
StDev	0.1	0.431	0.11	0.06	0	
N	3	2	2	4	1	
95% Conf.	0.11	0.60	0.15	0.06	#NUM!	
Storm/Melt Turbidity	1999	1998	1997	1996	1995	
Mean	0.7	1.15	0.74	1.27	16.4	
StDev	0.56	1.36	0.38	1.05	0	
N	3	4	4	4	1	
95% Conf.	0.63	1.33	0.37	1.03	#NUM!	
Base Flow DO	1999	1998	1997	1996	1995	
Mean	9.1	10.8	11.8	11.1	8.9	
StDev	1.44	1.34	2.61	2.99	0	
N	3	2	2	4	1	
95% Conf.	1.63	1.86	3.62	2.93	#NUM!	
Storm/Melt DO	1999	1998	1997	1996	1995	
Mean	9.2	10.9	11.1	9.6	9.1	
StDev	0.85	1.32	2.67	0.99	0	
N	3	4	4	4	1	
95% Conf.	0.96	1.29	2.62	0.97	#NUM!	

Table 6 Roaring Brook Statistics

ROARING BROOK		•20• ••••••• ••••••••••••••••••••••••••		i		
		······				
Base Flow Conductivity	1999	1998	1997	1996	1995	ан улаан алаан
Mean	22.3	34.5	84	227	38	
StDev	11	3.5	65.1	402.04	0	· · · · · · · · · · · · · · · · · · ·
N	3	2	2	4	1	
95% Conf.	12.4	4.9	90.2	393.99	N/A	
Storm/Melt Conductivity	1999	1998	1997	1996	1995	······································
Mean	16.6	23.75	27.3	24.25	32.5	
StDev	1.7	6.55	7.5	2.63	4.9	
N	3	4	4	4	2	
95% Conf.	1.9	6.42	7.3	2.58	6.8	
Base Flow pH	1999	1998	1997	1996	1995	
Mean	6.5	6.75	6.2	6.28	6.4	
StDev	0.9	0.1	0.4	0.17	0	· · · · · · · · · · · · · · · · · · ·
N	3	2	2	4	1	
95% Conf.	1.0	0.1	0.6	1.7	#NUM!	
Storm/Melt pH	1999	1998	1997	1996	1995	
Mean	6.3	6.02	6.6	5.93	6.1	······································
StDev	0.4	0.47	0.6	0.26	0.6	
N	3	4	4	4	2	
95% Conf.	0.5	0.5	0.6	0.3	0.8	
Base Flow TSS	1999	1998	1997	1996	1995	
Mean	1	3.75	0.5	1	0.5	
StDev	0.9	2.47	0	0.71	0	
N	3	2	2	4	1	
95% Conf.	1.0	3.4	#NUM!	0.7	#NUM!	
Storm/Melt TSS	1999	1998	1997	1996	1995	
Mean	0.5	18.5	1.8	5	0.5	
StDev	0	29.67	2.5	6.12	0	
N	3	4	. 4	4	1	
95% Conf.	#NUM!	29.1	2.4	6.0	#NUM!	
Base Flow Ammonia	1999	1998	1997	1996	1995	
Mean	0.5	0.5	0.5	0.5	0.5	
StDev	0	0	0	0	0	
N			2	4	. 1	
95% Conf.	·······	······································	#NUM!	#NUM!	#NUM!	
Storm/Melt Ammonia	1999	1998	1997	1996	1995	······································
Mean	0.5	0.5	0.7	0.78	0.5	
StDev	0	0	0.3	0.55	0	······
N	3	4	4	4	2	
95% Conf.		#NUM!	0.3	0.5	· · · · · · · · · · · · · · · · · · ·	
Base Flow TP	1999	1998	1997	1996	1995	
Mean	21	52.5	655	5	10	
StDev	18.4	37.5	912	0	0	
N	3	2	2	4		i
95% Conf. i	20.8	52.0	1263.9			
Storm/Melt TP	1999	1998	1997	1996		
Mean	7.7	85	21.8	10	7.5	
StDev		76.1	11.7		3.5	
N.	3	4	4:	4	2,	
95% Conf.;	6.7	74.6	11.5	6.9	4.9	۲ 

# Table 6Roaring Brook Statistics

Roaring Brook (cont.)						
Base Flow Turbidity	1999	1998	1997	1996	1995	 
Mean	0.4	0.41	0.32	0.25	0.31	 
StDev	0.1	0.3	0.04	0.02	0	 
N	3	2	2	4.	1	
95% Conf.	0.1	0.4	0.1	0.0	#NUM!	 
Storm/Melt Turbidity	1999	1998	1997	1996	1995	 
Mean	0.7	6.51	1.2	1	0.88	
StDev	5	11.7	0.9	0.91	0	
N	3	4	4	4.	1	
95% Conf.	5.7	11.5	0.9	0.9	#NUM!	
Base Flow DO	1999	1998	1997	1996	1995	
Mean	9.1	10.81	10.85	9.89	7.7	
StDev	1.4	1.17	3.82	2.04	0	 
N	3	· 2	2	4	* 1	
95% Conf.	1.6	1.6	5.3	2.0	#NUM!	
Storm/Melt DO	1999	1998	1997	1996	1995	
Mean	10.3	10.1	9.6	8.84	8.91	
StDev	1.1	0.54	1.5	0.76	0	
N	3	4	4	4	. 1	
95% Conf.	1.2	0.5	1.5	0.7	#NUM!	

