

RURAL COMMUNICATIONS PROGRAM

REGIONAL DEMOGRAPHIC STUDIES

B.C. REGION

Phase I

TELECOMMUNICATIONS RESEARCH GROUP

SIMON FRASER UNIVERSITY

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## REGIONAL DEMOGRAPHIC STUDIES

### B.C. REGION

#### INTRODUCTION

This report is a summary of the information collected and analyzed during what is referred to as Phase I of the Demographic Studies for the Rural Communications Program of the Department of Communications in Ottawa. The objectives of this Phase, as listed in the document dated November 18, 1976, are to:

- a) document where the rural population and settlement is, provide basic data that is of relevance to the provision of communications services and to identify trends;
- b) examine how well the rural population is currently served with communications.

The primary source of data for the first objective is, of course, Statistics Canada census material; at this stage in the decennial cycle, complete demographic information is available only up to the 1971 Census. The primary sources of data for the second objective are the telephone companies operating in the rural portions of the region: British Columbia Telephone Company, Okanagan Telephone Company and CN Telecommunications. (The City of Prince Rupert telephone department provides service only within the city boundaries and, since it serves an urban area of more than 5,000 people, is thus outside the scope of this study.

The telephone service data supplied is for May 31, 1976, which can be matched with population data from the 1976 Census as soon as it is available in detailed breakdown. At this time, however, we had to estimate

the 1976 population and household numbers for the rural areas and their accuracy may be in question in some instances.

Aside from the Census data and the telephone service statistics which were basic to the study, there have been some problems in collecting the sort of additional information required to give a fuller picture of the region. In attempting to produce trends in population growth and in settlement, the lack of detailed breakdown of the 1976 Census data has been a problem because we believe that the trends in population growth in B.C. up to 1971 have not been maintained since then and may be changed further in the future. Historically, much of B.C.'s population growth has been from immigration rather than natural increase but several factors have made the level of immigration unpredictable. In the past few years, the federal government's immigration policies have been in transition and whatever changes occur through pending legislation will have effects on the numbers of immigrants who come to this region, perhaps especially to the rural areas. Also levels of unemployment in B.C. have risen considerably since 1971 and the attraction of B.C. for residents of other provinces must have declined correspondingly.

A second subject on which there is a lack on information has to do with the business activity in the region. The number and location of businesses in rural areas of the province is information which the provincial government does not appear to have readily available. In the case of the principal telephone company (B.C. Tel), this information is not in the data format required by the study and we are informed it would be costly to provide such data.

In 1971 federal Business Census data is not available yet and we understand that its accuracy is also in question. In researching the business profiles for Section II of the report, we found there were gaps

in the detailed information about particular industries and there were areas in the province on which no recent studies had been undertaken. Also, in many of the reports we did obtain about business and industry activity, the data used was obtained from the 1966 or 1971 Census: statistics which were either out-of-date or else available to us directly from Statistics Canada.

Finally, there was no suitable information available on telephone expenditures by households or businesses in the region. The last available information on household expenditures is a Statistics Canada survey on family expenditures, conducted in 1969. Aside from the information being out-of-date now, the categories of expenditures did not include one for telephone expenditure nor could they be deduced from any of the categories given.

During the course of this study, we have had to rely on various people to assist in collecting the data and we have received extremely good co-operation throughout this portion of our work. In dealing with the Statistics Canada data, we have received invaluable assistance from the statistics division of the provincial Department of Economic Development in Victoria. Without their help, we could not have achieved as detailed a breakdown of the census data we have done. The Vancouver office of Statistics Canada has also been extremely helpful and we have been assisted in various ways by the Socio-Economic Policy branch of the local DOC office.

With the telephone companies, we have been fortunate in having essentially only two companies to work with: B.C. Telephone (which was able to provide us with information on both B.C. Tel and Okanagan Telephone, a subsidiary) and CN Telecommunications. During the time when we were in the process of collecting telephone service data, the B. C. Tel

staff we worked with were moved from a downtown Vancouver office to the new Burnaby headquarters office tower. Despite this, the staff was able to arrange it so that there was minimal disruption in our work and we are grateful for this consideration. Personal contact with the B.C. Tel staff throughout the study has been valuable to us.

Although CN Tel has its regional office in Edmonton and thus not possible for us to meet the staff, we have been given every assistance by their regional staff and have received the basic information required for this phase of the study.

The report which follows is divided into 3 main sections. Section I is concerned with the demographic and community statistics of the region within the rural areas as defined for the purposes of this study. Section II is a summary of the economic activities in the rural portions of eight sub-regional areas of B.C. This section is the longest in pages because of its descriptive nature; it is intended to provide a context in which demographic or telephone service information can be placed and understood. Section III consists of a summary of the telephone service statistics collected at exchange level and grouped by census division so that they can be related to population. At the conclusion of Section III, we have selected several specific areas of rural B.C. which would represent the different types of rural development and population spread, and which we think would be suitable for in-depth analysis during Phase II of this study.



## SECTION I DEMOGRAPHY AND COMMUNITY DISTRIBUTION

Beginning at the regional level, it is useful to look at the demographic statistics for the rural areas of B.C. and for the other regions across Canada. By doing so, we can get some idea of whether B.C. is in any way typical in its ruralness and whether its differences from the average are significant or useful to note. Since the populations by region are not even roughly equal in size, except for B.C. and the Maritimes, the comparisons must be made on the basis of percentages or ratios. Following are three tables which attempt to illustrate some of the characteristics of the five regions normally used to encompass the ten provinces. Although, in this project, Ontario and Quebec are combined in one region, we thought it worthwhile to treat them as separate regions in these tables.

Table 1 gives some basic data on rural demography, using the Statistics Canada definition of rural. As might be expected, the Central Canada regions have the lowest percentage of people in rural areas while the Maritimes and the Prairies have the highest. B.C. is closer to Ontario and Quebec than to the other two regions but, because the total population involved in B.C. is so small in comparison, this region has the least actual number of rural people of any region. The same is true for rural farm population and for rural non-farm population also. The Maritimes and B.C. are similar in the ratio between rural farm and rural non-farm people but the Maritimes has almost twice as many rural non-farm people as there are in B.C.

Altogether, there are 1,287,485 rural households in the five regions, British Columbia's share being 11.4% of the total. This percentage is

higher than might be expected and is due to the number of people per household being appreciably lower here than in Central Canada or in the Maritimes. Even so, the B.C. region remains the lowest in actual numbers of rural households, as in the other rural statistics provided so far.

In looking at 1966 figures, we note that the proportion of rural people, classified as rural farm has declined from 1966 to 1971 in all regions and we have no reason to believe that the decline has been stopped or reversed from 1971 to 1976. Even in 1971, farming was a minor activity in both the Maritimes and in B.C. for rural people and we anticipate that its importance in providing employment and in dictating a rural farm settlement pattern will continue to decline in both regions.

Table 2 is intended to illustrate the differences between regions in their rural labour force and in income levels. We note that in B.C. the labour force is 38% of the rural population, slightly lower than in the Prairies and in Ontario. This is a change from the 1966 situation when B.C. had 43% of its rural population in the labour force. We think this change is due to the movement of families into rural areas and a coincident lesser emphasis on large numbers of transient single workers employed on large-scale construction sites or in temporary resource extraction enterprises.

In looking at the industries which provide employment for rural people, we have selected four which are generally found in the rural areas. As expected, the Prairie region has the largest labour force in agriculture of any region -- and actually has more than half of all such workers. Also, as expected, B.C. has the most workers in forestry of any region although Quebec runs a close second. Fishing is most common in the Maritimes region with B.C. and Quebec a long way behind in size of labour force. Mining activity provides employment in all regions with no region dominating,

although B.C. and the Prairies have a higher percentage of their rural labour force in this industry than do the other regions.

