Silver Star Mountain Resort

Ski Area Master Plan

1994

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John Gow

Table of Contents

INTRODUCTION

Objectives

The Ski Area Master Plan for Silver Star Mountain was approved in 1979, and updated extensively in 1988 to include the Putnam Creek area. Most of the development anticipated in that plan has taken place, and the plan has been substantially realized. It is necessary therefore to construct a new master plan to take the resort into the next ten years.

The objectives of this document are:

◊ Provide a rational and a framework for future development of winter recreation activities at the resort

◊ Provide authorities with jurisdiction information on the future development of the resort.

Analysis of the residential and commercial accommodation mixed use area surrounding the village and ski area base facilities are not included in this plan. It will be the subject of the Village Master Plan, to be completed in 1994. That plan will be integrated with the North Okanagan Regional District Official Community Plan, scheduled for revision in 1994, and completion in 1995.

History

Skiers first began skiing the open slopes on the south face of what was then known as Aberdeen Mountain in the late 1920s. Continued local interest led to the construction of the Silver Star Scenic Highway in 1939. This route to the summit of the mountain was used, as far as it was plowed, for winter access to the abundant snow at the summit. In 1942, Silver Star Provincial Park was created as a Class A Provincial Park. The status of the Park was changed in 1958 to Provincial Recreation Area, to allow the development of winter recreation activities

The first rope tows were installed in the mid 1950's as skiing became more popular. A group of local businessmen formed a company to develop skiing at the mountain, and in 1959 opened a Poma lift from the 5400 foot level to the summit. Over the next few years, skiing activity increased and two Tee bars were built to replace the original rope tows. In 1969, the Yellow Chair, then one of the largest lifts in western Canada, was built, and the ski terrain east of the Poma lift developed. Also in 1969 the Summit Chair replaced the Poma, and it was relocated. With the addition of the Aberdeen Chair in 1977, the ski terrain and lift system was essentially complete.

After the reclassification of the park in 1958, a day lodge and parking lots were constructed in what is now the upper area of the village. A small cabin colony developed on land leased from Parks, between the two parking lots. Originally built for commercial accommodation, these cabins were eventually sold to provate owners. In part due to land ownership and park restrictions, this remained the only development in the base area until 1984. In 1985, when the last outstanding mining claim lapsed, the Park was reclassified as a Class A park, in order to protect the area from future mining claims.

During the early 1970s, Silver Star Mountain was one of the three largest and most popular ski destinations in western Canada, along with Sunshine Village in Banff, and the developing resort at Whistler. The ski area development explosion of the 1970s and early 1980s, fueled by condominium development, created resorts like Big White, Panorama and Whistler, and bypassed Silver Star Mountain. Market share began to shrink, and the company's shareholders engaged Ecosign to create a new master plan for development of a village on the mountain, which was approved in 1980.

A key outcome of that Master Plan was the creation of development land within the Provincial Park, in order to foster on mountain accommodation, and establish a village. In 1981, new shareholders began to develop the base area and infrastructure in accordance with the Master Plan.

In 1984, the first new commercial accommodation on the mountain, Putnam Station, was built. This was followed in 1985 by the relocation of the base facilities to the current village centre, and in 1986 by more hotel construction. In 1989, the first home in the Knoll was built, and substantial residential construction has followed.

In conjunction with the development of base facilities, nordic trails were improved at the resort, starting in 1985 with a loop lit for night cross country skiing. Over the next several years, more trails were added to create an alternate winter activity.

The ski area development envisioned in the 1979 Master Plan was extensively reviewed, and in 1988 a revision was approved which included Putnam Creek. In 1990, construction of the first of three lifts in that plan, the Silver Queen Quad was completed, and terminals started for the two express quads. Their completion in 1991 represented the first major expansion of the downhill ski terrain at Silver Star Mountain since 1967.

A change in Provincial Park policy led to a review of the Park boundary, and a recommendation in 1991 to exclude the commercial ski area from the Park, and transfer that land to the Ministry of Crown Lands. Since the Putnam Creek area was developed under Park Permit, this has led to a need to establish tenure over that development.

The improvements at Silver Star Mountain Resort have led to it regaining market share in western Canada, and starting to create a destination market. In order to maintain this momentum, further improvement will be needed.

EXISTING FACILITIES

Alpine Ski Area

The existing alpine ski resort consists of two distinct areas, as well as the beginner and circulation lifts around the village. The Vance Creek area has 40 alpine runs, mostly intermediate, with a few advanced runs in the western half. This side of the mountain, with its southern exposure and popular intermediate runs, attracts the larger proportion of the skiers. Putnam Creek's northern exposure maintains deep, soft snow on the steeper and more difficult ski terrain, and is popular with advanced skiers. The Village has two areas of novice and beginner terrain.

The Vance Creek area is developed to near its ideal capacity. The ski runs are serviced by an express quad lift and two fixed grip double chairs. These lifts are in balance with the terrain.

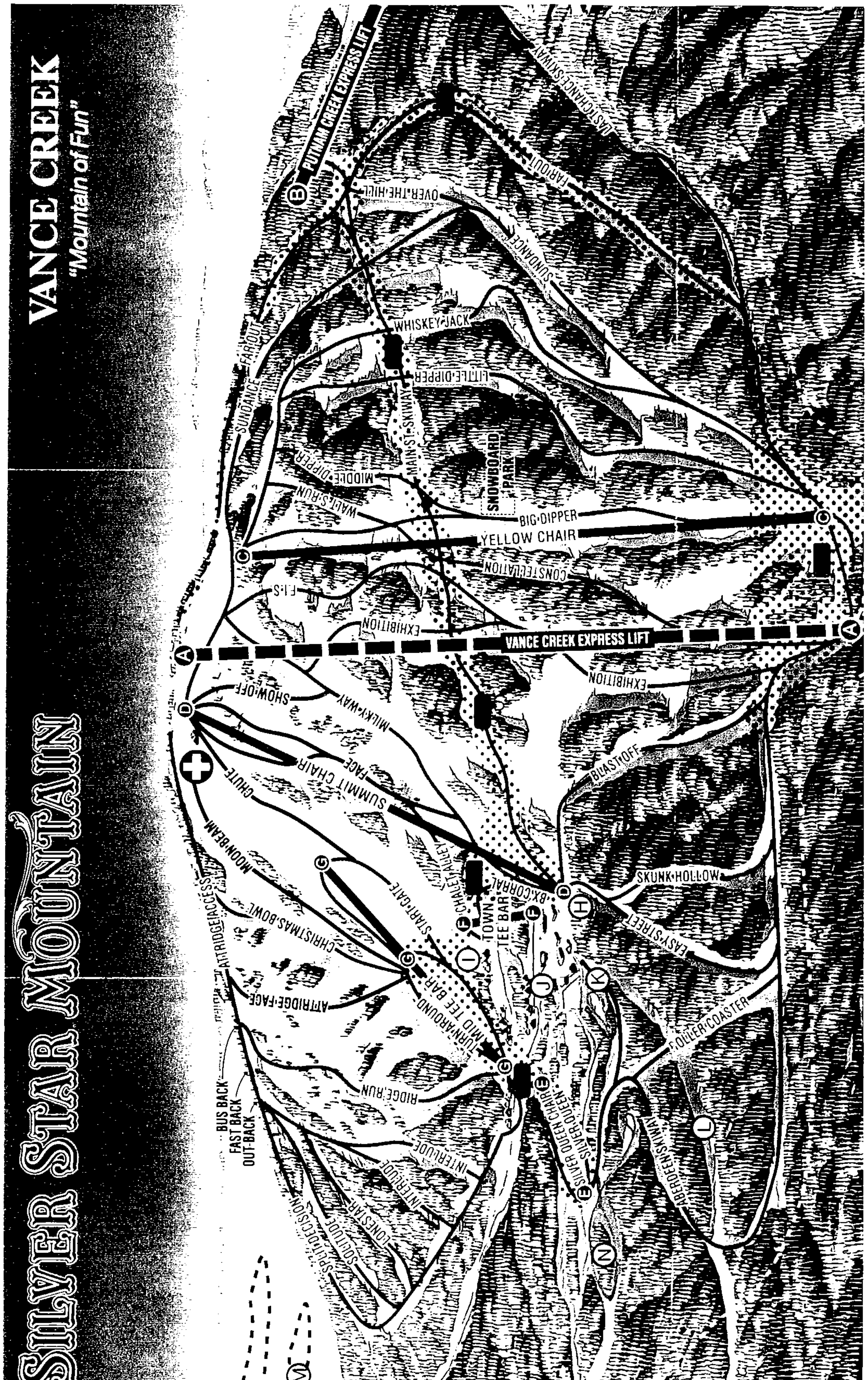
Putnam Creek is serviced by a quad detachable chair operating at 60% of its design capacity. To date, 24 ski runs have been built. There is lift serviced terrain suitable for developing another 15 to 20 ski runs, mostly upper intermediate and advanced. With the full development of the terrain, and full capacity of the lift, this area will be balanced.