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. (95% Confidence		1999 a	1998 a	1997 a	1996 a	1995 a	<u>ucs</u>
	lower	1999 a 12.38	22.08	-23.23	-114.9	25.06	······································
Base Flow Conductivity	mean	22	22.00	87.5	163.3	23.00	
Base 110W Conductivity		31.62	29.92	198.23	441.5	28.94	
	upper	51.02		190.23	441.0		
· · · · · · · · · · · · · · · · · · ·	 	1999 a	1998 a,b	1997 a,b	1996 b	1995 c	
	lower	13.29	16.06	17.43	21.72		
Storm/Melt Conductivity	mean	17.5	. 22	23.5	24.3	37	
	upper	21.71	27.94	29.57	26.88		
		1999 a	1998 a	1997 a	1996 a	1995 a	
	lowor	5.13	1996 a 6.7	<u>1997 a</u> 5.87	5.74	5.85	
Base Flow pH	lower mean	6.5	6.85	6.33	6.2	6.4	
	upper	7.87	7	6.79	6.66	6.94	
			· .				
		1999 a	1998 a	1997 a	1996 a	1995 b	
	lower	5.49	5.11	5,79	4.84		
Storm/Melt pH	mean	6.2	5.68	6.6		4.2	
	upper	6.91	6.25	7.41	8.96		
		1999 a,b	1998 a	1997 b	1996 a,b	1995 b	
	lower	0.37	0.58		-0.09		
Base Flow TSS	mean	0.7	4.5	0.5	1.13	0.5	
	upper	1.03	8.42		2.35		
		1999 a	1998 a,b	1997 a,b	1996 a,b	1995 b	
	lower	0.02	-4.48	1997 a,b 0		1995 0	
Storm/Melt TSS	mean	1	-4.40	3.38		2	
Stormment 135	upper	1.98	20.48	6.76	and the second sec		······································
······		1999 a	1998 a	1997 a	1996 a	1995 a	
α	lower						
Base Flow Ammonia	mean	0.5	0.5	0.5	0.5	0.5	
	upper						
		1999 a	1998 a	1997 a	1996 a	1995 a	
	lower				0.35		
Storm/Melt Ammonia	mean	0.5	0.5	0.5	0.65	0.5	
	upper		·····		0.95		
		1999 a	1998 a	1997 a,b	1996 b	1995 a,b	
	lower	10.41	8.12		annen folgen in de la compañía de la	0.46	
Base Flow TP	mean	26.7	12		5	20	
	upper	42.99	15.88			39.54	

### Table 7 aight Brook - Comparison of Yea

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		traight Brool	•				
(95% Confidence	<u>e Intervals - s</u>	ame letter af	<u>ter year nur</u>	nbers indica	<u>ites statistic</u>	ally similar va	alues)
				10 			
						1	
		1999 a	1998 a	1997 a	1996 a	1995 a	
	lower	1.13	-6.26	-96.39	-2.38		
Storm/Melt TP	mean	5.7	59.5	139.3	16.3	5	
	upper	10.27	125.26	374.99	34.98		
		1999 a	1998 a	1997 a	1996 a	1995 a	
	lower	0.29	-0.07	0.15	0.22		
Base Flow Turbidity	mean	0.4	0.53	0.3	0.28	0.34	
	upper	0.51	1.13	0.45	0.34		
		1999 a	1998 a	1997 a	1996 a	1995 b	
3	lower	0.07	-0.18	0.37	0.24		
Storm/Melt Turbidity	mean	0.7	1.15	0.74	1.27	16.4	·······
	upper	1.33	2.48	1.11	2.3		
		4000	4000 -	4009	4000	4006 -	
		1999 a	1998 a	1997 a	1996 a	1995 a	
70. F21.4 EN.40.	lower	7.47	8.94	8.18	8.17		
Base Flow DO	mean	9.1	10.8	11.8	11.1	8.9	
	upper	10.73	12.66	15.42	14.03		
				·			
		1999 a	1998 a	1997 a	1996 a	1995 a	
ан на станици, на на станита на станита на велето на станита на селото на станита се станита се станита се станит	lower	8.24	9.61	8.48	8.63		
Storm/Melt DO	mean	9.2	10.9	11.1	9.6	9.1	
	upper	10.16	12.19	13.72	10.57		

# Table 7 Straight Brook - Comparison of Years

		1999 a	1998 a,b	1997 a,b		stically similar va 1995 b	
	upper	9.9	29.6	-6.2	-166.99		
Base Flow Conductivity	mean	22.3	34.5	84	227	38	
Dase Flow Conductivity	lower	34.7	39.4	174.2	620.99		
	lower	54.7	55.4	1/4.2	020.99		
		1999 a	1998 a,b	1997 b	1996 b	1995 b	
	upper	14.7	17.33	20	21.67	25.7	
Storm/Melt Conductivity	mean	16.6	23.75	27.3	24.25	32.5	
	lower	18.5	30.17	34.6	26.83	39.3	
· · ·		4000 -	4000 -	4007 -	4000 -	4005 -	
······································		1999 a	1998 a	1997 a	1996 a	1995 a	
Doog Eloui al I	upper	5.5	6.65	5.6	6.11		
Base Flow pH	mean	6.5	6.75	6.2	6.28	6.4	
	lower	7.5	6.85	6.8	6.45		
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	5.8	5.52	6	5.63	5.3	
Storm/Melt pH	mean	6.3	6.02	6.6	5.93	6.1	
	lower	6.8	6.52	7.2	6.23	6.9	
		1999 a	1998 a,b	1997 b	1996 b	1995 b	
1994	upper	5.5	0.35		0.3		
Base Flow TSS	mean	6.5	3.75	0.5	1:	0.5	
· · · · · · · · · · · · · · · · · · ·	lower	7.5	7.15		1.7		
		4000 -	4000 c	4007 -	4000 -	4005 0	
		1999 a	1998 a	1997 a	1996 a	1995 a	
Charge Malt TOO	upper	0.5	-10.6	-0.6	-1	0.5	
Storm/Melt TSS	mean	0.5	18.5	1.8	5	0.5	
	lower		47.6	4.2	11		
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper						
Base Flow Ammonia	mean	0.5	0.5	0.5	0.5	0.5	
	lower				······		
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	1333 d	1000 d	0.4		10000	
Storm/Melt Ammonia	upper	0.5	0.5	0.4	0.28	0.5	
	mean	0.5	0.0	0.7		0,5,	
	lower		-		1.20	:	
		1999 a	1998 a	1997 a	1996 a	1995 a	
a de la service de la constante	upper	0.2	0.5	-608.9			
Base Flow TP	mean	21	52.5		. 5	10	
	lower	41.8	and the second s	······	the second s		

