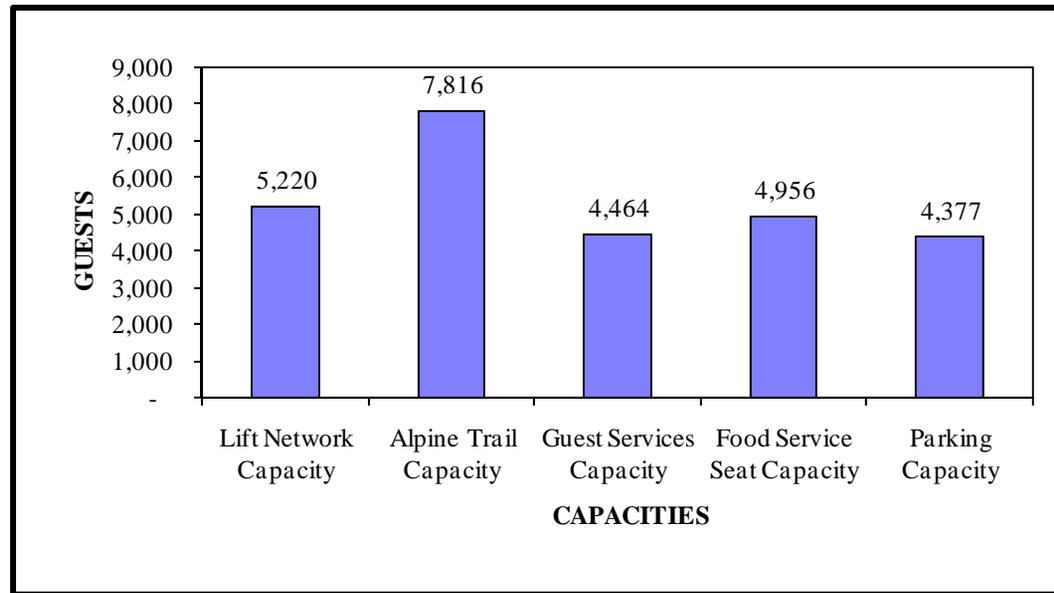


**CHART IV-2:
RESORT BALANCE – EXISTING CONDITIONS**



As the above chart shows, the existing resort is limited from reaching the CCC by the skier support facilities, i.e., guest services, food service seating, and parking. Parking is recognized as a particular problem, with parking being in high demand on higher skier days. The higher amount of ski terrain creates the desirable situation of low skier densities, an attribute for which Mount Sunapee is known, and a situation that the resort would very much like to maintain in the future.

V. PROPOSED UPGRADING PLAN

The upgrading plan for Mount Sunapee reflects the findings of the existing facilities analysis. The purpose of the upgrading plan is to produce a guide for ski area development that ensures the greatest practical and profitable use of the existing lands while remaining sensitive to the environment. The goal of the upgrading plan is to produce a high quality experience throughout the recreational area. Accordingly, the upgrading plan is tailored to improve Mount Sunapee's ability to respond to its market/skier demands through development of a more well-rounded resort experience. This plan should not only improve the ski area's current market niche, but also help to attract new visitors. The upgrading plan is shown in Figure V-1.

Mount Sunapee will perform a series of on-mountain and base area improvements as detailed in this section. There are three categories of improvements:

- 1) The improvements previously approved as part of the 2005-2009 MDP that are not yet implemented (previously approved; not yet implemented);⁵
- 2) Improvements proposed as part of the 2005-2009 MDP that are not yet approved: West Bowl Expansion (previously proposed; not yet approved); and
- 3) Additional proposed improvements within the current lease boundary (newly proposed).

Unless stated otherwise, the proposed conditions detailed in this section reflect a full build-out scenario, with all three steps being completed. Figure V-1 breaks out the three steps.

A. LIFTS

The lift upgrading plan has not changed from the 2005-2009 MDP. The lift upgrading plan calls for the installation of five new and/or relocated/upgraded chairlifts and two new carpet lifts. The Sunbowl chair will be upgraded to a high-speed express quad to better service that terrain and help create a higher utilization of that area. The existing North Peak triple will be upgraded to a quad chairlift to increase the capacity in that area. The existing Spruce Peak Triple will be upgraded to maintain the capacity of that area in the absence of the removed Duckling Double. A new chairlift will be placed in an alignment from the bottom area of the Sunbowl chair to the top of the North Peak area, called the Cataract chairlift. This will allow for improved circulation and will open up new terrain under that lift.

⁵ As per the May 6, 2005 letter from Commissioner R. Sean O'Kane, available in Appendix K.

It is possible that some of the existing chairlifts that are in good condition could be reused in some of these lift alignments, such as the Sunbowl Quad being relocated to become the North Peak Quad and the North Peak Triple being relocated to become the Cataract Triple chairlift.

An additional carpet will be installed in the South Peak learning area where a rope tow is currently located to better utilize the terrain there for beginner and novice skiers and snowboarders. Additionally, a new high-speed express chairlift will be built in what is called the West Bowl area to service the proposed terrain on that side of the mountain. An additional carpet lift would be built at the base of that lift for beginner skiers. Specifications for the planned lifts are set forth in the following table.

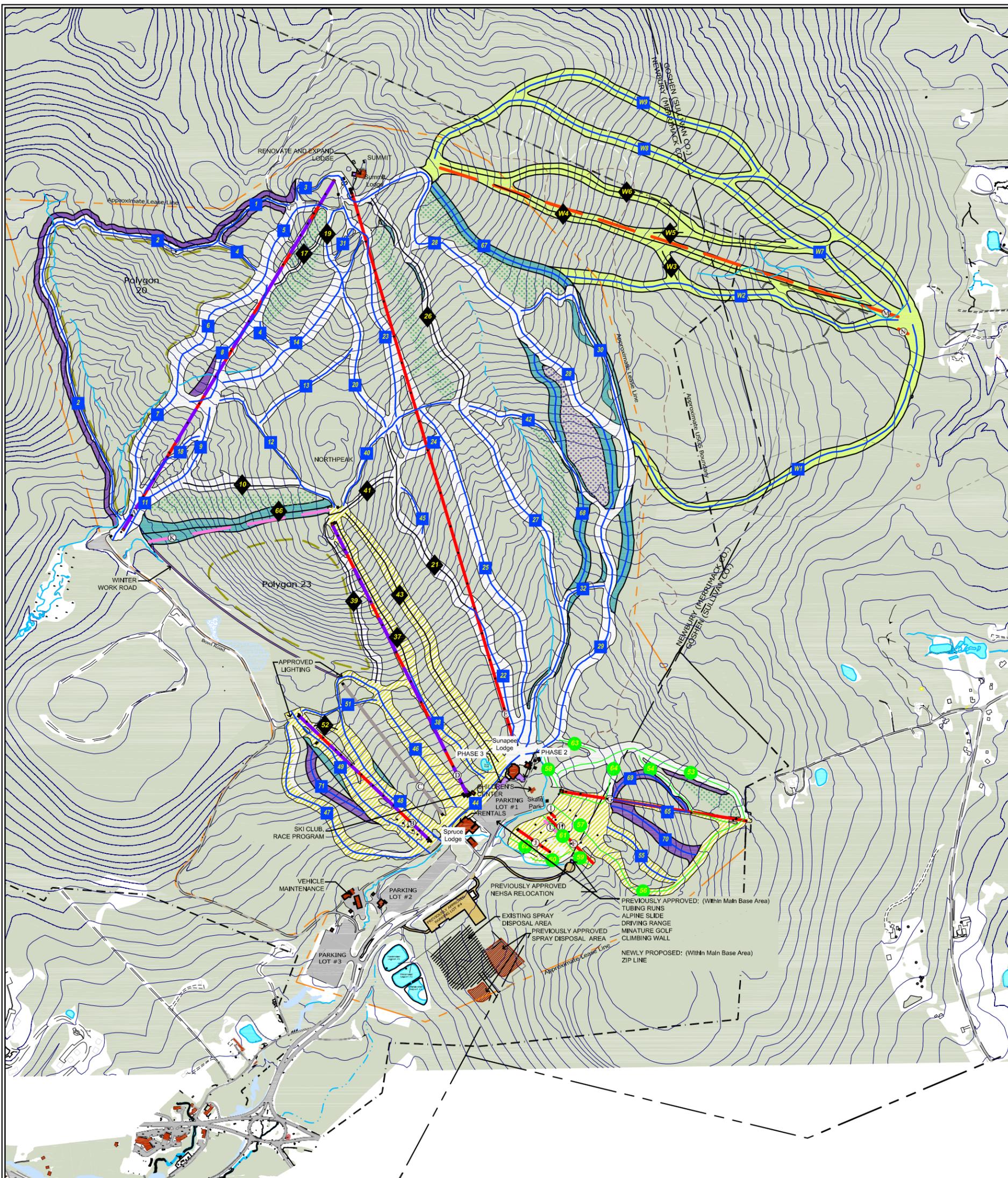
**TABLE V-1:
SKI LIFT SPECIFICATIONS – UPGRADING PLAN**

Map Ref	Lift Name and Type	Vert. Rise	Slope Length	Avg. Grade	Hourly Capacity	Speed	Carrier Spacing	Lift Maker / Year Installed
		(ft.)	(ft.)	(%)	(persons/hr.)	(fpm)	(ft.)	
A	<i>Sunbowl Quad/DC4</i>	1,058	4,292	26%	2,400	1,000	100	<i>Proposed</i>
B	Spruce Quad/C4	417	1,940	23%	2,400	425	43	Doppelmayr/1985
D	<i>North Peak Quad/C4</i>	965	3,254	31%	2,400	450	45	<i>Proposed</i>
E	Sunapee Express/DC4	1,402	6,056	24%	2,650	1,100	100	Poma/1998
F	Piggyback/Handle Tow	34	300	14%	400	200	30	Borer/1994
G	Clipper Ship Quad/C4	374	1,814	19%	1,600	425	64	Poma/2000
H	Boardwalk/Handle Tow	30	200	13%	250	100	24	Bruckschlogl/1997
I	Beach Blanket/Carpet	5	50	9%	400	50	8	Bruckschlogl/2000
J	Flying Carpet/Carpet	48	360	17%	800	100	8	Bruckschlogl/2002
K	<i>Cataract/C3</i>	571	1,947	31%	1,800	450	45	<i>Proposed</i>
L	<i>Province Carpet</i>	10	100	10%	800	100	8	<i>Proposed</i>
M	<i>West Bowl/DC4</i>	1,071	5,027	22%	2,400	1,000	100	<i>Proposed</i>
N	<i>West Bowl Carpet</i>	25	250	10%	800	100	8	<i>Proposed</i>

Notes:

Upgrades to lifts A, B and D, and the installation of lifts K and L are approved through the 2005-2009 MDP but have not yet been implemented.

Lifts M and N (for the West Bowl expansion) were previously proposed in the 2005-2009 MDP but not approved.