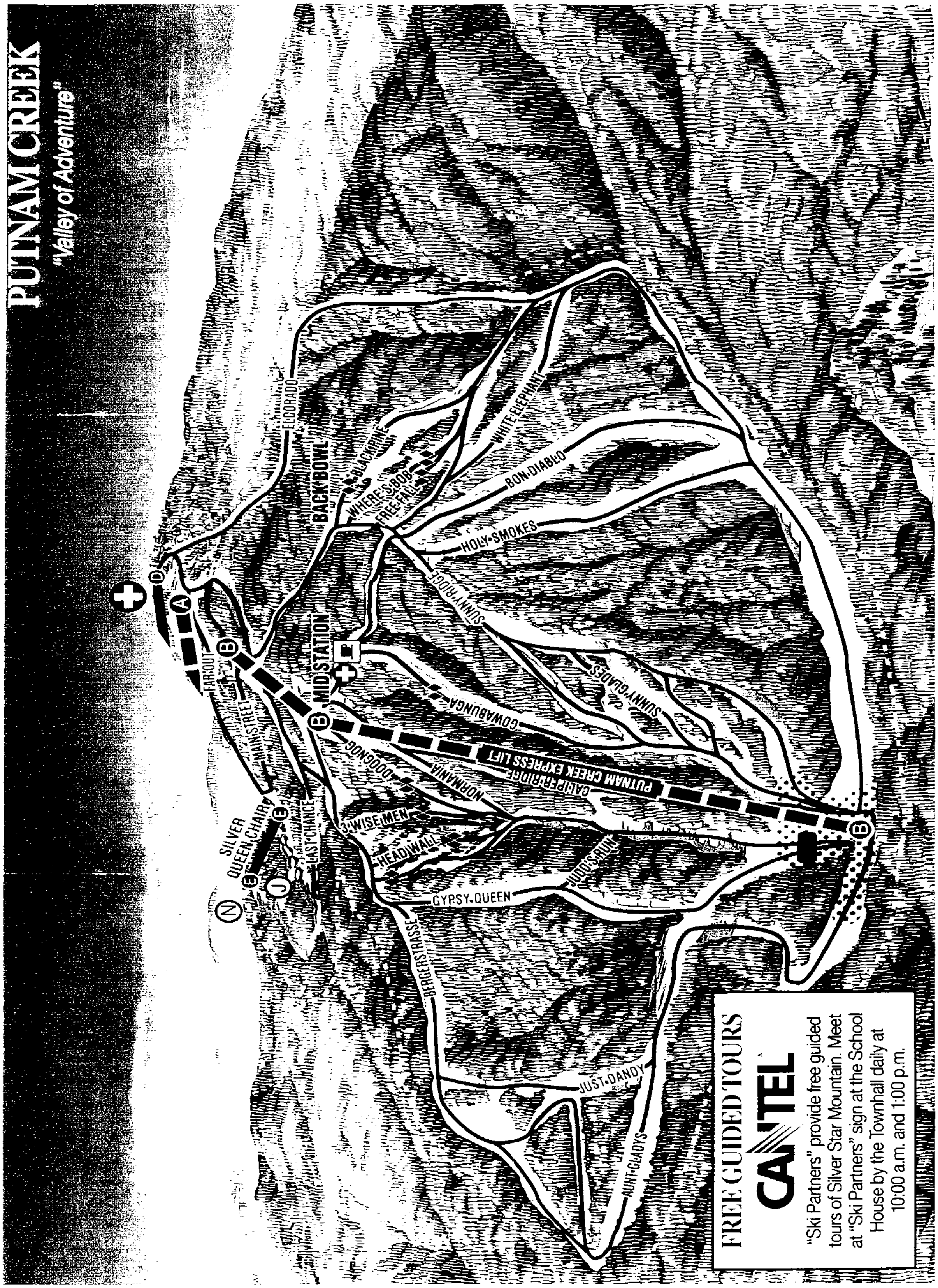
The village area is serviced by two tee bar lifts, and a fixed grip quad chairlift. Much of the terrain around the village has been developed as novice and beginner runs. Lift services in this area will be improved with a planned upgrade of the Town Tee to a chairlift.

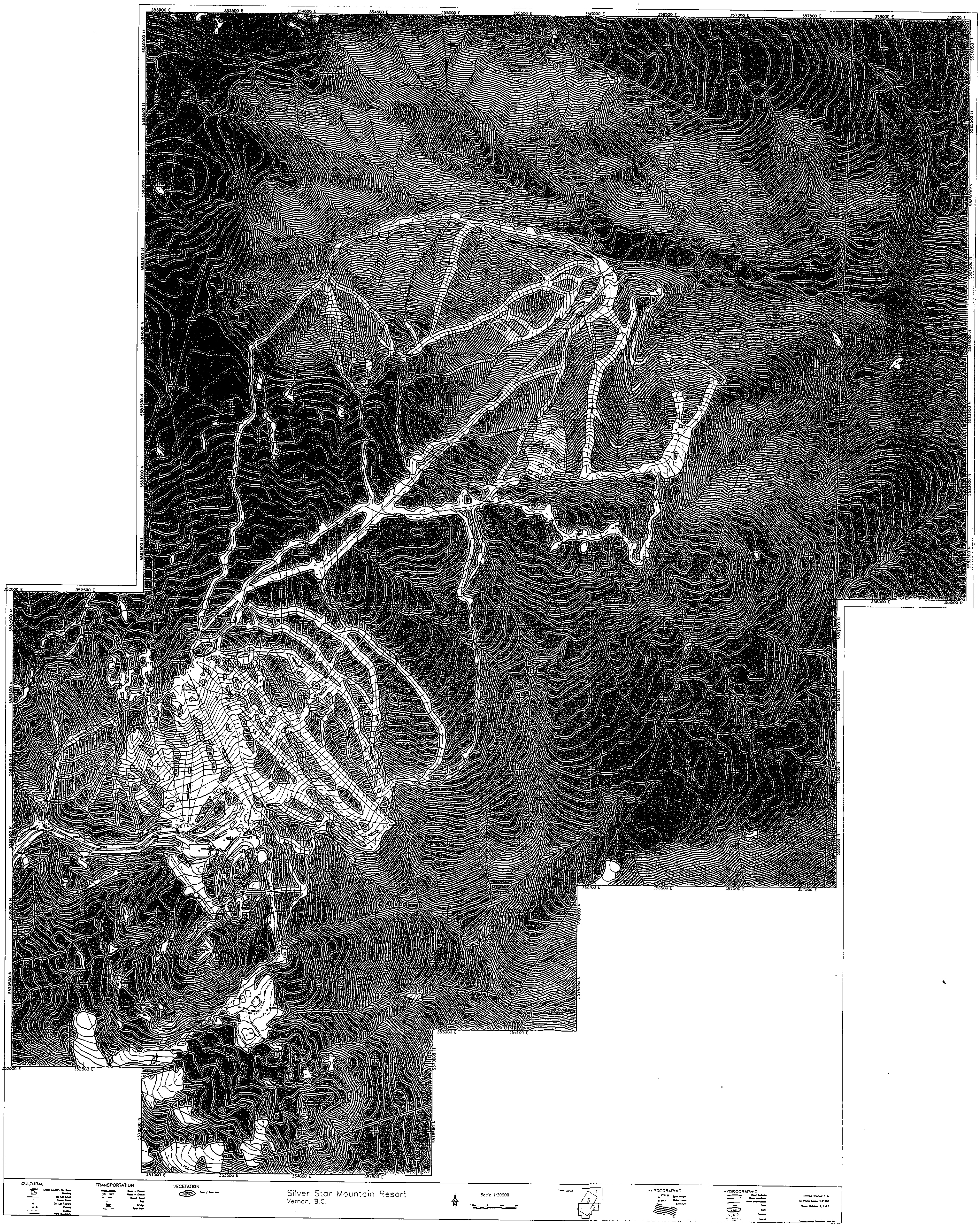
The existing alpine ski resort has a comfortable capacity of 5000 skiers at one time, assuming lift lines of 10 to 15 minutes.

Maps

- ◊ Vance Creek Mountain Guide
- ◊ Putnam Creek Mountain Guide
- ◊ Silver Star Mountain Topographic "as built"


SILVER STAR MOUNTAIN
VANCE CREEK
"Mountain of Fun"
PUTNAM CREEK EXPRESS LIFT
LAST CHANCE SKIWAY
FAR OUT
OVER THE HILL
SUNDANCE
WHISKEY JACK
LITTLE DIPPER
MAIN ST. SKIWAY
SNOWBOARD PARK
MIDDLE DIPPER
WALT'S RUN
BIG DIPPER
YELLOW CHAIR
CONSTELLATION
F.I.S.
EXHIBITION
VANCE CREEK EXPRESS LIFT
SHOW OFF
MILKY WAY
BLAST OFF
FACE
SUMMIT CHAIR
CHUTE
MOON BEAM
SKUNK HOLLOW
BX CORRAL
CHALET ALLEY
STARGATE
TOWN
TEE BAR
ATTRIDGE ACCESS
CHRISTMAS BOWL
EASY STREET
ATTRIDGE FACE
MID TEE BAR
TURN AROUND
ROLLER COASTER
RIDGE RUN
BUS BACK
FAST BACK
OUT BACK
INTERLUDE
SILVER QUEEN CHAIR
SILVER QUEEN
ABERDEEN SKIWAY
LONESTAR
SOLITUDE
SPLIT DECISION


PUTNAM CREEK
"Valley of Adventure"
ELDORADO
BACK BOWL
WHERE'S BOB
FREE FALL
WHITE ELEPHANT
BON DIABLO
HOLY SMOKES
SUNNY RIDGE
SUNNY GLADES
GOWABUNGA
MID STATION
FAR OUT
MAIN STREET
SILVER QUEEN CHAIR
LAST CHANCE
3 WISE MEN
HEADWALL
NORMANNIA
PUTNAM CREEK EXPRESS LIFT
GYPSY QUEEN
BERGERSTRASSE
JUST DANDY
AUNT GLADYS
FREE GUIDED TOURS
CANTEL
"Ski Partners" provide free guided tours of Silver Star Mountain. Meet at "Ski Partners" sign at the School House by the Townhall daily at 10:00 a.m. and 1:00 p.m.