Of the four basic industries generally providing employment in the rural areas, agriculture appears to provide jobs for the largest number of people in all regions, not only the Prairies. This is rather surprising in B.C. and the Maritimes where the rural farm population is such a small proportion of rural people generally. In each of these regions, the industry usually associated with the rural areas (forestry in B.C. and fishing in the Maritimes) provides employment to fewer people than does agriculture. In total, the four "rural" industries provide employment for 20% of B.C.'s rural labour force; in the Prairies, the percentage is 51.5% and the Maritimes has the lowest - 17.4%.

Levels of income, by themselves, do not indicate the prosperity of the recipients because expenditures vary across the country but it is interesting to note that household heads in rural B.C. and B.C. rural families have the highest average income levels of any region, followed by Ontario and with the other three regions considerably lower in both cases. However, according to a report of the Economic Council of Canada on regional disparities (issued in April 1977), B.C. also has the highest cost of living of any region and, on balancing expenditures against income, Ontario would come out ahead.

Table 3 shows the level of schooling attained by rural people 5 years of age and over, of those not attending school full-time during the 1971 Census count. Here, the differences between regions are sufficiently wide as to require comment. While, in B.C., there is somewhat over one-third of the rural people with education up to Grade 8 only, this is compared to two-thirds of rural people in Quebec whose education is at

the elementary school level. At all levels of education above Grade 8, B.C. has the highest percentage of its rural population in that category compared to other regions. Why this should be we think is due to several factors: the low number of people employed in agriculture; the high level of immigration to B.C. from other provinces and other communities of people with higher levels of education; the large-scale and complex nature of industrial development in the rural areas of the region which requires the employment of a high proportion of technical and white collar workers in the total labour force.

At the university education level, 8% of B.C.'s rural people are shown in this category and, while most of these people are required by industry or government in the rural areas, we think that the remainder (possibly 10-15% in some areas) are university graduates who have decided to live in the rural areas and do not have employment which depends on their educational qualifications. The areas where this is most prevalent are the Kootenays, the Sunshine Coast and Southern Vancouver Island - all places where a subsistence-type or marginal farm is possible to maintain with some outside income required for part of the year. Since 1971, employment prospects for university graduates generally have deteriorated and we would expect that numbers of graduates in rural B.C. will have increased further in the 1976 Census data. Furthermore, the establishment of community colleges throughout the province during the early 1970's will have increased the likelihood of people in all areas having some post-secondary education.

TABLE 1 RURAL POPULATION AND RURAL HOUSEHOLDS BY REGION - 1971 CENSUS

REGION	Total Population	Rural Population (% of total)	Rural Farm Population	Rural Non-Farm Population	RF/RN-F Population Ratio	Total Rural Households
B.C.	2,184,620	530,215 (24%)	73,515	456,695	14/86	146,160
Prairies	3,542,365	1,169,030 (33%)	599,775	569,260	51/49	308,250
Ontario	7,703,105	1,359,475 (18%)	363,640	995,835	27/73	361,260
Quebec	6,027,765	1,166,510 (19%)	305,300	861,210	26/74	258,310
Maritimes	2,057,260	907,130 (45%)	77,480	829,640	9/91	213,505

Source: Statistics Canada, 1971 Census, Catalogues 92-709 Table 10, 93-740 Table 41.

TABLE 2

## RURAL LABOUR FORCE AND INCOME CHARACTERISTICS BY REGION - 1971 CENSUS

REGION	Rural Labour Force (15+)	RURAL LABOUR FORCE BY SELECTED INDUSTRY				Average Income by Rural Household Head	Average Rural Family Income
		Agriculture	Forestry	Fishing	Mining	\$	\$
B.C.	200,200	18,290	14,815	1,425	5,675	6,880	8,918
Prairies	452,485	220,200	2,475	735	9,740	4,453	6,023
Ontario	532,290	108,980	4,440	665	9,555	6,276	8,560
Quebec	347,815	63,075	14,400	1,320	5,680	4,947	6,859
Maritimes	274,240	19,010	9,905	14,345	4,465	4,222	5,818

Source: Statistics Canada, 1971 Census, Catalogues 94-741 Table 3A, 93-724 Table 81, 93-710 Table 66.

TABLE 3

## RURAL POPULATION BY LEVEL OF SCHOOLING BY REGION - 1971 CENSUS

REGION	Rural population aged 5 & over	With elementary and vocational schooling (%)	Grades 9-13 and vocational schooling (%)	Secondary and post-secondary non-university (%)	University education w/wo other training (%)
B.C.	330,390	117,915 (36%)	156,300 (47%)	28,525 (9%)	27,650 (8%)
Prairies	715,130	361,750 (51%)	272,125 (38%)	43,895 (6%)	37,360 (5%)
Ontario	825,440	375,525 (45%)	344,640 (42%)	65,615 (8%)	39,665 (5%)
Quebec	687,980	453,945 (66%)	176,115 (26%)	35,305 (5%)	22,615 (3%)
Maritimes	540,770	301,060 (56%)	185,215 (34%)	31,400 (6%)	23,090 (4%)

Source: Statistics Canada, 1971 Census, Catalogue 92-720 Table 38B

## I A Description of Rural Study Area

The definition of "rural" for the purposes of this study was a complicated task. We started from the Census definition of rural as either a community or an enumeration area with less than 1,000 people or with a density of less than 1,000 people per square mile. For the purposes of this study, however, we had to make two changes to the Census definition. Firstly, we had to determine which areas (and, therefore, which population and which communities) are "remote", rather than rural.

The definition we used for a remote area is that the area is "beyond the limits of continuous population distribution and beyond the continuity of regular transportation and communications systems." This is virtually the same definition as that proposed in the November 18, 1976, paper circulated by Keith Richardson - with the notable addition of the regular in "regular transportation and communications systems." In our experience of transportation in this province, every community can be reached by some transport, usually plane, but not all communities are linked to the urban portion of the province by an all-weather road or by a regularly scheduled air or sea transport system.

With this definition, we found there were eight communities in remote areas which receive some level of telephone service but which are not connected to the rest of the province by regular and reliable transportation. These communities are: Ahousat, Aiyansh, Anahim, Atlin, Bella Bella, Dease Lake, Kemano and Tasu. They are not all in the northern half of the province (as one might have expected) and are located in six census divisions. Improvements in road, rail and sea transport would be



required to remove these communities from the remote category. The postponement of work on the B.C. Railway extension makes it difficult to predict when Dease Lake will become connected to the rest of the province. However, for example, Anahim will probably be accessible by an all-weather road from Williams Lake within the next two or three years.

Such communities are the exception in B.C. where most people (other than native people on reserves) live in settlements which have grown precisely because they are on a transportation route. Many small communities on the west coast which were established years ago have been unable to survive because of the loss of steamer and ocean-going transport routes. Along the highways, however, there are many small communities which are "beyond the limits of continuous population distribution" but which are located along main roads and, in that sense, cannot be called "remote". Small settlements, such as Muncho Lake, along the Alaska Highway, northwest of Fort Nelson, are the extreme examples of this sort of community.

Ideally, it would have been easiest if we could have drawn an east-west line across the province and defined the remote areas as those north of the line. This method seems to be applicable in the Prairie region and possibly in Central Canada. However, the mountain ranges in B.C. are aligned to the north-west and south-east of the region and rural population extends to all four edges of the province. Within each sub-region of the province, there are remote and usually unpopulated areas which are sufficiently large to require attention in any rural/remote division of the province. Through an examination of each census division and the population distribution by enumeration area, we have designated certain enumeration areas as remote, with the population and any communities over 50 people contained in them as remote also.

Having established which rural enumeration areas had to be excluded from this study because they are remote, we had to ensure that all areas and communities to be included were correctly identified. At the beginning of the study, we had decided to include only those urban centres of population up to 1,000. However, this definition proved to be too narrow because it excluded many small towns which we regard as rural in nature and in level of services (including telephone service) received.

An upper limit of 2,500 for communities to be included has been suggested and we understand that such a limit was acceptable in other regions. While uniformity of definition between regions would be the ideal, in this instance we found that the inclusion of places up to 2,500 people only would still exclude a number of places in B.C. which are identical in character to those with populations of 1,000 to 2,500 people. Places such as Smithers (3,864 people in 1971) and Golden (3,053 in 1971, with boundary changes) are rural towns and their rural nature is dictated primarily, we think, by their distance from major cities. The cities outside the Lower Mainland and the Greater Victoria areas are few and far between. Prince George had less than 50,000 people in 1971 and it towers in size over all other communities in the northern half of the province.