LEGEND

	EXISTING CONTOURS -25ft. Interval		EXISTING LIFTS		PREVIOUSLY PROPOSED/NOT APPROVED WEST BOWL RUN EXPANSION		RELOCATED HIKING TRAIL
	EXISTING STREAMS & WETLANDS		EXISTING LIFTS TO BE REMOVED		PREVIOUSLY APPROVED PROPOSED GLADES		PREVIOUSLY APPROVED NIGHT LIGHTING
	EXISTING LAKES & PONDS		PREVIOUSLY APPROVED PROPOSED LIFTS		PREVIOUSLY APPROVED PROPOSED BUILDINGS		
	EXISTING ROADS AND PARKING		PREVIOUSLY APPROVED LIFT UPGRADING		PREVIOUSLY APPROVED PROPOSED PARKING		
	EXISTING BUILDINGS		PREVIOUSLY PROPOSED/NOT APPROVED LIFTS		APPROX. LEASE BOUNDARY		
	EXISTING VEGETATION AND RUNS		PREVIOUSLY APPROVED TERRAIN		NEWLY PROPOSED GLADES		
	EXISTING GLADES		NEWLY PROPOSED TERRAIN (WITHIN EXISTING BOUNDARY)				



Title
Upgrading Plan

Figure Number:
V-1

Project Number: 09033.001
File: M Conditions 3.dwg

Scale: 1"=1000'
Date: 06/01/09
Drawn By: LHR
Checked By: CLH

North



B. SKI TERRAIN

The goal of the ski terrain upgrading program is to allow for better utilization of the existing terrain, as well as provide some new, more varied terrain. Mount Sunapee plans to construct several new trails, including new terrain in the Ridge trails area, the new Cataract run, a new intermediate trail in the South Peak learning area, a new terrain park trail, and the West Bowl Terrain. This will add approximately 123 acres of additional terrain to Mount Sunapee's developed trail network (218 acres), for a total of 341 acres.⁶

A number of terrain modifications approved through the 2005-2009 MDP have been implemented. These include widening various runs in the existing resort to improve the ski experience and creating two new runs. Runs that have been widened include: Upper Cataract, Elliot Slope, Duckling Slope (Jet Stream), Toboggan Chute, and Chipmunk.

Terrain modifications that were approved through the 2005-2009 MDP that have not yet been implemented include widening Upper and Lower Blast Off. Two new trails – the upper Outer Ridge run and the Cataract run, two new trails between Upper Ridge and Lower Blast Off, and creating a gladed skiing area at South Peak, were also approved in the 2005-2009 MDP but have not yet been implemented. The new Cataract run will provide more advanced intermediate level skiing as well as providing better circulation. The new trails in the Upper and Outer Ridge area will create more intermediate level terrain and will provide better utilization of the western side of the existing mountain.

Additionally, lighting for night skiing on several runs in the South Peak, North Peak, and Spruce areas had been approved as part of the 2005-2009 MDP (as shown in Figure V-1).

The West Bowl expansion was proposed as part of the 2005-2009 MDP but has not been approved. This expansion area will create a new beginner area, two new low intermediate runs, two new intermediate runs, and four new advanced intermediate level runs, for a total of approximately 75 acres of new skiing when all trails are built.

Additional terrain improvements proposed as part of the 2009-2014 MDP include widening of the Williamson and Stovepipe trails, widening and extending Paradise, widening Lift Line, creating glades between the Upper Ridge and Beck Brook trails, creating a new terrain park trail between the Elliot Slope and Pipeline trail, and creating an additional lower intermediate trail in the South Peak area.

Table V-2 lists details of the proposed terrain upgrades.

⁶ There are 18 acres of existing glades in addition to the 218 acres of developed trail network. The upgrading program adds 7 acres of glades in addition to the 123 acres of proposed developed terrain. This takes the total skiable acreage from 236 acres (existing conditions) to 366 acres (upgrading program).

**TABLE V-2:
TERRAIN SPECIFICATIONS – UPGRADING PLAN**

Map Ref.	Trail Name	Vertical Drop	Slope Length	Avg. Width	Area	Avg. Grade	Max. Grade	Skier/Rider Ability Level
		(ft.)	(ft.)	(ft.)	(acres)	(%)	(%)	
42	Beck Brook	171	1008	75	1.7	17%	30%	Low Intermediate
23	Bonanza	548	2365	133	7.2	24%	38%	Intermediate
45	By Way	197	1192	108	2.9	17%	28%	Low Intermediate
55	Calypso	168	945	108	2.3	18%	29%	Low Intermediate
21	Chase Ledges	462	2109	107	5.2	23%	43%	Advanced Intermediate
25	Chipmunk	774	3817	112	9.8	21%	29%	Low Intermediate
57	Coconut Grove	67	564	257	3.3	12%	17%	Novice
13	Eastside	226	1239	79	2.2	19%	28%	Low Intermediate
46	Eggbeater	385	1911	175	7.7	21%	32%	Low Intermediate
47	Elliot Slope	412	2413	116	6.4	17%	35%	Intermediate
55	Explorer	300	2152	101	5.0	14%	25%	Novice
58	Fin	15	355	74	0.6	4%	8%	Novice
62	Flip Flop	67	498	221	2.5	14%	18%	Novice
44	Fly Way	49	1083	193	4.8	5%	10%	Low Intermediate
12	Fox Run	208	1731	48	1.9	12%	27%	Low Intermediate
39	Goose Bumps	625	1944	74	3.3	34%	53%	Expert
51	Guster	80	795	44	0.8	10%	13%	Low Intermediate
22	Hansen Chase	369	1595	152	5.6	24%	31%	Low Intermediate
17	Hawes's Hideout	258	843	49	1.0	32%	43%	Expert
48	Jet Stream	395	2115	149	7.3	19%	34%	Intermediate
18	Kartwheel	236	888	72	1.5	28%	39%	Intermediate
24	Kick Back	73	307	131	0.9	25%	27%	Low Intermediate
59	Lemon	50	401	121	1.1	13%	15%	Novice
8	Lift Line	405	1583	154	5.6	27%	35%	Intermediate
60	Lime	37	432	91	0.9	9%	13%	Novice
27	Lower Blast Off	715	3993	93	8.6	18%	33%	Intermediate
11	Lower Cataract	200	903	105	2.2	23%	36%	Intermediate
4	Lower Crossover	52	351	51	0.4	15%	25%	Low Intermediate

**TABLE V-2:
TERRAIN SPECIFICATIONS – UPGRADING PLAN**

Map Ref.	Trail Name	Vertical Drop	Slope Length	Avg. Width	Area	Avg. Grade	Max. Grade	Skier/Rider Ability Level
		(ft.)	(ft.)	(ft.)	(acres)	(%)	(%)	
38	Lower Flying Goose	345	1388	123	3.9	26%	35%	Intermediate
29	Lower Ridge	454	3004	129	8.9	15%	25%	Low Intermediate
7	Lower Wingding	331	1735	116	4.6	20%	33%	Intermediate
43	Lynx	929	3151	134	9.7	31%	47%	Advanced Intermediate
6	Middle Wingding	363	1462	176	5.9	26%	40%	Intermediate
31	Old Goat	48	359	37	0.3	14%	25%	Low Intermediate
30	Outer Ridge	564	3753	115	9.9	15%	31%	Low Intermediate
54	Paradise	162	1195	99	2.7	14%	19%	Novice
49	Pipeline	420	2108	176	8.5	20%	31%	Low Intermediate
3	Porky's	78	556	48	0.6	14%	36%	Intermediate
32	Portage	99	543	82	1.0	19%	26%	Low Intermediate
61	Promenade	43	327	377	2.8	13%	17%	Novice
	Promenade Carpet	28	168	120	1.5	10%	10%	Beginner
53	Province	363	2286	122	6.4	16%	28%	Novice
19	Skyway Ledges	197	1006	80	1.9	20%	37%	Intermediate
14	Skyway	543	2250	124	6.4	25%	37%	Intermediate
64	Smooth Sail'n	130	930	118	2.5	14%	22%	Novice
65	Spinnaker	215	823	49	0.9	27%	36%	Intermediate
1	Stovepipe	132	929	119	2.5	14%	27%	Low Intermediate
9	Sundance	149	794	107	1.9	19%	29%	Low Intermediate
63	Sunnyside Down	38	396	55	0.5	10%	18%	Novice
52	The Park	32	244	54	0.3	13%	14%	Advanced Intermediate
40	Toboggan Chute	185	1660	56	2.1	11%	21%	Low Intermediate
26	Upper Blast Off	619	2486	97	5.5	26%	38%	Advanced Intermediate
10	Upper Cataract	338	1235	118	3.3	29%	39%	Advanced Intermediate
4	Upper Crossover	46	480	37	0.4	10%	11%	Low Intermediate
37	Upper Flying Goose	601	1815	140	5.8	35%	43%	Advanced Intermediate
41	Upper Hansen Chase	153	793	90	1.6	20%	31%	Advanced Intermediate
28	Upper Ridge	940	5735	110	14.4	17%	31%	Low Intermediate

**TABLE V-2:
TERRAIN SPECIFICATIONS – UPGRADING PLAN**

Map Ref.	Trail Name	Vertical Drop	Slope Length	Avg. Width	Area	Avg. Grade	Max. Grade	Skier/Rider Ability Level
		(ft.)	(ft.)	(ft.)	(acres)	(%)	(%)	
5	Upper Wingding	324	1377	141	4.4	24%	32%	Intermediate
20	West Side	330	1564	97	3.5	22%	37%	Intermediate
2	Williamson Trail	800	5071	100	11.7	16%	24%	Low Intermediate
66	<i>J Lift/Cataract Run</i>	576	2052	160	7.5	29%	49%	Advanced Intermediate
67	<i>Upper Outer Ridge</i>	482	1854	102	4.4	27%	36%	Intermediate
68	<i>New Ridge Trail</i>	537	2620	107	6.5	21%	33%	Low Intermediate
W1	<i>West Bowl 1</i>	390	4275	109	10.7	9%	19%	Intermediate
W2	<i>West Bowl 2</i>	609	3580	108	8.9	17%	40%	Intermediate
W3	<i>West Bowl 3</i>	35	333	132	1.0	11%	13%	Advanced Intermediate
W4	<i>West Bowl 4</i>	899	4153	113	10.8	22%	41%	Advanced Intermediate
W5	<i>West Bowl 5</i>	48	302	117	0.8	16%	17%	Advanced Intermediate
W6	<i>West Bowl 6</i>	936	3996	117	10.8	24%	50%	Advanced Intermediate
W7	<i>West Bowl 7</i>	329	2189	123	6.2	15%	24%	Low Intermediate
W8	<i>West Bowl 8</i>	1074	5929	115	15.7	18%	31%	Low Intermediate
W9	<i>West Bowl 9</i>	575	2861	117	7.7	21%	41%	Intermediate
	<i>West Bowl Carpet</i>	25	250	392	1.0	10%	10%	Beginner
69	<i>Paradise Extension</i>	115	513	148	1.7	23	45	Intermediate
70	<i>New South Peak Trail</i>	225	1,221	149	4.2	19	45	Intermediate
71	<i>New Spruce Quad Trail</i>	215	925	111	2.4	24%	31%	Intermediate
TOTAL			128,232		341.3			

The following table and chart compares the existing distribution of terrain by skier ability level with the distribution after upgrading. These exhibits show that the upgraded trail network at Mount Sunapee will accommodate a range of skier ability levels from Beginner to Expert.