CULTURAL
TRANSPORTATION
VEGETATION
Silver Star Mountain Resort
Vernon, B.C.
Scale 1:20000
HYPSOGRAPHIC
HYDROGRAPHIC

Nordic Centre

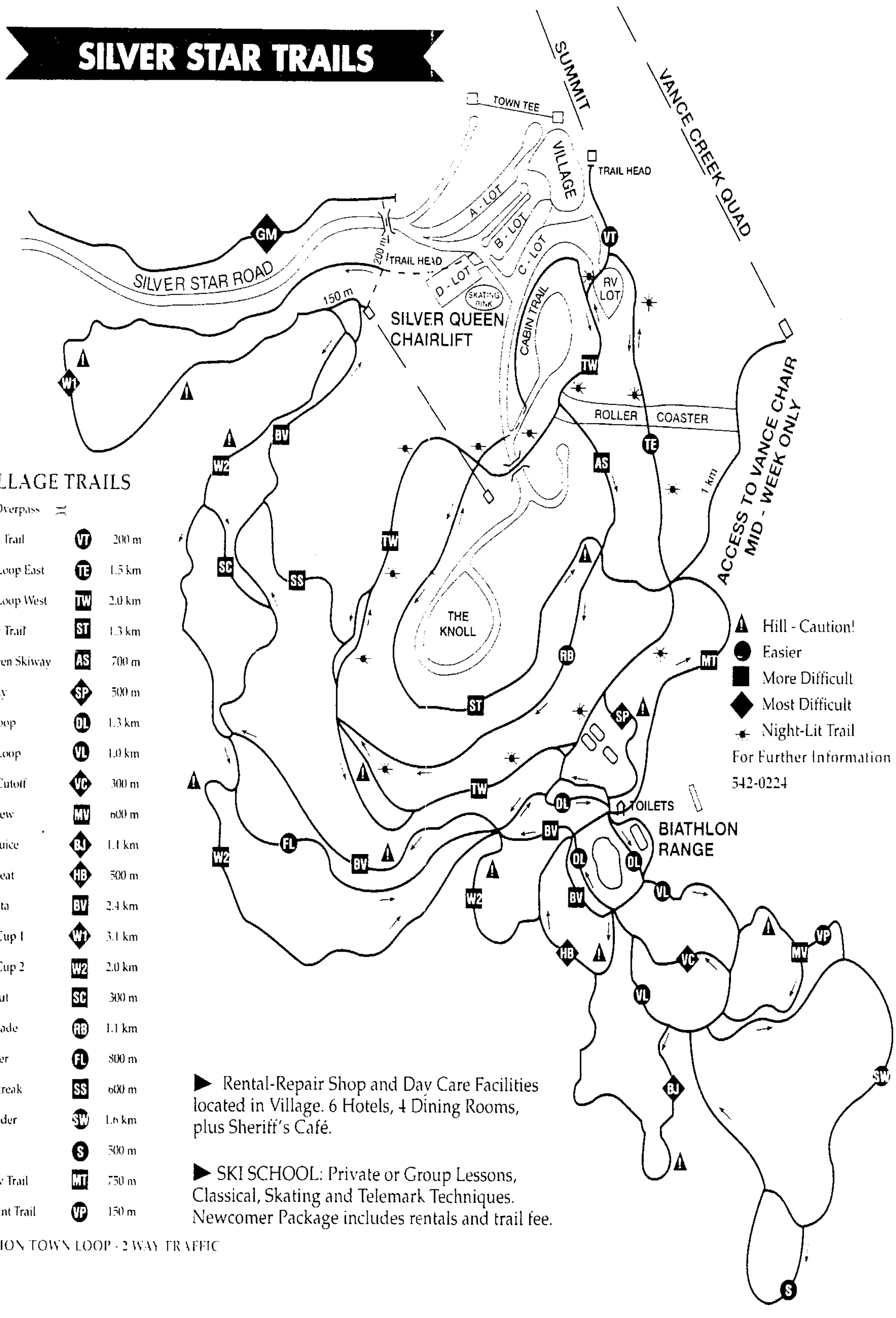
Since 1981, a major Nordic destination resort has been developed in conjunction with the alpine ski area. Over 28 km of trails linked to Sovereign Lake's 54 km, combined with the alpine resort's amenities, led to Snow Country magazine rating it as one of the ten best in North America.

The National Altitude Training Centre, constructed in 1993, rounds out the appeal of the Nordic Centre to competitive athletes for early season training. The mountain's reputation for reliable early snowfall complements the high quality of the World Cup courses and biathlon range to attract a variety of elite level teams, and competitors, including double Olympic gold medal winner Miriam Bedard.

Continuing improvement of the trail network enables recreational skiers to enjoy cross country skiing as part of their mountain vacation experience. (Map on following page.)

Base Facilities

The ski area base facilities offer a full range of amenities to day visitors and vacationing skiers. The base area has been relocated in the past ten years, and is of new construction. Some of the ski area service buildings are outdated and outgrown, and will need to be replaced in the next few years.



VILLAGE TRAILS

Skier Overpass		
Village Trail	VT	200 m
Town Loop East	TE	1.5 km
Town Loop West	TW	2.0 km
Skiway Trail	ST	1.3 km
Aberdeen Skiway	AS	700 m
Spillway	SP	500 m
Dam Loop	DL	1.3 km
Vance Loop	VL	1.0 km
Vance Cutoff	VC	300 m
Mtn. View	MV	600 m
Beetle Juice	BJ	1.1 km
Heart Beat	HB	500 m
Bellavista	BV	2.4 km
World Cup 1	W1	3.1 km
World Cup 2	W2	2.0 km
Short Cut	SC	300 m
Rollerblade	RB	1.1 km
Flat Liner	FL	800 m
Silver Streak	SS	600 m
Sidewinder	SW	1.6 km
Sunset	S	500 m
Meadow Trail	MT	750 m
Viewpoint Trail	VP	150 m

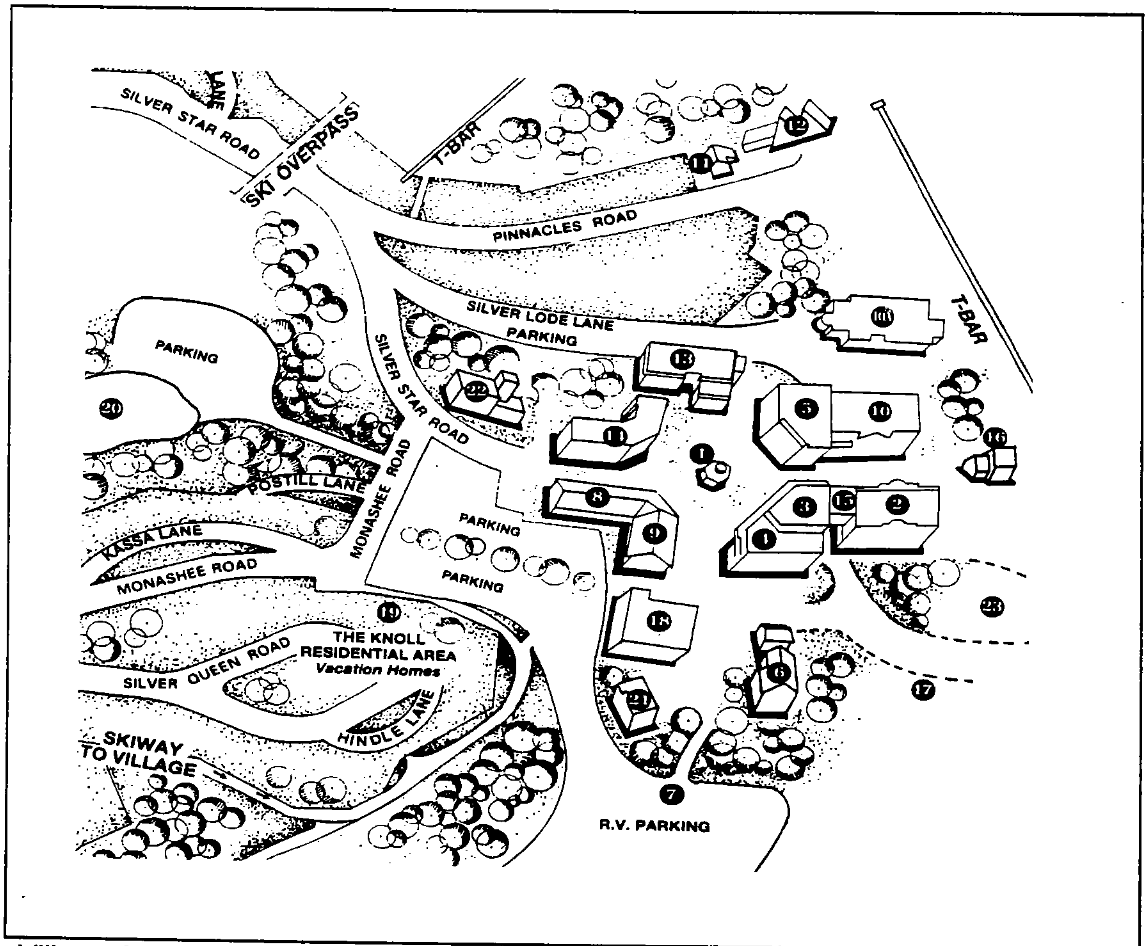
CAUTION TOWN LOOP - 2 WAY TRAFFIC

- Hill - Caution!
- Easier
- More Difficult
- Most Difficult
- Night-Lit Trail

For Further Information 542-0224

▶ Rental-Repair Shop and Day Care Facilities located in Village. 6 Hotels, 4 Dining Rooms, plus Sheriff's Café.

▶ SKI SCHOOL: Private or Group Lessons, Classical, Skating and Telemark Techniques. Newcomer Package includes rentals and trail fee.



Village Centre Map

Ski Area Services

1 - Ticket office	2 - Town Hall	3 - Retail Shop
4 - Pool	5 - Ski Patrol	6 - Maintenance shop
7 - R.V. Parking	15 - Ski Rentals	16 - Ski School sales
17 - X-Country Trails	18 - Training Centre	19 - The Knoll
20 - Skating Pond	21 - Ski Club	22 - Fire Hall
23 - Kid's Country		

Hotels

8,9 - Putnam Station	10 - Vance Crk Hotel	
10A - Chilcoot Inn	11 - Kickwillie Inn	12 - The Pinnacles
13 - Silver Lode Inn	14 - Lord Aberdeen	

Accommodation

Commercial accommodation in the resort includes three full service hotels, one suite hotel and three apartment hotels, providing over 450 bed units for overnight guests. A further 300 beds are available in residential homes and suites managed through the commercial rental pool (see table on following page). In addition, many rental units are available privately in over 100 private residences in the village.

Property	Type	Built	Units	Bed units
Putnam Station	Full Service Hotel	1983	30	70
Vance Creek Hotel	Full Service Hotel	1985	50	100
Silver Lode Inn	Full Service Hotel	1985	20	40
Chilcoot Inn	Suite Hotel	1993	36	108
Kickwillie Inn	Apartment Hotel	1985	7	28
The Pinnacles	Apartment Hotel	1987	18	72
Lord Aberdeen	Apartment Hotel	1988	16	64
Sub Total	**Commercial**		**177**	**482**
Residential	Homes		35	210
	Suites		30	120
Total Rental	**Accommodation**		**242**	**812**

Rental Pool Accommodation

MARKET

Growth at Silver Star Mountain Resort in the period 1979 to 1994 has resulted in the direct investment of over 16 million dollars, and private investment of 24 million in related real estate. This investment created 4000 man years of employment during the construction phase, and has resulted in employment of over 700 people each winter season. Continued growth at the resort will create additional investment and more jobs in British Columbia's tourism industry.

