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**INVENTORY AND OVERVIEW OF RESOURCES
FOR THE REGIONAL DISTRICTS OF
NORTH OKANAGAN
CENTRAL OKANAGAN
OKANAGAN-SIMILKAMEEN**

Prepared by P. S. Ross & Partners
1979

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August 31, 1979

Regional District of North Okanagan
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Regional District of Central Okanagan
540 Groves Avenue, Kelowna, B.C.

Regional District of Okanagan-Similkameen
1101 Main Street, Penticton, B.C.



Gentlemen:

We are pleased to submit our final report with respect to the economic overview and inventory of resources of the Okanagan area. This work has been carried out in accord with the terms of reference provided, except that professional standards required substantial amounts of primary research in addition to the secondary research originally envisioned.

During the course of the study we have been in frequent contact with representatives of the Steering Committee, drawn from each of the regional districts involved. We appreciate the guidance and cooperation which we have received from them, as well as from the large number of other individuals contacted during the course of our research.

We are happy to have had this opportunity to be of assistance and trust that the study results will help to further economic development in the Okanagan.

Yours very truly,

P. S. ROSS & PARTNERS

D. E. Park
Partner-in-Charge

DEP/sm

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PREFACE

This report is intended as a working document upon which further economic development planning in the Okanagan may be based. We must stress that this study was not intended to produce a finished document for wide distribution. It was intended to provide the regional districts of the Okanagan and others directly concerned with a reasonably up-to-date compendium of information to facilitate economic development activity. By agreement with the Steering Committee, the amount of cartography and numbers of drawn exhibits have been minimized while data content has been accentuated. Additional data not included in the report due to its voluminous nature is being provided to the regional districts under separate cover.

While the terms of reference for this study did not envision appreciable primary research, the lack of secondary sources of information for some economic sectors required that we undertake substantial amounts of primary research. In the case of other sectors, further primary research should be undertaken to provide the required perspectives. In particular, the secondary manufacturing and trade and services chapters reflect the lack of data concerning these economic sectors. The coverage of other sectors is uneven, reflecting the variability of information available from secondary sources.

This work was undertaken under the direction of a Steering Committee comprising representatives of each of the three regional districts directly concerned. As a part of the study process, numerous meetings were held involving thorough discussion chapter-by-chapter of the report contents and transfer of softer data and intelligence acquired by the consultant.

The terms of reference for this study envision subsequent steps involving the identification of development opportunities and definition of their requirements and impacts.

Industrial Development Subsidiary Agreement

ACKNOWLEDGEMENT

THIS STUDY WAS FUNDED BY A GRANT FROM THE RESEARCH PROGRAM OF THE CANADA-BRITISH COLUMBIA INDUSTRIAL DEVELOPMENT SUBSIDIARY AGREEMENT. THE AGREEMENT, WHICH PROVIDES A VARIETY OF PROGRAMS FOR INDUSTRIAL DEVELOPMENT, IS COST SHARED EQUALLY BY THE GOVERNMENTS OF CANADA AND BRITISH COLUMBIA THROUGH THE DEPARTMENT OF REGIONAL ECONOMIC EXPANSION AND THE MINISTRY OF ECONOMIC DEVELOPMENT RESPECTIVELY. PROGRAMS UNDER THE AGREEMENT ARE ADMINISTERED BY THE MINISTRY OF ECONOMIC DEVELOPMENT AND MANAGED BY A JOINT FEDERAL/PROVINCIAL COMMITTEE.

THE RESPONSIBILITY FOR THE CONTENT OF THIS REPORT IS THE CONSULTANT'S ALONE, AND THE CONCLUSIONS REACHED HEREIN DO NOT NECESSARILY REFLECT THE OPINIONS OF THOSE WHO ASSISTED DURING THE COURSE OF THIS INVESTIGATION OR THE FEDERAL AND PROVINCIAL GOVERNMENTS WHICH FUNDED THE STUDY.



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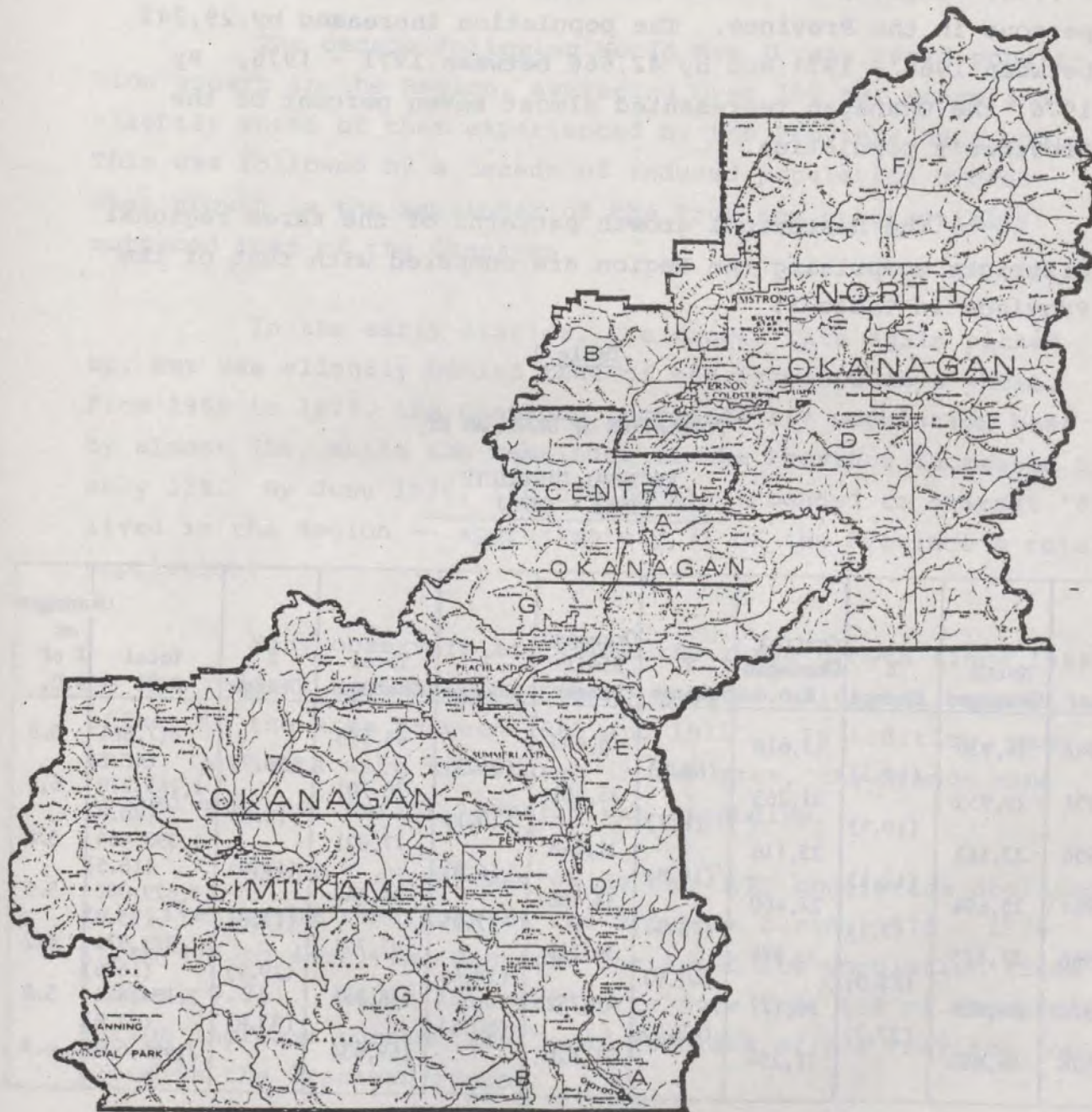
HUMAN RESOURCES

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POPULATION DISTRIBUTION AND GROWTH

MAP 1



scale: 1" = 20 miles

1) POPULATION DISTRIBUTION AND GROWTH

1.1) Population Growth - Okanagan Region

The population of the Okanagan Region¹ in 1966 was 97,721, slightly more than five percent of the total number of persons in the Province. The population increased by 29,247 between 1966 - 1971 and by 42,666 between 1971 - 1976. By 1976, the Okanagan represented almost seven percent of the Province's population.

The historical growth patterns of the three regional districts comprising the Region are compared with that of the Province in Table 1.

Table 1

POPULATION OF OKANAGAN BY
1
REGIONAL DISTRICTS
(1941 - 1976)

Year	North Okanagan	% Change	Central Okanagan R.D.	% Change	Okanagan Similkameen	% Change	Total Okanagan	% Change	Total B.C.	Okanagan as % of B.C.
1941	14,930		12,610		18,453		45,993		817,861	5.6
		(40.3)		(68.6)		(54.3)		(53.7)	(42.5)	
1951	20,955	(10.5)	21,265	(8.7)	28,481	(10.1)	70,701	(9.8)	1,165,210	6.1
		(10.5)		(8.7)		(10.1)		(9.8)	(20.0)	
1956	23,163	(12.1)	23,110	(18.8)	31,348	(6.8)	77,621	(11.6)	1,398,464	5.6
		(12.1)		(18.8)		(6.8)		(11.6)	(16.5)	
1961	25,694	(7.7)	27,460	(23.6)	33,486	(7.9)	86,640	(12.8)	1,629,082	5.3
		(7.7)		(23.6)		(7.9)		(12.8)	(15.0)	
1966	27,673	(23.0)	33,929	(47.9)	36,119	(18.4)	97,721	(29.9)	1,873,674	5.2
		(23.0)		(47.9)		(18.4)		(29.9)	(16.6)	
1971	34,039	(37.7)	50,177	(42.0)	42,752	(20.5)	126,968	(33.6)	2,184,621	5.8
		(37.7)		(42.0)		(20.5)		(33.6)	(12.9)	
1976	46,860		71,254		51,520		169,634		2,466,608	6.9

Source: Historical Series Cat. No. 92-702 Statistics Canada

Note 1: Includes Indian population on reserves

1. Defined as the three regional districts of Okanagan-Similkameen, Central Okanagan and North Okanagan (see Map 1).

The decade following World War II saw rapid population growth in the Region, averaging over 10% per annum and slightly ahead of that experienced by the Province as a whole. This was followed by a decade of reduced population growth when growth in the remainder of the Province substantially outpaced that of the Okanagan.

In the early sixties, the growth rate again picked up, but was slightly behind that of the Province as a whole. From 1966 to 1977, the Okanagan increased its population base by almost 75%, while the remainder of the Province increased by only 32%. By June 1976, 170,000 people (rounded to nearest '000) lived in the Region — approximately 7% of the Province's total population.

Many observers attribute the rapid growth since 1966 to the Federal Regional Incentives Program which had been in effect in the area between 1965 and 1971 . In addition, many ARDA projects were undertaken in the area, the Brenda Mine opened and the tourist industry was expanding.

Table 2 shows that while the GVRD population declined relative to the remainder of the Province during 1971 - 1976 (from 47% to 44%), the Okanagan increased its population (from 5.8% to 6.9%). It is interesting to note that 15% of the population increase outside the lower mainland of the Province took place in the Okanagan region.

Table 2

COMPARISON OF GROWTH RATES IN
GVRD, THE OKANAGAN AND B.C.
(1941 - 1976)

	1941	1951	1956	1961	1966	1971	1976
B.C. Population	817,861	1,165,210	1,398,464	1,629,082	1,873,674	2,184,621	2,466,608
G.V.R.D. %	393,893 (48.1)	562,462 (48.3)	665,564 (47.5)	790,741 (48.5)	892,853 (47.6)	1,028,334 (47.1)	1,085,242 (44.0)
Okanagan %	45,993 (5.6)	70,701 (6.1)	77,621 (5.6)	86,640 (5.3)	97,721 (5.2)	126,968 (5.8)	169,634 (6.9)

Source: Statistics Canada

1.2) Population Growth - The Regional Districts

Growth has by no means been equally distributed between the three regional districts, but has tended to fluctuate widely in response to a myriad of economic and social factors over the past thirty-five year period. Table 3 captures the relative regional growth patterns since 1941.

Table 3

REGIONAL DISTRICT POPULATION AS A
PERCENTAGE OF TOTAL OKANAGAN
(1941 - 1976)

Year	North Okanagan	Central Okanagan	Okanagan Similkameen
1941	32.5%	27.4%	40.1%
1951	29.6%	30.1%	40.3%
1956	29.8%	29.8%	40.4%
1961	29.6%	31.7%	38.6%
1966	28.3%	34.7%	37.0%
1971	26.8%	39.5%	33.7%
1976	27.6%	42.0%	30.4%

Source: Statistics Canada

At 1956, the Okanagan Similkameen region had the highest proportion of population (40.4%) with the North Okanagan and Central Okanagan each accounting for 29.8%. By 1971, the Central Okanagan had surpassed (for the first time) the Okanagan Similkameen, both in absolute terms (50,177 to 42,752) and proportionally (39.5% to 33.7%). These growth trends continued until by 1976, the relative proportions were the reverse of the 1956 situation, with Central Okanagan retaining 42.0% of total population to the Okanagan Similkameen's 30.4% and North Okanagan's 27.6%.

1.3) Population Growth - The Major Urban Centres

Over the 1971 - 1976 period, the major urban centres in each of the three regional districts (Vernon, Kelowna and Penticton) experienced growth rates significantly lower than the other largely rural areas. Reasons for this may include factors such as relatively cheaper residential land, lower property taxes and lifestyle preferences for rural living. In particular, the rural area surrounding the Vernon urban area (largely Coldstream, Spallumcheen and subdivision B) experienced a very rapid rate of growth. Spallumcheen District had a growth rate of 67.8% between 1971 and 1976.

In the Central Okanagan there was a strong tendency for population to locate outside the expanded city boundaries. All other subdivision areas showed growth at least twice that of the Kelowna city area. For example, the unorganized areas of Westside and Westbank experienced phenomenal growth of almost 140% over the period 1971 to 1976.

In the Okanagan-Similkameen, the rural areas including Naramata, Summerland and especially Okanagan Falls experienced more rapid growth than the urban areas of Penticton and Summerland. In the south, the rural areas around Oliver and Osoyoos experienced the highest rate of growth in the region. The expanded Village of Osoyoos experienced fairly rapid population growth mainly due to a large number of retired people choosing to locate in the area.

2) COMPONENTS OF POPULATION CHANGE

The most important factor inducing people to migrate to a region is greater economic opportunity. In the Okanagan, the expanding economic base of the region, together with increased job creation, has been an important migration inducement over the past decade. In addition, the hospitable climate and the high level of winter and summer recreational amenities in an appealing valley setting leads to a particular lifestyle not to be found in other areas of the Province. In the past, these lifestyle characteristics attracted many retirees to the region, but recently many young people have moved to the Okanagan for similar lifestyle preferences, often without the assurance of employment.

In short, in-migration has played and is expected to play a significant role in the continued growth of the Okanagan.

Table 4 documents the regional and sub-regional components of growth for the 25 year period 1951 - 1976, i.e., natural increase (N.I.) and net migration (N.M.).

Table 4

Population Change: Natural Increase (NI)
and Net Migration (NM), Okanagan Region
(1951-1976)

Period	Sub-division 3A			Sub-division 3B			Okanagan Region			British Columbia		
	Pop.	%NI	%NM	Pop.	%NI	%NM	Pop.	%NI	%NM	Pop.	%NI	%NM
1951-1956	4,871	64	36	1,960	116	(12)	6,831	78	22	233,300	44	56
1956-1961	7,376	50	50	1,720	105	(4)	9,096	61	39	230,600	55	45
1961-1966	9,494	28	72	1,851	71	29	11,345	35	65	244,600	41	59
1966-1971	23,814	9	91	4,906	15	85	28,720	10	90	310,900	28	72
	North Okanagan		Central Okanagan		Okanagan Similkameen							
	Pop.	%NI	%NM	Pop.	%NI	%NM	Pop.	%NI	%NM			
1971-1976	12,821	11	89	21,077	8	92	8,768	6	94	42,666	9	91

1. Estimated. Census division boundaries changed beginning in 1971.
2. New Census Division boundaries. Note that data for the Okanagan Region as a whole is comparable for both boundary designations.

Source: Okanagan Basin Study Update, September 1978.

During the 1956 - 1961 period, the share of regional population growth attributable to net migration was 39% compared to 45% for the Province as a whole. Over the ten year period from 1966 to 1976, it grew to over 90% compared to approximately 70% for B.C. From 1966 to 1971 net migration to the region was 25,843 persons. During the 1971 - 1976 period, it increased to 39,021 - over 91% of the 42,666 total population increase experienced by the region.

Tables 5 and 6 show the "migration status" of the Okanagan population over the periods 1966 - 1971 and 1971 - 1976, together with the origin of migrants to the Okanagan region over the two time periods.¹ In addition, the tables show the number and relative percentages of migrants moving to the Okanagan from other areas of British Columbia from other provinces of Canada and from outside Canada.

Table 5

Population Five Years and Over, by Migration
Status, Okanagan Region, 1976

Area	Population 5 years and over	Non				Origin of Migrants							
		Migrants		Migrants		British Columbia		Other Canada		Outside Canada		Not Stated	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
North Okanagan	43,315	24,210	56	19,105	44	12,990	68	4,460	23	1,135	6	520	3
Central Okanagan	66,675	36,920	55	29,755	45	15,120	51	11,920	40	1,830	6	885	3
Okanagan Similk- ameen	48,500	29,140	60	19,360	40	12,585	65	4,970	26	1,275	7	535	3
Okanagan Region	158,490	90,270	57	68,220	43	40,695	60	21,350	31	4,240	6	1,940	3

Source: Okanagan Basin Study Update, September 1978.

1. The "migration status" referred to here should not be confused with "net migration" discussed earlier. Net migration is defined as the number of people moving into the geographical area defined by the three Okanagan census divisions less the number moving out over some particular time period. The data on migration status by definition includes intermunicipal moves and would therefore classify, for example, a person moving from Kelowna to Penticton as a migrant.

Table 6

Population Five Years and Over, by Migration
Status, Okanagan Region, 1971

Area	Population 5 years and over	Non Migrants		Migrants		Origin of Migrants							
						British Columbia		Other Canada		Outside Canada		Not Stated	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
North Okanagan	31,495	18,880	60	12,615	40	7,070	56	3,990	32	845	7	710	5
Central Okanagan	46,310	24,030	52	22,275	48	9,315	42	10,330	46	1,530	7	1,100	5
Okanagan Similk-ameen	40,070	24,715	62	15,360	38	8,090	53	4,900	32	1,550	10	820	5
Okanagan Region	117,875	67,625	57	50,250	43	24,475	49	19,220	38	3,925	8	2,630	5

1. In the 1971 Census a person's "migration status" was determined by the response to a question relating to place of residence five years earlier, that is June 1, 1966. If the place of residence five years ago was outside the municipality of present residence, the person was classified as a migrant.

Source: Okanagan Basin Study Update, September, 1978.

The overall rate of migration for the Okanagan region over the two periods was about the same (43%).

Over both periods, the data show that the majority of migrants to the region came from other areas of British Columbia. This tendency was significantly stronger during the later period, when 60% of migrants came from other areas of B.C. and 31% from other provinces. For the earlier period, the comparable shares were 49% and 38%. The most recent 1971 to 1976 period was therefore characterized by a marked increase in the absolute number of migrants from other areas of British Columbia. They increased to 40,695 from 24,475 during the earlier 1966-1971 period - an increase of 66%. For these same periods, migrants from other provinces increased from 19,220 to 21,350 - or by only 11%. The great majority of the migrants from other provinces are thought to come from the Prairies, particularly Alberta and Saskatchewan, whereas those from other B.C. areas are thought largely to come from the Lower Mainland.

Table 7 breaks out the data in Table 6 by age group and gives some indication of why migrants move to the Okanagan.

Table 7

Population Five Years and Over, by Migration
Status and Age Group, Okanagan Region, 1976

	Population 5 years and over	Non				Origin of Migrants							
		Migrants		Migrants		British Columbia		Other Canada		Outside Canada		Not Stated	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
North													
Okanagan	43,315	24,210	56	19,105	44	12,990	68	4,460	23	1,135	6	520	3
0-19	13,530	7,255	54	6,275	46	4,415	70	1,400	22	375	6	85	1
20-34	10,565	4,370	41	6,195	59	4,260	69	1,300	21	440	7	185	3
35-64	14,325	8,840	62	5,485	38	3,640	66	1,450	26	255	5	140	3
65 plus	4,890	3,740	76	1,150	24	680	59	300	26	60	5	105	9
Central													
Okanagan	66,675	36,920	55	29,755	45	15,120	51	11,920	40	1,830	6	885	3
0-19	19,540	10,595	54	8,945	46	4,605	51	3,665	41	480	5	200	2
20-34	15,420	6,575	43	8,845	57	4,855	55	2,995	34	695	8	285	3
35-64	22,825	13,420	59	9,405	41	4,520	48	4,130	44	520	6	235	2
65 plus	8,895	6,330	71	2,565	29	1,145	45	1,120	44	135	5	170	7
Okanagan Similk- ameen	48,500	29,140	60	19,360	40	12,585	65	4,970	26	1,275	7	585	3
0-19	13,080	7,720	59	5,360	41	3,615	67	1,320	25	305	6	125	2
20-34	10,065	4,365	43	5,700	57	3,670	64	1,405	25	495	9	135	2
35-64	17,625	11,320	64	6,305	36	4,105	65	1,670	26	390	6	125	2
65 plus	7,715	5,730	74	1,985	26	1,200	60	570	29	80	4	140	7
Okanagan Region	158,490	90,270	57	68,220	43	40,695	60	21,350	31	4,240	6	1,940	3
0-19	46,150	25,570	55	20,580	45	12,635	61	6,385	31	1,160	6	410	2
20-34	36,050	15,310	42	20,740	58	12,785	62	5,700	27	1,630	8	605	3
35-64	54,775	33,580	61	21,195	39	12,265	58	7,250	34	1,165	5	500	2
65 plus	21,500	15,800	73	5,700	27	3,025	53	1,990	35	275	5	415	7

Source: Okanagan Basin Study Update, September, 1978.

The data clearly indicate that for the Okanagan region as a whole, over the period of 1971-1976 there was a higher relative rate of net migration in the 20-34 age group and a lower relative

rate in the 35-64 group and especially the 65 and over retired age groups. This trend was particularly evident in the North Okanagan sub-region. Also, there was a marked difference in the age group patterns of migrants depending on whether they were from other areas of B.C. or from other provinces. Over the period from 1971 to 1976, migrants from other provinces tended much more to be in the older 35-64 and 65 and over age groups, whereas those from other areas of B.C. tended to be in the younger 0-19 and especially the 20-34 age groups. This would indicate that the region continues to be highly regarded by persons from other provinces (i.e. the Prairies) as a retirement area. Migrants to the region from other areas of B.C. tended more to be young adults.

An interesting observation of the data in these two tables is that over both periods, migrants from other provinces exhibited a stronger preference to locate in the Central Okanagan region. For the most recent period, 56% of these migrants chose to locate in the Central Okanagan compared to 37% for the other B.C. migrants. However, on a sub-regional basis, migrants in the later period showed marginally less preference to locate in the Central Okanagan (45% vs 48%) and a subsequent increase in the relative share locating in the north and south, particularly the North Okanagan (44% vs 40%).

3) COMPOSITION OF THE POPULATION

In 1971, an important characteristic of the Region's population was the high proportion of persons in the older (55+) age groups. and the relatively low proportion in the 15-34 age groups - the former reflecting the Okanagan's popularity as a retirement centre and the latter the limited employment opportunities in the region which contributed to a net overflow of people to other areas. The characteristics of the regional population altered over the 1971 - 1976 period. Table 8 illustrates the changes which took place in the age group composition.¹

Table 8

CHANGES IN AGE GROUP COMPOSITION
(1971 - 1976)

AGE GROUP	OKANAGAN REGION				BRITISH COLUMBIA			
	1971		1976		1971		1976	
0 - 19	46,950	37.0	57,200	33.7	811,090	37.1	833,010	33.8
20 - 34	22,230	17.5	36,075	21.2	478,220	21.9	617,210	25.0
35 - 54	28,500	22.4	36,675	21.6	499,085	22.8	774,325	22.2
55 - 64	13,255	10.4	18,155	10.7	191,215	8.8	225,775	9.2
65 plus	16,025	12.6	21,505	12.7	205,010	9.4	242,055	9.8
Total	126,960		169,610		2,184,620			

Source: Statistics Canada: Population bulletins 1971, 1976

There was little relative change in the 55+ age group between the two census periods, although in absolute terms there was a net increase of 8,580 persons.

In contrast, the young adult 20-34 age group showed a sharp relative increase, from 17.5% in 1971 to 21.2% in 1976 - or an increase of 13,845 in absolute terms.

1. See Appendix A for more details on the age composition of the regional district.

As shown in Table 9, each regional district experienced a significant increase in the relative share of persons in the 20-34 age group. Whereas the North Okanagan most dramatically reflects the above mentioned trends, the Central Okanagan follows more closely the provincial trends. The Okanagan Similkameen was the only region to show any increase in the relative share of persons in the older age groups, demonstrating the area's continued attraction for people of retirement age.

Table 9

POPULATION AGE GROUP DISTRIBUTION
THE THREE REGIONAL DISTRICTS
(1971 - 1976)

AGE GROUPS	NORTH OKANAGAN				CENTRAL OKANAGAN				OKANAGAN SIMILKAMEEN			
	1971		1976		1971		1976		1971		1976	
0-19	13,140	38.6	17,010	36.3	19,030	37.9	24,120	33.9	14,780	34.6	16,070	31.2
20-34	6,015	17.7	10,595	22.6	9,210	18.4	15,395	21.6	7,005	16.4	10,085	19.6
35-54	7,580	22.2	10,010	21.4	10,950	21.8	22,830	21.6	9,970	23.3	11,290	21.9
55-64	3,325	9.8	4,360	9.3	4,915	9.8	7,455	10.5	5,015	11.7	6,340	12.3
65 plus	3,975	11.7	4,885	10.4	6,075	12.1	8,900	12.5	5,975	14.0	7,720	15.0
Total	34,035		46,860		50,180		78,700		42,745		51,505	

Source: Statistics Canada: Population bulletins, 1971 and 1976.

Analysis of the family age structures of the regional districts reflects the age composition of the populations.

For example, of the 57,155 households in the Okanagan in 1976, 41% (23,185) have household heads 55+. The Okanagan Similkameen, with its high retirement population, has 46% of its household heads 55+ compared with 39% for the Central Okanagan and 36% for the North Okanagan. Nevertheless, the Central Okanagan has more 55+ households (9,405) compared to 8,350 in Okanagan Similkameen and 5,430 in North Okanagan.

The Okanagan Similkameen has the lowest persons per family (3.1) and the lowest average persons per household (2.8). Again, there are relatively more widowed households (12.3%) in the Okanagan-Similkameen compared to 9.9% in the Central Okanagan and 10.0% in the North Okanagan and more one person households (19% compared to 15% and 16%).

Finally, 8.2% of all families in the Okanagan were single parent families - 42% of these were located in the Central Okanagan regional district.

4) GEOGRAPHIC DISTRIBUTION

A strong trend towards rural living took place in the Okanagan between 1971 - 1976, reversing the historical trend to urban living but following the national and provincial pattern.¹

The urban-rural split of 64/36 in 1971 altered to a 59/41 split by 1976. While the urban to rural movement was evident in each of the three regional districts, it was most pronounced in the Central Okanagan and least evident in the Okanagan-Similkameen.

Table 10
GEOGRAPHIC DISTRIBUTION OF POPULATION
URBAN AND RURAL SPLIT

(1971 - 1976)

Year	North Okanagan		Central Okanagan		Okanagan Similkameen		Total Okanagan		Total Pop.
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	
1971	17,825 (52.5)	16,215 (47.5)	36,555 (72.8)	13,620 (27.2)	26,825 (62.7)	15,930 (37.3)	81,205 (64.0)	45,765 (36.0)	126,970
1976	22,380 (47.8)	24,485 (52.2)	45,760 (64.2)	25,490 (35.8)	31,635 (61.4)	19,885 (38.6)	99,775 (58.8)	69,860 (41.2)	169,635

Source: Statistics Canada: Cat. 92-807.

1. "Urban" in this context includes the population of areas having a concentration of 1,000 or more and a population density of at least 1,000 per square mile.

As shown in Table 10, approximately 100,000 people - 59% of the total Okanagan population - lived in "urban" areas compared with 70,000 "non-urban" in 1976.

Table 11 below shows the geographic distribution of this urban population by both urban size and regional district.

Table 11
URBAN POPULATION BY URBAN SIZE GROUPS
(1976)

Size Group	North Okanagan	Central Okanagan	Okanagan Similkameen	Total Okanagan %
1,000- 2,499	3,740 (16.7)	4,040 (8.9)	3,740 (12.8)	11,520 (11.5)
2,500- 4,999	-	-	6,545 (20.7)	6,545 (6.6)
5,000- 9,999	-	-	-	-
10,000- 29,999	18,635 (83.3)	-	21,345 (67.5)	39,980 (40.1)
30,000- 99,999	-	41,725 (91.1)	-	41,725 (41.8)
100,000-499,999	-	-	-	-
500,000 +	-	-	-	-
Total	22,380 (22.4)	45,760 (100.0) (45.9)	31,635 (100.0) (31.7)	99,775 100%

Source: Statistics Canada, Cat. 92-807 (Bulletin 1.8)

The Central Okanagan was the most highly urbanized of the three regional districts with 91% of its urban population living in centres between 30,000 and 99,999, while the Okanagan-Similkameen was the most dispersed in terms of urban settlements. Overall, 81.9% of the urban population of the Okanagan lived in urban centres of between 10,000 and 99,999 in size.

There were 70,000 (rounded) persons living in "non-urban" areas of the Okanagan in 1976 (41% of the total Okanagan population), compared with 46,000 (rounded) persons in 1971 (36%).

Table 12 below shows that only 13% of the rural population lived on farms of more than 1 acre in area. While the Central Okanagan recorded the highest rural population, the Okanagan-Similkameen had the highest number of farm occupants.

Table 12

RURAL NON FARM AND RURAL FARM

(1976)

North Okanagan		Central Okanagan		Okanagan Similkameen		Total Okanagan		
Non-farm	Farm	Non-farm	Farm	Non-farm	Farm	Non-farm	Farm	Total
21,885	2,600	22,890	2,605	15,910	3,980	60,685 (86.8)	9,185 (13.2)	69,870 (100.0)

Source: Statistics Canada Cat.92-807 (Bulletin 1.8)

Table 13

PERCENTAGE OF POPULATION IN RURAL AREAS

(1971 - 1976)

	North Okanagan	Central Okanagan	Okanagan Similkameen
1971	47.6	27.1	37.2
1976	52.3	35.8	38.5
% change	+4.7	+8.7	+1.3

These statistics indicate an increasing rural population in spite of (or possibly, because of) agricultural land preservation legislation enacted in late 1972. There are indications that farms are declining in size, while the number of farmers are increasing, suggesting a move towards small part-time or hobby farm operations. This may have been caused in part by restrictions on subdivision of rural residential lots, which has led to the sale of the individual parcels that comprise farm units for part-time farming or residential use. This may explain, along with provincial farm assistance and income assurance schemes, the increasing rural and farm populations in the Okanagan, a trend which is occurring only in British Columbia.

5) POPULATION PROJECTIONS

No overall population projections are available for the Okanagan region, as geographically defined for this report. However, discrete projections are available for each of the three regional districts. These projections vary in the methodologies used, but they have the distinct advantage of being the product of local planners - individuals who are monitoring continuously the patterns of growth taking place within the region.

The individual projections are displayed in Table 14 and the summation of these projections are the projected population estimates for the Okanagan region. These projections are then compared with estimates for British Columbia prepared by Statistics Canada.

Table 14
PROJECTED POPULATION OF OKANAGAN
BY REGIONAL DISTRICTS ⁽¹⁾
(1976-1986)

	Year	North Okanagan	Central Okanagan	Okanagan Similkameen	Total Okanagan	Total ⁽²⁾ B.C.	Okanagan as % of B.C.
Actual	1966	27,451	33,854	35,707	97,012	1,873,674	5.2
	1971	34,039	50,177	42,752	126,968	2,184,621	5.8
	1976	46,860	71,254	51,520	169,634	2,466,608	6.9
Projected	1981	55,141- 57,012	88,400	59,000	202,541- 204,412	2,649,700	7.6- 7.7
	1986	61,179- 69,364	105,200	67,250	233,629- 241,814	2,867,900	8.1- 8.4

Source: (1) Regional District projections

(2) Statistics Canada, Catalogue (91-520) projection 3.

Over the 1976-81 period, the Okanagan Region is anticipated to grow at an annual average rate of between 3.9% and 4.1%. This rate of growth is below the 6.7% per annum experienced between 1971-1976. Nevertheless,

it is substantially higher than the 1.5% per annum provincial growth rate projected over the same period.

Between 1981 - 1986, the annual growth rate will again slow to between 3.0% and 3.8% although again substantially higher than the projected provincial rate of 1.65%. The Okanagan will continue to take a higher proportion of the provincial population over the 1976-1986 period. The region accounted for 6.9% of the province's population in 1976; this is anticipated to increase to between 8.1% and 8.4% by 1986.

The sub-regional annual growth rates to 1986 are portrayed in Tables 15 and 16.

Table 15

PROJECTED POPULATION OF OKANAGAN BY MAJOR SUB-REGIONS

(1976 - 1986)

Subregion	Census			Projections	
	1966	1971	1976	1981	1986
<u>North Okanagan *</u>					
Vernon (inc. Coldstream, Electoral areas A,B,C.)	18,487	23,693	32,471	38,337 - 40,465	42,535- 49,231
<u>Central Okanagan</u>					
Kelowna (inc. Electoral areas A,G,I)	32,009	46,421	62,826	77,200	91,100
Peachland (inc. Elec. area H)	1,845	3,756	8,248	11,200	14,100
<u>Okanagan-Similkameen</u>					
Penticton (inc. Elec. areas D,E & part F)	18,269	21,950	26,897	32,200	38,500
Summerland (inc. part Elec. area F)	N/A	N/A	6,828	7,500	8,200
Oliver (inc. Elec. area C)	N/A	N/A	5,787	6,800	7,300
Osoyoos (inc. Elec. area A)	N/A	N/A	4,155	4,800	5,600
Keremeos (inc. Elec. areas B & G)	N/A	N/A	3,216	3,750	4,200
Princeton (inc. Elec. area H)	3,044	3,613	4,637	4,900	5,200

Source: Regional District Planning Departments

* No projections available for the other sub-regions of North Okanagan R.D.

Of the major sub-regions (i.e., populations 25,000+ at 1976), Kelowna is predicted to have the highest annual rate of growth to 1981 with Vernon and Penticton not far behind.

The 1981-86 rate of growth is predicted to slow in all major subregions relative to the 1976-81 rate but nevertheless will remain at levels higher than most other urban centres of comparable size in the province.

Table 16

PROJECTED POPULATION GROWTH RATES FOR

OKANAGAN BY MAJOR SUB-REGIONS

(1976-1986)

<u>Sub-region</u>	<u>Annual Average % Rate of Growth</u>	
	<u>1976-81</u>	<u>1981-86</u>
<u>North Okanagan *</u>		
Vernon (inc. Coldstream, Electoral areas A,B,C)	3.31-4.50	2.10-4.00
<u>Central Okanagan</u>		
Kelowna (inc. Elec. areas A,G,I)	4.57	3.60
Peachland (inc. Elec. area H)	7.15	5.17
<u>Okanagan-Similkameen</u>		
Penticton (inc. Elec. areas D,E & part F)	3.94	3.91
Summerland (inc. part Elec. F)	1.96	1.86
Oliver (inc. Elec. area C)	3.57	1.47
Osoyoos (inc. Elec. area A)	3.10	3.33
Keremeos (inc. Elec. areas B & G)	3.32	2.40
Princeton (inc. Elec. area H)	1.13	1.22

Source: Regional District Planning Departments

* No projections available for the other sub-regions of North Okanagan.

6) LABOUR FORCE CHARACTERISTICS

Labour force characteristics for the Okanagan region by Regional District for the period 1961-1976 are contained in Appendix C to this report.

The tables displayed in this sector are derived from those contained in the Appendix.

6.1) Labour Force Distribution

The employment data in Table 17 shows the economy of the Okanagan moving away from a resource dependent economy, i.e., agriculture, logging, mining and resource based manufacturing, and more to a non-resource based manufacturing and service based economy.

Table 17
Employment and Employment Share Comparison
by Major Economic Sector

Major Economic Sector	Labour Force-Okanagan Region					
	1961	%	1971	%	1976	%
Primary						
<u>Industries</u>	6,599	21.5	6,400	14.0	6,800	10.5
Agriculture	5,022	16.4	4,445	9.8	4,400	6.8
Logging	1,222	4.0	1,030	2.3	1,275	2.0
Mining	355	1.2	925	2.0	1,125	1.7
Secondary						
<u>Manufacturing</u>	4,703	15.3	6,240	13.7	8,625	13.3
Resource based	N/A	N/A	1,815	6.2	3,375	5.2
Non-resource based	N/A	N/A	3,425	7.5	5,250	8.1
Service						
<u>Industries</u>	19,405	63.2	32,925	72.3	49,250	76.1
<u>Total Industries</u>	30,707	100.0	45,565	100.0	64,675	100.0

The service industries in the region provided 63.2% of employment in 1961. This proportion increased to 76.1% by 1976 and the overall increase in employment rose by almost 30,000 over the 1961-1976 period. This large growth in service industries was primarily in response to the many new manufacturing activities that located in the region and the concomittant population growth that took place. Table 17 also indicates relative growth took place in the logging and mining activities.

Table 18 expresses data from the previous table in terms of average annual growth rates.

Table 18
Employment Growth Comparison,
by Major Economic Sector
(in percent)

Major Economic Sector	Labour Force Growth	
	1961-1971	1971-1976
Primary Industries	-0.3	1.2
Agriculture	-1.2	-0.2
Logging	-1.9	4.4
Mining	10.1	4.0
Secondary Manufacturing	2.9	6.7
Resource Based	N/A	3.7
Non-Resource Based	N/A	8.9
Service Industries	5.4	8.4
TOTAL INDUSTRIES	4.8	7.3

The labour force data shows that over the 1971-76 period, employment growth significantly exceeded that experienced over the previous decade (7.3% vs. 4.8%). It also shows that every major economic sector, with the exception of agriculture, experienced employment growth over the 1971-76 period.

The non-resource based manufacturing sector along with the service sector, maintained the fastest rate of job expansion.

Manufacturing employment, particularly in the non-resource based sector, showed the highest growth rate of all sectors and led the economy over the 1971-76 period (see Table 10). This period, the metal fabricating and transportation equipment sub-sector (mobile homes and recreation vehicles) experienced a 12.3% per annum rate of growth.

Table 19

Manufacturing Employment Growth
Comparison, by Major Industry

Major Industry	Labour Force Growth		
	1970	1976	Growth Rate
<u>Resource Based</u>			
Agricultural Products	815	775	-1.0
Sawmills & Planing Mills	1,725	2,000	3.0
Plywood	275	600	16.9
Sub-total	2,815	3,375	3.7
<u>Non-Resource Based</u>			
Metal Fab. & Transport. Equip.	950	1,700	12.3
Other Mfg.	2,475	3,550	7.5
Sub-total	3,425	5,250	8.9
TOTAL MANUFACTURING	6,240	8,625	6.7

7) INCOMES

Revenue Canada, "Taxation Statistics" is an annual publication providing data from individual tax returns, classified by size of taxable income declared, and by other characteristics.

Table 20 below describes the total declared taxable incomes for British Columbia and the Okanagan region over the period 1971-1976.

Table 20

Declared Taxable Income, All Returns,
Okanagan Region, 1971 to 1976
(in current dollars)

Year	<u>Okanagan Region</u>		<u>British Columbia</u>	
	Returns Files	Income (\$,000's)	Returns Files	Income (\$,000's)
1971	58,770	315,312	1,035,929	6,487,591
1972	64,440	382,615	1,114,603	7,683,682
1973	70,307	473,520	1,191,619	9,292,403
1974	76,569	625,719	1,263,209	11,371,787
1975	84,687	767,363	1,323,835	13,259,037
1976	93,575	936,565	1,361,228	15,327,670

Source: Revenue Canada, Taxation Statistics - Annual publication

The total declared income for residents of the Okanagan in 1976 was \$936.6 Million - 6.1% of the provincial total declared taxable incomes. However, further interpretation is hindered because (1) the definition of income for taxation purposes is both restrictive and subject to changes in the taxation laws; and (2) as incomes rise these data may not be a reliable guide to changes in the size distribution of income - particularly at the lower end of the income scale.

Table 21

Number of all returns - Okanagan
By income class (1976)

Regional District	Under \$1,000	\$1,000 to \$2,000	\$2,000 to \$3,000	\$3,000 to \$4,000	\$4,000 to \$5,000	\$5,000 to \$7,000	\$7,000 to \$10,000	\$10,000 to \$15,000	\$15,000 to \$20,000	\$20,000 and over	Total Returns
North Okanagan	1,486	2,319	2,584	2,666	2,499	4,805	5,935	7,098	5,097	3,831	38,320
Central Okanagan	1,029	1,683	2,333	1,788	2,330	2,710	3,957	4,041	3,706	3,317	26,894
Okanagan - Similkameen	1,789	1,595	2,119	1,596	2,792	4,156	4,163	4,920	3,030	2,201	28,361
Total Okanagan	4,304 (4.6)	5,597 (6.0)	7,036 (7.5)	6,050 (6.5)	7,621 (8.1)	11,671 (12.5)	14,055 (15.0)	16,059 (17.2)	11,833 (12.6)	9,349 (10.0)	93,575

Source: Revenue Canada, Taxation Statistics.

Table 22 captures the percentage distribution of incomes for the 1976 tax year for the three regional districts comprising the Okanagan:

Table 22

1976 Taxation Year
(\$,000's)

	# of Returns	Wages and Salaries	Total income	%
Central Okanagan	38,320	267,057	398,338	42.6
North Okanagan	26,894	200,498	277,556	29.6
Okanagan-Similkameen	28,361	171,313	260,671	27.8
Total	93,575	638,868	926,565	100.0

93,575 persons declared an income in 1976 in the Okanagan - 69.5% of the population aged 15+.

7.1) Pension Income in the Okanagan

Pension income data are available for Kelowna and Penticton (which in combination had 44% of the population 15+ in the Okanagan in 1976) for the period 1966 - 1976. This enables the identification of trends in the relative importance of pension incomes over time, but it should be borne in mind that municipal boundary changes over the 1966 - 1976 period will cause some distortions in the data base.

Table 23 illustrates changes in sources of income relative to those of the province over the past ten years for the two urban areas.

Over the last decade, both municipalities had a higher relative share of both pension and investment income than did the province as a whole. However, by 1976 it would appear that

pension income began to decline as a proportion of total income in both urban areas. At the same time, investment income increased marginally in 1976 in relative terms.

These statistics support the viewpoint that pension and investment income has played an important role in the economy of the region - and continues to play an important but lesser role than in the recent past. However, data from a number of sources are required before any further conclusions can be drawn.

Table 23

Declared income by source:
Penticton, Kelowna and B.C.
(-1966 - 1971 - 1976)

	(\$Millions)	%	(\$Millions)	%	(\$Millions)	%
1966						
Pension Income ¹	1.30	4.5	1.47	3.3	93.53	2.5
Investment Income ²	2.62	9.1	4.35	9.6	224.34	6.0
Other Income ³	24.80	86.4	39.45	87.1	3,435.5	91.5
Total Income	<u>28.72</u>	<u>100.0</u>	<u>45.27</u>	<u>100.0</u>	<u>3,753.3</u>	<u>100.0</u>
1971						
Pension Income	3.3	6.2	6.4	6.3	240.6	3.7
Investment Income	5.4	10.2	12.2	12.0	442.3	6.8
Other Income	44.5	83.6	83.1	81.7	5,804.7	89.5
Total Income	<u>43.2</u>	<u>100.0</u>	<u>101.7</u>	<u>100.0</u>	<u>6,487.6</u>	<u>100.0</u>
1976						
Pension Income	7.9	6.1	15.9	5.2	608.2	4.0
Investment Income	15.3	11.8	42.7	14.1	871.1	5.7
Other Income	106.3	82.1	243.8	80.7	13,847.7	90.3
Total Income	<u>129.5</u>	<u>100.0</u>	<u>302.4</u>	<u>100.0</u>	<u>15,327.0</u>	<u>100.0</u>

1. Superannuation, Old Age Pension and CPP.

2. Rental Income, Gross Dividends, Bond and Bank Interest, Annuity Income, Other Investment Income etc

3. Wages and Salaries, Commissions, Business Income, Professional Income, Farming or Fishing Income.

Source: Revenue Canada, Taxation Statistics.

APPENDIX A

THE OKANAGAN

REGIONAL BASE STATISTICS

BY

REGIONAL DISTRICTS

of

OKANAGAN-SIMILKAMEEN

CENTRAL OKANAGAN

NORTH OKANAGAN

OKANAGAN BY REGIONAL DISTRICTS

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POPULATIONTable 1POPULATION TRENDS (1941-1976)

C.D.	1941	1951	1956	1961	1966	1971	1976
Okanagan-Similkameen	18,453	28,481	31,348	33,486	36,119	42,752	51,520
Central Okanagan	12,610	21,265	23,110	27,460	33,929	50,177	71,254
North Okanagan	14,930	20,955	23,163	25,694	27,673	34,039	46,860
Total Okanagan	45,993	70,701	77,621	86,640	97,721	126,968	169,634

Table 2POPULATION BY 5 YEAR AGE GROUPS AND SEX (1971-1976)

	<u>Okanagan-Similkameen</u>		<u>Central Okanagan</u>		<u>North Okanagan</u>	
	<u>1971</u>	<u>1976</u>	<u>1971</u>	<u>1976</u>	<u>1971</u>	<u>1976</u>
Male	21,585	25,635	24,975	35,110	17,065	23,505
Female	21,165	25,885	25,200	36,145	16,970	23,355
Under 5	2,685	2,990	3,900	4,540	2,490	3,495
5 - 9	3,700	3,495	5,075	5,640	3,385	3,835
10 - 14	4,260	4,610	5,190	7,090	3,880	4,785
15 - 19	4,135	4,975	4,860	6,855	3,385	4,895
20 - 24	2,815	3,890	3,480	5,440	2,990	3,880
25 - 29	2,115	3,415	3,020	5,365	1,885	3,665
30 - 34	2,075	2,790	2,710	4,595	1,845	3,060
35 - 39	2,310	2,585	2,645	3,965	1,805	2,695
40 - 44	2,465	2,625	2,825	3,690	1,905	2,390
45 - 49	2,670	2,850	2,840	3,830	1,990	2,450
50 - 54	2,520	3,320	2,645	3,890	1,875	2,475
55 - 59	2,680	3,070	2,590	3,720	1,810	2,225
60 - 64	2,335	3,270	2,325	3,740	1,515	2,130
65 - 69	2,155	2,850	2,230	3,270	1,345	1,685
70 +	3,820	4,870	3,845	5,635	2,635	3,215

Table 3

POPULATION BY SEX, URBAN AND RURAL, (1971 and 1976)

		<u>1971</u>			<u>1976</u>		
		<u>Total</u>	<u>Urban</u>	<u>Rural</u>	<u>Total</u>	<u>Urban</u>	<u>Rural</u>
Okanagan- Similkameen	T	42,750	26,825	15,930	51,520	31,635	19,885
	M	21,585	13,200	8,380	25,640	15,420	10,215
	F	21,170	13,625	7,545	25,885	16,210	9,670
Central Okanagan	T	50,175	36,555	13,620	71,255	45,760	25,490
	M	24,975	17,875	7,095	35,110	22,125	12,985
	F	25,205	18,680	6,525	36,145	23,640	12,505
North Okanagan	T	34,040	17,825	16,215	46,860	22,380	24,485
	M	17,065	8,680	8,380	23,505	10,935	12,570
	F	16,970	9,145	7,825	23,355	11,440	11,915
Total Okanagan		126,965	81,205	45,765	169,635	99,775	69,860

Table 4

POPULATION OF INDIAN RESERVES (1971-1976)

	<u>1971</u>	<u>1976</u>
Okanagan-Similkameen	623	803
Central Okanagan	435	509
North Okanagan	703	670
Total Okanagan	1761	1982

FAMILIES

Table 5

FAMILIES BY NUMBER OF PERSONS (1971-1976)

		Two Persons	Three	Four	Five+	Total	Avg. per Family
Okanagan	1971	4,680	1,955	2,060	2,280	10,980	3.3
Similkameen	76	6,740	2,605	2,745	2,070	14,165	3.1
Central Okanagan	1971 1976	4,975 8,445	2,310 3,475	2,540 4,145	3,035 3,295	12,865 19,355	3.5 3.2
North Okanagan	1971 1976	3,130 4,750	1,525 2,385	1,600 2,780	2,150 2,270	8,410 12,185	3.5 3.3
Total Okanagan	1971 1976	12,785 19,935	5,790 8,465	6,200 9,670	7,465 7,635	32,255 45,705	

Table 6

FAMILIES BY AGE GROUPS OF CHILDREN AT HOME (1976)

	Total Families	Families with Children at Home		
		Total Families with children at home	Total Families with all child- ren at home 18 years and over	Total Families with at least one child 18 yrs or over & at least one child 17 yrs. or under
Okanagan Similkameen	14,160	8,000	1,270	1,155
Central Okanagan	19,355	11,655	1,450	1,700
North Okanagan	12,180	7,925	960	1,115
Total	45,695	27,580	3,680	3,970

Table 6 (continued)

FAMILIES WITH ALL CHILDREN AT HOME 17 YEARS AND UNDER

	Total families with children 17 years & under	Families with All Children at Home 17 Years and Under						
		Under 6 years	6 - 14 Years	15 - 17 Years	Under 6 & 6-14 Years	Under 6 & 15-17 Years	6-14 & 15-17 Years	Under 6 & 6-14 & 15-17 years
Okanagan - Similkameen	5,570	1,535	1,675	515	875	20	870	80
Central Okanagan	8,505	2,240	2,570	705	1,575	20	1,270	120
North Okanagan	5,845	1,690	1,615	455	1,065	20	875	130
Total Okanagan	19,920	5,465	5,860	1,675	3,513	60	3,015	330

Table 7

FAMILIES BY FAMILY STRUCTURE BY NUMBER
OF CHILDREN AT HOME (1976)

OKANAGAN SIMILKAMEEN

	Total Families	Lone Parent Male	Lone Parent Female	Total Lone Parent	Husband -Wife Families
Total Families	14,165	195	920	1,155	113,050
Families with 1 Child @ Home	2,875	120	460	580	2,295
2 Children @ Home	2,920	45	270	310	2,605
3 Children @ Home	1,400	20	115	140	1,260
4 Children @ Home	565	5	50	50	515
5 Or More Children @ Home	245	10	20	30	215
Ttl. Families with Children @ Home	8,000	195	920	1,110	6,885
Families With No Children @ Home	6,165	0	0	0	6,165

CENTRAL OKANAGAN

	Total Families	Lone Parent Male	Lone Parent Female	Total Lone Parent	Husband -Wife Families
Total Families	19,360	210	1,335	1,540	17,815
Families with 1 Child @ Home	3,750	115	620	740	3,010
2 Children @ Home	4,400	50	415	465	3,935
3 Children @ Home	2,250	25	185	210	2,040
4 Children @ Home	860	10	70	80	780
5 Or More Children @ Home	390	10	40	50	340
Ttl. Families with Children @ Home	11,655	210	1,335	1,540	10,115
Families With No Children @ Home	7,705	0	0	0	7,705

NORTH OKANAGAN

	Total Families	Lone Parent Male	Lone Parent Female	Total Lone Parent	Husband -Wife Families
Total Families	12,185	185	800	1,065	11,115
Families With 1 Child @ Home	2,545	90	400	490	2,055
2 Children @ Home	2,940	50	275	325	2,615
3 Children @ Home	1,495	25	145	165	1,330
4 Children @ Home	640	20	35	50	590
5 Or More Children @ Home	305	5	30	35	265
Ttl. Families with Children @ Home	7,920	185	880	1,065	6,860
Families With No Children @ Home	4,260	0	0	0	4,260

Table 8

LONE PARENT FAMILIES SHOWING
MARITAL STATUS BY SEX (1976)

OKANAGAN SIMILKAMEEN

	Total Marital Status	Married Spouse Absent	Separated	Widowed	Divorced	Single
Total	110	65	300	380	315	55
Male	195	30	60	50	50	5
Female	920	40	245	325	265	45

CENTRAL OKANAGAN

	Total Marital Status	Married Spouse Absent	Separated	Widowed	Divorced	Single
Total	1,540	65	490	435	480	75
Male	210	30	65	55	60	5
Female	1,335	40	425	380	420	75

NORTH OKANAGAN

	Total Marital Status	Married Spouse Absent	Separated	Widowed	Divorced	Single
Total	1,065	50	320	315	320	55
Male	185	15	60	50	55	10
Female	880	40	265	265	260	55

Table 9

FAMILIES BY FAMILY TYPE AND CHILDREN AT HOME
(1976)

	Total Families	Families		Male			Lone Parent			Male/Female			Husband/Wife		
		With	Without	Total	With	With -out	Total	With	With -out	Total	With	With -out	Total	With	Without
Okanagan- Similkameen	14,165	7,955	6,165	215	185	0	915	910	0	1,120	1,080	0	13,065	6,895	6,190
Central Okanagan	19,340	11,655	7,700	220	205	0	1,330	1,320	0	1,555	1,550	0	17,810	10,125	7,700
North Okanagan	12,195	7,910	4,260	190	175	0	885	885	0	1,060	1,065	0	11,110	6,855	4,245
Total Okanagan	45,700	27,520	18,125	625	565	0	3,130	3,115	0	3,735	3,695	0	41,985	23,875	18,135

HOUSEHOLDSTable 10HOUSEHOLDS BY NUMBER OF PERSONS(1971 - 1976)

		One Person	Two Persons	Three Persons	Four Persons	Five + Persons	Total Households	Avg. Per Household
Okanagan- Similkameen C.D.	1971	2,300	4,610	1,980	2,055	2,590	13,535	3.0
	1976	3,410	6,755	2,755	2,835	2,385	18,140	2.8
Central Okanagan C.D.	1971	2,150	4,825	2,335	2,610	3,370	15,290	3.2
	1976	3,700	8,455	3,685	4,265	3,715	23,825	2.9
North Okanagan C.D.	1971	1,570	3,035	1,590	1,590	2,410	10,195	3.2
	1976	2,495	4,790	2,500	2,790	2,605	15,175	3.0
Total Okanagan	1971	6,020	12,470	5,905	6,255	8,370	39,020	
	1976	9,605	20,000	8,940	9,890	8,705	57,140	

Table 11HOUSEHOLDS BY TYPE (SUMMARY 1976)

	Total Households	0 Families	1 Family	2 or more Families
Okanagan-Similkameen	18,140	4,135	13,860	150
Central Okanagan	23,825	4,655	18,985	185
North Okanagan	15,175	3,120	11,935	125
Total Okanagan	57,140	11,910	44,780	460

Table 12HOUSEHOLD HEADS BY MARITAL STATUS (1976)

	Okanagan Similkameen	Central Okanagan	North Okanagan	Total Okanagan
Total household heads	18,120	23,845	15,160	57,125
-married spouse present	12,965	17,695	11,010	41,670
-married spouse absent	180	160	140	480
-total married	13,125	17,815	11,130	42,070
-separated	705	940	615	2,260
-widowed	2,225	2,350	1,525	6,100
-divorced	690	910	605	2,205
-single	1,410	1,760	1,285	4,455

Table 13HOUSEHOLD HEADS BY AGE (1976)

	Total 15 +	15-24	25-34	35-44	45-54	55-64	65 +
Okanagan Similkameen	18,110	1,265	2,800	2,650	3,075	3,400	4,950
Central Okanagan	23,845	1,700	4,725	4,005	3,930	3,900	5,505
North Okanagan	15,200	1,345	3,210	2,680	2,530	2,365	3,065
Total Okanagan	57,155	4,310	10,735	9,335	9,535	9,665	13,520

Table 14

HOUSEHOLDS BY TYPE
(1976)

	Total Private Hhlds.	Family Households									Non-Family Households			
		Total Family Hhlds.	One Family Households					Multiple Family Households				Total Non-Family Hhlds.	One Person Only	Two or More Persons
			Total	Family of Hhld. Head		Family Other Than That of Hhld. Head	Total Multiple Family Hhlds	Including Family of Hhld. Head	With No Family of Hhld. Head					
Total One Family Hhlds.	Without Addtn'l Persons	With Addtn'l Persons												
Okanagan-Similkameen	18,145	14,005	13,860	13,810	12,870	940	50	145	145	-	4,130	3,405	725	
Central Okanagan	23,825	19,170	18,985	18,925	17,670	1,255	60	185	180	5	4,660	3,705	955	
North Okanagan	15,170	12,055	11,930	11,870	11,005	865	60	125	125	-	3,115	2,490	625	
Total Okanagan	57,140	45,230	44,775	44,605	41,545	3,060	170	455	450	5	11,905	9,600	2,305	

Table 15

OCCUPIED PRIVATE DWELLINGS SHOWING
STRUCTURAL TYPE (1976)

	Total Occupied Private Dwellings	Structural Type								
		Single Detached	Single Attached				Apartment	Duplex	Movable	
			Total Single Attached	Double House	Row House	Attached to a Non-Residential Structure			Total Movable Dwellings	Mobiles
Okanagan -										
Similkameen	18,140	12,885	1,040	270	605	165	2,245	230	1,740	1,655
Owned	13,525	11,145	430	90	250	90	225	90	1,630	1,560
Rented	4,610	1,735	605	175	355	70	2,020	140	110	100
Central Okanagan	23,825	16,705	2,260	1,365	800	95	2,515	620	1,720	1,680
Owned	17,400	14,700	510	365	90	55	270	250	1,625	1,585
Rented	6,425	1,965	1,750	1,000	710	45	2,245	370	100	95
North Okanagan	15,175	10,755	1,065	525	465	75	1,665	300	1,390	1,340
Owned	11,240	9,365	350	210	90	45	155	115	1,260	1,220
Rented	3,935	1,390	715	315	375	30	1,515	180	130	120
Okanagan Total	57,140	40,345	4,365	2,160	1,870	335	6,425	1,150	4,850	4,675
Owned	42,165	35,250	1,290	665	430	190	650	455	4,515	4,365
Rented	14,970	5,090	3,070	1,490	1,440	145	5,780	690	340	315

Table 16

OCCUPIED PRIVATE DWELLINGS BY TENURE SHOWING
TYPE OF HOUSEHOLD (1976)

	Okanagan Similkameen	Central Okanagan	North Okanagan	Total Okanagan
Total Private Households	18,160	23,790	15,160	57,110
One Family Households	13,885	19,010	11,945	44,840
Multiple Family Households	120	210	135	465
Total Family Households	14,005	19,160	12,065	45,230
Non-family Households	4,140	4,630	3,085	11,855
Total Owned	13,535	17,445	11,255	42,235
One Family Households	11,325	15,160	9,670	36,155
Multiple Family Households	140	200	110	450
Total Family Households	11,440	15,285	8,785	36,510
Non Family Households	2,095	2,125	1,480	5,700
Total Rented	4,615	6,445	3,930	14,990
One Family Households	2,535	3,880	2,280	8,695
Multiple Family Households	50	30	15	95
Total Family Households	2,575	3,900	2,305	8,780
Non Family Households	2,035	2,545	1,670	6,250

Table 17

OCCUPIED PRIVATE DWELLINGS BY TENURE BY STRUCTURAL TYPE (1976)

	Okanagan Similkameen	Central Okanagan	North Okanagan	Total Okanagan
<u>Total Occupied Private Dwellings</u>	<u>18,155</u>	<u>23,820</u>	<u>15,180</u>	<u>57,155</u>
- Single detached	12,875	16,690	10,755	40,320
- Single attached	1,055	2,290	1,065	4,410
- Apartment	2,240	2,505	1,670	6,415
- Duplex and Movable	1,965	2,350	1,675	5,990
<u>Total Owned</u>	<u>13,545</u>	<u>17,400</u>	<u>11,240</u>	<u>42,185</u>
- Single detached	11,130	14,725	9,360	35,215
- Single attached	430	515	345	1,290
- Apartment	230	275	165	670
- Duplex and movable	1,750	1,840	1,370	4,960
<u>Total Rented</u>	<u>4,615</u>	<u>6,450</u>	<u>3,935</u>	<u>15,000</u>
- Single Detached	1,760	1,980	1,385	5,125
- Single Attached	600	1,800	725	3,125
- Apartment	2,015	2,210	1,520	5,745
- Duplex and movable	265	480	290	1,035

Table 18

DWELLINGS BY TYPE AND TENURE (1971-1976)

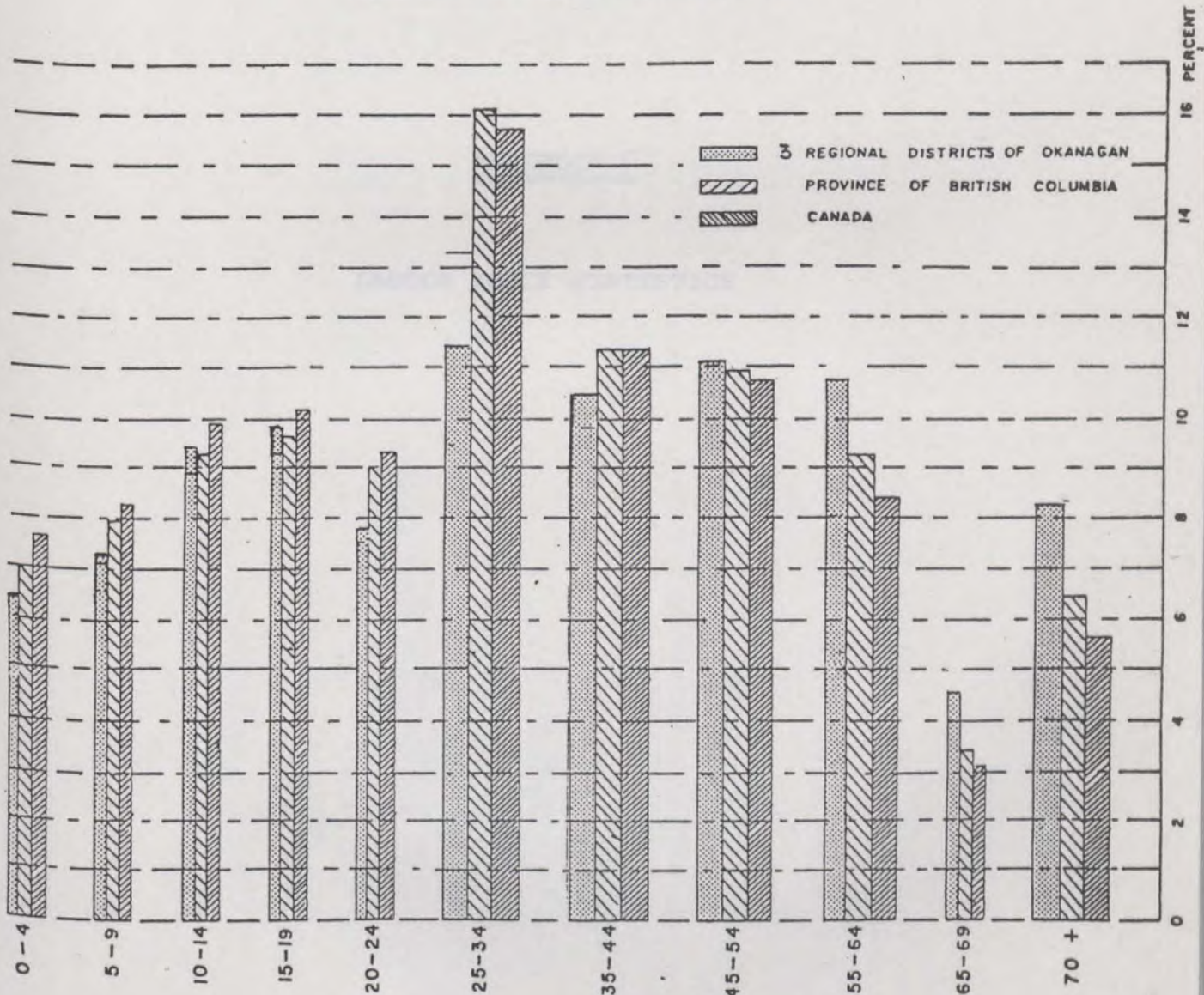
C.D.	Single Detached	Single Attached	Apt. & Duplex	Movable	Owned	Rented	Total Dwllgs
Okanagan - 1971	11,200	535	1,245	535	10,070	3,445	13,515
Similkameen 1976	12,885	1,035	2,475	1,745	13,530	4,610	18,140
Central 1971	11,515	1,055	1,995	710	10,280	4,460	15,280
Okanagan 1976	16,700	2,260	3,135	1,720	17,400	6,425	23,825
North 1971	8,020	515	1,160	485	7,495	2,685	10,180
Okanagan 1976	10,755	1,065	1,960	1,390	11,240	3,935	15,175

APPENDIX B

Table 19

AGE DISTRIBUTION OF OKANAGAN REGION

COMPARED WITH B.C. & CANADA (1976)



APPENDIX C

LABOUR FORCE STATISTICS

Table 20
Labour Force, Okanagan Region,
By Industry, June 1st, 1961

Industry	Okanagan Region
Agriculture	5,022
Logging	1,222
Mining	355
Manufacturing	4,703
Construction	1,941
Transportation, Communication & Utilities	2,614
Trade - Wholesale	2,071
Retail	3,852
Finance, Insurance & Real Estate	884
Personal Services	2,680
Other Services	3,703
Public Administration	1,660
Unclassified	824
TOTAL LABOUR FORCE	31,531

Source: 1961 Census of Canada, Catalogue 94-522.

Table 21

Labour Force, Okanagan Region, By Census
Division and Industry, June 1st, 1971

Industry	North Okanagan	Central Okanagan	Okanagan Similkameen	Okanagan Region
Agriculture	1,110	1,440	1,895	4,445
Logging	520	220	290	1,030
Mining	55	380	490	925
Manufacturing, Resource Based				
Agricultural Products	250	300	265	815
Sawmill & Planing Mills	700	425	600	1,725
Plywood - Veneer Mills	100	175	-	275
Manufacturing, Non-Resource Based				
Transportation Equipment	50	550	350	950
Other Manufacturing	810	1,030	635	2,475
Construction	1,015	2,280	1,280	4,575
Transportation, Communications & Utilities	1,055	1,290	1,145	3,490
Trade - Wholesale (incl. packing houses)	635	1,225	1,140	3,000
Retail	1,605	2,440	1,970	6,015
Finance, Insurance & Real Estate	430	910	540	1,880
Education	760	1,040	805	2,605
Health & Welfare	770	1,040	925	2,735
Accommodation & Food Services	655	1,030	1,300	2,985
Personal Services	270	440	310	1,020
Business, Amusement & Other Services	580	860	835	2,275
Public Administration	610	655	1,080	2,345
Unclassified	1,435	2,040	1,865	5,340
TOTAL LABOUR FORCE	13,415	19,770	17,720	50,905

Source: 1971 Census of Canada.

Table 22

Labour Force, Okanagan Region, By CensusDivision and Industry, June 1st, 1976¹

Industry	North Okanagan	Central Okanagan	Okanagan Similkameen	Okanagan Region
Agriculture	1,100	1,425	1,875	4,400
Logging	700	300	275	1,275
Mining	50	425	650	1,125
Manufacturing, Resource Based				
Agricultural Products	250	325	200	775
Sawmills & Planing Mills	1,025	475	500	2,000
Plywood & Veneer Mills	400	200	-	600
Manufacturing, Non-Resource Based				
Transportation Equipment	75	800	825	1,700
Other Manufacturing	850	1,825	875	3,550
Construction	1,700	3,625	1,700	7,025
Transportation, Communications & Utilities	1,700	2,025	1,475	5,200
Trade - Wholesale (incl. packing houses)	900	1,250	1,175	3,325
Retail	2,750	4,550	2,875	10,175
Finance, Insurance & Real Estate	750	1,500	725	2,975
Education	975	1,550	925	3,450
Health & Welfare	1,000	1,300	1,200	3,500
Accommodation & Food Services	1,350	1,850	1,750	4,950
Personal Services	475	750	400	1,625
Business, Amusement & Other Services	1,050	1,400	1,125	3,575
Public Administration	1,000	1,050	1,400	3,450
Unclassified	2,395	3,245	2,425	8,065
TOTAL LABOUR FORCE	20,495	29,870	22,375	72,740

1. Total Labour Force figures are from the 1976 Census of Canada. Distribution by industry estimated by D. M. Roussel, Employment and Immigration Canada, Economic Services Branch.