There are only three other communities with more than 30,000 people outside the Vancouver and Victoria areas: Kamloops, Kelowna and Nanaimo - and Nanaimo's growth partly stems from it being the Vancouver Island port closest to Vancouver. In the rural areas of the province, communities of 3,000 and 4,000 have grown up slowly and there is usually a major gap between this size of town and the next biggest communities of 9,000 to 14,000. Because of this pattern of urban settlement in B.C. and our strong conviction that communities of 2,500 to 5,000 should be treated as rural if

they are outside the sphere of the main cities, we have settled on a upper limit of 5,000 people in communities which are included in the rural study area.

A number of exclusions have been made in areas in and around the large cities, especially with regard to unincorporated places which are really suburbs of incorporated areas. An example of this would be Westsyde which, in 1971, was an unincorporated place next to Kamloops. For the people living there, they are essentially part of Kamloops and, as such, receive the communications services available to people in a city of that size. In all, ten unincorporated places were excluded from the study even though their population was listed as less than 5,000 in 1971.

Three incorporated places of less than 5,000 population were also excluded: Sidney, Langley City and South Fort George. Sidney is now adjacent to the city of Victoria through the extension of urban areas between the two places. Its population in 1971 was 4,868 and the preliminary figure for 1976 is 6,464. Langley City and South Fort George were excluded for similar reasons.

In summary, the B.C. rural population according to Census definition was 530,215 in 1971. From that number, we have excluded 13,505 people who live in remote areas, leaving 516,710. Further examination of the actual population figures for each settlement caused us to make minor adjustments in most census divisions. The adjusted rural population figure for B.C. was then 518,330. Added to this figure are those people living in communities over 1,000 and less than 5,000 which we have determined to be rural or semi-rural: 121,025 people. In total, our population in the "rural study area" is 639,355. Depending on the statistical breakdown we have been able to obtain, one of three definitions of rural population has been used in this report: 1) rural study area population; 2) census rural

population; 3) rural population (Census rural minus remote). As far as possible, we have indicated on the statistical tables, and in the text, the limitations on "rural" data used.

Following this description is a trio of maps of B.C. to illustrate the areas discussed in this and later sections of the report. Map 1 is an outline of the region prepared by us to indicate the division between rural and remote areas in B.C. For the purposes of this map, the urban areas are not distinguished but are contained within those portions characterized as rural, the land area involved in urban occupation being extremely small as a percentage of the B.C. land area. The next map is one prepared for the B.C. Department of Economic Development to show the population distribution within the province. It can easily be seen that the distribution is extremely uneven across the territory and is heavily concentrated in the southwest corner. Map 3 is a reduced chart of the Statistics Canada census division boundaries, together with an alphabetical listing of them by name.

In our calculations of the remote areas, the variations in the size and geographic characteristics of the census divisions resulted in some divisions losing large chunks of territory while others lost only a few hundred square miles, as indicated in Table 4 following. For B.C. as a whole, our calculations show that 77.3% of the region's land area is remote. As shown in Table 4, and as used elsewhere in this report, the "rural study area" is that area defined for the purposes of this study as rural: i.e., Census rural (minus the remote areas delineated by us) plus selected settlements of up to 5,000 people. One odd result should be noted here in the calculations of population density, for Stikine census division. We have determined that the whole division is remote except for the community of Cassiar so that, since its area is 1 square

mile, the population density for the community could be equated to the whole census division. Instead, we have preferred to put the result as "n.a."

The density of population varies widely between census divisions from 1.34 for Peace River-Liard to 185.63 for Central Fraser Valley. The two divisions with highest rural density are Central Fraser Valley and Greater Vancouver - both strongly affected by the Vancouver metropolitan area. Capital division is similarly affected by Victoria although the density here is surprisingly lower than in Cowichan Valley, an area with no major city but which is located between Nanaimo and Capital. Generally, the divisions containing eastern Vancouver Island north to Campbell River are quite densely populated; much of these divisions' areas are deemed remote and the population density has thus been emphasized and reflects the density for the populated areas only. Outside the lower Fraser Valley area and eastern Vancouver Island, population densities are below 20 people per square mile except for Columbia-Shuswap.

In tabulating the number and size of communities in the rural study area, we have determined from the 1971 Census that there are 715 communities (incorporated or unincorporated) of at least 50 people in the province, of which 21 are in remote areas, 29 are over 5,000 people and a further 13 are excluded because of their proximity to major urban centres. Having excluded the remote and larger urban communities, then, there are 652 communities in the B.C. rural study area. The distribution of these communities by size and by census division is indicated in Table 5. As listed in this table, 16 communities of between 2,500 and 5,000 people have been included in the rural study area but most communities are much smaller than that. Generally, those divisions which have large numbers

of communities of less than 200 people have a low average population density.

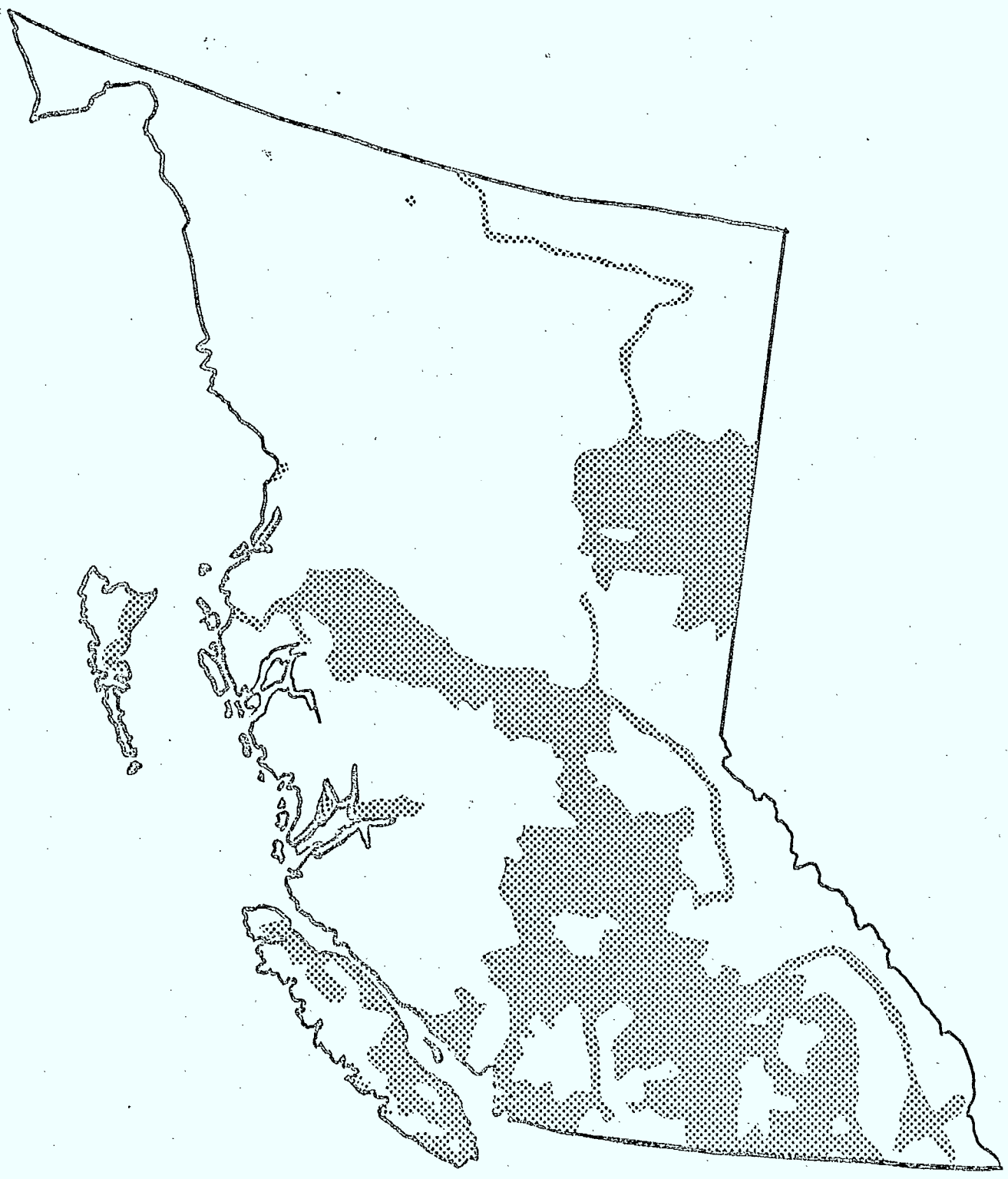
Indian reserves are not included in Table 5 because the Census data on reserves is treated slightly differently by Statistics Canada. Population figures are available on enumeration areas which contain one or more reserves but these are not broken down to the reserve level when the E.A. contains more than one reserve. Table 6 gives the number of Indian reserves in the rural study area and their population size, as far as can be determined. Although there are 118 reserve communities listed, the total reserve population is only 27,125, an average of 230 people per community. Indeed, as can be seen in Table 6, only seven communities have more than 500 people each, and only one of these has over 1,000 residents. The greatest number of reserve communities is in Thompson-Nicola, followed by Kitimat-Stikine but most of the former's communities are less than 200 people. Kitimat-Stikine's reserves are higher in population and this division has over 4,000 Indians living on reserves.