Tourism in British Columbia

Tourism in B.C. represents an important segment of the province's economy. A growing proportion of this economic benefit originates from non-resident visitors, contributing significantly to B.C.'s trade surplus. Tourism expenditures by both resident and non-resident visitors combine to create a substantial number of jobs for British Columbians.

Current Dollar Gross Domestic Product

	Total B.C. GDP		Tourist GDP		Tourism as % of GDP
Year	$ Millions	% Change	$ Millions	% Change	
1981	39,999		1,471		3.7
1982	41,106	2.8	1,500	2.0	3.6
1983	43,348	5.5	1,570	4.7	3.6
1984	46,034	6.2	1,632	3.9	3.5
1985	48,667	5.7	1,739	6.6	3.6
1986	51,336	5.5	1,938	11.4	3.8
1987	56,300	9.7	2,039	5.2	3.6
1988	62,472	11.0	2,190	7.4	3.5
1989	68,811	10.1	2,471	12.8	3.6
1990	73,401	6.7	2,679	8.4	3.6
1991	74,408	1.4	2,651	-1.1	3.6
1992	76,061	2.2	2,732	3.1	3.6

In current dollars (where inflation is not taken into account), British Columbia's tourism industry contributed over $2.7 billion towards the provincial GDP in 1992. This represents approximately 3.6% of the total economy. Table 1 displays the current dollar GDP for both the provincial economy and tourism. B.C.'s tourism industry increased by an average of 5.9% annually, from $1.5 billion in 1981 to $2.7 billion in 1992. In current dollar terms, this growth rate is very close to the provincial economy's growth performance of 6.1%.

Visitors to B.C.

B.C.'s tourism market comes from both residents and visitors to the province. As shown in Table 2, the industry has had positive growth in total overnight visitor volumes three years in a row. Table 3 displays the revenue generated in B.C. by overnight visitors. In 1992, travel to and within B.C. resulted in approximately 23.9 million overnight visitors; this resulted in $5.46 billion in tourism revenues for the province.

Total Volumes of Overnight Visitors to B.C.

	1989		1990		1991		1992		
Markets	Overnight Volume	% Change	Overnight Volume	% Change	Overnight Volume	% Change	Overnight Volume	% Change	% Change
B.C. Residents	15,613	*	15,613	0.0	16,081	3.0	16,242	1.0	4.0
Alberta	1,791	*	1,755	-2.0	1,790	2.0	1,826	2.0	2.0
Ontario	819	*	803	-2.0	723	-10.0	687	-5.0	-16.1
Other Canada	879	*	861	-2.0	844	-2.0	835	-1.1	-5.0
Total U.S.	3,381	*	3,422	1.2	3,514	2.7	3,444	-2.0	1.9
Washington	1,112	*	1,129	1.5	*	*	*	*	*
Oregon	329	*	642	4.0	*	*	*	*	*
California	681	*	685	0.6	*	*	*	*	*
Other West U.S.A.	658	*	650	-1.2	*	*	*	*	*
Other East U.S.A.	601	*	616	2.5	*	*	*	*	*
Total Overseas	773	*	814	5.3	842	3.4	884	5.0	14.4
Japan	*	*	214	*	218	1.9	232	6.4	*
UK	*	*	124	*	135	8.9	133	-1.5	*
Germany	*	*	76	*	89	17.0	98	10.1	*
Hong Kong	*	*	82	*	77	-6.1	76	-1.3	*
Australia	*	*	61	*	56	-8.2	58	3.6	*
Other Overseas	*	*	257	*	267	3.9	287	7.5	*
Total	23,245	*	23,270	0.1	23,794	2.3	23,918	0.5	2.9

*= not available due to changes in reporting procedures

British Columbians comprised 67.9% of the 1992 visitations, and 52.1% of the tourism revenues. Following B.C. residents, the next largest visitor market is other Canadians, representing 14.0% of the visitation volumes and 23.8% ($1.3 billion) of the total revenues.

In 1992, the 3.4 million U.S. residents who visited B.C. contributed $0.9 billion, or 15.6% of the total revenues.

The much smaller overseas market (3.7% of total visitation) contributed a significant 8.7% of the total tourism revenues in 1992, which represents $476 million. While some of B.C.'s larger markets have struggled with declining visitors, overseas markets have been posting continuous growth.

Total Revenue from Overnight Visitors to B.C.

	1989		1990		1991		1992		
Markets	Revenue (000's)	% Change	Revenue (000's)	% Change	Revenue (000's)	% Change	Revenue (000's)	% Change	% Change
B.C. Residents	2,621,000	*	2,882,000	10.0	2,814,000	-2.4	2,842,000	1.0	8.4
Alberta	432,000	*	428,000	-0.9	450,000	5.1	456,000	1.3	5.6
Ontario	528,000	*	553,000	4.7	512,000	-7.4	481,000	-6.1	-8.9
Other Canada	312,000	*	330,000	5.7	346,000	4.8	351,000	1.4	12.5
Total U.S.	768,000	*	809,000	5.3	848,000	4.8	851,000	0.4	10.8
Washington	168,000	*	180,000	7.1	*	*	*	*	*
Oregon	72,000	*	65,000	-9.7	*	*	*	*	*
California	216,000	*	218,000	0.9	*	*	*	*	*
Other West U.S.A.	120,000	*	158,000	31.7	*	*	*	*	*
Other East U.S.A.	192,000	*	188,000	-2.1	*	*	*	*	*
Total Overseas	360,000	*	415,000	15.3	442,000	6.5	476,000	7.7	32.2
Total	5,012,700	*	5,418,000	8.1	5,412,000	-0.1	5,457,000	0.8	8.9

*= not available due to changes in reporting procedures

Export Earnings

British Columbia's tourism industry is an important source of export earnings for the province. In 1992, approximately $1.3 billion, or almost one-quarter of the province's total tourism revenue, was generated by visitors from outside Canada. This positions tourism as B.C.'s third largest export industry in 1992, after softwood lumber and pulp, and represents nearly 8% of all export earnings in B.C.

The most rapidly growing component of B.C.'s total visitor expenditures is the overseas market. Receipts from the overseas tourists increased from $360 million in 1989 to $476 million in 1992, representing a 32% increase. The average annual growth for this market has been over 9%.

Employment

Tourism is a major employer for the province. In 1990, 181,000 British Columbians were employed in tourism related industries: one of every ten jobs in B.C.'s labour force is tourism-related. Over 12,000 businesses are dependent upon the tourism industry.

105,000 direct jobs (or 6.5% of B.C.'s labour force) were created by tourism. Between 1990 and 2001, the average annual growth rate of employment in tourism-related occupations is projected to be 2.6%. The annual average growth rate for employment in B.C. during the same period is projected to be 1.6%.

Product Summary of Skiing

This sector comprises Downhill, Nordic/Back-country touring and Heli/Snowcat.

Downhill Skiing

Downhill skiing occurs in the Lower Mainland, the Okanagan, the Rockies/Kootenays, Vancouver Island and to a lessor extent in the north. There are over 60 alpine ski areas of which 21 provide 95% of the business. Ski season length averages 135 days.

1990/91 season provided over 3.3 million Alpine skier days and estimated skier expenditures in excess of $500 million. Employment now averages 3,500 man years annually. Gross resort company revenues related to skiing are about $112 million. Investment I resort assets are estimated at $225 million, with $900 million in associated real estate.

The success of Whistler Resort (28 lifts, 25 hotels, 26,000 rental beds, 35 restaurants, 60 retail shops) has made it one of the top two resorts in North America, and established British Columbia as a major ski destination, providing support for the development of the regional resorts.

Competition from Alberta, Montana, and Washington State will affect local and regional markets. Re-development in Quebec may affect long haul Canada markets.

Continued expansion in BC is proposed or underway at most existing ski resorts with on-hill improvements and more hotels, guest houses and restaurants. Emerging summer products in those areas that have potential for four season operation include resort based activities such as trail riding, hiking, helihiking, helifishing and golf. Management has been focusing on cost control and improved marketing. However, even with interest rates down, there is still a real constraint in generating development capital (debt or equity) without resorting to real estate development and sales.

Nordic/Back Country Touring

These ski operations can be divided into three groups - affiliated with alpine resorts, interior resorts specializing in nordic skiing and mountain lodges providing ski touring activities.

4 alpine resorts provide set track, and the market is primary B.C. skiers (91%) with an average expenditure of $9/skier day, and a season of 130 days.

The resorts specializing in nordic skiing are centered on the interior plateau of the province where 9 resorts provide trails and set track and account for 90% of the business. Average season is 114 days, with average revenues of $25/skier day. Track fees are charged at an average of $6/day. These companies operate all year round as fishing or guest ranches during the summer.

Back-country touring is just beginning to organize and a firm clientele is being established. 16 mountain lodges offer ski touring activities. Mountain lodges have a daily average expenditure of $112/skier day and a season of about 90 days. Market 34% B.C., 43% rest of Canada, 23% outside of Canada. There is a significant potential in the Rockies region and these operators are beginning to organize themselves. This includes areas like Mt. Assiniboia, Emerald Lake, and Glacier Park Lodge.

Total skier visits average 125,000, gross revenues are 13.2 million (with ski only revenue about 20% of this). Accommodation was reported at 3,550 beds with an average occupancy of 49%, with eight facilities having 70%. About $60.0 million is invested currently in resorts and trails and employment is 412 FTE's with a salary and wages of about $4.9 million.

Market growth over the last seven years has been from Canada (non B.C.) and non Canadian markets which have shown a 12 - 15% growth. This has been due to improved facilities and services and the development of package vacations.

Investment is planned at most existing resorts to improve and expand facilities. A major trail development plan exists for the Cariboo which would see it become a world class nordic destination. Land tenure and financing are two major issues.

Nordic skiing is still in the early stages and needs to be better organized and promoted. With additional trail development, B.C. can provide an internationally competitive product in some regions.