Table 23

Area	Total Population 1976	Population 15 + %	Labour Force, June, 1976		
			Employed	Unempl.	Total
<u>Okanagan-Similkameen</u>					
Keremeos	702	605 (86.18)	235	35	275 (45.45)
Oliver	1,641	1,370 (83.49)	535	65	590 (43.07)
Osoyoos	2,100	1,700 (80.95)	700	150	905 (53.24)
Penticton	21,344	16,925 (79.30)	8,335	970	9,335 (55.16)
Princeton	3,132	2,275 (72.64)	1,195	135	1,325 (58.24)
Summerland	6,724	5,345 (79.49)	2,535	240	2,740 (51.26)
Subdiv.A	5,155	3,995 (77.50)	2,120	175	2,310 (57.82)
Subdiv.B	8,414	6,460 (76.78)	3,640	270	3,950 (61.15)
Subdiv.C	1,505	1,095 (72.76)	625	50	680 (62.10)
Indian Reserves	803	550 (68.49)	220	35	265 (48.18)
<hr/>					
Total Okanagan-Similkameen	51,520	40,320 (78.26)	20,240	2,125	22,375 (55.49)

Table 24

Area	Total Population 1976	Population 15 + %	Labour Force, June, 1976		
			Employed	Unempl.	Total
<u>Central Okanagan</u>					
Kelowna	51,955	39,630 (76.28)	19,275	2,340	21,600 (54.50)
Peachland	2,286	1,745 (76.33)	840	85	920 (52.72)
Subdiv. A	6,047	4,520 (74.75)	2,465	285	2,760 (61.06)
Subdiv. B	10,457	7,640 (73.06)	3,980	415	4,400 (57.59)
Indian Res.	509	365 (71.71)	145	35	175 (47.95)
Total Central Okanagan	71,254	53,890 (75.64)	26,705	3,160	29,855 (55.39)

Table 25

Area	Total Population 1976	Population 15 + %		Labour Force, June, 1976			
				Employed	Unempl.	Total	
<u>North Okanagan R.D.</u>							
Armstrong	2,260	1,700	(76.1)	755	85	845	(49.13)
Coldstream	4,995	3,680	(73.7)	2,055	165	2,215	(60.19)
Enderby	1,482	1,135	(76.5)	435	70	510	(44.93)
Lumby	1,081	765	(70.8)	425	70	490	(64.05)
Spallumcheen	3,378	2,435	(72.1)	1,510	110	1,605	(65.91)
Vernon	17,546	13,523	(77.0)	6,285	900	7,585	(56.10)
Subdivision A	3,020	2,170	(72.1)	1,125	130	1,255	(57.83)
Subdivision B	12,428	8,840	(71.)	5,105	605	5,740	(64.93)
Indian Reserves	670	445	(71.1)	200	30	230	(51.69)
Total North Okanagan	46,860	34,710	(77.1)	18,305	2,165	20,475	(58.99)

HUMAN RESOURCESINFORMATION SOURCES

B.C. Ministry of Economic Development - Statistics
Canada Manpower - District Economist, Kamloops, B.C.
Central Okanagan Regional District
North Okanagan Regional District
Regional District of Okanagan-Similkameen
Revenue Canada, Taxation Statistics
Statistics Canada
Water Investigations Branch, Ministry of Environment

FOREST RESOURCES

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FOREST RESOURCES

The forest resources of the Okanagan are a major factor in the economy of the area. As illustrated later in this section, direct forest-based employment is one of the largest single components of the total number of jobs in the area. When taken together with the economic multiplier effect, whereby jobs are induced in other sectors such as trade and services, the forest industry is clearly a highly significant part of the economic activity of the Okanagan.

While the industry has enjoyed relatively strong growth over the past decade (see Table 1 overleaf), timber supply problems could constrain production to current levels or even force curtailment of volumes of timber harvested. The prospects for this situation emerging should become much clearer later this year when a British Columbia Forest Service study of timber supply in the Okanagan area is to be released.

The Okanagan and Similkameen valleys and surrounding areas encompass a range of climatic zones. The valley bottoms and lower elevations along their sides tend to be relatively warm and dry, with precipitation increasing significantly with elevation. With increasing elevation the duration of winter snow-cover increases, average temperatures decrease, and the duration of the vegetative (growing) season decreases.

In the extreme southern valley bottoms (e.g. vicinity of Osoyoos), precipitation may be some 7 inches per annum or less, and near desert conditions prevail where irrigation is not applied. Precipitation increases to

TABLE 1

STATISTICS CONCERNING
THE FOREST PRODUCTS INDUSTRY
OKANAGAN REGIONAL DISTRICTS

<u>YEAR</u>	<u>LOGGING AND MILLING EMPLOYMENT</u>		<u>NO. OF OPERATING SAWMILLS</u>	<u>ESTIMATED* PRODUCTION CAPACITY</u>	<u>VOLUMES OF** TIMBER CUT (LOGGED)</u>
	<u>PERSONS</u>	<u>MAN-MONTHS</u>			
1971	2,681	25,330	102	1639	531
1976	3,366	34,648	80	2670	1,043
1977	3,681	37,060	90	3129	1,082
1978	4,126	37,990	92	3609	1,103

* Production per 8 hour shift (cunits)

** Thousands of cunits

Source: British Columbia Forest Service,
Kamloops, British Columbia

the north; in some portions of the northernmost parts of the study area, semi-wetbelt conditions are present.

These differences are reflected in the precipitation contours of the map shown in overleaf. They also impact substantially on the forest cover of the Okanagan, including the species of trees native to different parts of the area.

A system of classification has been developed for British Columbia which identifies differences based upon biological, geographic and climatic factors. A series of "biogeoclimatic" units or zones are identified which reflect the differences in climate and forest cover. A map showing the extent of these zones in the study area and surrounding territory is shown in Appendix 1, together with a description of the zones in terms of temperature, precipitation and geographic parameters, and in terms of tree species.

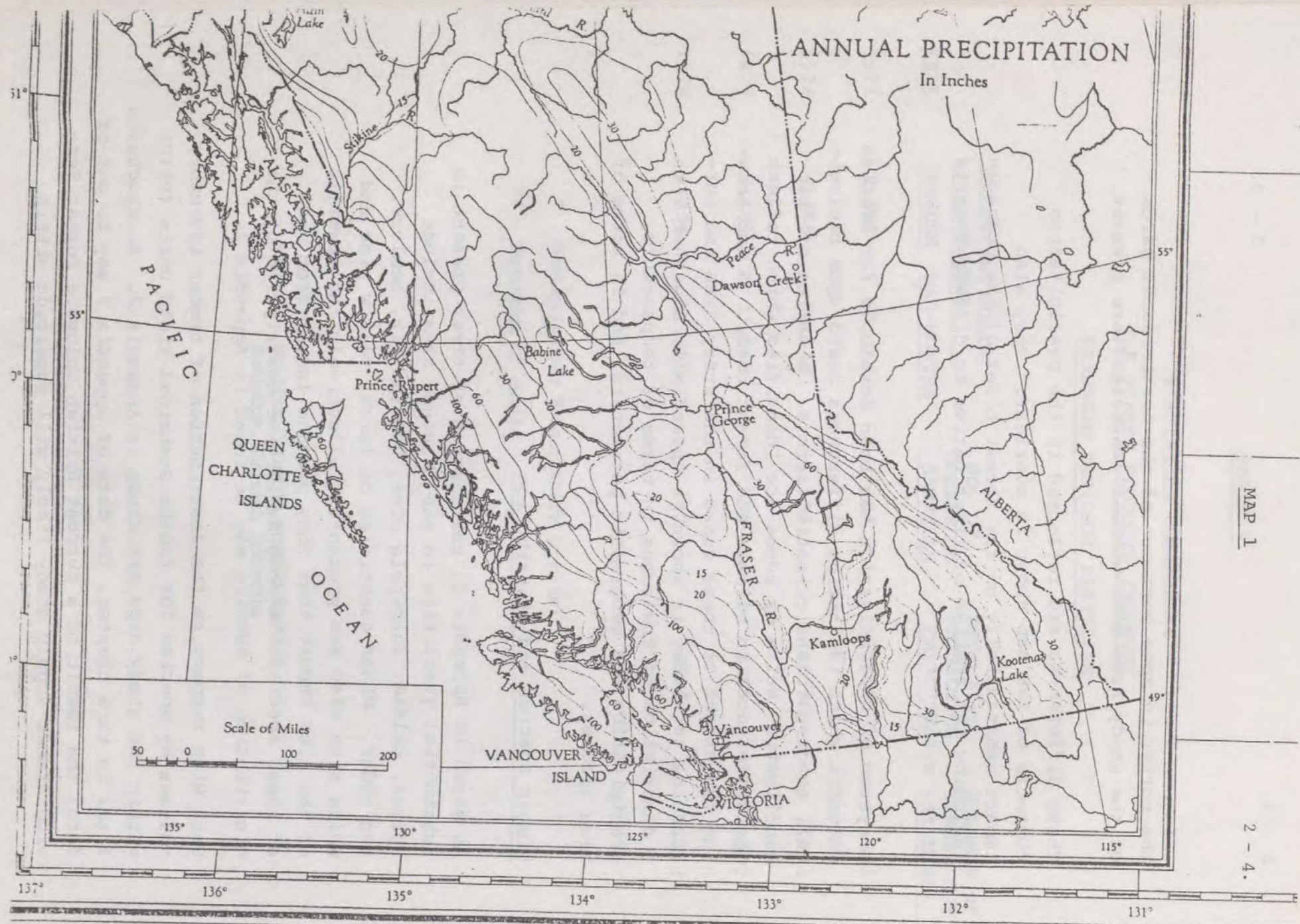
Timber Species and Distribution

As shown in Appendix 2, the species of trees present in substantial quantities in the Okanagan area include spruce, balsam, lodgepole pine, Douglas fir, hemlock, and cedar. Minor quantities of larch, yellow pine and white pine also are present. Collectively, the sawmills of the area report that they produce lumber from each of these species. A more definitive description of the distribution of species may be found in Appendix 1.

Data with respect to the distribution of timber inventory volumes by species for Public Sustained Yield Units (PSYU) within the study area are shown in Appendix 2. As discussed later in this chapter, the data of Appendix 2 may be out of date; the result of a current British Columbia Forest Service timber supply study likely will supercede within

ANNUAL PRECIPITATION

In Inches



MAP 1

Pseudo-cylindrical Projection

a few months.

The Regional Districts of North Okanagan, Central Okanagan and Okanagan-Similkameen lie almost entirely within the Kamloops Forest District.* The forest management units within these regional districts include the Ashnola, Okanagan, Similkameen and Spallumcheen Public Sustained Yield Units, and Tree Farm Licenses 9 and 15. With minor exceptions, the area comprising these units is coincident with the three regional districts. However, largely because the Okanagan P.S.Y.U. runs the entire length of the valley, the forest management units cannot be identified with individual regional districts. This prevents the presentation of timber inventory and cut data on a regional district basis.

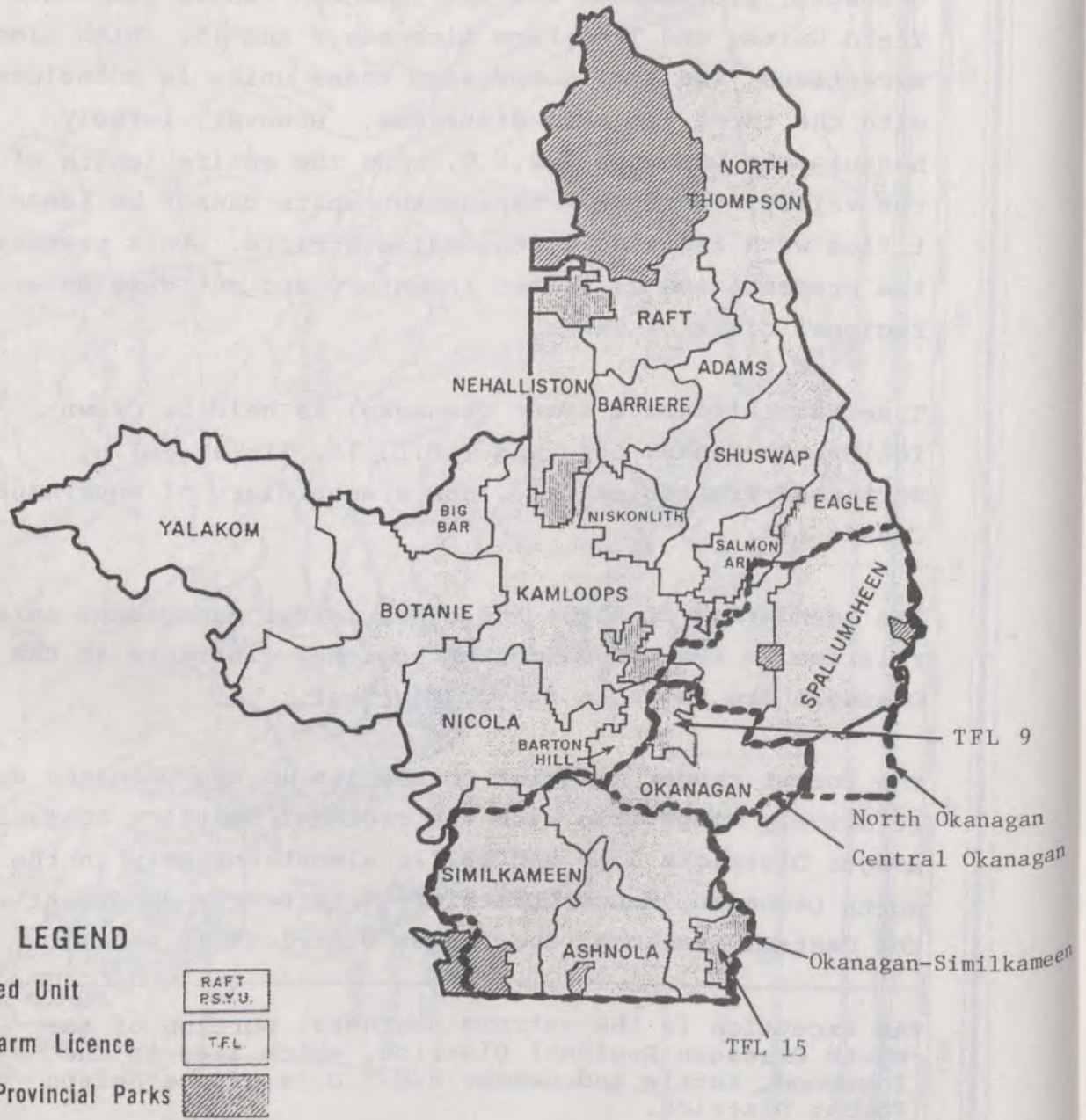
Tree Farm License 9 (West Okanagan) is held by Crown Zellerbach Canada Ltd. and T.F.L. 15, (Inkaneep) by Northwood Properties Ltd., now a subsidiary of Weyerhaeuser Canada Ltd.

The boundaries of these and other forest management units relative to the boundaries of regional districts in the Okanagan are shown in Map 2, overleaf.

The forest ranger district boundaries in the Okanagan are relatively compatible with the regional district boundaries; Ranger Districts 1, 9 and 19 lie almost entirely in the North Okanagan, Ranger District 15 is nearly congruent with the Central Okanagan, and Ranger Districts 10 and 11

*An exception is the extreme southeast portion of the North Okanagan Regional District, which lies in the Edgewood, Kettle and Granby P.S.Y.U.'s of the Nelson Forest District.

KAMLOOPS FOREST DISTRICT



LEGEND

- Approved Unit RAFT
PSY.U.
- Tree Farm Licence T.F.L.
- Major Provincial Parks [Cross-hatch pattern]

Regional District Boundaries - - - -

together translate closely to the Okanagan-Similkameen. Any discrepancies in boundaries tend to lie in remote areas. This facilitates reporting of forest industry employment and samill production within each regional district.

Timber Volumes and Employment

Within the forest management units of the Kamloops Forest District, only two percent of mature timber inventory volumes exists on land (owned by the Government of Canada or by private parties) for wich the Forest Service does not regularly report volumes of timber cut.* In 1977, of the total volume scale of all timber in the Kamloops Forest District some 7.6 percent came from private or Federal Government land,** and hence would not be included in the statistics for Public Sustained Yield Units or Tree Farm Licenses. This proportion likely is somewhat lower in the Okanagan, where the bulk of private land is at lower, drier elevations with less forest cover.

* Forest Inventory Statistics of British Columbia
Inventory Division, British Columbia Forest Service,
Victoria, British Columbia.

** Forest Service Annual Report, 1977
Ministry of Forests, Province of British Columbia,
Victoria, 1978, p. Q39.

statistics which are compiled by the Forest Service concerning volumes of timber therefore account for almost all of the timber inventory, cut, etc. in the regional districts of the Okanagan. A summary of timber inventory and cut statistics for the forest management units within the study area is contained in Table 2 on the following page. More detailed inventory statistics are shown in Appendix 2, with historical volumes of timber cut in each forest management unit indicated in Table 3.

As shown in Table 3, the total volumes of timber cut in the forest management units within the regional districts of the Okanagan has doubled in this decade. The increase has been particularly pronounced in the Public Sustained Yield Units. For one of these, the Okanagan Unit, in each of the past three years the volume of timber cut has substantially exceeded the long-term annual allowable cut. This no doubt reflects the disposition of insect-infested timber as discussed later in this chapter. A subsequent part of this chapter also addresses the point that the established allowable annual cut for the Okanagan region may be found to be significantly overstated once a current Forest Service timber supply study is complete.

The total volume of timber cut in the Okanagan area in each of the past three years has been slightly in excess of one million cunits. This is roughly one-third of the total cut in the Kamloops Forest District, or some 5 per-cent of the total cut in the province as a whole.

Unpublished Forest Service reports provide estimates of logging, sawmill and plywood plant employment as well as estimated annual lumber production and net timber volume consumed by processing plants. These statistics are presented in Table 4, with historical estimates of

TABLE 2

SUMMARY OF BASIC DATA FOR PUBLIC SUSTAINED YIELD UNITS AND TREE FARM LICENCES, 1977

PUBLIC SUSTAINED YIELD UNITS	DATE OF INVENTORY SURVEY	MATURE VOLUME (CUNITS)	PRODUCTIVE AREA (ACRES)			TOTAL AREA	ALLOWABLE ANNUAL CUT (CUNITS)	COMMITMENT (CUNITS)	(1977)
			MATURE	IMMATURE	TOTAL PRODUCTIVE				VOLUME SCALED (CUNITS)
Ashnola	1969	8,273,000	265,492	141,504	422,239	525,919	96,194	90,191	96,510
Okanagan	1975	15,246,450	491,293	531,859	1,057,630	1,269,087	235,000	216,178	326,012
Similkameen	1969	14,640,930	347,392	379,260	781,706	872,515	248,116	226,175	239,960
Spallumcheen	1972	16,371,610	350,460	391,030	783,094	980,584	322,116	290,966	315,443
TOTAL P.S.Y.U.'s		54,531,990	1,454,637	1,443,653	3,044,669	3,648,105	901,426	823,510	977,925

TREE FARM LICENCES	PRODUCTIVE AREA (ACRES)	TOTAL AREA (ACRES)	ALLOWABLE ANNUAL CUT (CUNITS)	VOLUME SCALED (CUNITS)
9. Okanagan West**	180,218	195,981	74,300	80,267
15. Inkaneeep***	113,293	120,261	25,800	24,016
TOTAL T.F.L.'S	293,511	316,242	100,100	104,283
TOTAL P.S.Y.U.'s and T.F.L.'s	3,338,180	3,964,347	1,001,526	1,082,208

* Includes not sufficiently restocked and non-commercial.

** Licensee: Crown Zellerbach Canada Ltd.

*** Licensee: Northwood Properties Ltd.

Source: Province of British Columbia, Ministry of Forests,
Forest Service Annual Report, 1977, Queens Printer
Victoria, 1978.

TABLE 3

VOLUMES OF TIMBER CUT (CUNITS) IN FOREST MANAGEMENT UNITS OF THE OKANAGAN AREA

<u>PUBLIC SUSTAINED YIELD UNITS</u>	1971	1972	1973	1974	1975	1976	1977	1978	<u>ALLOWABLE ANNUAL CUT 1978</u>
Ashnola	35,160	57,883	97,703	49,996	41,108	95,730	96,510	85,487	96,194
Okanagan	145,950	177,431	171,903	157,859	183,173	301,722	326,012	372,844	235,000
Similkameen	94,947	133,839	239,337	107,522	104,985	209,912	239,960	226,051	248,116
Spallumcheen	171,058	223,177	269,947	211,164	279,594	294,338	315,443	322,186	322,116
<u>TREE FARM LICENCES</u>									
9. West Okanagan	50,157	55,884	101,999	89,596	91,592	97,974	80,267	83,811	74,300
15. Inkaneeep	33,778	18,596	30,552	21,402	24,736	43,396	24,016	13,064	25,800
<u>TOTAL</u>	531,050	666,810	911,441	637,539	725,188	1,043,072	1,082,208	1,103,443	1,001,526

SOURCE: British Columbia Forest Service, Kamloops, British Columbia.

employment displayed in Appendix 3.

The lumber production statistics for 1977, shown in Table 4, reflect the results of Forest Service audits of larger operations; audited 1978 figures are not yet available. There are differences in employment estimates for sawmills between pages 2 and 3 of Table 4, although the corresponding employment levels generally are of roughly the same magnitude.* Page 2 of Table 4 also indicates estimated total timber consumption by processing plants in 1978 which significantly exceeds the total scaled timber cut (see Table 2. While a part of the difference may reflect timber brought into the Okanagan region from adjacent areas, the timber consumption estimate is not necessarily precise.

Estimated logging and milling employment in the Okanagan in 1978 was over 4,100. Given an employment multiplier of 2.5** the total number of jobs in the Okanagan region directly or indirectly dependent upon the forest products industry would be approximately 10,000, or some 13 percent of the total number of persons gainfully employed in the regional districts of the Okanagan. This demonstrates clearly that this industry is of substantial importance to the economy of the region as a whole. Moreover, as shown on page 3 of Table 4, the employment directly attributable to the forest resource is substantial within each of the three regional districts.

* Figures for mill employment given on page 2 of Exhibit 6 could include some logging employment.

** Value taken from F.L.C. Reed and Associates Ltd. The British Columbia Forest Industry, Its Direct and Indirect Impact on the Economy, Department of Lands, Forests and Water Resources, Victoria, 1973, p. 56.

ESTIMATED ANNUAL LUMBER PRODUCTION1977

<u>Regional District</u>	<u>Ranger District</u>	<u>Lumber MMbm*</u>	<u>Plywood/Veneer mm sq. ft.**</u>
	1	125	-
	9	263	200
	19	<u>20</u>	<u>13</u>
North Okanagan		408	213
Central Okanagan	15	139	77
	10	94	
	<u>11</u>	<u>118</u>	
Okanagan-Similkameen		212	
TOTAL		<u>759</u>	<u>290</u>

* Millions of board feet

** Millions of square feet, equivalent
3/8 inch thickness

SOURCE: British Columbia Forest Service, Kamloops, except
Central Okanagan plywood production as reported
in 1979 Directory of Forest Products Industries.

MILL DATA 1978

<u>Ranger District</u>	<u>Average No. of Men Employed</u>	<u>Estimated Annual Lumber Production</u>		<u>Net Timber Volume Consumed In Year</u>
		<u>MMbm*</u>	<u>MM sq.ft**</u>	<u>(M.Cunits)</u>
1	474	101	-	216
9	823	214	346	512
19	<u>177</u>	<u>37</u>	<u>-</u>	<u>45</u>
North Okanagan	1,474	352	346	773
Central Okanagan				
15	329	142	85	284
10	281	96	-	171
11	<u>260</u>	<u>219</u>	<u>-</u>	<u>177</u>
Okanagan-Similkameen	541	315	-	348
TOTAL	<u>2,344</u>	<u>809</u>	<u>431</u>	<u>1,405</u>

* Millions of board feet.

** Millions of square feet equivalent
3/8 inch thickness (Plywood/Veneer).

Source: British Columbia Forest Service, Kamloops.

TABLE 4
Page 3 of 3

ESTIMATED FOREST PRODUCTS INDUSTRY EMPLOYMENT

<u>Regional District</u>	<u>Ranger District</u>	<u>Logging</u>		<u>Milling</u>		<u>Plywood/Plank</u>		<u>Total</u>	
		<u>P</u>	<u>M</u>	<u>P</u>	<u>M</u>	<u>P</u>	<u>M</u>	<u>P</u>	<u>M</u>
	1	329	2,231	442	3,848	-	-	771	6,079
	9	219	889	518	6,166	320	3,840	1,057	10,895
	19	143	775	169	1,778	-	-	312	2,553
North Okanagan		691	3,895	1,129	11,792	320	3,840	2,140	19,527
Central Okanagan	15	257	2,720	359	4,232	255	2,700	871	9,652
	10	217	1,171	330	1,960	-	-	547	3,131
	11	315	2,644	253	3,036	-	-	568	5,680
Okanagan-Similkameen		532	3,815	583	4,996	-	-	1,115	8,811
TOTAL		1,480	10,430	2,071	21,020	575	6,540	4,126	37,990

P = Persons

M = Man months

SOURCE: British Columbia Forest Service, Kamloops, British Columbia.

Logging and Milling

Of the total number of sawmills in the Okanagan area, many are small. Of 92 sawmills reported to be operating in 1978, only 16 produced more than 10 million board feet of lumber. A list of these mills is given in Exhibit 7. Collectively they produced 95 percent of the lumber made in the area and all of the veneer or plywood. Thus the significant wood processing is concentrated in relatively few plants.

Much of the sawmill industry in the Okanagan area benefits from relatively modern plants. In contrast, the coastal forest products industry currently is spending very large sums of money to upgrade older, less efficient facilities.

Logging practices vary in the region. Some operations are very efficient, utilizing very modern equipment and techniques. Most may be more traditionally oriented. Increasing economic pressure may see a trend towards more widespread use of very efficient logging practices, with higher productivity and some decline in logging employment as a result. This would tend to accentuate the impact of any reduction in allowable annual cut as discussed in subsequent pages, although it also could help to bring marginal stands of timber within economic reach.

In common with most of the sawmill industry in British Columbia, most of the mills in the Okanagan area are heavily dependent upon foreign markets for their sales. As a consequence, the health of the industry is dependent upon the state of the economies of other countries. In particular, the rate of housing construction in the United States is an important variable affecting both volumes and prices of lumber sold.

TABLE 5
REGIONAL DISTRICTS OF THE OKANAGAN
SAWMILLS WITH ESTIMATED ANNUAL LUMBER PRODUCTION EXCEEDING 10 MILLION BOARD FEET - 1978

REGIONAL DISTRICT	RANGER DISTRICT	MILL	LOCATION	AVERAGE NO.* OF MEN EMPLOYED	ESTIMATED ANNUAL LUMBER PRODUCTION (Millions of board feet)	
North Okanagan	1	Crown Zellerbach	Lumby	115	38	
		Weyerhaeuser	Lumby	120	50	
	9	Lavington Planer Mills	Lavington	163	65	
		Crown Zellerbach	Armstrong	165	96	
		Crown Zellerbach Plywood	Armstrong	250	137 MM sq. ft.** plywood 133 MM sq. ft.** green veneer	
		Riverside Forest Products	Lavington	212	52 76 MM sq. ft.* veneer	
		19	Custom Studs	Enderby	12	12
		Ganzeveld Lumber Products	Enderby	55	16	
	Central Okanagan	15 Penticton	Crown Zellerbach	Kelowna	184	105 85 MM sq. ft. plywood
			Gorman Bros.	Westbank	120	32
Okanagan- Similkameen	10 Kelowna	Northwood Properties	Okanagan Falls	200*	50	
		Yellow Lake Sawmills	Penticton	65	40	
	11 Princeton	Huff Brothers Sawmills	Princeton	11	12	
		Northwood Properties	Princeton A	80	80	
		Northwood Properties	Princeton B	146	115	

* May include logging personnel

** 3/8 inch thickness equivalent

SOURCE: British Columbia Forest Service, Kamloops, British Columbia.

Sawmills in the regional districts of the Okanagan benefit from the sale of wood chips to pulp mills outside of the region. Large volumes are transported to the pulp mill at Kamloops, with lesser quantities moving to coastal pulp producers.

Timber Supply

At times in the past there has been speculation that a pulp-producing facility might be constructed in the Okanagan. At least one major forest products company seriously investigated this possibility. However, environmental considerations, among others, appear to mitigate against this development. Although a smaller scale thermo-mechanical pulp mill remains a possibility, the energy requirements and rising energy costs will tend to make the economic feasibility of such a project less attractive than otherwise would be the case.

Substantial changes have taken place, or are taking place in the management of British Columbia's forests. In the wake of a major inquiry into the Province's forest resources and how they are administered and utilized, new legislation and regulations, and a reorganization of the Provincial Government ministry involved in forest management has occurred.

Flowing from these changes is a fundamental change in the geographic divisions employed in timber supply management and in the system of regulating timber yield. These new geographic units (timber supply areas, or T.S.A.'s) are based upon the logical break points for transporting logs between processing centres which might compete for the wood supply. In theory, these T.S.A.'s "reflect an efficient pattern of wood movement from harvesting site to the primary manufacturing plants." The T.S.A.'s are generally

larger than pre-existing timber management units; timber allocations to producers may be "consolidated on a more rational basis."*

The Okanagan Valley and tributary areas in the timber-producing sense are to become Timber Supply Area 2 in the new scheme of forest management units. Included in T.S.A. 2 will be areas to the north of the Okanagan, specifically the watershed area tributary to the Shuswap Lakes (excluding Adams Lake). The Princeton area will form the southern end of T.S.A. 3.

Within the timber supply areas there are to be geographic divisions called timber supply blocks. As currently defined, these blocks appear to a reasonable extent to be compatible with regional district boundaries. Provided that timber inventory and harvest data is compiled on the basis of these blocks, the regional districts in future, each will have a better perspective on the forest resources within their boundaries and their utilization.

In the various regions of the province, the Provincial Government is conducting overview studies to re-examine the forest resource, the existing forest industry, transportation factors, and timber supply and demand. Previous analyses may not have taken into account the extent of economically accessible and useable timber as opposed to the total theoretically available timber supply; the new studies will do so.

* Yield Regulation Within Timber Supply Areas,
Ministry of Forests, Province of British Columbia,
Victoria, July, 1978.

Initial indications are that in at least some areas of the province there may be significant short-falls in long-run timber supply in comparison to the existing capacity of processing plants and corresponding actual levels of production. In early 1978, a British Columbia Forest Service timber supply area analysis was released which showed a serious short-fall in timber supply in the Fort Nelson area. Private forest industry sources suggest that when the comparable study for the Okanagan area is made public, a very substantial shortage of timber will be identified. Preliminary indications are that this short-fall will be in the order of 600,000 cunits per year, or roughly one-third of the timber supply required to supply existing sawmills and like other solid wood processing facilities in the Okanagan.

Although sources in private industry indicate that a substantial short-fall in timber supply in the Okanagan area has been identified, representatives of the British Columbia Forest Service suggest that view may be premature. The Forest Service has not yet completed its study of timber supply in the Okanagan, and several months may elapse before the study is ready. Processing of inventory and sustained yield information reportedly is not yet complete, so that it should not be definitively stated that a massive short-fall may ultimately emerge. Even if a timber supply deficiency is identified it may be less serious than envisioned by private industry.

In any event, Forest Service representatives suggest that there are a number of strategies which might be taken to cushion any timber supply problem. These include a combination of temporarily maintaining a level of timber harvest volume above the long-range sustainable yield while taking

measures to increase the latter. These measures generally fall under the heading of intensive forest management, and include the provision of improved, higher-yielding stock for reforestation, brush control in newly regenerated areas, and juvenile spacing (pre-commercial thinning). Fertilizing is not likely to be cost-effective at lower elevations in the Okanagan since precipitation is insufficient to make the process effective.

Preliminary indications of the costs and effectiveness of intensive forestry measures in the British Columbia context suggest that they might produce a 50 percent or higher increase in timber volume yield with a substantial reduction in the time taken for a tree to reach harvestable size. Rough calculations show that on the basis of stumpage values alone, the benefits of intensive forest management likely would be much greater than the cost.

Other measures which might help to offset the possible timber shortage are utilization of species not now being widely harvested, improved utilization of existing commercial species (now occurring in some operations), and selective cutting in more sensitive areas, and increased movement of cut timber into the region.

An aspect of the situation affecting the forest resource in the Okanagan, which may escape the attention of the public, is that damage by insects to timber stands in the area is much in excess of the damage by fire. However, since the timber affected by insects (as well as timber killed by fire but not significantly damaged) can be logged and processed within two years to produce acceptable end-products, sawmills have generally had an increased rather than decreased wood supply.

Thus, in the short run, harvesting of insect-infested stands may continue to help provide an adequate timber supply. The mountain pine beetle is a particularly serious parasite in the Okanagan area. Large stands of lodgepole pine have reached biological maturity and are a prime target for this insect. The relatively mild nature of most recent winters has helped to foster the spread of the beetle. In the long run, control measures should bring insect damage under control, and the need to log infected timber will diminish. This impact added to the results of the current yield analysis may accentuate a serious timber supply problem.

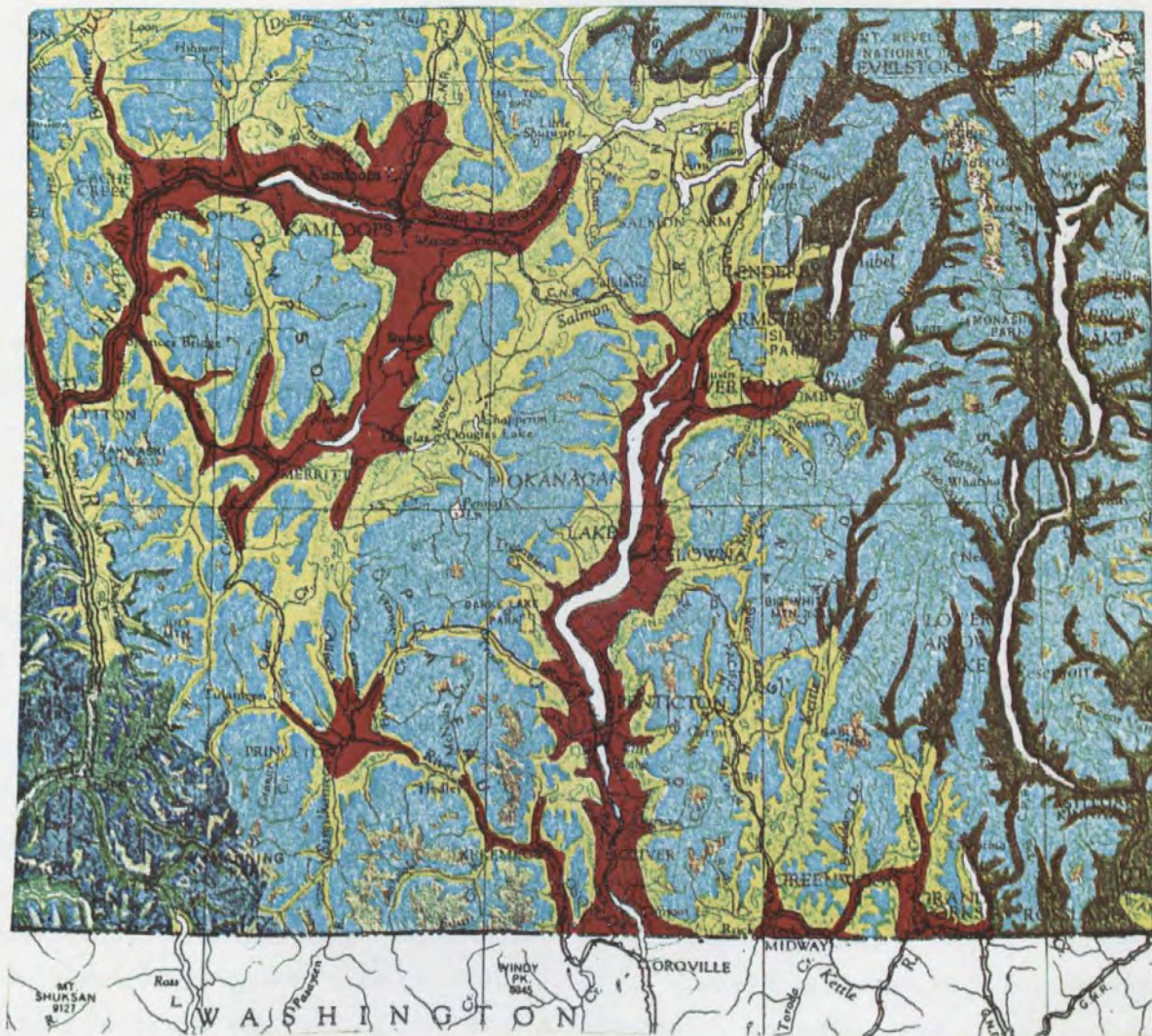
A specific quality type of timber whose supply is not assured is the peeler log used in the production of veneer and ultimately plywood. A shortage of good peelers may be developing.

The orientation of forest inventory data towards fibre supply rather than suitability of timber for particular solid wood products as well, inhibits statistically-based knowledge of the potential supply for this type of log. The key to a continued supply may lie in the adequacy of second growth fir stands which will more generally be reaching harvestable size during the next ten to twenty years.

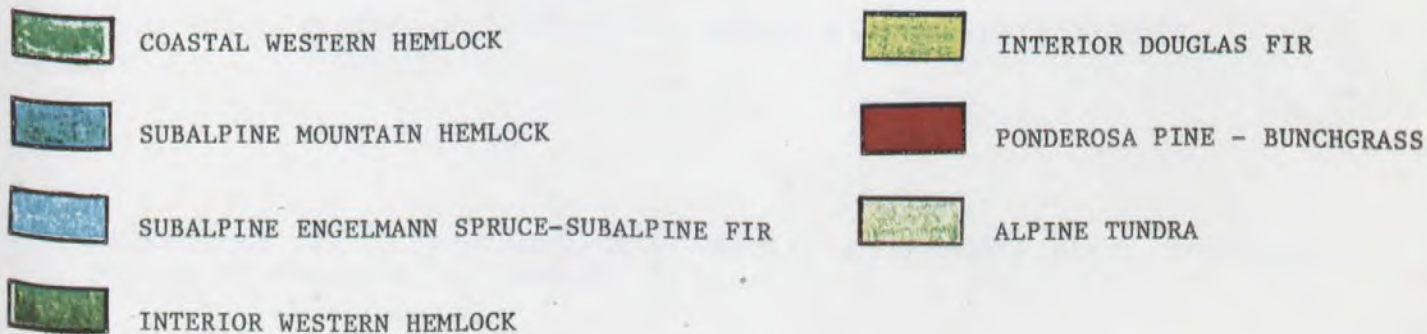
On balance, the information currently available points to at least some medium-term, if not long-term, reduction in the supply of timber to processing facilities in the Okanagan. Coping with such a reduction may present difficult economic and political problems. Simply closing the least efficient sawmills may be politically and socially unacceptable. Nevertheless, some loss of employment and income in the region may be inevitable. The potential magnitude and distribution of this problem may become apparent later this year when the Forest Service timber supply study is ready for release.

APPENDIX 1

BIOGEOCLIMATIC ZONES OF OKANAGAN AREA



SCALE: 30 MILES TO 1 INCH



SOURCE: Biogeoclimatic Zones of British Columbia
 Department of Lands, Forests, and Water Resources, Victoria
 Published by the British Columbia Ecological Reserves Committee
 as proposed by Dr. V.J. Krajina

APPENDIX 2

BIOGEOCLIMATIC ZONES OF BRITISH COLUMBIAIntroduction

British Columbia has quite distinct seasons and climates and a wide variety of terrain and soil conditions. Vegetation varies accordingly. The province has many different forest zones.

Professor Vladimir J. Krajina of the University of British Columbia has classified the province's area into 12 biogeoclimatic zones, which are part of four biogeoclimatic formations and seven biogeoclimatic regions.

All are based on biota (vegetation and fauna) and soils (which are products of geological parent materials, organisms which have evolved, topography, and the effects of climate and time upon each of these).

The biogeoclimatic zone details provide an ecology-based tool used in developing old (virgin) and new (secondary) forests on lands where mature stands are being harvested or removed by natural disaster such as fire. The classifications serve as a guide for forest managers in planning the mixtures of tree species likely to be most at home in a given area. They are a valued aid in selection of species both for planting and subsequent spacing and cleaning of a plantation.

The following pages describe briefly the biogeoclimatic conditions upon which Professor Krajina has based his classifications.

Reproduced from a publication of MacMillan Bloedel Place, VanDusen Botanical Gardens, Vancouver, B.C.

1. The Mountain Hemlock Zone (MH)

This zone includes terrain along the Pacific coast at altitudes of from 900 to 1,500 metres on the windward side, 1,100 to 1,800 metres on the leeward side in the southern part of the province, and at altitudes of from 300 to 900 metres in the north. Its most common coniferous trees are mountain hemlock, pacific silver fir (sometimes called balsam or amabilis fir) and yellow-cedar. In lower elevations, you'll occasionally find western hemlock and western red cedar, rarely Sitka spruce, very rarely Douglas-fir. Stunted subalpine fir and whitebark pine may occur in the highest elevations and sporadically and infrequently through the zone you may find western white pine and lodgepole pine.

2. The Canadian Cordilleran Subalpine Forest Biogeoclimatic Region

Ground is frequently frozen before snowfall. Summer with less than four months over 10°, rather cool.

3. The Engelmann Spruce-Subalpine Fir Zone (ESSF)

Temperature above 10°C is 1 to 3 months, below 0° five to six months; frost-free days 100 to 150. Annual mean total precipitation is 410 to 1,830 mm, with 43% to 72% in snowfall. Only trees which tolerate an extended period of frozen ground are found in this zone, which includes terrain between 49° - 57° 10' N latitude, at elevations in the south-west areas between 1,200 and 2,100 m; in the southeast areas between 1,260 and 2,250 m; in the northwest areas between 950 and 1,550 m and in the north-east areas between 1,100 and 1,700 m.

Trees commonly found in the southern part of the zone (from the U.S. border to about 52° N parallel which runs across the province just south of Williams Lake) include Engelmann spruce (white spruce is rare), subalpine fir, lodgepole pine, western white pine, whitebark pine, limberpine, subalpine larch and, in rare instances, mountain hemlock, yellow-cedar, interior variety of Douglas-fir, western redcedar and western hemlock (latter three trees only in the lowest elevations). In the northern part of the zone, stretching north as far as about 100 miles north of Fort St. John, only Engelmann spruce, white spruce, black spruce, subalpine fir, whitebark pine and lodgepole pine as well as scrub birch are found. Water birch, paperbirch, trembling aspen, balsam poplar and mountain maple are frequent. There is usually less snow (mostly fluffy on the ground) than in Zone (2).

4. The Alpine Biogeoclimatic Formation

The mean monthly temperature of the warmest month is above 0°C but below 10°. The annual mean total precipitation is 700 to 2,800 millimetres with 72% to 74% in snowfall. Temperature below 0° for 7 to 11 months, above 10° none; frost-free days number 25 to 105.

a) The Alpine Tundra Zone (AT)

This zone includes terrain at higher elevations, in the southwest areas of B.C. above 1,500 metres on windward side, above 1,800 m on leeward side; in the southeast areas above 2,250 m; in the northwest areas above 900 m; and in the northeast areas above 1,650 m. vegetation is composed of herbs, bryophytes, lichens and only very low shrubs (the only woody plants). No trees thrive in this zone, but some conifers and a few deciduous woody plants develop in dwarf

or stunted form at the lowest elevations in the zone, among them mountain hemlock, subalpine fir, whitebark pine and alpine willows in coastal areas and in the interior Engelmann spruce, subalpine fir, whitebark pine, alpine willows and shrub birch. Vegetation season is very short.

b) The Interior Western Hemlock Zone (IWH)

Temperature above 10°C is 4 to 5 months, below 0° 3 to 5 months; frost-free days 141 to 244. Annual mean precipitation is 574 to 1,452 mm, with 25% to 51% in snow-fall. This is the wettest and most productive forest zone in the Interior of British Columbia and often is called the "Interior wet belt". It is distributed in the southern half of the province between the Rockies and Monashee Mountains, between 49° - 54° 10' N latitude, at elevations from 360 to 1,260 metres.

This zone has two distinct subzones. The drier sub-zone (annual mean total precipitation is 574 to 890 mm) is one of the richest areas of various coniferous trees in B.C. Growing here are the interior variety of Douglas-fir, western larch, western hemlock, western white pine, lodgepole pine, western redcedar, subalpine fir and grand fir, with rare occurrences of Engelmann spruce, white spruce, black spruce, ponderosa pine (rare) and whitebark pine (very rare). The wetter sub/ one (annual mean total precipitation is 890 to 1,452 mm) has only the interior variety of Douglas-fir, western white pine, lodgepole pine, western hemlock, western redcedar, Engelmann spruce, white spruce, black spruce and subalpine fir. Balsam poplar, trembling aspen and paper birch are frequent deciduous trees in both subzones.

c) The Interior Douglas-fir Zone (IDF)

Temperature above 10°C is 4 to 5 months, sometimes only 3 months and sometimes up to 6 months; below 0° 3 to 5 months; frost-free days 151 to 260. The annual mean total precipitation is 359 to 565 mm, with 24% to 51% in snowfall. However, this zone may occur even in areas with heavier precipitation, areas which would be in Zone 8 except for frequent freezing before or after snow which may prevent western hemlock from becoming established.

This zone, covering a certain part of the Interior area in the southern third of the province, between 49° - 53° 10' N latitude, is developed at elevations ranging from 600 to 1,200 metres in the southwest, from 300 to 1,350 m in the southeast and from 450 to 900 m in the north. It is the second warmest interior zone after the Ponderosa Pine-Bunchgrass Zone (No. 10). Its drier subzone (annual mean total precipitation of 359 to 480 mm) has almost only two major coniferous trees, interior variety of Douglas-fir and ponderosa pine. In its wetter subzone (annual mean precipitation of 480 to 563 mm), ponderosa pine is the most productive tree. Other conifers which may be found frequently are lodgepole pine, western white pine, grand fir, western larch, western redcedar, white spruce, Engelmann spruce, black spruce (very rare) and subalpine fir. Occasionally even stunted western hemlock is found here. Trembling aspen, balsam poplar, mountain maple, paper birch and water birch are frequent deciduous trees (or tall shrubs) in this zone.

5. The Semi-arid Cold Steppe Biogeoclimatic Formation

Dry climates in which there is an excess of evaporation over precipitation. No surplus of water remains to maintain a constant groundwater level so that permanent streams cannot originate within these climates. The streams and rivers flowing through areas of such climates originate in other areas with humid climates.

6. The Cordilleran Cold Steppe and Savanna Forest Region

a) The Ponderosa Pine-Bunchgrass Zone (PPBG)

Temperature above 10°C is 5 to 6 months, below 0° 2 to 3 months; frost-free days 219 to 251. The long frost-free period is why orchards with artificial irrigation may develop here. Annual mean precipitation is 213 to 352 mm, with 16% to 29% in snowfall.

This zone lies across the southern part of the province, between 49° - 51° N latitude, at elevations from 270 to 750 metres. It is the driest zone and in summer the warmest area of B.C., taking in the Fraser, Thompson, Nicola, Similkameen, Okanagan and Kootenay River valleys and including the only areas of Canada with a parching semi-desert climate - Thompson River, Okanagan River and Similkameen River valleys.

This zone does not produce any tall trees, having among its conifers mainly ponderosa pine. However, interior variety of Douglas-fir may be established on very coarse soils in which the effect of a small amount of rain is increased by larger stones of such soils. Ponderosa pine tolerates much finer soils.

Nevertheless, on very fine soils, steppe vegetation predominates. Bunchgrass is the major grass among this vegetation but much sage brush has grown in areas after grazing and frequent over-grazing. Western redcedar may occur here only along the rivers, where balsam poplar, trembling aspen, water birch and paper birch also may be found. Western larch is very rare (east of Okanagan River) and only in the wettest pockets.

7. The Mesothermal Biogeoclimatic Formation

This formation occurs in mesothermal climatic areas characterized by mild winter with January mean monthly temperature usually above 0°C. It may occur marginally, however, even with such mild microthermal climates under which the January mean monthly temperature may be as low as -6°C.

a) The Coastal Western Hemlock Zone (CWH)

This is the wettest zone of B.C. and may be briefly characterized by the following climatic data. Temperature above 10°C is 5 to 6 months (4 to 7 months in extremes) and seldom below 0° but sometimes for up to 2 months and, in the north for up to 5 months. Frost-free days 186, to 344. Annual mean total precipitation is 1,550 to 4,400 mm. with as much as 6,655 mm at Henderson Lake, with from 0.7% to 14% in snowfall, except in the north where the percentage snowfall may reach 42%. This zone covers the larger (western) area of Vancouver Island, outside of rain shadow area, and the Coastal mainland to the northern boundary of B.C., between 48° - 59° N latitude (along the coast), at elevations up to 900 m on windward side in the south, 1,050 m on leeward side in the south, and 300 m in the north. It includes the whole area of the Queen Charlotte Islands, where Douglas-fir is not a native tree.

There are two subzones; dry of humid subzone with annual mean total precipitation of 1,524 to 2,800 mm and wet or rainy subzone with annual mean total precipitation of 2,800 to 6,650 mm.

This zone is suitable for the highest production of several coniferous trees. Coastal variety of Douglas-fir, which is highly shade tolerant in this zone, grows best in the dry subzone of the coastal Western Hemlock Zone as a pioneer tree. This also is true of grand fir, western white pine and western redcedar. However, amabilis fir and yellow-cedar are missing in the dry subzone, with few exceptions. Evergreen madrono may occur on driest sites only in the dry subzone.

The wet subzone is characterized by the presence of amabilis fir and yellow-cedar. Both grow here best, yet are almost missing in the dry subzone. In the same wet subzone western hemlock and Sitka spruce grow best in their most suitable ecosystems, even if they grow frequently as well in the dry subzone. Among all conifers, Sitka spruce tolerates ocean spray the best and, therefore, forms pure stands under such conditions. Only western redcedar grows similarly in both subzones, especially if it is supported by seepage habitats or alluvial floodplains. Lodgepole pine also develops in both subzones but it may grow better in the dry subzone. Mountain hemlock grows here poorly and occurs in the wet subzone in bogs.

Among deciduous angiosperms, red alder and black cottonwood are frequent in both subzones, while bitter cherry, flowering dogwood, broadleaf maple and vine maple are more frequent in the dry subzone. Mountain maple, missing in the Coastal Douglas-fir zone, occurs in this zone. Cascara sagrada is frequent in both coastal mesothermal zones, but grows better in the Coastal Western Hemlock Zone (No. 12).

APPENDIX 3

KAMLOOPS FOREST DISTRICT

ROTATION AGE AND POSSIBLE ALLOWABLE ANNUAL CUT (7.1" + D.B.H. CLOSE UTILIZATION LESS DECAY)

IF ALL LANDS ON WHICH THE FOREST SERVICE CAN DISPOSE OF TIMBER VALUES WERE UNDER SUSTAINED YIELD

	ROTATION AGE (YEARS)	ALLOWABLE ANNUAL CUT 6" TOP D.I.B. (C.C.F.)	NAME	ROTATION AGE (YEARS)	ALLOWABLE ANNUAL CUT 6" TOP D.I.B. (C.C.F.)
APPROVED SUSTAINED-YIELD UNITS					
ASHNOLA P.S.Y.U.	103	101,620	SIMILKAMEEN P.S.Y.U.	91	242,160
OKANAGAN P.S.Y.U.	95	254,150	SPALLUMCHEEN P.S.Y.U.	93	262,270
		355,770			504,430
		504,430			
TOTAL APPROVED P.S.Y.U'S		<u>860,200</u>			

SOURCE: British Columbia Forest Service, Kamloops, British Columbia.

KAMLOOPS FOREST DISTRICT

FOREST AND NON-FOREST AREA IN ACRES FOR:

LANDS ON WHICH THE FOREST SERVICE CAN DISPOSE OF TIMBER VALUES

NAME	FOREST LAND						NON-FOREST LAND	TOTAL AREA
	MATURE	IMMATURE	RESIDUAL	N.S.R.	N.C.	TOTAL		
APPROVED SUSTAINED-YIELD UNITS								
ASHNOLA P.S.Y.U.	293,128	160,985	6,127	7,018	2,712	469,970	116,288	586,258
OKANAGAN P.S.Y.U.	402,335	665,605	10,590	11,092	4,963	1,094,585	233,366	1,327,951
SIMILKAMEEN P.S.Y.U.	347,392	379,260	14,038	38,332	2,684	781,706	90,809	872,515
SPALLUMCHEEN P.S.Y.U.	342,159	479,922	50	14,744	500	837,375	117,391	954,766
TOTAL APPROVED P.S.Y.U.'S	1,385,014	1,685,772	30,805	71,185	10,859	3,183,636	557,854	3,741,490

SOURCE: British Columbia Forest Service, Kamloops, British Columbia.

KAMLOOPS FOREST DISTRICT

FOREST AREA IN ACRES BY SITE CLASS FOR:
LANDS ON WHICH THE FOREST SERVICE CAN DISPOSE OF TIMBER VALUES

NAME	SITE CLASSIFICATION				TOTAL FOREST AREA
	GOOD	MEDIUM	POOR	LOW	
APPROVED SUSTAINED-YIELD UNITS					
ASHNOLA P.S.Y.U.	4,247	132,347	332,308	368	469,970
Okanagan P.S.Y.U.	115,239	783,340	195,320	686	1,094,585
SIMILKAMEEN P.S.Y.U.	134,863	423,388	218,024	5,431	781,706
SPALLUMCHEEN P.S.Y.U.	247,303	380,817	200,232	9,023	837,375
TOTAL APPROVED P.S.Y.U.'S	501,652	1,720,092	946,384	15,508	3,183,636

KAMLOOPS FOREST DISTRICT

NET VOLUME IN TENS OF CUNITS (M.C.F.) OF MATURE CONIFEROUS SPECIES OTHER THAN PINE

(7.1" + D.B.H. CLOSE UTILIZATION LESS DECAY) FOR:

LANDS ON WHICH THE FOREST SERVICE CAN DISPOSE OF TIMBER VALUES

NAME	F	C	H	B	S	Cy	L	TOTAL CONIF. OTHER THAN PINE
APPROVED SUSTAINED-YIELD UNITS								
ASHNOLA P.S.Y.U.	179,466	70	-	41,008	246,308	-	-	469,970
OKANAGAN P.S.Y.U.	150,684	4,183	2,506	182,393	260,605	-	30,507	630,878
SIMILKAMEEN P.S.Y.U.	228,247	1,190	1,538	193,030	528,825	7	-	952,837
SPALLUMCHEEN P.S.Y.U.	112,601	205,168	270,972	290,955	357,845	-	42,537	1,280,078
TOTAL APPROVED P.S.Y.U.'S	670,998	210,611	275,016	707,386	1,393,783	7	73,044	3,330,845

KAMLOOPS FOREST DISTRICT

NET VOLUME IN TENS OF CUNITS (M.C.F.) OF MATURE PINE AND BROAD-LEAVED SPECIES

(7.1' + D.B.H. CLOSE UTILIZATION LESS DECAY) FOR:

LANDS ON WHICH THE FOREST SERVICE CAN DISPOSE OF TIMBER VALUES

NAME	Pw	Pl	Py	Cot	D	Mb	Bi	A	TOTAL PINE	TOTAL ALL
									AND BROAD- LEAVED	SPECIES
APPROVED SUSTAINED-YIELD UNITS										
ASHNOLA P.S.Y.U.	567	434,839	1,996	60	-	-	13	414	437,889	904,941
OKANAGAN P.S.Y.U.	38	544,862	26,695	451	-	-	126	1,370	573,542	1,204,420
SIMILKAMEEN P.S.Y.U.	1,620	486,898	22,170	243	-	-	10	315	511,256	1,464,093
SPALLUMCHEEN P.S.Y.U.	28,614	80,926	1,116	1,888	-	-	9,008	2,589	124,141	1,404,219
TOTAL APPROVED P.S.Y.U.'S	30,839	1,547,525	51,977	2,642	-	-	9,157	4,688	1,646,828	4,977,673

APPENDIX 4

ESTIMATED FOREST PRODUCTS INDUSTRY EMPLOYMENT

1971

Regional District	Ranger District	Logging		Milling		Plywood Plants		Total	
		P	M	P	M	P	M	P	M
	1	177	1,801	336	3,705	-	-	513	5,506
	9	174	933	178	1,869	-	-	352	2,802
	19	116	1,010	240	2,489	-	-	356	3,499
North Okanagan		467	3,744	754	8,063	-	-	1,221	11,807
Central Okanagan	15	161	1,289	249	2,068	*	*	410	3,357
	10	172	1,179	473	5,089	-	-	645	6,268
	11	140	1,202	265	2,696	-	-	405	3,898
Okanagan-Similkameen		312	2,381	738	7,785	-	-	1,050	10,166
TOTAL		940	7,414	1,741	17,916	-	-	2,681	25,330

P = Persons
M = Man months

*Not available

ESTIMATED FOREST PRODUCTS INDUSTRY EMPLOYMENT

1976

Regional District	Ranger District	Employment						Total	
		Logging		Milling		Plywood Plants		P	M
		P	M	P	M	P	M		
	1	220	2,310	454	4,540	-	-	674	6,850
	9	331	1,354	402	4,800	328	3,936	1,061	10,090
	19	75	493	118	1,103	-	-	193	1,596
North Okanagan		626	4,156	974	10,443	328	3,936	1,928	18,536
Central Okanagan	15	249	2,620	310	3,686	*	*	559	6,306
	10	42	1,030	362	4,421	-	-	404	5,451
	11	229	1,885	246	2,470	-	-	475	4,355
Okanagan-Similkameen		1,146	9,692	1,892	21,020	328	3,936	3,366	34,648
TOTAL		1,146	9,692	1,892	21,020	328	3,936	3,366	34,648

P = Persons

M = Man months

*Not available

ESTIMATED FOREST PRODUCTS INDUSTRY EMPLOYMENT

1977

Regional District	Ranger District	Logging		Milling		Plywood Plants		Total	
		P	M	P	M	P	M	P	M
	1	247	2,234	416	4,464	-	-	663	6,698
	9	220	907	473	5,628	306	3,672	999	10,207
	19	150	787	154	1,669	-	-	304	2,456
North Okanagan		617	3,928	1,043	11,761	306	3,672	1,966	19,361
Central Okanagan	15	303	2,937	320	3,820	*	*	623	6,757
	10	163	1,579	392	4,525	-	-	555	6,104
	11	307	2,078	230	2,760	-	-	537	4,838
Okanagan-Similkameen		407	3,657	622	7,285	-	-	1,092	10,942
TOTAL		1,390	10,522	1,985	22,866	306	3,672	3,681	37,060

P = Persons

M = Man months

*Not available

SOURCE: British Columbia Forest Service, Kamloops, British Columbia.

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Kamloops, B.C.

Crown Zellerbach Ltd.
Kelowna, B.C.

Gorman Brothers Ltd.
Westbank, B.C.

Interior Lumber Manufacturers Association
Penticton, B.C.

Council of Forest Industries
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MINERAL RESOURCES

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1. THE MINING INDUSTRY IN B.C., 1979*

Mineral production in British Columbia for 1978 is estimated to total \$1.9 billion, a \$157.7 million increase over 1977. Coal accounted for \$85.1 million of the increase followed by metals, \$73.3 million; structural materials, \$13.0 million; petroleum and natural gas, \$6.4 million. Offsetting these gains, the value for industrial minerals dropped \$20.1 million.

Metals

Metal production, at \$787.4 million, represented about 40% of the total value of all minerals, and copper has maintained its position as the most important metal in terms of value. The total quantity of copper produced is estimated at 274.6 million kilograms, only fractionally less than the 1977 total. This figure was reached even though the Granduc mine closed in mid-year and the Gibraltar mine suffered a lengthy strike. With a small increase in the international quotes for copper, plus the impact of the exchange rate of the Canadian dollar, the value of copper reached \$418.2 million, an increase of \$33.4 million over the previous year. About 78% of the copper was sold to Japan with the balance going to eastern Canada, the United States and Europe.

The second most important metal produced, by value, is molybdenum. In 1978, the quantity dropped to 13.3 million kilograms from 15.5 million in 1977. However, due to an increase in unit price and the effects of the exchange rate, the value should total \$160.7 million, up from \$142.1 million last year. Slightly less than half of the molybdenum produced comes from the Endako mine with the balance from Brenda, Lornex, Island Copper, Boss Mountain, Bethlehem and Gibraltar mines.

* Extracted verbatim from "British Columbia Economic Activity - 1978 Review and Outlook", Ministry of Economic Development, January, 1979.

The production and values of gold and iron concentrates are up over 1977. The quantities of lead and silver are down but their values are up. Both the quantity and value of zinc are down.

Petroleum and Natural Gas

Exploration for petroleum and natural gas in the Province during 1978 continued very active, including further success in the Eagle oil field. Drilling and seismic activity increased significantly over 1977 with total drilling approaching 2.0 million feet. A record level of transactions in land dispositions (sale of oil and gas rights) was made in 1978.

Natural gas volumes delivered in 1978 are estimated at 7,668 million cubic metres valued at \$384.6 million compared to 8,895 million cubic metres valued at \$396.6 million in 1977. Production of crude oil decreased while the value increased marginally, 1,891,949 cubic metres valued at \$136.8 million in 1978 compared to 2,200,303 cubic metres valued at \$132.9 million for 1977. The value of other petroleum and natural gas products (condensates, etc.) rose to \$35.4 million from \$21 million in 1977.

Coal

A significant increase in both the quantity and value of coal is anticipated for 1979 with a record production of 9.4 million tons valued at \$413.9 million. Coal ranks as the second most valuable mineral, being worth only \$4.2 million less than copper. The average price for all types of coal, sold and used was \$44.10 per ton at the mine, compared to \$39.04 in 1977.

Structural Materials

It is estimated that structural materials had a value of \$128.6 million in 1978 compared to \$115.7 million in the previous year. The quantity and value of cement were up considerably whereas sand and gravel was down from 1977.

Industrial Minerals

The value of industrial minerals is estimated to have registered a decline from \$79.2 million in 1977 to \$59.1 million in 1978. Although the production and value of sulphur are up, production of asbestos is down about 25% due to a lengthy strike at the Cassiar asbestos mine.

Outlook

With most of the markets for the solid minerals produced in British Columbia being in Japan, the United States and Europe, the prospects for expansion will be related to the level of economic activity in those areas and the competitiveness of our mineral industry. The decline in the value of the Canadian dollar has assisted the industry considerably.

It is expected that the natural gas production will decline in 1979 due to slackening sales in the export market. Oil production will also decrease although unit values and overall value will be higher. The development of the Grizzly-Bullmoose-Sukunka natural gas and processing plant project is on schedule and should bolster gas production capability. Other pipelines are being added to the gathering system as well.

The number of mineral claim units staked as of the end of October, 1978, totalled 29,342, down slightly from 31,557 units for the same period in 1977. Exploration expenditures for coal in 1978 will probably equal those for 1977 but, with the lifting of the moratorium on coal licences in 1978, the 1979 amount should be greater. The outlook for oil and gas exploration in the northeastern part of the province remains favourable. The announced increase in Middle East oil prices for 1979 will have an impact on British Columbia's oil and gas industry. Increased prices for British Columbia oil and natural gas could be one result, although sales of other mining products may be hampered.

2. OKANAGAN PERSPECTIVE

Three mining divisions fall within the boundary of the Okanagan Study Area - the mining districts of Osoyoos, Similkameen and Vernon.

The Economics and Planning Division of the Mineral Resources Branch in Victoria have arranged data on the various mining divisions throughout the province to facilitate comparison between the province's twenty-four mining districts. Appendix A to this report details the methods of computation and valuation techniques used in order to calculate the tonnages and values attached to each of the commodities discussed in this report.

Table 1 details mineral production statistics in the Okanagan by mining division for the years 1976 and 1977 and gives a total of production "to-date", i.e. since statistical data became available.

The accumulative dollar value of mineral production in the Okanagan to the year 1977 reached \$748 million. This represents approximately 4.7% of the estimated \$15,859 million for the province over the same period. A statistical comparison of each mining division for the Okanagan is as follows:

<u>Mining District</u>	<u>Division Total</u>
Osoyoos	\$404,499,624 (54.1%)
Similkameen	325,307,878 (43.5%)
Vernon	<u>18,156,206 (2.4%)</u>
	<u>\$747,963,708</u>

TABLE 1
Mineral Production in the Okanagan
by Mining Division

(1976, 1977 and total to date)

Division	Period	Placer Gold		Metals	Industrial Minerals	Structural Materials	Coal*		Division Total
		Quantity (G.)	Value \$				Quantity (t.)	Value \$	
Osoyoos	1976	-	-	51,451,067	14,212	753,952	-	-	52,219,231
	1977	-	-	62,327,867	25,577	836,846	-	-	63,190,290
	to date	7,465	5,466	390,877,989	6,760,014	6,851,147	1,018	5,008	404,499,624
Similkameen	1976	-	-	38,891,222	-	350,424	-	-	39,241,646
	1977	-	-	32,553,805	-	850,292	-	-	33,404,097
	to date	1,415,404	878,204	299,188,226	18,558	5,669,165	4,188,851	19,553,725	325,307,878
Vernon	1976	-	-	32,395	35,760	2,841,135	-	-	2,909,290
	1977	-	-	-	-	2,683,196	-	-	2,683,196
	to date	85,058	73,349	371,554	225,341	17,485,962	-	-	18,156,206
Total B.C.	1976	26,064	115,613	646,634,790	52,917,142	100,938,648	7,537,695	298,683,679	1,520,263,436
	1977	46,170	289,075	713,747,632	79,186,645	116,650,992	8,424,181	328,846,883	1,788,161,083
	to date	163,144,188	981,69,877	9,569,537,055	599,620,820	1,249,724,994	180799139	1935,327,745	15,859,213,804

Source: 1977 Annual Report - Ministry of Mines & Petroleum Resources

*Coal mining started in the Nicola-Princeton coal field in 1907 and continued intermitantly until 1940 when the colliery at Coalmont closed. (But see pp. for further information on coal potential in this area.)

Approximately 92% of the value of production in the Okanagan has been accounted for by "metals", approximately 7% to structural materials, 0.8% coal and 0.1% placer gold. No petroleum and natural gas have been produced in the region to date. Each of these mineral classifications is analysed separately in Tables 3 and 4.

2.1 Metals

Table 2 overleaf describes the quantity of minerals produced and the dollar value for each of the products which are collectively grouped as "metals". The table is further classified into "major" and "miscellaneous" metals.

The value of total "metals" produced in the Okanagan reached \$94.9 million in 1977 - 13% of the total metal production of the province. Copper production accounted for \$49.5 million (52.2%) followed by molybdenum (\$37.2 million - 39.2%); lode gold (\$4.7 million - 5.0%) and silver (\$3.0 Million - 3.1%). Lead/zinc accounted for the remaining 0.5% of production.

Copper

During the 1960's, exploration for copper became intense, interest being directed towards finding large, low-grade deposits suitable for open-pit mining. This activity resulted in the establishment of Brenda Mines near Peachland in 1970 and the Ingerbelle property near Princeton in 1972. Brenda also produces molybdenum as a by-product (see page 14 for details of the Brenda operation).