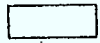
The geographical distribution of communities within each census division varies greatly although a rough calculation of the average distance between communities of any size over 50 people does not show a wide range for most census divisions: usually between 10 and 25 road miles. There is a much more significant difference when an estimate is made of the average distance to an urban centre of over 5,000 people. Those divisions with communities averaging over 100 miles to a major centre stand out - Bulkley-Nechako, Peace River-Liard, Kitimat-Stikine, Skeena A are all in the northern half of the province; Ocean Falls is in the mid-coastal area. The average distances are listed in Table 7 and are

based on calculation of the average number of communities per 1,000 square miles in each census division. Again, Stikine does not produce a realistic result and it has been omitted in the third column. Greater Vancouver is also an anomaly in this table because all its communities are adjoining so there is really no calculable distance between them.

MAP 1

DIVISION BETWEEN RURAL AREAS AND REMOTE AREAS IN BRITISH COLUMBIA



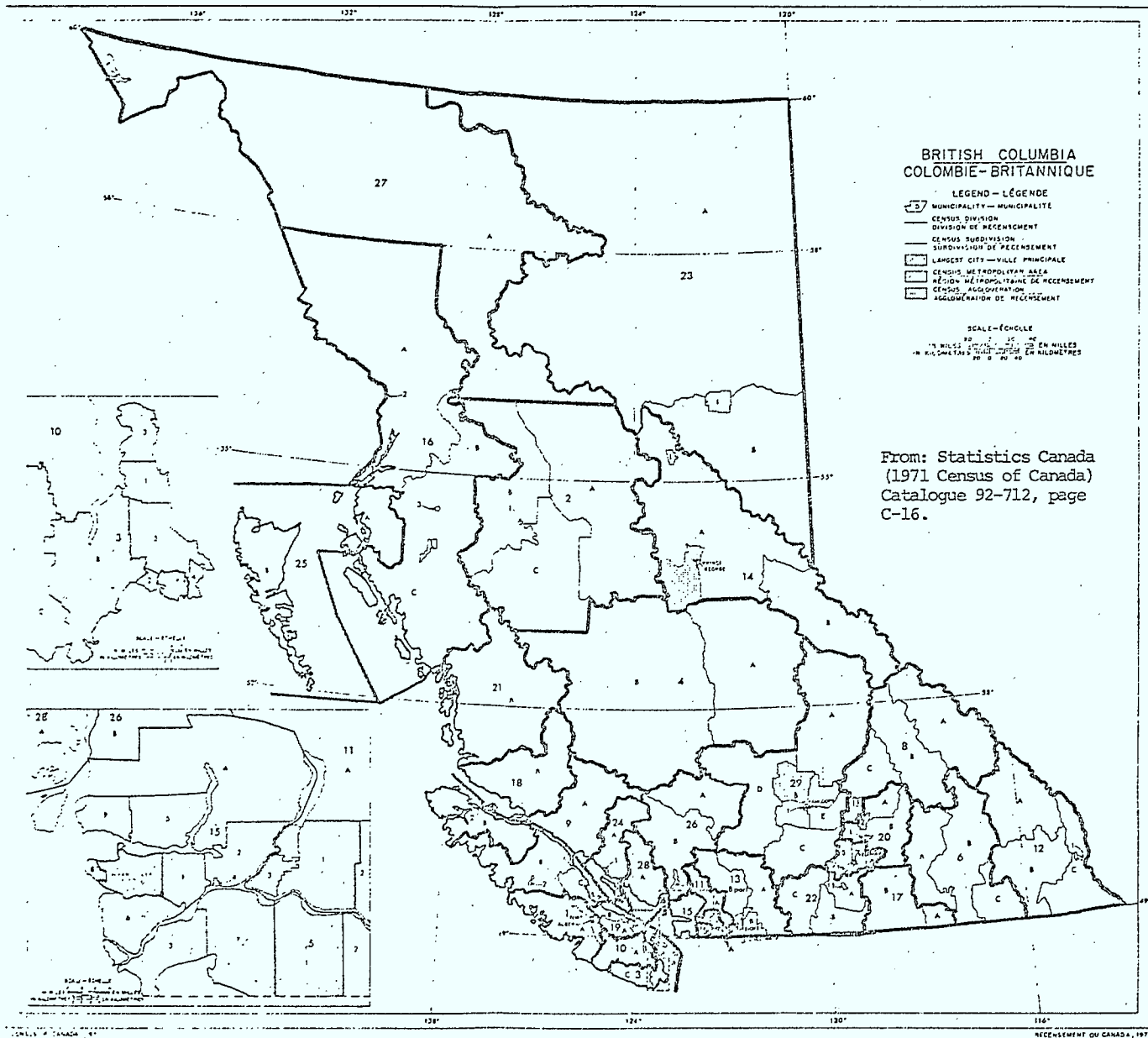
 RURAL AREAS  
 REMOTE AREAS



BRITISH COLUMBIA POPULATION DISTRIBUTION



From: British Columbia, Department of Economic Development, "British Columbia Manual of Resources and Development" (Victoria, November 1974), page 55.



Map 3

## BRITISH COLUMBIA CENSUS DIVISIONS

1. ALBERNI-CLAYOQUOT
2. BULKLEY-NECHAKO
3. CAPITAL
4. CARIBOO
5. CENTRAL FRASER VALLEY
6. CENTRAL KOOTENAY
7. CENTRAL OKANAGAN
8. COLUMBIA-SHUSWAP
9. COMOX-STRATHCONA
10. COWICHAN VALLEY
11. DUNDREY-ALQUETTE
12. EAST KOOTENAY
13. FRASER-CHEAM
14. FRASER-FORT GEORGE
15. GREATER VANCOUVER
16. KITIMAT-STIKINE
17. KOOTENAY BOUNDARY
18. MOUNT WADDINGTON
19. NANAIMO
20. NORTH OKANAGAN
21. OCEAN FALLS
22. OKANAGAN-SIMILKAMEEN
23. PEACE RIVER-LIARD
24. POWELL RIVER
25. SKEENA A
26. SQUAMISH-LILLOOET
27. STIKINE
28. SUNSHINE COAST
29. THOMPSON-NICOLA