Heliskiing and Snowcat

B.C. is considered the world leader in this area and accounts for 90% of world wide activity. There are 10 helicopter and 3 snowcat operators, with a gross revenue of $31 million and $41 million investment in resorts and equipment. Operations occur in areas closer to the glaciers and powder snow associated with the Rockies. Average season is 94 days with some operating for 120 days. Employment is about 333 FTE which due to the remote locations occurs mainly in small communities in the mountainous regions. Salary and wages are about $ 7 million. Heliskiing & snowcat skiing is limited in growth by capacity due to the limited number of beds available and pressure form alternative backcountry activities. Opportunity exists to expand existing operations. However, there are three potential opportunities in snowcat skiing, one is the Whitepass area near Atlin, another option north of Nelson, and at Strathcona Park Lodge. Promotion and packaging for non-B.C. skiers can be pursued.

Overall Markets

Based on information from the operators, B.C. ski markets and products can be summarized as follows:

Estimated Markets

Product	B.C.	Canada	U.S.
Downhill Skiing	60%	25%	15%
Nordic Skiing	85%	10%	5%
Heli-Skiing	10%	30%	60%
Snowcat Skiing	60%	30%	10%
Back Country Skiing	60%	35%	5%

Development Issues

There is opportunity to develop and expand the facilities for all of these products. Primarily this is accommodation, food, beverage and apres ski facilities, upgrade of ski lifts and trail systems development. There is still some interest from Europe and Asia in supporting investment and development. Constraints are access to the natural resource base, land tenure and land use conflicts with other sectors of the economy and within tourism; and the resolution of the Alpine Ski Policy and the Commercial Backcountry Recreation policy.

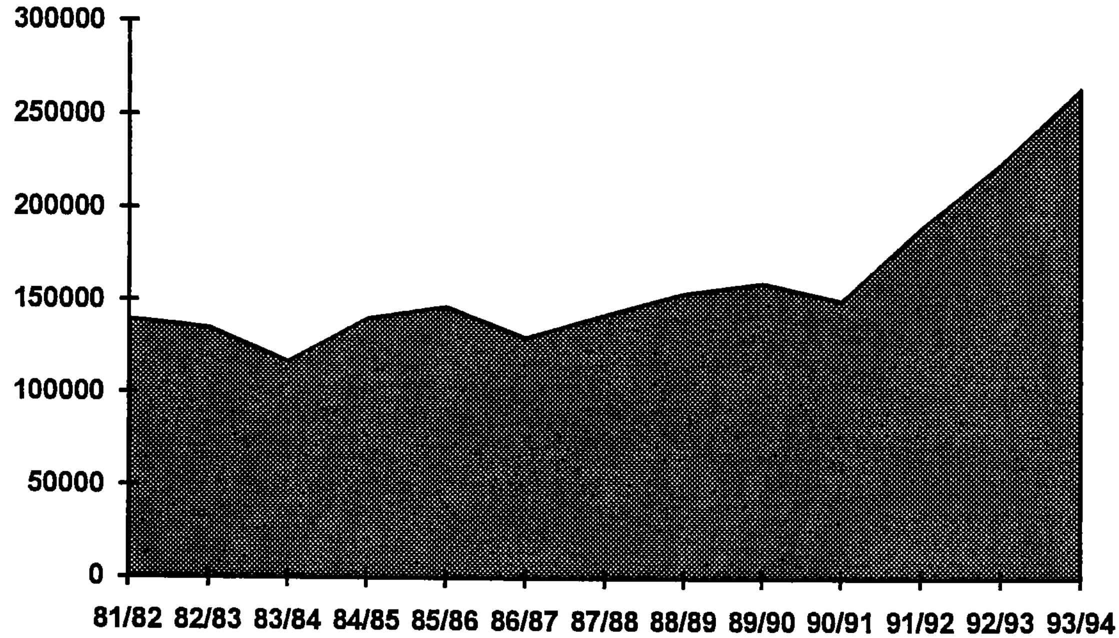
Skier Visits

Western Canadian Skier Visits 1983 - 1994

	B.C.	Alberta	Sask.	Man.	Total
83/84	2,562,456	1,270,485	45,262	4,351	3,882,554
84/85	2,778,418	1,439,569	42,029	5,102	4,265,118
85/86	2,431,288	1,566,037	39,668	6,108	4,043,101
86/87	2,641,830	1,754,774	116,659	7,600	4,520,863
87/88	3,297,707	1,517,373	131,683	14,514	4,961,277
88/89	3,446,613	1,135,131	155,086	56,487	4,793,317
89/90	3,311,244	2,037,578	163,532	39,800	5,552,154
90/91	3,458,503	2,025,983	171,915	64,880	5,721,281
91/92	3,485,201	1,952,336	190,174	79,791	5,707,502
92/93	3,969,241	1,695,000	158,263	71,500	5,894,004
93/94	*4,100,000				N/A

* Estimate

Silver Star Mountain Skier Visits 1981 - 1994



Growth In British Columbia Tourism

Since 1981, British Columbia has seen continued growth in tourism revenue and new product development. This has greatly enhanced tourism as an employer and as a generator of tax revenues. Our competitive situation in global markets is improved as is our capacity and utilization. Some global crisis' have affected tourism growth in British Columbia, such as, the Oil Crisis of the early 80's and the Gulf War of the early 90's. Expo '86 in Vancouver also provided positioning and awareness that has been a positive benefit. However, changes in tourism trends have been largely responsible for B.C.'s success.

Demographically, the hugely significant baby boomer group is aging and as they age they are looking for trips of shorter duration and for soft adventure products, of which B.C. is a specialist. As well as skiing, our other adventure product lines include freshwater and saltwater fishing, golf, cruise ship vacations, sailing, guest ranches, guide outfitting, tourist trains and ecotourism - wildlife viewing.

The Pacific Northwest continues to enjoy a remarkable population boom as many businesses continue to relocate in the Portland and Seattle area. This, combined with Vancouver's emergence as the gateway to North America for Pacific Rim countries and our continued provincial population growth, will continue to provide fertile markets for B.C. tourism products.

Growth Of Skiing In British Columbia

The development of Whistler Resort and its emergence as one of the top resorts in North America has created a significant opportunity for many other British Columbian resorts. While technological advances and costs of redevelopment have made a number of small areas obsolete, a few resorts have continued to reinvest creating a unique market niche for themselves.

British Columbia skier visits have grown by 60% in the last 10 years, a feat unparalleled anywhere else in North America. The generally reliable snowfall, access to existing and new markets such as Japan and Germany, and the variety of on-mountain resorts in the province will continue to see increase in ski tourism to British Columbia.

Growth In The North Okanagan

The Okanagan continues to be recognized nationally as one of the best lifestyle regions to reside in the country. Chatelaine Magazine in their May 1993 issue recognized Vernon as one the top 10 places to live in the country. Consequently growth in the North Okanagan continues to be very strong.

Population Chart

NORTH OKANAGAN REGIONAL DISTRICT					
Community Name	Community Type	Population 1986	Population 1991	% Change	Dwellings 1991
Armstrong	City	2,708	3,200	18.2%	1,231
Coldstream	Municipality	6,872	7,999	16.4%	2,717
Enderby	City	1,842	2,128	15.5%	923
Enderby 2	Reserve	N/A	240	N/A	67
Lumby	Village	1,181	1,265	7.1%	492
Subdivision A	Sub of RD	3,160	3,318	5.0%	1,180
Subdivision B	Sub of RD	13,240	14,088	6.4%	4,922
Okanagan (part)	Reserve	821	918	11.8%	356
Priest's Valley	Reserve	317	355	12.0%	170
Spallumcheen	Municipality	4,308	4,719	9.5%	1,590
Vernon	City	20,371	23,514	15.4%	9,831
TOTAL	Regional Dist	54,820	61,744	12.6%	23,479

Populations of Nearby Communities

The following is a summary of population counts in neighbouring communities as provided by the 1986 and 1991 Census.

	1986	1991
Salmon Arm	11,199	12,115
Revelstoke	8,279	7,729
Columbia Shuswap Regional District	39,917	41,665
Kelowna	61,213	75,950
Central Okanagan Regional District	89,730	111,846
Penticton	23,588	27,258
Okanagan Similkameen Regional District	59,089	66,701
Trail	7,978	7,919
Kootenay Boundary Regional District	30,335	31,194
Kamloops	61,773	97,057
Thompson Nicola Regional District	96,805	104,386

The North Okanagan Regional District Planning Department projects area population to grow at a 3-4% annual rate until 1996. The City of Vernon projects a growth rate until 1996 of 3% within the City. Community Plans are currently being revised in order to address the rapid growth rate anticipated.

Population Distribution by Age/Sex

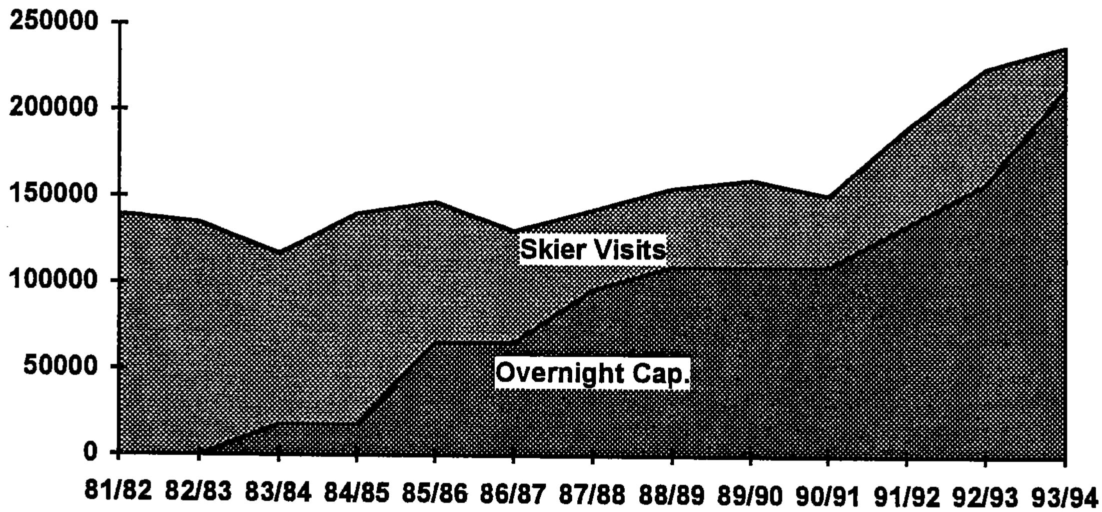
As evidenced by the population distribution chart, our main market area is also very strong in the 15 - 50 age demographic, dominant in skier attendance.