The terrain distribution figures indicate a shortage of Beginner, Novice, Intermediate, Advanced Intermediate, and Expert terrain, and a surplus of Low Intermediate terrain.

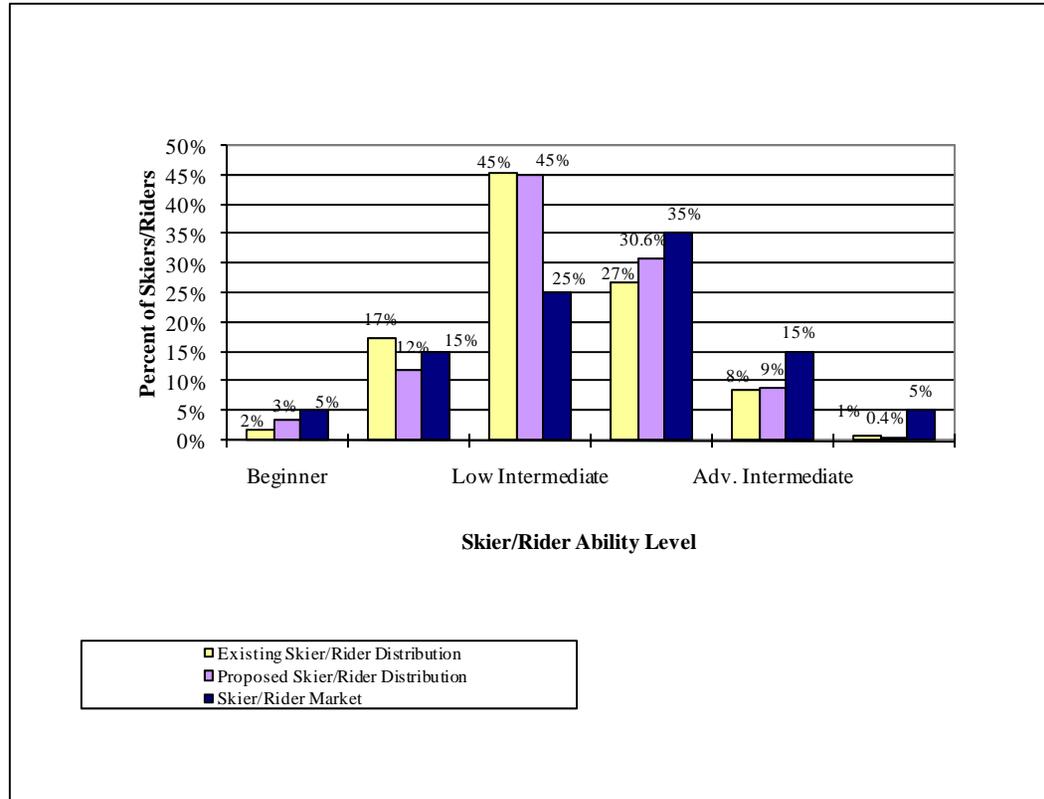
The significant surplus of Low Intermediate terrain skews the rest of the percentages. However, this is reflective of Mount Sunapee’s target market. Since Mount Sunapee is positioned as a family-oriented, lower ability level resort within the region, the abundance of lower level terrain is a positive attribute.

With the addition of the proposed Intermediate and Advanced Intermediate terrain, the distribution figures indicate a slightly closer match between the type of terrain being offered by the upgrading plan and the ability level profile of the region’s skier market. This will provide for a better balanced resort. The deficit of Expert level terrain will continue to be mitigated by the existing gladed areas, and the new lower level terrain will continue to fit with Mount Sunapee’s market position.

**TABLE V-3:
TERRAIN DISTRIBUTION BY ABILITY LEVEL – UPGRADING PLAN**

Skier/Rider Ability Level	Trail Area	Skier/Rider Capacity	Existing Skier/Rider Distribution	Skier/Rider Market
	(acres)	(guests)	(%)	(%)
Beginner	4.0	119.3	3%	5%
Novice	28.5	426.9	12%	15%
Low Intermediate	133.8	1605.6	45%	25%
Intermediate	108.4	1084.0	30.6%	35%
Adv. Intermediate	62.4	312.0	9%	15%
Expert	4.3	12.8	0.4%	5%
TOTAL	341.3	3,516	100%	100%

**CHART V-1:
TERRAIN DISTRIBUTION BY ABILITY LEVEL – UPGRADING PLAN**



C. COMFORTABLE CARRYING CAPACITY

The calculation of Mount Sunapee’s Upgrading Plan CCC is described in the following table. As illustrated, the upgrading program increases the CCC of the lift and trail network at Mount Sunapee to about 6,850 guests per day, an increase of 1,630 guests, or 31%.

**TABLE V-4:
CALCULATION OF COMFORTABLE CARRYING CAPACITY – UPGRADING PLAN**

Map Ref.	Lift Type	Slope Length	Vert. Rise	Hourly Capacity	Oper. Hours	Access Reduction	Misloading Stopping	Adjusted Hrly. Cap.	VTF/Day	Vertical Demand	CCC
		(ft.)	(ft.)	(persons/hr.)	(hrs.)	(%)	(%)	(persons/hr.)	(000)	(ft./day)	(guests)
A	Sunbowl Quad/DC4	4,292	1,058	2,400	7.00	10	5	2,040	15,108	13,467	1,120
B	Spruce Quad/C4	1,940	417	2,400	7.00	0	10	2,160	6,305	8,396	750
D	North Peak Quad/C4	3,254	965	2,400	7.00	10	10	1,920	12,970	14,421	900
E	Sunapee Express/DC4	6,056	1,402	2,650	7.00	15	5	2,120	20,806	18,034	1,150
F	Piggyback/Handle Tow	300	34	400	7.00	0	20	320	76	850	90
G	Clipper Ship Quad/C4	1,814	374	1,600	7.00	0	10	1,440	3,770	5,066	740
H	Boardwalk/Handle Tow	200	30	250	7.00	0	20	200	42	914	50
I	Beach Blanket/Carpet	90	8	400	7.00	0	20	320	11	193	60
J	Flying Carpet/Carpet	360	48	800	7.00	0	20	640	215	1,131	190
K	Cataract/C3	1,947	571	1,800	7.00	10	10	1,440	5,756	13,377	430
L	Province Carpet	100	10	800	7.00	0	20	640	45	373	120
M	West Bowl/DC4	5,027	1,071	2,400	7.00	10	5	2,040	15,294	13,585	1,130
N	West Bowl Carpet	250	25	800	7.00	0	20	640	45	364	120
TOTAL		25,590		19,100				15,920	80,443		6,850

Notes:

Upgrades to lift A, B and D, and the installation of lift K, which are approved through the 2005-2009 MDP but have not yet been implemented, will increase Mount Sunapee’s CCC to 5,600.

The addition of Lifts M and N, proposed for the West Bowl expansion, will increase Mount Sunapee’s CCC to the full build-out of 6,850.

D. SKI TRAIL DENSITY ANALYSIS

The trail density analysis compares the calculated trail density for each lift pod to the desired trail density for that pod.

The existing densities at Mount Sunapee are at desirable levels. Since significant increases in skier density would decrease the quality of the skiing experience, it is a goal to balance increases in lift capacity with commensurate increases in terrain capacity. The density analysis for the upgrading plan at Mount Sunapee is illustrated in Table V-5. The last line of the table shows that this goal has been accomplished, with densities remaining at desirable levels.

**TABLE V-5:
SKI TRAIL DENSITY ANALYSIS – UPGRADING PLAN**

Lift Number	Daily Capacity	Disbursement of Skier/Rider Population				Trail Density Analysis				Density Index
		Support Fac./Milling	Lift Lines	On Lift	On Trails	Trail Area	Trail Density	Acceptable Trail Density	Diff.	
	(CCC)	(guests)	(guests)	(guests)	(guests)	(acres)	(guests/ac.)	(guests/ac.)	(+/-)	(%)
A	1,120	280	218	146	476	60.5	8	10	-2	80%
B	750	188	180	164	218	30.0	7	11	-4	64%
D	900	225	256	222	197	27.2	7	9	-2	78%
E	1,150	288	141	195	526	101.7	5	10	-5	50%
F	90	23	37	8	22	1.3	16	15	1	107%
G	740	185	163	102	290	29.4	10	14	-4	74%
H	50	13	17	7	13	1.0	13	27	-14	49%
I	60	15	27	5	13	0.8	17	30	-13	57%
J	190	48	53	38	51	4.4	12	15	-3	80%
K	430	108	120	104	98	8.7	11	6	5	183%
L	120	30	53	11	26	1.4	18	15	3	120%
M	1,130	283	296	171	380	72.5	5	9	-4	56%
N	120	30	32	27	31	2.5	13	30	-17	43%
TOTAL	6,850	1,716	1,593	1,200	2,341	341.3	8	11	-3	71%

E. MAINTENANCE FACILITIES, UTILITIES, AND SNOWMAKING COVERAGE

1. Maintenance Facilities

The resort's maintenance facilities have been renovated since the last MDP, and will continue to be renovated and possibly expanded as part of on-going maintenance activities, but no new maintenance facilities are proposed to be built as a part of this master plan.

2. Utilities

Upgrades to the sewer system will include expanding the sprayfield lines and installing a sewer system for the West Bowl facility.

The new lifts and lift upgrades will require upgrades in Mount Sunapee's power supply. PSNH will likely supply this additional power. Power will also be installed along Bowl road.