TABLE 4 RURAL STUDY AREA POPULATION DENSITY - 1971

Census Division	Total Land Area (sq. miles)	Rural Study Area (sq. miles)	Rural Study Area Population	Population Density per sq. mile
<u>B.C. TOTAL</u>	<u>344,817.40</u>	<u>78,232.60</u>	<u>639,355</u>	<u>8.17</u>
Alberni-Clayoquot	2,987.77	1,791.74	8,745	4.88
Bulkley-Nechako	27,837.48	8,821.97	25,840	2.93
Capital	894.74	661.02	31,980	48.38
Cariboo	26,706.29	7,392.37	30,910	4.18
Central Fraser Valley	272.62	267.84	49,720	185.63
Central Kootenay	8,971.68	1,697.08	35,375	20.84
Central Okanagan	1,150.21	878.00	16,680	19.00
Columbia-Shuswap	11,652.63	1,361.51	30,625	22.49
Comox-Strathcona	7,734.03	534.21	29,330	54.90
Cowichan Valley	1,304.79	638.28	39,975	61.06
Dewdney-Alouette	1,218.48	412.09	21,285	51.65
East Kootenay	10,943.75	4,158.16	20,040	4.82
Fraser-Cheam	4,167.79	731.74	26,740	36.54
Fraser-Fort George	19,767.18	4,124.46	21,910	5.31
Greater Vancouver	833.13	307.96	53,655	174.23
Kitimat-Stikine	36,987.44	6,233.56	9,585	1.54
Kootenay Boundary	3,052.94	1,954.03	20,245	10.36
Mount Waddington	8,287.46	489.05	8,695	17.78
Nanaimo	788.16	436.49	20,565	47.11
North Okanagan	3,023.18	2,069.96	20,735	10.02
Ocean Falls	9,700.76	285.01	3,715	13.03
Okanagan-Similkameen	4,113.32	1,635.26	24,560	15.02
Peace River-Liard	75,312.13	17,424.93	23,395	1.34
Powell River	1,969.52	466.70	4,700	10.07
Skeena A	6,231.62	1,494.33	5,975	4.00
Squamish-Lillooet	6,375.21	1,362.96	13,000	9.54
Stikine	43,702.00	1.00	1,080	n.a.
Sunshine Coast	1,497.74	807.52	9,450	11.70
Thompson-Nicola	17,333.35	9,793.02	31,845	3.25

Source: Statistics Canada, 1971 Census, "Land Area Measurements", unpublished document, User Summary Tapes and our calculations.

TABLE 5 NUMBER OF COMMUNITIES WITHIN RURAL STUDY AREA - 1971  
(excluding Indian Reserves)

Census Division	POPULATION GROUPS					Total
	50- 199	200- 499	500- 999	1,000- 2,499	2,500- 4,999	
<u>B.C. TOTAL</u>	<u>376</u>	<u>148</u>	<u>68</u>	<u>44</u>	<u>16</u>	<u>652</u>
Alberni-Clayoquot	4	3	-	1	-	8
Bulkley-Nechako	31	4	2	4	1	42
Capital	6	7	3	-	-	16
Cariboo	40	13	3	2	1	59
Central Fraser Valley	-	1	1	1	-	3
Central Kootenay	52	13	5	2	3	75
Central Okanagan	7	3	3	-	-	13
Columbia-Shuswap	17	7	4	1	2	31
Comox-Strathcona	22	3	1	3	1	30
Cowichan Valley	8	8	3	4	2	25
Dewdney-Alouette	5	2	2	-	-	9
East Kootenay	23	8	3	2	1	37
Fraser-Cheam	8	5	3	-	1	17
Fraser-Fort George	29	7	3	1	-	40
Greater Vancouver	2	4	-	-	-	6
Kitimat-Stikine	5	6	-	-	-	11
Kootenay Boundary	9	6	2	3	2	22
Mount Waddington	4	4	3	1	-	12
Nanaimo	10	1	3	2	-	16
North Okanagan	5	3	2	2	-	12
Ocean Falls	-	4	-	1	-	5
Okanagan-Similkameen	6	2	5	2	1	16
Peace River-Liard	27	5	3	2	1	38
Powell River	6	3	1	-	-	10
Skeena A	4	2	2	1	-	9
Squamish-Lillooet	9	6	2	4	-	21
Stikine	-	-	-	1	-	1
Sunshine Coast	11	4	1	1	-	17
Thompson-Nicola	26	14	8	3	1	52

Source: Statistics Canada, 1971 Census, population counts on incorporated places and unincorporated places.

TABLE 6 NUMBER OF INDIAN RESERVE COMMUNITIES IN RURAL STUDY AREA

Census Division	POPULATION GROUPS				Total
	50- 199	200- 499	500- 999	1,000- 1,499	
<u>B.C. TOTAL</u>	<u>78</u>	<u>33</u>	<u>6</u>	<u>1</u>	<u>118</u>
Alberni-Clayoquot	1	2*	-	-	3
Bulkley-Nechako	3	4*	-	-	7
Capital	3	2	-	-	5
Cariboo	6*	2	-	-	8
Central Fraser Valley	1	-	-	-	1
Central Kootenay	1	-	-	-	1
Central Okanagan	1	1	-	-	2
Columbia-Shuswap	4	-	-	-	4
Comox-Strathcona	5	-	-	-	5
Cowichan Valley	4	2	-	1	7
Dewdney-Alouette	1	-	-	-	1
East Kootenay	4	-	-	-	4
Fraser-Cheam	3*	3	-	-	6
Fraser-Fort George	2*	-	-	-	2
Greater Vancouver	3	-	-	-	3
Katimati-Stikine	4	6*	1	-	11
Kootenay Boundary	-	-	-	-	-
Mount Waddington	2	1	-	-	3
Nanaimo	1	-	-	-	1
North Okanagan	1	-	1	-	2
Ocean Falls	-	1	1	-	2
Okanagan-Similkameen	2	1*	-	-	3
Peace River-Liard	4*	1*	-	-	5
Powell River	-	1	-	-	1
Skeena A	1	1	2	-	4
Squamish-Lilloet	6*	3	-	-	9
Stikine	-	-	-	-	0
Sunshine Coast	-	1	-	-	1
Thompson-Nicola	15*	1	1	-	17

\* Contains at least one population count for a group of Indian reserves where individual community figures are not available.

TABLE 7 DISTRIBUTION OF COMMUNITIES WITH LESS THAN 5,000 PEOPLE  
1971

	Average Distance between Communities (road miles)	Average Distance to Centre over 5,000 population (road miles)	Average No. of Communities/ 1,000 sq. miles
Alberni-Clayoquot	22	27	4.46
Bulkley-Nechako	24	140	4.76
Capital	10	15	24.21
Cariboo	20	85	7.98
Central Fraser Valley	6	26	11.19
Central Kootenay	13	52	44.20
Central Okanagan	10	23	14.81
Columbia-Shuswap	19	76	22.76
Comox-Strathcona	13	36	56.18
Cowichan Valley	11	34	39.18
Dewdney-Alouette	20	30	21.84
East Kootenay	16	48	8.90
Fraser-Cheam	12	24	23.22
Fraser-Fort George	22	75	10.67
Greater Vancouver	n.a.	n.a.	n.a.
Kitimat-Stikine	60	180	1.77
Kootenay Boundary	11	86	11.26
Mount Waddington	25	60	24.54
Nanaimo	10	19	36.70
North Okanagan	11	36	5.80
Ocean Falls	32	236	17.54
Okanagan-Similkameen	24	62	9.79
Peace River-Liard	31	223	2.18
Powell River	19	28	21.41
Skeena A	24	105	6.02
Squamish-Lillooet	8	75	15.41
Stikine	64	263	n.a.
Sunshine Coast	9.5	35	21.04
Thompson-Nicola	14	85	5.31

Source: our calculations.

## I B Socio-Economic Characteristics of Rural Population

The following tables provide 1971 data on rural people, by census division, and are arranged in groups in order of greatest to least precision of information. The first two tables contain information on the rural study area as already defined in the first few pages of Section I A. That is to say, the statistics cover not only those people who live in what Census Canada has designated as rural areas (excluding the remote) but also those people who live in rural or semi-rural settlements with between 1,000 and 5,000 population. Indian reserve populations are included where reserves are designated as rural by the Census or where the population is less than 5,000. Tables 10 to 13 contain data on Census rural people, excluding the remote areas, and they do not provide data on urban areas of 1,000 to 5,000 population. Finally, Tables 14 to 16 provide data on population in Census rural areas as a whole, with no exclusions or additions to those figures.