North Okanagan Regional District (N.O.R.D.)

AGE	MALE	FEMALE	TOTAL
0 - 4 years	1,990	1,900	3,890
5 - 9 years	2,300	2,225	4,525
10 - 14 years	2,390	2,180	4,570
15 - 19 years	2,225	2,085	4,310
20 - 24 years	1,695	1,545	3,240
25 - 29 years	1,865	2,005	3,870
30 - 34 years	2,280	2,450	4,730
35 - 39 years	2,340	2,515	4,790
40 - 44 years	2,275	2,310	4,790
45 - 49 years	1,860	1,905	4,170
50 - 54 years	1,635	1,600	3,540
55 - 59 years	1,555	1,505	3,155
60 - 64 years	1,610	1,665	3,115
65 - 74 years	2,785	3,125	5,910
75+ years	1,715	2,200	3,915
TOTAL	30,525	31,220	61,745

On-Mountain Overnight Capacity Vs. Attendance

Since the first hotel built here in 1983 it has been evident that on-mountain accommodation capacity has driven our attendance results. The demand is still very strong for guests who will only visit if they can stay on-mountain.



Scale: Overnight Capacity = Pillows x Skier days (150)

Silver Star Mountain Market Demand

Silver Star Mountain's resort development and mountain redevelopment has enabled it to occupy a unique niche in the marketplace. In the past few years the growth and development of Whistler Resort and continued expansion of Banff have created an opportunity for many non-urban resorts in Western Canada to succeed with a different yet quality product. This is particularly true for the family market where large resorts can be severely crowded.

The advantages to Silver Star Mountain of early reliable snow, up to date lift technology, an easily recognizable architectural theme, world class ski terrain and a favourable labour market all point to considerable growth potential.

The local resident market of the North Okanagan and Salmon Arm is growing at the highest rates in the province.

The regional market within three hours is the largest source of weekend overnight traffic and continues to expand. Market penetration in Kelowna and other cities is strong. In market research, Kelowna and area has displayed perhaps the best potential for future skier visits. Their continued population growth, easy drive time to Silver Star and perception of Silver Star as being a quality ski product all add to this potential.

Destination marketing of Silver Star has focused until this year on domestic markets with the prime focus being on the Lower Mainland. The Coquihalla and Connector have enhanced Silver Star's accessibility immensely.

Secondary markets have been Alberta, Southern Ontario, Vancouver Island and other B.C. regions.

In 1991 - 92, with the creation of Putnam Creek, the resort began to look at new marketplaces where reasonable access was available and where British Columbia and Whistler Resort were well known.

These new markets listed in priority are:

U.S. - Pacific Northwest, California

United Kingdom

Germany

U.S. - N.E.

Japan

Australia - New Zealand

Market development is presently being done in each country. This includes media work, familiarization tours and awareness advertising. Tour operators in each market have Silver Star Mountain Resort listed in their programs.

Within five years Silver Star should reach 300,000 skier visits per year. This takes into consideration anticipated competition from areas such as Sun Peaks in Kamloops and Big White in Kelowna.

Skier Growth Projections

	Percentage Annual Growth		
	3%	5%	7%
1994-1995	271,811	277,089	282,367
1995-1996	279,966	290,944	302,133
1996-1997	288,365	305,491	323,282
1997-1998	297,016	320,766	345,912
1998-1999	305,926	336,804	370,126
1999-2000	315,104	353,644	396,035
2000-2001	324,457	371,326	423,757
2001-2002	334,294	389,893	453,420
2002-2003	344,323	409,387	485,160
2003-2004	354,652	429,857	519,121

Base for chart: 1993-1994 263,895

TERRAIN ANALYSIS

A critical limiting factor for an alpine ski resort is the amount, type and quality of skiable terrain within its boundary. In order to establish this, we have examined all of the terrain within the existing permit area, and analyzed its potential for alpine ski development. This analysis is not intended to define or limit the future development of the terrain, but to provide a numerical basis for overall planning.

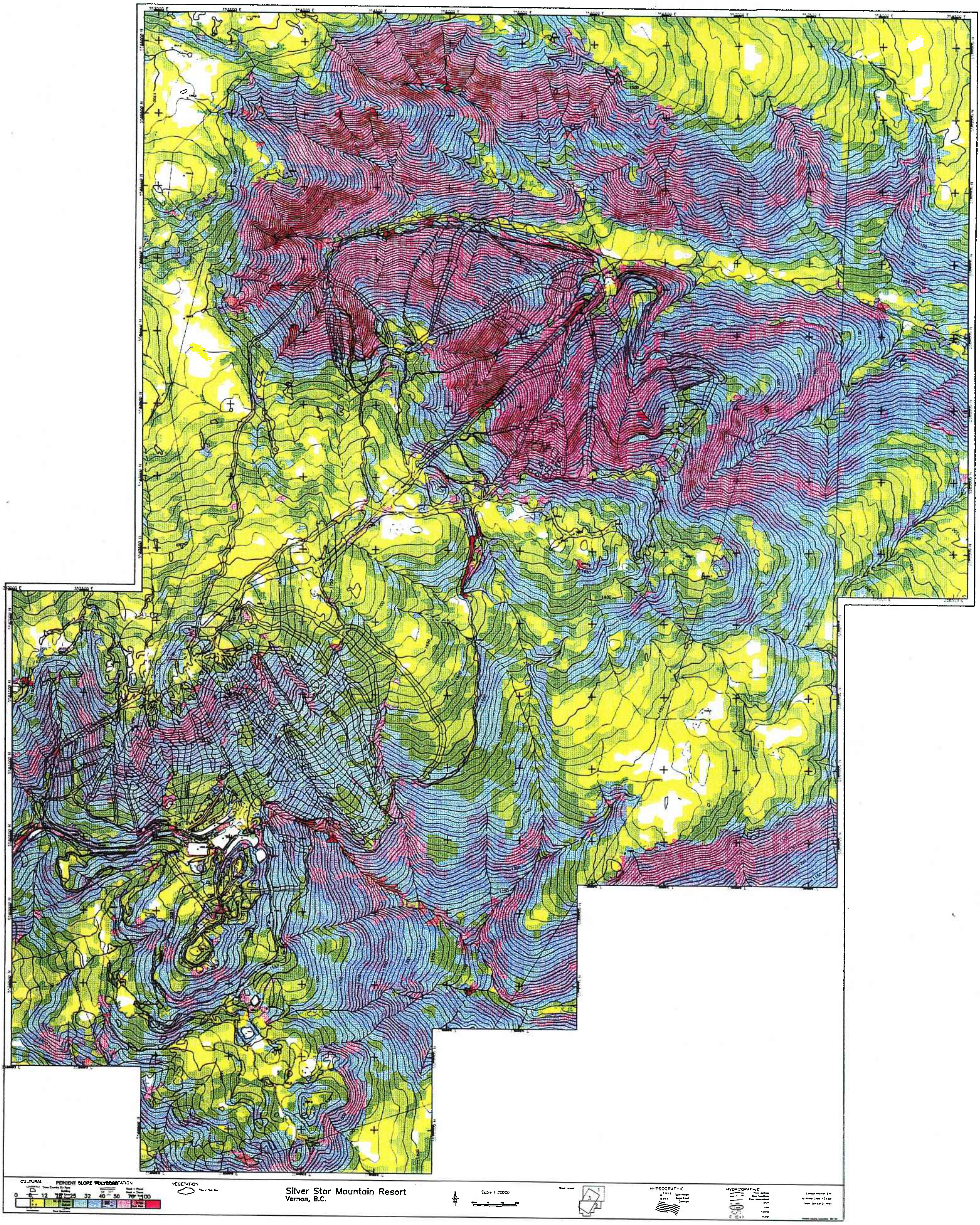
Slope analysis

The two critical factors for downhill ski run development are slope and snow cover. Slope is commonly expressed in percentage, representing the ratio of vertical drop to the horizontal travel on a given slope. For example, a ski run dropping 40 vertical meters in a run of 100 meters would have a slope of 40%. Each area for potential skiing is analyzed starting on page 33. The table below illustrates the conventions used in this plan to define ski runs as beginner, intermediate and expert.

Class		**Type**	**Range of slope**	**Example**	**Colour on SA map**
Flat			0 to 6%		White
Traversable			7 to 12%	Bergerstrasse	Yellow
Easiest	○	Beginner	13 to 18%	Far Out	Light Green
	○	Novice	19 to 25%	Over-The-Hill	Green
More Difficult	□	Lower Int.	26 to 32%	Whiskey Jack	Light Blue
	□	Intermediate	33 to 40%	Gypsy Queen	Blue
	□	Upper Int.	41 to 50%	Sunny Ridge	Dark Blue
Most Difficult	◆	Advanced	51 to 75%	Holy Smokes	Pink
	◆◆	Expert	76 to 100%	Freefall	Orange
Too Steep			over 100%		Red

Slope analysis classification

The degree of difficulty classification and the appeal of given ski runs is determined by the most difficult sustained pitch on that run. A Lower Intermediate run may have short pitches of Upper Intermediate terrain, but will generally be of Lower Intermediate or easier terrain. Advanced and Expert terrain often have Intermediate and Beginner slopes leading to or from the more challenging terrain. Well designed ski runs have consistent slope, and are of similar character throughout.


CULTURAL
PERCENT SLOPE POLYGONS
VEGETATION
0 8 12 18 25 32 40 50 70 100
Silver Star Mountain Resort
Vernon, B.C.
Scale 1:20000
HYPSOGRAPHIC
HYDROGRAPHIC

An important quality of good downhill ski runs is their fall line. Each run should, as much as possible, proceed straight down the slope. As the skier faces in the direction of travel, the run to either side of him should be level. 'Sidehill' runs are uncomfortable to ski and difficult to groom, and are avoided in good run design.

Snow Cover

The amount and quality of snow cover are determining factors in ski area design. At Silver Star Mountain we have the benefit of 40 years of experience in determining snowfall patterns. Additional snow studies conducted during the Putnam Creek expansion confirm these patterns in the north eastern half of the permit area.