### Table 8 oaring Brook - Comparison of Yes

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(95% Confide	nce Intervals				licates stati	stically simila	r values)
		. 1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	1	10.4	10.3	3.1	2.6	
Storm/Melt TP	mean	7.7	. 85	21.8	10	7.5	
	lower	14.4	159.6	33.3	16.9	12.4	
		1000	4999				
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	0.3	0.01	0.22	0.23		
Base Flow Turbidity	mean	0.4	0.41	0.32	0.25	0.31	
	lower	0.5	0.81	0.42	0.27		
		4000 -	4000 -	4005	4000	100P	TT
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	-5	-4.99	0.3	0.1		
Storm/Melt Turbidity	mean	0.7	6.51	1.2	1	0.88	
	lower	6.4	18.01	2.1	1.9		
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	7.5	9.21	5.53	7.89		
Base Flow DO	mean	9.1	10.81	10.85	9.89	7.7	
	lower	10.7	12.41	16.13	11.89		
· · · · · · · · · · · · · · · · · · ·		1999 a	1998 a	1997 a,b	1996 a,b	1995 b	
	lupper	9.1	9.6	8.1	8.14		
Storm/Melt DO	mean	10.3	10.1	9.6	8.84	8.91	
	lower	11.5	10.6	11.1	9.54		

### Table 8 Roaring Brook - Comparison of Years

(95% Confidence		<u>s - same letter</u>   <b>1999 a</b>	<u>1998 a,b</u>	1997 a,b	1996 a,b	stically similar valu 1995 b
an a	upper	9.9	29.6	-6.2	-166.99	1
Base Flow Conductivity	mean	22.3	34.5	84	227	38
Jase I low Colladouvity	lower	34.7	39.4	174.2	620.99	
		54.1		174.2	020.00	
						;
		1999 a	1998 a,b	1997 b	1996 b	1995 b
	upper	1333 a	17.33	20	21.67	25.7
Storm/Melt Conductivity	mean	14.7	23.75	27.3	24.25	32.5
Storm/Men Conductivity	lower	18.5	30.17	34.6	26.83	39.3
		10.0				
· · · · · · · · · · · · · · · · · · ·		1999 a	1998 a	1997 a	1996 a	1995 a
· · · · · · · · · · · · · · · · · · ·	upper	5.5	6.65	5.6	6.11	
Base Flow pH	mean	6.5	6.75	6.2	6.28	6.4
	lower	7.5	6.85	6.8	6.45	
			*			
	l	4000	4000	4007	4000 -	4005 -
	 	1999 a	1998 a	1997 a	1996 a	1995 a
Chause / Mathers 1	upper	5.8	5.52	6	5.63	5.3
Storm/Melt pH	mean	6.3	6.02	6.6	5.93	6.1
•	lower	6.8	6.52	7.2	6.23	6.9
		1999 a	1998 a,b	1997 b	1996 b	1995 b
	upper	5.5	0.35		0.3	
Base Flow TSS	mean	6.5	3.75	0.5	1	0.5
· · · · · · · · · · · · · · · · · · ·	lower	7.5	7.15		1,7	1
	<u> </u>	4000	4000	4005	4000	4006 -
	 	1999 a	1998 a	1997 a	1996 a	1995 a
	upper		-10.6	-0.6	-1	0.5
Storm/Melt TSS	mean	0.5	18.5	1.8	5	0.5
	lower		47.6	4.2	11	
· · ·		1999 a	1998 a	1997 a	1996 a	1995 a
	upper					
Base Flow Ammonia	mean	0.5	0.5	0.5	0.5	0.5
	lower				:	
	1	4000 -	4009 0	4007 -	4000 -	1005 0
	uppor	1999 a	1998 a	1997 a _	1996 a	1995 a
Storm/Malt Ammania	upper			0.4	0.28	0.5
Storm/Melt Ammonia	mean	0.5	0.5	0.7	0.78	0.0
	lower			1	1.28	·
	1				:	
		1999 a	1998 a	1997 a	1996 a	1995 a
	upper	0.2	0.5	-608.9		
Base Flow TP	mean	21	52.5		5	10
	lower	41.8		ments and an an official state and an interest of the second		ang 1 dalah kara a salah dan sala saya an sama aki 197 barah jarjangangan a

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		Roaring Bro	-				
(95% Confide	ence Intervals					stically similar	values)
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	1	10.4	10.3	3.1	2.6	
Storm/Melt TP	mean	7.7.	85	21.8	10	7.5	
	lower	14.4	159.6	33.3	16.9	12.4	
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	0.3	0.01	0.22	0.23		
Base Flow Turbidity	mean	0.4	0.41	0.32	0.25	0.31	
	lower	0.5	0.81	0.42	0.27		
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	-5	-4.99	0.3	0.1		
Storm/Melt Turbidity	mean	0.7	6.51	1.2	1	0.88	
	lower	6.4	18.01	2.1	1.9		
					\$		
		1999 a	1998 a	1997 a	1996 a	1995 a	
	upper	7.5	9.21	5.53	7.89		
Base Flow DO	mean	9.1	10.81	10.85	9.89	7.7	
	lower	10.7	12.41	16.13	11.89		
		1999 a	1998 a	1997 a,b	1996 a,b	1995 b	
	upper	9.1	9,6	8.1	8.14		
Storm/Melt DO	mean	10.3	10.1	9.6	8.84	8.91	
	lower	11.5	10.6	11.1	9.54		