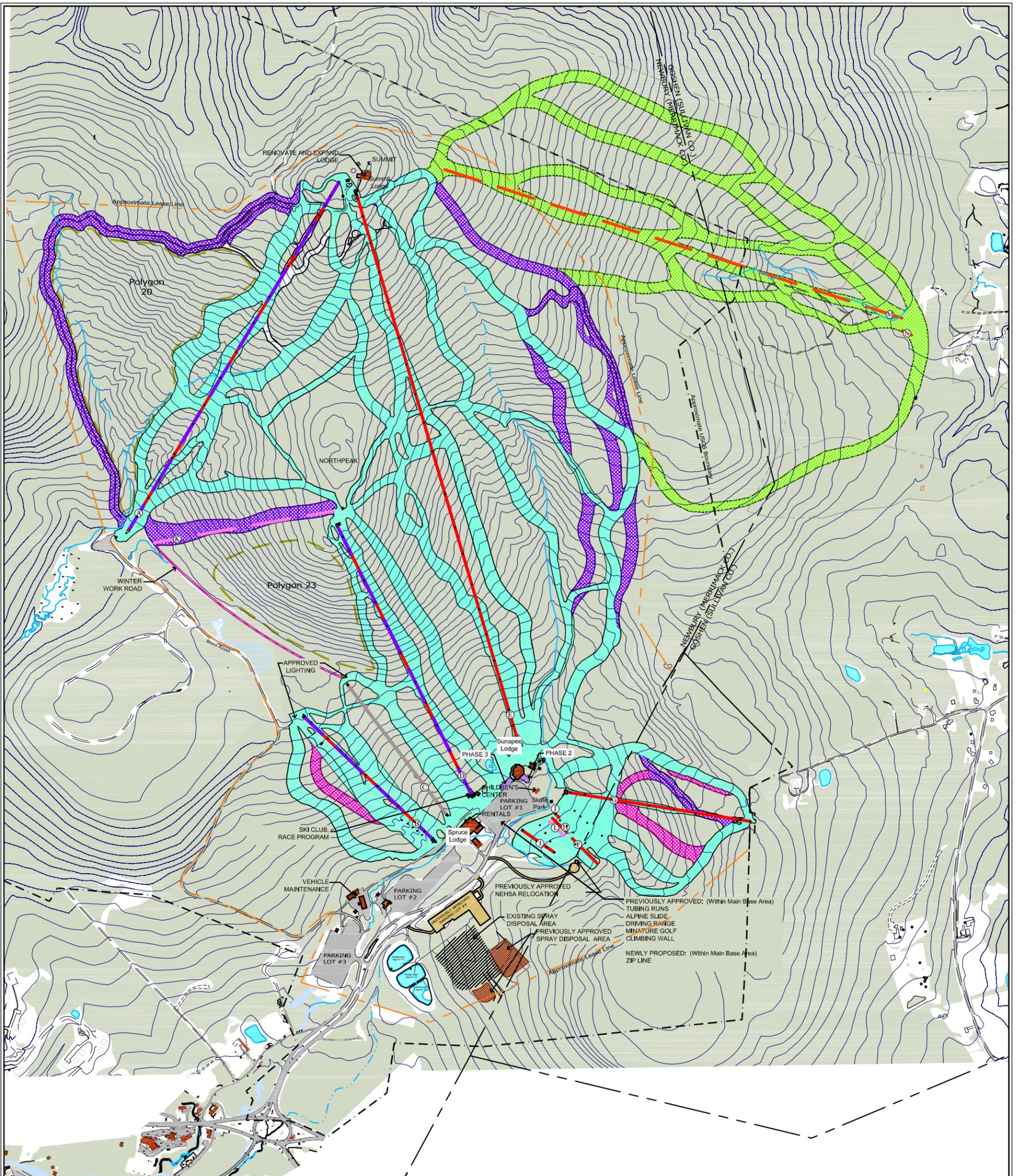
The addition of the West Bowl facility will require installing the water supply to that area. No other upgrades to the resort's water supply system are proposed at this time.

3. Snowmaking System

Expansion of the resort's snowmaking system is an important part of the upgrading plan. Ensuring a reliable and quality skiing product on the proposed trails is critical to the development of the resort as a whole. In conjunction with the terrain modifications, the installation of snowmaking infrastructure will accommodate approximately 123 additional acres of snowmaking coverage.

Current water rights on Lake Sunapee are sufficient to accommodate the increase in coverage, since currently the resort uses less than half of the permitted amount. Mount Sunapee has used an average of approximately 150 million gallons per year over the past four seasons of making snow on approximately 205 acres of terrain, and 258.3 million gallons are permitted. It can be assumed that an increase of approximately 89 million gallons of water would be used annually, putting the total use at 230 -240 million gallons at full build-out, below the permitted allocation of 258.3 million gallons.

See Figure V-2 for a snowmaking coverage map. Both existing and expanded snowmaking coverage is illustrated on the Snowmaking Coverage map.



LEGEND

- | | | | | | |
|---|-----------------------------------|---|--|---|---|
|  | EXISTING CONTOURS -25ft. Interval |  | EXISTING LIFTS |  | EXISTING SNOWMAKING |
|  | EXISTING STREAMS & WETLANDS |  | EXISTING LIFTS TO BE REMOVED |  | PREVIOUSLY APPROVED, NOT YET IMPLEMENTED SNOWMAKING |
|  | EXISTING LAKES & PONDS |  | PREVIOUSLY APPROVED PROPOSED LIFTS |  | PREVIOUSLY PROPOSED/NOT APPROVED WEST BOWL EXPANSION SNOWMAKING |
|  | EXISTING ROADS AND PARKING |  | PREVIOUSLY APPROVED LIFT UPGRADING |  | NEWLY PROPOSED SNOWMAKING |
|  | EXISTING BUILDINGS |  | PREVIOUSLY PROPOSED/NOT APPROVED LIFTS |  | APPROX. LEASE BOUNDARY |
|  | EXISTING VEGETATION AND RUNS | | | | |



Title
Snowmaking Coverage

Figure Number:
V-2

Project Number: 09033.001
File: M Snowmaking.dwg

Scale: 1"=1000'
Date: 06/01/09
Drawn By: LHR
Checked By: CLH

North



F. SKIER SERVICES BUILDINGS

Improved and expanded skier services will be offered at Mount Sunapee upon completion of the upgrading program. Sufficient space must be provided to accommodate the upgraded resort CCC of 6,850 guests per day. Base area improvements include:

- 1) Improvements previously approved as part of the 2005-2009 MDP that are not yet implemented:
 - Construction of phases II (approximately 10,000sf) and III (approximately 15,000sf) of the Sunapee Lodge,
 - Relocate the NEHSA building,
 - Renovate the Spruce Lodge,
 - Renovate and expand the Summit Lodge,
 - Construct new parking lot #4.

- 2) Improvements proposed as part of the 2005-2009 MDP that are not yet approved (West Bowl Expansion):
 - Construct a new base facility with limited skier services,
 - Construct new parking.

Based upon the upgraded CCC of 6,850 skiers, tables V-6 and V-7 compare the current space use allocations of the visitor service functions to industry standards for a resort of similar size and market orientation as Mount Sunapee.

**TABLE V-6:
TOTAL SPACE USE RECOMMENDATIONS (SQ. FT.) – UPGRADING PLAN
MAIN BASE AREA CCC=5,600**

Service Function	Existing Total	Recommended Range		Difference from Rec	
		Recommended Low Range	Recommended High Range	Low	High
Ticket Sales/Guest Services	3,250	2,360	2,880	890	370
Public Lockers	580	3,930	4,800	-3,350	-4,220
Rentals/Repair	2,825	5,550	7,400	-2,725	-4,575
Retail Sales	3,540	3,300	4,030	240	-490
Bar/lounge	1,340	4,850	5,930	-3,510	4,590
Adult Ski School	2,927	2,470	3,010	457	-83
Kid's Ski School	1,000	4,930	6,030	-3,930	-5,030
Restaurant Seating	19,404	25,890	31,650	-6,486	-12,246
Kitchen/Scramble	5,875	7,770	9,490	-1,895	-3,615
Rest rooms	3,035	5,830	7,120	-2,795	-4,085
Ski Patrol	2,100	2,910	3,560	-810	-1,460
Administration	3,888	3,240	3,960	648	-72
Employee Lockers/Lounge	1,320	1,620	1,980	-300	-660
Mechanical	1,748	1,640	2,460	108	-712
Storage	4,412	2,730	4,110	1,682	302
Circulation/Waste	9,775	6,540	9,860	3,235	-85
TOTAL SQUARE FEET	67,019	85,560	108,270	-18,541	-41,251

**TABLE V-7:
TOTAL SPACE USE RECOMMENDATIONS (SQ. FT.) – UPGRADING PLAN
WEST BOWL BASE AREA CCC=1,250**

Service Function	Recommended Range	
	Recommended Low Range	Recommended High Range
Ticket Sales/Guest Services	420	510
Public Lockers	690	850
Rentals/Repair	-	-
Retail Sales	680	830
Bar/lounge	-	-
Adult Ski School	-	-
Kid's Ski School	-	-
Restaurant Seating	100	150
Kitchen/Scramble	-	-
Rest rooms	-	-
Ski Patrol	-	-
Administration	-	-
Employee Lockers/Lounge	-	-
Mechanical	50	280
Storage	80	460
Circulation/Waste	190	290
TOTAL SQUARE FEET	2,210	3,370

Existing deficits, as shown in Table V-6 above, will be addressed in the proposed expansions of the Sunapee and Summit lodges. Food service seating at Mount Sunapee will continue to be provided at the base area in the expanded Spruce and Sunapee lodges, and on-mountain at the expanded Summit Lodge.

A key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of three to five times is the standard range utilized in determining restaurant capacity. Sit-down dining at ski areas typically results in a turnover rate of three, while “fast food”

cafeteria style dining is characterized by a higher turnover rate. Furthermore, weather has an influence on turnover rates at ski areas, as on snowy days skiers will spend more time indoors than on sunny days.

The following table summarizes the seating requirements at Mount Sunapee, based on a logical distribution of the CCC to each service building/location.

**TABLE V-8:
PROPOSED FOOD SERVICE SEATING RECOMMENDATIONS**

Building/Location	Base Area	Summit	Total
Lunchtime Capacity (CCC+5%)	5,745	1,448	7,193
Average Seat Turnover	3	3.5	
Existing Seats	1,225	191	1,416
Required Seats	1,915	414	2,329
Difference	-690	-223	-913

Source: SE GROUP

Due to frequent cold and inclement weather, an average turnover rate of 3 was used for the Base Area and 3.5 at the Summit Lodge.

As shown in Table V-8, given the upgraded CCC of 6,850 there is a deficiency in seating capacity of -913 seats. The seating shortage will continue to be somewhat mitigated by the children’s lunches provided in the Learning Center, and by the fact that outdoor deck seating is available at the Spruce Lodge and the Summit Lodge. As the ski area is upgraded, additional food service seating will be provided at both the Spruce and Sunapee lodges and at the on-mountain Summit Lodge.

G. PARKING AND ROADS

Total parking capacity must be balanced with the CCC. All day skiers come to Mount Sunapee in cars or buses and park in the day-skier parking areas. No overnight accommodations are currently available at Mount Sunapee Resort. Compared with other major New Hampshire ski areas, the Mount Sunapee area has significantly fewer available rooms in the local lodging sector.