Experience has shown that there is reliable natural snow sufficient for a mid November to mid April ski season most years, above the 4500 foot level on the south aspects, and above 3600 feet on the north aspects. Sun influences affect the quality of the snow in early and late season on the south facing slopes; however, sufficient natural snow remains late in the spring for skiing to the bottom of the existing lifts.

Development of ski terrain below the natural snow line will require some combination of snowmaking and partial area closures in the early and late season. The village location at mid mountain makes it possible to operate in the early season with snow above the 5200 foot level, and to continue operating with little inconvenience after snow melt closes the lowest terrain considered in this plan.

Avalanche

There are two avalanche hazard areas within the permit area. The steeper slopes of Attridge and the Summit ridges above the village are prone to wind loading. Control measures were developed over the past 35 years and have proven effective. The generally steep slopes of Putnam Creek are sheltered from wind loading during major storms and are hazardous only under certain conditions.

Avalanche hazard within the permit area was evaluated in 1989 and 1990 by Chris Stethem of Snow Safety Services. An effective Avalanche Control plan was implemented with the development of Putnam Creek. Continuing observation and evaluation of the hazard areas will allow this plan to be extended to encompass additional terrain.

Snowmaking

Reliable natural snow cover and careful summer grooming has allowed Silver Star Mountain Resort to operate a longer season than its competitors. Addition of snowmaking to existing terrain is not necessary at this time. New terrain can generally be added above the existing terrain, or in areas where snow cover can reasonably be expected.

One notable exception is the lowest portion of the Silver Woods terrain. The bottom terminal of the proposed lift is 160m below the bottom of the Vance Creek Express, although 100m above the lowest Putnam Creek Express elevation. If the SE exposure results in significantly less reliable snow cover, snowmaking in this lower terminal area may be required.

In the event that snowmaking is required, a detailed proposal will be submitted.

Skiing Pods

For purposes of discussion, ski areas are divided into 'pods', areas of similar terrain that are easily serviced by one or more lifts. We have broken the Silver Star Mountain permit area into 8 pods;

Existing Terrain

- ◊ Vance Creek
- ◊ Summit/Attridge
- ◊ Village
- ◊ Putnam Creek

New Terrain

- ◊ Valhalla
- ◊ Trinity Bowl
- ◊ Silver Woods
- ◊ Deer Park

For each pod, a table is included showing the total area, potential skiable area, and the ratio of beginner, intermediate and advanced terrain. A summary of existing and proposed lift service includes the type and capacity of each lift, expressed in both passengers per hour (p.p.h.), and vertical transport feet per hour (VTFH) in thousands (MVTFH). This measurement is derived from the passengers per hour multiplied by the vertical rise of the lift in feet, and expressed in thousands. It more accurately reflects the larger skiing potential of a long lift than the passengers per hour capacity.

In new pods, proposed ski runs are illustrated for planning purposes. These runs show the major framework of skiing and circulation. In aggregate, they do not represent the total developable ski terrain. The secondary runs which will make up the balance of terrain have not been illustrated; as their exact location is best determined after detailed "on the ground" research. An annual detailed plan will be submitted for each pod as it is developed.

Circulation and Portals

Skier circulation around the base area and access to the major skiing pods requires lift capacity. The major circulation route around the Village area is based on the "ring road" concept, utilizing the Town Tee (Town Chair) and Silver Queen Lift; and the Silver Queen and Village skiways. These skiways include two existing and one future skier bridge over major road accesses. This route allows skiers to access any of the base area components, from any other, including parking areas and access to the major skiing pods. The skiing capacity of these lifts is thus reduced 50% for skier circulation.

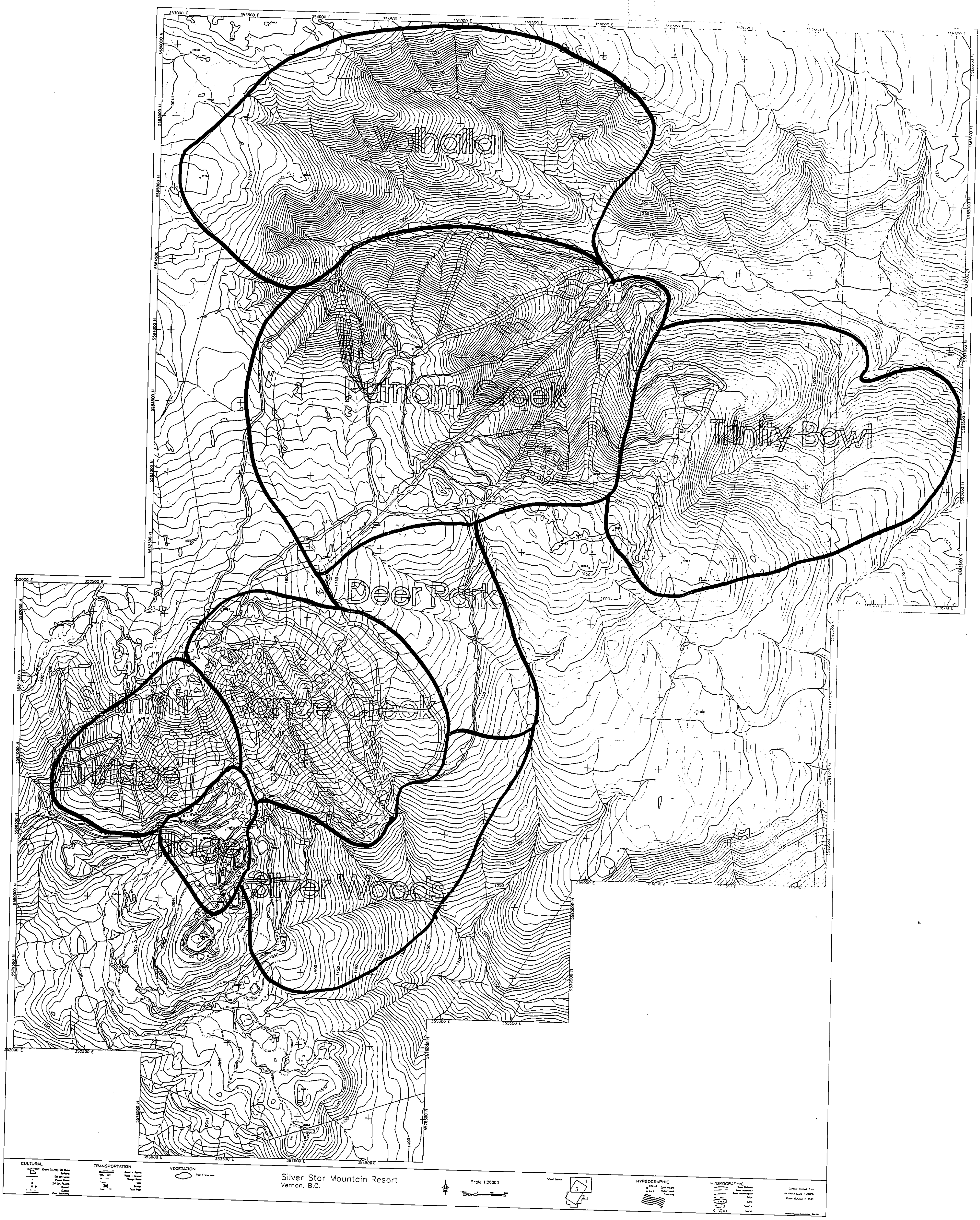
The ring road concept of skier circulation reduces the reliance on a single "portal" to move skiers from their vehicles to the ski terrain. Currently, for efficiency, ticket sales are concentrated in the village core. At current attendance levels, 5,000 skiers comfortably access the ski terrain through the village. Many of the added skier visits will come from guests staying on the mountain in 'ski-in, ski-out' accommodation, which directly access the major skiing terrain. These guests will only need to access the central ticket offices at the beginning of their stay.

By decentralizing ticket sales and accessing the ring road from the west end of the base area, a second "portal" can be created. This portal can be operated only at peak skier flows during the growth phase between 5,000 and 10,000 skier visits/day. Total lift capacity of 1800 pph on each of the circulation lifts will accommodate this circulation.

Additional access to the ski area can be added from outside the ring road as demand exceeds 10,000 visits/day. The "overflow" parking area west of the village will ski down at 7% to the base of the Silver Queen lift, and skiers can return via a pedestrian overpass below the Attridge runs. Further study of the Attridge lift may suggest a means of providing direct access from this lift.

Circulation into the Putnam, Valhalla and Trinity pods will require an upgrade of the Summit chairlift at completion of this master plan. During peak access periods, 1200pph will be required for this purpose. The capacity for this lift is reduced for this purpose.

Return from these pods will require an equal capacity reduction on the Putnam Creek Express. Skiing capacity of this lift is reduced 1200pph during peal flows. This reduction will be balanced by construction of the Holy Smokes lift, replacing 1200pph of skiing capacity.


Valhalla
Putnam Creek
Trinity Bowl
Deer Park
Summit
Gorge Creek
Village
Silver Woods
CULTURAL
TRANSPORTATION
VEGETATION
Silver Star Mountain Resort
Vernon, B.C.
Scale 1:20000
HYPSOGRAPHIC
HYDROGRAPHIC

Existing Terrain

Vance Creek

The Vance Creek pod is bounded by the Summit Ridge to the west, the mountain summit to the north, the more gentle terrain of Deer Park to the east and the confluence of the major branches of Vance Creek to the south. It is entered directly from the village and returns directly via the Main Street Skiway.

The terrain ranges from beginner to intermediate, with a south to south-east aspect. It is weakly ridged in the center, with a minor bowl to the west. A broad slope extends out to the flatter ridge on the east. The slope is generally intermediate, slightly steeper at the top , and becoming steeper again at the bottom of the current lift serviced area.

Pod	Vance Creek
Total area	192 ha.
Skiable area	89 ha
Beginner	22%
Intermediate	74%
Advanced	4%
Skier Capacity	2700 skiers
Vance Creek Express Yellow Chair	2800 pph 4,415 MVTFH 1200 pph 1,769 MVTFH

The lower terminal of the lift is at the break between the intermediate and upper intermediate terrain above the Vance Creek confluence. Collector runs from the east and west bring intermediate and beginner terrain into the lift confluence. The upper terminal is located at the geographic summit of the mountain.