Table 8

### Appendix 4

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### **Inventory of Man-Made Facilities**

### inventory of Man-Made Facilities

Building	Dimension		Use	Public Capacity
Main Lodge	71' x 268'	2 story	Multi-use	3,974
Saddle Lodge	45' x 60'	2 1/4	Public	180
Gondola Base	65' x 95'	2 story	Multi-use	
Gondola Mid-Station	75' x 125'	2 story	Not in use now	127 67 122
Gondola Summit	60' x 90'	1 story	Not in use now	<b>ت</b> ا الله الله الله الله الله الله الله ال
Motor Vehicle Garage	50' x 95' .	1 story	Vehicle Maintenance	But 400 105
Lifts Garage	30' x 85'	1 story	Snowmaking Hdqtrs.	Ann har eas
Snow Garage	30' x 90'	1 story	Trails Dept.	ala ata 194
Compressor House #2	50' x 100'	1 story	Housing Compressors	Your side hite
Pump House	26' x 42'	1 story	Housing Pumps	
Sewer Plant	25' x 80'	1 story	Sewage Treatment	pan ano ano
Orbal Plant	50' Diam.	1 story	Sewage Treatment	ead with law
Round House	30' Diam.	1 story	Sewage Holding Tanks	Acti app sta
Warming Hut-Summit	20' x 35'	1 story	Public	20
Field House	16' x 24'	1 story	Abandoned	808 NG 600
Lift #1 Drive Vault	25' x 30'	1 story	Houses Drive Motors	en cu ka
Lift #1 Base Attend.	16' x 16'	1 story	Attendants/Computer	VA NT CA
Lift #1 Chair Barn	50' x 104'	1 story	Houses Chairs	ED 43 45
Lift #1 Drive Cover	22' x 67'	1 story	Covers Drive Terminal	648 A23 505
Jift #1 Top Operator	8' x 10'	1 story	Attendants/Computer	69 B
Lift #2 Base Attend.	8' x 16'	1 story	Attendants/Controls	નાંક વાય વાય
Lift #2 Top Attendants	8' x 16'	1 story	Attendants	63 KB 69
ift #3 Base Atten.	8' x 16'	1 story	Attendants/Controls	444 B.6 AUX
Lift #3 Mid-Station	8' x 4'	l story	Attendants	a a a
ijift #3 Top Attendants	8' x 4'	1 story	Attendant/Well Pump Control	S
ift #4 Base Attend.	8' x 6'	1 story	Attendants	term dath billy
Lift #4 Top Attend.	8' x 6'	1 story	Attendants	64 G7 87
ift #5 Base Attend.	8' x 12'	1 story	Attendants	64 63 60
Lift #5 Top Attend.	4' x 8'	1 story	Attendants	<b>50 50 50</b>
Lift #6 Base Attend.	8' x 16'	1 story	Attendants/Control	web and der
Lift #6 Top Attendants	8' x 8'	1 story	Top Attendant	- 
Lift #7 Base Attendant	8' x 16'	1 story	Attendants	<b>A</b> 10 4(0 00)
Lift #7 Top Attendant	8' x 16'	1 story	Attendants/Controls	400 KU DOA
storage Barn	24° x 50°	l story	General Storage	पान होई राज
Equipment Barn	50' x 100'	1 story	Vehicle Storage	81 67 63
NYSEF	28' x 48'	1 story	NYSEF	yes not his
wister Finish Bldg.	12' x 28'	1 story	Race Timing	ker tie tae
Wister Start Bldg.	6' x 8'	1 story	Race Starting	63 KA 64
Lift 8 Base	12' x 16'	1 story	Race Timing	e o o
Jastar Start Bldg.	6' x 8'	1 story	Race Starting	and and
Natchman's Booth	8' x.12'	1 story	Group Sales	6 6 10
Manager's House	28' x 44'	1 story	Residence	0-5 vil 80

.

:	Bus Booth	24' x 24'	1 story
	Ski Patrol	34' x 60'	2 story
	Creek Pump House	10'6" x 11'6"	1 story
	Generator Cover	21' x 23'	1 story
	Round House Control	13'6" x 14'	1 story
	Valve House A	16' x 24'	1 story
	Valve House B	20' x 16'	1 story
	Valve House D	16' x 24'	1 story
	Saddle Patrol C	14' x 16'	1 story
	Hedco Building	22' x 24'	1 story
	Windy Hill Valve House	12' x 16'	1 story
	Sled Shack	8' x 16'	1 story
í	Summit Toboggan Bldg.	6' x 8'	1 story
	Saddle Generator Shed	9' x 15'	1 story
	Valve House F	16' x 20'	1 story
	Reservoir Bldg.	8' x 8'	1 story
	Race Pole Storage	4' x 8'	1 story
	Manager's Storage	8' x 8'	1 story
	Access Rd. Garage	12' x 21'	1 story
	Summit Patrol	13'5" x 28'5"	1 story
	Fire Tower	16' x 16'	72' High
	Communications Tower	12' x 24'	110' High
	12 Outhouses	3' x 4'	1 story
	Manager's Garage	14' x 28'	1 story
	Lift #8 Summit	12' x 20'	1 story
	Lift #8 Cabin Storage Bldg.	150' x 68'	1 story