TABLE 2

PRODUCTION OF LODE GOLD, SILVER, COPPER, LEAD AND ZINC BY MINING DIVISION

(1976 and 1977, and Total To Date)

Division	Period	Lode Gold		Silver		Copper		Lead		Zinc		Division Total
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
		g	\$	g	\$	kg	\$	kg	\$	kg	\$	\$
Osyoos	1976	457,090	1,912,757	18,267,289	2,559,597	13,912,134	19,711,264	10,120	4,317	12,867	5,682	24,193,977
	1977	107,399	550,029	15,253,595	2,429,781	15,490,255	22,170,354	11,602	6,488	15,890	6,169	25,162,821
	To Date	53,205,694	56,465,274	182,600,424	16,644,675	116,535,054	159,555,857	286,385	84,347	161,817	59,702	232,810,855
Similkameen	1976	1,043,475	4,127,500	3,291,008	639,914	23,519,501	34,123,808	-	-	-	-	38,891,222
	1977	87,246	4,660,443	3,456,476	532,814	19,730,380	27,360,548	-	-	-	-	32,553,805
	To Date	10,248,315	26,090,510	149,196,580	5,010,933	373,997,568	267,937,202	178,550	15,1376	36,494	5,258	299,059,040
Vernon	1976	124	480	187,583	25,331	-	-	11,890	4,719	3,383	1,805	32,395
	1977	-	-	-	-	-	-	-	-	-	-	-
	To Date	165,094	180,789	2,209,620	140,058	297	100	86,363	29,276	33,511	11,299	361,522

TABLE 2

PRODUCTION OF MISCELLANEOUS MINERALS BY MINING DIVISIONS

(1976 and 1977, and Total To Date)

Division	Period	Molybdenum		Cadmium		Platinum		Manganese		Division Total
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
		kg	\$	kg	\$	g	\$	t	\$	\$
Osyoos	1976	3,705,953	27,257,090	-	-	-	-	-	-	27,257,090
	1977	3,866,503	37,165,046	-	-	-	-	-	-	37,165,048
	To Date	31,057,514	158,067,134	-	-	-	-	15	-	158,067,134
Similkameen	1976	-	-	-	-	-	-	-	-	-
	1977	-	-	-	-	-	-	-	-	-
	To Date	-	-	-	-	40,030	129,186	-	-	129,186
Vernon	1976	-	-	-	-	-	-	-	-	-
	1977	-	-	-	-	-	-	-	-	-
	To Date	2,456	9,500	86	532	-	-	-	-	10,032

Molybdenum

Recently, mining of large low-grade molybdenum and copper-molybdenum deposits has increased production to the point that "moly" now ranks second in importance in annual value of metals produced in British Columbia. The Brenda Mine, which opened in 1970, is a combined copper-molybdenum producer and accounted for 25% of the province's total molybdenum concentrates in 1977.

Gold (Lode)

In the early years (of the province) lode gold mostly came from the camps at Fairview and Hedley. In the 1930's, when the price of gold increased, Hedley became a major producer, but the mine is no longer producing.

Silver

A significant amount of silver is produced by Dankoe (Horn Silver) Mines Ltd. (see page 13) and the Highland Bell Mine at Beaverdell, in operation since 1922 (see page 17).

Lead

Lead and zinc usually occur together in nature, although not necessarily in equal amounts, in a single deposit. Dankoe (Horn Silver) is the only current producer of lead/zinc in the Okanagan.

Platinum

Platinum has been produced intermittently from placer streams in small amounts since 1887, mostly from the Tula-meen and Similkameen Rivers. Some is presumed to have originated in copper concentrates from the Copper Mountain Mine. However, platinum has not been produced recently.

Magnesium Sulphate

Magnesium sulphate was recovered in minor amounts at various times between 1915-1942 from small alkali lakes near Osoyoos.

Manganese

In 1956 a test shipment of manganese ore was made from Olalla.

2.2 Industrial Minerals

Table 3 portrays the production of those minerals classified as "industrial". Currently, the Okanagan has no significant procedures of industrial minerals.

Arsenious Oxide

Arsenious oxide was recovered at foreign smelters from arsenic gold ores from Hedley between 1917 and 1931. No arsenious oxide has been recovered since then in the Okanagan.

Bentonite

Small amounts of bentonite were produced between 1926 and 1944 from deposits in the coal measures near Princeton.

Cadmium

Cadmium is a by-product of silver-lead-zinc ores. No significant production has occurred from producing mines in the Okanagan.

Fluorite (Fluorspar)

Between 1958 to 1968, small quantities of fluorite were produced as a by-product at the Oliver silica quarry.

Flux

Silica and limestone are added to smelter furnaces as flux to combine with impurities in the ore and form a slag which separates from the valuable metal. In the past silica was shipped from the Oliver silica quarry, (Gypo) and from a small silica quarry located west of Armstrong (Mount Rose).

Granules

Rock chips are used for bird grits, exposed aggregate, roofing stucco, dash, terrazo, etc. A plant operates in Armstrong.

Mica

No sheet mica has been produced commercially in British Columbia. However, small amounts of mica schist for grinding were mined near Armstrong and near Oliver and Sicamous.

2.3 Structural Materials

Table 4 indicates that structural materials produced in the Okanagan during 1977 amounted to \$4.4 million. Sand and gravel accounted for all but \$41,292 of this amount. The Vernon mining district accounted for 60% of the Okanagan's 1977 production.

Rock

Production of rubble, riprap and crushed rock has been recorded since 1909.

Sand and Gravel

Sand and gravel are used as aggregate in concrete work. The output has varied from year to year according to the level of construction activity (see Table 4).

3. PRODUCING MINES IN THE OKANAGAN

There are only three producing mines in the Okanagan at the present time (April, 1979). Table 5 summarizes metal production output for 1977 by mining division:

TABLE 4

Production of Structural Materials by Mining Divisions
1976 and 1977, and Total to Date

Division	Period	Cement	Lime and Limestone	Building-stone	Rubble, Riprap and Crushed Rock		Sand and Gravel	Clay Products	Unclassified Material	Division Total
					Quantity	Value				
		\$	\$	\$	\$	\$	\$	\$	\$	\$
Osceola	1976	-	-	-	-	-	753,952	-	-	753,952
	1977	-	-	-	-	-	836,846	-	-	836,846
	To Date	-	43,774	33,018	355,349	6,419,006	-	-	-	6,851,147
Similkameen	1976	-	-	-	-	-	350,424	-	-	350,424
	1977	-	-	-	-	-	850,292	-	-	850,292
	To Date	10,500	11,571	24,000	712,341	4,897,398	13,355	-	-	5,669,165
Vernon	1976	-	304,917	2,223	-	-	2,533,995	-	-	2,841,135
	1977	-	-	41,292	-	-	2,641,904	-	-	2,683,196
	To Date	-	351,416	141,367	403,649	16,428,276	161,254	-	-	17,485,962

TABLE 3

Production of Industrial Minerals by Mining Division
1976 and 1977, and Total to Date

Division	Period	Fluxes (Quartz and Limestone)		Granules (Quartz, Limestone and Granite)		Gypsum and Gypsite		Mica		Other Value	Division Total
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value		
		t	\$	t	\$	t	\$	t	\$	\$	\$
Osceola	1976	-	-	576	14,212	-	-	-	-	-	14,212
	1977	-	-	917	25,577	-	-	-	-	-	25,577
	To Date	728,113	3,699,031	193,422	2,728,512	-	-	720,664	25,938	306,533	6,760,014
Similkameen	1976	-	-	-	-	-	-	-	-	-	-
	1977	-	-	-	-	-	-	-	-	-	-
	To Date	-	-	-	-	227	1,700	-	-	16,858	18,558
Vernon	1976	-	-	1,306	35,760	-	-	-	-	-	35,760
	1977	-	-	-	-	-	-	-	-	-	-
	To Date	2,903	30,400	7,210	190,963	-	-	72,801	3,978	-	225,341

10 Fluorspar
 11 Arsenious oxide
 13 Bentonite

TABLE 5

Metal Production, 1977

Property or Mine	Location of Mine	Owner or Agent	Ore Shipped or Treated t	Product Shipped	Gross Metal Content				
					Gold g	Silver g	Copper kg	Lead kg	Zinc kg
Oroyoco Mining Division Brenda	Brenda Lake	Brenda Mines Ltd.	9,634,421	Copper concentrates, 54,837 t; molybdenite concentrates, 6,792 t; molydic oxide, 15 t; total content 3,866,503 kg of molybdenum	102,080	8,017,576	16,133,570	-	-
Horn Silver	Kereenos	Dankoe Mines Ltd.	31,984	Bulk and jig concentrates, 1,168 t	24,260	8,917,790	4,170	23,759	27,993
Similkameen Mining Div. Susilkameen (Ingerbelle)	Princeton	Newmont Mines Ltd. (Similkameen Div.)	7,135,737	Copper concentrates, 74,838 t	969,169	3,980,500	20,596,981	-	-
Vernon Mining Division NIL	-	-	-	-	-	-	-	-	-

Source: Annual Report - Ministry of Mines and Petroleum Resources

3.1 Brenda Mines Ltd.

The Brenda Mine opened in March, 1970. Together with the Newmont operation located at Princeton, it has been a dominant source of mining activity in the Okanagan region. The mine has an estimated 177 million tons of 0.18% copper and 0.49% molybdenum. At a daily production rate of 24,000 tons, the mine has a mine life of a further 10 years. Exploration is underway for other ore bodies within a 6 to 8 mile radius, but to-date, no significant finds have been reported.

The current labour force is 500. Copper concentrates are shipped by truck to Kelowna for movement to Vancouver by the Canadian National Railway and thence to Japan. The molybdenum concentrates are shipped by truck in drums tied to pallets to Vancouver for British and Belgian markets.

Table 6 shows actual mining production at the Brenda Mine from 1970 to 1978 together with average annual employment.

TABLE 6

Year	Total Employment	Production (in Tons)
1970	367	14,857,000
1971	394	17,847,000
1972	400	18,434,000
1973	389	17,838,000
1974	425	19,320,000
1975	432	18,440,000
1976	436	20,230,000

Source: Department of Mines, Annual Report

Geology

The mineralization at Brenda Mine is near the contact between a large body of plutonic rock and the eastern end of a re-entrant of Nicola Group rocks. In three important respects it is unlike the Copper Mountain ore bodies:

- a) mineralization at Brenda and, in numerous occurrences, in the area are almost exclusively found within dioritic rocks, apparently not related to the actual contact;
- b) the grade of copper is extremely low by current standards, and
- c) the presence of molybdenum in mineable quantities is the major factor making the operation economically feasible. Minor amounts of gold and silver are also recovered. However, similar to Copper Mountain, sulphides are localized in an intense fracture zone associated with a north-trending fault system.

3.2 Dankoe Mines

(Location south of Keremeos on Horn Silver Property)

Dankoe Mines (name changed from Utica) has been a significant past producer of silver (with minor gold plus lead, zinc and copper showings).

The mine closed down in the first quarter of 1970 because of low silver prices. Employment in 1969 averaged 89 and mill capacity was 300 tons per day.

The property was redeveloped to a 400/450 tons per day mill capacity. However, current production (April, 1979) is 150 tons per day and current employment is 40, most of whom reside in the local valley area.

The Horn Silver property is a "vein" system which makes analysis of reserves and future production levels a rather difficult task. Recent activity included a 3800 foot adit driven to the 1700 footlevel. No data is available on the impact this work will have on production activity. Work continues on two "raises" to intersect with the ore but no expansions in milling are expected until such time as more "working forces" are developed.

Silver was trading on the London Metal Exchange in March at \$9.20 an ounce (and its price has advanced 42% in Canadian dollars in the past year). This buoyancy has resulted in stepped up exploration activity in known silver producing areas. Dankoe is undertaking an exploration program this summer on property owned by Blackgiant Mines in the same general vicinity as the Horn Silver property.

Nevertheless, the short-term outlook calls for no further increase in either milling activity or payroll.

3.3 Newmont Mines Ltd. - Similkameen Division

History - Copper Mountain

From 1917 to 1962, the Copper Mountain Mine treated nearly 35 million tons of ore with values in copper and accessory gold and silver, producing a gross value at present prices of roughly \$330,000,000. Similkameen Mining Co. Ltd., developed two open pit operations, one near old underground workings, (Granby Mines) and another across the Similkameen River to the west (Ingerbelle), establishing the presence of an estimated 76 million tons of ore grading, 0.53% copper with important accessory values in gold and silver. A daily production of 15,000 tons gave this complex a life of not less than 14 years, and a gross value at 1972 metal prices of approximately \$430,000,000. The Ingerbelle property was opened up first in production by March, 1972. Some 250 permanent jobs

were created at the mine and most employees resided in Princeton. Output was shipped to Japan.

Geology

Mineralization occurs mainly in the altered volcanic rocks of the Nicola Group (Upper Triassic in age) near the contact with Copper Mountain Stock, an igneous intrusion of Cretaceous age. Localization and concentration of sulphides is in a large part controlled by north-trending faults and intense fracturing.

Current

Development has now switched back to the Copper Mountain site where 3 new pits (on the Old Granby Mountain site) are currently in the stripping process at a total cost of \$24 million.

Dollar expenditures are as follows:

1978	2.0	million
1979	11.25	million
1980	9.5	million
1981	0.5	million

This "extension" of activity will not increase the daily tonnage (output) of the operation but will add 20 years to the life of reserves. These "official" reserves now stand at 149,077,000 tons of 0.41% copper compared with 49,892,000 at 0.54% copper at the end of 1977. Current daily production is 22,000 tons. The annual report of Newmont Mines showed that the Similkameen Division milled 7,743,000 tons at 41% copper in 1978, producing:

27,300	short tons per copper ore
37,100	ozs. (troy) gold
139,800	ozs. silver.

The gold and silver are recovered in the refinement process, and Newmont is one of the top producers of silver in Canada. Estimated capital expenditures on the mine extension call for:

	Millions
New suspension bridge (across Similkameen River)	\$2.5
Cable belts (conveyor system)	\$2.1
Truck repair (pit) shops & offices	\$2.0
Crushing plant (concentration)	\$4.5
One storage and reclamation	
Access roads	\$1.0

Most of this will be contracted out with only a small portion of "own account" construction.

Commonwealth Construction (Vancouver) have been awarded the contract for the construction of the concentrator, storage and shop. The site work is anticipated to require a peak construction crew of 150 - most of whom will be housed in onsite facilities. There will be substantial fluctuation in the size of this work force depending on construction phasing, seasonal factors, etc. The project deadline for production startup is the fall of 1980.

The workforce at the Newmont Mines is currently 340 - 73 staff and 267 hourly employees. This number will remain unchanged with the development of the Copper Mountain ore body. Contracts for ore have been signed with Japan. An average of 5 barrels per day will transport the ore to tide-water in Vancouver.

3.4 Teck Corporation - Beaverdell Division

Although technically outside the geographic area of this study, the Highland-Bell Mine is included as a point of interest.

United Hearne Resources operate the Highland-Bell Mine, approximately 70 miles south of Kelowna in Beaverdell.

This mine has been the main producer of silver, lead and zinc in the general area since 1922. It is just beyond the Okanagan basin boundary, but the associated geological environment may well be repeated within the region. The ore occurs in veins and fractures in altered granodiorites and granites of Late Mesozoic age close to their contact with rocks of the Triassic to Permian Anarchist Group. Production figures from Highland-Bell are not included in any calculations.

The 120 ton per day capacity facility milled 104 tons per day in 1978 with 89.1% recovery. The mine produced 373,190 ounces silver in 1978 with minor amounts of gold and cadmium. Production has been steady since 1965 with 1977 levels about 10,000+ ounces of silver above 1978 levels. The operation is underground and, due to the extreme faulting of the parent material, it has been difficult to establish reserves with any accuracy. Best estimates are for 5 year reserves.

The permanent campsite is located at Beaverdell and the mine employs between 35-40 persons. Until recently, the ore was shipped by the Canadian Pacific Railway to the smelter in Trail. The spur line has since been abandoned and the ore is now trucked.

4. EMPLOYMENT IN PRODUCING MINESTABLE 7

Summary of Employment at Major Mines
In the Okanagan Region
(1977)

Mine	<u>Average Number Employed</u>						Total
	Opera- -ting Mill	Adminis- trative	Mine Sur- face	Under- Ground	Mill	Others	
Brenda Mines Ltd.	365	118	156	-	166	8	448
Dankoe Mines (Horn Silver)	246	7	4	22	4	-	37
Newmont Mines Ltd. (Similkameen Div.)	365	78	160	-	84	-	322
TOTAL	976	203	320	22	254	8	807

Source: Ministry of Mines & Petroleum Resources, Annual Report 1977

NOTE: (1) The average number of employees includes wage-earners and salaried employees. The average is obtained by adding the monthly figures and dividing by 12, irrespective of the number of months worked.

The 807 total employed at the three operating mines represented approximately 8% of the province's employment in major metal and coal mines in 1977.

5. POTENTIAL MINES IN THE OKANAGAN

5.1 Cyprus-Anvil - Tulameen Basin

Parent Company

Cyprus Anvil Mining Corporation of Los Angeles (operates Anvil Mining Co. at Ross River in the Yukon Territory (Lead Zinc Silver))

Site Location

5 miles west of Coalmont, B.C. current access by logging road.

Geology

Coal is interbedded with the Princeton sedimentary rocks of Tertiary age which occur in the Princeton and Tulameen (Coalmont) Basins. Production from mines in these basins from 1909 to 1944 amounted to over 4 million tons. The coal in these districts is high volatile bituminous to sub-bituminous with only weak coking characteristics, but may be mixed with higher grade coking coal to produce a suitable metallurgical coke.

The Cyprus-Anvil claims in the Tulameen Basin are thermal (steam) coals, low sulphur content high volatile sub-bituminous for burning in electric generating plants or in rotary kilns or cement plants. The Tulameen reserves are reported to have much higher heat value and of better quality than the extensive Hat Creek Coalfields.

Current Situation

The Company has undertaken extensive exploration activities over the past two years.

5. POTENTIAL MINES IN THE OKANAGAN

5.1 Cyprus-Anvil - Tulameen Basin

Current Situation (Continued)

While overall reserves are still unknown, 10-15 million tons of surface reserves (open pit) have been established with potential mine life of 13/15 years. Underground reserves would add substantially to the life of the mine. The Company has yet to file a prospectus under B.C.'s coal guidelines nor has an Environmental Impact Statement been completed.

Development Plans

The demand for thermal (steam) coal has increased significantly over the short term due to the 1974 oil crisis, the uncertainties over the price and quantities of Middle-east oil, and the ripple effect of the Harrisburg incident which already has caused market adjustments in the demand for coal for power generation as an alternative to nuclear energy. Although no firm contracts are signed, the Cypress-Anvil coal deposit could be on-stream in two years. Estimated capital expenditures; \$7.7 M., with \$6.6 M. for mine development; \$7.7 M. for surface plant and \$2.3 M. for other expenditures - such as road access. A workforce of approximately 70 persons would live in the existing community of Coalmont.

Shipping

The ore body lies 5 miles from the rail head at Coalmont would take place on site, and trucked to Coalmont where it would be shipped to Vancouver on C.P. Rail. Discussions are on-going between C.P. and Cypress-Anvil to resolve several outstanding issues - particularly capacity problems at Roberts Bank.

5.2 Norcen Energy Resources - Blizzard Project

Participants in the Blizzard project are Norcen Energy Resources, E & B Exploration Ltd. (on behalf of Sedimex KG), Lacanana Mining Corp., Campbell Chibougamau Ltd., and Ontario Hydro.

Site Location

The Blizzard property is located 28 km. northeast of Beaverdell and 50 km. southeast of Kelowna.

Development Plans

Drilling and preliminary engineering studies indicate a commercial uranium deposit. Drill indicated ore reserves are calculated to be 2,100,000 tons containing 4,767,000 kilograms (10,487,000 pounds) of uranium oxide with an average diluted grade of 0.227%.

A total of 327 diamond drill holes and 65 rotary drill holes have been completed, predominantly on a 30 meter grid pattern. The Blizzard deposit lies close to the surface and the present, preferred mining method is open pit.

Although no mining development can take place until approvals have been obtained from the Federal and Provincial Governments, engineering work is continuing in order to complete a final feasibility study. The B.C. Government announced recently that an inquiry will be held in 1979 to establish guidelines for uranium mining in the province and that no mining will proceed until this inquiry has been completed.

TABLE 8

Favourable Prospects - Okanagan

Deposit	Metals	Comments
St. Paul	Au,Ag,Pb,Zn (Sb,Cu,As)	Small gold vein. Intermittent minor production.
Axe	Cu,Mo.	32, 659, 200 tons of reserves at Cu 0.36% (unclassified) Property has undergone extensive exploration; currently uneconomic.
Dusty Mac	Au,Ag.	92,910 tons (measured and indicated) at Ag 4.26 oz/ton and Au 0.24 oz/ton. Small deposit - economics uncertain. Was mined a few years ago with ore milled by Dankoe.
P.B.	U	Several uranium prospects in area of Blizzard Property. Little information, active exploration.
Carmi	Mo	40,000,000 tons at 0.15% MOS . No economic assessment.
Doorn	Cu,Ph,Zn	No information.
Susie	Si,Ag,Cu, Pb,Zn	Old property; former producer; status uncertain. Quartz veins, small tonnage.
Ash	Cu,Mo	Possible porphyry potential.
Golconda	Cu,Mo,Au, Ag,Pb	Small tonnage shear zone.

Source: Ministry of Energy, Mines and Petroleum Resources

SYMBOLS

Au - Gold Ag - Silver Pb - Lead Zn - Zinc Cu - Copper
 Mo - Molybdenum U - Uranium Si - Silicon Ph - Phosphorous
 T - Tritium Bi - Bismuth Te - Tellurium

In addition to those properties shown in Map 1, a further nine properties are listed in Table 9.

TABLE 9

<u>Deposit</u>	<u>Metals</u>	<u>Comments</u>
AT (DUN)	Cu,Mo	Possible porphyry copper deposit.
White Elephant	Au,Ag (T,Bi,Te)	Vein deposit, inactive.
Mount Vernon	Mo,Cu,Au Ag,Pb,Zn	Showing.
Kalmalka	Au,Ag,Cu, Pb,Zn	Free gold in quartz veins.
Harris Cr.	Au	Gold Placer.
Chaput	Ag,Pb,Zn,Au	Unstated grade, 10,000 ton "ag" ore, past producer, status uncertain.
Cherry Cr.	Au,Ag	Placer with long and discontinuous production history.
Whip	Cu,Mo	Porphyry environment.
Rc	Cu,Fe	No information.

Source: Ministry of Energy, Mines and Petroleum Resources

Two Mineral Deposit-Land Use Maps (82L and 92H)* cover the Okanagan area. The following is a summary, prepared by the Ministry of Energy, Mines and Petroleum Resources, of prime potential areas within the Okanagan as shown on the two maps.

Summary of Prime Potential Areas - 82L and 92H

82L

1. Headwater of Shuswap River, NE of Sugar Lake. Few good known prospects, but good potential for discovery of small to medium-sized economic mines.

* See bibliography

2. Monashee Pass area, and headwaters of the Kettle River, in the area of the Monashee and St. Paul Properties. Good potential for small-scale Au-Ag-Ph-Zn mines. St. Paul is a past producer.
3. Northwest of Mabel Lake, in the area of Colby Mines properties. Good potential for medium sized Zn-Pb production.
4. Southwest of Lumby. Good potential for small Au-Ag-Pb-Zn producers.
5. Large area centred around Vernon, good potential for small mines in a variety of metals. Contains Kalmalka and Mount Vernon properties.
6. Westbank of Okanagan Lake, 15 miles southwest of Vernon. Good potential for small Au-Au production in the area of the White Elephant Property.

92H

- all areas of good potential in this map sheet are well represented by mineral showings.

1. Northeast of map sheet, in the area of Brenda mine (Cu,Mo) Mine. Excellent potential for large deposits.
2. Summers Creek Valley, including the Axe (Cu,Mo) property. Good potential for medium-sized deposits.

3. Tulameen River, upstream from Tulameen. Good potential for medium-sized deposits. In the area of the RC (FE-Cu) property.
4. Area between Hedley and Princeton. Good potential for medium-sized deposits. Supported by several Au-Cu-Ag showings.
5. Area south of and including Similkameen Copper Mine. Good medium-sized potential.

APPENDIX A

METHODS OF COMPUTING PRODUCTION

	Lead Concentrates %	Zinc Concentrates %	Copper Concentrates %	Copper-Nickel Concentrates %	Copper Matter %
Silver	98	98	98	-	98
Copper	Less 26 lb/ton	-	Less 10 lb/ton	85	Less 10 lb/ton
Lead	98	50	-	-	50
Zinc	50	90	-	-	-
Cadmium	-	70	-	-	-
Nickel	-	-	-	88	-

VALUE OF PRODUCTION

For indium, iron concentrate, mercury, molybdenum, rhenium, and tin the value of production is the amount received by the shippers.

For gold, silver, copper, lead, zinc, antimony, bismuth, cadmium, some iron concentrate, and nickel the value of production was calculated from the assay content of the ore, concentrate, or bullion less appropriate smelter losses, and an average price per unit of weight. The 1974 values represent the settlement values received by the producers for the respective metals.

Prior to 1925 the value of gold and copper produced was calculated by using their true average prices and, in addition, for copper the smelter loss was taken into account.

The value of other metals was calculated from the gross metal content of ores or concentrates by using a metal price which was an arbitrary percentage of the average price, as follows: Silver, 95%; lead, 90%; and zinc, 85%.

For 1925 to 1973 the values had been calculated by using the true average price and the net metal contents in accordance with the procedures adopted by Statistics Canada and the Ministry of Mines and Petroleum Resources.

Since 1974, the total quantity and value of metal production include the quantities paid for to the mines, and the smelter and refinery production that can be attributed to the mines but is not paid for. The quantity and value paid for to the mines, excluding outward transportation costs, smelting and refining costs, penalties and deductions, are shown separately for comparative purposes.

Industrial Minerals and Structural Materials

The values of production of industrial minerals and structural materials are approximately the amounts received at point of origin.

Coal

The value of production of coal is calculated using a price per ton which is the weighted average of the f.o.b. prices at the mine for coal sold.

Petroleum and Natural Gas

The values of production of natural gas, natural gas liquid by-products, and petroleum including condensate/pentanes plus are the amounts received for the products at the well-head.

Methods of Computing Production

The tabulated statistics are arranged so as to facilitate comparison of the production records for the various mining divisions, and from year to year. From time to time, revisions have been made to figures published in earlier reports as additional data became available or errors became known.

(1) 1977 Annual Report, Ministry of Mines and Petroleum Resources

Data is obtained from the certified returns made by the producers of metals, industrial minerals and structural materials, and coal, and are augmented by data obtained from custom smelters. For petroleum, natural gas, and liquid by-products, figures supplied by the Petroleum Resources Branch of the Ministry of Mines and Petroleum Resources are compiled from the monthly disposition reports and the Crown royalty statement filed with the Ministry by the producers.

Values are in Canadian funds. Metric weights are used throughout.

Metals

Average prices

The prices used in the valuation of current and past production of gold, silver, copper, lead, and zinc are shown in the table on page 88.

Prior to 1974 the price of gold used was the average Canadian Mint buying price for fine gold.

The price used for placer gold originally was established at \$17 per ounce, when the price of fine gold was \$20.67 per ounce. Between 1931 and 1962, the price was proportionately increased with the continuously changing price of fine gold. Since 1962, Canadian Mint reports giving the fine gold content have been available for all but a very small part of the placer gold produced, and until 1973, the average price listed is derived by dividing ounces of placer gold into total amount received. Starting in 1974, the price used for the valuation of gold, lode and placer, is the amount received by the producer.

Prior to 1949 the prices used for silver, copper, lead, and zinc were the average prices at the markets indicated in the table on page 88, converted into Canadian funds. The abbreviations in the table are Mont.=Montreal; N.Y.=New York; Lon.=London; E.St.L.=East St. Louis; and U.S.=United States.

Starting in 1949, the price of silver, copper, lead, and zinc were average United States prices converted into Canadian funds. Average monthly prices were supplied by Statistics Canada from figures published in the Metal Markets section of "Metals Week". Specifically, for silver it was the New York price; for lead it was the New York price; for zinc it was the price at East St. Louis of Prime Western; for copper it was the United States export refinery price. Commencing in 1970, the copper price is the average of prices received by the various British Columbia shippers and since 1974 this applies also to gold, silver, lead, zinc, and cadmium.

For antimony and bismuth, the average producers' price to consumers is used. For nickel the price used is the Canadian price set by the International Nickel Company of Canada Limited. The value per ton of iron ore is used in making pig iron at Kimberley, was an arbitrary figure, being the average of several ores of comparable grade at their points of export from British Columbia.

Gross and Net Content

The gross content of a metal in ore, concentrate, or bullion is the amount of the metal calculated from an assay of the material, and the gross metal contents are the sum of individual metal assay contents. The net contents are the gross contents less smelter and refinery losses.

In past years there have been different methods used in calculating net contents, particularly in the case of one metal contained in the concentrate of another. The method established in 1963 is outlined in the following table. For example, the net content of silver in copper concentrates is 98% of the gross content, of cadmium in zinc concentrates is 70% of the gross content, etc. Commencing in 1974, the quantities represent the actual net quantities or metals paid for.

APPENDIX B

INDEX OF METAL PRODUCTION IN THE OKANAGAN

MINERAL PRODUCTION IN THE OKANAGANArsenious Oxide

Arsenious oxide was recovered at foreign smelters from arsenic gold ores from Hedley between 1917 and 1931. No arsenious oxide has been recovered since then in the Okanagan.

Bentonite

Small amounts of bentonite were produced between 1926 and 1944 from deposits in the coal measures near Princeton.

Cadmium

Cadmium is a by-product of silver-lead-zinc ores. No significant production has occurred from producing mines in the Okanagan.

Coal

Coal mining started in the Nicola-Princeton coal field in 1907 and continued intermittently until 1940 when the colliery at Coalmont closed.

Copper

During the 1960's, exploration for copper became intense, interest being directed towards finding large, low-grade deposits suitable for open-pit mining. This activity resulted in the establishment of Brenda Mines near Peachland in 1970 and the Ingerbelle property near Princeton in 1972. Brenda also produces molybdenum as a by-product (see page 14 for details of the Brenda operation).

Fluorite (Fluorspar)

Between 1958 to 1968, small quantities of fluorite were produced as a by-product at the Oliver silica quarry.

Flux

Silica and limestone are added to smelter furnaces as flux to combine with impurities in the ore and form a slag which separates from the valuable metal. In the past silica was shipped from the Oliver silica quarry.

Gold (Lode)

In the early years (of the Province) lode gold mostly came from the camps at Fairview and Hedley. In the 1930's, when the price of gold increased, Hedley became a major producer.

Gold (Placer)

Placer gold was first discovered in the Okanagan in Granite Creek in the Tulameen in 1885.

Granules

Rock chips are used for bird grits, exposed aggregate, roofing stucco, dash, terrazo, etc. A plant operates in Armstrong.

Lead

Lead and zinc usually occur together in nature, although not necessarily in equal amounts, in a single deposit. The Dankoe (Horn Silver) is the only current producer of lead/zinc in the Okanagan.

Magnesium Sulphate

Magnesium sulphate was recovered in minor amounts at various times between 1915-1942 from small alkali lakes near Osoyoos.

Manganese

In 1956, a test shipment of manganese ore was made from Olalla.

Mica

No sheet mica has been produced commercially in British Columbia. However, small amounts of mica schist for grinding were mined near Armstrong and near Oliver and Sicamous.

Molybdenum

Recently, mining of large low-grade molybdenum and copper-molybdenum deposits has increased production to the point that "moly" now ranks second in importance in annual value of metals produced in British Columbia. The Brenda Mine, which opened in 1970, is a combined copper-molybdenum producer (see page 7).

Platinum

Platinum has been produced intermittently from placer streams in small amounts since 1887, mostly from the Tulameen and Similkameen Rivers and some is presumed to have originated in copper concentrates from the Copper Mountain Mine.

Rock

Production of rubble, riprap and crushed rock has been recorded since 1909.

Sand and Gravel

Sand and gravel are used as aggregate in concrete work. The output varies from year to year according to the level of construction activity (see Table 4).

Silver

A significant amount of silver is produced by Dankoe (Horn Silver) Mines Ltd. (see page 15) and the Highland-Bell Mine at Beaverdell, in operation since 1922 (see page 19).

MINERAL RESOURCESPublications and Documents

- Ministry of Mines and Petroleum Resources,
Annual Report, 1977
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- Map of B.C. producers and near-producers
 - B.C. Mineral inventory maps 82L/NE,NW,SE,SW;
82E/NE,NW,SE,SW; 92HJ/NE,SE
 - Computerized "Minfile" data bank
 - B.C. Mineral Deposit - Land Use Maps 82L
and 92H (Preliminary)

AGRICULTURE

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History

The first white settlers of the Okanagan Valley, apart from the forts of the Hudson's Bay Company, were the Missionary Oblates of Mary Immaculate. Father Pandosy planted the first apple tree at their mission in 1862 but most of the mission land was devoted to grazing a large herd of cattle. Ranching was the primary agricultural activity throughout the Okanagan Valley until 1898. Water supply in the Okanagan Valley was plentiful but the water could not be raised to the benches, thus limiting other types of agricultural activity. Transportation to service the cattle industry was provided by steamer on Okanagan Lake, which connected with the Okanagan Shusway Railway in Vernon. Railway construction throughout the province provided an expanding market for beef and farm produce.

The Coldstream Ranch in Vernon and the Guisachan Ranch in Kelowna were the first commercial apple growers. Commercial sales began in 1898 and this development resulted in a land boom with large land-holdings being subdivided for orchard development. Irrigation districts were formed and water was provided from the many streams and lakes via open flumes.

Reliable, fast rail transportation became a reality in 1925 with the completion of the link between Vernon and Kelowna, resulting in a turning point for agriculture in the Okanagan. Local markets for farm produce improved with the opening of mines such as Copper Mountain, Hedley, and coal mines at Princeton and Tulameen.

However, overproduction of tree fruits and unorganized marketing practices in the years prior to 1938 resulted in chaos within the tree fruit industry and very poor returns.

In 1939, the growers formed their own company, B.C. Tree Fruits Ltd. A pooling system was developed which guaranteed all growers equal payment no matter where their product was sold. This system resulted in increased economic prosperity within the industry.

Agriculture remained the leading economic activity in the Okanagan until after World War II, when the forest industry became the major employer. Although agriculture has declined in importance as a source of employment in the valley, it is an important base for many secondary industries and businesses.

Climate and Topography

The valleys of the Okanagan Lake chain run north to south between a high plateau containing the sources for the many streams draining into the Okanagan Lakes. Small lakes located on the surface of the plateau act as storage reservoirs for the domestic and irrigation water systems throughout the Okanagan region. Agricultural areas of the three Okanagan Regional Districts are primarily located on the floor of the valleys and on the irrigated terraces and benches of the valley sides. The surface of the plateau is not suitable for agriculture except as cattle range in some areas.

Orchards and vineyards are located on the valley bottom and on the slopes and benches above the lakes, primarily in the Central Okanagan and Okanagan-Similkameen Regional Districts. Vegetables, forage and other specialized crops, especially heat-loving crops, are also grown in these Regional Districts. In the North Okanagan, the agricultural emphasis is on the production of livestock, grains, vegetables, and forage crops.

The climate of the three Regional Districts is very complex and varies considerably over short distances. In general, precipitation is low to moderate, increasing northward from ten inches annually in Oliver to 22 inches at Armstrong. Moderate temperatures and a long frost-free period are factors contributing to the success of agriculture in the area.

Although the cool breezes that flow down into the valley in the evenings are pleasant for residents of the area, at some times of the year this climatic condition produces frost pockets. Occasionally a polar air mass flows south into the valleys, producing very cold weather which also damages

orchards and vineyards. Prior to 1978, frost damage had been slight; but the winter of 1978-79 may prove to have been a bad winter for the fruit industry. (See Appendix 1 for specific climate data.)

The major limitations to agriculture in the three Okanagan Regional Districts are adverse topography, stoniness, and low moisture-holding capability. The main valleys of the Okanagan contain soils with high agricultural capabilities (class 1, 2 and 3), but irrigation is required in most areas of Central Okanagan and Okanagan-Similkameen. In the areas where irrigation is not possible or too costly, land is rated as having poor agricultural capabilities and is suitable for forage and pasture only. Class 1, 2 and 3 land found in the North Okanagan is capable of a wide range of crops under dryland conditions. Map 1 shows the agricultural capabilities in the three Regional Districts. Agricultural Land Reserve (ALR) areas are shown on Map 2. Of the approximately 238,000 hectares of land in the Okanagan ALRS, approximately 140,000 hectares are rated within agricultural capability classes 1 to 4. (See Appendix 3 for present land use and land capabilities.)

Approximately 136,000 hectares can be considered capable of sustaining a range of crops and 57,000 hectares are presently cultivated with forages and grains. Horticultural crops are planted on approximately 14,000 hectares and forage and grains are produced on 43,000 hectares. The remaining 80,000 hectares represent the major land base for agricultural expansion in the Okanagan region as defined by the Select Standing Committee on Agriculture*:

* This definition of the Okanagan region encompasses an area slightly larger than that of the three Okanagan Regional Districts. A small portion of Columbia-Shuswap is also included.

However, almost half of the 80,000 hectares are already committed either to other uses or to forms of tenure which limit the possibility of producing increased crops. Limitations are imposed by forestry uses on 23,000 hectares, Indian reserves totalling 13,000 hectares, and park and wildlife areas totalling 3,000 hectares. In summary, 16% of the total area inside the boundaries of the ALR is currently available for agricultural expansion.

Irrigation systems were constructed by land developers in the early part of the century, but these became obsolete when pressurized systems became available in the early 1950's. These systems are very costly and the various irrigation and improvements districts have received financial assistance since the late 60's through the Agricultural and Rural Development Act (A.R.D.A.). Over 100 irrigation projects in the three Okanagan districts have received assistance under the program.

A provincial Department of Agriculture study quoted in the Okanagan-Shuswap Region Economic Study estimated that 181,720 acres in the Okanagan region are potentially irrigable, based on topography rather than economic considerations. Approximately 60,000 acres in the three Okanagan Regional Districts were irrigated as of the 1971 census, but a large number of irrigation projects have been completed since then. Although current figures showing irrigated land are not available, a water-use update is being carried out by the Water Investigations Branch, Ministry of Environment, Victoria. Results of the update will not be available until late 1979.

TABLE 1

SIZE OF FARM HOLDINGS 1971 - 1976

	1971			1976		
	Okanagan Similkameen	Central Okanagan	North Okanagan	Okanagan Similkameen	Central Okanagan	North Okanagan
Total farms	1,623	1,071	1,069	1,794	1,226	1,199
Under 3	220	85	26	230	123	33
3-9	471	248	152	575	375	229
10-69	748	612	436	790	609	496
70-129	43	50	141	43	49	166
130-179	21	18	141	22	49	166
180-239	18	13	48	10	12	47
240-399	28	20	80	31	17	63
400-559	14	10	24	15	6	21
560-759	13	6	18	14	7	20
760-1119	14	1	17	14	2	11
1120-1599	11	3	5	9	2	7
1600 +	22	5	17	21	6	14

	1971			1976		
	Okanagan Similkameen	Central Okanagan	North Okanagan	Okanagan Similkameen	Central Okanagan	North Okanagan
Total area of farms (acres)	286,238	104,050	183,258	191,170	72,745	159,375
Improved farmland	56,758	40,308	74,172	42,945	35,662	68,313
Un- improved farmland	229,480	63,742	109,086	148,225	37,083	91,062

% Decline 1971 - 1976

% Decline in acre	24.0%	53.5%	51.4%
% Decline under crops	13.2%	8.4%	4.3%
% Decline improved pasture	27.2%	61.3%	56.8%

Source: Census of Agriculture Statistics For all Agricultural Holdings B.C. 1971 and 1976, Province of B.C., Ministry of Agriculture.

Improved Land

Although the Okanagan region is capable of supporting a wide range of agricultural activities and is second in importance only to the Lower Mainland, the industry has experienced problems. Between the 1971 and 1976 census periods, there was a significant decrease in total farm acreage in all three Regional Districts even though the actual number of farms increased. Table 1 shows that each Regional District had an increase in the number of small farms but the number of large farms declined. Table 1 was extracted from figures produced by the Provincial Ministry of Agriculture. In calculating the number of farms in 1976 they used the 1971 definition of a census farm, farms producing at least \$50 of agricultural products, whereas Statistics Canada changed their definition of a census farm in 1976 to farms producing \$1,200 or more in agricultural products. Therefore the 1971 and 1976 figures shown in Table 1 can be accurately compared as they were calculated using the same definition.

There are a number of reasons for the decline in farm acreages, some of which are discussed in later sections of the report. The increase in small farms can be explained by the growing popularity of rural living on small acreages. Figures reflecting the number of rural subdivisions that have been created are not readily available, but from discussions with representatives of various government departments, it is apparent that the number of subdivisions has grown rapidly in the last ten years.

However, the increase in small acreages does not contribute to the health of the agricultural industry. Generally, these small farms keep only a few animals or produce a small crop of fruit or vegetables used primarily for their own use and therefore they do not contribute significantly to commercial agricultural output. Some of the problems that can be caused by small farmers are discussed in the sections of this report on the Fruit Industry and the Cattle Industry.

Legislation passed in 1973 resulted in the formation of the B.C. Land Commission and the Agricultural Land Reserves (ALR). This legislation drastically reduced the amount of land being converted to other uses and can be credited for saving a substantial amount of land that is agriculturally productive today. As there has been very little land removed from the ALR boundaries since 1973, it is likely that a substantial proportion of the reduction in acreage between 1971 and 1976 occurred between 1971 and 1973. Table 2 shows acreages included in the ALR at designation in 1973 and acreages included as of April 1978, while Table 2.1 shows when the various exclusions occurred.

TABLE 2

AGRICULTURAL LAND RESERVES

<u>Regional District</u>	<u>Acres at Designation</u>	<u>Acres April 1/78</u>
Central Okanagan	81,700	81,230
Okanagan-Similkameen	213,600	212,906
North Okanagan	<u>173,600</u>	<u>172,635</u>
Total Okanagan Valley	<u>468,900</u>	<u>466,771</u>

Table 3 shows the changes that have occurred in the crops planted in each of the three Regional Districts and the relative importance of each crop. These crops are discussed in more detail in a later section of the report.

The increases in tame hay, oats and barley have occurred as a result of expansion in the cattle industry. This trend can be expected to continue for some time, as long as the price for these products remains at a level that keeps producers interested. Central Okanagan had a marked increase in the potato crop which occurred as a result of the rapidly growing population. Population increases will continue to create a demand for potatoes in the Okanagan.

TABLE 2.1AGRICULTURAL LAND RESERVE EXCLUSIONSREGIONAL DISTRICT

	<u>Central Ok.</u>	<u>North Ok.</u>	<u>Ok. Similkameen</u>
<u>Acres at Designation</u>	81,700	173,600	213,600
<u>Acres Included</u>			
1974			
1975			
1976			
1977	4	25	
<u>Acres Excluded by 9(1)</u>			
1974		8	15
1975		165	
1976			25
1977		199	
<u>Acres Excluded by 9(2)</u>			
1974		87	175
1975	280	245	34
1976	58	30	32
1977	44	82	89
<u>Acres Excluded by 9(7)</u>			
1974			
1975			11
1976			
1977			
Current ALR Acreage (1977)	81,322	172,809	213,219

*Note: Section 9(1) of the B.C. Agricultural Land Reserve Act covers applications for exclusion from the Land Reserve from the municipality or from a private individual, or company, where the municipality supports the application. Section 9(2) covers standard applications for exclusion from individual property owners. When an application is refused, it may go through an appeal procedure and later receive approval for exclusion under Section 9(7).

TABLE 3

ACREAGE BY TYPE OF CROP

	<u>OKANAGAN SIMILKAMEEN</u>		<u>CENTRAL OKANAGAN</u>		<u>NORTH OKANAGAN</u>		<u>TOTAL OKANAGAN VALLEY</u>	
	1971	1976	1971	1976	1971	1976	1971	1976
Wheat	194	12	61	340	6,073	4,032	6,328	4,384
Oats for Grain	111	193	76	420	2,660	1,553	2,847	2,166
Barley for Grain	175	360	170	1,106	3,304	2,845	3,649	4,311
Rapeseed	-	-	-	-	-	-	-	-
Vegetables	689	791	396	330	880	850	1,965	1,971
Potatoes	219	125	52	511	207	35	478	671
Tame Hay	13,632	14,246	4,471	5,002	29,659	32,777	47,762	52,025
Tree Fruits	14,720	12,690	13,099	11,669	1,869	1,405	29,688	25,764
Small Fruits	997	1,741	1,334	1,616	80	79	2,411	3,436
Other Crops	<u>1,201</u>	<u>1,245</u>	<u>1,307</u>	<u>1,074</u>	<u>5,993</u>	<u>4,758</u>	<u>8,501</u>	<u>7,077</u>
Total	<u>31,938</u>	<u>31,403</u>	<u>20,966</u>	<u>22,068</u>	<u>50,725</u>	<u>48,334</u>	<u>103,629</u>	<u>101,805</u>

Source: Census of Agriculture in British Columbia, Statistics Canada

TABLE 4

NUMBER OF FARMS BY PRODUCT TYPE

	<u>NORTH OKANAGAN</u>		<u>OKANAGAN-SIMILKAMEEN</u>		<u>CENTRAL OKANAGAN</u>		<u>TOTAL OKANAGAN VALLEY</u>	
	<u>1971</u>	<u>1976</u>	<u>1971</u>	<u>1976</u>	<u>1971</u>	<u>1976</u>	<u>1971</u>	<u>1976</u>
Dairy	97	97	-	2	7	6	104	105
Cattle, Hogs, Sheep	170	176	92	101	32	46	294	323
Poultry	3	9	9	8	7	5	19	22
Wheat	10	41	1	-	1	3	12	45
Small Grains	10	41	-	3	-	1	10	45
Field Crops	29	3	15	2	6	3	50	8
Fruit and Vegetables	69	86	734	919	516	568	1,319	1,573
Forestry	14	-	2	-	1	-	17	-
Misc. Specialty	16	34	8	38	13	20	37	92
Mixed	<u>24</u>	<u>45</u>	<u>6</u>	<u>8</u>	<u>7</u>	<u>12</u>	<u>37</u>	<u>65</u>
Total	<u>442</u>	<u>532</u>	<u>867</u>	<u>1,081</u>	<u>590</u>	<u>664</u>	<u>1,899</u>	<u>2,278</u>

Source: Census of Agriculture for British Columbia, Statistics Canada

Tree Fruits

The production of tree fruits remains the major agricultural activity in the Okanagan-Similkameen and Central Okanagan Regional Districts. During the 1970's, the industry has undergone more changes than in any previous decade. During the late 1960's and early 1970's, tree fruit acreage was reduced by conversion to residential use and in some cases by conversion to vineyards. Table 3 shows the decline in tree fruit acreage in each of the three Regional Districts between the 1971 and 1976 census periods.

The introduction of the Agricultural Land Commission Act in 1973 played a major role in saving the tree fruit industry. Federal and provincial support programs, particularly the Farm Income Assurance Program, have had a stabilizing effect on the industry. However, the most positive effect on the industry has been achieved through increases in the apple crop. New technology allows orchardists to produce higher yields per acre and improvements in this area should continue into the 1980's. The crop has increased from 6.5 million boxes in the late 1960's to 8 millions boxes in 1978. The average that can be expected in the future is between 8 and 9 million boxes annually, barring any severe winter conditions that would damage the trees and reduce the crop over one or more years.

Stone fruit production, particularly cherries and peaches, has increased 25% since the late 1960's and has been primarily concentrated in the South and lake areas of the Valley. Increases in production of other stone fruits are not expected. Prunes, pears and apricots have been declining in volume and the decline may continue for some time yet. The reduced acreage in these fruits is primarily due to growers deciding that soft fruits are too risky. Although the market for soft fruits is good, they are more easily damaged by adverse weather conditions.

B. C. Tree Fruits Ltd., established by the B. C. Fruit Board in 1936, was designated as the sole selling agency for tree fruits and was authorized on behalf of the Board to handle, store, sell and export Okanagan fruit. Until the early 1970's, B. C. Tree Fruits handled 85-89% of the volume and 82% of the value of the total fruit crop. In 1976 they were still handling approximately the same volume but only 69.5% of the value. This trend was particularly noticeable in soft fruit production. The proportion of total soft fruit production handled by the agency has dropped from 73% in 1971 to 64% in 1976.

The problems between B. C. Tree Fruits and the growers, which started in about 1974, were caused primarily by decreasing returns to the growers. The costs of packing house operations have escalated rapidly and B. C. Tree Fruits has been unable to pass these costs on in sales.

Many growers blamed the agency and began marketing fruit individually. In 1975, growers were allowed to disassociate themselves from B. C. Tree Fruits. A number of growers chose this option and in 1976, sales made outside B. C. Tree Fruits accounted for 36% of total grower returns. Although returns to growers have increased, approximately 300 growers with a total of 3,000 acres have dropped out of the B. C. Tree Fruit organization since 1976. Most are small growers who feel that they can market their fruit easily through other methods. Some of them produce poor quality fruit that is more suitable for processing, but as returns on this type of fruit are relatively poor, they prefer to sell through roadside stands.

If continued, the trend for growers to sell outside B. C. Tree Fruits has the potential to create severe marketing problems in the industry, especially for B. C. Tree Fruits. The agency has invested heavily in new packaging and storage

facilities which need a large volume of fruit passing through to make them economically viable.

Although the efficiency of packing house operations continues to improve through amalgamation and modernization of existing facilities, operating costs will continue to be a problem. Since 1957 the number of packing houses has declined from 61 to 19 in 1978. This trend can be expected to continue and within the next ten years there will likely be no more than ten packing houses. In spite of these trends the B. C. tree fruit industry still has the highest operating costs in North America.

In the near future, B. C. Tree Fruits may have to take a firmer stand with growers who sell their fruit outside the agency but continue to remain members of B. C. Tree Fruits. The other alternative open to them is to create opportunities for these growers to sell their products through roadside stands and farmers' markets operated by B. C. Tree Fruits. Table 5 shows the quantity and value of each type of tree fruit sold through agencies, roadside sales and processed sales between 1975 and 1977.

B. C. Tree Fruits has been successful in maintaining a fairly constant share of the overseas market in spite of increased competition. Sales to Eastern Canada have increased from 12% to 21% of total shipments, and shipments to the offshore market have increased from 8% to 11%. Approximately half of the B. C. crop is sold to the 5.5 million consumers in the Western Canadian market, while the balance goes to Eastern Canada, the U.S. and various overseas markets in Europe and Asia. In recent years, B. C. has encountered heavy competition from fruit growers in Washington, Oregon and California. Sales to the British market have virtually

come to a halt as a result of increased apple production at competitive prices in Europe. B. C. apples and pears must be fully competitive in both price and quality before buyers can be found in offshore markets. Taiwan and Latin America are considered to have the best potential for increased sales of B. C. fruit.

The growing number of producers selling their product outside the B. C. Tree Fruit organization could create problems in marketing fruit internationally. However, a report produced by the Standing Committee on Agriculture emphasized that some B. C. food exporters have been forced to buy Washington fruit to supply their customers, as they have been unable to obtain fruit from B. C. Tree Fruits. The report suggests that there would be more possibilities for expansion in foreign markets if B. C. Tree Fruits was not the sole marketing agency for B. C. fruit.

During the 1980's, Washington will be B. C.'s major competition. They grow between six and seven times the amount of apples that B. C. does and their crop is projected to increase by 50% during the 1980's to 75 million boxes.

The other major constraint on expansion of tree fruit acreage in B. C. is the price of land. An orchard cannot be considered an economically viable operation unless it is at least 15-20 acres. With orchard land currently selling at \$13,000 per acre, there is very little scope for any major expansion. In any case, new orchards take six to eight years to bring into production.

Of the 2,200 fruit growers in the valley, only 600 have economically viable operations. The other operations are not operated on a commercial basis but as hobby farms. Small orchards have become popular for retirement residences, but

unfortunately small acreages can create problems in the industry as a whole. In most cases, hobby farmers do not have the necessary time, equipment or knowledge to properly maintain fruit trees. Some of the small orchards have become breeding grounds for insects and disease, and produce small quantities of fruit of inferior quality, resulting in higher costs at the packing house. Increased fruit production will be achieved mainly through amalgamation of small orchards and more intensive use of existing orchards in the 1980's.

TABLE 5
TREE FRUIT PRODUCTION

	<u>Apples</u>		<u>Soft Fruits</u>	
	<u>Quantity</u> <u>,000 lbs</u>	<u>Value</u> <u>\$</u>	<u>Quantity</u> <u>,000 lbs</u>	<u>Value</u> <u>\$</u>
<u>1975</u>				
Commercial agencies	231,552	\$9,014,887	52,149	\$5,088,578
Farm and roadside	24,875	2,706,865	27,198	4,507,700
Processed sales	<u>96,411</u>	<u>388,944</u>	<u>34,777</u>	<u>2,392,708</u>
Total	352,838	12,110,696	114,124	11,988,986
<u>1976</u>				
Commercial agencies	269,360	16,230,317	53,813	4,188,296
Farm and roadside	25,922	2,760,737	26,056	4,268,526
Processed sales	<u>71,691</u>	<u>466,951</u>	<u>32,984</u>	<u>1,233,338</u>
Total	366,973	19,458,005	112,853	9,690,160
<u>1977</u>				
Commercial agencies	197,216	21,540,496	N/A	N/A
Farm and roadside	25,180	2,887,817	N/A	N/A
Processed sales	80,747	2,696,654	N/A	N/A
Total				

*Note: The figures in the above table reflect fruit production in the Okanagan-Similkameen area as defined by the B. C. Department of Agriculture. These boundaries do not coincide exactly with those of the three Okanagan Regional Districts.

Fruit Processing Industry

The tree fruit processing industry is a very important component of the economic base in the Okanagan, employing approximately 2500 people who are paid between 16 and 20 million dollars annually. The firms currently in operation are described in the table below.

Okanagan Processors and Products

<u>Company</u>	<u>Location</u>	<u>Products</u>
Mrs. D.L. Milne Cannery Ltd. Berkwills Canadian Cannery Sunrype	Summerland " " Penticton Kelowna	Canned packs of apples, pears, apricots, peaches, cherries, prunes and vegetables. Juices, nectors, apple slices, sauces, pie fillings, juice concentrates
Sundew Ltd.	Summerland	Organic fruit juices
Summerland Sweets Ltd.	Summerland	Fruit syrups, diet spreads, fruit pulp and concentrate

All of the canning companies in B. C. have experienced increasingly poor financial returns during the last five years, with most of them recording losses. A declining consumption of canned fruit products, combined with the availability of low cost foreign canned fruit, has produced serious problems for all the canning companies. Canadian Cannery Ltd. in Penticton, owned by a large American firm, is threatened with closure because of losses recorded during the last five years. A substantially increased throughput would result in lower overhead costs on each unit produced, but it is unlikely that larger volumes of fruit or vegetables will be available to local canners in the foreseeable future. Therefore existing canning operations will find survival very difficult.

Sun-Rype, the largest fruit processing company in the Okanagan, has enjoyed considerable success during the past ten years, primarily as a result of the trend toward consumption of fruit juices instead of soft drinks. Sun-Rype has experienced annual sales increases of 20% to 30% per annum in recent years which can be attributed to the popularity of their major product, apple juice. Total sales of 35 million dollars have been forecast for 1979. Operating at peak capacity, Sun-Rype employs 250 people and has an annual payroll of \$3,012,000.

Sun-Rype was originally established in 1946 as B. C. Fruit Processors Ltd. The company was developed by the B. C. fruit growers as a separate arm of B. C. Tree Fruits Ltd. for the purpose of utilizing fruit that was unacceptable for fresh sales. The name was changed to Sun-Rype in 1959.

As Sun-Rype is a co-op and profits from their operations are distributed to the fruit growers, they do not pay for the fruit used in processing, giving them an advantage over privately run fruit processors. Although Sun-Rype has consistently reported increasing total dollar returns to growers, returns based on pounds of fruit processed declined severely in 1975. According to the 1977-78 Annual Report, returns have improved with growers receiving \$64.00 per ton more than they have ever received in the past.

During the 1970's, the tonnages of fruit processed have varied from 21,000 tons in 1971 to 55,000 tons in 1976. As an increasing proportion of the Okanagan fruit crop is being sold to the fresh market, Sun-Rype has stated that the tonnage of fruit processed is unlikely to exceed 50,000 tons annually.

In response to increased consumption of fruit juices in North America, Sun Rype developed a reconstituted apple juice

that is a blended combination of B. C. apple juice and imported concentrate obtained from Hungary, Spain, Turkey and Argentina. With few prospects of substantially increased apple tonnages, Sun-Rype will continue to buy concentrates outside the Okanagan Valley to meet the demand for their product.

During the 1977-78 season, Sun-Rype added grape juice to the list of products they produce. As the grape juice process differs from other juice processes, the company invested approximately \$1,000,000 in new equipment and storage facilities, receiving \$250,000 in financial assistance from the ARDA program. The five refrigerated tanks have a capacity of 500 tons of grapes and were completed in time for the grape harvest. Unfortunately, the Grape Growers Association delivered only 370 tons of grapes and the company was unable to go into full production. In future, the facility will provide an outlet for Bath grapes that are no longer used by the wineries and, as Sun-Rype anticipates a good market for this product, more grapes may be grown specifically for the juice operation.

Recently Sun-Rype has decided to introduce flexible packaging to replace the cans that are currently being used. Studies have indicated that this method of packaging is acceptable to consumers and will result in substantial cost savings to Sun-Rype. The American Can Company, who now produce cans for Sun-Rype, will be seriously affected by this decision as Sun-Rype is their major customer. The new packaging method called Tetra Brik will require new production facilities which are currently under construction. Additional skills will also be required by those employed in the new plant and courses to teach the new skills are in the planning stages.

Grape Industry

Grapes were first planted as a commercial crop in B. C. in the late 1920's in the area around Kelowna. The Labrusca grapes, which are not generally used for making wine today, were initially sold to the Growers Wine Company. Calona Wines began production in 1936, using surplus apples to make wine, but this product did not enjoy success and Calona switched to using grapes.

After World War II, grapes were imported from California to blend with the Okanagan Lubruscas.

During the 1950's hybrid grape varieties which are more suitable for making wine than the Lubruscas, were planted. Eventually 80% of the grape acreage in the Okanagan was planted with hybrids. As a result of pressure from the wineries, growers were urged to plant European vinifera varieties in the 1960's. However, at that point, growers were skeptical about replacing the hardier hybrid varieties, which are capable of withstanding the cold, with the more expensive and delicate viniferas.

As interest in wines grew all over North America during the 1960's and early 70's, acreage planted in grapes grew from 500 acres to today's figure of 3,000 acres. During this period of time, the primary grape growing area shifted from Kelowna to Oliver, Osoyoos, Cawston and Keremeos. The Okanagan-Similkameen Regional District enjoys more sunshine and the drier, stoney soils are generally more suitable for grape production. Table 7 shows the grape acreage planted in each of the Okanagan regions.

Because of the quickly growing demand for wine, grape production has been one of the most successful agricultural

TABLE 6
ACREAGE IN GRAPES

<u>Area</u>	<u>No. of Acres</u>	<u>% of Total Acres</u>
Vernon	46 acres	2%
Okanagan Centre , Winfield	163 acres	5%
Kelowna	831 acres	28%
Westbank, Peachland, Summerland	544 acres	18%
Penticton, Naramata, Kaleden, and Okanagan Falls	130 acres	4%
Oliver, Osoyoos, Cawston and Keremeos	<u>1,310 acres</u>	<u>43%</u>
Total	<u>3,024 acres</u>	<u>100%</u>

activities in the Okanagan in recent years. Since 1970, the grape industry has experienced an average annual growth rate of 6.2% and achieved sales of 6.4 million dollars on 18.5 tons in 1978, the biggest year ever. Table 7 shows the growth in tonnage in both the fresh and processed markets and the total crop value in each year.

In the past six years, wine sales in B. C. have increased 75%. Approximately 50% of the white wines and 70% of the red wines consumed are produced in B. C. Between 1969 and 1974, annual per capita consumption of wines increased 57% from 1.15 gallons to 1.81 gallons. As wine is now considered a more moderate social drink than hard liquor and as it has also become popular and acceptable to serve wine with most meals, the trend toward increased wine sales can be expected to continue.

However, the growing sophistication in consumer tastes is creating problems for local grape producers and the B. C. wine industry. Table wines have grown in popularity in Canada, increasing from 50% of the total wine market in 1972 to 71% in 1977. Demand for "pop" wines has dropped off significantly. With emphasis now on quality, B. C. grape growers must face the fact that they have too many grapes of the wrong type. The hybrid grapes, grown in the Okanagan, are not capable of producing premium quality wines. Consumers are compounding the problem by demonstrating a marked preference for white wines while most of the B. C. grapes are more suitable for making red wines.

Both federal and provincial governments and members of the grape and wine industries are striving to upgrade the quality of grapes and wines produced, but the process is time-consuming and expensive. The total time required to start experimental vine cuttings, produce a harvestable crop of an accepted variety and make wine, varies between nine and sixteen years.

TABLE 7
GRAPE ACREAGE AND CROP VALUE

<u>YEAR</u>	<u>TOTAL ACREAGE</u>	<u>TOTAL TONNAGE</u>	<u>UTILIZATION</u>		<u>TOTAL VALUE</u>
			<u>% FRESH</u>	<u>% PROCESSED</u>	
1960	325	634	33	67	\$ 84,000.00
61	325	1,600	21	79	265,000.00
62	330	1,635	36	64	245,000.00
63	400	2,050	8	92	257,000.00
64	555	2,870	10	90	376,000.00
65	732	185	14	86	29,500.00
66	732	3,000	11	89	400,000.00
67	886	3,732	13	87	530,000.00
68	886	6,162	8	92	843,000.00
69	1,700	1,714	6	94	247,000.00
1970	1,710	9,035	6	94	1,482,000.00
71	1,962	9,107	6	94	1,569,000.00
72	2,115	10,028	6	94	2,042,000.00
73	2,217	6,405	11	89	1,440,000.00
74	2,138	12,014	6	94	3,384,000.00
75	2,446	12,589	8	92	3,952,000.00
76	2,774	12,678	8	92	3,485,700.00
77	2,900	11,713	11	89	3,188,167.00
78	3,000	18,403	6	94	6,280,232.00

Source: B.C. Grape Marketing Board - Kelowna

For the past ten years, federal and provincial governments have conducted extensive research and tests on new varieties of grapes. The Summerland Research Station has been successful in developing some new varieties and test acreages were planted in 1978.

In 1977, a five-year research program was started, sponsored jointly by the federal and provincial governments under the direction of Dr. Helmut Becker, Director of the Research Institute for Grape Breeding and Grape Propagation at Geisenheim, West Germany. Dr. Becker has determined that growing conditions in the Okanagan Valley are similar to those in the Rhine Valley in Germany. He has selected 34 varieties of European grapes for testing which will produce their first crop in 1980.

To date, B. C. Grape growers have received on the average much higher grape prices than Washington and California growers. They have also been fortunate in that they have been able to sell their crop every year even though their grapes are not the type preferred by the wineries. They have been assisted by government legislation, which requires B. C. wineries to buy available B. C. grapes before purchasing foreign grapes and to use B. C. grapes in 80% of the wine produced. However, with consumer tastes switching to white wine, B. C. wineries are going to be increasingly reluctant to buy large quantities of red grapes. Wineries purchased the majority of grapes in the 1978 bumper crop, which has resulted in a surplus of red grapes at the wineries.

The problems on the horizon for B. C. grape growers can be partially alleviated until better quality white grapes can be produced by developing other markets. The B. C. Grape Marketing Board has only recently begun to increase

the sale of grapes to the fresh market and to processors producing juices, jams and jellies. In 1978, 1,000 tons of "all purpose" blue Labrusca grapes were marketed, primarily to the fresh market and amateur winemakers. This represented a 35% increase over 1976 sales. Performance of this market in 1977 and 1978 indicates that the market can absorb between 50,000 and 70,000 twenty-pound cases of blue grapes. However, there is still room for considerable improvement through more aggressive marketing and the sale of seedless grapes. The Canadian raisin processing industry has also expressed interest in Okanagan grapes, and there may be potential for sales to them.

Sun-Rype Products Ltd. process fruit for juices and other canned products. In 1976, they developed a grape juice product from Bath grapes at the request of the Grape Growers Association. Sun-Rype subsequently invested \$700,000 in crushing equipment and specially designed cooling tanks, and government assistance was provided through a DREE grant. Unfortunately for Sun-Rype, demand for grapes was very high in 1977 and the price was driven up out of their range. As a result, only 370 tons of the promised 1,000 tons were delivered by the growers.

In 1978, 900 tons of Bath grapes and small quantities of various other types were processed and successfully marketed as grape juice. However, the supply of Bath grapes and varieties suitable for making juice continue to be in short supply.

Expansion and change in the grape growing industry will be difficult. There is a limited supply of available land in the Okanagan suitable for growing grapes. According to a Spokesman in the Department of Agriculture in Kelowna, there are perhaps 1,000 acres left in the Okanagan Valley where grapes could be grown successfully. Some parts of the Similkameen Valley have large areas of available land and favourable climate conditions, but the suitability for grapes is limited by exceptionally rocky soils with a high water requirement. The best land and the largest acreages are located on the Indian reserves in the Okanagan-Similkameen Regional District. These lands could be developed as vineyards if irrigation were made available, and if the Indian Bands felt that this was an appropriate use for the land.

In future, new vineyards will have to plant more of the European Vinifera grapes to compete in the market. These varieties are riskier and more susceptible to variations in the climate and the growers' costs will, therefore, be higher. Although there is a demonstrated demand for grapes for the fresh market and grapes suitable for juice, growers will be reluctant to increase the acreage planted in these types of grapes as the market price for Bath grapes is currently not high enough to warrant the risk. The B. C. Grape Growers Association has suggested that the establishment of a Provincial Farm Income Assurance program would provide the growers with the necessary incentive to expand their acreages.

Any expansion that does occur in acreage planted in grapes will be small. Agriculture Canada completed a study in 1971 that showed that grape yields tend to vary inversely with vineyard size. Small vineyards averaged 5.8 tons per acre, while larger vineyards averaged 4.5 tons per acre. Large vineyards require less total labour, but in terms of overall operational efficiency, the higher yields of smaller

vineyards more than offset additional labour costs. However, the wineries have indicated that they prefer to deal with large vineyards as they generally produce better quality grapes and are more willing to invest in new types of grapes in demand by the wineries.

Continuing soil and microclimate research by government and industry will be necessary if individual investment is to be encouraged. The provincial government's recent move to encourage the establishment of cottage wineries could act as an incentive for growers to improve their stock and expand their acreage. Cottage wineries could turn small vineyards around from being economically marginal operations to sound businesses. Cottage wineries will have valuable economic benefits. They will be an excellent tourist attraction and will provide a valuable opportunity for the consumer to become more familiar with local grape varieties. The promotional success of the Napa Valley wineries in California illustrates the impact that these new businesses would have on the B.C. grape and wine industry.

WINE INDUSTRY

Increasing wine sales in North America in the early 1970's have not brought instant success to B.C. wineries. Between 1972 and 1976, only one B.C. winery operated without a loss. Factors contributing to their financial problems are the popularity of foreign wines and high costs of production. Imported wines sold in B.C. have increased their share of the market from 15% in 1970 to 31% in 1977. Higher grape and labour costs paid by B.C. wineries, compared to those in the U.S. have also contributed to the B.C. industry's financial problems.

However, there are indications that the market for B.C. wines is improving. Although wineries must continue to use B.C. grapes in 80% of the total grape crush used in production, they have now obtained the experience required to blend foreign wines with B.C. grapes to achieve the superior quality of European type wines. Wine experts throughout the world have commented favourably on several blended wines produced in the Okanagan.

Other changes that have had a positive impact on the wine industry recently include new packaging which incorporates traditionally styled bottles with corks and more sophisticated labels. One Okanagan winery experienced a dramatic increase in sales when the Liquor Control Board decided to allow the placing of local wines alongside foreign wines on liquor store shelves. This procedure helps to eliminate the consumer prejudice toward B.C. wines which continues to exist in spite of the improvements that have been made in the local product compared to similarly priced foreign wines.

The two wineries in the Okanagan, Calona Wines in Kelowna and Casabello Wines in Penticton, are first and third in size

respectively in B.C. Casabello Wines, established in 1966, is owned by John Labatt Ltd. They have a storage capacity of 1,500,000 gallons and produce table, dessert and fruit wines. Calona Wines, established in 1934, is owned by Standard Brands and has a storage capacity of 4,200,000 gallons. They produce table, dessert, fruit and berry wines and have expanded by also producing some spirits. A grape spirit that is used to produce brandy is marketed to a Toronto distillery. According to one wine company spokesman, a brandy industry could be created in B.C. if government regulations were changed. In B.C., 100% grape spirit must be used in the production of brandy, yet many foreign brandies sold in B.C. are produced from a combination of grape spirit, sugar and water. Approximately 90% of the brandy sold in B.C. is imported.