As shown in Table 8, the greatest number of rural people is in Greater Vancouver census division, followed by Central Fraser Valley which is adjacent to Greater Vancouver. These two divisions together are often referred to as the Lower Mainland and they contain the major concentration of urban people in the province. These two divisions have slightly more than one-third of all rural people in the region. The variations in average number of people per household are generally not wide although the northern divisions of Bulkley-Nechako, Kitimat-Stikine, Peace River-Liard, Skeena A and Stikine are appreciably higher than the rest, with over 4 persons per household each. Sunshine Coast is distinctly lower than the rest, with only 2.9 persons per household; the reason this division is so low is because of

the large number of retired people living there.

Table 9 provides statistics on labour force in the rural study area; on average, the labour force is 57% of the population aged 15 years and over. The highest percentage is in Stikine (where the only people in the rural study area are living in Cassiar) with 77% and the lowest is in Sunshine Coast (north-west of Greater Vancouver) with 50%. Again, Sunshine Coast is low for the reason already mentioned. The numbers employed are those who were employed during the week of the Census and do not give any indication of how much year-round employment exists in each division. Since the Census is taken during June, the figures would reflect summer employment for 1971. We have every reason to expect the employment for most divisions will have decreased by 1976.

Tables 10 to 13 provide data on the rural population within the Census definition of rural minus those people who live in areas we have designated as remote. The division of Stikine has no Census rural population other than those in remote areas so no figures are shown for this division in Tables 10 to 13 and it is thus excluded from the following comments on those particular tables.

Table 10, in 3 pages, lists the labour force breakdown by industry of employment for each census division. To provide a more useful basis of comparison, actual numbers in the labour force have been converted to percentage shares in each industry for each division. Peace River-Liard and Okanagan-Similkameen have the highest percentage of their work force in agriculture, followed by Central Fraser Valley (which has the largest number of such workers) and Central Okanagan. Agriculture is almost of no significance in Alberni-Clayoquot and Skeena A - both areas with very



little suitable land for agricultural purposes. Forestry is, however, very important in these last two divisions in direct employment and it should be borne in mind that, in many divisions, a high proportion of the manufacturing employment depends on lumber as the raw material to be processed. Central Fraser Valley and Greater Vancouver have very little forestry activity. Fishing and trapping provide full-time employment for less than 1% of the rural labour force and those areas where it does count - Alberni-Clayoquot, Ocean Falls and Skeena A - depend on fishing rather than trapping. Mines and petroleum industries provide limited employment in a number of divisions and is a significant factor in Powell River, Kitimat-Stikine, Squamish-Lillooet and East Kootenay.

Along with the service industries, manufacturing provides a significant measure of employment in all divisions. A good deal of this manufacturing is forestry-related, as already mentioned, and this is particularly so in those divisions where manufacturing is of great importance to rural dwellers: Alberni-Clayoquot, Cariboo, Cowichan Valley, Fraser-Fort George, Kootenay Boundary and Powell River. Construction provides a lesser amount of employment than manufacturing and the percentage will vary in some divisions - such as Columbia-Shuswap - depending on the initiation of major dam construction projects. Generally, construction is more important in areas which contain large urban centers and which would provide employment for people resident in rural areas.

Transport and communication provide employment for 8% of the rural labour force; the highest percentages are in divisions such as Peace River-Liard (with the Alaska Highway) and Squamish-Lillooet (with the B.C. Railway operations) where transportation systems are of great importance. The

communication portion of this sector is not delineated and may be of great importance in some areas although we do not know which ones.

Trade and finance sectors provide employment to a level sufficient to match the level of general economic buoyancy in the area. Therefore, those divisions which were enjoying economic growth in 1971 show the highest percentages of employees in trade and finance: Greater Vancouver, Sunshine Coast, Central Okanagan, Okanagan-Similkameen. Government service (public administration) is of importance in Capital, as one would expect, and in Mount Waddington and Skeena A which are not so likely. The explanation for these probably is that, in such areas where employment is limited, the government service provides a basic fixed number of jobs in hospitals, police stations and government offices and so forth - almost regardless of the surrounding sparsity of employment.

Table 11 provides a percentage breakdown of rural population into age groups. On average, the 5-14 age group is the most numerous and is 23% of the total. (In 1976, that age group would be 10-19 years old.) The older age groups gradually decrease their share of the total population until the 65+ age group has only 7% of the total. Some exceptions to the general trend are worth noting. In the main, those divisions with the highest percentages of children under 15 are the divisions in the northern half of the region: e.g., Kitimat-Stikine, Fraser-Fort George and Bulkley-Nechako. The age groups from 15 to 44 are rather evenly distributed in the divisions, with small variations above and below the provincial average for rural residents. One exception to this is in Mount Waddington where the 25-34 age group is 20% of the division's population, well above the average of 13%. From 45 years onwards, divisions tend to maintain a steady relationship between the three age groups concerned such that if

for example, there is a high percentage of the 45-54 age group, there will also be a high percentage of 55-64 and 65+ groups. The divisions with a large proportion of children tend to have small percentages in the 45+ age groups. The divisions with highest percentages of older people are Capital, Okanagan-Similkameen, Sunshine Coast and Nanaimo.

Table 12 gives a percentage breakdown of rural population aged 15 and over by level of schooling. The divisions with more than 50% of the rural population with Grade 11 education or higher are: Capital, Greater Vancouver, Mount Waddington and Nanaimo. While three of these are obviously influenced by the major urban areas they contain, Mount Waddington appears to be anomalous although, as already noted, there is a high proportion of government employment in this division and there may be a link between these two factors. In addition to these divisions already mentioned, which also have higher than average percentages of people with some university education or a university degree, three other divisions show a high percentage of people with education at this level: Columbia-Shuswap, Okanagan-Similkameen and Sunshine Coast. These are areas where we have reason to believe there are significant numbers of people who have deliberately chosen to live a rural life-style and whose educational qualifications are not put to use in whatever employment they undertake on a seasonal basis.

Those divisions with the greatest percentage of people with less than Grade 5 education - Central Kootenay, Kootenay Boundary, Ocean Falls and Thompson-Nicola, for example - have little in common with each other so there is no obvious reason why they should be higher than the average. Generally, over one-third of the population has education between Grades 11 and 13 and another 50% has between Grades 5 and 10. The balance between

Grades 5 and 13 is fairly evenly spaced, apparently, with a slightly greater emphasis at the top end of the scale.

Table 13 provides a percentage breakdown of rural population by level of total income reported in 1971. An average of about one-quarter of the people reporting showed no income and a further one-third had an income of less than \$3,000. Percentages vary somewhat between divisions but there is not wide variation. Fraser-Cheam and Fraser-Fort George (widely separate by distance although the names suggest otherwise) both have very low percentages of people reporting no income but there is no discernible reason why this should be so except in the case of Fraser-Fort George where an extremely high percentage of people in the \$6,000 - \$9,999 income group is shown. Again, Mount Waddington shows a high percentage in the over \$10,000 income group, which would correlate with the high educational levels and government employment percentage already noted.

Table 14 details the location of the native Indian population of the region. This table does not relate specifically to the rural areas, however defined. However, 65% of the Indian population lives on the reserves. There is thus an overlap between Indian people in rural areas and Indian people on reserves but it is not a close correspondence. This is because there are some reserves which are Census urban and there are Indian people living in rural areas but outside the reserves. Of the total Indian population, only 17% are recorded as speaking their own language mostly at home. Just over half of these people are in three census divisions: Bulkley-Nechako, Cariboo and Kitimat-Stikine. The last of these three has by far the largest Indian population in the rural areas as defined by the Census: 5,465.