There are two lifts currently installed in this pod, a quad detachable operating at 2730 passengers per hour, and a fixed grip double chair operating at 1200 passengers per hour.

This pod is essentially fully developed, with 85 hectares of a total of 192 hectares of skiable terrain. The developed terrain is 75 % intermediate. Using current densities at Silver Star Mountain this pod has a capacity of 2700 skiers. This is approximately in balance with the installed lift capacity.


Deer Park
Deer Park Express
Vance Creek
Summit Elevation
1889.7
Vance Creek Express
Yellow Chair
Mid Tee Bar
Town Chair
Village
Village
Silver
Silver Queen
Silver Woods
Vance Creek
1782.6
1760.3
1612.3
1587.9

Summit / Attridge

This pod is bounded by the summit ridge on the east, the village to the south, the edge of skiable terrain to the west, and the summit to the north. It is generally intermediate to advanced with a south aspect. There is a pronounced bowl (Christmas Bowl) dividing the moderately steep summit ridge from the secondary summit of Attridge on the west. Terrain on Attridge ranges from steep on the south face to intermediate on the ridge line extending down to the main access road. The lower part of Christmas Bowl flattens out to low intermediate and beginner terrain at the bottom edge of the pod.

All skiable terrain in the pod can be accessed from the summit, except for the top 20 meters of Attridge. The eastern half of the pod returns to the village. The western half finishes too low to directly access the Summit chair, and skiers must return via the Mid Tee, or exit the pod by crossing the overpass to the Silver Queen chairlift.

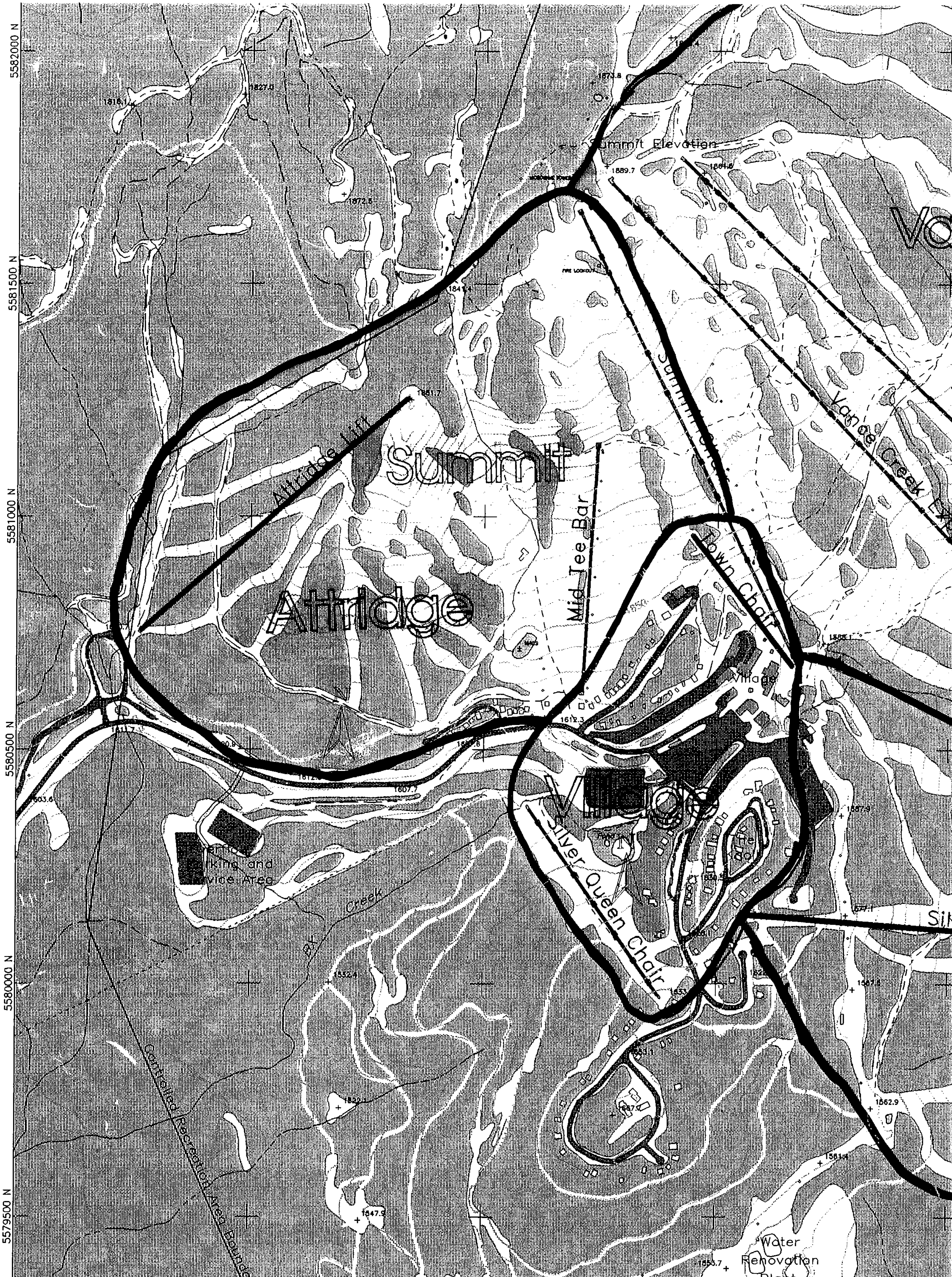
The lower terminal of the Summit chair is located at the village. The upper terminal is near the geographic summit of the mountain. The Mid Tee lower terminal is at the lowest point of the central bowl, above the main access road. The mid unload of the Mid Tee is at the break between intermediate and beginner terrain, and the top terminal is at the break between intermediate and advanced terrain.

Pod	Summit/Attridge
Total area	73 ha.
Skiable area	60 ha
Beginner	7 %
Intermediate	56 %
Advanced	37 %
Skier Capacity	1100 skiers
Summit Chair	1000 pph
	968 MVTFH
Mid Tee	743 pph
	318 MVTFH
Attridge Lift	600 pph
	372 MVTFH

The Summit Chair is a fixed grip double chair with a capacity of 1000 passengers per hour, and the Mid Tee is a tee-bar lift with a capacity of 800 passengers per hour. Both lifts have recently been rebuilt.

The intermediate and advanced terrain on Attridge is difficult to access from the existing lift system. It may be appropriate to service this terrain with a low capacity lift, matched to the 400 skier capacity of the pod.

This pod was the first to be developed on the mountain, and has 60 hectares of 73 as skiable terrain. At current Silver Star Mountain densities, it has a skier capacity of 1108 skiers.



5582000 N
5581500 N
5581000 N
5580500 N
5580000 N
5579500 N
Summit Elevation
1889.7
1873.8
1827.0
1872.8
1841.4
1851.7
Summit
Attridge
Attridge Lift
Mid Tee Bar
Summit Chair
Town Chair
Vance Creek Exp
Village
Silver Queen Chair
1612.3
1611.7
1607.7
Creek
1552.4
1547.9
1562.9
Controlled Recreation Area Bounda
Water
Renovation

Village

The Village pod consists of terrain immediately surrounding the base area and village. It is generally beginner and novice terrain, accessed by the Town Tee and Silver Queen Quad. The two lifts in this pod also serve as circulation lifts, with the Town Tee lifting skiers high enough to access the Silver Queen, and the Silver Queen lifting high enough to return to the village. There are two overpasses crossing roadways. This is the main portal into the ski terrain, and can directly access the Summit, Vance Creek and Silver Woods pods.

The Silver Queen lift lower terminal is in the bottom of the BX Creek, and is accessible from the west end of the village. The upper terminal is at a secondary summit of the Knoll. The Town Tee lower terminal is above the main village square and the upper terminal is below the access point to the Mid Tee and Silver Queen lifts.

In order to improve the village circulation, the Town Tee should be replaced with a lift beginning near the bottom of the Summit Chair, and ending 20 meters higher. One additional overpass is required to allow skiers to return to the village.

Pod	Village
Total area	320ha.
Skiable area	12ha
Beginner	95%
Intermediate	5%
Advanced	0%
Skier Capacity	700 skiers
Existing Lifts	
Silver Queen	1200 pph
Chair	293 MVTFH
Town Tee	850 pph
	129 MVTFH
Proposed Lifts	
Town Chair	1800 pph
	432 MVTFH
Silver Queen	1800 pph
(upgraded)	439 MVTFH

Putnam Creek

The Putnam Creek pod is located one kilometer to the north east of the Vance Creek pod and is bounded by Putnam Creek to the north, the limit of skiable terrain to the east, the flat terrain of the Vance Creek east ridge to the south, and the height of land to the west. It is accessed from the top of the mountain, and exits from the top of the lift across the Vance Creek pod to the village.

The terrain is generally intermediate and advanced with a north to north-east aspect. It is dominated by three major ridges and the creeks between them. The east ridge (Gypsy Queen) is intermediate. Terrain to the east flattens out to beginner grades on the far east ridge (Aunt Gladys). The central ridge is advanced terrain (Caliper Ridge). The west ridge (Sunny Ridge) is intermediate, and terrain to the west of it is generally advanced, becoming steeper to the very steep bowl at the head of Putnam Creek. The deep intervening creeks are generally expert terrain, and there is skiable expert terrain from the ridges down to the creeks.

Pod	Putnam Creek
Total area	375 ha.
Skiable area	190 ha
Beginner	12%
Intermediate	28 %
Advanced	60 %
Skier Capacity	2340 skiers
Existing Lifts	
Putnam Creek	1500 pph
Express	3,099 MVTFH
Proposed Lifts	
Putnam Creek	2400 pph
Exp. (upgrade)	4,958 MVTFH
Holy Smokes	1800 pph
Chair	2,578 MVTFH

The lower terminal of the lift is located at the convergence of the three ridges, and is at the lowest point accessible from the western bowl. The upper terminal is at the first point of direct access to the village. Additionally, a mid unload station allows skiers to access the skiable terrain within the pod.

Currently, 100 hectares of 375 in the pod are developed. There are 90 hectares of additional skiable terrain to be developed. At currently accepted densities for intermediate and advanced terrain, the current runs have a capacity of 1900 skiers, and the projected runs have a capacity of 2400 skiers.