A study funded by the IDSA program was underway in 1979 investigating the possibility of establishing a fruit based liquer distillery in the Okanagan. Oregon has been successful in marketing fruit based wines and liqueurs and therefore there is a possibility that such an industry could become established in the Okanagan.

According to industry spokesmen, the outlook for the B.C. wine industry is considerably brighter than it was a few years ago, but there is much work left to be done. Continuing efforts must be directed at convincing Canadian consumers that local products do compare favourably with ordinary wines produced in Europe and California. As Pacific Rim countries grow more affluent, B.C. wineries may have the opportunity to expand in a lucrative new market. However, the high costs of grapes and labour in comparison to Europe and the U.S. will continue to make competition outside the local market very difficult.

Vegetables

At one time, vegetable production was a major agricultural activity in the Okanagan. In recent years, it has declined in importance but there are signs that this decline may be levelling off due to an expanding local market for fresh produce.

Because of rising packing and transportation costs, vegetable producers are becoming increasingly reluctant to market vegetables through the Interior Vegetable Marketing Board. Consequently, this marketing board is considering amalgamation with the Coast Vegetable Marketing Board because of reduced volumes. Table 8 shows that each year since 1975 an increasing proportion of Okanagan vegetables have been sold through roadside sales, primarily to supply the expanding local market. (See Appendix 2 for breakdown of vegetable crops produced.)

As previously mentioned, these trends are creating problems for the two local fruit and vegetable processing companies in Summerland and Penticton. With an increasing proportion of vegetables going to the fresh market, they are experiencing a steady decline in their processing business. This trend to the fresh market is expected to continue and therefore there is a possibility that one or both processors will have to close.

Recently, the depressed Canadian dollar has had some positive effects on vegetable production in the Okanagan, making local products more competitive with those grown in the U.S., but most of the advantage of the depressed dollar is offset by higher production costs in B.C. For vegetable production to be economical, large acreages are required. The number of large acreages suitable for vegetable production are limited in the Okanagan-Similkameen and Central Okanagan.

Regional Districts, as both of these areas require extensive irrigation. According to the Department of Agriculture, there is plenty of land in the North Okanagan suitable for growing vegetables, but the price of land and the cost of labour are high compared to the U.S.

Asparagus is virtually the only vegetable that continues to be shipped outside the local market and continues to show good returns to the growers. It is grown primarily in the North Okanagan around Armstrong. However, asparagus is a unique vegetable in that it generates low per-acre yields (700-3,000 lbs.) and takes approximately six years to bring into full production. These two factors combined make asparagus expensive to produce.

Currently, there is a good local demand for sweet corn and there is a possibility of exporting this crop outside the region at some time in the future. Potatoes continue to be an important crop, but their sales are limited to the local market. Lack of potato processing facilities in B.C. also acts as a constraint to increased production.

Expanding local markets will likely prevent any further reduction in vegetable acreage over the short run, but high land costs and the possibility of increased competition from foreign products at some time in the future will prevent any major expansion of the industry.

TABLE 8

VEGETABLE PRODUCTION - OKANAGAN REGION*

	<u>Acres</u>	<u>Commercial Agencies</u>		<u>Farm and Roadside</u>	
		<u>Quantity</u> (lbs.)	<u>Value</u> (\$)	<u>Quantity</u> (lbs.)	<u>Value</u> (\$)
1975	2,654.	20,339,968	\$1,548,225	4,701,619	\$ 435,532
1976	2,670	10,779,780	805,505	5,783,822	377,024
1977	1,946	19,474,030	1,179,395	10,266,329	1,438,430

* The figures in the above table reflect vegetable production in the Okanagan-Similkameen area as defined by the B. C. Department of Agriculture. These boundaries do not coincide exactly with those of the three Okanagan Regional Districts.

Dairy Production

When compared to other agricultural producers, B. C. dairy farmers have enjoyed relative prosperity over the last five to ten years, with production increasing by 13.6% between 1973 and 1977. However, the prosperity can be attributed primarily to changes in both provincial and national dairy marketing practices. Prices received by milk producers have risen more rapidly than costs of production.

The Canadian dairy market has been divided into two sectors—the industrial and fluid milk markets. The provinces have exclusive control over the fluid market while the production of industrial milk is administered by the federal government through the Canadian Dairy Commission, which in turn delegates powers to Provincial Milk Boards. The supply of industrial milk is controlled by the Market Share Quota Programme.

The Provincial Milk Board controls the supply of fluid milk by price-setting and quotas. Over the years, it has been determined that these controls are necessary to ensure an adequate but not excessive supply of fluid milk to the market each day of the year.

Fluid milk quotas are allocated to each producer according to his milk production over a certain period of time. Quotas are revised annually but, in the past, very few farmers have had their quotas reduced. New quotas are distributed as consumer demand increases.

New milk producers can enter the market in one of two ways. They can purchase quota from a producer who currently holds a quota or apply for entry into the quota building programme. However, this programme has a very long waiting

list, which has created substantial barriers to entry into the dairy business. The price of quotas has risen rapidly during the years since the programme began, which results in large profits for original quota-holders and serious debt problems for new dairy farmers. Also, as quotas are not portable throughout different regions in the province, land prices on dairy farms have increased particularly in the Lower Mainland.

B. C. entered the federal Market Share Quota (MSQ) programme in 1973. They now hold 3.1% of the national MSQ allotment although B. C. contains 11% of the Canadian population. By 1975, British Columbia's MSQ share had been completely allocated to producers. Unlike the fluid milk quotas, federal quotas cannot be traded. Milk production continued to increase and holdback levies under the MSQ programme were assessed. Farmers facing holdback levies entered the marketplace to acquire additional fluid milk quota from other producers which resulted in much higher prices for fluid milk quotas.

In 1970, the Kamloops Okanagan region produced 8.3% of the provincial total milk production. As the Milk Board now divides the province into only two regions, Vancouver Island and the B. C. Mainland, current production figures for the Okanagan region alone are not available. The figures in Table 9 reflect production figures for the Okanagan Kootenay Region as reported by the Shuswap Okanagan Dairy Industry Cooperative Association.

The Federal and Provincial milk quotas had an impact on dairy business in the Okanagan. Virtually all of the dairy farms are located in the North Okanagan and Columbia-Shuswap areas. As of the 1976 census, there were 97 dairy farms in the North Okanagan Regional District. Approximately 15 years ago, the dairy industry was centred around Vernon, Armstrong and

Enderby. However, pressure from other land uses has gradually driven the industry north, and 75% of the Okanagan-Shuswap's dairy industry is now located north of Armstrong and Enderby.

The Okanagan has experienced a steady immigration of dairy farmers from the Fraser Valley. Dairy farmers in the Fraser Valley have sold their operations at a substantial profit because of quota values and increased land prices and have moved to the Okanagan, where quotas are available and land can be purchased at a lower price. Approximately two or three producers per year have arrived in the Okanagan from the Fraser Valley and have either built new farms or renovated old facilities. Between 1971 and 1978, 41 new operations started in the North Okanagan and Kootenay regions.

Okanagan dairy farmers have sold out and retired or converted to some other agricultural operation. Many have started beef cattle operations or hog farms, while others have gone into hay production after simply selling their quotas. Between 1971 and 1978, 53 dairies in the Okanagan-Kootenay region ceased operation. Forty-four dairies changed hands during this same period.

Table 9 shows the numbers of licensed dairy farmers in the Kamloops-Okanagan region. Of this number, approximately 20 are located in the Kootenays. Although there has been a steady decline in the number of licensed producers in spite of movements from the Fraser Valley, the average size of dairy operations has increased. Table 9 shows the change in herd sizes between 1975 and 1978.

Any further growth in the Okanagan dairy market will depend primarily on the level of increase in local demand. In the early 1970's, it was thought that the North Okanagan would eventually become a supplier to the Lower Mainland

market. However, changes in the dairy market and the establishment of the Agricultural Land Reserve have slowed down the conversion of Lower Mainland dairies to other uses. Also production per cow has been rising rapidly so that fewer dairies can adequately supply the needs of the Lower Mainland.

In future, the market will also be affected by the ability of new producers to handle the steadily increasing debt load associated with rising land costs and quota prices. Established producers with original quotas received free of charge are earning substantial profits; but once these producers have all sold their quotas, new dairy farmers may demand higher prices to cover the costs of purchasing quotas. This could result in substantially higher fluid milk prices.

British Columbia has an expanding market for industrial milk products but, because of inequities in the provincial allotments of MSQ, dairy farmers are unable to respond to this increased demand without penalties. A change in policy regarding MSQ allotments could have a very positive effect on the Okanagan and Kootenay dairy industries.

Regardless of developments in the provincial and federal marketing schemes, further expansion will continue to take place in the northern section of the North Okanagan Regional District and in many cases outside the Regional District. The areas around Enderby and Salmon Arm have large areas of land suitable for dairying available at lower prices than those found in the area around Vernon.

TABLE 9

KAMLOOPS-OKANAGAN
UTILIZATION - FLUID PRODUCTS⁽⁴⁾
 (1974-78)
 ('00 lbs. of Production)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Qualifying ⁽¹⁾	61,081.2	66,837.7	76,501.7	91,207.4	94,360.8
Non-qualifying ⁽²⁾ Manufacturing	1,784.8	3,496.6	597.0	824.8	1,874.5
Non-qualifying ⁽³⁾	10.1	21.2	45.0	51.4	22.9

Notes:

- (1) Licenced by SODICA.*
- (2) Producers with no licence issued by SODICA.*
- (3) Milk used only in manufacturing.
- (4) Covering geographic area Osoyoos to Cache Creek; Cranbrook to Princeton.
- (5) No data available on cottage cheese, cheddar cheese, yogurt and ice cream (by-products).

* Source: Shuswap Okanagan Dairy Industry Cooperative Association (SODICA)

TABLE 10

LICENSED DIARY PRODUCERS IN KAMLOOPS-OKANAGAN

1971 - 161	1975 - 151
1972 - 150	1976 - 142
1973 - 148	1977 - 140
1974 - 155	1978 - 134

HERD SIZES

<u>Herd Size</u>	<u>1975-%</u>	<u>1976-%</u>	<u>1977-%</u>	<u>1978-%</u>
10 - 20	3.5	2.0	1.0	2.0
21 - 30	12.5	8.5	7.0	12.5
31 - 40	20.0	17.0	15.0	18.0
41 - 50	17.5	17.0	21.0	17.0
51 - 60	14.5	11.0	11.0	14.5
61 - 70	11.0	13.5	10.0	7.0
71 - 80	6.5	11.0	12.0	8.5
81 - 90	5.0	6.0	8.0	5.0
91 - 100	3.0	3.5	3.5	2.0
101 - 110	3.0	1.5	1.0	3.0
111 - 120	1.25	2.0	2.0	2.0
121 - 130	1.25	2.5	1.5	2.0
131 - 140	1.0	1.0	2.0	2.0
141 - 140	1.0	1.0	2.0	2.0
Over 150	-	-	2.5	2.5
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: British Columbia Ministry of Agriculture

Livestock

Ranching, the agricultural industry that attracted the first settlers to the Okanagan Valley, is now the second most important agricultural activity next to the tree fruit industry. Poor beef prices from 1972 to 1977 have caused a decline in the number of cattle in B.C., but the number of cattle in the Okanagan has increased since 1971 (see Table 11). Figures prepared by the B.C. Ministry of Agriculture, Policy Development and Planning, show a total of 66,600 beef cattle in the Okanagan as of July 1, 1978. This figure indicates that further increases in the number of cattle have occurred although the boundaries that were used in compiling this figure are slightly larger than those of the three Regional Districts.

With rising beef prices, further increases in beef cattle production are likely to occur at least for the next few years. However, ranchers are having to contend with a growing number of problems. According to range agrologists employed by B.C. Forest Service, the spread of five- and ten-acre hobby farms throughout the Okanagan region is generating concern among ranchers and agriculturists. These small acreages occupy valuable range land and forage production areas without being agriculturally productive. Their location interferes with animal movements, and conflicts between ranchers and other rural residents occur as a result of dog and noise problems, vandalism, etc. Residents of hobby farms complain about cattle destroying property and polluting streams and lakes. Hobby farmers keeping a few cattle to help offset rising property taxes often contribute to overgrazing and the spread of disease.

A problem that could affect ranchers in the future is a reduction in the supply of hay. However, this is unlikely as most areas of the Okanagan are currently self-sufficient in hay, and there are many acreages where hay production could be increased. The City of Vernon uses spray irrigation to dispose

of sewage and there are several acreages that are using spray irrigation in hay production. Spray irrigation has the advantage of supplying additional moisture which is generally required in the North Okanagan and Shusway areas to produce a high quality forage as well as supplying valuable nutrients.

Further increases in cattle production will depend on the carrying capacity of existing and future range lands. Current estimates of the amount of range land in the Okanagan and the carrying capacities of these lands are not available. The B.C. Forest Service is preparing estimates but it is unlikely that they will be available in the near future.

Some expansion of range lands is taking place as a result of logging. However, many of the areas being logged are located above the 3,500 ft. level and these areas can be used only as summer ranges. The carrying capacities of the spring and fall ranges located below 3,500 ft. are the key to possibilities of expansion of the cattle industry. The cattle industry's future depends to some degree on how carefully these areas are managed in terms of land use planning.

The range management division of the B.C. Forest Service has recently completed several coordinated plans in the Okanagan. These plans coordinate the various land users in the many range areas of the Okanagan with the ultimate goal of determining compatible activities. Ranchers, loggers, tourist operators and the forest service working in a geographically defined area are brought together to discuss their problems and determine mutually satisfactory patterns of land use.

During the course of preparing the plans, water development requirements, land clearing, reseeding and forest thinning programs are examined. Eventually, the plans should result in better cattle control and a more efficient grazing system.

The coordinated plans are funded by A.R.D.S.A. To date, one plan has been completed in the North Okanagan, with two more about to begin. One plan has been completed in the Central Okanagan, while seven plans are now complete in Okanagan-Similkameen.

Over the short term, the economic outlook for the cattle industry is good. A shortage of beef has developed in the North American market as a result of low beef prices over the last few years. The shortages are now causing sharp increases in the price of beef and ranchers are responding by increasing production. However, due to the lag time in raising cattle, increased cattle production will not impact the market for approximately two years.

Currently, cattle raised south of Kelowna are sold at Okanagan Falls, while cattle raised in the North Okanagan are sold at Kamloops. Most of the cattle sold at these locations are shipped to feed lot operators in Alberta and the U.S. to be fattened and slaughtered.

The processing stage in the cattle industry has been the subject of some controversy among ranchers and members of the meat processing industry in B.C. for at least the last decade. Production of livestock in B.C. has always fallen short of provincial meat consumption. As slaughterhouses must have a large volume of cattle to process to remain economic operations, they have traditionally relied on importing livestock from Alberta to supplement the supply obtained in B.C. However, during the 1960's, the operating of new, faster transportation routes between B.C. and Alberta meant that it was more economical to ship unfattened calves to Alberta to be finished and slaughtered and ship the dressed carcasses back to B.C. in refrigerated trucks. At the same time, feed lots in B.C. were unable to compete with those in Alberta because of the high cost of shipping grain from Alberta to B.C. By 1970, only one

national company was operating a slaughterhouse in B.C. and several of the small independent operators were having severe financial difficulties.

During the 1970's, B.C. slaughterhouses have produced only a small portion of the total meat consumption in B.C. Their production represented 15% of total beef consumption, 12% of lamb consumption, 35% of veal consumption and 12% of pork consumption. The nine federally inspected slaughterhouses currently operating in B.C. have the capacity to handle double their current beef throughput. However, because there are few feedlots operating in B.C., they are unable to fully utilize their facilities.

Feedlots also require a large volume of cattle to be economically viable, but even more vital to their success is sufficient quantities of feed. To obtain enough grain, B.C. feed lots must import feed from Alberta. When slaughterhouses began to leave B.C. during the 1960's, feed lots were forced to close because of the expense of shipping fattened cattle to Alberta. It was more economical to send calves to Alberta for finishing than paying transportation costs on importing grain and then shipping fattened cattle. Today, approximately 100,000 cattle raised in B.C. are shipped to Alberta and the U.S.

According to a report produced by the B.C. Select Standing Committee on Agriculture,¹ B.C. cattle producers have indicated through the B.C. Beef Industry Development Committee their desire to finish a larger percentage of arrivals produced in B.C. to market weight. They see this as an opportunity to participate more fully in the market opportunities for beef. A representative of the B.C. Livestock Association

1. The Meat Processing Industry in B.C., Select Standing Committee on Agriculture, December 1978

stated that economists have estimated that the province loses \$2,000 per calf in economic activity on the 100,000 head of cattle currently shipped out of the province. However, there would be some problems initially in establishing an adequate marketing mechanism to handle the sale of substantially increased volumes of finished beef in B.C. A marketing system that would allow cattle from all sellers to be offered to all buyers would be necessary if more cattle became available to B.C. slaughterhouses. Also, several large retailers would have to be convinced of the economic benefit of buying their meat locally instead of from captive suppliers in Alberta and the U.S.

In spite of the problems that have been outlined, many Okanagan ranchers feel that the feedlot proposed for Oliver could become a viable operation. They are not convinced that the economics which once existed in the feedlot and slaughterhouse business in B.C. still apply. Transportation costs have increased dramatically in the last few years and there are no signs of levelling off. B.C. cattle are excellent in quality and ranchers are paid a premium by the Alberta feed lots, but recently have seen their extra profits cancelled out by high transportation costs.

A representative of the B.C. Livestock Association confirmed the support of B.C. ranchers for additional feedlots in B.C. Ranchers feel that they could command higher prices from the feedlots if there were more competition in B.C. Slaughterhouses would benefit from greater throughput of cattle reducing their per unit overhead costs and the provincial economy would derive some benefit from the extra economic activity in businesses associated with the cattle industry.

After looking at the various aspects of cattle production in B.C., it would appear that a more detailed examination of the impact of increased transportation costs on the economics of the meat processing industry is required. The issue of

whether or not the major retailers will buy increased quantities of beef in B.C. should also be resolved before any major changes take place.

Recently, an increased level of interest in hog production has been observed. The District Agriculturist in the North Okanagan has a list of twenty-two new hog producers that must be checked for the Farm Income Assurance Program. The price on hogs is good and the acreages required for production are relatively small, which reduces the capital expenditure required to start production.

TABLE 11

	<u>Cattle numbers</u>							
	<u>Okanagan Similkameen</u>		<u>Central Okanagan</u>		<u>North Okanagan</u>		<u>Okanagan Valley and Similkameen</u>	
	<u>1971</u>	<u>1976</u>	<u>1971</u>	<u>1976</u>	<u>1971</u>	<u>1976</u>	<u>1971</u>	<u>1976</u>
Beef cows	9,404	10,642	3,284	3,252	7,572	8,093	20,260	21,987
Beef heifers	2,158	2,505	1,090	1,049	2,779	2,740	6,027	6,294
Steers	1,303	1,977	423	1,362	1,841	4,015	3,567	7,354
Bulls	604	628	232	227	476	523	1,312	1,378
Calves	<u>7,418</u>	<u>7,387</u>	<u>2,617</u>	<u>2,770</u>	<u>8,696</u>	<u>7,903</u>	<u>18,731</u>	<u>18,060</u>
Total	<u>20,887</u>	<u>23,139</u>	<u>7,646</u>	<u>8,660</u>	<u>21,364</u>	<u>23,274</u>	<u>49,897</u>	<u>55,073</u>

Source: Statistics Canada 1971 and 1976 census.

TABLE 12CATTLE SALES - OKANAGAN REGION

<u>Year</u>	<u>Number Marketed</u>	<u>Average Value</u>	<u>Total Sales</u>
1976	41,214	\$ 187.67	\$ 7,734,631
1977	44,382	\$ 232.89	\$ 10,336,124
1978	40,000	\$ 406.98	\$ 17,093,000
1979	-	\$ 600.00	-

Source: B.C. Livestock Association - Kamloops, B.C.

AGRICULTURE ON INDIAN RESERVES

Lower Similkameen Band

The eight reserves belonging to the band extend from the Ashnola River to the U.S./Canada boundary. The area is capable of sustaining a wide variety of crops, but the hot, dry climate during the growing season makes irrigation essential. The Indians on these reserves are primarily cattle ranchers and therefore hay is the major crop. Currently, approximately 200 acres are devoted to hay crops and 13 acres to orchards. The band has plans to expand the orchard to 100 acres. The reserves contain a total of 36,578 acres, of which 1,617 contain improvements and 4,536 acres are classed as unimproved arable land. The balance of the reserves are forested.

Upper Similkameen Band

The nine reserves belonging to this band are located in the Princeton - Hedley area. Several reserves are subject to periodic flooding causing serious erosion problems, and the soils are stony and unsuitable for agriculture in many places. Hay and pasture crops have been grown successfully in some areas. The reserves contain a total of 6,779 acres, including 402 acres in improved land and 2,806 acres in unimproved, arable land.

Osoyoos Band

The Osoyoos Band has been very successful in the agricultural development of their 32,233 acres and there are many further opportunities for expansion. In 1972, the band had 151 acres

planted in grapes. Their Inkameep vineyard now has 255 acres planted, with an additional 13 acres devoted to experimental grape crops. The Osoyoos area has the most favourable conditions in the Okanagan for growing grapes. Long hours of sunshine and good soils combine to produce grapes with a consistently high sugar content. The grapes planted in the test plots are European varieties primarily from the Rhine valley in Germany. If the grapes can be produced successfully in the Okanagan, the land belonging to the Osoyoos band will be very much in demand. The water license currently held by the band will permit irrigation of approximately 1,000 acres. In 1972, 1,220 acres were classed as improved acreage and 18,109 acres were classed as unimproved arable land.

Penticton Band

A large proportion of the two reserves belonging to this band are leased out to the airport at Penticton, and for various recreational uses on the waterfront. Approximately 1500 acres are leased to four ranchers for hay and grazing land. The reserves contain a total of 34,721 acres of which 9,250 are classed as unimproved arable land. In 1972, the band did not appear to be interested in developing additional land for agricultural use.

Westbank Band

Reserves 9 and 10 contain a total of 2,363 acres, of which 349 are classified as improved agricultural land. An additional 620 acres are considered arable and are currently devoted to horse pasture. This land will eventually be fully committed to housing, commercial and recreational development.

Okanagan Band

The five reserves belonging to the Okanagan Band contain large acreages devoted to agricultural and recreational uses. Number One reserve contains 20 miles of lake frontage on the northern end of Okanagan Lake. In 1972, approximately 100 acres were leased out for summer homes. An additional 1,540 acres were leased out for grazing and hay pastures to non-Indians. At that time, 42 Indians were involved in ranching with 1,750 head of cattle and 200 horses and they have since expanded to 3,000 head of cattle. The other four reserves belonging to the band were leased out for pasture and hay land. The five reserves contain a total of 26,113 acres, of which 5,824 acres are improved and 169 acres in unimproved arable land. An additional 6,700 acres were devoted to open grazing.

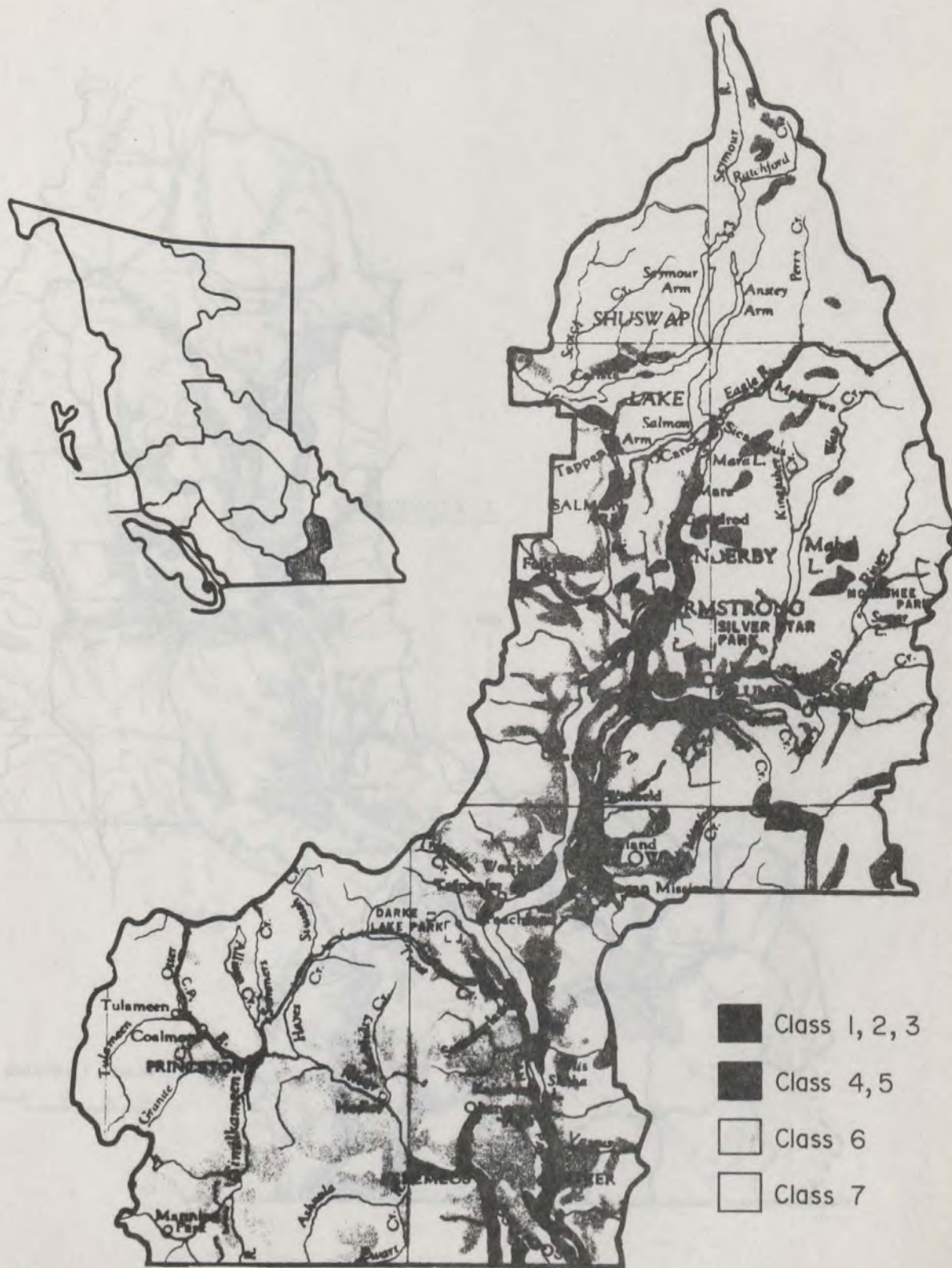
Spallumcheen Band

Most of the land on Salmon River Number One reserve is leased out for hay, pasture and cultivated crops. The Enderby reserve contains approximately 100 acres of good bottom land along the Shuswap River. In 1972, the band was considering plans for the development of a dairy operation. However, band members do not possess the necessary skills and knowledge necessary for success in the dairy industry and have therefore decided to raise beef cattle. The two reserves contain a total of 9,526 acres, of which 1,109 are improved and 3,233 are classed as arable unimproved land.

MAPS

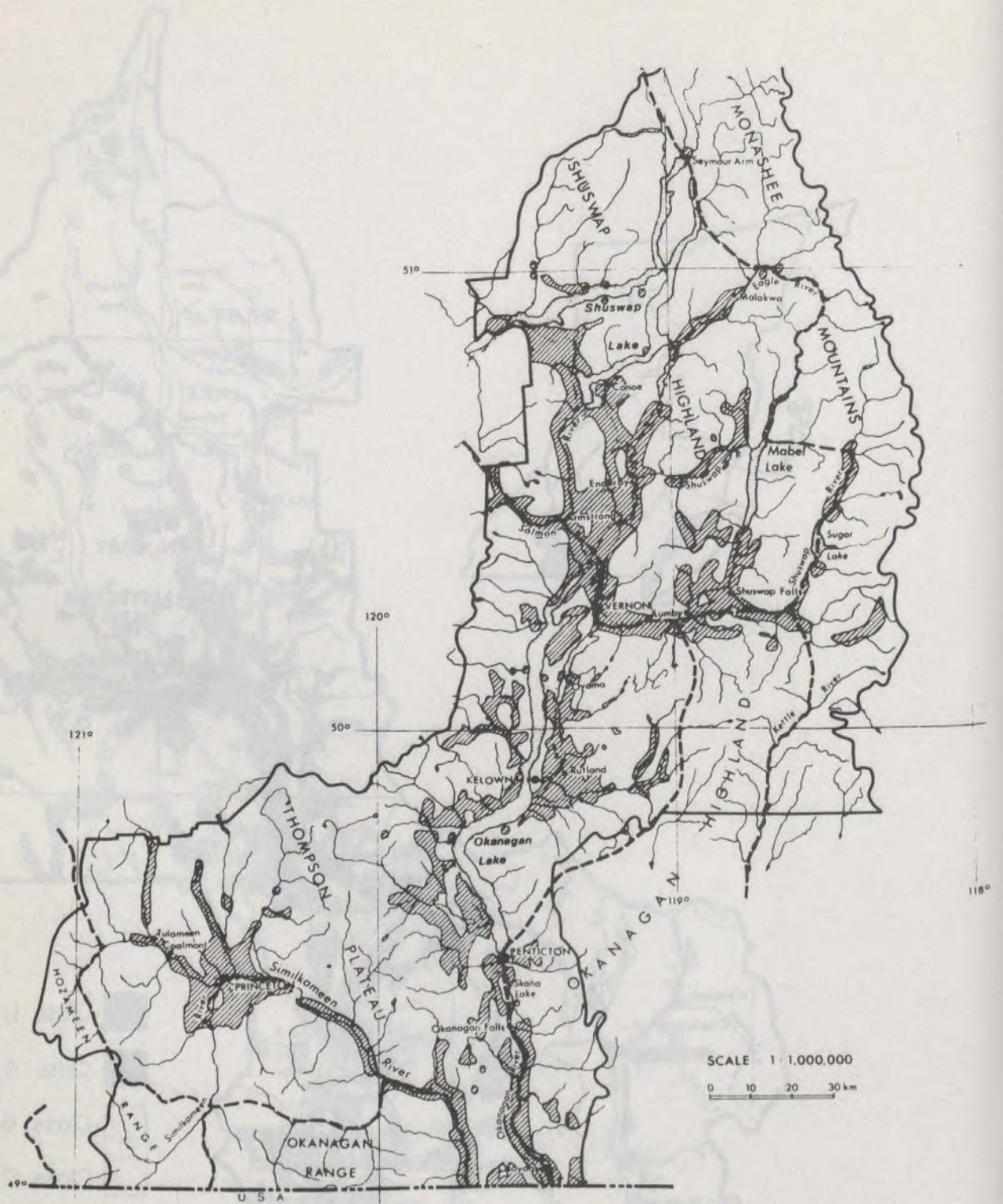
MAP 1

AGRICULTURAL LAND CAPABILITIES



MAP 2

AGRICULTURAL LAND RESERVE AREAS



APPENDIX 1

APPENDIX 1

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MEAN DAILY TEMPERATURE (F)

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEAR
Kelowna	25.7	31.0	37.4	47.4	56.1	62.4	68.5	66.3	57.6	46.5	36.4	31.0	47.2
Kelowna (Airport) (Estimated)	21.0	27.4	35.6	45.6	53.7	60.5	66.0	63.5	55.7	44.6	33.4	27.7	44.6
Kelowna (Can. Dept. of Agriculture)	22.8	29.6	35.8	45.6	55.1	61.9	67.6	65.5	57.5	45.7	34.1	27.9	45.8
Penticton (Airport)	26.7	32.6	38.6	47.7	56.1	62.8	68.2	66.6	58.4	47.7	37.5	31.3	47.9
Vernon	21.2	28.8	36.8	47.7	57.1	62.6	68.3	65.8	57.8	45.8	35.5	29.1	46.4

MEAN DAILY MAXIMUM TEMPERATURE (F)

Kelowna (Airport)	31.4	38.2	46.5	58.8	68.3	74.4	82.4	79.7	70.3	56.1	43.0	36.5	57.1
Kelowna (Can. Dept. of Agriculture)	28.7	37.1	44.9	57.1	67.7	74.4	81.7	78.9	69.5	55.0	40.6	33.4	55.8
Penticton (Airport)	31.5	39.2	48.2	60.0	69.4	76.1	83.5	81.1	71.6	57.9	43.6	35.9	58.2
Vernon	26.6	35.2	45.5	59.3	69.7	74.4	82.1	78.9	69.4	54.1	41.0	33.8	55.8

MEAN DAILY MINIMUM TEMPERATURE (F)

Kelowna	20.0	23.8	28.3	35.9	43.9	50.4	54.5	52.8	44.8	37.0	29.6	25.4	37.2
Kelowna (Airport) (Estimated)	13.6	17.3	25.6	33.4	39.5	46.6	49.5	47.0	41.4	33.2	25.3	21.5	32.8
Kelowna (Can. Dept. of Agriculture)	16.9	22.2	26.6	34.0	42.4	49.2	53.5	52.2	45.4	36.3	27.6	22.5	35.7
Penticton (Airport)	21.9	26.1	28.9	35.4	42.7	49.5	52.9	52.1	45.1	37.6	31.3	26.7	37.5
Vernon	15.7	22.4	28.1	36.1	44.4	50.7	54.4	52.8	46.1	37.4	29.8	24.4	36.9

APPENDIX 1

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EXTREME MAXIMUM TEMPERATURE (F)

	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG</u>	<u>SEPT</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>YEAR</u>
Kelowna	24	63	70	82	93	96	102	97	93	78	65	58	102
Kelowna (Can. Dept. of Agriculture)	57	55	69	80	93	95	99	98	95	75	60	55	99
Penticton (Airport)	56	60	71	84	90	98	105	101	94	84	61	58	105
Vernon	56	70	68	84	92	98	104	97	92	80	65	65	104

EXTREME MINIMUM TEMPERATURE (F)

Kelowna	-24	-19	-8	15	25	30	38	33	22	14	-9	-12	-24
Kelowna (Can. Dept. of Agriculture)	-25	-20	-16	15	24	35	38	39	29	19	-8	-26	-26
Penticton (Airport)	-16	-16	0	19	22	32	38	38	27	19	-2	-17	-17
Vernon	-31	-30	-3	15	22	30	36	34	24	12	-17	-20	-31

MEAN RAINFALL (INCHES)

Kelowna	.29	.27	.49	.63	.92	.96	.91	1.03	.86	.92	.67	.56	8.51
Kelowna (Can. Dept. of Agriculture)	.15	.27	.32	1.08	1.22	1.44	.92	.90	1.01	1.14	.87	.55	9.87
Penticton (Airport)	.35	.41	.48	.90	1.09	1.40	.97	.88	.71	.78	.76	.41	9.14
Penticton Sewage Plant	1.45	.34	.45	.87	1.04	1.26	1.07	.92	.70	.77	.68	.45	9.00
Vernon	.24	.44	.45	.76	1.17	1.49	1.17	1.18	1.34	1.19	.82	.70	10.95

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MEAN SNOWFALL (INCHES)

	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG</u>	<u>SEPT</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>YEAR</u>
Kelowna	11.9	5.7	3.0	.01	-	-	-	-	-	.3	3.7	10.2	34.9
Kelowna (Can. Dept. of Agriculture)	10.4	5.6	2.4	Tr.	-	-	-	-	-	.2	3.7	11.3	33.8
Penticton (Airport)	9.8	4.3	1.8	.1	-	-	-	-	-	Tr.	2.7	8.5	27.2
Penticton Sewage Plant	7.1	2.5	1.4	-	-	-	-	-	-	Tr.	1.9	6.9	19.8
Vernon	14.9	6.1	2.8	.4	-	-	-	-	-	.5	4.5	13.6	42.8

MEAN TOTAL PRECIPITATION (INCHES)

Kelowna	1.48	.84	.79	.64	.92	.96	.91	1.03	.86	.95	1.04	1.58	12.0
Kelowna (CDA)	1.19	.83	.56	1.08	1.22	1.44	.92	.90	1.01	1.16	1.24	1.68	13.23
Penticton Airport	1.24	.82	.65	.91	1.09	1.40	.97	.88	.71	.78	1.01	1.20	11.66
Penticton Sewage Plant	1.16	.59	.59	.87	1.04	1.26	1.07	.92	.70	.77	.87	1.14	10.98
Vernon	1.73	1.05	.73	.80	1.17	1.49	1.17	1.18	1.34	1.24	1.27	2.06	15.23

APPENDIX 2

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BRITISH COLUMBIA DEPARTMENT OF AGRICULTURE
HORTICULTURAL BRANCH

1975 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR THE OKANAGAN-SIMILKAMEEN DISTRICT

C R O P S	F R E S H S A L E S							P R O C E S S E D				T O T A L S		
	Acres	COMMERCIAL AGENCIES (1)			FARM AND ROADSIDE (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$			
Asparagus (Bearing)	600							LESS THAN THREE PROCESSORS				600	915,300	347,827
Beans (Green)*	10	50,000	.120	6,000	25,000	.120	3,000					10	75,000	9,000
Beans (Wax)*	2	16,000	.130	2,080								2	16,000	2,080
Beets (Bunched)	3	16,000	.110	1,760	32,000	.105	3,360					3	48,000	5,120
Beets (Topped)	10				150,000	.056	8,400					10	150,000	8,400
Breccoli*	2	10,000	.115	1,150	6,000	.115	690					2	16,000	1,840
Brussels Sprouts*	1.5	9,000	.160	1,440								1.5	9,000	1,440
Cabbage (Early)	50	140,000	.080	11,200	200,000	.080	16,000					50	340,000	27,200
Cabbage (Mid Season & Late)	30	587,520	.064	37,601	72,480	.064	4,638					30	660,000	42,239
Cabbage (Savoy)	2				32,000	.050	1,600					2	32,000	1,600
Carrots (Bunched)	11	182,000	.131	23,842	16,000	.130	2,080					11	198,000	25,922
Carrots (Topped)	15	180,000	.085	15,300	9,000	.080	720					15	189,000	16,020
Cauliflower *	5	48,000	.072	3,456	12,000	.070	840					5	60,000	4,296
Celery	5	90,000	.085	7,650								5	90,000	7,650
Corn	180	433,901	.135	58,576	826,099	.135	111,523					4	1,260,000	170,099

* - Vegetables on which the gross return from the process market is paid on pack-out weight.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packinghouse direct sales. Sales are recorded at the point of production.

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BRITISH COLUMBIA DEPARTMENT OF AGRICULTURE
HORTICULTURAL BRANCH

1975 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR THE OKANAGAN-SIMILKAMEEN DISTRICT

C R O P S	F R E S H S A L E S							P R O C E S S E D				T O T A L S		
	Acres	COMMERCIAL AGENCIES (1)			FARM AND ROADSIDE (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$			
Cucumbers (Slicing)	50	383,040	.140	53,625	246,960	.135	33,339					50	630,000	86,964
Cucumbers (Pickling)	10				40,000	.135	5,400					10	40,000	5,400
Cucumbers (Hothouse)		108,092	.275	29,685									108,092	29,685
Lettuce (Head)	15	125,800	.070	8,806	24,200	.070	1,694					15	150,000	10,500
Lettuce (Butter & Red)														
Mushrooms														
Onions (Bunched)	5	40,000	.185	7,400	5,000	.170	850					5	45,000	8,250
Onions (Fall Seeded)	30	334,620	.170	56,885	385,380	.170	65,514					30	720,000	122,399
Onions (Spring Seeded)	140	1,900,000	.089	169,100	940,000	.089	83,660					140	2,840,000	252,760
Onions (Silverskins)	15	154,800	.260	40,248	18,000	.260	4,680					15	172,800	44,928
Parsley														
Parsnips	4	55,400	.180	9,972	15,000	.180	2,700					4	70,400	12,672
Peas (Pod)	4	6,500	.100	650	6,500	.100	650					4	13,000	1,300
Peas (Shelled)														
Peppers	40	195,000	.130	25,350	45,000	.130	5,850					40	240,000	31,200

* - Vegetables on which the gross return from the process market is paid on pack-out weight.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packinghouse direct sales. Sales are recorded at the point of production.

APPENDIX 2

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**BRITISH COLUMBIA DEPARTMENT OF AGRICULTURE
HORTICULTURAL BRANCH**

1975 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR THE OKANAGAN-SIMILKAMEEN DISTRICT

C R O P S	F R E S H S A L E S							P R O C E S S E D				T O T A L S		
	Acres	C O M M E R C I A L A G E N C I E S (1)			F A R M A N D R O A D S I D E (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$			
Potatoes (Early)	150	475,000	.052	24,890	95,000	.050	4,750					150	570,000	29,640
Potatoes (Mid Season & Late)	700	13,104,500	.055	720,747	1,200,000	.050	60,000					700	14,304,500	780,747
Radishes	3	12,000	.046	552	3,000	.045	135					3	15,000	627
Rhubarb (Field)														
Rhubarb (Forcing)														
Rutabagas	20	532,000	.058	30,856	34,000	.058	1,972					20	566,000	32,828
Spinach	2	16,000	.045	720								2	16,000	720
Squash Marrow & Pumpkin	60	513,000	.041	21,033	87,000	.041	3,567					60	600,000	24,600
Tomatoes (Field)	160							LESS THAN THREE PROCESSORS				160	4,480,000	584,225
Tomatoes (Hothouse)		352,995	.469	165,555									352,995	165,555
Miscellaneous Chinese Vegetables**														
Miscellaneous Other Vegetables***	320	268,800	.045	12,096	176,000	.045	7,920					320	444,800	20,016
T O T A L S	2654.5	20,339,968		1,548,225	4,701,619		435,532					2654.5	30,436,887	2,915,829

** - Bok Choy, Gai Lan, Sue Choy, Wong Bok, Foo Gar, Moh Gar and others.

***- Miscellaneous crops include Witloof, Kohlrabi, Kale, Romaine, Leek, Salsify, Endive, Citron, Zucca Melon, Garlic, Egg Plant, Broad Beans, Summer Turnips, Leaf Lettuce and others.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packinghouse direct sales. Sales are recorded at the point of production.

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BRITISH COLUMBIA MINISTRY OF AGRICULTURE
HORTICULTURAL BRANCH

1976 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR Okanagan-Similkameen District

C R O P S	F R E S H S A L E S							P R O C E S S E D				T O T A L S			
	Acres	C O M M E R C I A L A G E N C I E S (1)			F A R M A N D R O A D S I D E (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$	
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$				
Asparagus (bearing)	600	L E S S T H A N T H R E E P R O C E S S O R S											600	1,050,000	441,000
Beans (Green)*	10	45,000	.110	4,950	25,000	.110	2,750					10	70,000	7,700	
Beans (Wax)*	2	10,000	.120	1,200								2	10,000	1,200	
Beets (Bunched)	3				32,000	.150	4,800					3	32,000	4,800	
Beets (Topped)	10				140,000	.140	19,600					10	140,000	19,600	
Broccoli*	2.5	9,000	.110	990	6,000	.110	660					2.5	15,000	1,650	
Brussels Sprouts*	1.5	7,000	.150	1,050								1.5	7,000	1,050	
Cabbage (Early)	50	42,981	.100	4,298	62,418	.100	6,241					50	105,399	10,539	
Cabbage (Mid Season & Late)	60	222,500	.060	13,350	27,500	.060	1,650					60	250,000	15,000	
Cabbage (Savoy)	2				20,000	.080	1,600					2	20,000	1,600	
Carrots (Bunched)	11	243,000	.130	31,590	21,000	.130	2,730					11	264,000	34,320	
Carrots (Topped)	16	367,000	.085	31,195	17,000	.080	1,360					16	384,000	32,555	
Cauliflower *	6	24,000	.070	1,680	6,000	.070	420					6	30,000	2,100	
Celery	5	90,000	.085	7,650								5	90,000	7,650	
Corn	190	76,000	.125	9,500	684,000	.125	85,500					190	760,000	95,000	

* - Vegetables on which the gross return from the process market is paid on pack-out weight.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packhouse direct sales. Sales are recorded at the point of production.

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BRITISH COLUMBIA MINISTRY of AGRICULTURE
HORTICULTURAL BRANCH

1976 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR Okanagan-Similkameen District

C R O P S	F R E S H S A L E S							P R O C E S S E D				T O T A L S		
	Acres	C O M M E R C I A L A G E N C I E S (1)			F A R M A N D R O A D S I D E (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$			
Cucumbers (Slicing)	40	275,784	.140	38,609	177,811	.130	23,115					40	453,595	61,724
Cucumbers (Pickling)	10				44,000	.180	7,920					10	44,000	7,920
Cucumbers (Pickhouse)		208,635	.255	53,202									208,635	53,202
1. Long English		80,415	.327	26,296									80,415	26,296
2. White Spine														
Lettuce (Head)	16	87,200	.072	6,278	20,000	.072	1,440					16	107,200	7,718
Lettuce (Butter & Red)	1	7,890	.120	946								1	7,890	946
Mushrooms														
Onions (Bunched)	5	70,000	.180	12,600	10,000	.180	1,800					5	80,000	14,400
Onions (Fall Seeded)	30	192,200	.105	20,181	167,800	.105	17,619					30	360,000	37,800
Onions (Spring Seeded)	168	1,250,000	.054	67,500	1,102,000	.054	59,508					168	2,352,000	127,008
Onions (Silverskins)	20	50,000	.300	15,000	110,000	.300	33,000					20	160,000	48,000
Parsley														
Parsnips	4	55,400	.190	10,526	15,000	.190	2,850					4	70,400	13,376
Peas (Pod)	4				8,000	.100	800					4	8,000	800
Peas (Shelled)														
Peppers	37	58,500	.135	7,897	13,500	.135	1,822					37	72,000	9,719

* - Vegetables on which the gross return from the process market is paid on pack-out weight.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packinghouse direct sales. Sales are recorded at the point of production.

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BRITISH COLUMBIA MINISTRY of AGRICULTURE
HORTICULTURAL BRANCH

1976 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR Okanagan-Similkameen District

C R O P S	F R E S H S A L E S							P R O C E S S E D				T O T A L S			
	Acres	C O M M E R C I A L A G E N C I E S (1)			F A R M A N D R O A D S I D E (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$	
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$				
Potatoes (Early)	200	1,195,800	.039	46,636	4,200	.039	163					200	1,200,000	46,799	
Potatoes (Mid Season & Late)	500	5,102,175	.030	153,065	2,897,825	.030	86,934					500	8,000,000	239,999	
Radishes	3	8,000	.093	744	7,000	.090	630					3	15,000	1,374	
Rhubarb (Field)															
Rhubarb (Forcing)															
Rutabagas	15	377,800	.090	34,002	72,200	.090	6,498					15	450,000	40,500	
Spinach	2	17,500	.100	1,750								2	17,500	1,750	
Squash Marrow & Pumpkin	150	L E S S T H A N T H R E E P R O C E S S O R S											150	1,200,000	62,400
Tomatoes (Field)	176	L E S S T H A N T H R E E P R O C E S S O R S											176	1,792,000	151,999
Tomatoes (Hothouse)	218,000 sq. ft.	406,000	.470	190,820								218,000 sq. ft.	406,000	190,820	
Miscellaneous Chinese Vegetables**															
Miscellaneous Other Vegetables***	320	200,000	.060	12,000	93,568	.060	5,614					320	293,568	17,614	
T O T A L S	2,870	10,770,780		805,505	5,783,822		377,024					2,870	20,605,602	1,837,028	

** - Bok Choy, Gai Lan, Sue Choy, Wong Bok, Foo Gar, Moh Gar and others.

***- Miscellaneous crops include Witloof, Kohlrabi, Kale, Romaine, Leek, Salsify, Endive, Citron, Zucca Melon, Garlic, Egg Plant, Broad Beans, Summer Turnips, Leaf Lettuce and others.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packinghouse direct sales. Sales are recorded at the point of production.

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British Columbia Ministry of Agriculture
Horticulture Branch

1977 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR Okanagan-Similkameen District

C R O P S	F R E S H S A L E S						P R O C E S S E D				T O T A L S				
	Acres	COMMERCIAL AGENCIES (1)			FARM AND ROADSIDE (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$	
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$				
Asparagus (Bearing)	279	(3)			365,000	.55	200,750	250	(3)				529	797,195	402,136
Beans (Green)*	4				49,000	.20	9,800					4	49,000	9,800	
Beans (Wax)*	3				12,000	.25	3,000					3	12,000	3,000	
Beets (Bunched)	1				2,750	.25	688					1	2,750	688	
Beets (Topped)	2				79,000	.15	11,850					2	79,000	11,850	
Broccoli*	2				1,500	.25	375					2	1,500	375	
Brussels Sprouts*	1				1,500	.20	300					1	1,500	300	
Cabbage (Early)	35	35,850	.080	2,898	61,600	.12	7,392					35	97,450	10,260	
Cabbage (Mid Season & Late)	67	325,400	.077	25,056	165,400	.10	16,540					67	490,800	41,596	
Cabbage (Savoy)	1	4,250	.100	425	9,000	.10	900					1	13,250	1,325	
Carrots (Bunched)	2				5,500	.20	1,100					2	5,500	1,100	
Carrots (Topped)	10				605,000	.12	72,600					10	605,000	72,600	
Cauliflower *	2				2,250	.30	675					2	2,250	675	
Celery	4				9,000	.10	900					4	9,000	900	
Corn	161	54,400	.083	4,515	687,500	.12	82,500					161	741,900	87,015	

* - Vegetables on which the gross return from the process market is paid on pack-out weight.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packinghouse direct sales. Sales are recorded at the point of production.

(3) Crops produced but figures omitted to provide confidentiality.

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British Columbia Ministry of Agriculture
Horticulture Branch

1977 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR Okanagan-Similkameen District

C R O P S	F R E S H S A L E S							P R O C E S S E D				T O T A L S		
	Acres	C O M M E R C I A L A G E N C I E S (1)			F A R M A N D R O A D S I D E (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$			
Cucumbers (Slicing)	31	249,030	.175	43,580	426,804	.15	64,021					31	675,834	107,601
Cucumbers (Pickling)	8				69,700	.25	17,425					8	69,700	17,425
Cucumbers (Hothouse)		162,290	.330	53,556	57,030	.40	22,812						219,320	76,368
1. Long English					5,925	.30	1,778						5,925	1,778
2. White Spine														
Lettuce (Head)	5				37,000	.20	7,400					5	37,000	7,400
(Butter & Red)	1				4,750	.15	713					1	4,750	713
Mushrooms														
Onions (Bunched)	1				3,250	.45	1,463					1	3,250	1,463
Onions (Fall Seeded)	30	335,700	.099	33,234	198,000	.10	19,800					30	533,700	53,034
Onions (Spring Seeded)	151	2,055,050	.063	129,468	789,650	.10	78,965					151	2,844,700	208,433
Onions (Silverskins)	12	129,200	.345	44,574	34,650	.30	10,395					12	163,850	54,969
Parsley														
Parsnips	4				80,500	.25	20,125					4	80,500	20,125
Peas (Pod)	4				11,500	.15	1,725					4	11,500	1,725
Peas (Shelled)														
Peppers	41	92,550	.211	19,528	155,600	.25	38,900					41	248,150	58,428

* - Vegetables on which the gross return from the process market is paid on pack-out weight.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packinghouse direct sales. Sales are recorded at the point of production.

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British Columbia Ministry of Agriculture
Horticulture Branch

1977 VEGETABLE ACREAGE, PRODUCTION AND VALUES FOR Okanagan-Similkameen District

C R O P S	F R E S H S A L E S							P R O C E S S E D				T O T A L S		
	Acres	C O M M E R C I A L A G E N C I E S (1)			F A R M A N D R O A D S I D E (2)			S A L E S				Acres	Quantity (Pounds)	Total Value \$
		Quantity (Pounds)	Price Lb.	Value \$	Quantity (Pounds)	Price Lb.	Value \$	Acres	Quantity (Pounds)	Price Lb.	Value \$			
Potatoes (Early)	44	955,600	.053	50,647	132,000	.08	10,560					44	1,087,600	61,207
Potatoes (Mid Season & Late)	713	13,279,550	.032	424,946	2,128,000	.05	106,400					713	15,407,550	531,346
Radishes	1				6,250	.50	3,125					1	6,250	3,125
Rhubarb (Field)	1				1,000	.12	120					1	1,000	120
Rhubarb (Forcing)														
Rutabagas	32	508,900	.098	49,872	162,000	.10	16,200					32	670,900	66,072
Spinach														
Squash Marrow & Pumpkin	56		(3)		371,000	.15	55,650					56	651,665	74,019
Tomatoes (Field)	207		(3)		3,353,220	.15	502,983	30		(3)		237	4,755,180	680,969
Tomatoes (Hothouse)	171,000 sq. ft.	353,440	.356	125,825	60,500	.60	36,300					171,000 sq. ft.	413,940	162,125
Miscellaneous Chinese Vegetables**														
Miscellaneous Other Vegetables***	30				122,000	.10	12,200					30	122,000	12,200
T O T A L S	1946	19,474,030		1,179,395	10,266,329		1,438,430	280	1,182,000		226,440	2226	30,922,359	2,844,265

** - Bok Choy, Gai Lan, Sue Choy, Wong Bok, Foo Gar, Moh Gar and others.

***- Miscellaneous crops include Witloof, Kohlrabi, Kale, Romaine, Leek, Salsify, Endive, Citron, Zucca Melon, Garlic, Egg Plant, Broad Beans, Summer Turnips, Leaf Lettuce and others.

(1) Sales through agency channels

(2) Includes roadside stand sales, direct farm sales and packinghouse direct sales. Sales are recorded at the point of production.

(3) Crops produced but figures omitted to provide confidentiality.

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REGION 5
OKANAGAN AGRICULTURAL REPORTING REGION

AGRICULTURAL LAND RESERVE AREAS IN HECTARES BY:
RESTRICTION, CAPABILITY CLASS, AND PRESENT LAND USE

TABLE 8.1

SUMMARY TABLE: LAND CAPABILITY CLASS BY PRESENT LAND USE
(100% OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS									TOTAL	XTOTAL
	1	2	3	4	1-4	5	6	7	WATER		
FORAGES & GRAINS	3120	15270	13390	10640	42530	4170	1810	230	0	48690	20
HORTICULTURE	3220	7360	3130	350	14060	140	470	50	0	14720	6
GRASSLAND & PASTURE	1890	7510	9450	12550	31700	13690	11270	1750	0	58410	25
FORESTED RANGE	360	4640	9340	27180	41520	51800	15960	4480	0	93760	39
FORESTED LANDS	40	350	1160	5790	7340	3430	720	2050	0	13540	6
NON-PRODUCTIVE LANDS	290	890	860	1330	4180	870	760	770	3470	9240	4
TOTAL	8980	36020	37330	58140	140470	54100	30990	9330	3470	238360	
XTOTAL	4	15	16	24	59	23	13	4	1		

TABLE 8.2

SUMMARY TABLE: LAND CAPABILITY CLASS BY RESTRICTION CLASS
(100% OF REGIONAL ALR TOTAL AREA)

RESTRICTION CLASS	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS									TOTAL	XTOTAL
	1	2	3	4	1-4	5	6	7	WATER		
NO RESTRICTIONS	7300	26760	24690	33730	92480	30450	20770	6280	1500	151460	64
FOREST TENURE	240	2500	4410	16090	23240	19280	7000	1440	570	51730	22
INDIAN RESERVE	1310	5820	5960	4390	17480	2980	2290	850	90	23690	10
PARKS/WILDLIFE AREAS	0	340	960	2130	3430	740	470	660	800	6100	3
DEVELOPED AREAS	100	440	530	370	1440	120	180	80	10	1830	1
WETLANDS	0	0	340	1160	1500	250	60	0	260	2070	1
OTHER RESTRICTIONS	30	160	440	270	900	80	220	20	240	1460	1
TOTAL	8980	36020	37330	58140	140470	54100	30990	9330	3470	238360	
XTOTAL	4	15	16	24	59	23	13	4	1		

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REGION 5
OKANAGAN AGRICULTURAL REPORTING REGION

AGRICULTURAL LAND RESERVE AREAS IN HECTARES BY:
RESTRICTION, CAPABILITY CLASS, AND PRESENT LAND USE

TABLE 8.3

SUMMARY TABLE: RESTRICTION CLASS BY PRESENT LAND USE
(100% OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	RESTRICTION CLASS							TOTAL	%TOTAL
	A	B	C	D	E	F	G		
FORAGES & GRAINS	42370	0	4470	290	550	980	30	48690	20
HORTICULTURE	14400	0	230	20	60	10	0	14720	6
GRASSLAND & PASTURE	38100	8470	10110	890	320	490	30	58410	25
FORESTED RANGE	45450	37610	7870	1650	550	320	210	93760	39
FORESTED LANDS	6730	4170	230	1590	180	0	640	13540	6
NON-PRODUCTIVE LANDS	4430	1480	780	1660	70	270	550	9240	4
TOTAL	151480	51730	23690	6100	1330	2070	1460	238360	
%TOTAL	64	22	10	3	1	1	1		

TABLE 8.4

RESTRICTION CLASS A: NO RESTRICTIONS
(64% OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS									TOTAL	%TOTAL
	1	2	3	4	1-4	5	6	7	WATER		
FORAGES & GRAINS	2630	13120	11620	9190	36560	3920	1670	220	0	42370	28
HORTICULTURE	3160	7240	3020	340	13760	140	450	50	0	14400	10
GRASSLAND & PASTURE	1090	3560	5360	8750	18760	9970	8170	1200	0	38100	25
FORESTED RANGE	180	2170	3810	11950	13110	14130	9930	3280	0	45450	30
FORESTED LANDS	0	80	440	2870	3390	1920	290	1230	0	6730	4
NON-PRODUCTIVE LANDS	240	590	440	630	1900	470	260	300	1500	4430	3
TOTAL	7300	26760	24690	33730	92480	30450	20770	6290	1500	151480	
%TOTAL	5	18	16	22	61	20	14	4	1		

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AGRICULTURAL LAND RESERVE AREAS IN HECTARES BY:
RESTRICTION, CAPABILITY CLASS, AND PRESENT LAND USE

TABLE 8.5

RESTRICTION CLASS B: FOREST TENURE
(22% OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS									TOTAL	%TOTAL
	1	2	3	4	1-4	5	6	7	WATER		
FORAGES & GRAINS	0	0	0	0	0	0	0	0	0	0	0
HORTICULTURE	0	0	0	0	0	0	0	0	0	0	0
GRASSLAND & PASTURE	160	960	1780	1670	4570	2140	1540	220	0	8470	16
FORESTED RANGE	70	1280	2490	12060	15900	15850	5080	780	0	37610	73
FORESTED LANDS	0	220	40	1830	2090	1370	350	360	0	4170	8
NON-PRODUCTIVE LANDS	10	40	100	530	680	120	30	80	570	1480	3
TOTAL	240	2500	4410	16090	23240	19480	7000	1440	570	51730	
%TOTAL	0	5	9	31	45	38	14	3	1		

TABLE 8.6

RESTRICTION CLASS C: INDIAN RESERVES
(10 % OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS									TOTAL	%TOTAL
	1	2	3	4	1-4	5	6	7	WATER		
FORAGES & GRAINS	480	1870	1320	530	4200	170	90	10	0	4470	19
HORTICULTURE	50	80	90	0	220	0	10	0	0	230	1
GRASSLAND & PASTURE	620	2780	2010	1800	7210	1330	1310	260	0	10110	43
FORESTED RANGE	110	960	2460	1950	5480	1360	720	310	0	7870	33
FORESTED LANDS	10	10	20	20	60	40	60	70	0	230	1
NON-PRODUCTIVE LANDS	40	120	60	90	310	80	100	200	90	780	3
TOTAL	1310	5820	5960	4390	17480	2980	2290	850	90	23690	
%TOTAL	6	25	25	19	74	13	10	4	0		

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OKANAGAN AGRICULTURAL REPORTING REGION

AGRICULTURAL LAND RESERVE AREAS IN HECTARES BY:
RESTRICTION, CAPABILITY CLASS, AND PRESENT LAND USE

TABLE 8.7

RESTRICTION CLASS D: PARKS AND WILDLIFE AREAS
(3 % OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS								TOTAL	%TOTAL	
	1	2	3	4	1-4	5	6	7			WATER
CROPPAGES & GRAINS	0	10	60	160	230	60	0	0	0	290	5
AGRICULTURE	0	20	0	0	20	0	0	0	0	20	0
MEADOWLAND & PASTURE	0	120	210	220	550	90	190	60	0	890	15
RESTED RANGE	0	70	330	750	1150	300	130	70	0	1650	27
RESTED LANDS	0	0	180	950	1130	110	10	340	0	1590	26
UNPRODUCTIVE LANDS	0	120	180	50	350	180	140	190	800	1660	27
TOTAL	0	340	960	2130	3430	740	470	660	800	6100	
TOTAL	0	6	16	35	56	12	8	11	13		

TABLE 8.8

RESTRICTION CLASS E: DEVELOPED AREAS
(1 % OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS								TOTAL	%TOTAL	
	1	2	3	4	1-4	5	6	7			WATER
CROPPAGES & GRAINS	70	260	90	110	530	0	20	0	0	550	30
AGRICULTURE	10	20	20	0	50	0	10	0	0	60	3
MEADOWLAND & PASTURE	20	90	60	80	250	10	50	10	0	320	17
RESTED RANGE	0	50	240	180	470	60	80	40	0	650	36
RESTED LANDS	0	0	100	0	100	40	10	30	0	180	10
UNPRODUCTIVE LANDS	0	20	20	0	40	10	10	0	10	70	4
TOTAL	100	440	530	370	1440	120	180	80	10	1830	
TOTAL	5	24	29	20	79	7	10	4	1		

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REGION 5
OKANAGAN AGRICULTURAL REPORTING REGION

AGRICULTURAL LAND RESERVE AREAS IN HECTARES BY:
RESTRICTION, CAPABILITY CLASS, AND PRESENT LAND USE

TABLE 8.9

RESTRICTION CLASS F: WETLANDS
(1% OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS										TOTAL	ΣTOTAL
	1	2	3	4	1-4	5	6	7	WATER			
FORAGES & GRAINS	0	0	300	630	930	20	30	0	0	0	980	47
HORTICULTURE	0	0	0	10	10	0	0	0	0	0	10	0
GRASSLAND & PASTURE	0	0	30	310	340	140	10	0	0	0	490	24
FORESTED RANGE	0	0	10	200	210	90	20	0	0	0	320	15
FORESTED LANDS	0	0	0	0	0	0	0	0	0	0	0	0
NON-PRODUCTIVE LANDS	0	0	0	10	10	0	0	0	260	0	270	13
TOTAL	0	0	340	1160	1500	250	60	0	260	0	2070	
ΣTOTAL	0	0	16	56	72	12	3	0	13	0		

TABLE 8.10

RESTRICTION CLASS G: OTHER
(1% OF REGIONAL ALR TOTAL AREA)

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS										TOTAL	ΣTOTAL
	1	2	3	4	1-4	5	6	7	WATER			
FORAGES & GRAINS	0	10	0	20	30	0	0	0	0	0	30	2
HORTICULTURE	0	0	0	0	0	0	0	0	0	0	0	0
GRASSLAND & PASTURE	0	0	0	20	20	10	0	0	0	0	30	2
FORESTED RANGE	0	110	0	90	200	10	0	0	0	0	210	14
FORESTED LANDS	30	40	380	120	570	50	0	20	0	0	640	44
NON-PRODUCTIVE LANDS	0	0	60	20	80	10	220	0	240	0	550	38
TOTAL	30	160	440	270	900	80	220	20	240	0	1460	
ΣTOTAL	2	11	30	18	62	5	15	1	16	0		

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OKANAGAN AGRICULTURAL REPORTING REGION

AGRICULTURAL LAND RESERVE AREAS IN HECTARES:
 LAND CAPABILITY CLASS BY PRESENT LAND USE

PRESENT LAND USE	BCLI LAND CAPABILITY FOR AGRICULTURE CLASS										TOTAL	%TOTAL
	1	2	3	4	1-4	5	6	7	WATER	TOTAL		
FORAGES & GRAINS	3180	15270	13390	10640	42530	4170	1810	230	0	48690	20	
HORTICULTURE	3220	7360	3130	350	14060	140	470	50	0	14720	6	
GRASSLAND & PASTURE	1890	7510	9450	12850	31700	13690	11270	1750	0	58410	25	
FORESTED RANGE	360	4640	9340	27180	41520	31800	15960	4480	0	93760	39	
FORESTED LANDS	40	350	1160	5790	7340	3430	720	2050	0	13540	6	
NON-PRODUCTIVE LANDS	290	890	860	1330	4180	870	760	770	3470	9240	4	
TOTAL	8980	36020	37330	58140	140470	54100	30990	9330	3470	238360		
%TOTAL	4	15	16	24	59	23	13	4	1			

APPENDIX 3

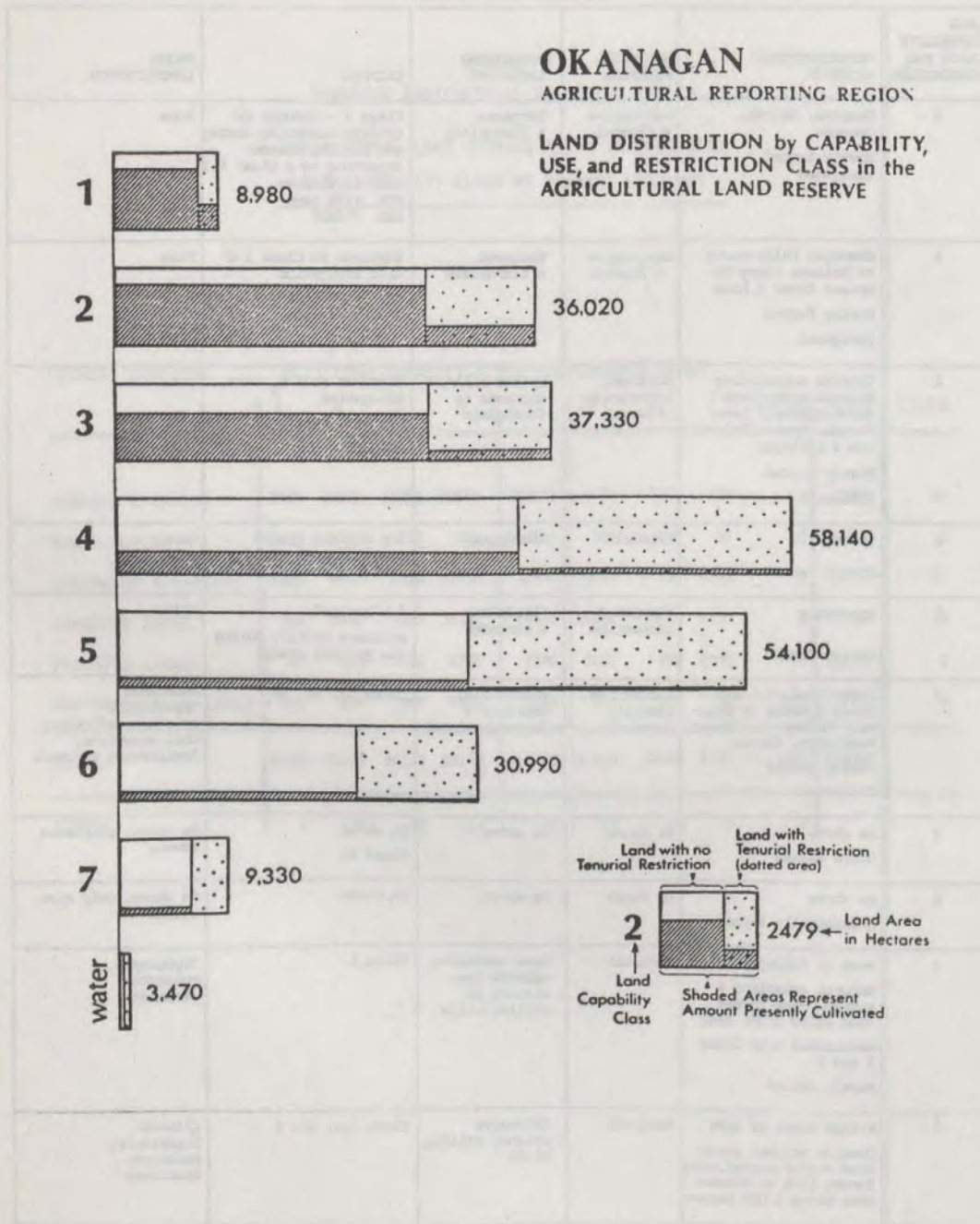
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LAND CAPABILITY FOR AGRICULTURE
OKANAGAN ARR SUMMARY

LAND CAPABILITY CLASS FOR AGRICULTURE	REPRESENTATIVE LOCATION	SURFICIAL MATERIAL	ASSOCIATED LANDFORMS	CLIMATE	MAJOR LIMITATION(S)
1	Osoyoos, Oliver, Caston Mostly farmed, irrigated	Lacustrine & fluvial	Terraces & floodplain	Class 5 - drought or aridity occurring during the growing season Improving to a Class 1 with irrigation FFP >150 days GDD > 3800	None
1	Okanagan Falls north to Kelowna along Okanagan River & Lake Mostly farmed Irrigated	Lacustrine & fluvial	Terraces & floodplain	Improves to Class 1 c with irrigation FFP >150 days GDD 3500-3800	None
1	Uplands surrounding Kelowna & Westbank above Okanagan Lake; Vernon, Oyama, Salmon Arm & Lillooet Mostly farmed Irrigated	Morainal, Lacustrine, Fluvial	Upland hills, terraces & floodplain	Improves to 1 b ₁ with irrigation FFP >150 days GDD 3000-3500	None
1	Enderby Mostly farmed	Fluvial	Floodplain	1 c dryland (yield would improve with irrigation)	None
2	Armstrong Mostly farmed	Fluvial & Lacustrine	Floodplain & terraces	2 c dryland Moisture deficit during the growing season	Climate
2	Associated with all Class 2 areas of Okanagan Valley ex. Oliver, Penticton, Vernon Mostly farmed Irrigated	Lacustrine, fluvial, morainal	Floodplain, terraces & limited uplands	Class 1d, 1c, 1b ₁	Stoniness, Topography, Moisture deficiency, Soil structure, Combination of above
3	As above Often farmed	As above	As above	As above Class 2c	As above, only more severe
4	As above Occasionally farmed	As above	As above	As above	As above, only more severe
4	West of Sumasland Natural grassland & grazed, open forest land below 3,000 feet Associated with Class 5 and 6 Rarely farmed	Morainal	More extensive uplands con- sisting of rolling hills	Class 1	Topography, Moisture, Stoniness
5	Fringe areas of ALPs Usually natural grass- land and/or grazed, open forest land at elevat- ions above 2,000 meters	Morainal	Extensive upland, rolling hills	Class 3,4, and 5	Climate, Topography, Moisture, Stoniness

APPENDIX 3

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B.C. Forest Service - Range Division

B.C. Grape Growers Marketing Board

B.C. Livestock Association

Dept. of Indian Affairs

SECONDARY MANUFACTURING

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INTRODUCTION

The information contained in this section of the report is incomplete in several respects. Statistics Canada do not have reports on manufacturing activity available on a regional basis after 1975 and therefore it is not possible to compare statistically, manufacturing activity in the Okanagan with the performance of the province as a whole. Because of the lack of data, it is also difficult to assess the growth of non-resource based industries compared to resource based industries in the Okanagan. As resource based industries cannot be expected to grow significantly in the foreseeable future, it would be useful to have accurate information regarding the performance of non-resource based industries.