**TABLE V-9:
PARKING REQUIREMENTS – PROPOSED CONDITIONS**

	Multiplier	Main Base Area (CCC = 5,600)	West Bowl (CCC = 1,250)	Total
CCC plus non-ski guests	2%	5,729	1,250	6,979
Percent parking at portal		100	100	
Number parking at portal	100%	5,729	1,250	6,979
Net number requiring parking		5,729	1,250	6,979
Number of guests arriving by car	95%	5,443	1,188	6,630
Number of guests arriving by charter bus	5%	286	63	349
Required car parking spaces	2.70	2,016	440	2,456
Required charter bus parking spaces	35.00	8.2	1.8	10
Equivalent car spaces (1 bus=4.5 car)	4.5	36.8	8.0	45
Required employee car parking spaces	4.5%	229	50	279
Total required spaces		2,282	498	2,780
Existing parking spaces		1,830	0	1,830
Proposed parking spaces		272	450	722
Surplus/Deficit		-180	-48	-228

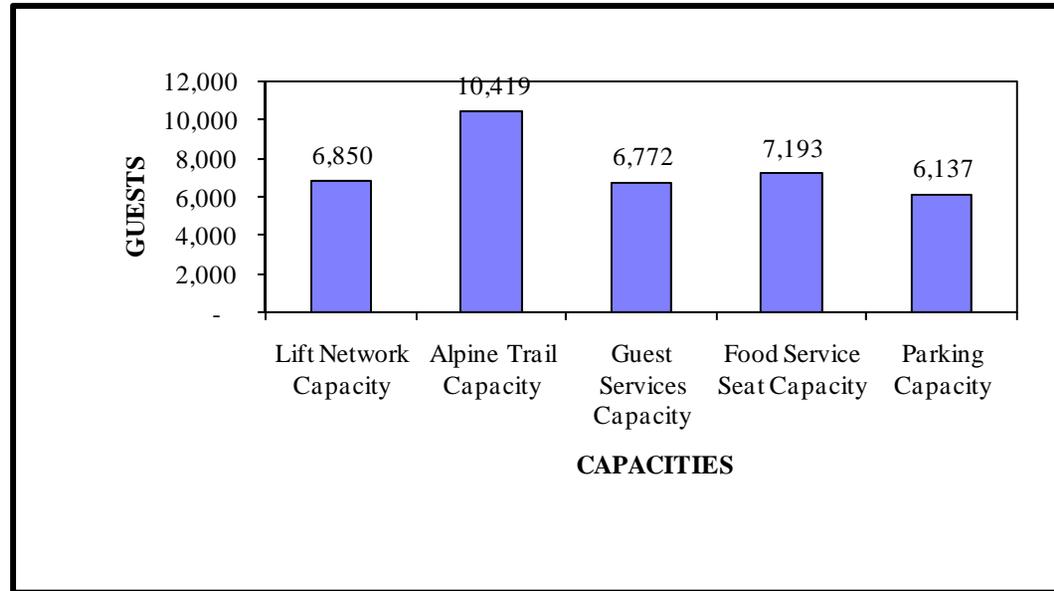
Note: existing parking – Lot 1=545 cars, Lot 2=510 cars, Lot 3=775 cars

Lot #4 will be built in at the existing base area, with 272 parking spaces. A day skier lot will be built at the West Bowl base area, with approximately 450 parking spaces. Based upon the upgraded CCC of 6,850 skiers, there will still be a deficit of skier parking (see Table V-8 above), and the overflow parking provided at the State beach parking lots (capacity 450 cars) will continue to be utilized.

H. RESORT BALANCE AND LIMITING FACTORS

The overall balance of the ski area is evaluated by calculating the capacities of the resort’s various facilities, as compared to the resort’s CCC. The above discussed capacities are shown in Chart V-2.

**CHART V-2:
RESORT BALANCE –UPGRADING PLAN**



Factors that previously limited Mount Sunapee from reaching the CCC, while maintaining a quality guest experience, will be upgraded in conjunction with the lift network. Skier services space, restaurant seating, and parking capacity will be improved with the upgraded CCC of the ski area, bringing the resort into overall balance. The higher capacity of the trail network is a desirable situation that results in preferable low trail densities.

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

I. INTRODUCTION

Mount Sunapee is dedicated to the protection of the environment and ensuring that the values of environmental stewardship are in the forefront of our planning efforts. We understand the balance between resource protection, recreational opportunity and fiscal responsibility. All three must be in harmony if we are to achieve our management objectives and those set forth in the Lease.

Pursuant to Section 15 of the Lease and Operating Agreement (herein “the Lease”) signed with the State of New Hampshire Department of Resources and Economic Development (DRED) on April 30, 1998, Mount Sunapee submits this Environmental Management Plan (EMP).

The Master Development Plan (MDP) provides a broad road map for improvements that will be made over the next five to ten years at Mount Sunapee. The focus of this EMP is to respond to the overall impacts of the proposed MDP, recognizing its generalities.

This EMP will address existing environmental conditions within the leasehold and anticipate environmental impacts from the proposed expansion into the West Bowl area. We have created this document around the specific environmental categories mentioned in Section 15, Environmental Practices, of the Lease and Operating Agreement. We have also added several categories to address other potential environmental and development concerns.

At this time, it is not possible to address all potential impacts from the implementation of the MDP. We have addressed those areas where our planning provides some guidance towards creating an environmental management approach. As the projects described in the MDP move forward, specific design plans will be created and the potential impacts will be addressed at a level of detail appropriate to their scale and required permitting.

This EMP is submitted without prejudice to rights as set out in *The Sunapee Difference, LLC v. The State of New Hampshire*, No. 07-E-0458.

II. WATER USAGE AND CONSERVATION

A. WATER USAGE

1. Potable Water

Mount Sunapee continues to make significant strides in the renovation and improvement of our potable water system. The initial effort to bring all of these systems into compliance with relevant State standards has been completed. Mount Sunapee continues to maintain, monitor and test the potable water supply in accordance with NH-Department of Environmental Services (NHDES) regulations.

A certified hydrogeologist (see Appendix E) tested the Mount Sunapee base area well in 1999 to determine its capacity. The test found that this well has a design flow rate of 73.1 gallons per minute (gpm) or 105,216 gallons per day (gpd). This capacity provides the resort base area with considerable room for expansion without the need to identify new potable water sources. This well is located at the base of the Duckling Lift within a 400-foot radius Sanitary Protection Area (SPA). The SPA does not allow the storage of petroleum products or the use of chemical fertilizers.

**TABLE EMP-1:
POTABLE WATER USAGE – 2004 TO 2008**

Year	Total Potable Water Used	Base Area Well	Summit Well	Maintenance Shop Well
	(Gallons)	(Gallons)	(Gallons)	(Gallons)
2004	1,711,640	1,582,280	59,360	70,000 (E)
2005	1,321,390	1,217,400	52,570	51,420
2006	1,093,790	984,900	50,690	58,200
2007	1,268,480	1,123,100	68,760	76,620
2008	1,436,190	1,318,200	44,570	73,420
TOTAL ('04-'08)	6,831,490	6,225,880	275,950	329,660
AVERAGE ('04-'08)	1,366,298	1,245,176	55,190	65,932

E = Estimated

The vast majority of potable water consumption at Mount Sunapee occurs during the winter ski season. Over the past five years the average annual potable water usage from the base area well has been approximately 1,250,000 gallons. Additional wells service the much lower potable water requirements at the Summit Lodge and the maintenance shop. These wells have respectively averaged 55,000 and 65,000 gallons per year over the past five years. Water consumption at Mount Sunapee continues to be far below the capacity of the water

supply system and this reserve capacity will continue to meet the demand for potable water anticipated during implementation of the MDP within the existing leasehold.

West Bowl Expansion

The distance between the existing potable water system and the West Bowl expansion would likely require development of a new water source and system to support the base area of the West Bowl. Detailed engineering studies of water needs and sources will be required to address these issues. Mount Sunapee will comply with the Water Supply and Pollution Control Division regulations of the NHDES to permit, monitor and manage any new potable water supply system.

2. Snowmaking

Snowmaking is a vital component in the operation of a successful ski resort in the eastern United States. Mount Sunapee is fortunate to have access and a water permit to use Lake Sunapee for its snowmaking water supply. We manage this resource carefully as we recognize how important the Lake is to our resort and the greater community. The substantial surface area of Lake Sunapee, 4,090 acres, enables us to withdraw enough water to support our snowmaking operations without causing any measurable impact to the lake.

Electricity consumption over the past five years has cumulatively decreased by almost 14%, due largely to the improved efficiencies of our snowmaking system. Beginning in 2007, Mount Sunapee has purchased 58 new high-efficiency HKD SV snow guns. The replacement of all fluorescent lighting to higher efficiency ballasts and bulbs has also contributed to this reduction in electricity consumption.

The following table summarizes the snowmaking activities of Mount Sunapee since the 1996-1997 ski season.

**TABLE EMP-2:
SNOWMAKING WATER CONSUMPTION – 1996-97 TO 2008-09**

Year	Gallons Pumped (total)	Maximum Pumping Rate (gpm)	Operating Hours	Acres Covered	Acre Feet Produced	Average Depth (feet)
1996-1997	86,373,000	2,000				
1997-1998	76,147,000	2,000				
1998-1999	91,000,000	2,250	960	155	505.6	3.26
1999-2000	83,821,000	3,000	581	185	465.7	2.52
2000-2001	106,522,000	3,000	695	191	591.8	3.10
2001-2002	128,000,000	5,000	672	191	711.1	3.72
2002-2003	108,235,000	5,000	541	192	601.3	3.13
2003-2004	124,960,000	5,000	658	193	694.2	3.60
2004-2005	151,851,000	5,000	690	193	843.6	4.37
2005-2006	165,000,000	5,000	745	193	916.6	4.75
2006-2007	136,416,000	5,000	696	199	757.9	3.81
2007-2008	147,268,000	5,000	674	203	818.1	4.03
2008-2009	147,730,575	5,000	735	203	820.7	4.04
5 YEAR AVERAGE	149,653,115	5,000	708	198	831	4.20

Notes:

1996-1998 Seasons were under the management of the State of New Hampshire.
 1998-1999 Season marked the first season of management by Mount Sunapee Resort.
 New snowmaking pumps were added in 2001, resulting in an increased capacity.
 Snowmaking coverage on the mountain had been added in 1998, 1999 and 2000 to a total of about 193 acres.
 2000-2001 and 2002-2003 seasons had above average snowfall and low temperatures.
 Maximum snowmaking pumping rate has been maintained at 5000 gpm since 2001-2002.
 Six acres (Elliot Slope) added to snowmaking system coverage in 2006.
 Four acres (Eastside and Portage) added to snowmaking system coverage in 2007.
 Acre feet are calculated by using an average of 180,000 gallons/acre feet of snow.

The table suggests that as the pumping rate is increased and snowmaking coverage extended, intake water consumption increases in a proportional way. Many variables affect this pattern (natural snowfall, temperatures, etc.) but in general, the relationship is quite linear.