Group Sales Patrol Offices & Conference Room ----Houses Pump Cover Emergency Generators -----Cover Electric Controls ~ ~ ~ Keep Snowmaking Valves Warm -----Keep Snowmaking Valves Warm Keep Snowmaking Valves Warm -----Satellite Ski Patrol Station \_\_\_\_ **Snowmakers Satellite Station** Keeping Snowmaking Valves Warm ----Toboggan Storage ------Toboggan Storage ----**Cover Emergency Generator** ----Keep Snowmaking Valves Warm ----Cover Potable Water Tank -----Store Race Poles Personal Storage .... Fertilizer Storage -----Ski Patrol ...... Fire Lookout State Police & DEC **Communication Repeaters** -----Mens, Ladies, Attendants ..... 1 Car Garage Attendants/Storage Storage/Maintenance -

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## Appendix 5

# **Marketing Research Report**

# Marketing Research Report

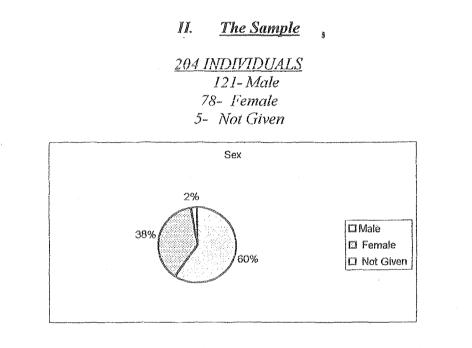
April 27, 2000



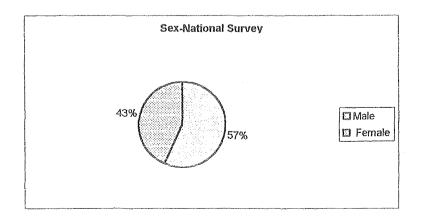
Prepared by Emily Stanton For internal use only

#### I. Introduction

A random survey was taken of 204 individuals from the first weekend of the Presidents' holiday (February 19-20) until closing day (April 2). This time period takes into the sample skiers from local and distant locations during both optimal winter and variable spring conditions. Objectives in obtaining the data were to assess customer awareness and opinion on the 5-Phase Plan, collect quantitative consumer data, and prioritize future development according to customer wants and needs. The 1998–1999 National Skier/Boarder Opinion Survey National Year-End Summary Report, prepared by the Leisure Trends Group, is being used as a constant to compare our sample to the 33,000 skiers and boarders who completed a survey at 40 ski areas throughout the United States, and three in Canada. Total Gore Mountain skier visits 1999-2000: 120,017.

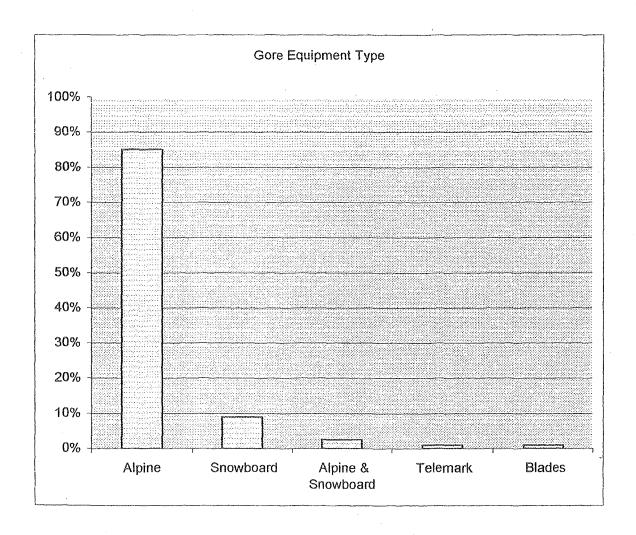


The national survey indicates that males are 57% of downhillers, females 43% (Leisure Trends, 1999), making the sex distribution of the Gore sample quite comparable to the national average.



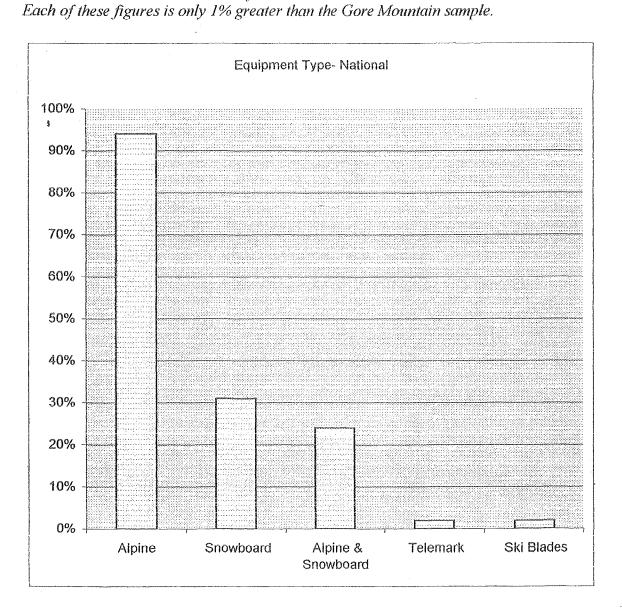
172 respondents, 85% of the sample, are alpine skiers.
18 respondents, 9% of the sample, are snowboarders.
5 respondents, 2.5% of the sample, participate in both alpine skiing and snowboarding.
2 respondents, 1% of the sample, are telemark skiers.
2 respondents, 1% of the sample, use ski blades.

5 respondents, or 2.5% of the sample, did not provide their equipment type.