Many of the industries in the Okanagan appear to be interrelated and changes in one industry can significantly affect related industries. For example, a number of small businesses have developed around the mobile home industry which has recently suffered from a change in the market. However, there is little statistical information available regarding these interrelationships. The potential for growth in non-resource based industries in the Okanagan is difficult to assess and additional primary research is required in a number of areas.

1. B.C. OVERVIEW

Manufacturing industries in B.C. have achieved a steady rate of growth during the past ten years as indicated in Table 1. An economic slump was felt throughout the province in 1974 and 1975 when the average annual rate of growth fell to 2.6 percent. Although the economy is still heavily dependent on resource industries and related manufacturing activity, some progress has been made in the development of non-resource based industries. These industries have exhibited a steady increase in

the value of shipments and maintained their growth even in the 1974-75 slump. Table 1 shows the value of shipments for all manufacturing activity in B.C. and the value of shipments for non-resource based industries.

2. OKANAGAN

The growth of non-resource based manufacturing activities has been particularly encouraging in the Okanagan region. Table 2 reflects growth in 1970 constant dollars for B.C. and the Okanagan. Prior to 1965, the Okanagan economy was based on primary processing in the forest and agricultural industries, as were the economies of most other areas of B.C. In 1965 the federal Department of Industry sponsored an economic incentive program in the Okanagan under the Area Development Incentives Act (ADIA) causing rapid expansion in the secondary manufacturing sector.

The Okanagan Basin Study report estimated that non-resource based manufacturing activity expanded eight-fold between 1965 and 1971.⁽¹⁾ During this period, capital expenditures under the Area Development Incentives Act totalled \$106,424,800, of which \$19,602,177 was contributed by the federal government. The program resulted in the creation of 3,395 new jobs and most of the industries started under the program were non-resource based. By 1971, manufacturing activities including the resource based industries were number one in the Okanagan economy in terms of wages and value of production.

The economic momentum created by the ADIA program has continued during the 1970's, but the previous high rates of growth appear to have moderated according to top industry spokesmen. Recent

(1) Hall, J. J. G., A Report to Update Okanagan Basin Study Demographic and Economic Information, September, 1978.

figures reflecting manufacturing output are unavailable. However, it appears that virtually all the growth currently taking place is in small non-resource based industries. The Assistance to Small Enterprise Program appears to be having a very positive impact on the Okanagan economy, but the effects will likely be modest in comparison to the previous AIDA program in that ASEP is not designed to attract large industries with heavy capital investments.

Wood products, transportation equipment, machinery and clothing industries have all shown high levels of growth throughout the province in the 1970's. In 1978, these industries registered sales gains of 20 percent or more. Wood products, metal fabricating and transportation equipment manufacturing industries have been particularly successful in the Okanagan. The 1978 B.C. Manufacturer's Directory lists 24 companies in the Okanagan Valley manufacturing transportation equipment such as mobile homes, recreational vehicles, trucks and boats. Four of these companies employ more than 100 people. The directory also lists 25 firms involved in manufacturing wood products such as cabinets, prefab houses, boxes and other construction materials. Several of these firms employ staffs in excess of 50 people. Eighteen companies are listed as manufacturers of machinery, of which six produce machinery and equipment for the agricultural industry.

Although agriculture no longer employs a significant number of people, industries based on agriculture play a very important role in the Okanagan economy. According to the B.C. Manufacturer's Directory, 41 firms produce food products. Over half of the firms such as the bakeries and meat packers employ a small number of people and sell their products in the local market. Their growth depends entirely on the increase in the Okanagan Valley population. However, the larger firms such as the wineries, a distillery and the fruit and vegetable pro-

cessors who all employ large staffs sell their products throughout Canada and their rate of growth is affected by a large number of variables.

Table 3 shows the value of shipments for each type of manufacturing industry recorded by Statistics Canada for 1971 and 1975. Unfortunately, the figures are not directly comparable as the 1975 industry breakdowns are finer than those produced in 1971.

Recently, the mobile home industry has experienced severe economic problems caused primarily by declining markets and stiff competition from companies located in Alberta. The recreational vehicle industry has been very successful and has provided opportunities for several related businesses over the past few years. However, rapidly escalating gas prices may have a negative impact on the industry in future. Manufacturing of furniture and other wood products has also continued to expand. White Trucks, one of the most successful businesses started under the ADIA program, recently completed another expansion and currently employs approximately 500 people. Okanagan manufacturing firms classified by type, regional district and number of employees are shown in the Appendix.

The B.C. Development Corporation is continuing to promote economic development through standard loan and loan guarantees, as well as providing reasonably priced industrial land. Between 1974 and early 1979 they approved six loans totalling \$745,000 in the North Okanagan Regional District, seven loans totalling \$1,527,000 in the Central Okanagan, and six loans totalling \$1,690,000 in Okanagan-Similkameen. The capital costs of the expansions and new firms in the three regional districts total 6.5 million dollars. Under the Low Interest Loan Assistance Program funded by the provincial government, loans were approved between 1974 and early 1979 for seven businesses in the amount of \$650,000

in the North Okanagan, four businesses in the amount of \$460,000 in the Central Okanagan, and three businesses totalling \$385,000 in loans in Okanagan-Similkameen. The capital costs of these projects in all three regional districts are in excess of 6.5 million dollars.

It should be noted that a few firms who have obtained assistance from B.C.D.C. have already repayed the loans and therefore are not included in the above figures. Also, many of the companies included in these figures have obtained assistance both through B.C.D.C. and the Low Interest Loan Assistance Program. In some cases, the funds have been borrowed to expand established businesses and in terms of new employment, the impact on the economy is not as significant as it first appears.

The Assistance to Small Enterprise Program between 1977 and early 1979, provided \$202,568 in assistance in the North Okanagan to ten firms, creating 33 jobs. Fifteen firms in Central Okanagan have received \$186,042 in assistance and resulting in 67 additional jobs. Okanagan-Similkameen has 21 new businesses which received \$305,614 in assistance, resulting in 60 new jobs. Most of the loans approved to date have helped to finance new businesses although several existing firms in each Regional District have obtained funds which will finance expansion. Many other applications for assistance are still awaiting approval.

Although government economic incentive programs have had, and continue to have an impact on the growth of secondary manufacturing in the Okanagan, there are other attractions in all three Regional Districts. The Okanagan's favourable location midway between the Lower Mainland, Alberta and U.S. markets is attracting businesses that supply at least two of these areas. An exceptionally good climate and the generally pleasant lifestyle to be found throughout the Okanagan have attracted a

highly skilled, stable labour force. Turnover in all manufacturing plants in the Okanagan is reported to be very low. The ready availability of raw materials for wood products and furniture manufacturing is also an attraction.

Distance from major markets and the resulting high transportation costs remain a problem for many Okanagan-based manufacturing firms. Data reflecting transportation costs in the Okanagan were not readily available, but interviews conducted in the area indicated that the subject should be researched further as it is a complex subject affecting different types of manufacturers in varying degrees.

Some firms expressed the opinion that transportation costs in and out of Kelowna have improved as a result of a better balance between goods shipped in and out. Penticton and Vernon, with their smaller service industries, have a less favourable position. Due to government regulations, small trucking firms have difficulty obtaining licenses. Small manufacturing firms in the Okanagan are unable to use large trucking firms economically, and are often forced to provide their own trucking service which is also costly. Furniture and cabinet manufacturing firms face the added cost of transporting their finished products via moving companies, as they have experienced high damage costs in finished goods when using freight companies. Businesses in the North Okanagan dependent on air freight experience higher transportation costs as goods must be shipped to the airport in Kelowna first.

3. INDUSTRIAL LAND

The cost and availability of suitable industrial land is an important factor affecting decisions regarding location of manufacturing facilities. Until recently, the supply was adequate in all three Regional Districts and prices were favour-

able compared to those found on the Lower Mainland. The establishment of the Agricultural Land Reserve (ALR) in 1973 has severely limited the supply, particularly at Penticton, Vernon and Kelowna. The restriction in supply has increased the price of industrial land considerably. A sufficient supply of vacant, industrially-zoned land in a variety of sizes and prices must exist if the industrial land market is to operate effectively.

3.1 Central Okanagan

Within the boundaries of the City of Kelowna, there are currently 81 acres of fully serviced land and approximately 125 acres of unserviced land available for industrial development according to the city planning department. The current total combined acreage is approximately 40% of the land requirements that have been projected for a twenty-year period. Net vacant, fully serviced industrial land represents approximately a four-year supply. However, many of the existing serviced parcels are too large for many businesses requiring industrial land, and therefore demand for smaller parcels is very high.

Since February 1978, 76.6 acres of vacant land have been rezoned for industrial use. Approximately 54.6 acres have been subdivided into smaller parcel sizes, and 36.2 acres are in the process of being subdivided. Serviced parcels under three acres were selling for \$55,000 - \$65,000 per acre while larger serviced parcels up to approximately seven acres were selling for \$45,000 - \$55,000 per acre during the spring of 1979.

The city owns a total of 31 acres of vacant available industrial land. Some of the parcels are large and though demand for these sites is low, the city wishes to retain large parcels to meet requirements that may arise. The price of large city-

owned parcels is negotiable. The City of Kelowna is also attempting to have certain parcels of land removed from the ALR to provide an adequate supply of vacant industrial land.

Outside the boundaries of the City of Kelowna, there are a total of 64 acres in 36 parcels of vacant industrial land, the majority of which is located in the Westside Industrial Park near Westbank. The Westbank Indian Band has an unspecified number of acres available for lease on the reserve. Industrial land outside the city boundaries is unserviced and sells for approximately \$30,000 - \$40,000 per acre.

3.2 North Okanagan

The North Okanagan Regional District has a total of 1,890 acres of land zoned for industrial use of which 1,205 acres are currently occupied. Approximately 403 acres of the total 674 acres that are vacant are located within the boundaries of the Agricultural Land Reserve. 85 percent of the vacant land (232 acres) is located in the City of Vernon or the Township of Spallumcheen. At first glance the supply appears to be adequate, but there are severe limitations on the use of much of the available land. Industrial land at Spallumcheen is primarily controlled by one owner and parcels located in the City of Vernon are small and expensive, or poorly located.

Fully serviced parcels in Vernon were selling for \$45,000 - \$60,000 per acre, while rural unserviced parcels sold for approximately \$18,000 per acre during the spring of 1979. Industries have been attracted by a stable tax base and the absence of future servicing problems. The existing Regional Plan serves to give a measure of assurance to new businesses locating in the Regional District that their land will not conflict with other land uses in the foreseeable future. However, more industrial land must be made available to provide

for the needs of future industry. The Regional Plan has designated an additional 432 acres located north of the City for industrial use, but 284 acres of this total are located in the ALR. Table 4 shows a breakdown of industrial land in the Regional District.

3.3 Okanagan-Similkameen

The inventory of industrial land in the municipalities of the Okanagan-Similkameen which appears in Table 5 shows a good supply of industrial land in most areas. However, the figures are somewhat misleading. Most of the industrial land in the Regional District is owned by various private interests and although the land is zoned for industrial use and currently vacant, many parcels were not available for sale.

The City of Penticton has a very serious shortage of industrial land. Recently, industries that have made sincere inquiries regarding locating in Penticton have had to look elsewhere because they have been unable to obtain suitable serviced industrial acreages. Acreages that would be suitable for industrial use are either privately owned and unavailable, valuable for agricultural use, or lie within the boundaries of the Penticton Indian Reserve.

The Town of Princeton faces the same problem since most of zoned land for industrial use belongs to a single developer and is not readily available. Consequently various industries, particularly the building trades, have been unable to locate in the area.

TABLE 1

VALUE OF SHIPMENTS
(thousands of dollars)

	<u>Central Okanagan</u>		<u>North Okanagan</u>		<u>Okanagan Similkameen</u>		<u>Total</u>	
		<u>%</u>		<u>%</u>		<u>%</u>		<u>%</u>
		<u>Increase</u>		<u>Increase</u>		<u>Increase</u>		<u>Increase</u>
1971	77,859		49,151		35,027		162,037	
1972	112,816	44.9	69,020	40.4	53,710	53.3	235,546	45.3
1973	139,661	23.8	91,189	32.1	69,659	29.7	300,509	27.5
1974	170,430	22.0	102,691	12.6	69,309	0.5	342,430	14.0
1975	175,073	2.7	104,716	2.0	73,710	6.3	353,499	3.2

B.C. MANUFACTURING INDUSTRIES

	<u>Total Manufacturing Activity Value of Shipments (\$Millions)</u>	<u>Non-Resource Based Activity Value of Shipments (\$Thousands)</u>
1970	3,760.6	879,387
1971	4,236.0	959,562
1972	5,020.3	1,079,748
1973	6,387.1	1,339,226
1974	7,411.1	1,676,207
1975	7,326.5	1,732,843
1976	8,857.6	1,841,358
1977	10,404.1	2,093,954
1978	N/A	2,599,723

SOURCE: B.C. Economic Activity/1978 Review and Outlook
Ministry of Economic Development

TABLE 2

VALUE AND GROWTH OF MANUFACTURING
OUTPUT, OKANAGAN REGION, 1961-1975

Year	Value of Shipments (in millions of 1970 constant dollars)		Growth of Output (average annual % change)	
	Okanagan	B. C.	Okanagan	B. C.
1961	60.5	2,364.5	8.4	5.3
1970	125.2	3,760.6		
1971	160.1	4,185.8	9.6**	2.6**
1972	179.0	4,635.5		
1973	186.5	4,853.4		
1974	199.7	4,600.3		
1975*	197.6	4,272.0		

* 1975 figures are preliminary.

** Both these figures are significantly affected by the severe downturn in manufacturing activity that occurred in 1975. Over the period 1970 to 1974 the equivalent growth rates are 12.4% and 5.2%.

Source: A Report to Update Okanagan Basin Study
Demographic and Economic Information - September 1978

TABLE 3

	<u>Establishments</u>		<u>Value of shipments</u>	
	<u>1971</u>	<u>1975</u>	<u>\$000</u> <u>1971</u>	<u>1975</u>
<u>Central Okanagan</u>				
Food and beverage	13	17	19,686	57,911
Wood Industries				
Sawmills and planing mills	10		7,454	
Other	8		8,449	
Total	18	16	15,904	26,650
Other major groups	47	41	42,269	90,024
Total	78	80	77,859	175,073
<u>North Okanagan</u>				
Food and beverage	15	14	11,048	30,653
Wood Industries				
Sawmills and planing mills	21	20	19,602	31,703
Other	8	10	6,351	22,626
Total	29	30	25,953	54,329
Printing and publishing	5	5	1,326	2,733
Miscellaneous manufacturing	4	N/A	172	N/A
Other major groups	13	N/A	10,292	N/A
Total	66	73	49,151	104,716
<u>Okanagan Similkameen</u>				
Food and beverage	18	15	6,235	10,533
Wood Industries	N/A	17	N/A	25,747
Printing and publishing	7	7	1,011	1,261
Non-metallic mineral products	8	6	956	1,836
Miscellaneous manufacturing	6	N/A	189	N/A
Other major groups	44	N/A	26,636	N/A
Total	<u>83</u>	<u>70</u>	<u>35,027</u>	<u>73,710</u>
Okanagan valley	<u>227</u>	<u>223</u>	<u>162,037</u>	<u>353,499</u>

Source: Statistics Canada - Catalogue #31-209.

TABLE 4

NORTH OKANAGAN REGIONAL DISTRICT

INDUSTRIAL LAND (ACRES)

<u>Municipality or Electoral Area</u>	<u>Number Parcels Vacant</u>	<u>Land Zoned Industrial</u>	<u>Industrial Uses</u>	<u>Vacant</u>	<u>Vacant Non Subdividable</u>	<u>Non Conforming</u>	<u>ALR</u>
City of Armstrong	2	19.93	13.14	6.79	-	-	-
District of Coldstream	6	386.96	258.19	118.16	-	10.61	197.80
City of Enderby	15	20.60	6.11	12.31	0.62	1.56	-
Village of Lumby	5	240.67	199.15	40.96	0.31	0.25	14.53
Township of Spallumcheen	9	650.38	412.05	159.1	78.85	0.38	234.58
City of Vernon	79	271.80	121.27	113.15	5.49	31.89	-
Electoral Area A	0	52.31	52.31	-	-	-	52.31
Electoral Area B	7	76.51	39.32	26.85	4.93	5.41	-
Electoral Area D	3	98.51	82.23	16.28	-	-	12.92
Electoral Area F	3	72.68	60.45	9.23	-	3.00	24.76
Vernon Sub-Region	92	787.58	471.09	258.16	10.42	47.91	250.11
Regional District of North Okanagan	129	1890.35	1244.22	502.83	90.2	53.1	536.9

SOURCE: North Okanagan Regional District

TABLE 5

INDUSTRIAL LAND ANALYSIS

FOR THE

REGIONAL DISTRICT OF OKANAGAN-SIMILKAMEEN

Area	Acreage Occupied				Acreage Vacant			Acreage Proposed		
	Zoned Light or Heavy Industrial	Zoned In A.L.R.	Non Conforming ¹⁾	Total Zoned Acreage Occupied	Zoned	Zoned In A.L.R.	Total Zoned Acreage Vacant	Outside A.L.R.	In A.L.R.	Total Proposed
Penticton	405	-	3	405	155	-	155	33	-	33
Summerland	25	40	-	65	25	30	55	15	25	40
Oliver ²⁾	58	-	-	58	41	-	41	-	38	38
Osoyoos	6	3	1	9	-	-	-	170	-	170
Princeton	120	60	½	180	395	-	395	-	-	-
Keremeos	27	-	1	27	38	15	53	-	-	-
Total Municipal Areas	641	103	5½	744	654	45	699	218	63	281

TABLE 5 (continued)

INDUSTRIAL LAND ANALYSIS

Area	Acreage Occupied				Acreage Vacant			Acreage Proposed		
	Zoned Light or Heavy Industrial	Zoned In A.L.R.	Non Conforming ¹⁾	Total Zoned Acreage Occupied	Zoned	Zoned In A.L.R.	Total Zoned Acreage Vacant	Outside A.L.R.	In A.L.R.	Total Proposed
A	17	32	43	49	3	15	18	-	-	-
B ⁵⁾	5	5	-	10	-	-	-	-	-	-
C	100	35	25	135	20	-	20	1	-	1
D	191 ³⁾	1	2	192	46	7	53	64	221	285 ⁴⁾
E	3	-	3	3	-	1	1	1	-	1
F	80	-	-	80	100	20	120	40	15	55
G ⁵⁾	15	70	-	85	-	-	-	-	-	-
H	299	3	1	332	1	-	1	135	160	295
Total Electoral Areas	710	146	74	886	170	43	213	241	396	637
Grand Total	1,351	249	79½	1,630	824	88	912	459	459	918

- 1) Non conforming is land that is being used for industrial purposes but is not zoned industrial.
- 2) The industrial zoning includes 52 acres of oxbows and Okanagan River Channel R/W which is not included in this table.
- 3) Includes 45 acres industrial land on Penticton Indian Reserve which has no zoning.
- 4) Includes 120 acres in the A.L.R. and 30 acres outside of A.L.R. on Penticton Indian Reserve.
- 5) Electoral Areas "B" and "G" have no industrial zoning, however, industrial activity does take place.

TABLE 6

Financial Post Survey of Industrial Parks -

(A) Administrative region and municipality (see Note 1)	(B) Park owner and type of industry (see note 2)	(C) Total area (acres)	(D) Available area (acres)	(E) Available energy sources (see Note 3)	(F) Selling price per square acre (\$)
City of Penticton	Both light and heavy industry can be accommodated	560	155	Both Hydro (supplied by the City of Penticton) and gas (supplied to the entire Region by Inland Natural Gas Ltd.) are available	\$55-65,000.
District of Summerland	Light and general	120	55	Hydro (supplied by the District of Summerland) and gas	\$25-30,000.
Town of Princeton	Light and heavy	575	395	Hydro (Princeton Light and Power Co.) and gas	\$ 3- 4,000.
Village of Oliver	Light and heavy	100	40	Hydro (supplied by West Kootenay Power and Light Co.) and gas	\$18-22,000.
Village of Osoyoos	General	180	180 (170 Coming on stream Summer of 79)	Hydro (West Kootenay Power and Light) and gas	n/a
Village of Keremeos	Light	80	55	Hydro (West Kootenay Power and Light) and gas	\$ 1- 2,000.

continued .. 2

NOTES: (1) Please list under regional jurisdiction. (2) Please indicate any preference for heavy, light or specialized industry. (3) Please indicate whether gas reticulation is available in addition to hydro power.

We've enclosed two copies of this form. If these are not enough for your needs, please add the additional information on plain paper under the headings (A), (B), (C) and so on.

Name of officer making return ... P.E. McCaffrey (area code and phone number 604-492-0237.....)

TABLE 6 (continued)

(A) Administrative region and municipality (see Note 1)	(B) Park owner and type of industry (see note 2)	(C) Total area (acres)	(D) Available area (acres)	(E) Available energy sources (see Note 3)	(F) Selling price per acre (\$)
REGIONAL DISTRICT OF OKANAGAN-SIMILKAMEEN (RDOS)					
Electoral Area "A"	General and heavy	70	20	Hydro (supplied to all Electoral Areas by West Kootenay) and gas	\$ 6- 7,000.
Electoral Area "B"	General	10	4	Hydro and gas	\$ 1- 2,000.
Electoral Area "C"	General and heavy	155	1... (on stream) 19	Hydro and gas	n/a
Electoral Area "D"	General and heavy	245	55	Hydro and gas	\$15-20,000.
Electoral Area "E"	General	5	1	Hydro and gas	n/a
Electoral Area "F"	Heavy	200	120	Hydro and gas	\$ 4- 5,000.
Electoral Area "G"	General	85	5	Hydro and gas	n/a
Electoral Area "H"	General and heavy	335	1	Hydro and gas	\$ 1- 2,000.

NOTES: (1) Please list under regional jurisdiction. (2) Please indicate any preference for heavy, light or specialized industry. (3) Please indicate whether gas reticulation is available in addition to hydro power.

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Name of officer making return P.E. McCaffrey (area code and phone number 604-492-0237

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Kelowna Planning Department

Ministries of Regional Economic Expansion and B.C. Ministry of Economic Development - News Releases

Penticton Planning Department

Statistics Canada

A P P E N D I X

MANUFACTURING INDUSTRIES IN THE OKANAGAN*

LUMBER AND WOOD PRODUCTS

Central Okanagan

<u>Number</u>		<u>Code</u>
9	Cabinets and custom millwork	1
1	Cabinets and cabinet work, bathroom and kitchen	4
1	Cabinets and cabinet work, bathroom and kitchen	3
1	Counter tops	1
1	Trusses, roof	2
1	Boxes, pallets, etc.	6
1	Boxes, wooden; pallets and skids	4
1	Prefab homes	4

North Okanagan

<u>Number</u>		<u>Code</u>
2	Cabinets and custom millwork	1
1	Cabinets and custom millwork	4
1	Cabinets and custom millwork	5
1	Doors, hardwood and softwood	1
1	Arches, wood, laminated; beams, laminated wood	3
1	Acutruss - roof truss	2

Okanagan-Similkameen

<u>Number</u>		<u>Code</u>
8	Cabinets and custom millwork	1
1	Cabinets and custom millwork	2
1	Cabinets and custom millwork	3
3	Frames, picture, mirror, etc.	1
1	Buildings, portable; houses prefabricated	6
1	Windows, sashless, wooden	1
1	Sash, door and window	1
1	Beams, laminated wood	2

MACHINERY, EXCEPT ELECTRICAL

Central Okanagan

<u>Number</u>		<u>Code</u>
4	Machinists or machine work	1
2	Agricultural implements and parts	1
1	Growers machinery	3
1	Machinery	1

* Extracted from 1978 B.C. Manufacturer's Directory

MACHINERY, EXCEPT ELECTRICALCentral Okanagan (continued)

1	Machinery	4
1	Conveyor systems; cranes, logging equipment and supplies; steel fabricators	4
1	Spraying equipment	1
1	Recycling equipment and supplies	2

North Okanagan

<u>Number</u>		<u>Code</u>
1	Machinists or machine work	1
1	Machinists or machine work; engines rebuilt	2
1	Heavy machinery	4
1	Sawmill, logging equipment	2

Okanagan-Similkameen

<u>Number</u>		<u>Code</u>
7	Machinists or machine work	1
1	Welding	1
1	Engines rebuilt	2
1	Agricultural implements and parts	3
1	Agricultural implements and parts	2
1	Machinery and parts	2

FABRICATED METAL PRODUCTSCentral Okanagan

1	Doors, windows and sash, etc.	1
1	Doors and windows	3
5	Iron work	1
2	Metal work	2
1	Metal work	1
1	Metal work	3
1	Lock Manufacturing	1
2	Aluminum, stainless steel	1
1	Aluminum, stainless steel	4
1	Lockers	1
1	Fireplaces, screens, fire	1
1	Stamps, metal or rubber	1
1	Platers, chromium	1
1	Steel fabricators	2
1	Duct work	1

North Okanagan

1	Tanks, septic	1
1	Radiator recoring	1
		1

FABRICATED METAL PRODUCTSNorth Okanagan (continued)

		<u>Code</u>
1	Sinks	1
1	Heating apparatus	1
2	Metal work	1
1	Machine and welding	3
1	Welding	1

Okanagan-Similkameen

1	Aluminum doors and windows	3
2	Aluminum fabricators	2
1	Aluminum	1
4	Sheet metal work	1
2	Iron work	1
1	Dies, metal stampings, plates zinc, steel fabricators	2
1	Blades, saws	1
1	Batteries, radiator recoring	1
1	Blocks, anchor; caskets; manhole casings; pipe--culvert, irrigation and fittings	2

STONE, CLAY, GLASS AND CONCRETE PRODUCTSCentral Okanagan

3	Concrete	3
1	Concrete work	1
1	Blocks, brick, concrete	3
1	Blocks, brick, concrete	1
1	Glass	2

North Okanagan

1	Curbing, manhole casings; sewer and water works equipment and supplies; glass; concrete	3
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Okanagan-Similkameen

2	Blocks, concrete; boxes, concrete; culverts	2
2	Stone	1
1	Glass, mirrors, windows	1
1	Builders hardware and supplies; plasterers and masons supplies	1

TRANSPORTATION EQUIPMENTCentral Okanagan

1	Boats	4
1	Boats	3

TRANSPORTATION EQUIPMENTCentral Okanagan (continued)

<u>Number</u>		<u>Code</u>
1	Recreational vehicles	2
1	Mobile homes	1
1	Trailers, boats and special purposes	1
1	Campers, car or truck	6
1	Campers, car or truck	7
1	Steel fabricators; trailers	2
1	Truck parts	3
1	Trucks	7

North Okanagan

2	Trailers	1
1	Boat building and repair	1
1	Boat building and repair	2
1	Boats	3
1	Campers; canopies	1

Okanagan-Similkameen

2	Automobile accessories and parts	1
3	Boat building	1
1	Boat building and repair	2
3	Motor homes, trailers	6
1	Motor homes	1
1	Campers; trailers	1
1	Campers; trailers	3
1	Trailers	2
1	Trailers; logging	5

TEXTILE MILL PRODUCTSCentral Okanagan

1	Upholstering - auto	2
3	Upholstering	1

North Okanagan

2	Upholstering	1
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Okanagan-Similkameen

1	Upholstering	1
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FOOD AND KINDRED PRODUCTSCentral Okanagan

<u>Number</u>		<u>Code</u>
6	Bakery products	1
1	Bakery products	5
1	Bakery products	2
1	Wines	5
1	Wines	2
3	Meat packers	2
1	Beef and beef products	1
1	Beverages - carbonated and soft drinks	1
1	Beverages - carbonated and soft drinks	4
2	Fruit, processed; packers	4
1	Packers, fruit and vegetables	5
1	Candy	2
1	Cider; fruit; juices	3
1	Alcohol, ethyl; brandy; feed	7

North Okanagan

1	Meat packers	2
1	Meat packers	3
2	Dairy products	4
1	Dairy products	5
1	Dairy products; poultry	2
1	Ice	2
4	Bakery products	1
1	Bakery products	2
1	Feed, etc.	3
1	Cereals; feed; flour	2
1	Beverages, carbonated and soft drinks	4
1	Fruit and vegetables	3
1	Fruit and vegetables	2
1	Potato processor	1
1	Seeds	1

Okanagan-Similkameen

2	Fruit processors	3
1	Fruit processors	1
1	Canners	6
1	Wine	4
2	Meat packers	2
1	Meat, processed	1
7	Bakery products	1
1	Vitamin preparations	4
1	Honey	2
4	Canning - fruit, vegetables, juices	1
1	Meat	1
1	Berries, candy, relishes, fruit, etc.	1

APPARELCentral Okanagan

<u>Number</u>		<u>Code</u>
1	Sportswear	1
1	Draperies	1
1	Awnings	1
1	Covers - auto; cushions	1

North Okanagan

1	Drapes	1
1	Draperies; upholstery	2

Okanagan-Similkameen

3	Draperies	1
1	Furs, garments and repairs	2
1	Furs, garments and repairs	1
1	Awnings; canvas goods	2
1	Covers -- boat; mattresses	1

PRINTING, PUBLISHINGCentral Okanagan

3	Printing	1
1	Publishing	2
1	Newspapers, publishers	3
1	Newspapers	5
1	Newspapers, publishers	1
1	Magazines	1
1	Bookbinders	3

North Okanagan

4	Newspapers; publishers	1
2	Printing, publishers	1
1	Printing	3
1	Forms, labels, printing	4

Okanagan-Similkameen

3	Newspapers, publishers	2
1	Newspapers, printing	1
1	Bookbinders, printing	2

PAPER PRODUCTSCentral Okanagan

1	Corrugated paper	5
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North Okanagan

1	Stationery	5
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RUBBER AND PLASTICSCentral Okanagan

<u>Number</u>		<u>Code</u>
2	Plastics	1
1	Fasteners, plastic	2
1	Plastic products	3

North Okanagan

1	Tires, retreaded or recapped	1
1	Tires, retreaded or recapped	6

Okanagan-Similkameen

2	Tires, retreaded or recapped	1
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MISCELLANEOUS MANUFACTURING INDUSTRIESCentral Okanagan

1	Signs	1
1	Fishing equipment	1
1	Nursery stock	4
1	Advertising specialties	1
1	Playground equipment	1

North Okanagan

2	Toys, educational aids	1
1	Signs	1
1	Printing signs	2

Okanagan-Similkameen

1	Signs	2
1	Badges; engravers; signs; trophies	1
1	Advertising specialties; signs	1
1	Marking devices; stationery; stamps	1
1	Giftware, plaques	1

FURNITURE AND FIXTURESCentral Okanagan

2	Furniture, finishers, upholstery	1
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CHEMICALSCentral Okanagan

<u>Number</u>		<u>Code</u>
1	Fertilizers	1
1	Synthetic, resins, polyester	4
1	Fibreglass and products	1

North Okanagan

1	Fertilizers; tallow	2
1	Fibreglass and products	1

LEATHER GOODSNorth Okanagan

1	Leather goods	1
1	Saddles, bridles, etc.	1

ELECTRICAL AND ELECTRONIC MACHINERYNorth Okanagan

1	Communications equipment - antennae, electronic equipment	2
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PETROLEUMCentral Okanagan

1	Asphalt paving	2
1	Asphalt paving	1

Code 1: 1-5 employees
 Code 2: 6-14 employees
 Code 3: 15-24 employees
 Code 4: 25-49 employees
 Code 5: 50-99 employees
 Code 6: 100-199 employees

RECREATION AND TOURISM

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TOURISM

1. INTRODUCTION

The Okanagan Region was initially opened up to tourists with the completion of the Hope Princeton Highway in 1949. Tourists were attracted by the warm, sunny weather in the summer and by spring blossoms in the orchards. The tourist industry grew slowly and was concentrated in the southern part of the region until the Rogers Pass was completed in 1962. After 1962, traffic through the Okanagan Valley increased partially as a result of large numbers of visitors coming from the prairie provinces. Today, with longer vacations, earlier retirement and increased disposable incomes, tourism has become the third largest industry in B.C. and the second largest in the Okanagan.

Approximately 15 per cent of the province's total tourist revenue is generated by the Okanagan region. An estimated 1.5 million visitors spent approximately \$177 million in the Okanagan in 1976. In 1978 these figures increased to 1.725 million visitors and \$230 million, a 30 per cent increase in revenue over 1976.

According to figures prepared for Tourism B.C. in 1977,⁽¹⁾ approximately 7,000 people in the three Okanagan Regional Districts were employed in tourism and travel. Of this number, approximately 2,200 were employed part time. Although tourism generates the second largest source of revenue in the Okanagan, the manufacturing and construction industries pay out more in wages.

The 1977 report also showed that accommodation businesses employ 36 per cent of those employed in the tourist industry,

(1) Tourism and Travel Related Employment in B.C.
Pannel, Kerr, Forster and Associates; 1977

but payed out only 23 percent of the total wages. Twenty four percent of tourist industry employees are employed in transportation and they receive 49 percent of the wages. Food and beverage workers account for 17 percent of the tourist industry employees and receive 11 percent of total wages.

A Tourism B.C. survey of the Okanagan region completed in 1976 revealed that the majority of visitors to the Okanagan (57 percent) were B.C. residents, mostly from southwestern B.C. Half of the non-residents came from the U.S., primarily from the states on the West Coast. Thirty-seven percent of other Canadian non-residents came from Alberta. (See Tables 1 and 2). Figures recently released by the Department of Tourism and Small Business Development show that in 1977, B.C. recorded a 21.7 percent increase in overseas visitors compared to 1976. Figures showing the proportion of those visitors visiting the Okanagan are not available. However, increasing disposable income in some European and Pacific Rim countries is expected to have an increasingly favourable impact on tourism throughout the province. Visitors from countries such as Japan and Germany are finding that Canada not only offers spectacular scenery but is also reasonably priced compared to vacations in their own countries.

Although 84 percent of B.C. residents and 78 percent of U.S. residents arrived by car in 1976, the number of tourists arriving by plane is likely increasing. Table 3 shows traffic through the Kelowna and Penticton airports between 1970 and 1977. P.W.A.'s recent merger with Transair is expected to result in an increase in tourist traffic through the Kelowna Airport, particularly from the Prairie provinces as Transair now provides a direct link with Winnipeg. Approximately 19 percent of B.C. resident trips and five percent of non-resident trips to the Okanagan are business-oriented and the majority of these visitors arrive by plane.

According to the Tourism B.C. survey, non-resident Canadian visitors are the biggest spenders, contributing 27 percent of the total revenue. Most spend between \$51-\$100 per day on food, accommodation, transportation and miscellaneous items while staying between 2 and 4 nights. U.S. visitors contribute 20 percent of the total revenue, with most spending between \$1 and \$50 per day. Their comparatively low expenditures can be partially attributed to their heavy use of recreation vehicles which reduces their expenditures on accommodation. Statistics indicate in general that the longer distance travelled by visitors, the more likely they are to use recreational vehicles. B.C. residents generate only 47 percent of total revenue, as approximately 42 percent stay with friends and relatives in the region reducing expenditures on food and accommodation.

2. ACCOMMODATION

The Okanagan region contains approximately 16 percent of the total registered accommodation in B.C. The various hotels, motels and campgrounds in the region generated \$42 million in 1976. Table 4 shows the type of accommodation and total number of units for each town and city in each of the three Regional Districts.

According to a survey prepared by Pannell, Kerr, Forster and Associates, average annual occupancy rates in the Okanagan have improved from 48.6 percent annual average occupancy in 1976 to 65 percent in 1978. The following table shows occupancy rates for motels and resorts and hotels on a monthly basis during 1978 and early 1979.

OCCUPANCY RATES IN OKANAGAN HOTELS AND MOTELS

	<u>1978</u>			<u>1979</u>	
January	34.1%	July	85.1%	January	38.6%
February	40.6%	August	86.0%	February	57.3%
March	65.0%	September	63.0%		
April	49.4%	October	52.7%		
May	57.0%	November	N/A		
June	59.1%	December	44.4%		

Results of this survey are supported by the experiences of major hotels in Penticton, Kelowna and Vernon, of which several reported marked improvements during 1978 and early 1979 in business during the winter months. Improvements are attributed primarily to the increasing number of skiers travelling to the Okanagan.

During the 1960's, tourist accommodation in the Okanagan was primarily geared to family groups vacationing in the summer months. Over the past ten years, there has been increased emphasis on encouraging tourist business in all four seasons. According to the major hotels, tours through the Okanagan in the spring and fall months are becoming very popular and as previously mentioned the Okanagan has become a popular ski area.

However, major improvements in accommodation, food services and tourist attractions, such as golf courses and other recreational facilities, will be required for the tourist business in the Okanagan to realize any substantial improvement in the near future. Canadian and foreign tourists have become more sophisticated and demanding in their accommodation requirements. Several new good quality resorts offering a variety of recreational facilities are currently under construction or in the final planning stages. Nevertheless, more hotels and resorts of a high quality will be required if the Okanagan is to successfully compete for the tourist dollar, especially in the off season.

2.1 PARKS

The Provincial Parks in the Okanagan region attract a large number of campers and picnickers each year and provide attractive accommodation in a variety of settings. Table 5 shows park use, camper origin and type of camper accommodation.

However, the limitations of these figures should be noted as there are problems in compiling park use figures. Attendance at the various parks throughout the Okanagan region is recorded May through September at some parks, but July and August only at other parks. Park attendance in 1976 did actually drop because of generally poor weather experienced throughout B.C. The B.C. Parks Branch also has figures available showing camper and day use by number of parties for the years 1973 through 1977, but these figures were recorded July through August only and some parks in the region did not count visitors in each year.

Visitors have a choice of 30 Class A and 9 Class C parks throughout the region. Table V shows the parks in each Regional District, the area of each in hectares and camping and picnic sites. Table III shows a total of 5,536 private camping spaces. Plans are underway to increase private camping facilities, particularly for recreational vehicles in all three Regional Districts.

2.2 CONVENTIONS

Conventions are not only an important source of revenue in the off season but they also serve to familiarize those attending with the many attractions in the region. May, June, September and October are the most popular convention months for all three Okanagan cities. Penticton, Kelowna and Vernon have all been successful in attracting a significant share of B.C.'s convention business. Accurate and complete statistics reflecting activity

in the convention business in B.C. have been unavailable since 1973. Tourism B.C. has started collecting this data once again, but results will not be available until late 1979 or 1980. Those involved in the convention business estimate that business in B.C. has improved in the 1978-1979 season as much as 25% in some areas. They stressed that the convention business is very competitive and effective promotion is essential to the success of the business in any area of B.C.

Penticton

The Peach Bowl has hosted meetings involving 200 to 6,000 delegates. The 28,500 square feet provide seating for 2,000 people. The number of conventions booked at the Peach Bowl since 1967 is shown below.

Peachbowl Convention Attendance

	<u>No. of Conventions</u>	
1967	16	10,557
1968	12	5,250
1969	15	14,240
1970	19	19,000
1971	13	14,750
1972	14	17,775
1973	18	21,160
1974	16	10,730
1975	16	14,550
1976	19	18,225
1977	16	14,500
1978	18	23,500

Eleven conventions with a total of 14,950 delegates had been booked for 1979 as of May, 1979, ranging from the Lions, Eagles and Masons with 2,000 delegates each, to the B.C. Gerontology Association with 200 delegates. Most of their business is obtained from regular customers but they book at least one new convention each year. Recently trade shows have been a source of new business. The majority of their conventions are booked from B.C., but they

have experienced some increase in business from the prairies. They do not receive any business from the U.S. As the figures show, Penticton has been very successful in attracting convention business. However, Penticton currently lacks a good quality major hotel which puts them at a disadvantage in attracting some types of convention business. However, the Sandman chain has announced plans to build a hotel in Penticton which should improve the Peach Bowl's competitive position in attracting new business.

Kelowna

Conventions in Kelowna are handled primarily by the Capri Hotel which is capable of handling a maximum of approximately 600 delegates. They can book up to 135 rooms in the hotel for convention guests, while nearby hotels and motels handle the overflow. Recently, hotel management has noticed an increase in the number of bookings from companies with offices in B.C. and Alberta as Kelowna is a convenient midpoint.

The City of Kelowna is currently discussing the possibilities for redevelopment of the City waterfront area. A design for the redevelopment recently produced by an architectural firm incorporates a 300-500 room hotel and a 1,000 seat convention meeting facility. A marina, specialty shopping areas, parks and various types of residential housing would also be included.

The development is primarily contingent upon an agreement being reached between the City of Kelowna and the CNR which owns large portions of the Kelowna waterfront. Should the development proceed, it would become one of the most modern and attractive convention facilities in Western Canada.

Vernon

The Village Green and the Vernon Lodge are the two major convention hotels in Vernon and both facilities are actively promoted throughout Western Canada. The Vernon Chamber of Commerce, which assists in handling large conventions, keeps records showing the number of conventions and delegates booked each year. In 1978, Vernon handled 18,000 convention delegates, and bookings for 1979 are up approximately 20% over 1978. Most of the bookings originate in B.C. but recently there has been an increased level of interest from the prairies. The recreation centre in Vernon can accommodate up to 1,200 people at banquets and they have a number of meeting rooms available for large conventions.

3. SKI FACILITIES

The ski industry has experienced rapid growth in B.C. during the past 5 years and the Okanagan area has made a substantial contribution to that growth. With 20 million dollars in government funds to be spent on upgrading the ski industry in B.C. over the next 5 years, this growth can be expected to continue. Skiers are attracted to the Okanagan by generally good weather conditions and plenty of dry powder snow, good access and a wide range of accommodation. Recent improvements in lift facilities have made large areas with a good variety of trails accessible to skiers, particularly at the beginner and intermediate levels. As a result, Okanagan ski areas have become very popular with families.

The B.C. government has four classifications for winter sports facilities in the province: a) Community facilities b) Regional facilities c) Regional/Destination facilities and d) Destination facilities. Ski areas are classified by the vertical drop and corresponding variety of slopes, and the type of lifts and accommodation offered at the ski area. Last Mountain and Tillicum Valley cater primarily to beginners and night skiers

in Kelowna and Vernon and are community facilities. Mount Baldy, Apex, Alpine and Silver Star are classified as regional areas although Apex and Silver Star could be more accurately described as Regional/Destination areas in terms of the origin of their business and the development of the ski areas and lift equipment. At the moment they lack the base amenities, particularly, on-site accommodation, that are generally associated with Regional/Destination areas. Big White is the only true Regional/Destination area in the Okanagan providing full accommodation, restaurants and entertainment at the base of the ski area.

The Okanagan has more sophisticated and highly developed ski areas than warranted by the local population primarily because of the area's popularity with residents from other areas of B.C. and Alberta. According to a 1978 B.C. Skier Survey, 89% of skiers interviewed at Silver Star and 82% of skiers interviewed at Big White were spending a night away from home indicating that most of them did not live in the Okanagan. These figures were well above the B.C. average for skiers spending a night away while skiing. During the survey, it was found that skiers tended to use facilities in their area of residence first. However, Vancouver Island skiers, and those living in the northern and middle sections of the province used the Okanagan most often. Skiers from offshore countries used Whistler Mountain and Okanagan ski areas equally.

During the last few years, the regional ski areas in the Okanagan have experienced improvements in business in spite of shorter than average seasons. Transportation improvements, such as low cost ski weekend packages which include airfare, have attracted new business. An increasing number of Alberta skiers are discovering the advantages of the ski vacation in the Okanagan, and their numbers will increase with the introduction of special charter flights from Calgary and Edmonton in 1980.

3.1 Community Ski Areas

Last Mountain

Last Mountain is located 16 miles south west of Kelowna and 29 miles north of Penticton. The vertical rise is 600 ft. and the longest run is 3,000 ft. The nine runs are serviced by two T-Bars and one chairlift. The area is open daily and night skiing is available Tuesday through Sunday. Other on-site services include a cafeteria, snack bar, ski shop, ski rentals and repairs, a bar and disco. Managers of the ski area are considering additional facilities but these would be geared to attracting visitors during the off season.

Tillicum Valley

Tillicum Valley is located five miles east of Vernon on the road to Silver Star. The area has a vertical rise of 700 ft. and the longest run is 6,000 ft. There are two main slopes and five trails with slope difficulty distributed as Beginner - 30%, Intermediate - 50% and Advanced 20%. The runs are serviced by one rope tow, one T-Bar and one double chairlift, which have a combined lift capacity of 2,800 skiers per hour. The season begins in November and ends in March. The average annual snowfall of 60 inches is supplemented by snow making equipment on 70% of the area. Lifts are open daily and night skiing is available Monday through Saturday. The area also has 20 miles of cross country trails and features an alpine slide which is a popular tourist attraction during the off season.

Snowpatch Ski Area

Snowpatch is located five miles from the town of Princeton. The area has a vertical rise of 500 ft. and the longest run is 1/2 mile. The runs are serviced by three rope tows and one T-Bar

which have a combined lift capacity of 500 persons per hour. The season extends from mid-December through March and the lifts operate daily Wednesday through Sunday. Snack bar, first aid and ski rental facilities are available. Six miles of cross country trails are an added attraction to the area.

3.2 Regional Ski Areas

Mt. Baldy

Mt. Baldy is located 11 miles off Highway #3 from the Rock Creek Canyon bridge and 23 miles east of Osoyoos. The elevation is 7,000 ft. at the top and 5,700 ft. at the base with a vertical rise of 1,400 ft. The area features a variety of slopes appealing to both beginners and experts, with the longest run being 2-1/4 miles. Baldy is well known in the Okanagan for good powder skiing. Runs are serviced by one rope tow and two T-Bars which have combined lift capacity of 2,000 persons per hour. The season runs from late November through mid-April and lifts are open daily. On-site services include a cafeteria, bar, ski rental and repair shop. Accommodation is available in 50 rental condominium units on the ski hill and in Osoyoos.

Because of poor snow conditions, Mt. Baldy was open for 39 days and attracted only 13,300 skiers during the 1978-79 ski season. The number of skier visits occurring in the past four years are as follows:

1977-78	44,650	1975-76	35,325
1976-77	7,940	1974-75	26,550

Approximately 80% of the skier visits originated within 120 km. of the site. Skier visits from outside the province were unavailable but in a normal year, 15-18% of total skier visits originate from outside B.C., primarily from Northern Washington, Spokane and Seattle.

The major improvement required at Mt. Baldy is the completion of a direct access road from the mountain to Oliver via the McKinney Road. This road would shorten the distance to Penticton and the airport by 38 km. or one hour and fifteen minutes driving time.

Apex Alpine

Apex is located 22 miles west of Penticton on a private access road. The vertical rise is 1,700 ft. and the longest run is 3,800 ft. The area has a higher than average percentage of difficult slopes and is popular with expert skiers. Runs are serviced by one rope tow, two T-Bars and one chairlift with a combined lift capacity of 2,400 persons per hour. Apex is open daily from November through April and claims more hours of sunshine than any area in Western Canada. Accommodation is currently available on the mountain with a total of 50 beds and in Penticton, where approximately 500 beds are available. On-site services include a ski shop, snack bar and dining room.

Expansion plans on the mountain include the development of more slopes suitable for intermediate skiers. Managers of the ski area hope to eventually achieve a ratio of 70% beginner and intermediate slopes and 30% advanced. A mix of condominiums and single family dwellings will be constructed starting in 1979 and will provide 1,700 to 2,100 beds by 1984. Accommodation is also available at more than 100 hotels and motels in Penticton. Apex Mountain has applied for funds under the Tourist Industry Development Subsidiary Agreement.

The 1978/79 ski season lasted a total of 122 days during which 51,300 skier visits occurred. The number of skier visits during the past three years is as follows:

1977-78	65,330	1975-76	52,000
1976-77	40,900		

During the 1978-79 season, approximately 80% of skier visits originated from within 120 km. and 1,026 skiers visited the area from outside B.C.

Silver Star

Silver Star is located 14 miles from Vernon and is the second largest ski area in B.C. Except for the lack of accommodation facilities on the mountain, it would be more accurately classed as a Regional/Destination Resort as it attracts at least as many visitors from outside the Okanagan Region as Big White does. The elevation at the top of the mountain is 6,280 ft. and 4,680 ft. at the base, with a vertical rise of 1,600 ft. The area features 32 major runs and 20 miles of open skiing with the longest run being 10,000 ft. Slope difficulty is categorized as Beginner - 25%, Intermediate - 45% and Advanced - 30%. The runs are serviced by one handle tow, four T-Bars and three double chairs which have a combined lift capacity of 7,800 skiers per hour. Lifts are open daily from mid-November through mid-April. Accommodation is not available at the ski area, but a variety of excellent facilities are available in Vernon. On-site services include two cafeterias, a lounge, ski shop and day care facilities.

Major development plans are currently being considered which would include additional lifts, on-hill accommodation and other services. A report reviewing this proposal has been completed but will be unavailable until at least June of 1979.

The number of skier visits and information regarding origin of skiers was unavailable at the time this report was prepared.

3.3 Regional/Destination Facilities

Big White

Big White is located 35 miles east of Kelowna. Elevation at the top of the mountain is 7,300 ft. and 5,450 ft. at the

base, with a vertical rise of 1,850 ft. The area has 37 runs, the largest variety of intermediate runs in the province and one of the longest runs (three miles) in B.C. Beginners have a choice of three runs, while advanced skiers have a choice of two runs. Three T-Bars, one double chair and one triple chair provide a combined lift capacity of 5,600 skiers per hour. Current area skier capacity is 3,800. Big White is open daily from early November through mid-April and there is free night skiing three times per week. One of the major attractions at Big White is the accommodation and village atmosphere found on the mountain. The village has 15 private chalets and five lodges with approximately 1,300 beds within a four-minute walk of the ski lifts. Facilities available for campers include laundry, grocery store, electricity and babysitting. Other facilities available on the mountain include four restaurants, one bar and lounge, and disco entertainment. Approximately 15 miles of marked cross country trails run through the area.

During the last five years, between four and five million dollars have been spent upgrading lifts and other services and constructing accommodation. The increased accommodation, improved services and good snow conditions resulted in Big White's best year in 1978/79. Ski package bookings almost tripled from 1,200 parties in 1977 to 3,000 parties in 1978/79. Preliminary figures released by Big White show a total of 127,700 skier visits in 1978/79, up 37% over the 93,197 skier visits in 1977/78. The number of skier visits from outside the province are estimated as follows:

Alberta	5,000	Eastern Canada	250
Prairies	1,000	U.S.A.	500

A six million dollar expansion is currently underway at Big White which will produce an additional 80 condominium units, 90 hotel units, four convention rooms, a 250 seat dining room and lounge, a 3,000 sq. ft. disco, 20 new administrative offices

and a games room for teenagers. A new triple chairlift is being installed in an area that generally has better visibility and more difficult terrain. The new chair will remedy the situation of a lack of variety for advanced skiers which is currently one of the major drawbacks of the ski area.

Last season, the Ski Jet program, which included air transportation and accommodation in weekend packages, booked 1,200 skiers. Next season, Big White will introduce charters from various points in B.C. and Alberta. Offices to sell and administer this program have been set up in Calgary and Edmonton. With the improvements in transportation and the variety of accommodation and entertainment facilities now available on the mountain, the future for the Big White ski area looks very bright. Future plans for the area include expansion from 325 acres of ski runs to 1,200 acres that will be able to handle 12,000 skiers. If the developers of the ski area continue to progress at their current rate of activity, Big White will become one of the major ski areas in western North America.

3.4 Potential Expansion of the Okanagan Ski Industry

Snow Basin

This development is still in the planning stages awaiting funding and approval from various levels of government. The proposal outlines a large project to be located in Snow Basin approximately 17 miles from Penticton. Plans call for the development to be constructed in six phases and provide an ultimate carrying capacity of 8,550 skiers per day which is larger than any mountain in B.C. at the current time. A village consisting of hotels, condominiums and commercial facilities, containing 5,642 beds, would be constructed in a manner that would make the village an attraction. A pool, facilities for racquet sports and a major championship golf

course would draw tourists to the area in all four seasons. Attempts would also be made to encourage use of the facilities for small conventions and business meetings.

Several ski areas are also becoming popular with cross-country skiers. As this sport continues to increase in popularity, investment opportunities in facilities catering to this group will become available. The open terrain and good snow conditions could make the Okanagan one of the best regions in the province for cross-country ski enthusiasts.

Promotion in the various target ski markets will be the key to opportunities for expansion of the industry. Many of those involved in the ski industry in B.C. feel strongly that skiing must be marketed on a regional basis. Surveys have shown that people on a ski holiday are usually interested in skiing more than one area. Therefore advertising should stress that skiers visiting the Okanagan have a choice of three major ski areas with facilities catering to a wide range of interests and abilities. Highway improvements planned for the region will make travel between the various areas faster, which should make the Okanagan more attractive to tours visiting more than one ski area.

Efforts to market the ski industry through ski shows in the prairie provinces and familiarization tours from the western U.S., eastern provinces and overseas have achieved some success and, with low cost air fares and charter flights becoming available, additional bookings will likely occur in the near future. Japanese tour organizers on recent familiarization tours have indicated a strong interest in the Okanagan and have confirmed bookings with two ski areas for the 1979-80 season. However additional improvements in ski area facilities such as more accommodation, swimming pools, racquet facilities, good restaurants and play areas, will be required if the Okanagan

is to become a major destination area for skiers in North America and overseas.

4. TOURIST ATTRACTIONS

Commercial tourist attractions such as amusement parks are particularly well developed in the Central Okanagan Regional District. Currently there are four amusement parks in the District located near Rutland, Woods Lake, and Westbank and discussions are underway regarding a fifth facility.

The Westbank Indian Band and a private company have both expressed interest in developing an aquatic tourist attraction on the west side of Okanagan Lake. Either facility would include a large wave pool, small play pools, slides and other aquatic play facilities. Preliminary market studies have indicated that an attraction of this type could expect to draw a large number of tourists into the Kelowna area.

Plans are currently underway for the construction of a race-track and associated facilities on the Westbank Indian Reserve. Construction costs have been estimated at 3.7 million dollars and the facilities would include a track, grandstand and clubhouse, barn and stables to accommodate 800 horses. Racing will take place May through September, but the clubhouse and stables will be open all year round. The developers estimate that the track will draw 2,000 visitors per day and generate 3.7 million dollars in revenue during the first year of operation. They hope to draw participants from across Canada and the western United States, and they have already had inquiries from equestrian enthusiasts interested in moving to the Kelowna area. The race-track will also cater to local residents wishing to board horses and participate in equestrian events.

The Central Okanagan currently has only one golf course but plans are underway for the construction of three more. The largest course will be constructed eight miles from downtown Kelowna at a cost of 1.5 million dollars. The course has been designed by an internationally famous golf course designer and plans also call for a large clubhouse facility. An executive size golf course will be constructed in a resort development currently under construction on the west side of the lake and plans are also being discussed for the construction of a golf course near the airport.

Commercial tourist attractions in the Okanagan Similkameen and the North Okanagan Regional Districts are not as heavily developed. A game farm located near Penticton attracts an estimated 180,000 people per year and the owner indicated that business is growing at approximately 15-16% annually. An Alpine slide, located at Tillicum Valley near Vernon, is expected to become a popular attraction for summer visitors to the Okanagan.

The O'Keefe Ranch near Vernon established in 1867 and one of the oldest ranches in the Okanagan is now an historic site owned by the City of Vernon. The ranch was originally owned by Cornelius O'Keefe and Thomas Greenhow who raised cattle on the 15,000 acre ranch and ran a saw mill and grain mill. Cornelius O'Keefe acted as the Justice of the Peace for the area and was the Postmaster for over 30 years. Most of the ranch acreage has been sold or leased out and there are now only 60 acres left.

5. FISH AND WILDLIFE

The hunting and fishing opportunities available in the Okanagan play an important role in attracting both tourists and residents to the Okanagan. Tourists enjoy the combination of fishing in the many lakes and participating in a variety of other recreational activities. Many residents of the Okanagan were attracted to the area because of the many outdoor recreational activities that are so easily accessible, compared to those found in larger urban areas.

5.1 Wildlife

The Okanagan has a wide range of bio-geoclimactic zones in close proximity which provide suitable habitats for every type of B.C. game animal and bird species. A wide variety of both hunting and observation opportunities exist for residents and non-residents. A report prepared for the B.C. Fish and Wildlife Branch quotes studies which show that B.C. hunters are primarily big game hunters who spend three quarters of their hunting days pursuing game animals while the remaining time is spent on hunting various types of birds.¹ Deer are by far the most popular animals for hunting, with moose following second. Big game guides in the Okanagan specialize primarily in hunting cougars.

B.C. has been divided into seven wildlife administrative regions by the provincial Fish and Wildlife Branch. The three Okanagan Regional Districts are part of the Thompson-Okanagan Region. The popularity of this region with hunters compared to other regions in B.C. can be seen in Table 7 in the Appendix to this chapter.

1. Fish and Wildlife in B.C. - A Review of Resource Values prepared by Quadra Economic Consultants Ltd. 1977

The importance of hunting to the Okanagan economy can be calculated by estimating the expenditures in each of the following five categories: 1) transportation 2) equipment and ammunition 3) food, alcohol and lodging 4) miscellaneous expenditures for meat processing, taxidermy, guides and packers 5) license fees. Quadra Economic Consultants estimate that B.C. hunters average \$57.80 per day on these items. Hunting by residents and visitors therefore generated \$12,697,020 within the Thompson-Okanagan Region in 1976.

The estimated capital value of wildlife in the Okanagan is considerable. Several cooperating government agencies attempted to estimate the dollar value of wildlife as part of a Rangeland Review for the Central Okanagan Regional District in 1978. Based on reports by Pearse-Bowden in 1973, Quadra Economic Consultants in 1977, hunter sample estimates and annual deer counts, the capital value of deer was estimated at \$3,930,630.00. Extrapolating this figure to all wildlife gives a capital value estimate of ten million dollars in the Central Okanagan Regional District. A wildlife capital value of approximately forty five million dollars was estimated for the whole Okanagan area.

Hunters and fishermen are by far the most obvious and easily identified users of fish and wildlife as they make their numbers known by purchasing licenses each year. The number of those interested in the observation and photography of wildlife are difficult to calculate and therefore it is next to impossible to know what they contribute to the economy as a result of their interests. However several trends have emerged which indicate a growing interest in wildlife observation. Within the U.S. it has been noted that except for boating and fishing at reservoir sites, the fastest growth in outdoor recreation in the past two decades has been in the

use of national wildlife refuges. A 1970 study indicated that 12% of Canadians over age 18 participated in nature study or bird watching during 1969. As populations become more urbanized, interest in wildlife observation can be expected to increase.

In the Okanagan there are many opportunities to see and photograph wildlife. The rare California Big Horn sheep can often be seen beside Vaseux Lake while mountain goats are visible from Highway 3 in the Similkameen Valley. Increased access for public viewing of waterfowl and songbirds is being provided at Swan Lake, Vernon and along the Okanagan River channel south of Oliver.

A wildlife management plan for B.C. has been prepared by the Fish and Wildlife Branch, Department of Conservation. The goals and objectives of the plan are based on up-to-date management philosophies, established operating policies and awareness of social and economic conflicts. Detailed objectives for each major species or species group found in B.C. are outlined. Regional plans outlining wildlife management in local areas are currently being prepared.

The most difficult problem faced by wildlife managers involves conflicting user interests which threaten the maintenance of wildlife populations in some areas. Logging and overgrazing by cattle has destroyed wildlife habitat in many areas throughout the province. The wildlife management plans are intended to coordinate the various user interests which will hopefully reduce the damage that is occurring.

5.2 Fish

The headwater lakes and the main lakes of the Okanagan region have traditionally been popular destinations for both resident and non-resident fisherman. The Okanagan is somewhat unique in that residents and visitors can combine fishing with a variety of other recreational pursuits.

2

The Okanagan Basin Agreement contains a report which shows a total of 137 head water lakes with sport fishing opportunities or potential in addition to the fishing opportunities in the six main Okanagan Valley lakes. There are 27 fish species inhabiting the main valley lakes of the Okanagan while the head water lakes contain primarily rainbow trout. Kokanee salmon are the biggest attraction for anglers in the main valley lakes but not all of the valley lakes are suited to salmonid production. Kalamalka, Wood, Vaseaux and the American side of Osoyoos Lake are not suitable habitats for Kokanee. A substantial Sockeye salmon run uses the Okanagan River for spawning and Osoyoos Lake for rearing. This salmon run supplies a portion of the commercial salmon catch attributed to the Columbia River.

The ability of the main valley lakes to produce sport fish is limited by the capacity of the tributary streams and rivers to accept spawners. Approximately 80% of the original spawning capability of these streams and rivers has been destroyed by man induced changes. However, headwater lakes can be more heavily stocked as they have the capacity to provide up to ten times the present harvest of rainbow trout.

2. Okanagan Basin Agreement, The Final Report of the Consultative Board, 1973

The Okanagan Basin Study showed a total of 157,907 angler days in 1971. Approximately half the fishing (84,600 angler days) occurred on the main valley lakes, especially Okanagan Lake. The most popular head water lakes were Pirous, Beaver, Dee-Chain, Lambly, Jackpine and Oyama which attracted 70% of the 65,880 headwater angling days. The remaining days occurred on the various tributary streams and the Okanagan River. Fishing in the Okanagan is most popular from mid May until late July. Shore fishing occurs in the main lakes in November when Kokanee and white fish are the major catches.

Approximately two thirds of the licenses recorded belonged to Okanagan residents and 40% of visiting anglers were residents of the Lower Mainland. Approximately one third of the visitors surveyed indicated that fishing was the main reason for their visit. This is a lower percentage than that shown in surveys conducted in some other areas of the province, which may indicate that the serious angler is more attracted to some other regions of the province. The Okanagan is popular with visiting anglers because fishing can easily be combined with other recreational activities.

According to the report prepared by Quadra Economic Consultants Ltd., previously referred to in this report, the Thompson Okanagan Resource Management Region is the most heavily fished region, supporting one third of the provincial total of fishermen days. Table 7 in the Appendix shows both resident and non-resident fresh water fishing activity by management area in 1976-77. The economic value of resident fresh water fishing can be calculated by multiplying the number of angler days by between \$10 and \$15, a figure calculated during studies of fresh water sport fishing in B.C. Using these figures, resident fishermen generated between 13 and 20 million dollars in the Thompson Okanagan region.

The foregoing discussion has illustrated the important economic contribution that the fish and wildlife resources make to the Okanagan region. As the population of the Okanagan continues to grow and there is more pressure brought to bear on these resources, those involved in resource management will find their task increasingly difficult. The Okanagan's lakes, rivers and wildlife habitats must remain relatively unspoiled if they are to generate further economic benefits, and therefore new ways must be found to solve the conflicts between the various user interests.

6. SUMMARY

In summary, the tourist industry in the Okanagan appears to have entered a period of new growth which could be sustained by developments that have recently occurred in the international travel markets. Rapidly increasing transportation and accommodation costs in many offshore countries, notably Japan, and the western European countries, will cause residents in those countries to seriously consider, perhaps for the first time, the many attractions that B.C. has to offer at a reasonable cost. The increasing availability of low cost air transportation in North America is an added attraction to foreign visitors. Conversely, North American tourists may become reluctant to pay the high costs of travel overseas and choose instead a vacation in their own country. The Okanagan region can expect to reap the benefits of these new developments as long as the area is well promoted and the development of high quality facilities continues.

APPENDIX

Table 1

VOLUME OF VISITORS TO THE OKANAGAN
1976

Resident Visitors

British Columbia	756,000	51%
Okanagan	93,000	6%
TOTAL	849,000	57%

Non-Resident Visitors

Other Canada	301,000	20%
United States	307,000	21%
Overseas	40,000	2%
TOTAL	648,000	43%

Total Visitors

1,497,000 100%

Sources: Ministry of the Provincial Secretary and Travel
Industry, Tourism British Columbia
Visitors '74, B.C. Research, 1975
British Columbia Resident Tourism Survey - 1976,
B.C. Research, 1977

Table 2

VOLUME OF NON-RESIDENT VISITORS TO THE OKANAGAN
TOURIST REGION AND TO BRITISH COLUMBIA, 1976

<u>Origin</u>	<u>Okanagan</u>		<u>B.C.</u>	
	<u>Visitors</u>	<u>Percent</u>	<u>Visitors</u>	<u>Percent</u>
Alberta	239,000	37	1,547,000	35
Saskatchewan } Manitoba }	40,000	6	161,000 100,000	4 2
Ontario	18,000	3	161,000	4
Other Canada	4,000	1	40,000	1
Sub Total	<u>301,000</u>	<u>47</u>	<u>2,009,000</u>	<u>46</u>
Washington	155,000	24	1,002,000	23
Oregon	55,000	8	245,000	6
California	61,000	9	429,000	10
Western U.S.	24,000	4	204,000	5
Eastern U.S.	12,000	2	164,000	4
Sub Total	<u>307,000</u>	<u>47</u>	<u>2,044,000</u>	<u>48</u>
Overseas	<u>40,000</u>	<u>6</u>	<u>265,000</u>	<u>6</u>
TOTAL VISITORS	<u><u>648,000</u></u>	<u><u>100%</u></u>	<u><u>4,318,000</u></u>	<u><u>100%</u></u>

Source: Visitors '74, B.C. Research, 1975 (updated by
Tourism British Columbia)

Table 3

AIR TRAFFIC AT PENTICTON AND KELOWNA
Domestic Passenger Traffic

KELOWNA

<u>Year</u>	<u>Outbound</u>	<u>Inbound</u>	<u>Total</u>
1970	33,925	32,905	66,830
1971	38,730	36,075	74,805
1972	50,575	48,605	99,180
1973	68,390	66,285	134,675
1974	87,730	88,540	176,270
1975	99,080	98,740	197,820
1976	95,450	93,750	189,200
1977	100,410	103,160	203,570

PENTICTON

1970	16,005	16,555	32,560
1971	15,155	14,465	29,620
1972	21,320	20,515	41,835
1973	27,685	27,025	54,710
1974	30,240	29,830	60,070
1975	35,970	33,810	69,780
1976	30,690	28,540	59,230
1977	31,110	32,570	63,680

Source: Statistics Canada

Air Freight

	<u>Kelowna (lbs.)</u>	<u>Penticton (lbs.)</u>
1975	495,000	121,000
1976	560,000	130,000
1977	588,000	142,000
1978	718,000	164,000
1979 (Jan - May)	331,000	48,000

Source: Pacific Western Airlines, Public Relations Dept., June, 1979.