The ethnic mix in B.C.'s population generally is complex. In the rural

areas, as defined by Census in 1971, 54% of the people were of British origin (compared to 45% in Canada generally). The next most numerous ethnic groups are German (11.2%), native Indian (6.5%), Scandinavian (5.9%), French (4.8%) and Dutch (4.7%). People in these ethnic groups, and in those of smaller size are generally scattered throughout the province with only a few exceptions. One is, of course, the native Indian population whose location has already been described. Another is the people of Russian origin known as the Doukhobors. These people are not listed as Doukhobors in the Census, of course, but their geographic location is quite specific even today. From the Census figures on the Russian ethnic group and other sources, we estimate that there are about 2,500 Doukhobors living in and around Grand Forks, in Kootenay Boundary census division, and a further 5,000 live in Central Kootenay, in and around Nelson, Castlegar and Creston and in between those three towns.

Table 15 provides data on the rural farm and rural non-farm population, using the Census definition of rural. Central Fraser Valley has 15% of the region's rural farm population, with Peace River-Liard and Okanagan-Similkameen as the second and third largest respectively. B.C. generally has only 14% of its rural population in the rural farm category. Because of the overwhelming numerical dominance of Greater Vancouver's population within the region, this division has the most rural people, the most rural non-farm people and is fourth in numbers of rural farm people. The balance of population in the Greater Vancouver division, however, is in favour of urban dwellers over rural residents 19 to 1. Central Fraser Valley is the most heavily rural division in the region, with rural residents out-numbering urban people by 6 to 1.

Table 16 gives the numbers of males and females in the Census rural

population for each division. In all divisions, the number of males exceeds the number of females and this is especially the case in the least urbanized divisions such as Stikine, Skeena A and Mount Waddington.

The closest to an equal number of males and females is in Capital, with the average for the region being almost 52.5 males in every 100 people (which could also be expressed as 1.1 males for each female in the population).

Table 17 indicates the only information we could obtain on household facilities for rural people. The data provided is related to the type of dwelling and we have provided the statistics for both rural groups (rural farm and rural non-farm) and for small urban centres under 5,000 population. The statistics indicate the number and appropriate percentages of dwellings which have various household appliances.

TABLE 8 1971 RURAL STUDY AREA POPULATION, HOUSEHOLDS AND FAMILIES

Census Division	Rural Study Area Total Population	Number of Households	Average No. of Persons/ Household	Number of Families
<u>B.C. TOTAL</u>	<u>639,355</u>	<u>179,590</u>	<u>3.56</u>	<u>153,675</u>
Alberni-Clayoquot	8,745	2,280	3.84	2,025
Bulkley-Nechako	25,840	6,385	4.05	5,595
Capital	31,980	9,885	3.24	8,375
Cariboo	30,910	8,640	3.58	7,025
Central Fraser Valley	49,720	13,890	3.58	12,070
Central Kootenay	35,375	10,680	3.31	8,940
Central Okanagan	16,680	4,880	3.42	4,240
Columbia-Shuswap	30,625	8,555	3.58	7,345
Comox-Strathcona	29,330	8,235	3.56	7,100
Cowichan Valley	38,975	11,295	3.45	9,685
Dewdney-Alouette	21,285	6,110	3.48	5,220
East Kootenay	20,040	5,815	3.45	4,790
Fraser-Cheam	26,740	7,140	3.75	6,205
Fraser-Fort George	21,910	5,640	3.88	4,840
Greater Vancouver	53,655	14,905	3.60	13,380
Kitimat-Stikine	9,585	2,220	4.32	1,995
Kootenay Boundary	20,245	6,015	3.37	5,230
Mount Waddington	8,695	2,250	3.86	1,990
Nanaimo	20,565	6,625	3.10	5,505
North Okanagan	20,735	6,005	3.45	5,195
Ocean Falls	3,715	970	3.83	820
Okanagan-Similkameen	24,560	7,650	3.21	6,275
Peace River-Liard	23,395	5,600	4.18	4,840
Powell River	4,700	1,420	3.31	1,170
Skeena A	5,975	1,400	4.27	1,185
Squamish-Lillooet	13,000	3,455	3.76	2,915
Stikine	1,080	215	5.02	200
Sunshine Coast	9,450	3,255	2.90	2,525
Thompson-Nicola	31,845	8,175	3.90	6,995

Source: Statistics Canada, 1971 Census, User Summary Tapes and our calculations.

TABLE 9 1971 RURAL STUDY AREA LABOUR FORCE

Census Division	Population 15 & over	Labour Force	Number Employed
<u>B.C. TOTAL</u>	<u>433,135</u>	<u>248,990</u>	<u>229,105</u>
Alberni-Clayoquot	5,685	3,440	3,210
Bulkley-Nechako	15,910	9,630	8,845
Capital	23,030	12,750	11,965
Cariboo	19,820	12,200	11,225
Central Fraser Valley	34,135	19,775	18,335
Central Kootenay	24,840	12,900	11,730
Central Okanagan	11,545	6,670	6,015
Columbia-Shuswap	21,060	12,555	11,630
Comox-Strathcona	19,535	11,405	10,495
Cowichan Valley	26,775	14,680	13,550
Dewdney-Alouette	14,520	8,055	7,305
East Kootenay	13,570	8,255	7,545
Fraser-Cheam	18,390	10,605	9,715
Fraser-Fort George	13,410	8,345	7,530
Greater Vancouver	36,345	21,370	19,815
Kitimat-Stikine	5,705	3,145	2,890
Kootenay Boundary	14,265	7,780	7,100
Mount Waddington	5,725	3,695	3,610
Nanaimo	15,030	8,055	7,285
North Okanagan	14,460	8,065	7,415
Ocean Falls	2,355	1,245	1,180
Okanagan-Similkameen	18,445	10,190	9,165
Peace River-Liard	14,310	8,900	8,220
Powell River	3,195	1,670	1,570
Skeena A	3,685	2,130	2,000
Squamish-Lillooet	8,425	5,165	4,690
Stikine	730	560	545
Sunshine Coast	6,945	3,495	3,095
Thompson-Nicola	21,200	12,260	11,430

Source: Statistics Canada, 1971 Census, User Summary Tapes and our calculations.



TABLE 10.1

PERCENTAGE DISTRIBUTION OF  
RURAL LABOUR FORCE BY INDUSTRY - 1971  
(Census rural minus "remote" population)

Census Division	Total Labour Force	Agriculture	Forestry	Fishing & Trapping	Mines & Petroleum
		%	%	%	%
<u>B.C. TOTAL</u>	<u>195,440</u>	<u>9.3</u>	<u>7.0</u>	<u>0.6</u>	<u>2.7</u>
Alberni-Clayoquot	2,710	1.1	19.9	3.0	0.2
Bulkley-Nechako	5,775	9.7	12.3	0.2	6.5
Capital	12,630	5.0	4.9	0.9	0.6
Cariboo	8,740	9.2	8.9	0.1	3.6
Central Fraser Valley	19,300	16.2	0.8	0.3	0.8
Central Kootenay	8,205	7.7	7.7	-	7.5
Central Okanagan	6,645	15.8	1.8	-	3.2
Columbia-Shuswap	8,120	6.8	7.5	-	1.3
Comox-Strathcona	7,185	4.0	17.3	2.5	1.4
Cowichan Valley	8,950	3.9	11.2	0.5	0.3
Dewdney-Alouette	7,740	9.9	4.8	0.9	0.5
East Kootenay	4,820	6.6	8.3	0.1	9.2
Fraser-Cheam	9,200	13.5	6.7	0.3	1.2
Fraser-Fort George	7,840	4.8	11.5	-	0.5
Greater Vancouver	21,025	7.3	0.9	0.8	0.9
Kitimat-Stikine	2,960	1.4	14.7	0.7	12.0
Kootenay Boundary	3,115	9.5	5.0	-	6.6
Mount Waddington	3,065	-	29.2	2.8	8.8
Nanaimo	6,720	3.7	6.8	2.7	0.5
North Okanagan	6,850	14.0	5.4	0.1	0.4
Ocean Falls	805	3.1	16.8	4.4	-
Okanagan-Similkameen	7,745	20.6	1.7	0.2	3.0
Peace River-Liard	6,600	22.0	3.9	0.1	4.9
Powell River	1,485	-	9.4	1.0	18.9
Skeena A	1,835	1.1	17.7	4.1	0.3
Squamish-Lillooet	3,870	2.7	12.5	-	10.0
Stikine	-	-	-	-	-
Sunshine Coast	2,920	2.1	13.9	2.2	1.0
Thompson-Nicola	8,625	12.1	7.1	-	3.8