Water withdrawals from Lake Sunapee are regulated by a water withdrawal permit (#2000-02687, NHDES) with an established total seasonal withdrawal of 258,300,000 gallons per year. Based on the past five ski seasons, Mount Sunapee is averaging about 150,000,000 gallons of snowmaking withdrawal or over 108,000,000 gallons less than permitted. Higher withdrawal volumes for snowmaking generally occur in years with mild winter temperatures and/or lower natural snowfall amounts. Based on these averages, snowmaking withdrawals are about 58% of the total allowable seasonal withdrawal.

The current MDP anticipates adding approximately 48 new acres of snowmaking terrain within the existing lease holding over the next five or more years. An additional 75 acres of new ski terrain is proposed for the West Bowl area. Overall, the MDP suggests up to 123 new acres of snowmaking. The 123 acres of new terrain would require approximately an additional 89,000,000 gallons per year for snowmaking. Based on the current permitted reserve capacity and these planned operational expansions, the existing snowmaking supply system will accommodate this projected growth.

To put Mount Sunapee's water usage into perspective, instantaneously withdrawing all of Mount Sunapee's current seasonal water needs from Sunapee Lake reduces the lake level by only 1.35 inches (one and three-eighth inches). Water withdrawals are typically occurring over a four month period from mid-November to early -March. Based upon the hours of pumping during this period, the average daily water usage would be approximately 1/64th of an inch. Natural recharge to the lake on any given day likely exceeds any snowmaking water withdrawals.

B. WATER CONSERVATION

Mount Sunapee's focus on encouraging water conservation since the inception of the lease in 1998 has resulted in a significant reduction in wastewater flows. In 2006 all fixtures (water closets and lavatories) in the Spruce Lodge were replaced with low flow fixtures as part of these continuing efforts.

Generally, wastewater flows are a good measure of the effectiveness of water conservation programs. The following table summarizes the annual wastewater flows for the period 2004-2008. As would be expected, the vast majority of wastewater flows from Mount Sunapee occur during the ski season.

**TABLE EPM-3:
ANNUAL WASTEWATER FLOWS – 2004 TO 2008**

Year	Wastewater Influent	Ski Season Attendance	Wastewater Flow Rates (gal/person)
2004	888,182	258,000	3.44
2005	1,083,246	232,000	4.67
2006	944,293	230,000	4.11
2007	1,175,682	280,000	4.20
2008	1,187,246	273,000	4.35
5-Year Average	1,055,730	254,600	4.15

Notes:

Attendance includes skier visit.

1999 water consumption was 5.32 gallons per person.

The measures taken to conserve water at Mount Sunapee have been able to keep the rate of water consumption (per person) relatively consistent over the past five years. Since 1999, however, the rate of consumption for an average visitor has fallen from just over 5 gallons to slightly over 4 gallons or a reduction of over 20%>

III. WASTEWATER DISPOSAL/TREATMENT

Mount Sunapee Resort currently operates a lagoon and spray field system for on-site wastewater treatment and disposal under NHDES permit #GWP-870458-N-001. Mount Sunapee staff, licensed with the State of New Hampshire, operates and monitors this system. The monitoring program utilizes a series of monitoring wells with chemical and biological sampling requirements. The system continues to operate within all parameters required by the State of New Hampshire.

Currently a separate septic tank and leach field system provides sewage disposal at the Summit Lodge. Annual pumping of the septic tank at each lodge is part of a routine maintenance program for the system.

In the past Mount Sunapee had commissioned engineering studies by Hoyle Tanner and Pioneer Environmental/Bruno Associates to:

- 1) evaluate the integrity of the existing systems,
- 2) evaluate the capacity and utilization of the existing systems,
- 3) study the future wastewater requirements at Mount Sunapee,
- 4) make recommendations on how to meet the future wastewater requirements at Mount Sunapee, and
- 5) design appropriate expansion measures to meet future requirements.

Pursuant to these studies, Mount Sunapee completely rebuilt the existing spray field lines in the late spring of 2000 due to the age and condition of the existing disposal lines. The new spray lines have the ability to operate nozzles individually, increasing spray effectiveness within the disposal area.

An additional engineering report by Hoyle Tanner and Associates, Inc. in March 2003 (see Appendix F), suggested that the wastewater system (lagoons and spray fields) will provide adequate capacity for increasing skier visits to approximately 325,000 visits. Over the past five seasons, skier visitation averaged 254,600 visits. Mount Sunapee does not propose to expand the wastewater lagoons, as their capacity is adequate. In addition, other options such as water recycling can be implemented to avoid the need to expand the lagoons in the future.

The current permitted capacity of the spray fields is 250,000 gallons per week of lagoon effluent. Mount Sunapee is continuing to propose expansion of the spray field by 15-20% to allow better ability to dispose of lagoon effluent during the permitted spring and fall spray seasons. In very rainy spring and fall periods, the soil conditions may be too saturated to permit spraying. Although this has not happened to date, our primary lagoon management objective is to ensure that winter storage capacity is maximized by emptying the lagoon by October 31st of each year.

Upon completion of the above system improvements, the current wastewater systems will meet all anticipated wastewater disposal requirements for implementation of the MDP within the existing leasehold.

West Bowl Expansion

The proposed expansion within the West Bowl area will require the development of a new wastewater disposal system. The type of wastewater disposal system needed has not been determined. Mount Sunapee will work with professional engineers and the State of New Hampshire to develop a certified wastewater disposal system that will meet the required demands for the West Bowl.

IV. DRAINAGE, EROSION AND WATER QUALITY ISSUES

Two named permanent streams, Beck Brook and Johnson Brook, flow out of the Mount Sunapee drainage basin. As named permanent streams, they are afforded protection under the Shoreline Zoning Regulations of both the Town of Newbury and NHDES. The general location of the existing Mount Sunapee base area is depicted on Figure EMP-1. These named streams are identified on Figure EMP-2.

Mount Sunapee recognizes the importance Johnson Brook has as one of the major tributaries flowing into Lake Sunapee. Mount Sunapee continues to prevent degradation of Johnson Brook by using Best Management Practices to prevent soil erosion in the Sun Bowl area. For example, we have evaluated the size of culverts on the summit work road and on ski trails in the Sun Bowl area. New water bars on the summit road minimize erosion in the gravel road base. All of these measures continue to provide protection of Johnson Brook.

Mount Sunapee has continued to work in cooperation with the Lake Sunapee Protective Association (LSPA), to develop measures that prevent or minimize sedimentation along Beck Brook as it flows through the base areas. Since 1998, measures have included the development of small sediment basins to catch parking lot run-off, creation of new drainage swales and sediment dams, and creation of stabilization systems along important segments of Beck Brook. In some instances, LSPA has provided design services with construction and maintenance by Mount Sunapee. Based on the annual maintenance of these systems, it appears that substantial amounts of sediment are being captured.

Mount Sunapee utilizes the Stormwater Management and Erosion and Control Handbook for Urban and Developing Areas in New Hampshire, published by the Rockingham County Conservation District for the NHDES in August 1992 for Best Management Practices in soil stabilization and erosion control.

When soils are disturbed on the mountain, Mount Sunapee utilizes the Vermont Conservation Mix, a highly recommended seed mixture for ski slopes containing a mixture of fast germinating annual rye grasses and other perennial grasses for re-vegetation of the disturbed areas. Mount Sunapee owns an agricultural tractor and a power mulcher for effectively blowing hay over the Vermont Conservation Mix when re-seeding and stabilizing disturbed areas.

Mount Sunapee also protects groundwater resources from fuel and other hazardous materials. Employees are educated on the proper techniques for handling, storing and disposing of hazardous materials. Mount Sunapee meets all regulations governing storage of fuels in excess of 1,100 gallons as required by the State. Mount Sunapee has procedures and technologies in place for protecting and monitoring above and below ground tanks. Beyond regular safety meetings, Mount Sunapee personnel routinely inventory containment systems and materials. These personnel are equipped and trained to respond to fuel spills of less than 25 gallons in a safe and expeditious manner. For spills in excess of 25 gallons, personnel are familiar with procedures for notifying the NHDES Oil Response Team.

West Bowl Expansion

Within the West Bowl, one unnamed brook is noted moving downhill through the center of the site. The location of this drainage is also noted on Figure EMP-2. Pioneer Environmental Associates (see Appendix G), conducted a hydrologic resource inventory along the portions of this unnamed brook within the project site in 2001 and again in 2004. In general, they characterize the drainage as being perennial in nature and having been impacted by intense logging within the private lands.

This brook flows westward then south through a known wetland area into Gunnison Brook (see Photo 1). At this point, Gunnison Brook continues to move westward parallel to Brook Road.

It is important to note that Gunnison Brook does not flow into Lake Gunnison. Lake Gunnison, also known locally as the “Goshen Ocean,” lies within the Sugar River Watershed area, on Blood Brook. The Blood Brook was dammed in this part of the valley to create the lake. Although Gunnison Brook and Lake Gunnison both lie within the Sugar River Watershed, Lake Gunnison is fed by Blood Brook, and is not hydraulically connected to Gunnison Brook. Chandler Hill and other mountain peaks create a drainage divide between the Gunnison Brook and Blood Brook, separating these two watersheds. Waters from these two brooks meet in Goshen, across Route 10 from Brook Road, where the South Branch of the Sugar River begins.



Photo 1 – Confluence of unnamed brook and Gunnison Brook near Brook Road

Due to the hydraulic separation of the lake from Gunnison Brook, there is no potential for the water level or water quality to be affected by snowmelt or runoff from the proposed trails and improvements within the West Bowl area.

A second major water body, Rand Pond, lies within the Gunnison Brook Watershed. The pond's watershed area is approximately 270 acres, and does not receive any runoff from the West Bowl area. Rand Pond is fed by numerous tributaries, and it outflows drain into the Gunnison Brook. Due to the fact that the pond is located hydraulically up-gradient of the Gunnison Brook, its inflows and water quality will not in any way be affected by runoff from the West Bowl area. These watershed areas are depicted on Figure EMP-3.

The analysis of the hydrologic conditions within this watershed, prepared by Bruno Associates (see Appendix H), was completed to identify the characteristics of the watershed so that an appropriate BMP strategy for water quality can be created. The results of this study show that Gunnison Brook presents the major drainage in which runoff and snowmelt will flow from the West Bowl area. It also shows that the amount of runoff projected from snowmelt will have little impact on overall stream flows during the spring melt-off period.

Given this background, while Mount Sunapee's efforts within the current leasehold has been to create new solutions within existing developed areas, the expansion with the West Bowl will allow for more pro-active efforts to protect and preserve water quality within the new watershed. Mount Sunapee fully anticipates working closely with the NHDES, LSPA, professional engineers and hydrogeologists and our local communities, to develop storm water and erosion control systems that provide the necessary detention and treatment of runoff at all times of the year.