Table 4

APPROVED TOURIST ACCOMMODATION

<u>Area</u>	<u>Motels Hotels & Resorts</u>	<u>Units</u>	<u>Campgrounds</u>	<u>Units</u>
<u>Okanagan Similkameen</u>				
Princeton	10	237		
Hedley	3	18	3	44
Keremeos	4	26	3	150
Osoyoos	23	461	9	797
Oliver	11	128	5	313
Okanagan Falls	5	69	7	198
Penticton	59	1,562	13	1,402
Naramata	3	34		
Summerland	6	67	3	183
<u>Central Okanagan</u>				
Peachland	8	99	5	135
Westbank	3	49	6	428
Kelowna	42	1,382	5	167
Winfield	7	61	6	250
<u>North Okanagan</u>				
Oyama	4	30	4	128
Kalamalka Lake	4	74	4	294
Vernon	21	795	2	89
Lumby	1	18	3	86
Armstrong	1	42		
Enderby	4	50	3	120
Mara Lake	10	94	12	752

Table 5

OKANAGAN REGION PROVINCIAL PARK ATTENDANCE

1972-76

<u>Year</u>	<u>Parks Use</u>		<u>Camper Origin %</u>			<u>Camper Accommodation</u>			
	<u>Day Visits</u>	<u>Camper Nights</u>	<u>B.C.</u>	<u>Can.</u>	<u>U.S.</u>	<u>Camper Veh.</u>	<u>Trlrs</u>	<u>Tent Trlrs</u>	<u>Tents</u>
1972	555,984	142,240	64.0	19.9	16.1	34.4	13.4	14.1	38.1
1973	661,852	181,108	67.4	19.7	12.9	34.3	14.3	15.3	36.1
1974	733,844	200,136	64.2	22.8	13.0	33.6	16.1	14.9	35.4
1975*	543,000	148,363	60.0	27.2	12.8	37.8	16.7	13.2	32.3
1976	473,847	171,256	64.0	28.0	8.0	38.0	16.0	13.0	33.0

* Day visits and camper nights previous to 1975 were calculated by multiplying party days and party nights by the average party size of four persons to find the total day and night visitors. However, the 1975 and 1976 party day and party night figures were multiplied by the revised average party size of 3.1 for the Okanagan to arrive at the day visits and camper nights for 1975 and 1976.

Sources: Parks Branch, Ministry of Recreation and Conservation
 Ministry of the Provincial Secretary and Travel Industry,
 Tourism British Columbia

Table 6

<u>Area</u>	<u>Class</u>	<u>Hectares</u>	<u>Picnic</u>	<u>Camping</u>
<u>Okanagan Similkameen</u>				
Allison Lake	A	23	14	22
Apex	C	589	-	-
Bromley Rock	A	149	12	17
Cathedral	A	33,272	-	-
Inkaneep	A	11	-	7
Keremeos	A	20	N/A	N/A
Nickel Plate	A	105	-	-
Okanagan Falls	A	2	-	20
Okanagan Lake	A	80	36	156
Princeton	C	138	-	-
Christie Memorial	A	3	30	-
Deadman Lake	A	2	-	-
Haynes Point	A	5	9	36
Kickinee	A	49	14	-
Okanagan Mountain	A	10,319	-	-
Otter Lake	A	73	6	45
Stemwinder	A	4	-	23
Sun-Oka Beach	A	15	92	-
Vaseux Lake	A	6	-	9
<u>Central Okanagan</u>				
Antlers Beach	A	23	18	-
Butland Community	C	2	-	-
Sutherland Hills	C	23	-	-
Darke Lake	A	1,470	-	-
Eneas Lakes	A	1,036	-	-
Kalamoair	C	18	-	-
Manitou	C	2	-	-
Pennask Lake	A	244	-	-
Westbank	C	11	-	-
<u>North Okanagan</u>				
Mabel Lake	A	182	-	-
Echo Lake	A	54	3	3
Ellison	A	200	53	54
Kalamalka Lake	A	890	-	-
Monashee	A	7,513	-	-
Silver Star	C	8,857	-	-
Truman Dagnus Locheed	A	7	-	-

Table 7Distribution of Resident Hunting Activity

	<u>Hunter Days</u>
Vancouver Island	353,600
Lower Mainland	404,900
Thompson-Okanagan	335,900
Kootenays	265,200
Cariboo	88,400
Skeena	115,400
Omineca-Peace	204,600
TOTAL	<u>1,768,000</u>

Resident Fresh Water Sport Fishing Activity by Management Area 1976-77

	<u>Fisherman Days</u>
Vancouver Island	642,000
Lower Mainland	612,000
Thompson-Okanagan	1,307,500
Kootenay	540,000
Cariboo	182,700
Skeena	146,000
Omineca-Peace	484,300
TOTAL	<u>3,915,000</u>

Non-Resident Fresh Water Sport Fishing Activity by Management Area 1976-77

	<u>Fisherman Days</u>
Vancouver Island	24,300
Lower Mainland	14,500
Thompson-Okanagan	227,750
Kootenay	119,300
Cariboo	43,900
Skeena	17,800
Omineca-Peace	37,150
TOTAL	<u>484,700</u>

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B.C. Coordinator of Ski Development

Ministry of Tourism and Small
Business Development

Okanagan Sportsmans' Turf

Okanagan Similkameen Tourist
Association

ELECTRIC POWER AND UTILITIES

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ELECTRIC POWER AND UTILITIES

Electrical Energy

The study area is served by two major electrical utilities. The British Columbia Hydro and Power Authority covers the North Okanagan Regional District as well as Westbank and the west side of Okanagan Lake north of Westbank. Brenda Mines and Similkameen Mines are also served by B.C. Hydro via transmission lines running from the Nicola Switching station. A schematic diagram of B.C. Hydro's electrical transmission system is shown in Map 1 in the Appendix to this chapter.

For many years B.C. Hydro has been converting distribution lines in the Okanagan service area to higher voltage as load growth occurs. Ring circuits have been constructed around cities and rural areas have gradually been provided with service. Currently, there are no plans for construction other than to gradually increase the size of substations and construct a few feeder lines. All significant projects have already occurred, within the exception of a transmission line under construction between Selkirk near Trail and the Nicola substation near Merritt. This line will eventually be connected to the Seven Mile dam now under construction (See Map 4). The lead time required for upgrading the system capacity is increasing. Conversion of existing distribution lines to higher voltage can be accomplished quickly when required and most of that work has been done. However, the construction of new distribution lines can take from one to three years, primarily because of the time required to obtain right-of-ways.

Electrical load growth on the B.C. Hydro System has declined in the Okanagan, as it has in the province as a whole during the last two years, because of slower economic growth. Prior to the decrease, load growth in the Okanagan had been increasing at a rate of approximately 8-1/2% annually. The impact of various economic factors is expected to produce some increase in load growth to the range of 6-1/2% and 7% per annum.

B.C. Hydro can handle normal increases in load growth but the addition of a major load, such as a thermo-mechanical pulp mill or other industries requiring large amounts of electrical energy would require special provisions. The study area is served by the provincial electrical grid, with no shortage of sources of electrical energy, likely to arise in the next decade or two.

Residential and commercial power rates are shown in Table 1 of the Appendix.

West Kootenay Power and Light Co. Ltd. supplies electrical power to the communities of Kelowna, Penticton, Oliver, Osoyoos, Princeton and surrounding areas. The cities of Penticton and Kelowna, Summerland and the Princeton Light and Power Co. Ltd. purchase power from West Kootenay Power for municipal distribution. Power is generated at several hydro-electric plants on the Kootenay River near Nelson and transmitted to the Okanagan. Where required, additional power is obtained from the B.C. Hydro and Power Authority. A diagram of the West Kootenay Power and Light Co. Ltd. electrical system is shown in Map 2 of the Appendix together with related British Columbia Hydro and Power Authority facilities.

West Kootenay Power has not installed new generating capacity in recent years as new installations have been provided by B.C. Hydro.

The Company can no longer meet electrical load growth from their own sources, and is reported to be entering a new agreement with B.C. Hydro to supply new electrical energy requirements. A connection between the two systems already exists between Vernon and Kelowna and in the Kootenay area. There is also potential for Princeton to be supplied from the B.C. Hydro transmission line to the Similkameen Mine.

The West Kootenay Power generating stations are relatively old, and hence have been mostly amortized. Since the Company is regulated by the British Columbia Energy Commission, the low amortization costs are reflected in low electrical power rates in the service area. This has resulted in higher electrical energy use, (e.g. home heating) than would otherwise be the case. West Kootenay Power rates are shown in Table 2 of the Appendix along with the number of residential and commercial customers in the areas served. The company has applied for a 15% interim rate increase effective July 1, 1979, and a permanent increase of 25% to take effect in November or December.

West Kootenay Power and Light are, or will be, building new substations at Princeton, Kelowna and Penticton. The transmission line between Oliver and Penticton is to be rebuilt and a general upgrading of systems is to be carried out, particularly in the Kelowna area. In the latter, a catch-up program is underway in the wake of past high levels of growth. In the more distant future, transmission lines will be constructed between Kelowna and Penticton to take some of the load off the Grand Forks - Greenwood line.

In the view of some directly concerned B.C. Hydro officials, there is a need for a rationalization of the B.C. Hydro and West Kootenay Power and Light electrical systems in the study area. They believe that the two utilities should cooperate in designing a combined system which would optimize the situation. The constituent parts would be owned separately, but new, integrating features would be designed together.

Natural Gas

The Okanagan area is supplied with natural gas by Inland Natural Gas Co. Ltd. Natural gas service to the Okanagan area was first provided in 1957, with upgrading of the system and addition of new service areas occurring periodically since.

The communities served include Enderby, Armstrong, Lumby, Coldstream, Vernon, Oyama, Winfield, Kelowna, Westbank, Peachland, Summerland, Penticton, Naramata, Okanagan Falls, Oliver, Osoyoos, Keremeos, Hedley and Princeton. A map showing the pipeline systems of the utility is shown in the Appendix, Map 3. All towns are fairly well covered by distribution mains.

Management of Inland Natural Gas predict that approximately 600 new customers will be added in the Okanagan in 1979, including approximately 150 commercial customers. One thousand new customers have been forecast for 1980. These figures reflect an annual growth rate of between 4 and 4-1/4% in the Okanagan areas served by B.C. Hydro and a slightly lower rate of growth in the areas served by West Kootenay Power where electrical rates generally are lower.

Major industrial natural gas customers in the Okanagan include Consumer's Glass, Hiram Walker, Sun-Rype, White Trucks and Crown Zellerbach. Paving plants put an extra load on the system during the summer months. Other industrial customers include lumber mills, bakeries and a cement plant. Negotiations are in progress with respect to constructing a line into the Spallumcheen Industrial Park, and into a feed company in Grinrod.

Approximately 92% to 95% of new housing in the area between Salmon Arm and Peachland is serviced by gas. However, in the southern section of the Okanagan Valley this proportion is reduced to 70%, a reflection of the relatively inexpensive electric rates charged by West Kootenay Power. The number of natural gas customers in each community is shown in Table 4 of the Appendix along with the number of people employed and the total payroll. Natural gas rates are shown in Table 5.

TELECOMMUNICATIONS








B.C. Telephone Company now services all areas in the three Okanagan Regional Districts. Prior to January 1, 1979, the areas north of Oliver were serviced by Okanagan Telephone, the last small privately owned telephone company in the province. B.C. Telephone purchased the shares of the company in 1978, and now manage three service areas in the Okanagan which correspond roughly with the boundaries of the three regional districts.

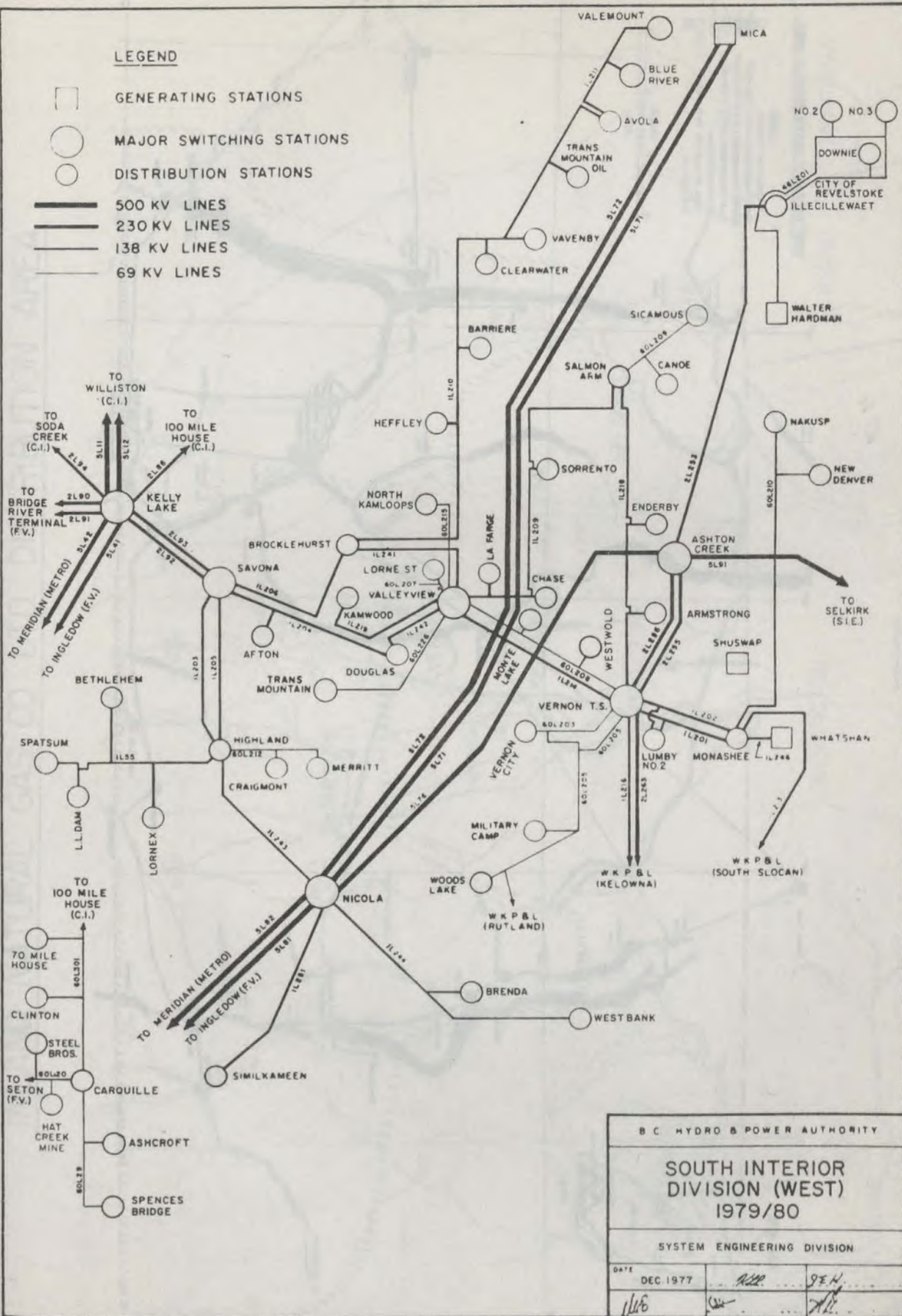
According to a company spokesman, the company has a capital spending program for the Okanagan totalling \$21 million in 1979, and approximately \$28 to \$30 million in 1980. Much of the budget is devoted to upgrading central offices from mechanical to electronic switching equipment. The largest conversion is currently taking place in the Dilworth area of Kelowna; by the end of 1979 all of Kelowna will operate on electronic equipment. Customers and businesses will benefit from quieter lines and more rapid service. Seven central offices in the Okanagan already have electronic equipment installed. Equipment in the Penticton area central offices will be replaced around 1982-1983 when digital switching equipment becomes available.

B.C. Telephone currently employs approximately 750 employees in the Okanagan who are more or less evenly distributed throughout three service areas, although the Vernon service area employs the largest number of people. The 1979 payroll in the Okanagan is approximately \$12 million. The current number of residential and business customers, together with projections and past growth rates are shown in Table 5 of the Appendix. It should be noted that projected figures are constantly being reviewed and revised.

MAPS

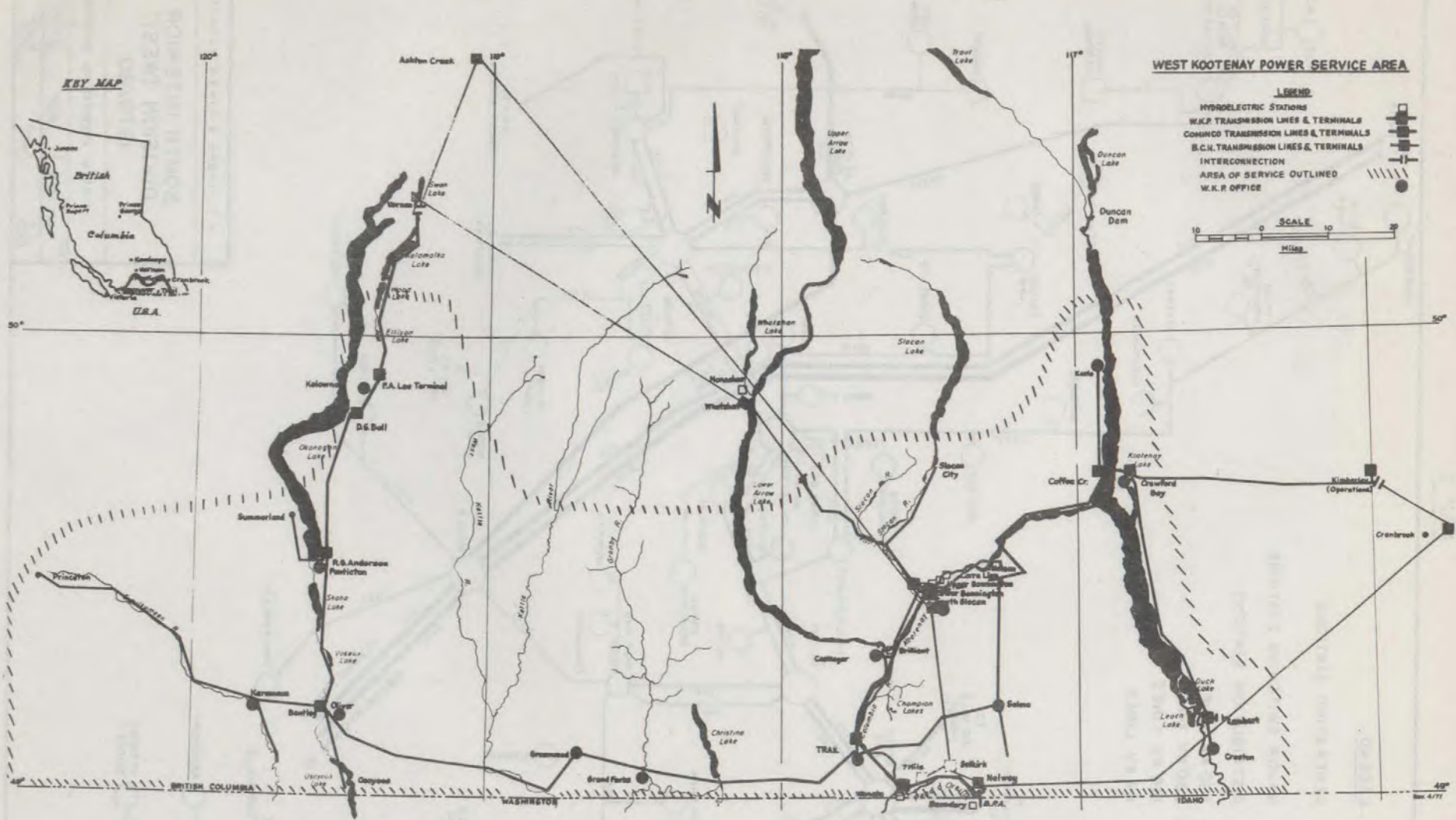
LEGEND

-  GENERATING STATIONS
-  MAJOR SWITCHING STATIONS
-  DISTRIBUTION STATIONS
-  500 KV LINES
-  230 KV LINES
-  138 KV LINES
-  69 KV LINES



B C HYDRO & POWER AUTHORITY			
SOUTH INTERIOR DIVISION (WEST) 1979/80			
SYSTEM ENGINEERING DIVISION			
DATE	DEC 1977	<i>ASB</i>	<i>SEH</i>
	<i>MLB</i>	<i>SW</i>	<i>JH</i>

MAP 2



INLAND NATURAL GAS CO. LTD. DISTRIBUTION AREA



British Columbia Hydro and Power Authority

Electric Transmission System at 31 March 1978 with planned additions

LEGEND

- Hydroelectric Generating Stations
- Diesel Electric Generating Stations
- ▣ Gas Turbine-Electric Generating Stations
- Substations
- Transmission Lines 60 kV-360 kV (existing and under construction)
- Transmission Lines 500 kV (existing and under construction)
- Transmission Lines 60 kV-360 kV (planned)
- Transmission Lines 500 kV (planned)

Vancouver Area

MAJOR GENERATING PLANTS

- | | |
|----------------------------|---------------------------|
| Alouette Hydroelectric | Port Mann Gas Turbine |
| Burrard Steam Turbine | Ruskin Hydroelectric |
| Lake Buntzen Hydroelectric | Stave Falls Hydroelectric |

MAJOR SUBSTATIONS

- | | | |
|----------|--------------------|---------|
| Arnott | Dal Grauer | Morden |
| Atcheltz | Horne-Payne | Murray |
| Barnard | Inglewood | Nowell |
| Camosun | Kidd, Nos. 1 and 2 | Walters |
| Cypress | Manwaring | |

Victoria Area

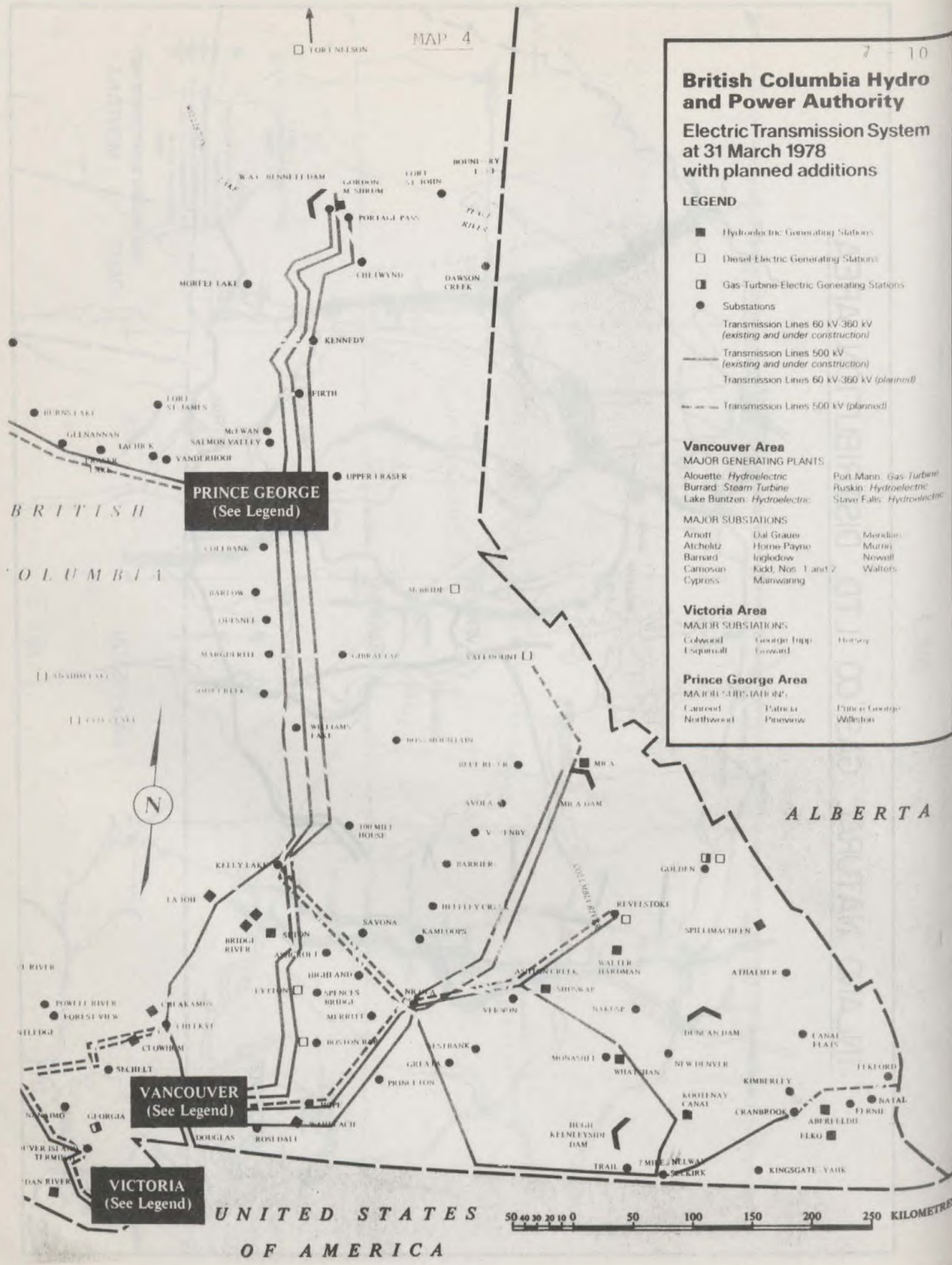
MAJOR SUBSTATIONS

- | | | |
|----------|-------------|---------|
| Colwood | George Inup | Horsley |
| Espinalt | Goward | |

Prince George Area

MAJOR SUBSTATIONS

- | | | |
|-----------|---------|---------------|
| Canwood | Fabrica | Prince George |
| Northwood | Panview | Wilton |



PRINCE GEORGE
(See Legend)

VANCOUVER
(See Legend)

VICTORIA
(See Legend)

UNITED STATES
OF AMERICA

50 40 30 20 10 0 50 100 150 200 250 KILOMETRES

APPENDIX

TABLE 1
(Page 1 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
Twenty-fourth Revision of Page I-10
Cancels Twenty-third Revision of Page I-10
Effective: 1 March 1979

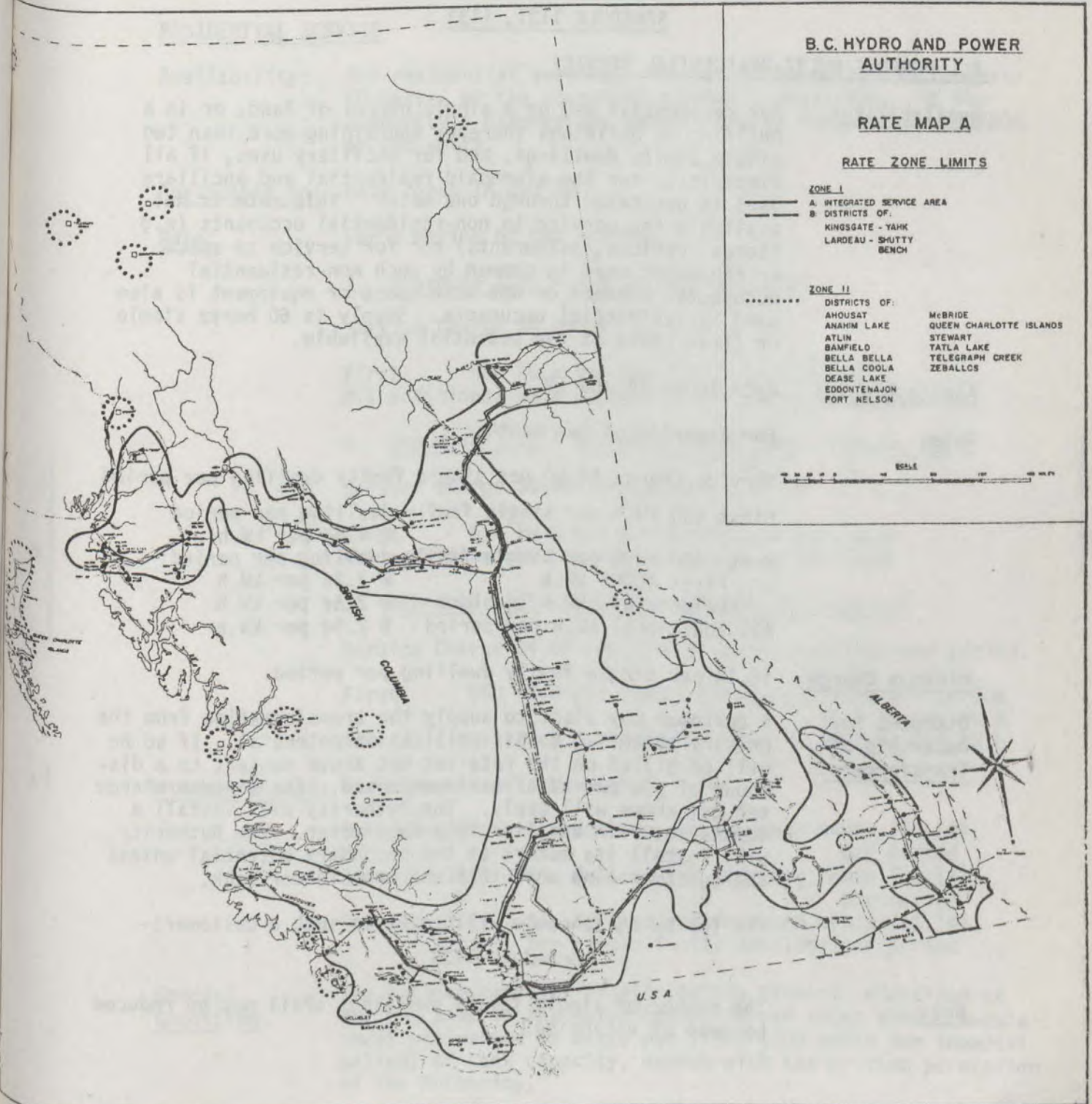


TABLE 1
(Page 2 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
Sixth Revision of Page III-2-3
Cancels Fifth Revision of Page III-2-3
Effective: 1 MARCH 1978

SCHEDULE 1131, 1133

ALL PURPOSE MULTI-RESIDENTIAL SERVICE

Availability: For residential use on a single parcel of land, or in a building or buildings thereon, containing more than two single family dwellings, and for ancillary uses, if all electricity for the aforesaid residential and ancillary uses is purchased through one meter. This rate is not available for service to non-residential occupants (e.g. stores, offices, restaurants) nor for service to space or equipment used in common by such non-residential occupants, whether or not such space or equipment is also used by residential occupants. Supply is 60 hertz single or three phase at the potential available.

Applicable in: Rate Zones IA and IB.

Rate: For a period of two months:

Service Charge \$4.00 per single family dwelling per period.

First 400 kW.h per single family dwelling per period @ 4.5¢ per kW.h

Next 400 kW.h per single family dwelling per period:-

 First 10000 kW.h @ 3.2¢ per kW.h

 Balance of kW.h in block @ 2.6¢ per kW.h

All additional kW.h per period @ 2.5¢ per kW.h

Minimum Charge: \$6.14 per single family dwelling per period.

Discount for Ownership of Transformers: A customer may elect to supply the transformation from the primary potential to his utilization potential. If so he will be billed on the rate set out above subject to a discount of 50¢ per kW of maximum demand. The minimum charge set out above will apply. The Authority will install a demand meter in addition to a kW.h meter. The Authority will install its meters at the secondary potential unless the customer owns more than one transformer bank.

The following schedule will apply to such a customer:-

Schedule 1133

Note: The number of single family dwellings shall not be reduced because of vacancies.

TABLE 1
(Page 3 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
Fifteenth Revision of Page III-2
Cancels Fourteenth Revision of Page III-2
Effective: 1 MARCH 1978

SCHEDULES 1101, 1111, 1121

RESIDENTIAL SERVICE

Availability: For residential service. Service is normally single-phase 60 hertz, at the secondary potential available. At the Authority's discretion, service may be three-phase 120/208 or 240 volts.

Applicable in: Rate Zones IA and IB

Rate: For a period of two months:

1. Schedule 1101 - Residential Service

Service Charge \$4.00 per period.

First 550 kW.h per period at 4.5¢ per kW.h
All additional kW.h per period at 2.5¢ per kW.h

2. Schedule 1111 - Residential Service - Common Use

Service Charge \$4.00 per period.

First 550 kW.h per period at 4.5¢ per kW.h
All additional kW.h per period at 2.5¢ per kW.h

3. Schedule 1121 - Multiple Residential Service

Service Charge \$4.00 per single family dwelling per period.

First 550 kW.h per single family dwelling per period
at 4.5¢ per kW.h
All additional kW.h per period at 2.5¢ per kW.h

Minimum Charge: For a period of two months:

Schedule 1101 - Six dollars and fourteen cents (\$6.14)
per period

Schedule 1111 - Six dollars and fourteen cents (\$6.14)
per period

Schedule 1121 - Six dollars and fourteen cents (\$6.14)
per single family dwelling per period

Special Condition:

The maximum capacity of all heating elements energized at any one time in any water heater served under this schedule shall not exceed 45 watts per litre (200 watts per Imperial gallon) of tank capacity, except with the written permission of the Authority.

TABLE 1
(Page 4 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
Third Revision of Page III-12-1
Cancels Second Revision of Page III-12-1
Effective: 1 MARCH 1978

SCHEDULE 1200, 1201, 1210, 1211

GENERAL SERVICE (35 kW and over)

Availability: For all purposes. Supply is 60 hertz single or three phase at secondary or primary potential. The Authority reserves the right to determine the potential of the service connection.

Applicable in: Rate Zone I.

Rate: Service Charge \$2.55 per month.

Demand Charge

First	35 kW of billing demand per month	Nil
Next	115 kW of billing demand per month	@ \$2.20 per kW
Next	1850 kW of billing demand per month	@ \$4.30 per kW
	All additional kW of billing demand per month	@ \$5.10 per kW

plus

Energy Charge

First	275 kW.h per month	@ 5.15¢ per kW.h
Next	6725 kW.h per month	@ 3.50¢ per kW.h
Next	23000 kW.h per month	@ 2.50¢ per kW.h
Next	370000 kW.h per month	@ 1.45¢ per kW.h
	All additional kW.h per month	@ 1.05¢ per kW.h

Discounts

1. A discount of 1½% shall be applied to the above rate if a customer's supply of electricity is metered at a primary potential.
2. A discount of 25¢ per kW of billing demand shall be applied to the above rate if a customer supplies transformation from a primary potential to a secondary potential.
3. If a customer is entitled to both of the above discounts the discount for metering at a primary potential shall be applied first.

TABLE 1
(Page 5 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
Second Revision of Page III-12-2
Cancels First Revision of Page III-12-2
Effective: 1 MARCH 1978

SCHEDULE 1200, 1201, 1210, 1211

GENERAL SERVICE (35 kW and over)(Cont'd.)

- Billing Codes:
- Schedule 1200 - applies if a customer's supply of electricity is metered at a secondary potential and the Authority supplies transformation from a primary potential to a secondary potential.
 - Schedule 1201 - applies if a customer's supply of electricity is metered at a primary potential and the Authority supplies transformation from a primary potential to a secondary potential.
 - Schedule 1210 - applies if a customer's supply of electricity is metered at a secondary potential and the customer supplies transformation from a primary potential to a secondary potential.
 - Schedule 1211 - applies if a customer's supply of electricity is metered at a primary potential and the customer supplies transformation from a primary potential to a secondary potential.

Monthly Minimum Charge:

The greater of:

1. \$8.50 per month; or
2. 75% of the highest maximum demand charge billed in any month wholly within an on-peak period during the immediately preceding eleven months. For the purpose of this provision an on-peak period commences on 1 November in any year and terminates on 31 March of the following year.

Special Condition:

A demand meter will normally be installed, prior to the installation of such a meter, or if such a meter is not installed the demand for billing purposes shall be the assessed demand estimated by the Authority.

Special Condition:
(Closed)

Where electricity is supplied under Schedule 1272 for air conditioning of, or as a principal space heating fuel for the premises being supplied;

AND, IN ADDITION -

1. All metering is at the secondary potential on the load side of the customer's transformers, and

TABLE 1
(Page 6 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
First Revision of Page III-12-3
Cancels Original Page III-12-3
Effective: 1 MARCH 1978

SCHEDULE 1200, 1201, 1210, 1211

GENERAL SERVICE (35 kW and over)(Cont'd.)

Special
Conditions:
(Closed)(Cont'd)

2. the customer provides the necessary transformers and all associated equipment other than meters, and
3. electricity supplied for purposes within Schedule 1272 is metered through a separate single meter, and separately billed on that Schedule;

then all other electricity supplied at the same premises shall be metered through a separate single meter, and separately billed on Schedule 1211.

This condition is available only to a customer in those premises with respect to which the Authority, prior to 1 April 1969 agreed that service would be provided under this condition, and only with respect to the load which the Authority, prior to 1 April 1969, agreed to provide with service.

TABLE 1
(Page 7 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
Third Revision of Page III-12-4
Cancels Second Revision of Page III-12-4
Effective: 1 MARCH 1978

SCHEDULE 1220

GENERAL SERVICE (Under 35 kW)

Availability: For all purposes where a demand meter is not installed because the customer's demand as estimated by the Authority is less than 35 kW.

Supply is 60 hertz single or three phase at a secondary potential.

Applicable in: Rate Zone I.

Rate: For a period of two months:

Service Charge \$5.10 per period.

First 550 kW.h per period @ 5.15¢ per kW.h

Next 13450 kW.h per period @ 3.50¢ per kW.h

All additional kW.h per period @ 2.50¢ per kW.h

Minimum Charge: Eight dollars and fifty cents (\$8.50) for a period of two months.

Special Conditions for unmetered service:

1. The Authority may permit unmetered service under this rate schedule if it can estimate to its satisfaction the energy used in kilowatt hours over a period of two months based on the connected load and the hours of use.
2. The customer if required by the Authority shall provide and maintain such controls, including timing devices, as the Authority considers may be necessary, and facilities satisfactory to the Authority for the maintenance of the aforesaid controls.
3. The hours of use per period shall be either
 - a) Those specified by the customer; or
 - b) Those estimated by the Authority whichever is the greater.
4. The customer shall supply, install and maintain all wiring, fixtures, control devices and equipment including the controls and devices described in Condition 2 at the expense of the customer.

TABLE 1
(Page 8 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
Original Page III-12-5
Effective: FOR ALL ACCOUNTS WITH BILLING
PERIOD COMMENCING ON OR AFTER
31 December 1974.

Schedule 1220

GENERAL SERVICE (Under 35 kw) (Cont'd)

Special
Conditions
for unmetered
Service:
(Cont'd.)

5. All wiring, fixtures, control devices and equipment and the method of installing, operating and maintaining the same are subject to the approval of the Authority which approval may be withdrawn by the Authority, at any time, at the Authority's sole discretion.
6. The customer shall notify the Authority immediately of any proposed or actual change in load, or load characteristics, or hours of use.
7. The Authority may at any time in its sole discretion install a meter or meters, and thereafter bill the customer on the appropriate rate schedule as a metered account.
8. For display signs and signboard lighting, where hours of use are controlled by timing devices, the following turn-on times shall apply, unless the Authority shall otherwise agree in writing:

<u>Period</u>	<u>Turn-on Time</u>
1 January - 15 January	4:00 p.m.
16 January - 28 February	4:30 p.m.
1 March - 30 April	6:30 p.m.
1 May - 15 August	8:30 p.m.
16 August - 30 September	6:30 p.m.
1 October - 15 November	4:30 p.m.
16 November - 31 December	4:00 p.m.

9. In all cases, where hours of use of display signs or signboard lighting commence at dusk and are controlled either by timing devices or by photo-electric cells, the following hours of use for a period of two months shall be deemed for billing purposes:

Dusk to 10 p.m.	- 216 hours
Dusk to 11 p.m.	- 270 hours
Dusk to 12 p.m.	- 330 hours
Dusk to 1 a.m.	- 380 hours
Dusk to Dawn	- 666 hours

(All times are Pacific Standard Time)

TABLE 1
(Page 9 of 9)

British Columbia Hydro and Power Authority
Electric Tariff
Original Page III-12-6
Effective: FOR ALL ACCOUNTS WITH BILLING
PERIOD COMMENCING ON OR AFTER
31 December 1974.

Schedule 1220

GENERAL SERVICE (Under 35 kw) (Cont'd)

Special
Conditions
for unmetered
Service:
(Cont'd)

10. Cable television amplifier equipment units which are individually energized from and at the Authority's secondary potential shall be assessed from the data on the nameplate rating. The assessed kw demand of each individual piece of equipment shall be deemed to be the greater of either:

1. 100% of the kw nameplate rating, or
2. 80% of the kva nameplate rating.

Hours of use for a period of two months shall be deemed to be 1460 and power factor surcharge shall not be applied.

WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED

RATE CLASSIFICATION AND RATES (CONT'D)

SCHEDULE 3 - RESIDENTIAL SERVICE - AREA I

AVAILABLE: In Area I as defined in this tariff

APPLICABLE: To residential use including service to incidental motors of 5 HP or less, but not where electricity is used as a primary means of space heating.

MONTHLY RATE:

First	20 K.W.H. or less	\$2.75
Next	180 K.W.H.	2.15¢ per K.W.H.
All Over	200 K.W.H.	1.1¢ per K.W.H.

DISCOUNT: 10% if paid on or before the date shown on each bill.

MINIMUM: \$2.75 per month net, except the minimum charge on extensions shall be as in Schedule 71.

HEATING LIMITATION: Space heaters up to a total connected capacity of 6 K.W., for auxiliary space heating will be allowed on this schedule.

REGULATIONS: Service under this schedule is subject to the General Rules and Regulations contained in this tariff.

Issued..... December 16, 1976

By..... *W. Kuper*

SECRETARY

WEST KOOTENAY POWER AND LIGHT CO., LTD.
1385 Cedar Avenue
Trail, B.C.

W10 111

Accepted for Filing... JAN. 5, 1977

..... *D. Leach*

SECRETARY

BRITISH COLUMBIA ENERGY COMMISSION

EFFECTIVE (Applicable to consumption
and after)

WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED

RATE CLASSIFICATION AND RATES (CONT'D)

SCHEDULE 3 - RESIDENTIAL SERVICE - AREA I (CONT'D)

To the extent that revenue generated under rates herein provided exceeds revenue which would have been generated by the rates in effect under this Schedule on December 31, 1975, such revenue shall, upon order of the British Columbia Energy Commission, be subject to refund with interest at 9% per annum.

N

Issued..... December 16, 1976

Accepted for Filing..... JAN 5 1977

By..... *[Signature]*

..... *[Signature]*

SECRETARY

SECRETARY

WEST KOOTENAY POWER AND LIGHT CO., LTD.

BRITISH COLUMBIA ENERGY COMMISSION

1385 Cedar Avenue

EFFECTIVE (Applicable to consumption on and after)

Trail, B.C.

VIR 4L4

JAN 5 1977

WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED

RATE CLASSIFICATION AND RATES (CONT'D)

SCHEDULE 72 - RESIDENTIAL SERVICE - SPACE HEATING - ALL DISTRICTS

AVAILABLE: In all districts served by the Company.

APPLICABLE: To all residential uses, including service to motors of 5 HP or less, where electricity is used as the primary means of space heating.

MONTHLY RATE:

First	20 K.W.H.	\$2.75
Next	180 K.W.H.	2.15¢ per K.W.H.
All Over	200 K.W.H.	1.1¢ per K.W.H.

DISCOUNT: 10% if paid on or before the date shown on each bill.

MINIMUM CHARGE: \$2.75 per month, net. The Company may require a higher minimum where additional facilities for serving the customer are required. On extensions the minimum charge shall be as in Schedule 71.

REGULATIONS: Service under this Schedule is subject to the General Rules and Regulations contained in this tariff.

A

R

Issued..... December 16, 1976

By..... *[Signature]*

SECRETARY

WEST KOOTENAY POWER AND LIGHT CO., LTD.
1385 Cedar Avenue
Trail, B.C.
V1R 4L4

Accepted for Filing..... JAN 5 1977

[Signature]
SECRETARY
BRITISH COLUMBIA ENERGY COMMISSION

EFFECTIVE (Applicable to consumption and after)

JAN 5 1977

TABLE 2
(Page 4 of 5)

Electric Tariff
B.C.E.C. No. 2, Part 1
Original Sheet 33

WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED

RATE CLASSIFICATION AND RATES (CONT'D)

SCHEDULE 75 - GENERAL SERVICE - AREAS I AND II

AVAILABLE: In Areas I and II as defined in this tariff.

APPLICABLE: To non-residential Customers whose electrical demand is generally limited to not more than 500 K.W. and can be supplied through one meter. Deliveries at more than one location, or more than one voltage and phase classification, will be separately metered and billed. Where there is more than one service to the same location and they are of the same voltage and phase classification and they were connected prior to the date this rate was accepted for filing, the electrical energy and demands registered for such services will be combined and billed at this rate.

N

MONTHLY RATE: A Demand Charge of:
\$1.50 per K.W. of "Billing Demand" above 40 K.W.
plus

A

<u>An Energy Charge of:</u>		
First	50 K.W.H. or less	\$ 3.00
Next	950 K.W.H.	3.2¢ per K.W.H.
Next	7000 K.W.H.	1.9¢ per K.W.H.
Next	20000 K.W.H.	1.3¢ per K.W.H.
Next	72000 K.W.H.	1.1¢ per K.W.H.
Balance		0.7¢ per K.W.H.

A

"Billing Demand"
The greatest of:

- a. Twenty five per cent (25%) of the Contract Demand which is the amount of power in K.W. reserved for the Customer by the Company and contracted for by the Customer, or
- b. The maximum demand in K.W. for the current month, or

N

Issued December 16, 1976

Accepted for Filing JAN 5 1977

By *M. Hays*
SECRETARY

D. Leach
SECRETARY

WEST KOOTENAY POWER AND LIGHT CO., LTD.
1385 Cedar Avenue
Trail, B.C.
V1R 4L4

BRITISH COLUMBIA ENERGY COMMISSION
EFFECTIVE (Applicable to consumption on and after)
JAN 5 1977

WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED
RATE CLASSIFICATION AND RATES (CONT'D)

SCHEDULE 75 - GENERAL SERVICE (CONT'D)

MONTHLY RATE: "Billing Demand" (Cont'd)
c. Seventy five per cent (75%) of the maximum demand in K.W. registered during the winter months in the previous eleven month period, or
d. Twenty five per cent (25%) of the maximum demand in K.W. registered during the summer months in the previous eleven month period.

MINIMUM: The monthly minimum charge shall be the greater of:
a. \$3.00 per month or the minimum charge on extensions as in Schedule 71.
b. The demand charge.

DELIVERY AND METERING VOLTAGE DISCOUNTS: The above rate applies to power service when taken at the Company's standard secondary voltage.
a. A discount of 1½% shall be applied to the above monthly rate if the electric service is metered at a primary distribution voltage.
b. A discount of 15¢ per K.W. of billing demand shall be applied to the above monthly rate if the Customer supplies the transformation from the primary to the secondary voltage.
c. If a Customer is entitled to both of the above discounts, the discount applicable to the metering at a primary voltage is to be applied first.

POWER FACTOR: If at the Company's option, the demand is measured in K.V.A. instead of K.W. then;
40 K.W. shall become 45 K.V.A.
15¢ per K.W. shall become 13.5¢ per K.V.A.
\$1.50 per K.W. shall become \$1.35 per K.V.A.
where used in this schedule.

Issued... December 16, 1976.....

By..... *W. Hanger*.....
SECRETARY

WEST KOOTENAY POWER AND LIGHT CO., LTD.
1385 Cedar Avenue
Trail, B.C.
V1R 4L4

Accepted for Filing... JAN 5 1977

..... *D. Leach*.....
SECRETARY
BRITISH COLUMBIA ENERGY COMMISSION
EFFECTIVE (Applicable to consumption on and after)

..... JAN 5 1977

TABLE 3INLAND NATURAL GAS CUSTOMERS

<u>Location</u>	<u>Residential</u>	<u>Commercial</u>	<u>Total</u>
Enderby	275	75	350
Armstrong	505	105	610
Vernon	4,516	670	5,186
Coldstream	573	22	595
Lumby	73	43	116
Winfield	316	44	360
Kelowna	9,550	1,350	10,900
Westbank	1,785	140	1,925
Peachland	300	20	320
Penticton & Summerland	4,565	835	5,400
Princeton	413	92	505
Hedley	42	10	52
Keremeos	34	21	55
Olivor & Osoyoos	978	222	1,200

TABLE 4INLAND NATURAL GASMONTHLY RATES*

Billing Unit - One Thousand Cubic Feet (MCF)

Residential Rate:

First 1000 cubic feet or less	@	3.50
Next 9,000 cubic feet	@	2.43 per MCF
Excess over 10,000 cubic feet	@	1.88 per MCF

Minimum Monthly Bill \$3.50

Commercial and Small Industrial Monthly Rate:

First 1,000 cubic feet or less	@	3.50
Next 5,000 cubic feet	@	3.03 per MCF
Next 94,000 cubic feet	@	2.53 per MCF
Excess over 100,000 cubic ft.	@	1.88 per MCF

Minimum Monthly Bill \$3.50

*As of May, 1979.

TABLE 5B.C. TELEPHONE CUSTOMERS

		<u>Vernon</u>	<u>Kelowna</u>	<u>Penticton</u>
1979	Residential Mains	16,303	25,990	18,820
(Actual)	Business Mains	3,054	4,853	3,232
1980	Residential Mains	16,964	26,845	19,345
(Projected)	Business Mains	3,369	5,113	3,414
1985	Residential Mains	21,033	33,099	23,002
(Projected)	Business Mains	4,456	6,305	4,059

Note: The above figures represent a projected average annual growth rate in residence telephones of 4.4% in the Vernon district, 4.5% in the Kelowna district, and 3.7% in the Penticton district. Business phones are forecasted to increase at an average annual rate of 4.7% in Vernon, 4.5% in Kelowna and 4.3% in Penticton.

The boundaries of the three B.C. telephone service areas are similar to those of the three Okanagan Regional Districts.

Source: B.C. Telephone - Vernon

B.C. TELEPHONE HISTORICAL GROWTH RATES

<u>Vernon</u>	<u>Residential Mains</u>	<u>Business Mains</u>	<u>Total Mains</u>
1974	12.3%	11.1%	12.1%
1975	8.7%	13.8%	9.5%
1976	7.0%	10.5%	7.5%
1977	5.1%	7.3%	5.5%
1978	4.6%	3.4%	4.5%
<u>Kelowna</u>			
1974	14.9%	13.2%	14.7%
1975	8.2%	13.0%	8.8%
1976	7.4%	12.8%	8.2%
1977	3.8%	8.2%	4.5%
1978	5.4%	5.3%	5.4%
<u>Penticton</u>			
1974	10.6%	8.7%	10.3%
1975	8.2%	7.3%	8.1%
1976	5.9%	7.7%	6.1%
1977	3.1%	4.1%	3.3%
1978	4.1%	3.9%	4.1%

Note: The three areas above refer to B.C. Telephone service areas. The growth rates shown are for residential and business main telephone lines.

TABLE 7B.C. HYDRO CUSTOMERS

	<u>Residential</u>	<u>Commercial</u>
Vernon	7,619	1,645
Armstrong	946	174
Coldstream Municipality	1,846	181
Lumby	376	137
North Okanagan Unincorporated	5,050	425
Oyama	2,194	303
Spallumcheem	1,307	155
Shuswap (rural Armstrong)	319	98
Winfield	107	19
Westbank District	5,841	659

WEST KOOTENAY LIGHT AND POWER CUSTOMERS

	<u>Residential</u>	<u>Commercial</u>
Oliver	4,905	601
Keremeos	2,001	222
Penticton	2,592	272
Kelowna	13,938	1,260
Kelowna City	6,363	1,287
Princeton	1,664	420

TRANSPORTATION




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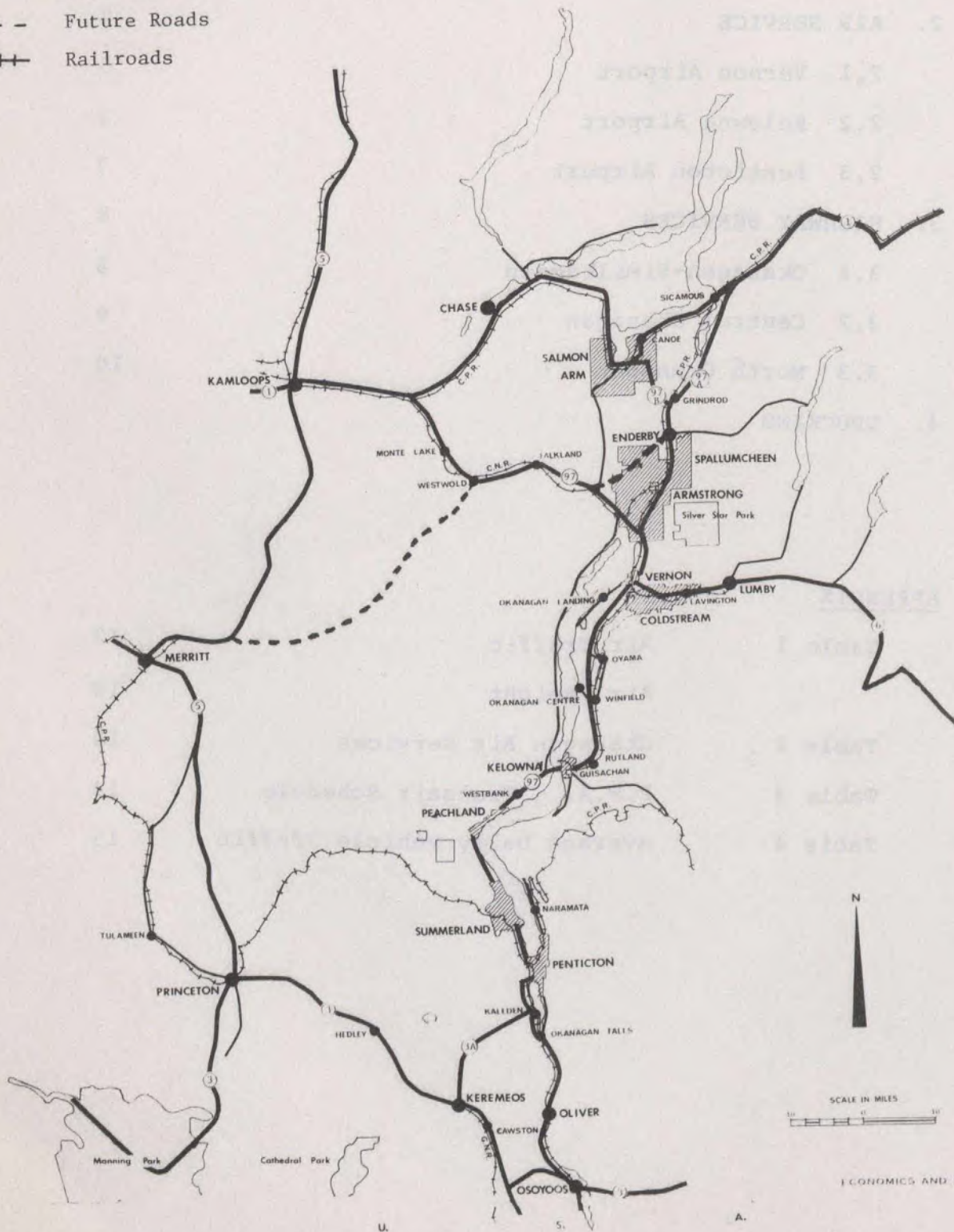
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HIGHWAYS AND RAILROADS IN THE OKANAGAN

-  Major Roads
-  Future Roads
-  Railroads



TRANSPORTATION

Development of various types of transportation services has played a major role in the colorful history and growth of the Okanagan economy. The Fraser River gold rush of 1857-58 created an expanding market for cattle in B.C. When placer gold was discovered on the Similkameen River in 1859, ranching became established in the southern Okanagan. The Dewdney Trail constructed during the gold rush to access the mining areas of the South Okanagan provided a route for ranchers to export their cattle to Hope.

1. Rail Service

The construction of the Canadian Pacific Railway, which was completed in 1885, created an even larger demand for Okanagan beef and produce. In 1886, steamer service on Okanagan Lake encouraged vegetable farmers to move into the ranching areas of the South Okanagan. The southern migration of farmers increased when a C.P.R. branch line was completed between Sicamous and Okanagan Landing creating a link to the Okanagan Lake steamers. Continued improvements in transportation were directly responsible for the growth of agriculture throughout the Okanagan valley.

The famous Kettle Valley Railway constructed in the early part of the century was built through one of the most rugged areas in the province to service the mines throughout the Similkameen valley and the Kootenays. The railway reached Princeton and Penticton in 1915, improving access for the many coal mines in the Tulameen valley. Prior to 1915 rail service in the Okanagan-Similkameen area was provided by a rail line connecting Keremeos with Oroville, Washington. Branch lines of the Kettle Valley Railway were extended to Oliver in 1923, and

Osoyoos in 1944. The Kettle Valley Railway earned the distinction of being the most difficult railway in Canada to operate because of the treacherous terrain and the heavy snowfalls in the Coquilhalla Pass. Continuing problems on the route eventually forced the closure of many sections of the railway.

The railroads enjoyed a monopoly in the freight business throughout the Okanagan until the Hope-Princeton Highway was completed in 1949. From this point on a steadily increasing proportion of freight was moved by trucks. The opening of the Hope-Princeton also marked the beginning of the tourist industry in the South Okanagan. Traffic increased after the bridge across Okanagan Lake between Kelowna and Westbank was opened in 1958. The completion of the Rogers Pass section of the Trans-Canada Highway in 1962 not only had a further impact on tourism in the area, but it also caused a major restructuring of freight rates making the area more attractive to industry. Although highways in the region have been upgraded and improved, the physical patterns of highway transportation have not changed.

Rail transportation has changed, particularly in the south and central parts of the Okanagan. Difficult maintenance and lack of business caused C.P. Rail to abandon the Kettle Valley rail line south of Okanagan Falls and the Carmi-Beaverdell line from Penticton between 1977 and 1979. C.P. Rail is currently in the process of removing the rail lines in these areas in spite of some local opposition. The Carmi-Beaverdell line runs through some of the most spectacular scenery in the province, and it has been suggested that the line should be used as a tourist attraction. Unfortunately, many of the sections on the line would have to be rebuilt and upgraded, which would be a very costly project. The line running through the Coquihalla pass to Hope was abandoned in 1961 after years of unsuccessful struggle to keep it open.

Today, C.P. Rail provides freight service between Penticton and Spence's Bridge via Princeton and Merritt on Monday, Wednesday and Friday. Their major cargo is forest products which are picked up in Okanagan Falls, Penticton, Princeton and Merritt. On Tuesday, Thursday and Saturday empty cars are returned from Spence's Bridge to Penticton with very little backhaul. Previously the C.P.R. provided barge service between Penticton and Kelowna but this operation was also found to be uneconomical and was terminated.

In the Central and North Okanagan, C.P. runs a daily return freight between Kelowna and Revelstoke with service five days per week in Vernon, Lumby and Grindrod. Although the cargo in the North Okanagan consists mostly of forest products - lumber, poles and wood chips, they also carry some canned goods, liquor from Hiram Walker and glass from Lavington.

Canadian National Railways have a branch line extending from Kamloops to Armstrong where it travels south on a joint basis with the C.P.R. to Kelowna. The two railways also share the branch between Vernon and Lumby. Canadian National provides service in the Okanagan four days per week. They service Brenda Mines by trucking ore from the mine to Kelowna where it is loaded onto the trains. Freight destined for the U.S. is shipped by truck to Osoyoos at the Canadian border where it is loaded on the Great Northern Railway.

Figures showing the tonnages of the various types of freight carried by the two companies were unavailable. However, interviews with industry spokesmen revealed that the railways are finding it increasingly difficult to compete with trucking companies. Fruits and vegetables have virtually disappeared from the railway as they require refrigeration, and trucks can provide refrigeration at a much lower cost. Some fruits and vegetables are transported in trailer trucks which are

loaded onto flat deck cars. Depending on fuel costs and competition between the rail and trucking industries this type of rail use may increase.

Competition between rail and trucks has increased due to several factors. Trucks have become much more sophisticated and are able to carry many types of freight once transported exclusively by rail. Trucks have many more opportunities to obtain backhaul business into the Okanagan which allows them to charge lower rates. Under the National Railway Act, the C.P.R. and C.N.R. are prohibited from charging rates below cost and they do not receive subsidies. Recently they were forced to add a 1.7% surcharge to offset increases in the cost of fuel.

However, as fuel costs continue to increase, at some point, rail service will become more cost-efficient than trucks on long hauls. Major truck lines are already beginning to ship goods to a rail access point where a trailer is loaded onto a train and picked up at the destination point, continuing to a final destination by road.

Freight rates for both the C.N.R. and C.P.R. are negotiated annually with organizations representing companies producing canned goods, and with the Council of Forest Industries. The negotiations establish a base rate which applies to all forest product companies on the two routes. Freight rates for other types of products are negotiated with individual companies. The C.N.R. and C.P.R. compete with each other only on service as the negotiated rates apply to both companies. Either company may obtain increased business by offering special types of cars, or by improving the availability of cars and frequency of service.

With the exception of increased interaction between major trucking firms and the railways, little change can be expected in rail transportation in the foreseeable future. New rail construction is very unlikely to occur in this area as construction costs now exceed one million dollars per mile.

2. Air Service

The two major airports servicing the three Okanagan Regional Districts are located at Penticton and Kelowna. Other licensed airfields are situated at Vernon and Princeton. The provincial government recently allocated \$215,000 to the Princeton airport for paving of the 4,000 ft. runway and taxiway. Scheduled services are not available at Princeton.

Air freight figures for the two airports are shown in Table 1. There has been a significant increase in freight carried on P.W.A., particularly since 1977, a reflection of the economic growth that appears to have occurred in the past two years. P.W.A. is expecting an even higher level of growth in the freight business during 1979.

2.1 Vernon Airport

The Vernon Airport, operated by the City of Vernon, currently has a 2,530 ft. runway. The Department of Transport recently completed a survey investigating the possibility of realigning and extending the runway to 3,500 ft. The airport is heavily used, with 70 small aircraft based there. A Department of Transport spokesman indicated that there appears to be sufficient demand to upgrade the airport for use as a community feeder airport with scheduled commercial services using small aircraft. The entire situation is currently under review by the City of Vernon.

Both of the major airports have experienced a steady increase in traffic both inbound and outbound since 1971, as shown in Table 1. P.W.A. reports unexpectedly high levels of growth during 1978 and 1979, which is expected to continue. Although passenger demand in B.C. would allow additional flights to be added to the existing schedules, P.W.A. is unable to expand at this time because of the shortage of planes.

2.2 Kelowna Airport

The Kelowna Airport is located approximately eight miles north of the centre of town on 447 acres of land, and is operated by the City of Kelowna. Facilities include a 5,350 ft. single asphalt runway aligned in a northwest-southeast direction with two stub taxiways on either end. The Kelowna Airport is the third busiest airport in the Ministry of Transport Pacific Region serving a population of 130,000 in North and Central Okanagan, and some communities in the Columbia Shuswap area.

According to a Ministry of Transport planning study of the airport, passenger traffic grew at 25% per year between 1966 and 1975. A marked decrease in the number of passengers carried occurred at both the Kelowna and Penticton airports between 1975 and 1976. This temporary slow-down in the growth of air travel in the Okanagan is thought to have been caused by a slump in both the provincial and regional economies. Traffic in 1990 has been forecast at 520,000 passengers enplaned and deplaned.

Currently, the processing capacity of the terminal is 140 passengers per hour. However, this capacity figure was exceeded in 1975 and the terminal building and parking lot are now in need of expansion. The planning report also indicated that the runway is also approaching capacity. The addition of a parallel taxiway than can handle any aircraft would expand the

capacity of the existing runway to allow additional scheduled and non-scheduled traffic. According to the report, Kelowna is the only controlled airport in the Pacific Region without associated taxiways.

P.W.A. has recently purchased new aircraft that can carry over 200 passengers, and will replace the 117-passenger 737 on some routes. Feasibility studies on the use of the new aircraft which are now underway indicate that Kelowna Airport will be capable of handling aircraft of this size. However, the Kelowna Airport will require expansion of both terminal and runway facilities to handle the increase in traffic that can be expected as a result of charter flights servicing the Okanagan ski areas, steadily increasing business traffic and the additional traffic generated as a result of the P.W.A. merger with Transair. The terminal building will have to double in size to meet projected demands.

A seaplane base and helicopter port are conveniently located on Lake Okanagan within one block of Kelowna Civic Centre.

2.3 Penticton Airport

The Penticton Airport is located four miles south of the downtown centre. Facilities include a 6,000 ft. runway, two major taxiways and a terminal with a processing capacity of 70 passengers per hour. In 1975, passenger demand was beginning to exceed design capacity. Although the Penticton Airport handles fewer passengers than the Kelowna Airport, Penticton has experienced high levels of growth, especially between 1971 and 1975 when the annual rate of increase was 30%. As increases in the number of passengers can be expected to continue in Penticton, it is likely that the terminal will require expansion in the foreseeable future. However, expansion of the runway is not practical due to local topography, and the surrounding

mountainous terrain. Penticton is often fogged in during the winter causing traffic to be rerouted to Kelowna. These factors will cause passenger traffic to increase at a lower rate than traffic at the Kelowna Airport. Table 2 shows a list of the Commercial air services available at the Kelowna and Penticton Airports, and Table 3 shows the flights available at the Kelowna and Penticton airports.

3. Highway Services

Highway construction in all three Okanagan Regional Districts will continue to be confined to improving existing highways. Improvements will include the construction of extra passing lanes, expansion to four lanes, and paving and widening in some areas. The improvements will result in reduced travel time and better service, but they will not increase the carrying capacity of existing routes. Table 4 shows average daily traffic counts at a point in each Regional District.

Greyhound Bus Lines provides bus service three times daily between Vancouver and Calgary with stops at various points in the Okanagan. There are four bus runs per day between Calgary and Edmonton with stops in the Okanagan.

3.1 Okanagan-Similkameen

There are several major improvements planned for the highways in the Okanagan-Similkameen Regional District which will result in better traffic flow. Highway 97 between Penticton and Kelowna will gradually be widened to four lanes as funds become available over an 8 to 10 year period. The Penticton bypass on Highway 97 which is currently under construction will reduce travelling time in the Okanagan, particularly in the summer months. The existing road between Summerland and Princeton is currently being upgraded and will eventually

become a paved, two-lane secondary road. Access to the Okanagan via the Hope-Princeton is constantly being improved through a program to widen the highway to four lanes.

3.2 Central Okanagan

The bridge crossing Okanagan Lake between Kelowna and Westbank has been a major bottleneck in the highway system for several years. The bridge can be widened to three lanes and this will likely occur soon. A four-lane section between Kelowna and Westbank has been designed and negotiations to obtain the necessary land are underway.

The existing road between Westbank and Fintry on the west side of Okanagan Lake is being widened, and will eventually be paved removing some of the pressure on Highway 97 between Kelowna and Vernon. Plans are also underway to widen Highway 33 to four lanes through Rutland.

3.3 North Okanagan

Many of the major improvements planned for highways in the North Okanagan have already taken place, or are currently under construction. Highway 37 between Kelowna and Vernon is now four lanes in several areas, and the program to widen the highway will continue. Some upgrading has occurred on Highway 6 between Vernon and Lumby, and there are plans to continue these improvements.

Construction of the new Coquihalla highway between Hope and Merritt is now underway. However, the new route will not be completed for at least eight years, and is not expected to have a significant impact on the Okanagan unless other routes connecting the Coquihalla with the Okanagan are built. A route from the Coquihalla between Merritt and Enderby has been discussed, but completion of this route is at least twenty years away.