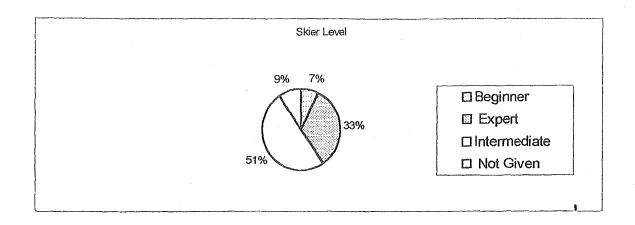


According to the national data (Leisure Trends, 1999), 94% of people on the slopes are alpine skiers and 31% are snowboarders, with these figures adding to over 100% because 24% participate in both alpine skiing and snowboarding. Only 6% of the downhill market snowboards exclusively.

Note that on any given day, approximately 84% are alpine skiing, only 1% less than the Gore Mountain sample, and 17% are snowboarding. The national data also shows 2% of downhillers on telemark skis and 2% on ski blades.

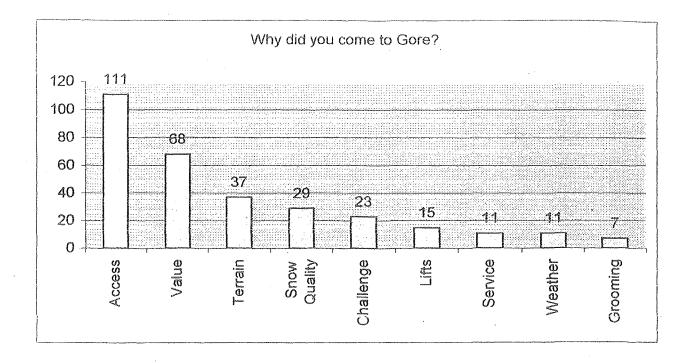


Over one-half of the Gore sample categorizes themselves as intermediate skiers or riders, one-third as experts, and less than one-tenth as beginners.



85 respondents, or 41.7%, visited Gore on an overnight trip. Their average stay was 3.188 nights. Nationally, the average stay is 4.8 nights (Leisure Trends, 1999).

The average number of ski days per year in the Gore Mountain sample is 16.925. Nationally, this figure is 14 days. Of the approximate 17 ski days per year, our sample skis 6.744 days, or spends 40% of their ski time at Gore.



54.4% of respondents said that access was the primary factor influencing their decision to come to Gore. Value was chosen by 33.33% of respondents, Terrain 18.1%, Snow Quality 14.22%, Challenge 11.27%, Lifts 7.35%, Service 5.4%, Weather 5.4%, and Grooming 3.4%. These figures exceed 100% because respondents were asked to circle two factors. Other various factors included family atmosphere, tradition, being local, word of mouth, kids and learn to ski programs, the race program, and the scenery.

According to the national data (Leisure Trends, 1999), access, friends, tradition, and terrain are the primary factors influencing the choice of destination. Secondary factors include price and product characteristics (atmosphere, snow surface, lodging, and scenery). 53% of downhillers use a price promotion.

121 (59.31%) respondents noted that their primary information source about Gore Mountain was friends and family. 34 (16.7%) used the Gore Mountain website as their primary information source. Nationally, 48% of all downhillers indicate that they accessed the website of the resort they were visiting, and 87% have access to the Internet.

Other information sources included the snow phone, the race program, and the particular school a guest attended.

#### III. Findings

Our sample is significantly similar to the national average concerning sex and equipment type. The sample skis approximately three more days per year than the average skier, and spends 40% of their ski time at Gore Mountain, making it an avid group of downhillers that is familiar with the ski area.

Despite the rapid growth of snowboarding, it still remains a small fraction of the downhill segment, with alpine skiers at least five times the number of snowboarders. Although this will likely change in the future, the market is currently strongly dominated by alpine skiers.

*Telemark skiers and snowbladers do not constitute a significant market.* 

Over half of the sample was here because of the easy access, one-third for the value.

Our trail distribution matches nicely to our sample's ability level. Beginner skiers=9%, Beginner trails=10%, Intermediate skiers=51%, Intermediate trails=60%, Expert skiers=33%, Expert trails=30%.

Word of mouth remains the strongest marketing tool, with approximately 60% using friends and family as their main Gore Mountain information source. The website was the closest second at 16.7%.

*Aspects of the Gore Mountain experience most disliked:* 

- *I. Flat Areas*
- 2. Nothing!
- 3. No direct access to summit
- 4. Gondola location/Bear Mountain trails
- 5. Food/Bar prices
- 6. Lack of grooming
- 7. Crowded Lodge/Parking (Tie)
- 8. Lift Unloading Areas
- 9. Rental Process/Conditions (Tie)
- 10. Long ticket lines/lack of comfortable seating/weather (Tie)

Aspects of the Gore Mountain experience most liked:

- 1. Terrain
- 2. Gondola
- 3. Lack of crowds
- 4. Family appeal
- 5. Lifts
- 6. Grooming/Employees/Everything (Tie)
- 7. Scenery
- 8. Conditions
- 9. Snowmaking
- 10. Half-pipe/Summit area/Glades (Tie)

*Areas that deserve the most focus over the next 5 years:* 

- 1. Trails (48%)
- 2. Snowmaking
- 3. Lifts
- 4. Grooming
- 5. Lodges
- 6. Parking
- 7. Food
- 8. Conditions Reporting/ Additional Activities (Tie)
- 9. Children's Programs/Safety (Tie)
- 10. Ski School

The majority of previous Gore Mountain visitors are not aware of the Five-Phase Plan. Not Aware- 66.6% Aware- 33.3%

3

*The majority of previous Gore Mountain visitors said the changes since 1995 have been positive. Positive- 93%* 

Negative-7%

The majority of previous Gore Mountain visitors do not ski or ride more often because of these changes. Do not Ski/Ride More- 56% Ski/Ride More- 44%

Guests feel that new lifts, including the Northwoods Gondola, have made the greatest improvement to the mountain (45%). Snowmaking (20%) and added terrain (16%) were also frequently mentioned.