Photo 2 - Lake Gunnison looking northeastward to Mount Sunapee

V. SOLID WASTE DISPOSAL

Although solid waste is generated in many forms at Mount Sunapee, the handling of these wastes is done in accordance with relevant regulations and guidelines for the disposal of such waste. Federal and State Hazardous Waste Rules (including, Env-WM 110, 211-216, 351-353, 400-1000, effective 8/26/99) are currently followed for the proper disposal of any hazardous waste generated at Mount Sunapee.

Mount Sunapee does not use the transfer stations in the Town of Newbury or Goshen for its solid waste. All solid waste removal is done on a contract basis with Casella Waste Management.

The waste reduction and recycling efforts at Mount Sunapee have increased dramatically over the past 10 years. Currently cardboard, glass, maintenance shop waste oils, food service oils, light bulbs, batteries and scrap metals are all recycled. Planning is underway to begin single-stream recycling in the fall of 2009 through Casella Waste Management.

The upgrade plans outlined in the MDP and the increase in CCC of Mount Sunapee should not cause any unmanageable impacts associated with solid waste disposal.

VI. AIR QUALITY AND TRAFFIC CONGESTION MITIGATION

A. AIR QUALITY

Air quality at Mount Sunapee is regulated under our existing State Permit to Operate (#SP-0034, NHDES) which was renewed this year and is valid through May 2014. Mount Sunapee is permitted to operate four diesel evacuation engines and four diesel air compressors. This permit for Mount Sunapee allows each of the evacuation engines to run for up to 500 hours per year. This permit also allows up to 90,000 gallons of #2 diesel fuel oil to be used in diesel powered snowmaking air compressors per year.

For the past five winter seasons (2003-2004 to 2007-2008), the maximum operation for our emergency evacuation engines has been between 53 and 86 hours. This represents a maximum of 17% of the allowed operational limit set forth in the permit.

Snowmaking air compressors and chair lift auxiliary engines required a maximum of 25,780 gallons of #2 diesel fuel annually over the past five years. This continues to be significantly below the permit threshold of 90,000 gallons per year.

Mount Sunapee has also been active in reducing its use of diesel and other petroleum products and offsetting its power needs to renewable sources through several important initiatives:

- Bio-diesel fuel use began in November 2007.
- Building fuel oil has been blended with a B-5 bio-diesel.
- The groomer and shuttle fleet are using B-5 and B-10 bio-diesel.
- Renewable energy credits (REC's) for 100% wind power were purchased in 2006-2007 and 2007-2008.

West Bowl Expansion

The proposed chairlift in the West Bowl will be required by ANSI B77.1 Passenger Tramway Code to include an emergency evacuation engine. This will likely be a 300-400 horsepower diesel engine. Mount Sunapee may also add new diesel powered snowmaking air compressors, depending on final design plans and needs. Any new snowmaking air compressors added will have much lower exhaust emissions due to improvements in diesel engine emission technology.

Depending on the final design requirements, Mount Sunapee may be required modify its air quality permit with NHDES to include additional emissions sources note above. Based upon our current hours of usage and consumption of diesel fuels, however, the current permit limits and thresholds would not need to be increased.

B. TRAFFIC CONGESTION

At present, Mount Sunapee has 1,830 parking spaces to accommodate visitors and employees. This total includes the planned expansion of parking lots #2 and #3 presented in the 2000-2004 MDP. This total does not include parking lot #4 which was approved by DRED and by the Town of Newbury Planning Board (November 2003).

Mount Sunapee has a Special Use Permit from DRED which allows overflow parking at the Lake Sunapee State Beach parking area on peak winter days. Over the past five years this overflow lot has been used no more than 3 days per winter season. When used, Mount Sunapee provides guests with shuttle bus service from the parking area to the base area.

As a condition of this permit, Mount Sunapee provides winter plowing of the beach access road and parking area for DRED. Plowing happens regardless of whether or not the parking area is used for overflow during the winter season. Plowing allows public winter access to Lake Sunapee for ice fishing, snowmobiling, hard water sailing and other recreational activities.

Much of the concern regarding traffic at Mount Sunapee is associated with a very few days throughout the year. Perhaps eight to ten days during the ski season experience very heavy traffic volumes. Similarly, during the summer months, the nine-day period during the Craft Fair has increased traffic volumes, although it is spread out over a greater part of the day. Peak arrival traffic generally occurs between 8:30 AM and 10:30 AM. Peak departure traffic occurs in a more concentrated pattern generally between 3:30 PM and 4:45 PM.

West Bowl Expansion

In 2004, Mount Sunapee commissioned a study of traffic impacts and site access associated with the implementation of the MDP, including the West Bowl expansion. Conducted by Stephen G. Pernaw & Company, the physical car count on NH103 (see Appendix I) was completed during the Martin Luther King Jr. holiday weekend in 2004 (January 18th). Traditionally this weekend period represents peak winter skier visitation. While this particular sampling period was not our peak for a ski season, it does represent a typical weekend day during the ski season. This study also looked forward to project baseline conditions in 2010 (which assumes that all MDP elements are completed) and utilization increases until a horizon year of 2020. While this baseline data has not been updated, Mount Sunapee believes that the underlying traffic conditions sampled and modeled for this study area are still relevant and accurately reflect current conditions at Mount Sunapee. None of the previously approved improvements that have been completed since 2004 have materially altered the magnitude or pattern of visitation to the mountain.

The study projects increases in roadway volumes (number of cars) at a variety of locations within the study area. Notably, increases are seen on NH103 and Brook Road, with the highest absolute gain occurring on the segment of NH103 between the traffic circle and the NH103-A intersection. The increases in Brook Road, although large on a percent basis, reflect the fact that this segment (between NH103

and the proposed West Bowl access point) had a low base-year traffic volume and projections correctly assume that this is the primary vehicular access to the West Bowl area. The present and projected volume of traffic on Brook Road is relatively low.

While roadway volumes are projected to increase, the study also evaluated the capacity of roadways to accommodate this increase. According to the study, NH103 currently has an approximate capacity of 2,500 vehicles per hour. The projected volume for NH103 during 2020 would be at worst case 1,200 vehicles per hour. The study concludes that during all time periods, NH103 will retain sufficient roadway capacity to handle projected traffic volumes without widening or other structural improvements.

The study also investigated stop and yield controlled intersection capacity at a variety of locations within the area. At these locations, the study calculated current and future Level of Service (LOS) values for both AM and PM peak periods. LOS addresses the quality of service (amount of delay) for those vehicles turning into and out of intersecting streets. A LOS value of “A” represents the lowest level of vehicular delay (less than or equal to 10 seconds). A LOS value of “F” represents the highest amount of vehicular delay (greater than 50 seconds). A grade level of “F” is considered poor.

At the present time, the NH103-B southbound approach to the traffic circle operates at capacity and with a poor LOS during the AM peak hour period. This period coincides to the time when skier arrivals are at peak levels. The study suggests that the cause of this condition is that circulating traffic within the traffic circle has the vehicular right-of-way, and the majority of ski traffic is from points east of the traffic circle. This poor LOS does not occur during the peak PM period when skiers are leaving the resort.

The study projects that for 2010 and 2020, two intersections within the traffic circle will become capacity deficient (LOS value of “F”) during the AM period during both peak and typical weekend days. Projections show that only one area near the “slip ramp” from the Mount Sunapee Access road to NH103 (eastbound) will become deficient during PM periods on peak weekends by 2020. The study concludes that the other remaining intersections within the study area will operate below capacity and at a reasonably LOS through 2020.

The study recommends several mitigation measures to address these potential traffic congestion areas:

- Use of police officer control during peak AM (arrival) periods on weekends at two intersections within the traffic circle; NH103/NH103-B intersection and the adjacent NH103 (eastbound)/Circulating Ramp intersection. This will assist traffic approaching from the east in traversing the traffic circle more effectively.
- Use of police officer control during peak PM (departure) periods on weekends at the NH103 (eastbound)/Access Road intersection. This will create enough “gaps” between vehicles to allow traffic onto NH103 via the “slip ramp”.
- If needed, widening of the north side of the traffic circle between NH103-B and Beach Access Road to provide two westbound travel lanes; one shared lane for through movements and right turns, and an exclusive lane for circulating traffic.

Mount Sunapee believes that an effective traffic management and mitigation approach can be developed to service resort customers and the local population through close coordination with the Newbury Police Chief.

Again, while the study was completed in 2004, both the baseline conditions and the elements proposed for the MDP have not materially changed. As the final design of MDP elements is initiated Mount Sunapee may update and revise the traffic study accordingly.

VII. FORESTRY MANAGEMENT

Mount Sunapee recognizes that it must balance natural resources and outdoor recreation. Our identity is linked to how well the natural environment contributes to the sense of being “in” nature. Protection of our forest resources is a critical component in creating this identity.

A. TIMBER MANAGEMENT

The forest within the Lease area is not currently managed for timber harvesting nor is timber harvesting an activity in which Mount Sunapee is engaged. Tree clear-cutting is done solely for the purpose of new ski trail construction. Selective cutting of trees and brush is a routine maintenance activity along the edges of existing ski trails. Although large portions of the West Bowl area have been extensively logged in the past, we do not anticipate managing those private lands for timber extraction.

B. OLD GROWTH FOREST

Old growth forest characteristics have been identified by New Hampshire Natural Heritage Inventory in portions of two areas of Mount Sunapee known as “polygon 23” and polygon 20”. A 1999 report entitled Old Forests and Rare Plants at the Mount Sunapee Ski Lease Area, identified these two old growth forest areas. A more recent study commissioned by DRED and paid for by Mount Sunapee was completed in 2003. This report entitled, Natural Heritage Inventory of the East Bowl, provides a full documentation of the characteristics and issues involving these two areas.

Consistent with the recommendations of these studies, Mount Sunapee’s management approach to these old growth areas has been avoidance. Lift “J” and associated ski trail were approved in the 2000-2004 MDP within a portion of “polygon 23” **outside** of the area identified as having “old growth characteristics.” Mount Sunapee will maintain a 200-foot natural wooded buffer between ski trails and areas within “polygon 23” identified as having “old growth characteristics.” Furthermore, Mount Sunapee agreed in 2000 that “polygon 20” would remain in its current state with no new ski trail or lift development.

Mount Sunapee, working cooperatively with the DRED, agreed to abandon their original expansion plans in the East Bowl and took steps to analyze the capacity of the West Bowl for ski potential. The West Bowl was found to have favorable ski potential. Mount Sunapee is seeking expansion within the West Bowl area to avoid the old growth characteristic areas identified within the East Bowl.

To ensure that this expansion does not negatively affect forest resources, Mount Sunapee commissioned a field review of the forest within the West Bowl by W.D. Countryman and Associates (see Appendix J). Completed in May 2004, the study noted that the private land portions of the West Bowl expansion area have been extensively logged for decades; while the public lands have been left relatively intact. The scientists described the general forest cover as young and relatively sparse.