4. Trucking

As previously mentioned, trucks have gradually replaced the two railways in transporting many types of goods, both in and out of the Okanagan. Although this trend can be expected to continue, rising fuel costs and the high cost of labour may cause some changes in the future with more interface between the trucking industry and the railways.

Published information on the trucking industry in the Okanagan was unavailable, but interviews with industry spokesmen provided some useful information. According to those interviewed, a consolidation of trucking firms has occurred throughout the Okanagan with small local companies being purchased by subsidiaries of large American firms. Small trucking depots have been closed and their dispatching functions moved to larger centres. Currently, the major freight lines operating in the Okanagan are Van-Cam, Motorways, Triline, and L.T.L.

The disappearance of the small trucking firms has contributed to the creation of several serious transportation problems which appear to be occurring throughout the Okanagan. Many firms have reported difficulties in obtaining reliable transportation when they need it. Large trucking firms are not responding to the scheduling requirements of many Okanagan shippers. Regulations set out under the Motor Carrier Act require those wishing to ship goods to call all licensed trucking firms in the area before a one-trip permit may be issued which often causes costly delays in shipping. Smaller trucking firms that are able to respond quickly to local needs and charge more competitive prices are not able to obtain the necessary licenses from the provincial Motor Carrier Commission.

To obtain a license for any type of trucking service, the applicant must be able to show a volume of business considered large enough to warrant a new license in the area, an adequate amount of storage and equipment to successfully operate the business and a high level of demand for the service in the license district as a whole. The Motor Carrier Commission has four license districts in the three Regional Districts. Okanagan-Similkameen contains two license districts.

As trucking plays such a vital role in the health of the Okanagan economy, a more detailed examination of the current problems in the industry should be undertaken.

APPENDIX

TABLE 1
AIR TRAFFIC AT PENTICTON AND KELOWNA
Domestic Passenger Traffic

KELOWNA

<u>Year</u>	<u>Outbound</u>	<u>Inbound</u>	<u>Total</u>
1970	33,925	32,905	66,830
1971	38,730	36,075	74,805
1972	50,575	48,605	99,180
1973	68,390	66,285	134,675
1974	87,730	88,540	176,270
1975	99,080	98,740	197,820
1976	95,450	93,750	189,200
1977	100,410	103,160	203,570

PENTICTON

1970	16,005	16,555	32,560
1971	15,155	14,465	29,620
1972	21,320	20,515	41,835
1973	27,685	27,025	54,710
1974	30,240	29,830	60,070
1975	35,970	33,810	69,780
1976	30,690	28,540	59,230
1977	31,110	32,570	63,680

Source: Statistics Canada

	<u>Air Freight</u>	
	<u>Kelowna (lbs.)</u>	<u>Penticton (lbs.)</u>
1975	495,000	121,000
1976	560,000	130,000
1977	588,000	142,000
1978	718,000	164,000
1979 (Jan - May)	331,000	48,000

Source: Pacific Western Airlines, Public Relations Dept., June, 1979.

OKANAGAN AIR SERVICESKELOWNA, B.C.

Alpine Helicopters Ltd. - charter and specialty services*
Arrow Aviation Ltd. - Penticton to Revelstoke
Kelowna Flightcraft Air Charter Inc. - Charter & specialty & int.
Kelowna Fun Seekers Ltd. - specialty services
Pacific Western Airlines - commercial service
Sunrise Aviation Ltd. - specialty services

PENTICTON, B.C.

Arrow Aviation Ltd. - shuttle service
Interior Aviation Centre Ltd. - charter and specialty
Okanagan Helicopters - charter and specialty
P.W.A. - commercial service

VERNON, B.C.

Arrow Aviation Ltd. - operating Class 2 for P.W.A. to Penticton,
Kelowna, Vernon, Kamloops, Castlegar,
Cranbrook and Grand Forks.
Vernon Helicopters - charter and specialty services

*Specialty Services: include forestry programs, photography, surveying,
etc.

Source: Canadian Commercial Air Services, 1979
Canadian Transport Commission

TABLE 3

P.W.A. - TRANSAIR SCHEDULEKELOWNA AIRPORT

<u>Destination</u>	<u>Daily Flights</u>
Vancouver	5
Calgary	2
Winnipeg	1
Castlegar	1 (5 days per week)
Edmonton Municipal	2
Edmonton International	2
Williams Lake	2 (5 days per week)
Prince George	2 (5 days per week)

PENTICTON AIRPORT

Vancouver	2
Winnipeg	1
Williams Lake	1 (5 days per week)
Cranbrook	2
Calgary	2
Edmonton	2
Kamloops	1 (5 days per week)
Ft. McMurray	1 (5 days per week)
Grand Forks	1 (5 days per week)
Prince George	1 (5 days per week)

* Daily flights with connections to Victoria and Seattle are available from both airports.

TABLE 4
AVERAGE DAILY TRAFFIC

<u>Year and Month</u>	<u>Location</u>		
	<u>A</u>	<u>B</u>	<u>C</u>
December 1972	1,163	10,254	2,477
January 1973	1,664	9,972	2,323
July 1973	4,080	18,595	3,335
August 1973	4,557	19,035	5,833
December 1973	1,900	11,795	2,848
January 1974	1,801	10,937	2,487
July 1974	4,858	24,886	6,479
August 1974	5,235	25,678	7,063
December 1974	1,987	14,868	2,890
January 1975	1,705	13,381	2,530
July 1975	4,184	22,575	6,507
August 1975	4,990	24,047	7,392
December 1975	2,123	15,705	3,262
January 1976	1,963	13,974	2,824
July 1976	4,652	24,461	6,579
August 1976	4,780	23,349	6,669
December 1976	2,302	N/A	3,579
January 1977	2,021	14,284	3,104
July 1977	4,609	24,265	7,171
August 1977	4,530	22,556	7,284
December 1977	N/A	15,194	3,348
January 1978	1,575	14,512	N/A
July 1978	4,808	24,584	7,830
August 1978	4,969	25,070	7,839
December 1978	2,225	15,719	3,855

Location A - 7.8 Km. South of Route 97 at Kaleden Junction South of Okanagan Falls

Location B - Okanagan Lake Bridge

Location C - Route 97A - 5.6 Km. South of Enderby

Source: B.C. Ministry of Highways - Victoria, B.C.

INFORMATION SOURCES

1. Canadian Pacific Railways - Marketing and Sales Department.
2. Canadian National Railways.
3. Ministry of Transport - Vancouver office.
4. Ministry of Highways - Vancouver and Kamloops offices.
5. B.C. Motor Carrier Commission - Vancouver office.
6. Pacific Western Airlines - Public Relations office.

TRANSPORTATION

The information requested regarding tariffs and licensing established by the B.C. Motor Carrier Commission is not readily available in a form that could be published. Mr. Doug Lyson, Deputy Superintendant at the Motor Carrier Commission explained that there are several different kinds of licenses that are issued depending on the freight that is carried, the area of service, and the type of companies that are serviced. Tariffs can be established on the basis of volume or a classification of commodities. Mr. Lyson said that a detailed knowledge of both licenses and the procedure for setting tariffs is required if tariffs are to be correctly quoted. In any case tariffs and licenses are not available in a published form and therefore it would be necessary to spend some time at the Motor Carrier Commission compiling the information. Therefore, an examination of tariffs and licensing should be left until the subject of transportation in the Okanagan is studied in more detail.

CONSTRUCTION

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GENERAL PERSPECTIVE

The first point to be noted and understood about the construction industry is that no federal, provincial or municipal agency - nor private body - gathers (on a time series basis) data which can be used to undertake a worthwhile analysis of the industry.

Secondly, a decision to develop property ignites a multitude of secondary effects which ripple through the local (and often the provincial) economy, impacting on banks and mortgage companies, real estate agents, legal - accounting - insurance services, architects and engineers, furniture manufacturers, office equipment suppliers, heavy duty equipment rental agencies, ad infinitum. One can make up one's own personal list.

The very nature of "development" involves a host of federal and provincial agencies which exercise and administer financial, legal and physical direction. In addition, it has been estimated that the development industry is intimately involved in creating, shaping and changing the context within which 75% of B.C.'s annual budget is spent. The effectiveness of the construction industry conditions the location, size and number of schools; health facilities; the level of necessary police protection; the housing and relative concentration of social assistance recipients; the need for and standards governing highways and other public works, and in a real sense, determines the efficiency and attractiveness of the province's urban areas, and the standards and costs of the housing stock.

1 For example, the British Columbia Building Corporation (B.C.B.C.) recently investigated and then rejected the concept of an information system. The projected costs of monitoring outweighed the projected benefits.

Statistics on an industry of such substantial, yet often hidden, dimensions are to be treated with caution. Nevertheless, to give some measure of its economic contribution, the following statistics are offered:

The total value of construction work performed in the province in 1977 approximated \$5 Billion. Building permit values alone constituted \$1.7 Billion. In the same year, total private and public capital and repair expenditures approximated \$7.2 Billion. In addition, it has been estimated that direct employment in the development sector alone is around 43,000 people. When one adds these employees who are directly associated with the industry, one can account for approximately 10%, or 100,000 of the provincial labour force.

The 1977 direct annual payroll within the industry approximated \$930 million. When those employees who are indirectly associated with the industry are included, some 17% of the 1977 total wage and salary income within B.C. is accounted for.

PRESENT AND SHORT-TERM OUTLOOK

Forecasting levels of construction activity in any area of the province is, at best, a precarious occupation. Only two months ago, representatives of the various trades were extremely gloomy when discussing the short-term outlook for the industry. Conditions changed almost overnight. For example, the highway construction industry in B.C. was psychologically prepared for a lean year until the provincial Department of Highways placed, at short notice, almost \$100 Million in tenders for highway relocation related to the Revelstoke Dam project.

At the time of writing this report, construction contractors are most concerned with narrow profit margins and the flurry of bidding activity that results from over capacity in the contracting force. Projects that normally would have attracted only a half dozen bids in more stable periods, are now drawing upwards of twenty. In many cases, bids are coming in at less than estimates as many contractors scramble to stay in business.

CONSTRUCTION VOLUMES

Building permits provide a data base for comparing performance of the construction industry on a year-by-year basis. Several points should be borne in mind when using this source of information:

1. Not all construction activity is recorded in building permit records. Larger projects of a utilitarian nature such as H.E.P. filtration plants, pipelines, and highways do not generally require building permits, and frequently large industrial plants in the mining and forestry sectors are constructed outside the boundaries of a building permit issuing municipality.
2. Many areas, particularly smaller urban centres in rural surroundings, do not issue building permits. However, the Regional District offices in the Okanagan have garnered the data from those areas and a reasonably comprehensive building permit picture is available (subject to Note 1 nevertheless).

Table 1 portrays the annual value of building permits issued in the Okanagan over the 5 year period 1974 - 1978.

TABLE 1

OKANAGAN REGION

Annual Value of Building Permits Compared
with Total B.C. (1974 - 1978)

Year	North Okanagan	%	Central Okanagan	%	Okanagan Similkameen	%	Okanagan	British Columbia	
1974	43,207,602	(34)	60,024,519	(47)	24,157,256	(19)	127.4	10.1%	1,259.8
1975	40,996,021	(25)	75,872,589	(47)	44,638,116	(28)	161.5	10.5%	1,539.8
1976	47,186,270	(29)	73,774,181	(46)	39,865,930	(25)	160.8	8.9%	1,805.8
1977	44,208,800	(35)	54,023,720	(42)	29,820,913	(23)	128.1	7.3%	1,751.3
1978	29,230,473 (est'd.)	(24)	59,040,297	(49)	33,018,116	(27)	121.3	7.3%	1,655.3

Sources: 1. Cat. (64-201) Statistics Canada. Statistics Canada estimate that building permit coverage is 97.4% for urban areas of the province and 74.2% for rural areas.

2. Municipal Building Departments and Regional District Planning Departments.

Permits to the value of \$700 million have been issued over the 5 year period - an average of \$140 million annually. However, the value of permits peaked in 1975 at \$162 million and has declined markedly to a low of \$121 million in 1978 - a decline of 25% (Unadjusted for inflation). Similarly, the Okanagan's proportional share of "total B.C." in 1975 was 10.5% - this declined to 7.3% by 1978.

The percentage shift of each regional district's proportional share is also shown in Table 1.

Note the consistency of the Central Okanagan Regional District over the 5 year period. Even though the total volume of construction activity in the Okanagan has been declining (illustrated by \$ value of construction), Central Okanagan Regional District has maintained between 42% and 49% of the total.

Although North Okanagan Regional District maintained a constant volume of construction activity (in unadjusted \$ terms) until 1977 (and then slumped in 1978) the regional district's proportional share has oscillated between a low of 24% (in 1978) to a high of 35% in 1977. The Okanagan Similkameen Regional District total value of building permits exceed that of the North Okanagan for the first time in 1978 - \$33 million compared with \$29.2 million.

OKANAGAN - SIMILKAMEEN

1978 saw an increase in total value of permits issued in the Regional District, after two successive years of decreases. Nevertheless, total values of construction were well below 1975 levels. The increase was due to the strengthening of permits in the Summerland sub-region (6.5% increase) (see Table 2).

BUILDING PERMIT VALUESOKANAGAN - SIMILKAMEEN, R.D.1975 - 1978

Year	Penticton Sub-Region	Summerland Sub-Region	Oliver Sub-Region	Keremeos Sub-Region	Osooyos Sub-Region	Princeton Sub-Region	Total Okanagan- Similkameen
1975	27,911,748	6,674,935	4,768,590	126,880	3,282,540	1,874,423	44,638,116
1976	22,665,428	6,085,300	5,099,120	565,500	3,208,171	2,242,411	39,865,930
1977	14,665,428	2,720,540	5,219,685	650,530	4,264,340	2,090,385	29,820,913
1978	14,252,226	5,027,250	3,836,920	798,400	7,011,785	2,091,545	33,018,116

(1) includes Penticton City + electoral areas D, E & F (50%)

(2) includes Summerland District + electoral area F (50%)

(3) includes Oliver + electoral area C

(4) includes Keremeos + electoral areas B & G
(Note: No building permit data available for
"G" before 1978 and no data available)

(5) includes Osooyos Village + electoral area A

(6) includes Princeton Village + electoral area H

CENTRAL OKANAGAN R.D.

Total value of permits issued in the Regional District peaked at \$54.9 million in 1975 and has since declined - although 1978 experienced a slight upswing. However, in real terms (i.e. adjusted annually for inflation) the value of building permits issued has declined substantially each year since 1975.

Table 3 shows the total value of permits for the 1972-78 period by area:

TABLE 3

Value of Building Permits
Central Okanagan R.D. (1972-1977)

Year	Central Okanagan	%	Kelowna	%	Peachland	%	R D Total	%
1972	29,485,875	(73)	10,069,632	(25)	737,889	(2)	40,293,296	
1973	11,632,442	(31)	25,283,176	(66)	1,016,907	(3)	37,932,525	-(- 5.9)
1974	16,408,255	(27)	40,605,395	(68)	3,010,869	(5)	60,024,510	-(+58.2)
1975	21,275,059	(28)	52,258,150	(69)	2,339,380	(3)	75,872,589	-(+26.0)
1976	21,704,296	(29)	49,837,645	(68)	2,232,240	(3)	73,774,181	-(- 2.8)
1977	13,067,644	(24)	38,563,824	(71)	2,392,252	(5)	54,023,720	-(-26.8)
1978	14,304,107	(24)	43,058,221	(73)	1,677,969	(3)	59,040,297	-(+ 9.3)

The table shows that Kelowna has marginally increased its proportional share of total permits (based on value) issued in the Region since 1973 at the expense of the remainder of the District and Kelowna's dominance strengthened over 1977-78. Peachland has maintained a steady 3% to 5% over the same period.

RESIDENTIAL CONSTRUCTION

Provincial Overview:

The housing sector of the construction industry in British Columbia is facing another lean year in 1979. Housing starts in the province are predicted to be around 28,500 -- about the same as that recorded for 1978. (The 1978 starts were 25% below the 1977 levels).

This anticipated reduced activity runs concurrent with the "phasing out" of the Assisted Rental Program in the multiples sector and Assisted Home Ownership Program in the single family sector. These two housing programs together generated a substantial amount of new construction over the 1976-77 period. These "subsidy-induced" housing starts led directly to substantial overbuilding in many areas of the province, which in turn led to reduced absorption rates and higher inventories than normal.

Concurrent with those supply factors was a substantial reduction in the demand for new housing brought about by a general slowing of population growth rates and changes in demographic structures. A reduction in the demand for new housing was also caused by increases in mortgage rates following several hikes in the bank rate in 1978.

The reduction in the capital cost allowance on wood frame multiple unit buildings (MURBs) from 10% to 5% at the end of 1978 will likely reduce the number of new apartment units built in 1979 as investors will not be as interested.

AHOP has been replaced to some extent by the provincially sponsored Family First Home Program. To date, this latter program has had little impact in the new home marketplace. Nevertheless, it is anticipated that a shift will occur to family housing away from non-family housing over the short and mid-term. It is expected that maintenance, rehabilitation and conversion of the existing stock will become more important. Infilling of existing neighbourhoods will take place and municipalities will become more concerned with replotting unattractive and inefficient historical subdivisions.

The recent signing of federal-provincial housing agreements will stimulate production and improve the delivery system for low-income housing in the province. Grants totalling \$2.1 million were approved in March 1978 for 14 projects, including projects in Summerland, Okanagan Falls and Peachland.

Regional Housing Markets

Only limited data are available on many aspects of housing market performance in many areas of the Okanagan and alterations to municipal boundaries hinders the analysis of "time-series" data such as building permits and housing starts.

Kelowna Sub-region

Kelowna has experienced substantial oscillations in annual building activity during the past five years. These variations are complicated by boundary expansion between 1971 and 1974. Table 4 documents these changes:

1. Information on other sub-regional housing markets is not available.

TABLE 4HOUSING COMPLETIONS KELOWNA, C.A.

<u>Year</u>	<u>S.F.</u>	<u>Two Family</u>	<u>Row</u>	<u>Apt.</u>	<u>Total</u>
1973	1118	118	71	371	1678
1974	1062	72	37	21	1192
1975	855	130	20	192	1177
1976	917	89	6	49	1061
1977	756	80	4	237	1057

Source: C.M.H.C.

NOTE: The Kelowna Census Agglomeration does not conform to the boundaries of the City of Kelowna or the Central Okanagan Regional District. The Census Agglomeration covers all of the City of Kelowna and most areas of the Central Okanagan Regional District. C.M.H.C. completions data were used instead of building permit data as the C.M.H.C. figures were thought to reflect the existing housing situation more accurately.

A reduction in activity took place during 1976 and 1977 presumably in response to an over-built situation, particularly in single family dwellings. Approximately 75% of the starts and completions shown in Table 4 were for the ownership market.

There was strong activity in apartment construction during 1977 and this activity continued into 1978, in response to the subsidies and tax inducements offered by the ARP program.

Standing of the Industry

The local Housing and Urban Development Association of Canada office listed 40 building contractors in 1977. According to the local C.M.H.C. office there were many other single builders operating alone, many of whom were inexperienced and doing poor quality work. These inexperienced builders have also contributed to the oversupply of singly family units as they were not as aware of the market as the more experienced building firms.

Building Costs

In spite of the relatively high cost of homes in the Kelowna area compared with other urban centres of a similar size in the province, building costs were actually lower than many of the other areas of B.C. in early 1978. An average sized single family home was being constructed for approximately \$27 per square foot. AHOP units with an average of approximately 800 square feet cost approximately \$22 per square foot. These costs were about \$2-\$3 per square foot less than the cost in most interior communities. Except for having to build septic tanks in most areas, there were no special building problems in the area. Availability of building materials did not appear to be a problem.

Market Prices

The price of residential property has increased rapidly in the Kelowna area over the past five years and Kelowna now has the highest prices of all the Okanagan communities. Prices in early 1978 were leveling off and even dropping in some areas as the market was in an oversupply situation. However, during 1979, inventories of unsold new homes were reduced and demand strengthened. Sharp increases in land costs have been primarily responsible for the house price increases. Increases were caused by a quickly multiplying population bidding up prices.

Mobile Homes

With the large number of retired people in Kelowna and the Regional District, mobile homes have become a very popular form of accommodation. Mobile homes are relatively inexpensive to purchase and easy to maintain, yet provide the privacy that condominium units cannot. For many young families, they are an inexpensive alternative to renting.

Mobile homes will likely become an even more popular form of accommodation with the availability of more flexible financing. However, if this program is going to work, the standards of parks in the Regional District must be upgraded.

As of the 1976 census, there were a total of 1,680 mobile homes in the Central Okanagan Regional District.

Most of the mobile homes in the Regional District are located in 19 trailer parks in the Westbank Area.

Supply of Serviced Land for Additional Residential Dwellings

(i) Price

In 1978, there was a wide variation of prices for serviced lots depending on location and size of lot. The average urban lot was selling at an average price of \$22,000. Lots in Rutland were the least expensive at an average price of \$15,000 while view lots in Lakeview, Okanagan Mission and Glenmore sold for as much as \$30,000 for a 75 foot frontage lot.

Land per unit for recent ARP apartment construction has cost between \$4,000 and \$7,000. Servicing costs for single family lots are a minimum of \$6,000 per lot.

(ii) Services

The major development constraint that may now start to drive the price of available land even higher in the Kelowna area is servicing of existing and new residential areas. The City of Kelowna currently has less than half of their population on the city sewer system. Since the 1973 amalgamation of the City of Kelowna with outlying areas, other sections have been added to the sewer system.

The primary system now serves about 22,000 people and contains approximately 20 miles of gravity sewers and 4 miles of force mains. The waste water is treated at a secondary plant that uses trickling filters and activated sludge in parallel. The plant effluent is discharged through an outfall into Okanagan Lake at a depth of 50 feet.

The other sewer system in the City of Kelowna is located in Rutland and serves approximately 700 homes. There are three package extended-aeration, activated sludge plants in the area and the effluent from these plants is disposed of in a drain field.

The Regional District has only one small sewer system in the old community of Westbank which serves a core area of only 348 domestic users. This system could be expanded to serve 7,700 persons. Effluent from this system is dumped into a nearby creek.

All other areas in Kelowna City and the Regional District are served by septic tanks. Until recently, these systems have worked reasonably well. However, many areas both in Kelowna and areas outside the city boundaries are becoming too densely populated for septic tanks to work properly.

(iii) Land Availability

The City of Kelowna conducted an inventory of vacant land in the summer of 1976. At that time, there were 908 acres zoned for single family dwellings, 25.75 acres zoned for duplexes and 38.5 acres zoned multi-family. According to estimated requirements for new units which appear below and utilizing permitted densities of the current zoning by-law there is an adequate supply of land to meet needs past 1981.

TABLE 51976 - 1981

<u>Housing Type</u>	<u>No. of Units</u>	<u>Land Requirements (In Acres)</u>
Single Family	2,233	558
Two Family	346	31
Multi Family	838	20
Mobile Home	<u>61</u>	<u>9</u>
	3,478	618

Source: City of Kelowna Planning Department.

Commercial Construction:Capital Projects \$100,000-\$499,000 In Value

Although not as closely related to population growth as the residential sector, nevertheless commercial ventures form a substantial component of overall construction activity.

Table 6(a) overleaf, captures the commercial projects that are either proposed under construction or near completion in each of the three regional districts comprising the Okanagan. This information has been derived from a number of diverse data sources:

TABLE 6(a)

Commercial Projects (\$100,000-\$499,000)
Proposed, Under Construction or Near Completion

North Okanagan R.D.

Company Name	Location of Project	Description Type of Project	State of Progress	Estimated Cost
Caramillo Holdings Ltd.	Vernon	Real Estate Office Approx. 3,400 sq.ft.	Under const.	N.A.
Ferguson, Burnham & Ganden	Vernon	Office	Under const.	\$240,000
Marigo Holdings	Armstrong	Motel - 20 Units	Under const.	\$300,000 (550,000)
Plaza 97 Holdings Ltd.	Vernon	Bank addition	Under const.	\$140,000
Lumby & District Credit Union	Lumby	Office	Near compl.	\$120,000
Sheardowns	Lumby	Addition to existing building housing Royal Bank, Insurance Agent & Variety Store	Completed	\$303,550
Storey Enterprises	Lumby	Furniture Store, Sporting Goods Store and Offices	Completed	\$165,000
Sun Auto Parts Ltd.	Vernon	Addition to existing building-diesel parts rebuilding	Completed	\$112,000
Van Hoy Stationers Ltd.	Vernon	Office Building	Under const.	\$230,000
Vern View Investments Ltd.	Vernon	Office Building	Under const.	\$400,000
Village Green Tennis Centre	Vernon	Bubble over Courts	Completed	\$117,000
Hytex Bathcove	Municipality of Spallumcheen	Fibreglass Manufacturing Plant Bathroom Fixtures, Bathtubs, Showers	Under const.	\$140,000 (400,000)
Valley Tool	Enderby	Tool Manufacturing & Machine Shop	Near compl.	\$137,000

Source: Ministry of Economic Development, supplemented with press clippings.

NOTE: As of April 1, 1979.

TABLE 6(b)

Commercial Projects - Proposed
Under Construction or Near Completion

Central Okanagan R.D.

Company Name	Location of Project	Description Type of Project	State of Progress	Estimated Cost
Argus Industries Ltd.	Kelowna	Restaurant/Stores/ Recreational Complex	Under const.	N.A.
Banducci Holdings Ltd.	Kelowna	Extensive alterations to existing restaurant & cabaret including new kitchen equipment	Under const.	N.A.
Bank of Nova Scotia	Kelowna	Bank	Proposed	\$350,000
Four Seasons Mgmt Ltd.	Kelowna	Racquet Ball Club and Facilities	Under const.	\$180,000
Lamour H.	Kelowna	Grocery Store	Proposed	N.A.
McLean & Fitzpatrick	Kelowna	Warehouse additions	Under const.	\$200,000
R.D.M. Holdings Ltd.	Kelowna	Restaurant	Proposed	N.A.
Royal Bank of Canada	Central Okanagan	Bank	Under const.	\$158,000
Welder, Mr. & Mrs. V.	Kelowna	Eighteen Hole Golf Course & Country Club	Proposed	N.A.
Young & Hamel Motors Ltd.	Kelowna	One storey & Mezzanine	Under const.	N.A.

Source: Ministry of Economic Development, supplemented with press clippings.

NOTE: As of April 1, 1979.

TABLE 6(c)

Commercial Projects - Proposed
Under Construction or Near Completion

Okanagan-Similkameen R.D.

Company Name	Location of Project	Description Type of Project	State of Progress	Estimated Cost
A. & J. Properties Ltd.	Penticton	Small Warehouse	Under const.	\$185,000
D. & A. Industries Ltd.	Summerland	Plan	Under const.	N.A.
International Park-West Financial Corp.	Penticton	Conversion of a two-storey four unit apartment building into offices	Proposed	N.A.

Source: Ministry of Economic Development, supplemented with press clippings.

NOTE: As of April 1, 1979.

Commercial Projects \$500,000+

Table 7 lists the larger commercial projects that may take place in the near future or are currently under construction.

TABLE 7

Commercial Projects \$500,000+Proposed, Under Construction or Near CompletionOkanagan Region

Company Name	Location of Project	Description Type of Project	State of Progress	Estimated Cost
Vernon & District Credit Union	Lumby	Two storey professional Office Building	Under const.	N.A.
Acqua Investment	Kelowna	Restaurant-Sambo's of Canada; seating for 126	Under const.	N.A.
British Columbia Properties	Central Okanagan	Townhouses & Recreational development including Golf Course & Club House, Boat Marina, Guest Ranch, Restaurant & Small Store	Proposed	\$10,000,000
Okanagan Park Development	Central Okanagan	Hotel/Motel	Under const.	\$961,000
Bastac, Chris	Penticton	Shopping Mall	Proposed	N.A.
Best Western Motels Ltd.	Penticton	Restaurant	Under const.	N.A.
Commerce Capital Properties Ltd.	Penticton	Shopping Centre: Will house Safeway, Woolco, Bank, Mezzanine of stores & restaurant	Proposed	N.A.
International Park-West	Summerland	Shopping Centre addition to include bowling alley, twin theatres, coffee shop museum & stores	Proposed	N.A.

Source: Ministry of Economic Development, supplemented with press clippings.

NOTE: As of April 1, 1979.

ENGINEERING CONSTRUCTION

There is no single source of data on engineering construction activity. The information which follows has been pieced together from a variety of public and private sources.

1. Highway Construction

1.1 Provincial

The construction of highways in B.C. is planned on a 5 year program basis. Annual budgets of the Ministry of Highways are approved each year based on an aggregation of planned projects while individual projects are approved by Cabinet on an on-going basis.

The major highway projects this year in B.C. are:

- a) 55 miles of road work at the Mica Dam site totalling \$100 M. over a 10 year period and covering 13 contracts.
- b) A major highway relocation related to the Revelstoke Dam project (\$100 million).
- c) A long-term program to build the Coquihalla Highway linking the B.C. interior to the coast.

The current buoyancy in both the forestry and mining sectors of the provincial economy promise additional activity for roadbuilders. However, it will probably be 1980 before such projects get underway.

1.2 Okanagan

In the Okanagan region - i.e. from Mara Lake in the North to Osoyoos in the South - the budget for highway construction over the fiscal year April 1, 1979 - March 31st, 1980 is \$10 Million.

Contracts have been let for highway upgrading (\$5.5 million), paving (\$3.5 million) and a four-lane bridge (\$1.0 million). These ungradings will be carried out on highways 97, 97A and 97B; paving will take place on a section of highway #6 (east of Vernon) and the bridge located North of Kelowna. In addition, between \$2 - \$7 million will be available provincially for funding under the Day Labour Program - but it is not known how much of this will be used for projects in the Okanagan.*

This latter program facilitates the hiring of local equipment and equipment operators and the labour force required to carry out the less technically complex road works. Funding for the program is "flexible", in that it can be shut off at short notice. This can lead to underutilization of local equipment and labour. However, the program often complements seasonal slack in the logging industry (although there are certain taxation obstacles to this practice). While the Day Labour Program is important for local contractors, highway construction has, in general, little impact on local economies because of the self-contained nature and relative self-sufficiency of the constructs camps.

1.3 Sector Structure

Highway construction in B.C. is undertaken by relatively few firms who specialize solely in highway construction. Only the very largest contractors are involved in other types of construction activity. The Okanagan has several resident highway construction firms who tender competitively for contracts located anywhere in Western Canada.

* In addition, a contingency fund of \$5 - \$6 million exists.

Among these are:

- Canten Engineering & Construction Co. Ltd. (Penticton)
- Dawson Construction Ltd.
- Le Duc Paving (Vernon)
- Peter Bros. Industries Ltd. (Penticton)
- Vernon Paving Ltd. (Vernon)
- Kenyon Construction Ltd. (Penticton)

No structural problems exist for the industry in the Okanagan, i.e. all trades, equipment, skills, are available to handle any large or small highway contract. The local areas usually yield the necessary gravels, crushed rock and earth fill, while manufactured materials, e.g. asphalt are supplied from Kamloops.

Local aggregate suppliers include:

- Peter Bros. Industries
- Sasges Cement Products Ltd.

Any major discontinuities are often the result of Government's (at all levels) inability to give sufficient lead time to the contractors - lead time to gear up equipment and manpower. This results in inefficient use of both men and equipment and a resultant loss of profits. Seasonality plays a major role as certain phases of road and highway construction can not be undertaken in winter conditions, e.g. Asphalt surfacing and grade construction.

Airports

No firm contracts exist for airport construction in the Okanagan but \$215,000 has been allocated for paving of the Princeton Airport and taxi way.

Other airport upgradings have been debated for Kelowna and Penticton but to date no firm commitments or budget allocations have been made.

INSTITUTIONAL CONSTRUCTIONHospitals

Table 8 presents capital expenditures on hospital construction projects by Regional District over the period April 1, 1976 to April 1, 1978 (2 year period) and then gives projected annual capital expenditures to 1985-86.

TABLE 8

Total Estimated Project Costs
Hospital Construction,
Renovations and Alterations

Year	Northern Okanagan R.D.	Central Okanagan	Okanagan- Similkameen	Total Okanagan
(2 years)				
1976-78	NIL	3,615,000	1,670,000	5,285,000
Projected				
1978-79	177,000	132,000	448,000	757,000
1979-80	500,000	1,000,000	270,000	1,770,000
1980-81	2,700,000	250,000	1,000,000	3,950,000
1981-82	4,100,000	1,500,000	500,000	6,100,000
1982-83	3,000,000	6,500,000	1,500,000	11,000,000
1983-84	3,000,000	4,000,000	NIL	7,000,000
1984-85	270,000	4,000,000	NIL	4,270,000
TOTAL (9 year period)	13,747,000	20,997,000	5,388,000	40,132,000

(1) Fiscal year April 1 - March 31, basis.

Source: Hospital Planning & Construction Division,
Ministry of Health.

Note that the \$ figures are in constant dollars and that the figures are "project" costs and include engineering fees, on-site work, etc. A rule-of-thumb downward adjustment of between 20%-25% would give approximate construction cost figures.

The table indicates that capital expenditures of \$21 million will occur in the Central Okanagan over the 9 year period, \$13.7 million in the North Okanagan and \$5.4 M. in the Okanagan-Similkameen giving a grand total of \$40.1 million for the Okanagan region overall. \$24.1 million (or 60%) will take place over April 19, 1981 - March 31, 1983 period.

Construction activities falling under the jurisdiction of the British Columbia Buildings Corporation are shown in Table 9:

TABLE 9
Total Estimated Project Costs by Regional Districts

OKANAGAN REGION
(1976 - 1982)

<u>Regional District</u>	<u>Community</u>	<u>76-78</u>	<u>79</u>	<u>80-821</u>
Okanagan-Similkameen	Penticton	-	-	-
	Summerland	(30,000)	-	-
		20,000		
	Keremeos	-	-	-
	Oliver	-	-	-
	Osoyoos	-	-	-
Central Okanagan	Princeton	-	-	-
	Kelowna	-	-	(3.5M)
	(Health Ctre)	-	-	2.6M
	Peachland	-	-	(2.8M)
North Okanagan	(Court House)	-	-	2.0M
	Armstrong	-	-	-
	Enderby	(600,000)	-	-
	(Hwy Equip)	400,000	-	-
	Vernon	-	(2.6M)	-
	(Health Ctre)	-	2.0M	-
	Coldstream	-	-	-
	Spallumcheen	-	-	-
Lumby	-	-	-	
Total Okanagan		(630,000)	(2.6M)	(6.3M)
		420,000	2.0M	4.6M

Source: B.C.B.C.

NOTE (1) Figures in brackets denote "project" costs which included construction costs plus design fees, land costs, financing, administration, etc.

Water & Sewer Construction

The Ministry of Municipal Affairs have a five year capital expenditure forecast (1978-1982) for the Okanagan Region of \$103.4 million.

Table 10 presents these forecasted expenditures by area and by Regional District.

TABLE 10

Capital Expenditure Forecast by Regional Districts
(\$000)

<u>North Okanagan R.D.</u>	<u>5 Year Total</u>	<u>Water</u>	<u>Sewer</u>	<u>Other</u>
Cities				
Armstrong	1,400	0,800	0,200	0,400
Enderby	0,445	0,055	0,060	0,330
Vernon	7,200	0,600	1,400	5,200
Districts				
Coldstream	3,100	0,300	2,200	0,600
Spallumcheen	1,000	NIL	NIL	1,000
Villages				
Lumby	1,200	0,500	0,500	0,200
Total North Okanagan	<u>14,345</u>	<u>2,255</u>	<u>4,360</u>	<u>7,730</u>
<u>Central Okanagan R.D.</u>				
Cities				
Kelowna	48,740	8,100	7,700	32,940
Districts				
Peachland	1,200	1,000	NIL	0,200
Total Central Okanagan	<u>49,940</u>	<u>9,100</u>	<u>7,700</u>	<u>33,140</u>
<u>Okanagan-Similkameen R.D.</u>				
Cities				
Penticton	34,400	2,100	15,400	16,900
Districts				
Summerland	2,400	0,300	NIL	2,100
Villages				
Keremeos	1,400	NIL	1,000	0,400
Oliver	0,300	NIL	NIL	0,300
Osoyoos	0,025	NIL	NIL	0,025
Princeton	0,600	0,200	NIL	0,400
Total Okanagan-Similkameen	<u>39,125</u>	<u>2,600</u>	<u>16,400</u>	<u>20,125</u>

- NOTE: 1) These estimated figures are aggregates of individual "project" capital costs. A rule of thumb 25% should be allowed in order to arrive at "construction cost" estimates.
 2) These estimates are subject to revision at any time.
 3) The Table does not include irrigation district budget forecasts.

Source: Department of Municipal Affairs, Victoria.

The Table indicates that 90% (\$92.2 M.) of the total five year allocation of \$103.4 million will be spent in the five major cities within the Okanagan, with Kelowna and Penticton together accounting for 90% (\$83.2 million) of this \$92.2 million.

Estimated budget allocations for water (new extensions, maintenance, replacements, etc.) amounts to \$14 million (rounded) - 13.5% of the five year budget, while sewers accounts for \$28.5 million (rounded) - 27.5% of the 5 year budget. "Other" (see note at bottom of Table) accounts for \$61 million - or 59% of the total budget.

The percentage breakdown by regional district is shown below:

TABLE 11

Percentage Breakdown by Regional District

	<u>5 Year Total</u>	<u>Water</u>	<u>Sewer</u>	<u>Other</u>
North Okanagan	14%	16%	15%	13%
Central Okanagan	48%	65%	29%	54%
Okanagan-Similkameen	<u>38%</u>	<u>19%</u>	<u>58%</u>	<u>33%</u>
	100%	100%	100%	100%

INDUSTRIAL CONSTRUCTION

In spite of improved international metal prices and the low relative level of the Canadian dollar on international money markets (which has substantially increased the net value of B.C.'s forest products) there are only a few capital expenditure programs ear-marked for the Okanagan region in the short and mid-terms. Weyerhaeuser's expansion program at the Northwood Mill in Princeton is almost complete (a \$250,000 office project is still outstanding) and is not included in the following table of industrial projects.

Company Name	Location of Project	Description Type of Project	State of Progress	Estimated Cost
Newmont Mines Ltd.	Princeton	New Suspension Bridge, Conveyor System, Repair Shops & Offices, Crushing Plant & Ore Storage Facilities, Powerline Distribution, Access Roads	In progress	\$24 M.
W.W. Logging Ltd.	Okanagan Falls	Ind. area site services	Proposed	N.A.
<u>MANUFACTURING</u>				
Copytron Management Ltd.	Kelowna	Manufacturing Plant and Office This Kelowna based firm produces selenium drums for copy machines.	Completed	\$650,000
Vernon Engineering Services Ltd. (Designer)	Enderby	Bakery	Proposed	N.A.

Employment in the Construction Industry

Some 4,575 persons were employed in the construction sector in the Okanagan at June 1971, increasing to 6,600 (estimated) by June 1976. This was a 44% increase in the construction labour force (see Table 12) between 1971 and 1976.

TABLE 12Labour Force in ConstructionOkanagan Region

	North Okanagan	Central Okanagan	Okanagan Similkameen	Total
Census 1971	1,015	2,280	1,280	4,575
Census 1976 (estimated)	1,705	3,125	1,700	6,600

Source: Census of Canada and Employment & Immigration Canada.

The construction labour force accounted for approximately 9% of the total Okanagan labour force at 1976.

The breakdown by regional district is shown in the accompanying tables. The tables reflect the degree of data available for each area:

TABLE 13A

Okanagan-Similkameen Regional DistrictGreater Penticton Area

	<u>June 1971</u>		<u>June 1977</u> (estimate)	
(includes Naramata, West Bank, City of Penticton, Sage Mesa, Okanagan Falls, Kaløden)	735	(8.0)	1,100	(8.7)
Summerland area	140	(6.5)	200	(7.3)
Oliver - Osoyoos area	195	(6.5)	275	(6.1)
Keremeos - Cawston area	50	(5.4)	50	(4.7)
Princeton - Hedley area	<u>160</u>	<u>(8.6)</u>	<u>150</u>	<u>(6.4)</u>
	<u>1,280</u>	<u>(13.9)</u>	<u>1,775</u>	<u>(14.1)</u>

Note 1. Percent distribution of total labour force shown in brackets.

TABLE 13B

Central Okanagan Regional District

	<u>June 1, 1971 Census</u>				<u>June 1, 1976</u>		<u>Growth</u> <u>Estimate</u> <u>1971-76</u>
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>%</u>	<u>Estimate</u> <u>Both Sexes</u>	<u>%</u>	
Regional District	2,170	110	2,280	11.5	3,125	11.8	845
City of Kelowna	1,700	75	1,775	(11.1)	2,225	(11.1)	450

TABLE 13C

North Okanagan Regional District

	<u>June 1, 1971</u>	<u>June 1, 1976</u> <u>Estimate</u>
Regional District	1015 (7.6)	1700 (8.3)

INSTITUTIONAL STRUCTURE

The majority of established firms associated with the construction industry in the Okanagan region are members of the Southern Interior Construction Association. The membership of S.I.C.A. embraces the full spectrum of construction activity, from the large general contractors at one end of the spectrum to those producing the raw materials on the other - from contract bonding specialists to drywall accessories.

The S.I.C.A. membership list includes approximately 170 firms with an established presence in the Okanagan region. This membership list is reproduced in an Appendix to this report. Discussions with several leading contractors and with the President of S.I.C.A. confirmed that the Okanagan region has all the required trades and employment skills to undertake all but the largest of industrial projects.

If there is a weakness in the institutional structure it lies with the more specialized and technical fields, such as:

- Glass glazing
- Sprinkler installation
- Electric installation
- Refrigeration

These specialist trades are "imported" from the Lower Mainland. A less obvious institutional problem associated with the local construction industry lies in contract bonding. There is only one bonding company, located in Kamloops, with the power of attorney to sign contract bonds. Often in situations where bonding approval is required within a specified deadline, that approval is not provided in time. In addition, requalifying for bonding annually, particularly after a slack year, can be a sensitive proposition.

The S.I.C.A. suffered a 18% loss in membership last year - from 490 members to 403. This was attributed to the general marked slowdown in construction activity and the buoyant economic climate in Alberta vis-a-vis British Columbia at that time. More recently, the industry has lost several members forced into receivership and although the loss in membership has slowed in 1979 there is still a perceptible movement of firms to other areas of the province and Alberta. In spite of this, the spokesmen for the industry still anticipated a steady improvement in the Okanagan region over the mid-term - a reversal the of declining trend that was experienced over the past few years. (See Building Permit Data for an analysis of these trends).

Nevertheless, a spokesman for the N.O.L.C. indicated local construction labour often must travel to other locations to find work. For example, the Revelstoke Dam project has supplied N.O. tradesmen with work for the past several years, and Kamloops has been supplied by Vernon tradesmen. The latter trend will continue into 1979/80 because Kamloops has an estimated \$100 million of new construction lined up for 1979, while Vernon is facing a relatively flat year.

Instability

While numerous solutions have been raised to combat instability in the demand for construction services, there has been no serious steps taken by senior levels of government to coordinate activity either on a provincial or regional basis. This is because of the great number of exogeneous factors affecting the demand for construction services in the province and the Okanagan. World demand for B.C.'s products, international monetary fluctuations, world inventories of materials, oil and gas supplied etc., all influence capital investment decisions, particularly resource exploitation decisions. At another level, one change in the Income Tax Act can stimulate the multiples sector of residential construction, while chop in mortgage rates impacts almost immediately on single family starts. A decision by the public sector to proceed with a major highway construction project can alter the prospects of highway contractors overnight.

APPENDIX A

Residential ConstructionTABLE 14Dwelling Starts By Housing Type - Selected Urban Areas

(1974 - 1978)

	<u>Single</u>	<u>Duplex</u>	<u>Row</u>	<u>Apt.</u>	<u>Total</u>
<u>Vernon, C.A.</u>					
1974	180	24	24	241	469
1975	192	36	145	60	433
1976*	232	50	84	83	449
1977	210	38	84	432	764
1978	158	18	3	38	217
<u>Kelowna, City</u>					
1974	909	64	9	105	1087
1975	876	186	20	318	1400
1976	565	48	32	143	788
1977*	353	24	4	332	713
1978	361	34	96	174	665
<u>Penticton City</u>					
1974	177	22	0	203	402
1975	170	20	273	225	688
1976	166	44	0	155	365
1977	91	14	59	16	180
1978	115	2	9	6	126

Source: C.M.H.C.

* Data to 1976 is for Vernon City only. 1977 Data for Vernon City and Coldstream D.M.

* Data to 1976 is for Kelowna C.A., 1977 data for Kelowna City only.

AVERAGE MONTHLY RENTS BY SIZE AND TYPE OF UNIT

FOR 23 URBAN CENTRES IN BRITISH COLUMBIA

(1978)

City or District	Unit Type	All Bedrooms		0 Bedrooms		1 Bedrooms		2 Bedrooms		3 or More Bedrooms		Other	
		Units	Rent	Units	Rent	Units	Rent	Units	Rent	Units	Rent	Units	Rent
Kelowna	Apt.	1,471	216	-	-	368	199	375	228	77	247	651	214
	Tn.House	78	195	-	-	-	-	45	240	5	243	28	114
	House	87	213	-	-	2	153	28	198	26	246	31	204
	Mb.Pad	858	80	-	-	-	-	-	-	-	-	-	-
	Mb.Home	21	75	-	-	-	-	-	-	-	-	-	-
	Room	-	-	-	-	-	-	-	-	-	-	-	-
	Studio	16	104	16	104	-	-	-	-	-	-	-	-
	Duplex	82	228	-	-	7	148	42	222	24	259	9	238
	TOTAL	2,788	168	16	104	409	199	514	229	135	249	835	195
Penticton	Apt.	624	207	-	-	267	185	159	228	13	236	185	218
	Tn.House	49	220	-	-	-	-	23	211	22	227	4	234
	House	73	202	-	-	4	152	27	190	24	233	18	190
	Mb.Pad	509	77	-	-	-	-	-	-	-	-	-	-
	Mb.Home	4	90	-	-	-	-	-	-	-	-	-	-
	Room	-	-	-	-	-	-	-	-	-	-	-	-
	Studio	9	167	9	167	-	-	-	-	-	-	-	-
	Duplex	4	235	-	-	-	-	2	260	2	210	-	-
	TOTAL	1,352	155	9	167	281	183	223	219	61	231	265	202
Vernon	Apt.	1,024	204	-	-	395	184	266	223	105	250	258	195
	Tn.House	27	237	-	-	-	-	6	215	15	226	6	288
	House	58	227	-	-	3	114	19	222	26	239	10	241
	Mb.Pad	284	77	-	-	-	-	-	-	-	-	-	-
	Mb.Home	-	-	-	-	-	-	-	-	-	-	-	-
	Room	-	-	-	-	-	-	-	-	-	-	-	-
	Studio	38	151	38	151	-	-	-	-	-	-	-	-
	Duplex	26	194	-	-	2	148	17	194	2	185	5	218
	TOTAL	1,506	180	38	151	422	183	326	221	150	245	286	198

NOTES:

- 1) These statistics were compiled from notice of rent increase forms filed with the Rent Review Commission between January 1, 1976 and September 30, 1978. A landlord is obligated to file one of these forms when he notifies a tenant of a rent increase.
- 2) Since the above figures are average rents, they represent the rents for units of varying age, quality, and location. Consequently, these figures may be below current asking rents, especially in a tight market situation.
- 3) If the number of units in the sample is small, the rent figure should be treated as a rough estimate.
- 4) The "Other" category pertains to units with an unknown number of bedrooms.
- 5) The sum of the column figures often does not equal the "Total" figure because a residual of unknown unit types is not shown.
- 6) Rent, as defined by the Residential Tenancy Act, includes such items as parking fees and furniture rental expense.

TABLE 16

FAMILY FIRST HOME GRANTNumber of New versus Older Homes Purchased

(April 1978 - January 1979)

<u>Municipality</u>	<u>New Homes</u>	<u>Older Homes</u>
Armstrong	2	4
Central Okanagan Regional District	1	1
Enderby	-	3
Kelowna	3	18
Lumby	-	1
Penticton	-	2
Princeton	1	2
Vernon	3	18

Source: Ministry of Lands, Parks and Housing

TABLE 17VACANCY RATES IN PRIVATELY INITIATED RENTAL STRUCTUREFOR URBAN CENTRES

(1977 - 1978)

Kelowna City	October	1978	2.0	
	April	1978	4.7	4 or more units
	October	1977	1.4	
	April	1977	3.8	
Penticton City	October	1978	4.4	
	April	1978	11.5	4 or more units
	October	1977	12.3*	
	April	1977	18.0*	
Vernon & Coldstream	October	1978	10.5	
	April	1978	5.8	4 or more units
	October	1977	3.7	
	April	1977	4.7	

NOTES:

- 1) * includes public housing units.
- 2) In the Vancouver and Victoria Metropolitan Areas the C.M.H.C. survey covers only apartment suites in rental buildings. In all other areas, row and apartment rental units are surveyed. Fourplexes are also surveyed in centres where the coverage extends to buildings of four or more units.
- 3) C.M.H.C. vacancy surveys do not cover units in buildings that have been on the market for less than six months. The six month period is deemed to be the time required for new buildings to "rent up".

Source: Central Mortgage and Housing Corporation (C.M.H.C.)

TABLE 13

ASSISTED HOME OWNERSHIP PROGRAMME (AHOP)
ANNUAL AND SUMMARY STATISTICS

(1976 - SEPT. 30, 1978)

Community	Applic. Apprv'd.	PRICE RANGE					INCOME					FAMILY UNIT							
		-25 30	25- 30- 35	30- 35- 40	35- 40- 45	40- 45- 45+	-5	5- 8	8- 11	11- 13	13+	1/1	1/2	1/3	1/4+	2/1	2/2	2/3	2/4+
• Kelowna	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-
• Lumby	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
• Penticton	3	-	-	-	3	-	-	-	-	-	-	-	1	2	-	-	-	-	-
• Vernon	1	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-

TABLE 19

MUNICIPAL INCENTIVE GRANT (M.I.G.) PROGRAMME

ANNUAL AND SUMMARY STATISTICS

(1976 - SEPT. 30, 1978)

Municipality	1978 (Jan. 1 - Sept. 30)						1976 - Sept. 30, 1978								
	Approved Grants			Prov. Grant Payments (000's)	Fed. Grant Payments (000's)	Total Payments (000's)	Approved Grants			Prov. Grant Payments (000's)	Fed. Grant Payments (000's)	Total Payments (000's)	Applications Pending as of Sept. 30, 1978		
	Prov. Grant	Fed/Prov. Grant	Total Units				Prov. Grant	Fed/Prov. Grant	Total Units				Prov. Grant	Fed/Prov. Grant	Total Units
• Lumby	15	-	15	14.0	-	14.0	29	40	69	40.6	40.0	80.6	1	2	3
• Coldstream	-	-	-	-	-	-	20	-	20	11.5	-	11.5	-	-	-
• Enderby	-	-	-	-	-	-	-	30	30	12.0	30.0	42.0	-	2	2
• Vernon	-	82	82	78.7	82.0	160.7	-	202	202	131.6	202.0	333.6	-	162	162
• North Okanagan R.D.	20	-	20	20.0	-	20.0	20	-	20	20.0	-	20.0	-	-	-
• Oliver	-	-	-	-	-	-	-	22	22	8.8	22.0	30.8	6	-	6
• Osoyoos	2	3	5	5.0	3.0	8.0	8	7	15	12.0	7.0	19.0	-	50	50
• Kelowna	45	147	192	188.3	147.0	335.3	45	147	192	188.3	147.0	335.3	72	2	74

Source: Ministry of Municipal Affairs and Housing.

ASSISTED RENTAL PROGRAMME (A.R.P.)ANNUAL SUMMARY AND STATISTICS

(1976 - September 30, 1978)

Municipality	1976 - September 30, 1978						# of Units Completed by September 30, 1978
	# of Buildings	Total # of Units	Unit Breakdown				
			Bach	1 Br.	2 Br.	3-4 Br.	
Kelowna	8	297	-	135	131	31	181
Sicamous	2	33	-	15	14	4	10
Vernon	9	255	18	48	123	66	151

Source: Ministry of Municipal Affairs and Housing

NOTE: No units were taken by the B.C. Housing
Management Commission

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B.C. Construction Association

Central Mortgage and Housing Corporation

- Regional Manager, Kamloops

Ministry of Labour, Regional Economist, Kelowna

Secretary-Treasurers of 8 Okanagan School Districts

Okanagan-Mainline Real Estate Board

Newmont Mines Ltd., Princeton Division, Princeton

Argus Industries Ltd., Kelowna

Ministry of Highways, District Highways Manager, Kamloops

Ministry of Highways, Assistant District Highways
Manager, Kamloops

Ministry of Highways, Director of Construction, Victoria

Ministry of Highways, Planning Division, Victoria

TRADE AND SERVICES

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TRADE AND SERVICES

Introduction

The following discussion of the Trade and Service industries in the Okanagan suffers from some of the same problems as the discussion on the manufacturing section of the economy. Statistics Canada does not have any information available on a regional basis for trade and service industries after the 1971 census, and therefore information regarding employment and sales volumes is so out of date that it is of little use. Complete retail space inventories are available for Penticton and Vernon only. As Kelowna is an important trade centre in the Okanagan, the lack of information creates a major gap in the discussion.

Trade and Services will be defined for the purpose of this discussion as all wholesale, retail, personal and business services, accommodation, food and amusement services. A detailed list of all businesses included in these industry categories appears in the attached Appendix. Although education, and health and welfare are classified as services under the Statistics Canada definition of community business and personal service industries, they will be discussed in the Public Administration section of this report.

The 1971 census and the 1976 labour force estimates show that trade and service industries employ the largest number of people of any of the industries in the Okanagan. The latest available data on trade and service industries were compiled in the 1971 census. However, estimates prepared by Canada Manpower indicate that these industries grew rapidly between 1971 and 1976. In 1971, a total of 22,515 people were employed in trade and service industries. The 1976 estimates show a total of 33,575 people employed or an average annual increase in employment of

approximately 10%. During the same period the average annual increase in trades and service employment in B.C. was estimated at 6.5%.

The census figures and the 1976 estimates reflect the level of employment during the last week of September. Accommodation, food services, and amusement and recreation businesses are very seasonal, usually employing the largest number of people during the summer months, and therefore the census figures do not accurately reflect the total impact of trade and service industries in the Okanagan economy. Vernon may be somewhat of an exception to this pattern as it has been reported that their best months in accommodation and food services occur during the winter months, December through March, which reflects the area's popularity with skiers. Figures to verify this report are unavailable.

A report prepared for the City of Penticton in October, 1977, provides an illustration of the impact of tourism on the retail trade sector.⁽¹⁾ The report analysed sales data on a month-by-month basis obtained from surveys of retail establishments in Penticton. The results of the analysis showed a dramatic increase in sales volumes during July and August, caused by tourists vacationing in the area.

All three Okanagan regional districts have a relatively large proportion of retired residents. A small percentage of the retired population have substantial assets and retirement incomes. However, it is not clear what impact this small group has on the trade and service sector. As 50% of B.C.'s senior citizens live on minimal incomes provided by the Mincome program, it is likely that a similar percentage of senior citizens in the Okanagan are also living on low incomes. This group's positive impact on the regional economy would be limited to increasing employment in health and welfare services.

(1) Realty Research Group Ltd., Retail Market Study and Impact Analysis, December, 1977, p. 27.

The impact of the retired population on the local economy should be further investigated as it appears to be increasing as a proportion of the population.

Growth in trade and services has occurred primarily as a result of large population increases combined with rising disposable incomes in all three Regional Districts. The combination of these two factors has had a particularly positive effect on the retail trade sector. Tourism has also favourably influenced growth, particularly in the accommodation and food services sector. An attempt to estimate this effect was made by Pannell, Kerr, Forster & Associates in 1977.⁽²⁾ They estimated tourism and travel-related employment at 4,800 full-time employees as of 1976, or approximately 20% of all trade and service employees.

The most dramatic increase in employment occurred in the retail trade sector where an average annual increase of approximately 14% took place between 1971 and 1976. The increase can be attributed to the construction of major shopping centres in Penticton, Kelowna and Vernon. All available Retail and commercial space estimates for Penticton and Vernon appear in Table 1. Figures for other communities in the three Regional Districts are unavailable. These figures should not be compared as they were compiled at different times.

Although expansion of retail facilities is now occurring more slowly than it did prior to 1976, a new 203,000 sq. ft. shopping centre is planned for Penticton and a major addition to the Orchard Park Shopping Centre in Kelowna is under consideration. A 200,000 sq. ft. shopping centre recently received approval for construction in Vernon. Several other smaller

(2) Okanagan Tourism Facts Book, 1977, Tourism, B.C., p. 51.

shopping centres (15,000 - 20,000 sq. ft.) are in the planning stages in all three Regional Districts.

Retail Trade

The 1971 census provides the latest available accurate figures reflecting retail trade and service industry revenues in the Okanagan. These figures appear in Tables 4, 5 and 6. The Financial Post Survey of Markets prepares annual estimates of retail sales for leading communities in Canada with populations over 10,000. Their figures are based on 1971 census data and projected to the current year. Although they cannot be considered entirely accurate, they do provide a method of comparison with other areas. Retail sales estimates for 1978 appear in Table 2.

Per capita incomes and per capital retail sales estimates also prepared by the Financial Post appear in Table 3. The lower per capita incomes in the Okanagan region may be the result of the previously mentioned high proportion of retired people in combination with other factors such as lower average wages in some industries and a higher proportion of the work force employed in agriculture and related industries.

Per capita sales appear to be very high in all three major centres in the Okanagan compared to national average figures. However, the high figures are primarily a result of each city's role as a service centre for a trading area with a much larger population than the population figure used by the Financial Post to calculate per capita sales in the three trade centres.

Therefore, per capita sales figures in Penticton, Vernon and Kelowna can be compared only in a very general way as the trading areas of the three service centres vary. As distances

between the three centres and other smaller communities scattered throughout the three regions are short, trading area boundaries are far from clear. Generally, the trading area of a community is determined by a combination of factors. Availability, range and competitiveness of retail supplies and services, together with transportation systems, and the existence of other competitive urban centres all determine the trading areas.

Penticton services the Okanagan-Similkameen Regional District. Osoyoos, Oliver, Summerland, Keremeos and Princeton have retail establishments consisting mainly of convenience and food stores and do not sustain major retail facilities. Retail sales figures in Penticton represented 60% of the total retail sales in the Okanagan-Similkameen Regional District in 1978.

Kelowna services the Central Okanagan Regional District. Since it is located midway between Penticton and Vernon, some business is likely drawn from both of these areas, although figures to confirm this statement are not available. As there are very few retail establishments outside the boundaries of the City of Kelowna, it is not surprising that 90% of the total retail sales in the Central Okanagan occurred in Kelowna.

The exceptionally high per capita retail sales figures given for Vernon indicate that retail establishments in the city service the Regional District and possibly some areas outside the boundaries such as Salmon Arm. The commercial floor space figures shown in Table 1. show that Vernon had more space than Penticton in the general merchandise category, which is a factor that may affect the level of retail sales. However, current figures showing general merchandise areas are unavailable. Approximately 72% of all retail sales in the North Okanagan occurred in Vernon.

Retail trade depends heavily on personal spending patterns which can vary dramatically, depending on prevailing economic conditions. ⁽³⁾ A report prepared for the City of Penticton showed that retail sales expressed in constant dollars fell between 1974 and 1977 in B.C. A survey of retail merchants in Penticton during 1977 showed that Penticton was following the B.C. pattern with declining retail sales. Data reflecting the retail sales trends in other Okanagan communities is unavailable. The report went on to forecast that future increases in retail sales would be very modest (1-2% annually) during the period 1979-1986.

Wholesale Trade

Wholesale trade figures for all three Regional Districts are shown in Table 5. The volume of trade and employment is highest in the Central Okanagan primarily because of the size of the retail trade sector. According to Canada Manpower estimates, growth in employment in the wholesale trade sector was marginal between 1971 and 1976, mainly due to a continuing decline in the number of agricultural wholesalers. However, as the population in the Okanagan increases, slow growth should continue in the wholesale trade sector.

In general, the outlook for growth in the trade and service sector appears to be good. As the population continues to grow at a relatively high rate, it becomes more feasible to provide business and personal service locally instead of in the larger metropolitan centres. Banks, financial institutions, data processing facilities, accounting and other professional services are being attracted to the Okanagan in increasing numbers.

(3) Realty Research Group Ltd., Retail Market Study and Impact Analysis, December, 1977, page 26.

Growth can also be expected to continue at a relatively rapid rate in the accommodation and food service industries. As mentioned in the Tourism Section of this report, many tourist facilities have recently been upgraded and many new projects are currently under construction, or in the planning stages. Many of these projects will have positive "spin-off" effects for local service industries, particularly in food and amusement businesses. The current expansion of the retail sector in Penticton and Kelowna may increase retail sales in those Regional Districts by preventing retail expenditures from "leaking" to other areas of the province.

**Division 7—Transportation, Communication
and Other Utilities — Concluded**

Major Group 3—Communication

- 543 Radio and Television Broadcasting
- 544 Telephone Systems
- 545 Telegraph and Cable Systems
- 548 Post Office

Major Group 4—Electric Power, Gas and Water Utilities

- 572 Electric Power
- 574 Gas Distribution
- 576 Water Systems
- 579 Other Utilities

Division 8—Trade

Major Group 1—Wholesale Trade

- 602 Wholesalers of Farm Products
- 606 Wholesalers of Coal and Coke
- 608 Wholesalers of Petroleum Products
- 611 Wholesalers of Paper and Paper Products
- 612 Wholesalers of General Merchandise
- 614 Wholesalers of Food
- 615 Wholesalers of Tobacco Products
- 616 Wholesalers of Drugs and Toilet Preparations
- 617 Wholesalers of Apparel and Dry Goods
- 618 Wholesalers of Household Furniture and Furnishings
- 619 Wholesalers of Motor Vehicles and Accessories
- 621 Wholesalers of Electrical Machinery, Equipment and Supplies
- 622 Wholesalers of Farm Machinery and Equipment
- 623 Wholesalers of Machinery and Equipment, n.e.s.
- 624 Wholesalers of Hardware, Plumbing and Heating Equipment
- 625 Wholesalers of Metal and Metal Products, n.e.s.
- 626 Wholesalers of Lumber and Building Materials
- 627 Wholesalers of Scrap and Waste Materials
- 629 Wholesalers, n.e.s.

Major Group 2—Retail Trade

- 631 Food Stores
- 642 General Merchandise Stores
- 652 Tire, Battery and Accessories Stores
- 654 Gasoline Service Stations
- 656 Motor Vehicle Dealers
- 658 Motor Vehicle Repair Shops
- 663 Shoe Stores
- 665 Men's Clothing Stores
- 667 Women's Clothing Stores
- 669 Clothing and Dry Goods Stores, n.e.s.
- 673 Hardware Stores
- 676 Household Furniture and Appliance Stores
- 678 Radio, Television and Electrical Appliance Repair Shops
- 681 Drug Stores
- 691 Book and Stationery Stores
- 692 Florists' Shops
- 694 Jewellery Stores
- 695 Watch and Jewellery Repair Shops
- 696 Liquor, Wine and Beer Stores
- 697 Tobacconists
- 699 Retail Stores, n.e.s.

Division 9—Finance, Insurance and Real Estate

Major Group 1—Finance Industries

- 701 Banks and Other Deposit Accepting Establishments
- 703 Other Credit Agencies
- 705 Security Brokers and Dealers (including Exchanges)
- 707 Investment and Holding Companies
- 715 Canadian Offices of Canadian-Incorporated Companies Classified as Non-Canadian

**Division 9—Finance, Insurance
and Real Estate — Concluded**

Major Group 2—Insurance Carriers

- 721 Insurance Carriers

Major Group 3—Insurance Agencies and Real Estate Industry

- 735 Insurance and Real Estate Agencies
- 737 Real Estate Operators

**Division 10—Community, Business and Personal Service
Industries**

Major Group 1—Education and Related Services

- 801 Kindergartens and Nursery Schools
- 802 Elementary and Secondary Schools
- 803 Schools of Art and of the Performing Arts
- 804 Vocational Centers, Trade Schools and Business Colleges
- 805 Post-Secondary Non-University Educational Institutions
- 806 Universities and Colleges
- 807 Libraries, Museums and Other Repositories
- 809 Education and Related Services, n.e.s.

Major Group 2—Health and Welfare Services

- 821 Hospitals
- 822 Related Health Care Institutions
- 823 Offices of Physicians and Surgeons
- 824 Offices of Para-medical Personnel (Practitioners)
- 825 Offices of Dentists
- 826 Diagnostic and Therapeutic Services, n.e.s.
- 827 Miscellaneous Health Services
- 828 Welfare Organizations

Major Group 3—Religious Organizations

- 831 Religious Organizations

Major Group 4—Amusement and Recreation Services

- 841 Motion Picture Theatres
- 842 Motion Picture Production and Distribution
- 843 Bowling Alleys and Billiard Parlours
- 844 Golf Clubs and Country Clubs
- 845 Theatrical and Other Staged Entertainment Services
- 849 Miscellaneous Amusement and Recreation Services

Major Group 5—Services to Business Management

- 851 Employment Agencies and Personnel Suppliers
- 853 Computer Services
- 855 Security and Investigation Services
- 861 Offices of Accountants
- 862 Advertising Services
- 863 Offices of Architects
- 864 Engineering and Scientific Services
- 866 Offices of Lawyers and Notaries
- 867 Offices of Management and Business Consultants
- 869 Miscellaneous Services to Business Management

Major Group 6—Personal Services

- 871 Shoe Repair Shops
- 872 Barber and Beauty Shops
- 873 Private Households
- 874 Laundries, Cleaners and Pressers (except Self-Service)
- 876 Self-service Laundries and Dry Cleaners
- 877 Funeral Services
- 879 Miscellaneous Personal Services

Major Group 7—Accommodation and Food Services

- 881 Hotels and Motels
- 883 Lodging Houses and Residential Clubs
- 884 Camping Grounds and Trailer Parks
- 886 Restaurants, Caterers and Taverns

TABLE 1PENTICTON RETAIL SPACE INVENTORY

	<u>1972 (sq. ft.)</u>	<u>1977 (sq. ft.)</u>
Food	87,000	141,000
General Merchandise	78,100	172,700
Apparel & Accessories	58,000	87,400
Hardware and Home Furnishings	57,900	144,400
Other Retail	<u>80,200</u>	<u>155,800</u>
	361,200	701,400

VERNON RETAIL SPACE INVENTORY

Food	75,400
General Merchandise	173,000
Apparel & Accessories	64,600
Hardware and Home Furnishings	44,900
Other Retail	<u>107,100</u>
	465,000

Source: Ward & Associates, 1972.

Commercial space in Vernon was estimated at 1,145,854 sq. ft. in 1979. The City of Vernon calculated retail space for Vernon at 910,490 sq. ft.

cont'd....

TABLE 1 (Cont'd.)

KELOWNA COMMERCIAL FLOOR SPACE
INVENTORY - 1974

	<u>Sq. Ft.</u>
Automotive	258,398
Service Stations	103,092
Hotel	558,588
Restaurant	130,801
Service & Entertainment	391,243
Office	415,138
Building Supplies	100,763
Food Retail	195,208
Retail Commercial	1,006,852
Financial Services	<u>158,816</u>
Total	3,318,899

Retail commercial space was estimated at 1,108,000 sq. ft. in 1978. This figure includes all department store type merchandise and liquor stores.