#### IV. Marketing Implications

Marketing is making business decisions according to customer wants and needs. The following implications only consider customer wants and needs, and put no consideration toward cost/budgeting, environmental regulation, safety, etc.

\*Lift #10 and new Bear Mountain trails should be of main priority for improvements. Almost half of the sample said that trails deserve the most attention over the next five years. Flat areas and gondola location/Bear Mountain trails are at the top of the list for customer dislikes. Customer complaints are the most frequent about these two topics.

\*There are references to our great value and easy access in our marketing messages, but these two advantages that we hold tightly over the majority of other mountains need to become more highlighted in our marketing mix. Value and access is what we have over Vermont. Let's talk them up!

\*More grooming. Good grooming, over all other aspects of the mountain, is the factor most likely to determine whether someone comes to ski or not. Grooming should become part of our snow report.

\*Let skiers back in the half-pipe. In addition to several requests for this in the visitor survey, a separate file has had to be made for comment forms in regard to the same matter.

\*Maintain but do not increase investment in terrain park and half-pipe. The Gore Mountain snowboard segment is small, and our flat areas deter many snowboarders. Snowboarders are less likely to be destination visitors, and they comprise a younger, lower-income segment that is not mountain-loyal. Our snowboard program is presently sufficient. We currently have several events for snowboarders only, and a functional snowboard school. Since snowboarders are not mountain-loyal, they will be swayed by future snowboard improvements, including the addition of Lift #10 that will allow them to avoid the flat areas. Our mountain's terrain is not snowboard friendly, and the current size of the snowboard market does not warrant significant snowboard improvements.

\*Gore Mountain visitors are not staying as many nights as other destination visitors. We lack nightlife and a simplistic way to arrange for accommodations.

\*Begin an adult frequent skier card program. Skiers are given a free card. Ticket sellers are provided with special stickers or stamp. Ski 4 times, get your 5<sup>th</sup> visit free. This program will show our appreciation towards our frequent skiers, and assuage the adults who are upset at losing the Empire Card and absorb the most skiing costs. These adults are the main source of our revenues, and they should have an incentive program. 53% of downhillers use a price promotion. \*Communicate the Five-Phase Plan to guests more effectively. People would be more accepting and understanding of changes if they knew the changes were part of a longterm rehabilitation project, and would feel like a more involved part of the Gore community that their tax dollars are invested in. A sign in the lodge or a general informational release to be distributed at the information desk may be useful. Employees should also be more informed of the Plan.

5 D 1 -2 \*Add non-skiing activities. Additional activities were among the top ten items of areas that deserve the most attention over the next five years. Tubing, sleigh rides, and more snowshoe events are all examples of additional activities. Even the purchase of some board games would be a nice way to get started.

\*Arrange for good-bye people for next year to compliment the greeters. Arrange for more product giveaways and free samples. Companies who we hand out free samples for may be more conducive to becoming sponsors, and people love free stuff.

\*Develop a structured, more organized, customer-friendly way to work the kids programs. One-stop shopping is needed.

\*Develop an employee appreciation program, and have more regularly scheduled employee meetings and mixers. A well-miformed, happy staff will result in better customer service.

### Appendix 6

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A STATE

### **Sustainable Slopes**

### 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 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.

Center for Sustainable Tourism, University. of Colorado Conservation Law Foundation US Department of Energy US Environmental Protection Agency USDA Forest Service Leave No Trace Inc. The Mountain Institute National Environmental Trust National Fish & Wildlife Foundation 2002 Olympics Salt Lake City Organizing Committee Teton County, Wyoming Trust For Public Lands

*This list will be revised periodically. Please check <u>www.nsaa.org</u> 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.

Participating Organizations	•
The Alford Design Group, Inc.	(Peter Alford, Jr.& Sr.)
Cirrus Ecological Solutions	(Neal Artz/Scott Evans)
Citizens Allied for Responsible Growth	(Dana Williams)
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 Governme	ents
Q/Q Committee	(Lane Wyatt)
ORCA – Trade Association of the	

(Myrna Johnson) (Doug Campbell) (Richard Lewis/Myles Rademan) (Roy Hugie) (Craig Mackey)

(Diane Conrad & David Workman) (Ted Beeler)

s.e. group

Outdoor Industry

Outward Bound USA

Pacific Northwest Ski Areas Association

Salt Lake Organizing Committee for the

Pioneer Environmental Services, Inc.

Park City Municipal Corporation

Olympic Winter Games of 2002

Sierra Club - Utah Sierra Club - West Virginia Ski Areas of New York SKI Magazine Ski Maine Association The Citizens Committee to Save Our Canyons Surfrider Foundation/Snowrider Teton County, Wyoming The Groswold Ski Company The Mountain Institute Town of Mammoth Lakes Trout Unlimited - Colorado Chapter Trout Unlimited - Oregon Chapter Trout Unlimited - Utah Chapter Trust for Public Land University of Colorado - Center for Sustainable Tourism U.S. Department of Energy U.S. Environmental Protection Agency U.S. Forest Service Vermont Natural Resources Council Vermont Ski Areas Association

(Jock Glidden) (Paul Wilson) (Rob Megnin) (Andy Bigford) (Greg Sweetser)

(Gavin Noyes) (Jen Ader/Darryl Hatheway) (Ann Stephenson) (Jerry Groswold) (Jane Pratt) (Bill Taylor & Mike Vance) (Melinda Kassen) (Jeff Curtis) (Paul Dremann) (Doug Robotham)

(Charles Goeldner)

(Stephen Holmes)

### PREAMBLE

#### The Context of the Environmental Principles

#### 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, they 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 the areas in which operate.
- 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. They 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:

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- 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 to 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

\*These Principles are voluntary and are not intended to create new legal liabilities, expand existing rights or obligations, waive legal defenses, or otherwise affect the legal position of any endorsing company, and are not intended to be used against an endorser in any legal proceeding for any purpose. 1

- 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
- $\checkmark$  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 below).