The Countryman field study did not find any areas of old growth forest or areas with “old growth characteristics.” These field results are consistent with the findings outlined in the 1999 study by New Hampshire Natural Heritage. In that study, they identified polygon five (including portions of the public lands area within the West Bowl) as having “little, if any, clear evidence of old growth” (Old Forests and Rare Plants at the Mount Sunapee Ski Lease Area, page 12).

C. RARE PLANT RESOURCE

The New Hampshire Natural Heritage Inventory identified a population of a state-threatened orchid, bog twayblade (*Liparis loeselii*), existing in the Duckling slope below the Spruce Triple Chairlift that is apparently perpetuated “in part by management of the open ski run.” The proposed MDP will not affect the population. Additionally, the population will continue to be protected by mowing the trail after mid-August allowing time for flowering and seed dispersal. The population has been inventoried every few years by New Hampshire Natural Heritage.

According to the inventory of Rare Plants, Rare Animals and Exemplary Communities in New Hampshire Towns (February 2004) prepared by the New Hampshire Natural Heritage Bureau, no rare plants are noted within the Town of Goshen.

To better verify this inventory, Mount Sunapee retained W.D. Countryman and Associates to complete a field review. During their two-day field visit in May of 2004, their field ecologist did note only one species of potential concern. According to this study, “One species listed on the New Hampshire Natural Heritage Bureau proposed list of Endangered, Threatened, Watch, Extirpated and Intermediate Plant Species was noted during field work. A single butternut tree (*Juglans cinerea*) occurs on the north side of the existing access road off Brook Road. The area appears to have been an old house site, and there are likely to be additional butternuts nearby. Butternut is of concern because of the threat posed by canker dieback (*Melanconis juglandis*), a widespread fungus disease that weakens and then kills the tree. The tree noted at Brook Road can likely be avoided and therefore not be affected by the project.” The summary of this field work can be found in the Appendix (see Appendix J).

VIII. WETLANDS IMPACTS

Wetlands at Mount Sunapee are regulated by Local, State and Federal rules, and Mount Sunapee will comply with these guidelines in any proposed projects. In general, wetlands will fall under the jurisdiction of the NHDES and the U.S. Army Corps of Engineers.

West Bowl Expansion

The National Wetlands Inventory mapping (see Figure EMP-2) shows a wetland complex on the western edge of the West Bowl area. This complex is identified as a scrub-shrub/forested wetland.

Pioneer Environmental Associates conducted onsite field investigations in 2001 and 2004 confirming this known wetland feature (see Appendix G). These field investigations concentrated their efforts on the lower portions of the mountain, where the majority of potential development impacts could occur.

The wetland scientists concluded that the majority of the West Bowl area has been heavily impacted by logging activities that have continued within the parcel for decades. Hardwood species identified include northern red oak (*Quercus rubra*), American beech (*Fagus grandifolia*) and paper birch (*Betula papyrifera*). In general, the site is comprised mostly of samplings with a limited overstory. The study also noted that the National Resource Conservation Service (NRCS) soils survey for Sullivan County, New Hampshire identified the soils within the site from Mondadock (well-drained) to Lyme-Mooskilauke (somewhat to poorly drained).

The site has several small, unnamed streams and drainages moving downhill. The largest of these was observed to flow toward Brook Road through the known Class II wetland and into the Gunnison Brook south of the site. Along this and other smaller drainages some potential riparian wetlands (forested and scrub-shrub) were noted. Some potential wetland areas were observed within obviously constructed drainage ditches. The quality of these wetlands appears to have been largely influenced by the logging activities of the site.

The Best Management Practices (BMPs) employed by Mount Sunapee rely on two basic techniques: avoidance where possible and minimization of impacts elsewhere. The resort has attempted to minimize wetlands impacts within the existing leasehold. The proposed West Bowl expansion provides Mount Sunapee with a new opportunity to implement our BMPs from the earliest point. As the design phase for improvements move forward within the West Bowl, Mount Sunapee will seek ways to avoid or minimize wetland impacts.

Mount Sunapee will complete a more detailed delineation of regulated wetlands within the West Bowl as design plans are refined. Based on our current understanding of the site, and with effective design and use of our BMPs, plans for the West Bowl area can be completed with minimal disruption to natural wetlands systems as possible.

IX. WILDLIFE HABITAT PRESERVATION

As identified in the Town of Newbury Master Plan, several important benefits are imparted by wildlife resources as follows:

- *“An abundant and diverse supply of wildlife and plant resources provides opportunities for education, entertainment, leisure, and recreation, including hunting, fishing, photography, bird watching, nature studies, art and similar activities. “*
- *“The presence or absence of native wildlife species, sensitive to pollution or loss of habitat, helps to indicate the condition of the natural environment. “*
- *“Abundant and healthy wildlife and plant resources help attract visitors and support entertainment, educational and recreational business opportunities.”*

Mount Sunapee Resort supports these values and is committed to managing the leased lands in a manner that will not threaten wildlife habitat. This includes not only the protection of habitat, but also the implementation of programs that enhance and educate the public about the resources and the value of their protection.

No critical wildlife habitat has been identified within the confines of the Mount Sunapee Resort lease lands. Per the most recent New Hampshire Fish and Game Department mapping, no deer wintering areas or deer yards were identified within the lease lands. Improvements currently proposed as part of the proposed MDP will not affect any identified critical habitat.

West Bowl Expansion

Both the public and private lands within the proposed West Bowl expansion have also been screened for potential wildlife habitat. No critical wildlife habitat was found in the review of information from the State of New Hampshire (Rare Plants, Rare Animals and Exemplary Communities in New Hampshire Towns, February 2004). A field analysis by W.D. Countryman and Associates, completed in May of 2004, more fully evaluated these issues within the West Bowl area. This study confirmed that the observed wildlife is typical of large wooded tracts within the State of New Hampshire. Evidence of deer and moose was noted during the site walk, most commonly in areas where prior logging had occurred. The field investigators found no evidence of tree scaring by bears, but some potential denning areas were seen at upper elevations along the southern edge of the proposed ski terrain in the West Bowl. The study document can be found in the appendix (see Appendix J).

The field investigation also reviewed the site for the presence of bird species. Due to the timing of the fieldwork, migratory species were not observed in large numbers. The majority of species observed were resident and common to northern hardwood forests. The forests are expected to support a wide variety of both resident and migratory species. Evidence of two twig nests near the Summit Hiking Trail was also noted. These nests were not complete and did not suggest recent use. The field scientists suggest that great blue herons (*Ardea herodias*)

were most likely responsible rather than raptor species, due to their position in the canopy. It is noteworthy that these nests were located adjacent to the hiking trail, an area of persistent human presence.

Mount Sunapee is committed to environmental stewardship. We will continue to be vigilante during the implementation of the MDP to address wildlife issues. From our analyses, we believe that the implementation of our MDP, including the West Bowl area, will not adversely impact critical wildlife habitat.

X. SCENIC AND AESTHETIC QUALITIES

The proposed MDP has carefully considered the aesthetic character of Mount Sunapee. Lift and trail improvements are consistent with the existing visual characteristics of the mountain as a ski area. New trail and lift clearing will be performed in a manner that is consistent with the recreation character of the ski area.

Night skiing and lighting was previously approved in the 2000-2004 MPD for the South Peak area, Elliot Slope, Billy Goat (Pipeline), Duckling (Jet Stream), Eggbeater, Upper Flying Goose, Lower Flying Goose, and Lynx trails. Although night skiing has not been implemented since its approval, it remains an option that may be pursued. These trails are low on the mountain, which will minimize off-site lighting impacts.

Mount Sunapee will comply with the design standards for ski slope lighting as established by the Illuminating Engineering Society of North America (IESNA) and the National Ski Area Association (NSAA). Additionally, other design techniques will be employed to limit the off-site visibility of the proposed lighting. These techniques may include:

1. Limiting the height of light poles.
2. Locating light poles within the tree line and below the forest canopy.
3. Light is directed downward and limited above the horizontal by utilizing high cut-off, shielded and louvered luminaires.

West Bowl Expansion

Although the West Bowl area represents a new area for recreational activity within the region, such uses are consistent with the important role that Mount Sunapee plays in these recreational activities. Mount Sunapee has always been and will continue to be a leader in alpine skiing recreation in New Hampshire. New architecture and building additions will be designed to be consistent with the recreational and historic character of the region and the surroundings. The use of indigenous materials and colors will be incorporated into new structures. With the exception of upper lift terminal, new buildings within the West Bowl will be placed on the lower elevation portions of the mountain. This, coupled with appropriate setbacks from Brook Road, will make views of the project very limited in scope and intensity. As the master plan process continues, Mount Sunapee will address local aesthetic concerns and issues through landscaping and site design.

Night skiing and lighting is not proposed for ski trails in the West Bowl area.

An analysis of potential visibility of the West Bowl area has also been completed. The first step in this process was to determine the general topographic characteristics of the area and define the extent of likely views. This was accomplished by examining the United States Geologic Survey 1:24,000 topographic contour maps of the area surrounding the West Bowl.

Based on this analysis (see Figure EMP-4), we believe that the base area improvements will be seen from very few vantage points. These areas are mostly within the short stretch of Brook Road between NH103 and just south of the site. Even within these areas, the extensive roadside canopy creates effective screening of the project. Other manmade elements, such as those at the Goshen transfer station, are also visible in the foreground within these areas. Photographs from these various vantage points can be found on Figure EMP-5. We also believe that although the proposed ski terrain will likely be visible from a variety of vantage points around the region, they will be viewed at a great distance. In general, the areas to the south and west will have better views of the proposed ski terrain.

Mount Sunapee will work closely with the Sunapee-Kearsage-Ragged Greenway Coalition to address ski trail crossing with the Summit Hiking Trail within the West Bowl. Hikers will be allowed to cross ski trails during the winter ski season.

Mount Sunapee believes that the implementation of the MDP including expansion into the West Bowl area will not create a significant impact to the scenic or aesthetic qualities of the region. Although ski trails and the West Bowl lift may be visible from distant vantage points, these elements are consistent with the scenic context of Mount Sunapee and its role as a winter recreational destination within the region. Base area improvements will be screened from off site views due to extensive woodland cover and setbacks. Mount Sunapee is also proposing several important mitigation measures to ensure the long-term protection of other areas surrounding Mt. Sunapee. On balance these measures seem reasonable and consistent with appropriate management of the aesthetic resource.

In addition to the above categories specifically mentioned in the Lease Agreement, Mount Sunapee Resort has also addressed the following categories in the Environmental Management Plan:

XI. ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Past discussions with the State of New Hampshire Division of Historical Resources (NHDHR) have not identify any known or documented archeological and/or historical resources within the lease lands or within the private lands proposed for the West Bowl expansion. Furthermore, a review of the state and federal register of historic places found no structures designated as historic NHDHR has been asked to comment on the MDP in the past and will certainly be involved, as necessary, in reference to cultural resources.

FIGURES