TABLE 2Retail Sales - 1978

	<u>Okanagan S.</u>	<u>Central Okanagan</u>	<u>N. Okanagan</u>
Food stores	46.8	59.8	36.7
Motor vehicle dealers	33.2	37.4	43.8
Service stations	14.1	15.3	8.5
Clothing and shoe stores	9.2	13.5	6.1
Hardware stores	4.4	2.6	2.4
Furniture, appliances, etc.	<u>2.9</u>	<u>8.5</u>	<u>3.7</u>
Total Sales (000,000)	<u>170.9</u>	<u>234.6</u>	<u>171.3</u>

Source: Financial Post Survey of Markets

Retail Sales - 1971

	<u>Okanagan S.</u>	<u>Central Okanagan</u>	<u>N. Okanagan</u>
Food stores	19.6	20.2	13.2
General merchandise	6.4	10.0	8.5
Automotive group	20.5	20.0	18.9
Apparel accessories	4.4	5.2	2.5
Hardware and home furnishings	4.8	5.5	3.6
Other retail stores	<u>13.4</u>	<u>15.8</u>	<u>11.3</u>
Total Sales	<u>69.2</u>	<u>76.7</u>	<u>58.2</u>

Source: Statistics Canada

TABLE 3

RETAIL SALES AND PER CAPITA INCOME (1978)

Kelowna

Retail Sales	-	213,000,000	
Per Capita Sales	-	3,820	- 33% above National Average
Personal Disposable Income	-	355,800,000	
Per Capita Disposable Income	-	6,380	- 4% below National Average

Penticton

Retail Sales	-	103,600,000	
Per Capita Sales	-	4,670	- 63% above National Average
Personal Disposable Income	-	138,500,000	
Per Capita Disposable Income	-	6,240	- 6% below National Average

Vernon

Retail Sales	-	123,500,000	
Per Capita Sales	-	6,650	- 132% above National Average
Personal Disposable Income	-	125,200,000	
Per Capita Disposable Income	-	6,740	- 2% above National Average

B. C.

Retail Sales	-	8,123,000,000	
Per Capita Sales	-	3,200	- 12% above National Average
Personal Disposable Income	-	18,321,000,000	
Per Capita Disposable Income	-	7,220	- 9% above National Average

Source: The Financial Post Survey of Markets 1979

TABLE 4

10-13

Retail Trade, by Kind of Business, for Census Metropolitan Areas, Census
Census Agglomerations and Cities of 25,000 Population and Over, 1971

Kind of business	Number of locations — Nombre de locaux	Net sales and receipts — Ventes et recettes nettes	Inventory at end of year — Stocks à la fin de l'année	Number of working proprietors — Nombre de propriétaires actifs	Paid employees — Employés rémunérés	
					Number last week of September — Effectifs, dernière semaine de septembre	Total payroll for year — Rémunération totale de l'année
		\$'000	\$'000			\$'000
KELOWNA (AGGLOMERATION)						
Total, all locations	316	72,181	10,340	161	1,683	8,252
Food group	39	18,194	1,095	25	317	1,806
Bakery products stores	2	x	—	—	x	x
Candy and nut stores	1	x	x	x	—	—
Dairy products stores	—	—	—	—	—	—
Egg and poultry stores	—	—	—	—	—	—
Fruit and vegetable stores	3	x	x	x	x	x
Grocery, confectionery and sundries stores	5	259	27	4	5	6
Grocery stores	11	1,464	137	9	21	62
Combination stores (grocery stores with fresh meat)	11	15,524	891	5	267	1,618
Meat markets	3	458	8	2	7	36
Fish markets	—	—	—	—	—	—
Delicatessen stores	1	x	x	—	x	x
Health and dietary food stores	1	x	x	x	x	x
Other food stores	1	x	x	—	x	x
General merchandise group	9	9,487	1,791	2	387	1,252
Department stores	2	x	x	—	x	x
General merchandise stores	2	x	—	—	x	x
General stores	3	199	40	2	2	x
Variety stores	2	x	x	—	x	x
Automotive group	84	18,780	1,879	55	397	2,150
New motor vehicle dealers	9	10,118	1,304	—	162	856
Used car dealers	6	1,230	174	3	8	52
Tire, battery and accessories stores	3	583	80	—	17	118
Home and auto supply stores	—	—	—	—	—	—
Automotive glass shops	1	x	x	x	x	x
Service stations	36	5,257	252	29	135	680
Garages	9	340	25	10	12	56
Paint and body shops	7	765	19	4	41	291
Other specialty repair shops	8	179	7	5	6	35
Car washes	5	168	5	2	8	30
Towing services	1	x	x	—	x	x
Muffler replacement shops	—	—	—	—	—	—
Other automotive businesses	1	x	x	x	x	x
Apparel and accessories group	46	5,152	1,640	13	182	740
Men's and boys' clothing stores	9	818	298	2	21	115
Women's and misses' clothing stores	15	1,368	287	5	50	172
Lingerie and hosiery stores	—	—	—	—	—	—
Millinery stores	—	—	—	—	—	—
Fur stores	—	—	—	—	—	—
Women's and misses' sportswear stores	—	—	—	—	—	—
Children's and infants' wear stores	1	x	x	—	x	x
Family clothing stores	6	1,960	570	2	73	280
Men's and boys' shoe stores	—	—	—	—	—	—
Women's and misses' shoe stores	1	x	x	—	x	x
Children's and infants' shoe stores	—	—	—	—	—	—
Family shoe stores	8	642	—	1	20	—
Custom tailor-made-to-measure on premises	1	x	x	x	—	109
Second-hand clothing stores	1	x	x	x	—	—
Piece goods stores	4	308	110	1	13	67

TABLE 4 (Cont'd)

1

Retail Trade, by Kind of Business, continued

Kind of business	Number of locations — Nombre de locaux	Net sales and receipts — Ventes et recettes nettes	Inventory at end of year — Stocks à la fin de l'année	Number of working proprietors — Nombre de propriétaires actifs	Paid employees — Employés rémunérés	
					Number last week of September — Effectifs, dernière semaine de septembre	Total payroll for year — Rémunération totale de l'année
		\$'000	\$'000			\$'000
KELOWNA — CONCLUDED						
Other apparel and accessories stores.....	—	—	—	—	—	—
Hardware and home furnishings group.....	43	5,407	1,141	19	129	761
Hardware stores.....	6	729	186	2	23	101
Paint, glass and wallpaper stores.....	3	245	57	2	6	32
Furniture stores.....	6	744	219	1	15	92
Household appliance stores.....	2	x	x	x	x	x
Furniture, television, radio and appliance stores.....	3	1,831	364	—	29	221
Television, radio and hi-fi stores.....	2	x	x	—	x	x
Television and radio repair shops.....	1	x	x	—	x	x
Household appliance repair shops.....	1	x	x	x	—	—
Lamp and lighting fixtures stores.....	3	878	82	—	18	98
China and glassware stores.....	1	x	x	—	x	x
Floor coverings stores.....	1	x	x	x	—	—
Draperies, curtains and interior decoration stores.....	3	72	13	2	5	22
Antique stores.....	1	x	x	x	x	x
Second-hand furniture stores.....	6	199	26	4	10	60
Other home furnishings stores.....	4	x	x	x	x	x
Other retail stores group.....	95	15,159	2,792	47	271	1,540
Pharmacies.....	8	2,210	410	—	70	446
Patent medicine and toiletries stores.....	—	—	—	—	—	—
Government liquor stores.....	2	x	x	—	x	x
Brewers' retail stores.....	—	—	—	—	—	—
Wine stores.....	—	—	—	2	28	153
Jewellery stores.....	10	815	534	—	—	—
Jewellery repair shops.....	2	x	x	x	x	x
Sporting goods stores.....	7	897	370	3	30	140
Boats, outboard motors and boating accessories dealers.....	2	x	x	—	x	x
Bicycle shops.....	1	x	x	—	x	x
Motorcycle dealers.....	2	x	x	1	7	28
Tobacco stores and stands.....	4	351	65	—	x	x
Book and stationery stores.....	2	x	x	x	x	x
News dealers.....	—	—	—	—	—	—
Florists.....	3	118	9	4	3	17
Gift, handicraft and souvenir shops.....	7	234	76	4	8	23
Camera and photographic supply stores.....	2	x	x	x	x	x
Piano and organ stores.....	2	x	x	x	x	x
Opticians.....	2	x	x	—	—	—
Luggage and leather goods stores.....	—	—	—	—	—	—
Health appliance stores.....	2	x	x	—	x	x
Monument and tombstone dealers.....	—	—	—	—	—	—
Toy and hobby stores.....	3	68	29	3	—	—
Music stores and record bars.....	4	297	90	1	10	40
Pet stores.....	2	x	x	x	—	—
Religious goods stores.....	2	x	x	x	x	x
Wool stores.....	2	x	x	x	x	x
Mobile home and trailer dealers.....	8	2,583	465	2	27	165
Art galleries and artists' supply stores.....	2	x	x	x	—	x
Lawn and garden supply stores.....	1	x	x	—	x	x
Second-hand book stores.....	1	x	x	x	—	—
Other retail stores.....	12	425	97	9	9	46

TABLE 5

WHOLESALE TRADES

Wholesale Trade, by Kind of Business Group, for Census Metropolitan Areas,
Census Agglomerations and Cities of 25,000 Population and Over, 1971.

Kind of Business	No. of locations	Volume of trade \$'000	Inventory at end of year \$'000	No. of working pro- priators	Paid Employees	
					No. last week of Sept.	Total Payroll for year
<u>KELOWNA (AGGLOMERATION)</u>						
Total, all locations	75	83,739	5,108	23	597	4,229
Farm products	-	-	-	-	-	-
Coal and coke	1	x	-	-	x	x
Petroleum products	7	6,906	84	3	27	209
Paper and paper products	1	x	x	-	x	x
General merchandise	-	-	-	-	-	-
Food	5	37,600	x	-	150	1,089
Tobacco products	1	x	x	-	x	x
Drugs and toilet preparations	-	-	-	-	-	-
Apparel and dry goods	-	-	-	-	-	-
Household furniture and house furnishings	3	x	x	x	x	x
Motor vehicles and accessories	14	4,453	1,070	1	109	624
Electrical machinery, equipment and supplies	6	1,793	413	2	13	118
Farm machinery and equipment	4	817	209	2	13	82
Other machinery and equipment	14	14,976	519	3	80	681
Hardware, plumbing and heating equipment	4	2,340	328	-	29	225
Metals and metal products	1	x	x	-	x	x
Lumber and building materials	7	8,303	1,209	3	106	754
Scrap and waste materials	1	x	-	x	-	-
All other wholesalers	6	2,695	304	5	37	230

TABLE 5 (Cont'd)

WHOLESALE TRADES

Wholesale Trade, by County or Census Division and Incorporated Places
of 5,000 Population and Over, 1971

Locality	Population	No. of locations	Volume of trade	Inventory at end of year	No. of working pro- priators	Paid Employees	
						No. last week of Sept.	Total payroll for year
NORTH OKANAGAN	34,045	94	56,792	7,419	18	601	4,359
Vernon	13,280	60	40,333	5,456	8	444	3,352
Remainder of county	20,765	34	16,458	1,962	10	157	1,006
OKANAGAN-SIMILKAMEEN	42,750	90	47,045	4,358	28	503	2,969
Penticton	18,150	57	30,977	3,277	10	344	2,092
Remainder of county	24,600	33	16,068	1,080	18	159	877
CENTRAL OKANAGAN	50,180	89	86,321	5,487	29	627	4,401
Kelowna	19,415	56	80,092	4,462	12	539	3,880
Remainder of county	30,765	33	6,228	1,024	17	88	520

TABLE 6

SERVICE TRADES

Services, by County or Census Division and Incorporated
Places of 1,000 Population and Over, 1971.

Locality	Population	Locations	Net sales and receipts	Inventory at end of year	No. of working pro- priators	Paid Employees	
						No. last week of Sept.	Total Payroll for Year
NORTH OKANAGAN	34,045	214	10,848	326	187	681	3,051
Armstrong	1,650	19	388	15	17	21	98
Enderby	1,160	9	128	7	8	10	35
Vernon	13,280	121	8,591	247	96	541	2,541
Remainder of county	17,955	65	1,738	55	66	109	375
CENTRAL OKANAGAN	50,180	330	17,760	511	274	1,164	5,094
Kelowna	19,415	158	12,622	352	120	832	3,898
Remainder of county	30,765	172	5,137	159	154	332	1,195
OKANAGAN-SIMILKAMEEN	42,750	468	19,887	621	400	1,398	5,132
Penticton	18,150	195	11,553	304	146	853	3,395
Oliver	1,615	26	745	21	22	45	149
Osoyoos	1,285	39	1,433	66	30	98	284
Princeton	2,600	38	1,739	45	34	131	423
Remainder of county	19,100	170	4,415	184	168	271	879

TABLE 6 (Cont'd)

SERVICE TRADES

Kind of business	Central Okanagan		North Okanagan		Okanagan-Similkameen	
	Number of locations	Net sales & receipts \$'000	Number of locations	Net sales & receipts \$'000	Number of locations	Net sales & receipts \$'000
<u>PERSONAL SERVICES, continued</u>						
Barber and beauty shops combined	2	x	-	-	-	-
Power laundries	2	x	1	x	1	x
Dry cleaners	8	659	5	209	7	194
Self service laundries	5	69	2	x	8	59
Funeral directors	3	x	3	x	3	214
<u>ACCOMMODATION AND FOOD SERVICES</u>	153	9,659	100	6,141	292	14,697
Full year hotels, licensed	6	2,875	9	2,027	16	4,597
Motels	46	1,579	26	1,121	132	3,552
Restaurants, licensed	8	1,276	10	1,012	20	1,880
Restaurants, non-licensed	13	721	17	866	25	1,940
Industrial restaurants	1	x	-	-	2	x
Drive-in restaurants	12	660	4	319	13	676
Take-out food shops	4	321	2	x	7	534
Refreshment booths and stands	2	x	2	x	3	71
Taverns, beverage rooms and public houses	-	-	-	-	1	x
Cocktail lounges, bars and night clubs	1	x	-	-	2	x
<u>MISCELLANEOUS SERVICES</u>	31	1,034	17	397	25	789
Portrait photographers	3	77	3	x	7	81
Automobile and truck rentals	-	-	-	-	1	x
Janitor services	3	152	3	x	3	61
Driving schools	1	x	1	x	-	-

TABLE 6 (Cont'd)

SERVICE TRADES

Kind of business	Central Okanagan		North Okanagan		Okanagan-Similkameen	
	Number of locations	Net sales & receipts	Number of locations	Net sales & receipts	Number of locations	Net sales & receipts
		\$'000		\$'000		\$'000
TOTAL, ALL LOCATIONS	330	17,760	214	10,848	468	19,887
<u>AMUSEMENT AND RECREATION SERVICES</u>	20	1,424	20	1,209	32	871
Regular motion picture theatres	1	x	2	x	4	172
Billiard parlours	3	38	4	69	6	98
Bowling alleys	3	x	3	x	5	94
Golf clubs	3	x	2	x	4	x
Golf and country clubs	1	x	1	x	-	-
<u>SERVICES TO BUSINESS MANAGEMENT</u>	49	3,783	31	2,234	34	2,115
Chartered and certified accountants	7	673	6	595	8	475
Misc. accounting and bookkeeping serv.	7	232	6	80	4	37
Advertising agencies	1	x	-	-	-	-
Sign painting shops	3	75	1	x	3	x
Architects	5	199	2	x	1	x
Consulting engineering services	4	202	-	-	2	-
Other professional engineering and scientific services	3	x	5	560	4	311
Lawyers and notaries	14	1,600	7	669	9	785
Customs brokers	-	-	-	-	1	x
<u>PERSONAL SERVICES</u>	77	1,859	46	866	85	1,413
Shoe repair shops	6	56	3	x	5	32
Barber shops	19	161	12	76	23	141
Beauty shops	27	547	15	317	34	470

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PUBLIC ADMINISTRATION

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SECTION 1

LAND & BUILDINGS

THE FEDERAL AND PROVINCIAL PRESENCE

1. THE FEDERAL PRESENCE IN THE OKANAGAN

Public Works Canada owns 197,582 rentable square feet of space in 16 buildings in the Okanagan (Table 1) and leases 36,352 rentable square feet of space in 17 buildings (Table 2).

TABLE 1

Public Works Crown-Owned Holdings

Location	Address	Rentable Square Feet
Buildings		
Armstrong Federal	Railway Avenue	2,704
Kelowna New Federal	Queensway Avenue	35,903
Kelowna Postal Terminal	Gaston Avenue	15,180
Kelowna-Rutland Post Office	Rutland Road	1,062
Keremeos Post Office	6th Avenue	1,037
Okanagan Centre Post Office	Lakeside Avenue	526
Oliver Federal	2nd Ave & 7th St.	6,005
Osoyoos Bus Terminal & Warehouse	Highway No. 97	6,762
Osoyoos Customs & Immigration	Highway No. 97	5,291
Osoyoos Post Office	1st Street	2,204
Oyama Post Office	Oyama Road	520
Penticton New Federal	Winnipeg St. & Nanaimo Avenue	61,449
Penticton Old Federal	301 Main Street	14,403
Princeton Federal	Bridge St. & Kenley Avenue	9,744
Vernon Federal	32nd Ave & 31st Ave.	33,738
Winfield Post Office	Berry Road	1,054
		<u>197,582</u>
Land Only		
Kelowna Old Federal Site	Bernard Ave. & Ellis Street	12,000
Osoyoos-Topliss & Co.	Highway No. 97	6,500
		<u>18,500</u>
TOTAL		<u>216,082</u>

Source: Public Works Canada, Realty Management System,
"Building Management Report", June, 1976.

Of total space in crown-owned buildings, 170,400 square feet is occupied by federal departments. Of the remaining 27,182 square feet, 15,742 have been let to the private sector (the Penticton Old Federal Building accounts for 14,403 square feet). The remaining space of 11,440 square feet is vacant.

TABLE 2
Public Works Leased Holdings

Location	Address	Rentable Square Feet
Armstrong	Mill St. & Railway Ave.	1,271
Enderby	Lot 2, D.L. 150	1,901
Hedley	Blocks 4 & 5	726
Kelowna	478 Bernard Avenue	2,871
Kelowna	579 Lawrence Avenue	1,735
Kelowna-Rutland	189 Asher Avenue	2,407
Lumby	Shuswap & Miller	1,361
Naramata	Lot 7, Block 55	948
Okanagan Falls	10th Ave. & Ash St.	1,056
Peachland	Beach Avenue	1,661
Penticton	2335 Government Street	1,922
Penticton	301 Main Street	8,949
Penticton	275 Okanagan Ave. E.	1,057
Summerland	Victoria & Jubilee Rds.	4,005
Vernon	2908-29th Street	1,000
Vernon	3207-32nd Avenue	1,914
Westbank	Lot 5	1,568
		36,352

Source: Public Works Canada, Realty Management System,
"Building Management Report", June, 1976.

The total leased space of 36,352 square feet is used by client departments.

In crown-owned and leased holdings, federal clients occupy a total of 206,752 square feet divided among 17 clients. The Post Office, with 87,202 square feet (42.18% of total client space), occupies considerably more space than any other department. Other important departments are Revenue-Taxation (39,116 square feet), Manpower and Immigration (25,451 square feet), Unemployment Insurance Commission (19,406 square feet), and Revenue-Customs and Excise (12,773 square feet). All other departments account for 22,804 square feet.

1.1 Accomodation Holdings by Locality

The three main Okanagan cities of Penticton, Kelowna and Vernon account for 163,082 square feet or 78.88% of the total 206,752 square feet occupied by federal clients. Okanagan-Similkameen Regional District has approximately 50% of all client space in the Okanagan, the Central Okanagan Regional District has 31% of the space and the North Okanagan Regional District has 18% of the client department space.

Only the Post Office has space in all 19 centres in the Okanagan. In 11 localities, the Post Office is the only federal presence.

Departments other than the Post Office, occupy 119,550 square feet of space in the Okanagan (Table 4). The City of Penticton accounts for 58,477 square feet or almost one-half of this total and the whole Okanagan-Similkameen Regional District for 71,063 square feet, approximately three-fifths of the total in the Public Works planning area.

TABLE 3

Post Office Accomodation by Locality

Location	Rentable Square Feet	P.O. Space	Okanagan Total Space %
Central Okanagan R.D.	31,098	35.66	31.19
Kelowna (incl. Rutland)	25,769		
Okanagan Centre	526		
Oyama	520		
Peachland	1,661		
Westbank	1,568		
Winfield	1,054		
North Okanagan R.D.	23,042	26.42	18.45
Vernon	17,076		
Armstrong	2,704		
Enderby	1,901		
Lumby	1,361		
Okanagan-Similkameen R.D.	33,062	37.91	50.36
Penticton	14,544		
Hedley	726		
Keremeos	1,037		
Naramata	948		
Okanagan Falls	1,056		
Oliver	4,908		
Osoyoos	2,204		
Princeton	3,976		
Summerland	3,663		
TOTAL	87,202	100.00	100.00

Source: Public Works Canada, Realty Management System,
"Building Management Report", June, 1976

The presence of two particular operations explains most of the regional district's large amount of space used by departments other than the Post Office. The larger of these two operations is the District Taxation Office in Penticton. Unlike most federal departments in the Okanagan, which are oriented to local populations, Taxation serves an area which extends well beyond the boundaries.

The second operation in Okanagan-Similkameen is the border crossing at Osoyoos. This is the major port of entry from the United States for that part of the Interior west of the Kootenays. The collector of customs in Osoyoos administers an area which includes Osoyoos, Penticton, Kelowna, Vernon and Kamloops. Therefore, the operations of both Customs and Immigration, as with the Taxation Office in Penticton, service areas considerably larger than the Okanagan Planning Area.

1.2 Public Works Marine Holdings

Public Works Canada maintains 34.7 acres of marine holdings in the Okanagan. Three parcels of land along the Okanagan River Channel in Penticton account for 13.1 acres of the total. Most of the remaining acreage is made up of water lots which are sites for wharves, breakwaters and other marine installations. The Okanagan-Similkameen Regional District accounts for 75% of the total area of marine holdings.

Crown-owned marine sites have a combined area of 17.0 acres, while leased sites occupy 17.7 acres.

A waterlot at Ewings Landing (on the west side of Okanagan Lake, north of Kelowna), held for use by Environment's Small Craft Harbours Branch, has been declared surplus, and Public Works is to proceed with disposal.

No significant marine projects are currently underway or planned in the Okanagan.

1.3 Other Federal Government Department Holdings and Programs

Table 5 compares the site areas administered by federal departments in the Okanagan. Public Works owns or leases sites with a combined area of 47.7 acres for its accomodation and marine holdings. This accounts for less than one-half of 1% of the area occupied by all federal departments. Nevertheless, the strategic locations of Public Works accomodation holdings within urban centres are much more significant than the size of the sites.

TABLE 5

Federal Government Department Site Areas

(Acres)

Department	Central Okanagan	North Okanagan	Okanagan-Similkameen	Total
Agriculture	29.6	-	881.7	911.3
Environment	-	9.0	1,704.1	1,713.1
National Defence	1.1	950.3	-	951.4
National Research Council	-	-	5,342.6	5,342.6
Public Works	8.6	4.3	34.8	47.7
Revenue-Customs & Excise	-	-	4.5	4.5
R.C.M.P.	-	1.1	3.8	4.9
Transport	451.1	0.2	811.5	1,262.8
TOTAL	490.4	964.9	8,783.0	10,238.3

Federal properties in the Okanagan have a combined site area of 10,238.3 acres of which the Okanagan-Similkameen Regional District accounts for 8,783.0 acres (85.79%). The main properties in Okanagan-Similkameen are the Summerland Research Station (Agriculture), two wildlife areas at Vaseux Lake (Environment), the Mount Kobau and White Lake observatory sites (National Research Council) and the Penticton and Princeton Airports (Transport). In the Central Okanagan Regional District, Kelowna Airport (Transport) accounts for 446.7 acres of the total 490.4 acres, while in North Okanagan the Vernon Military Camp and Rifle Range (National Defence) occupy 946.9 acres.

Of a total 698,159 square feet of building space occupied by departments other than Public Works, buildings on the Vernon Military Camp account for 378,756, while Summerland Research Station buildings account for 149,518. Royal Canadian Mounted Police buildings in the Okanagan have a combined area of 62,682 square feet.

With the exception of one project being undertaken for Environment Canada, all projects in Public Works' other Government Department Capital Program are for the Royal Canadian Mounted Police. Excluded from the list of R.C.M.P. projects is a facility which has been tentatively named the Central British Columbia Crime Laboratory. This project has an in-service date for the 1982-83 fiscal year, and its estimated cost is \$4,650,000. The location for this facility has not as yet been determined, but possibilities are Prince George, Kamloops or the Okanagan Valley.

2. THE PROVINCIAL PRESENCE IN THE OKANAGAN

The British Columbia Building Corporation became operational in 1977 with a mandate to provide property management and development services for provincial government ministries. Many of the roles and functions of the Ministry of Public Works were taken over by the new Crown Corporation. One of the priorities of the corporation's management was to create a computerized space inventory of government owned and leased buildings throughout the province. The inventory for the Okanagan Has been completed and is contained in full in Appendix A to this report.

B.C.B.C. controls an estimated 738,322 gross external square feet of floor space in the Okanagan region. Falling under its jurisdiction are such disparate activities as Okanagan College Campus, Dellview Hospital, St. Martin's Hospital, Health Centres, Court Houses, Civic Complexes, Summerland Trout Hatchery and the Provincial Department of Highways workyards.

Table 6 indicates the distribution of the floor space by each of the three regional districts.

TABLE 6
Distribution of Provincial Government
Floor Space by Regional District

	Gross External (sq.ft.)	%	Leased (sq.ft.)	Owned (sq.ft.)
N.O.R.D.	192,474	(26.1)	22,439	170,035
C.O.R.D.	312,560	(42.3)	76,633	235,927
O.S.R.D.	233,288	(31.6)	70,035	163,253
Total Okanagan	738,322	100.0	169,107	569,215

SECTION 2 .

EMPLOYMENT AND PAYROLLS

1. PROVINCIAL GOVERNMENT

The Provincial Government maintains numerous government departments in a great number of urban centres throughout the Okanagan in order to administer the plethora of government programs that are directed to the region. The annual payroll of the Provincial Government is a substantial contribution to the economic well being of the region, yet the size of that payroll and the number of employees in government service has never been calculated. Table 7 gives the 1978 annual payroll and number of employees for each Ministry of the Provincial Government. As indicated in Table 7, only certain ministries maintain a physical presence in the Okanagan.

It should be noted that the figures contained in Table 7 are "best estimates" and are to be interpreted only in the broadest extent. They do indicate however, that the Provincial Government employs some 1,759 persons in the Okanagan with an estimated annual payroll of \$22.7 million.

Major reorganizational changes within the provincial ministries took place in December, 1978. This created a reorganization of accounting procedures within the ministries affected. The ripple effect of these changes is still being felt, with the result that there may be some overlapping in the employment figures contained in Table 7. Appendix B contains details of the restructuring of the various ministries.

2. THE REGIONAL DISTRICT PRESENCE IN THE OKANAGAN

Regional districts in B.C. were formed in 1965 after legislation was introduced which made it possible to provide a federated approach to local control over problems transcending municipal boundaries. Regional districts and their governing boards are responsible for a number of activities. In non-municipal areas they are responsible for many of the activities administered by municipalities. Representation on regional district boards occurs by appointment of municipal councils and by election in non-municipal areas. Voting strengths proportional to the population of the municipality or electrical area in non-municipal areas. Board decisions are usually made on the basis of a majority of votes.

The three regional districts in the Okanagan Valley employed 70 people in 1978 with an annual payroll of \$1.45 million. This is broken down as follows:

Regional District of Central Okanagan

The Regional District has a staff of thirty-five to administer eight region-wide functions and ten partial functions. Its 1978 budget was \$3,421,621, with an estimated payroll of \$563,591.

Regional District of North Okanagan

The staff of thirteen of this Regional District administer seven region-wide and sixteen partial functions. The 1978 budget was \$6,713,101, with an estimated payroll of \$280,000. Approximately \$3,000,000 of the total budget was used for capital expenditures.

Okanagan-Similkameen Regional District

The 1978 budget for the Region was \$1,795,975. Five region-wide functions and fourteen partial functions have been undertaken by the Region. The staff count for 1978 was twenty-two and the 1978 payroll was \$433,000.

TABLE 7

1978 Employees & Payroll in the Okanagan

Government of British Columbia

Ministry	1978 Employees	1978 Payroll	Comments
Agriculture	71	\$ 1,500,000	Includes an estimated 25 part time employees fluctuates with seasonal needs.
Attorney General	250	\$ 4,000,000	
Consumer & Corporate Affairs	NIL	NIL	
Deregulation	NIL	NIL	
Economic Development	NIL	NIL	
Education, Science & Technology	4	100,000	
Energy, Mines & Petroleum Resources	NIL	NIL	
Environment	5	85,000	
Finance	NIL	NIL	
Forests	550	8,240,000	Data are for the Kamloops Forest District Does not include Hospital payrolls & employees (see pgs. 16 & 17 for details)
Health	425	5,890,000	Data includes Grand Forks
Human Resources	105	1,510,000	
Labour	28	470,000	
Lands, Parks & Housing	50	75,000	Estimated 20 permanent, 30 seasonal
Municipal Affairs	65	385,000	
Provincial Secretary & Government Services	2	N/A	
Tourism & Small Business	NIL	NIL	Employs students in summer months for roadside information booths
Transportation, Commu- nications & Highways	24	408,000	
TOTAL PROVINCIAL GOV'T	1,579	\$22,663,000	

Sources: Payroll, Personnel and Administration Services of the various ministries.

Additional Notes to Table: All figures are "best estimates" only.

3. LOCAL GOVERNMENT

Within the Okanagan study area, there are five cities, four district municipalities, one town and four villages. Table 8 portrays the total number of employees in 1978 by type, together with the 1978 gross payroll for each community. The information is further broken down by regional district.

TABLE 8

1978 Employees & Payroll - Okanagan

	# of Employees		Payroll
	Full Time	Part Time	\$*
<u>North Okanagan R.D.</u>			
Cities			
Armstrong	9	-	\$ 135,000
Enderby	10	-	140,000
Vernon	195	95	4,048,000
Districts			
Coldstream	15	10	280,000
Spallumcheen	16	3	302,000
Village - Lumby	9	1	144,000
Sub-Total	254	109	5,049,000
<u>Central Okanagan R.D.</u>			
City - Kelowna	448	-	\$ 5,961,000
District - Peachland	13	25	240,000
Sub-Total	461	25	6,201,000
<u>Okanagan-Similkameen R.D.</u>			
City - Penticton	220	47	\$ 4,137,000
District - Summerland	56	5	873,000
Town - Princeton	30	-	220,000
Villages			
Keremeos	4	2	
Oliver	9	1	175,000
Osoyoos	10	3	153,000
Sub-Total	329	58	5,558,000
TOTAL OKANAGAN	1,029	192	\$16,808,000

Source: Municipal Clerks

* Rounded to nearest (\$000)

4. EDUCATIONAL INSTITUTIONS

School Districts

Table 9 shows the number of employees in 1978 and annual estimated payroll by each Reach District.

TABLE 9

School District - Employees & Salaries

Regional District	School District	1978	
		Employees	Salaries
North Okanagan	Armstrong-		
	Spallumcheen #21	107	\$ 2,148,000
	Vernon #22	750	12,645,000
Sub-Total		857	14,793,000
Central Okanagan	Central Okanagan #23	1,400	\$26,315,000
Okanagan-Similkameen	South Okanagan #14	227	\$ 3,692,400
	Penticton #15	340	7,131,724
	Keremeos #16	54	1,100,000
	Princeton #17	86	1,602,000
	Summerland #77	105	2,070,068
Sub-Total		812	15,596,192
TOTAL OKANAGAN VALLEY		3,069	\$56,704,192

Source: Secretary-Treasurers - School Districts

Table 10 indicates the proportional employment and payroll by each Regional District.

TABLE 10

School District Employment
and Salaries by Regional District

	Salaries	%	Employees	%
N.O.R.D.	\$14,793,000	26.1	657	25.3
C.O.R.D.	26,315,000	46.4	1,400	47.3
O.S.R.D.	15,596,192	27.5	812	27.4
TOTAL OKANAGAN VALLEY	\$56,704,192	100.0	3,069	100.0

5. HOSPITALS

Table 11 is a statistical breakdown of the number of employees and gross salaries and wages for the eight hospitals located in the Okanagan.

TABLE 11Hospital SalariesApril 1, 1978 - March 31, 1979

	Annual Payroll	Employees
<u>North Okanagan R.D.</u>		
Armstrong & Spallumcheen	\$ 388,000	27
Enderby & District Memorial	583,000	38
Vernon Jubilee	6,620,000	444
Sub-Total	7,591,000	509
<u>Central Okanagan R.D.</u>		
Kelowna General	\$11,657,000	804
<u>Okanagan-Similkameen R.D.</u>		
Penticton Regional	\$ 6,459,000	440
Oliver (South Okanagan General)	1,852,000	133
Summerland General	583,000*	35*
Princeton General	653,000	44
Sub-Total	9,547,000	652
TOTAL OKANAGAN VALLEY	\$28,795,000	1,965

Source: B.C. Health Association

NOTES: (1) Does not include employee benefit plans

(2) Based on full-time "equivalents", e.g. there may be four part-time employees working 2 hours each per day

(3) All figures have been rounded

* Estimated

Hospitals in the Okanagan employ an estimated 1,965 persons with an annual payroll of \$28.0 million.

Table 12 displays the data by Regional District.

TABLE 12

Hospital Employment & Payroll
April 1, 1978 - March 31, 1979

	Annual Payroll	%	Employees	%
N.O.R.D.	\$ 7,591,000	(26.4)	509	(25.9)
C.O.R.D.	\$11,657,000	(40.5)	804	(40.9)
O.S.R.D.	\$ 9,547,000	(33.1)	652	(33.2)
TOTAL OKANAGAN VALLEY	\$28,795,000	100.0	1,965	100.0

Ministry of Healtha) Health Units

Public health units located in the Okanagan (Health Unit #5) are broken down into the North Okanagan and South Okanagan Health Districts. Table 13 shows health units by community, together with total number of employees.

TABLE 13
Health Unit Statistics

	1978 Employees		
	Full Time	Half Time	Part Time
<u>South Okanagan</u>			
Princeton	1	1	2
Keremeos	1	-	3
Oliver	1	1	3
Osoyoos	1	-	3
Penticton	24	3	12
Summerland	3	2	2
Westbank	3	1	-
Kelowna	35	2	2
Rutland	22	1	21
<u>Total South Okanagan</u>	91	11	48

Source: Ministry of Health, Victoria

The 1978-1979 gross payroll for the South Okanagan Health Unit is estimated to be \$1.63 M. (fiscal year). Public Health nursing is provided in 4 units - Rutland, Kelowna, Summerland and Penticton. Home Care is also provided in all centres with activities concentrated in the Penticton, Vernon and Kelowna units. A Speech and Hearing Clinic also operates in Kelowna and Penticton and physiotherapy services are offered in Rutland, Kelowna and Penticton. Employment figures for the North Okanagan Health Unit were unavailable.

The 1978-1979 fiscal year gross payroll is estimated to be \$1.02 million* and an annual employment roll of 100.

b) Long-Term Care Centres

Long-term care is a new health care program introduced in January, 1978. The number of employees and payroll estimates for the Okanagan are shown in Table 14.

TABLE 14

Long-Term Care Centres - Okanagan

Location	Employees		Payroll
	Full Time	Half Time	
Vernon area	9	1	\$110,000
Kelowna area	13	6	\$204,000
TOTAL OKANAGAN AREA	22	7	\$314,000

c) Mental Health Centres

The mental health centres are located in the region.

TABLE 15

Location	Employees		Payroll
	Full Time	Half Time	
Kelowna Mental Health Centre	8	-	\$164,000
Penticton Mental Health Centre	5-1/2	-	\$123,000
Vernon Mental Health Centre	11	-	\$219,000
TOTAL OKANAGAN AREA	24-1/2	-	\$506,000

* Already included in Table 7.

Included in the full time staff (professional and office) in each locaton is a resident psychologist. In addition, the Pen-tiction Centre has a social worker and Vernon has two psychiatic social workers.

The Dellview Hospital in Vernon is scheduled for closure in 1980. The hospital has a professional and administrative staff of 131 with an estimated 1978-1979 payroll of \$2.3 million.*

An Alcohol and Drug Treatment Centre was recently established in Kelowna with between 6/8 employees.

* Already included in Table 7

Ministry of Human Resources

Human Resources maintains five offices in the Okanagan as shown in Table 16 below:

TABLE 16Human Resources - Okanagan

Vernon	
Princeton	\$1.57 million
Kelowna	1979 Payroll
Oliver	Estimate with
Penticton	105 Employees*
Grand Forks	

Source: Ministry of Human Resources, Victoria

Note 1: Grand Forks is included in the Human Resources' definition of "Okanagan".

The employee categories are as follows:

1	Regional Manager (Veron)
5	District Supervisors
3	Rehabilitation Officers
1	Administrative Assistant
30	Social Workers
20	Financial Workers
15	Child Care Councillors
<u>30</u>	Clerical
<u>105</u>	Total Staff

* Already included in Table 7.

APPENDIX A

B.C.B.C. SPACE MANAGEMENT SYSTEM

BUILDING SUMMARY

NORTH OKANAGAN
REGIONAL DISTRICT

BRITISH COLUMBIA BUILDINGS CORPORATION
SPACE MANAGEMENT SYSTEM
BUILDING SUMMARY

<u>Description</u>	<u>Facility</u>	<u>Civic address</u> <u>city</u>	<u>Gross</u> <u>exter.</u> <u>area</u>	<u>Gross</u> <u>inter.</u> <u>area</u>	<u>Net</u> <u>rent</u> <u>area</u>
Equipment building	Old highways yard	Vernon City Hall Vernon	\$ 4,131	\$ 4,131	\$ 4,131
Storage building	Old highways yard	Vernon City Hall Vernon	1,875	1,875	1,875
Storage building	Old highways yard	Vernon City Hall Vernon	216	193	193
Storage building	Old highways yard	vernon City Hall Vernon	8,046	8,046	8,046
Court house and office bldg.		3001 27th Street Vernon	36,332	23,533	23,533
Garage and storage bldg.	Courthouse complex	3001 27th Street Vernon	1,829	1,663	1,663
Boiler house and stores bldg.	Dellview Hospital	21st at Parkview Vernon	6,443	5,941	5,941
Laundry	Dellview Hospital	21st at Parkview Vernon	3,780	3,011	3,011
Main building	Dellview Hospital	21st at Parkview Vernon	35,033	35,033	35,033
Female patients annex	Dellview Hospital	21st at Parkview Vernon	4,326	4,326	4,326
Male patients annex	Former female staff quarters	Dellview Hospital 31st Street Vernon	2,972	2,972	2,972
Female staff quarters (2)	Dellview Hospital	21st at Parkview Vernon	1,501	1,363	1,363
Education bldg. (Ex-res.)	Dellview Hospital	1901-31st Street Vernon	1,700	1,700	1,700

<u>Description</u>	<u>Facility</u>	<u>Civic address</u> <u>city</u>	<u>Gross</u> <u>exter.</u> <u>area</u>	<u>Gross</u> <u>inter.</u> <u>area</u>	<u>Net</u> <u>rent</u> <u>area</u>
Administrators residence	Dellview Hospital	1811 31st Street Vernon	\$ 1,348	\$ 1,348	\$ 1,348
Paint shop	Dellview Hospital	21st at Parkview Vernon	51	40	40
Greenhouse	Dellview Hospital	31st Street Vernon	1,254	1,254	1,254
Equipment shed	Dellview Hospital	31st Street Vernon	742	676	676
Department of highways complex		23rd. Avenue Vernon	27,168	24,531	24,531
Fuel storage	Highways complex	23rd. Avenue Vernon	306	279	279
Office-shop and storage	Highways yardsite #3	Okanagan landing Vernon	4,519	4,298	4,298
Health centre		Box 520, Lumby	3,681	2,209	2,209
Storage building	Highways yardsite #3	Okanagan landing Vernon	4,418	4,017	4,017
Storage building	Highways yardsite #3	Okanagan landing Vernon	501	456	456
Equip. storage and assembly	Highways yardsite (old)	3rd. and George Street, Enderby	3,640	2,321	2,321
Equip. storage shed-2 bay	Highways yardside (old)	3rd. and George Street, Enderby	808	735	735
Oil and gas storage	Highways yardside (old)	3rd. and George Street, Enderby	100	91	91
Sign storage	Highways yardsite (old)	3rd. and George Street, Enderby	101	92	92
Equipment storage	Highways yardsite (new)	Okanagan Highway #97 Enderby	10	10	10
Oil storage	Highways yardsite (new)	Okanagan Highway #97 Enderby	10	10	10
Equipment and storage shed	Highways yardsite	Glencaird St. and Shuswap Ave. Lumby	5,176	3,489	3,489

<u>Description</u>	<u>Facility</u>	<u>Civic address city</u>	<u>Gross exter. area</u>	<u>Gross inter. area</u>	<u>Net rent area</u>
Assembly room and storage shed	Highways yardsite	Glencaird St. and Shuswap Ave. Lumby	\$ 2,296	\$ 2,296	\$ 2,296
Fuel storage	Highways yardsite	Glencaird St. and Shuswap Ave. Lumby	139	127	127
Residence		2209 23rd. Avenue Vernon	3,000	1,232	1,232
Weigh scale station		North approach Vernon	188	159	159
Weigh scale station		2548 Highway #97 North	250	200	200
Residence (duplex)		3011 35th Avenue Vernon	10	10	10
Powder house	Johnstone Creek pit	Highway #3 Johnstone Creek	132	120	120
Day Care centre		Leathead Road Rutland	2,003	1,505	1,505
Lease	Ste. 102	3313-32nd. Avenue Vernon	-	878	878
Lease		Main Street	-	2,415	2,415
Lease	Spallumcheen	Armstrong	-	896	896
Lease	Health Ctr.	Armstrong	-	896	896
Lease	#209 Vernon and Dist.Cr.Un.	3205-32nd. Avenue Vernon	-	1,550	1,550
Lease	Town building	3307-32nd. Avenue Vernon	-	1,513	1,513
Lease		4320-29th Street Vernon	-	3,000	3,000
Lease		3001-43rd. Avenue Vernon	-	5,033	5,033
0 Lease		3401-30th Avenue Vernon	-	360	360
9 Lease	Centennial Health Centre	3300-37th Avenue Vernon	-	5,300	5,300

<u>Description</u>	<u>Facility</u>	<u>Civic address city</u>	<u>Gross exter. area</u>	<u>Gross inter. area</u>	<u>Net rent area</u>
9 Lease	St. Georges Anglican Chr.	Parish Hall, Knight St., Enderby	\$ -	\$ 532	\$ 532
9 Lease		Lions Health Centre Enderby	-	10	10
9 Lease		#204-2901 32nd. Street, Vernon	-	932	932

CENTRAL OKANAGAN
REGIONAL DISTRICT

<u>Description</u>	<u>Facility</u>	<u>Civic address city</u>	<u>Gross exter. area</u>	<u>Gross inter. area</u>	<u>Net rent area</u>
Cental heating plant	Okanagan College	Klo and Gordon Kelowna	\$ 2,869	\$ 2,869	\$ 2,869
General workshop mntce. bldg.	Okanagan College	Klo and Gordon Kelowna	64,838	64,838	64,838
Admin. and classroom bldg.	Okanagan College	Klo and Gordon Kelowna	32,466	32,392	32,293
Electrical vault	Okanagan College	Klo and Gordon Kelowna	656	573	573
Storage building	Okanagan College	Klo and Gordon Kelowna	87,502	87,502	87,502
Services stores building	Okanagan College	Klo and Gordon Kelowna	1,680	1,680	1,680
Cafeteria	Okanagan College	Klo and Gordon Kelowna	12,750	11,952	12,187
Storage building	Okanagan College	Klo and Gordon Kelowna	5,000	4,900	4,900
Welding shed	Okanagan College	Klo and Gordon Kelowna	1,872	1,872	1,872
Welding shed	Okanagan College	Klo and Gordon Kelowna	1,872	1,872	1,872
Sewage pump house	Okanagan College	Klo and Gordon Kelowna	45	35	35
Irrigation pump house	Okanagan College	Klo and Gordon Kelowna	60	60	60
Garage and workshop	Highways Yardsite	1189 Ethel Street Kelowna	3,488	3,178	3,178
Office and shops	Highways Yardsite	1189 Ethel Street Kelowna	4,972	4,724	4,724
Garage	Highways Yardsite	1189 Ethel Street Kelowna	5,773	5,490	5,490
Lunch room/ office	Highways Yardsite	1189 Ethel Street Kelowna	795	723	723

<u>Description</u>	<u>Facility</u>	<u>Civic address city</u>	<u>Gross exter. area</u>	<u>Gross inter. area</u>	<u>Net rent area</u>
Fuel storage	Highways Yardsite	1189 Ethel Street Kelowna	\$ 214	\$ 195	\$ 195
Sign shop	Highways Yardsite	1189 Ethel Street Kelowna	406	368	368
Office and assembly	Highways Yardsite	Gellatly Road Westbank	324	288	288
3 bay equipment storage	Highways Yardsite	Gellatly Road Westbank	2,473	2,249	2,249
Dry storage building	Highways Yardsite	Gellatly Road Westbank	418	380	380
Lease		24th Street Wesbank	-	6,860	6,860
Lease	Rutland Health Centre	155 Gray Road Rutland	-	6,000	6,000
3 Lease	Community Healt Centre	Queensway Kelowna	-	11,000	11,000
Ease		265 Lawrence Avenue Kelowna	-	5,700	5,700
Ease		1449 St. Paul Street Kelowna	-	2,146	2,146
Ease		1787 Springfield Road, Kelowna	-	3,744	3,744
3 Lease	#20 Commerce building.	260 Harvey Avenue Kelowna	-	2,510	2,510
2 Lease		#4-1863 Bredin Road Kelowna	-	2,480	2,480
3 Lease	Casorso Block	435 Bernard Avenue Kelowna	-	3,329	3,329
9 Lease	201 Queensway Building	1460 Pandosy Street Kelowna	4,000	4,000	4,000
8 Lease	St. Paul Bldg.	1456 St. Paul Street Kelowna	-	6,000	6,000
4 Lease		1470 St. Paul Street Kelowna	5,875	5,875	5,875
7 Lease		1143 Sutherland Avenue Kelowna	-	1,719	1,719

<u>Description</u>	<u>Facility</u>	<u>Civic address</u> <u>city</u>	<u>Gross</u> <u>exter.</u> <u>area</u>	<u>Gross</u> <u>inter.</u> <u>area</u>	<u>Net</u> <u>rent</u> <u>area</u>
5 Lease		Corner Spall St., Kent Rd., Kelowna	\$ -	\$11,420	\$11,420
Ease		Highway #33, Rutland	-	3,050	3,050
Old Baptist Church		Leased to Peachland Peachland, Kelowna	2,434	2,280	2,280
Courthouse and office bldg.		1420 Water Street Kelowna	26,662	18,878	18,878
Lease to Dept. Agriculture	Former storage shed	1189 Ethel Street Kelowna	4,282	4,282	4,282
Residence		816 Leon Avenue Kelowna	1,500	1,228	1,228
Bridge Admin. Bldg.		Highway #97 Kelowna	2,106	1,908	1,908
Lease		1949A Kirshner Road Kelowna	-	800	800

OKANAGAN-SIMILKAMEEN
REGIONAL DISTRICT

<u>Description</u>	<u>Facility</u>	<u>Civic address city</u>	<u>Gross exter. area</u>	<u>Gross inter. area</u>	<u>Net rent area</u>
Office and assembly	Highways Yardsite	West Airport Road Oliver	\$ 576	\$ 505	\$ 505
2 bay equipment storage	Highways Yardsite	West Airport Road Oliver	1,608	1,504	1,504
Vehicle storage	Highways Yardsite	West Airport Road Oliver	4,119	3,745	3,745
Oil and gas storage	Highways Yardsite	West Airport Road Oliver	215	196	196
Daycare	St. Martins Hospital	7th St. and 4th Ave. Oliver	27,100	27,100	27,100
Storage building	St. Martins Hospital	7th St. and 4th Ave. Oliver	1,189	1,189	1,189
Oliver, St. Martins Hosp.	St. Martins Hospital	7th St. and 4th Ave. Oliver	1,380	1,380	1,380
2 bay equipment Storage building	Highways Yardsite	Highway #3, Bridesville	1,663	1,512	15,12
Outhouse	Highways Yardsite	Highway #3, Bridesville	63	58	58
Storage bldg.	Highways Yardsite	Highway #3, Bridesville	22	17	17
Mntce. garage	Highways Yardsite	270 Waterloo Avenue Penticton	4,290	3,900	3,900
Residence		270 Waterloo Avenue Penticton	14,058	7,995	7,995
Prov. Govt. Office bldg.	Civic complex	106 6th Street, Oliver 7th Street Oliver	2,366	2,366	2,366
B.C. Reception Centre		At Highways #3 & #97 Osoyoos	16,894	10,708	10,708
Fish and Wildlife storage		270 Waterloo Avenue Penticton	282	243	243
Weigh scale station		Highway #97 and #3A intersection, Kaleden	347	308	308
Police residence		226 Vermillion Avenue Princeton	212	180	180
			1,472	1,113	1,113

<u>Description</u>	<u>Facility</u>	<u>Civic address city</u>	<u>Gross exter. area</u>	<u>Gross inter. area</u>	<u>Net rent area</u>
Mine rescue station		161 Vermillion Avenue Princeton	\$ 1,736	\$ 1,651	\$ 1,651
Courthouse and office bldg.		151 Vermillion Avenue Princeton	7,375	6,093	6,093
Salt shed	Sunday summit	On Highway #3 West of Princeton	372	339	339
Loader storage shed		7 m. from Princeton on road to Coalmont	293	258	258
Vehicle storage	Highways Yardsite	5th Avenue, Keremeos	2,499	2,361	2,361
Office	Highways Yardsite	5th Avenue, Keremeos	404	380	380
Oil and gas storage	Highways Yardsite	5th Avenue Keremeos	196	179	179
Storage building	Highways Yardsite	5th Avenue Keremeos	399	363	363
Storage building	Highways Yardsite	5th Avenue Keremeos	204	186	186
Main building	Trout Hatchery	13405 S. Lakeshore Summerland	10,140	5,658	5,658
Garage/workshop/Feedrm.	Trout Hatchery	13405 S. Lakeshore Summerland	2,010	1,850	1,850
Vacuum shed	Trout Hatchery	13405 S. Lakeshore Summerland	245	223	223
Experiment shed	Trout Hatchery	13405 S. Lakeshore Summerland	239	218	218
Pumphouse	Trout Hatchery	13405 S. Lakeshore Summerland	130	114	114
Hatchery storage	Trout Hatchery	13405 S. Lakeshore Summerland	1,753	1,594	1,594
New oil shed	Trout Hatchery	13405 S. Lakeshore Summerland	1	1	1
Equipment shed	Highways Yardsite	Hwy. #33, Rock Creek	5,433	4,953	4,953
Oil house	Highways Yardsite	Hwy. #33, Rock Creek	215	196	196
Bridge crew storage shed	Highways Yardsite	Hwy. #33 Rock Creek	57	52	52
Water pump house	Highways Yardsite	Hwy. #33, Rock Creek	79	72	72

<u>Description</u>	<u>Facility</u>	<u>Civic address city</u>	<u>Gross exter. area</u>	<u>Gross inter. area</u>	<u>Net rent area</u>
Storage trailer		B.C. Reception Centre Osoyoos	\$ 151	\$ 137	\$ 137
Lease	Health Centre		-	2,000	2,000
Lease		Building on Spall Road	23,564	213,564	23,564
Storage workshop	Highways Yardsite	270 Waterloo Avenue Penticton	1,800	1,651	1,651
Storage shed	Highways Yardsite	270 Waterloo Avenue Penticton	2,467	1,664	1,664
Oil house	Highways Yardsite	270 Waterloo Avenue Penticton	203	168	168
3 bay equip. storage shed	Highways Yardsite	270 Waterloo Avenue Penticton	2,361	2,151	2,151
Courthouse and office bldg.		102 Main Street Penticton	21,832	18,995	18,995
Tool shed		102 Main Street Penticton	344	313	313
Courthouse Annex		152 Main Street Penticton	4,338	4,231	4,231
Garage	Highways Yardsite	Main Street Coalmont	1,418	1,370	1,370
Tool shed	Highways Yardsite	Main Street Coalmont	426	388	388
Oil shed	Highways Yardsite	Main Street Coalmont	215	196	196
Garage and workshop	Highways Yardsite	296 Vernon Avenue Princeton	12,087	12,087	12,087
Vehicle storage	Highways Yardsite	296 Vernon Avenue Princeton	4,814	4,384	4,384
Oil storage	Highways Yardsite	296 Vernon Avenue Princeton	211	192	192
Assembly/ Dispatch bldg.	Highways Yardsite	296 Vernon Avenue Princeton	960	866	866
Lease	OK.Testing Serv. building	264 Westminster Ave. Penticton	-	1,838	1,838
Lease		151 Front Street Penticton	-	500	500

<u>Description</u>	<u>Facility</u>	<u>Civic address</u> <u>city</u>	<u>Gross</u> <u>exter.</u> <u>area</u>	<u>Gross</u> <u>inter.</u> <u>area</u>	<u>Net</u> <u>rent</u> <u>area</u>
Lease		257-269 Brunswick St. Penticton	\$ -	\$ 4,466	\$ 4,466
Lease		2325 Government St. Penticton	-	1,967	1,967
Lease		166 Main Street Penticton	-	2,879	2,879
Lease		2919 31st Avenue Penticton	-	535	535
Ease		996 Main Street	-	3,100	3,100
9 Lease		Roth Unit and Municipal Lib, West Summerland	-	6,000	6,000
Ease	Penticton Health Centre	300 Eckhardt Avenue Penticton	-	9,600	9,600
2 Lease	Osoyoos Health Centre	Main Street Osoyoos	-	2,800	2,800
8 Lease	Oliver Community Health Centre	2nd. Street, West Oliver	-	1,800	1,800
4 Lease		1386 Carni Street Penticton	-	660	660
Lease	Princeton Health Centre	Harold and Lime Streets Princeton	-	1,925	1,925
Lease		221 Vermillion Street Princeton	1,846	1,846	1,846
Ease		679 Edkhardt Avenue, West Penticton	955	955	955
Ease	Bldg. No. 19	Summerland Research Stn., Summerland B.C.	-	2,900	2,900
Ease		477 Martin Street Penticton	-	700	700

APPENDIX B

REORGANIZATIONAL CHANGES WITHIN THE
PROVINCIAL MINISTRIES AS AT DECEMBER, 1978

THE NEW MINISTRY MANDATESMinistry of Agriculture

The promotion of agricultural enterprise in the Province of British Columbia to ensure the maintenance of a viable agricultural community and a capacity to process home grown foods.

Ministry of the Attorney-General

The administration of justice inclusive of the Enforcement Branch, the Judicial Branch and the Corrections Branch.

Ministry of Consumer and Corporate Affairs

The administration of laws regulating corporate enterprise in the Province of British Columbia and the administration of regulations which protect consumers.

Ministry of Deregulation

"This new Ministry (of Deregulation) will have the responsibility to carry out the government's program of cutting the red tape within all ministries of government. It will have further mandate to review all existing legislation and regulations for the purpose of ensuring that such legislation and regulations serve a useful public purpose."

This Ministry will carry with it a "sunset clause" so that its mandate will expire at the end of two years.

Ministry of Economic Development

The promotion of trade, industrial development and commerce.

The encouragement in cooperation with the new Ministry of Tourism and Small Business Development and the British Columbia Corporation, of small business enterprise within the Province of British Columbia.

Ministry of Education, Science and Technology

The responsibility to provide educational opportunities for all citizens of British Columbia and to promote the capacity for the development of science and technology within the Province of British Columbia.

Ministry of Energy, Mines and Petroleum Resources

The development and management of an energy policy for the Province of British Columbia and the management of mineral resources of the Province and conservation of the landscape associated with mining operations.

Ministry of Environment

The maintenance of a quality habitat for humans, wildlife and fish within the Province of British Columbia.

Ministry of Finance

The maintenance of an overview of the Government's fiscal responsibilities, the development of the capacity to research and analyze the economic policy required to fulfill the Government's responsibilities, and specifically, the development of, in cooperation with line Ministries involved, a capacity to develop policy with respect to any cost-sharing arrangements between the federal and provincial governments.

Ministry of Forests

The management and conservation of all forest resources within the Province of British Columbia.

Ministry of Health

The maintenance and improvement of total health delivery programs for the people of the Province of British Columbia.

Ministry of Human Resources

The maintenance and improvement of those programs which support those in need.

Ministry of Labour

The encouragement of positive employee-employer relations in the Province and maintenance of a safe living and working environment for the people of British Columbia.

Ministry of Lands, Parks and Housing

"The management and allocation of Crown Lands in the Province of British Columbia to ensure:

The maintenance and improvement of a quality system of parks and the encouragement of the best use of Crown land for agricultural, residential, industrial, commercial and recreational opportunities within the Province of British Columbia."

Ministry of Municipal Affairs

The management of provincial-municipal relationships within the Province with particular emphasis on Revenue-Sharing and Urban Transit.

Ministry of the Provincial Secretary and Government Services

The management of heritage, sports and cultural activities within the Province and the delivery of services to line-ministries of Government including the administration of the Executive Council, agendas and Orders-in-Council.

Ministry of Tourism and Small Business Development

The promotion of the hospitality and travel industry within the Province of British Columbia.

The encouragement, in cooperation with the Ministry of Economic Development and the British Columbia Development Corporation, of small business enterprise with the Province of British Columbia.

Ministry of Transportation, Communications and Highways

The development of an overall transportation and communications policy for the Province of British Columbia and the construction and maintenance of a quality provincial highway system.

SUMMARY OF PROGRAM TRANSFERSAgriculture

No change.

Attorney-General

The Film Classification moves from Consumer and Corporate Affairs.

Consumer and Corporate Affairs

Film Classification moves to the Attorney-General

Economic Development

Economic Research Analysis Branch moves to Finance. British Columbia Harbours Board moves from Recreation and Conservation.

Education, Science and Technology

Education programs remain unchanged, but the new mandate for Science & Technology is expected to involve the ministry in a new directional thrust.

Energy, Mines & Petroleum Resources

The programs of the former Ministry of Mines & Petroleum moves to this new Ministry.

The mandate for Energy and programs associated with it moves from the former Ministry of Energy, Transport and Communications.

B.C. Petroleum Corporation moves from the former Ministry of Mines & Petroleum Resources.

Environment

The following programs move from the former Ministry of Recreation and Conservation:

- Marine Resources;
- Fish Enhancement Program;
- Fish and Wildlife;
- Federal and other Agency Programs;
- Creston Valley Wildlife Management;
- Administrative and public information votes from the former Ministry of Recreation and Conservation will be apportioned between this new Ministry and the new Ministry of Lands, Parks and Housing;
- Environmental Engineering will move from the Ministry of Health, in consultation with that Ministry;
- Improvement District Administration moves to the new Ministry of Municipal Affairs;
- The Flood Relief Act and the Provincial Emergency Program will both move to the Ministry of the Provincial Secretary.

Finance

Government Employees Relation Bureau moves to the Ministry of Provincial Secretary and Government Services. Economic Research Analysis Branch moves from the Ministry of Economic Development.

Forests

No change.

Health

Action B.C. moves from the former Ministry of Recreation and Conservation. Glendale Laundry, Victoria, will move from the former Ministry of Highways and Public Works. Environmental Engineering will move to the Ministry of Environment, in consultation with the Ministry of Health.

Human Resources

The S.A.F.E.R. program moves from the former Ministry of Housing.

Labour

The Safety Engineering Division moves from the former Ministry of Highways and Public Works.

Lands, Parks and Housing

The Lands Branch, including its Legal Service Branch, moves from Environment. The University Endowment Lands moves from the Ministry of Environment.

The following programs move from their former Ministry of Recreation & Conservation:

- Parks Management;
- Land Acquisition - National and Provincial Parks;
- Youth Group;

- Grants in Aid of Regional Park Development;
- All-Terrain Vehicle Act;
- The administration and information votes of the former Ministry of Recreation and Conservation will be apportioned between this new Ministry and the Ministry of Environment;
- The entire Department of Housing moves to this new Ministry, except S.A.F.E.R. which goes to Human Resources.

Municipal Affairs

Improvement District Administration moves from the Water Rights Branch of the Ministry of Environment.

Provincial Secretary and Government Services

The following programs move from the former Ministry of Recreation and Conservation:

- Heritage Conservation Branch;
- Recreation Fitness Branch (EXCEPT Action B.C.);
- Recreation Facilities Branch;
- Cultural Services Branch;
- Government Employee Relations Bureau moves from the Ministry of Finance;
- B.C. Buildings Corporation moves from the former Ministry of Highways and Public Works;
- The Flood Relief Act moves to the Ministry of Environment from the Provincial Secretary;
- The Provincial Emergency Program moves to the Ministry of Environment from the Provincial Secretary.

Tourism and Small Business Development

The Travel Division of the former Ministry of the Provincial Secretary and Travel Industry moves to this new Ministry.

B.C. Steamship Corporation moves from the same Ministry.

Transportation, Communications and Highways

The following programs move to the new Ministry from Energy, Transport and Communications:

- The Transport and Communications Division;
- Local Airport Assistance Program;
- B.C. Air Services;
- B.C. Ferries Corporation moves from the former Ministry of Recreation and Conservation;
- Safety Engineering Division moves to the Ministry of Labour.

APPENDIX C

STATISTICS RELATING TO REGIONAL DISTRICTS

OF

NORTH OKANAGAN

CENTRAL OKANAGAN

OKANAGAN-SIMILKAMEEN

TABLE 1

REGIONAL DISTRICT OF NORTH OKANAGAN

Incorporated November 9, 1965

TOTAL POPULATION: 46,212

VOTING UNIT: 2,500

<u>Member Municipalities</u>	<u>Area</u> ¹	<u>Population*</u> <u>1976 Census</u>	<u>Voting**</u> <u>Strength</u>	<u>Number of</u> <u>Directors</u> ^{**}	<u>Assessment Taxable</u> <u>for School Purposes</u> <u>(excluding property</u> <u>taxable only by</u> <u>special Act)</u>	<u>Assessment</u> <u>Taxable by</u> <u>Mill Rate</u> <u>for</u> <u>General Purposes</u>
					\$	\$
Cities:						
- Armstrong	506.3	2,260	1	1	7,652,443	6,884,596
- Enderby	265.1	1,482	1	1	4,093,115	3,750,045
- Vernon	1,893.6	17,658 ³	8	2	75,768,685	68,762,453
Districts:						
- Coldstream	7,643.1	4,995	2	1	21,607,671	18,033,126
- Spallumcheen	26,386.4	3,378	2	1	18,218,682	12,428,929
Village:						
- Lumby	501.2	1,081	1	1	6,043,295	4,048,913
Electoral Areas:						
- A	139.3	3,892 ³	2	1	12,852,950	12,565,360
- B	576.0	3,001	2	1	8,251,011	7,603,924
- C	326.9	2,449	1	1	7,293,253	6,332,289
- D	1,781.1	2,356	1	1	5,909,605	4,869,927
- E	2,779.3	640	1	1	1,388,763	1,312,161
- F	1,897.4	3,020	2	1	7,724,348	6,733,089
Totals	7,872.0 ²	46,212	24	13	176,803,821	153,324,812

Source: Statistics Relating to Regional and Municipal Governments in British Columbia. June, 1978.

...continued

REGIONAL DISTRICT OF NORTH OKANAGAN (continued)

1 Area shown for incorporated municipalities in hectares; for electoral areas in square kilometres. Conversion factors: 1 acre = .4047 hectares, 1 square mile = 2.59 kilometres.

2 Square kilometres.

3 Boundary changes subsequent to 1976 Census.

* The Census figures do not include people residing on Indian Reserves.

** Voting Strength and Number of Directors data calculated on the basis of 1976 Census figures which included people residing on Indian Reserves. Source: Ministry of Municipal Affairs and Housing 1976 Population figures effective October 15, 1977.

TABLE 2

REGIONAL DISTRICT OF CENTRAL OKANAGAN

Incorporated August 24, 1967

TOTAL POPULATION: 70,745

VOTING UNIT: 4,000

<u>Member Municipalities</u>	<u>Area</u> ¹	<u>Population</u> [*] <u>1976 Census</u>	<u>Voting</u> ^{**} <u>Strength</u>	<u>Number of</u> ^{**} <u>Directors</u>	<u>Assessment Taxable</u> <u>for School Purposes</u> <u>(excluding property</u> <u>taxable only by</u> <u>special Act)</u>	<u>Assessment</u> <u>Taxable by</u> <u>Mill Rate</u> <u>for</u> <u>General Purposes</u>
					\$	\$
City:						
- Kelowna	22,837.7	51,955	14	3	223,772,091	198,367,018
District:						
- Peachland	1,663.3	2,286	1	1	8,084,617	8,068,235
Electoral Areas:						
- A	334.4	5,003	2	1	18,725,422	17,113,193
- G	1,069.9	4,517	2	1	23,949,785	23,297,427
- H	373.0	5,940	2	1	33,517,002	24,588,550
- I	934.0	1,044	1	1	3,770,513	3,316,093
Totals	2,956.3 ²	70,745	22	8	311,819,430	274,750,516

Source: Statistics Relating to Regional and Municipal Governments in British Columbia. June, 1978.

¹ Area shown for incorporated municipalities in hectares; for electoral areas in square kilometres.
Conversion factors: 1 acre = .4047 hectares, 1 square mile = 2.59 square kilometres.

² Square kilometres.

* These Census figures do not include people residing on Indian Reserves.

** Voting Strength and Number of Directors data calculated on the basis of 1976 Census figures which included people residing on Indian Reserves. Source: Ministry of Municipal Affairs and Housing 1976 Population figures effective October 15, 1977.

TABLE 3

OKANAGAN-SIMILKAMEEN REGIONAL DISTRICT

Incorporated March 4, 1966

TOTAL POPULATION: 50,717

VOTING UNIT: 1,800

<u>Member Municipalities</u>	<u>Area</u> ¹	<u>Population*</u> 1976 Census	<u>Voting**</u> Strength	<u>Number of **</u> Directors	Assessment Taxable for School Purposes (excluding property taxable only by special Act)	Assessment Taxable by Mill Rate for General Purposes
					\$	\$
City:						
- Penticton	4,418.7	21,426 ³	12	3	79,296,169	432,008,910
District:						
- Summerland	6,691.2	6,724	4	1	21,012,238	135,318,142
Villages:						
- Keremeos	222.2	702	1	1	2,709,758	2,301,386
- Oliver	224.0	1,641	1	1	6,412,136	5,523,096
- Osoyoos	301.7	2,100	2	1	9,266,487	8,724,162
- Princeton	832.5	3,132	2	1	9,118,090	6,924,342
Electoral Areas:						
- A	314.2	2,055	2	1	6,915,505	5,956,006
- B	303.5	864	1	1	2,302,831	1,724,898
- C	633.5	4,012	3	1	11,466,551	9,538,868
- D	991.2	2,941 ₃	2	1	15,141,032	12,683,716
- E	796.2	1,046 ³	1	1	5,435,016	4,758,847
- F	722.4	1,086	1	1	4,981,423	4,568,448
- G	2,211.3	1,483	1	1	4,551,052	3,772,822
- H	4,914.3	1,505	1	1	20,158,078	13,791,543
Totals	11,013.5 ²	50,717	34	16	198,766,366	647,595,186

Source: Statistics Relating to Regional and Municipal Governments in British Columbia. June, 1978.

...continued

OKANAGAN-SIMILKAMEEN REGIONAL DISTRICT (continued)

- 1 Area shown for incorporated municipalities in hectares; for electoral areas in square kilometres. Conversion factors: 1 acre = .4047 hectares, 1 square mile = 2.59 kilometres.
 - 2 Square kilometres.
 - 3 Boundary changes subsequent to 1976 Census.
- * The Census figures do not include people residing on Indian Reserves.
- ** Voting Strength and Number of Directors data calculated on the basis of 1976 Census figures which included people residing on Indian Reserves. Source: Ministry of Municipal Affairs and Housing 1976 Population figures effective October 15, 1977.

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Pacific Region, February, 1977 |
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Affairs & Housing | Regional District Review
Committee, Report of the
Committee, October, 1978 |

Additional Sources of Information:

Payroll, Personnel and Administration Services of the following
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Agriculture, Attorney-General, Consumer and Corporate
Affairs, Deregulation, Economic Development, Education
Science and Technology, Energy Mines and Petroleum
Resources, Environment, Finance, Forests, Health, Human
Resources, Labour, Lands, Parks and Housing, Municipal
Affairs, Provincial Secretary, Tourism and Small Business,
Transportation, Communications and Highways.

Municipal Clerks in the following 14 Communities:

Armstrong, Coldstram, Enderby, Lumby, Kelowna, Keremeos,
Oliver, Osoyoos, Peachland, Penticton, Princeton,
Summerland, Spallumcheen, Vernon.

Secretary Treasurers of the following 8 School Districts:

Armstrong-Spallumcheen, Central Okanagan, Keremeos,
Penticton, Princeton, South Okanagan, Summerland, Vernon.

The B.C. Health Association.