#### **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
- $\checkmark$  Inventorying water resources and monitoring seasonal variations in stream flows
- $\checkmark$  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

- ✓ 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<sup>™</sup> principles of outdoor ethics

#### Wastewater Management

## Principle:

Manage wastewater in a responsible manner

## **Options for getting there:**

- $\checkmark$  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
- $\checkmark$  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

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✓ 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

- 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<sup>™</sup> 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 reuse of 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:**

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- ✓ 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:

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

- ✓ 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

- 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<sup>®</sup> and the Leave No Trace<sup>™</sup> 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

- ✓ Inventorying and monitoring forest and vegetative resources
- ✓ Adopting vegetative management plans
- $\checkmark$  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

- 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.

#### **Principle:**

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- 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

- ✓ 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 natural backdrop or complement 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
- $\checkmark$  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
- $\checkmark$  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 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 your website to environmental excellence and the Environmental Charter
- ✓ Offering Skecology<sup>®</sup> 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 7

NYSDEC Tree Cruise Data for Gore Mountain

# 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 your employees, guests, and the general public about the Environmental Charter and your environmental policies and practices

## ENVIRONMENTAL CODE OF THE SLOPESC

## What skiers, snowboarders and ski area guests can do to help

- \* Follow the Leave No Trace<sup>TM</sup> 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 bedding 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.

	Community	A		В		C			D		
		Pioneer HW		Mixed HW	North HW		,	Mixed HW		Mixed HW	
		3-4" dbh	>4" dbh	3-4" dbh	>4" dbh	3-4" dbh	>4" dbh	3-4" dbh	>4" dbh	3-4" dbh	>4" dbh
Sugar Maple		0	9.9	81	125.1	22	119.1	94.7	63.4	76.5	63
Beech		0	0.5	8.2	20.2	39.2	22.2	18.2	25.8	189.2	197.2
Yellow birch		0	1.7		4.9		16.8	12.1	27.4	10.5	11
White birch		29	130.2		24.4		6		24.5		33.5
White ash		0	0			•	8.9	12.1	7.4		
Black cherry		0	0		6.5		0.4		2.7		
Ironwood		0	0			7	4.3	6.1			
Red Spruce		0	1.9		10.4		0.4				
Red Maple		0	0	14.6	27.7		4.4	6.1	20.9		28.4
Basswood		0 .	0				0.6		9.2		
Red Oak		0	0	30.9	11.8		9.9			10.5	14.7
Hemlock		0	0.6				0.1		5.4		
Balsam Fir		39.4	22		6.8			27.6	4.9		
Striped Maple		68.5	11.2								6.6
Aspen		0	0						19.7		3.4
Mountain Ash		. 0	0								
Total		136.9	178	134.7	237.8	68.2	193.1	• <b>1</b> 76.9	211.3	286.7	357.8

	Community	F Spruce-Fir		G Pioneer HW		H North HW		l Not Used		J SF & PH	
		3-4" dbh	>4" dbh	3-4" dbh	>4" dbh	3-4" dbh	>4" dbh	3-4" dbh	>4" dbh	3-4" dbh	>4" dbh
Sugar Maple				34	1	86.8	129.7				
Beech						40.8	40.4				
Yellow birch			22.6	•	18.6		38.7		•		
White birch					110.9		1.9			109.8	150.2
White ash											
Black cherry											
Ironwood											
Red Spruce		727	237.2		31.7					11.5	17.7
Red Maple					1.4		13.9				
Basswood											
Red Oak											
Hemlock											
Balsam Fir		204		193.5	5 89.9		10			237.4	165.8
Striped Maple											
Aspen											
Mountain Ash										11.5	29.9
Total		931	259.8	227.5	5 252.5	127.6	234.6			370.2	363.6

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	Community	K Spruce Fir 3-4" dbh	>4" dhh	L Not used 3-4" dbh	>4" dhh	M SF & PH 3-4" dbh	>4" dhh	N North HW 3- <u>4</u> " dbh	>∕/" dbb	O Not used 3-4" dbh	>4" dbh
Sugar Maple				5 - 001			39.8				
Beech								144.7			
Yellow birch											
White birch		109.2	53	1		217	7 78	3			
White ash								68	3.1		
Black cherry											
Ironwood											
Red Spruce		12.8	14.9	)			38.4	1	9.5		
Red Maple											
Basswood				,							
Red Oak											
Hemlock Balsam Fir		263.8	337.4			159.5	5 101.8	>			
Striped Maple		205.8	557.4	r		57.5					
Aspen						57.5	18.3				
Mountain Ash		12.8	5.7	,			10.	·			
			017								
Total		398.6	411		0 0	) 434	320.5	5 280.7	364.8	3	0 · C

	Community	P North HW	Q Pionee	r HW		R North H	IW		
		3-4" dbh >4" c	bh 3-4" db	⊳h >4	4" dbh	3-4" dbl	h >	4" dbh	
Sugar Maple		15.3 10	)5.6			2	8.8	191.3	
Beech		15.3	9.7			2	8.8	25.1	
Yellow birch			.0.6	14.4	31.3			16.2	
White birch			0.6	28.8	108.4				
White ash			4						
Black cherry									
Ironwood		7.7	6.8						بې
Red Spruce					32.9			1.8	w
Red Maple			0.4		24.1				
Basswood			5.9						
Red Oak			0.9						
Hemlock									
Balsam Fir				43.1	38.9				
Striped Maple			2.5	28.8	17.4	2	8.8		
Aspen									
Mountain Ash					9.2				
Total		38.3	177	115.1	262.2	8	6.4	234.4	