..... continued

TABLE 10.2

PERCENTAGE DISTRIBUTION OF  
RURAL LABOUR FORCE BY INDUSTRY, continued  
(Census rural minus "remote" population)

Census Division	Manufacturing	Construction	Transport and Communication	Trade
	%	%	%	%
<u>B.C. TOTAL</u>	<u>15.4</u>	<u>8.6</u>	<u>8.1</u>	<u>12.1</u>
Alberni-Clayoquot	28.0	4.6	5.5	12.6
Bulkley-Nechako	18.1	6.0	7.4	8.1
Capital	8.4	9.0	7.9	13.9
Cariboo	21.7	7.4	7.1	10.0
Central Fraser Valley	14.5	11.6	7.2	13.0
Central Kootenay	15.8	8.0	9.6	10.3
Central Okanagan	12.3	11.6	6.7	15.1
Columbia-Shuswap	16.3	12.2	8.4	11.0
Comox-Strathcona	10.9	6.1	6.5	11.6
Cowichan Valley	22.7	5.7	6.9	12.0
Dewdney-Alouette	18.2	8.3	8.0	11.3
East Kootenay	17.0	10.1	7.2	9.5
Fraser-Cheam	10.2	7.7	5.7	13.0
Fraser-Fort George	25.4	8.2	10.7	10.8
Greater Vancouver	16.1	10.5	10.0	15.5
Kitimat-Stikine	13.7	5.2	11.3	10.5
Kootenay Boundary	29.9	4.3	6.7	10.9
Mount Waddington	3.9	4.9	7.3	8.7
Nanaimo	13.9	10.2	8.1	13.5
North Okanagan	16.4	8.3	6.9	14.5
Ocean Falls	14.3	3.7	7.5	6.2
Okanagan-Similkameen	8.8	6.5	5.6	15.8
Peace River-Liard	6.4	10.2	11.5	9.9
Powell River	21.2	4.0	6.4	6.4
Skeena A	13.1	6.5	7.1	6.0
Squamish-Lillooet	16.0	4.9	15.0	6.7
Stikine	-	-	-	-
Sunshine Coast	14.7	6.3	10.5	15.2
Thompson-Nicola	16.0	9.3	8.4	9.5

..... continued

TABLE 10.3  
 PERCENTAGE DISTRIBUTION OF  
 RURAL LABOUR FORCE BY INDUSTRY, concluded  
 (Census rural minus "remote" population)

Census Division	Finance	Service	Public Administration	Unspecified Industry
	%	%	%	%
<u>B.C. TOTAL</u>	<u>2.3</u>	<u>19.0</u>	<u>5.2</u>	<u>9.6</u>
Alberni-Clayoquot	0.4	16.1	2.0	6.6
Bulkley-Nechako	1.9	15.8	2.8	11.3
Capital	3.8	24.7	12.4	8.7
Cariboo	1.5	16.6	2.5	11.4
Central Fraser Valley	2.9	18.1	4.8	10.0
Central Kootenay	1.7	19.0	3.5	9.1
Central Okanagan	3.1	18.4	3.2	8.9
Columbia-Shuswap	1.4	21.7	3.8	9.7
Comox-Strathcona	2.0	19.9	8.8	9.1
Cowichan Valley	1.9	21.2	3.2	10.7
Dewdney-Alouette	2.2	19.2	6.3	10.5
East Kootenay	1.7	20.4	3.5	6.2
Fraser-Cheam	2.1	19.8	10.3	9.7
Fraser-Fort George	1.7	14.1	3.1	9.2
Greater Vancouver	3.9	21.1	5.0	8.1
Kitimat-Stikine	1.2	16.7	3.4	9.3
Kootenay Boundary	1.8	17.3	2.7	5.3
Mount Waddington	1.6	13.2	12.2	7.3
Nanaimo	3.3	21.5	5.4	10.3
North Okanagan	2.3	18.7	3.3	9.9
Ocean Falls	3.1	20.5	6.8	13.7
Okanagan-Similkameen	2.7	19.0	5.8	10.4
Peace River-Liard	1.2	14.2	3.2	12.4
Powell River	0.3	14.5	0.3	17.5
Skeena A	1.6	14.7	12.5	15.3
Squamish-Lillooet	0.8	18.7	2.5	10.2
Stikine	-	-	-	-
Sunshine Coast	3.8	18.8	3.4	8.1
Thompson-Nicola	1.7	18.0	4.2	10.0

Source: Statistics Canada, 1971 Census, User Summary Tapes and our calculations.

TABLE 11.1

RURAL POPULATION BY AGE GROUPS - 1971  
(Census rural minus "remote" population)

Census Division	Total Rural Population	Under 5 years	5-14	15-24	25-34	35-44	45-54	55-64	65+
		%	%	%	%	%	%	%	%
<u>B.C. TOTAL</u>	<u>515,665</u>	<u>9.2</u>	<u>23.2</u>	<u>17.4</u>	<u>12.8</u>	<u>11.4</u>	<u>10.7</u>	<u>8.2</u>	<u>7.2</u>
Alberni-Clayoquot	7,730	10.8	24.1	17.7	15.2	11.5	9.4	7.2	4.2
Bulkley-Nechako	15,855	12.2	27.3	18.6	13.1	11.0	8.7	5.3	3.7
Capital	32,415	7.2	20.2	16.5	11.4	10.6	13.2	10.4	10.5
Cariboo	23,415	11.1	25.5	18.3	13.6	11.9	9.3	6.4	3.9
Central Fraser Valley	49,990	8.7	22.6	17.4	12.2	11.3	10.7	8.5	8.6
Central Kootenay	23,990	8.4	22.4	16.5	11.5	10.8	10.6	9.8	10.0
Central Okanagan	16,940	8.5	21.8	16.8	11.5	11.5	11.5	9.6	8.7
Columbia-Shuswap	20,865	9.0	22.7	17.4	12.7	11.7	10.9	8.5	7.0
Comox-Strathcona	18,915	8.7	23.0	18.0	13.0	11.4	11.2	8.3	6.3
Cowichan Valley	24,870	9.0	23.8	18.0	11.6	11.0	10.9	8.2	7.6
Dewdney-Alouette	21,175	8.7	22.5	16.7	11.9	11.2	10.9	9.0	9.1
East Kootenay	11,905	10.5	22.8	19.5	14.2	10.8	10.0	7.1	5.1
Fraser-Cheam	22,790	8.1	23.5	18.6	11.8	11.2	11.5	8.6	6.7
Fraser-Fort George	19,700	12.4	26.3	17.6	15.9	12.3	7.9	4.9	2.7
Greater Vancouver	53,335	8.6	22.7	16.2	13.3	12.4	12.0	7.7	7.0

..... continued

TABLE 11.2

## RURAL POPULATION BY AGE GROUPS, concluded

(Census rural minus "remote" population)

Census Division	Total Rural Population	Under 5 years	5-14	15-24	25-34	35-44	45-54	55-64	65+
		%	%	%	%	%	%	%	%
Kitimat-Stikine	9,500	14.1	27.0	17.8	16.1	11.1	6.5	4.3	3.2
Kootenay Boundary	8,550	8.3	21.7	18.1	10.8	11.9	11.1	10.6	7.5
Mount Waddington	6,810	11.1	22.2	16.9	20.4	11.5	7.9	5.7	4.3
Nanaimo	17,350	7.8	20.2	16.9	11.4	10.8	12.1	11.0	9.8
North Okanagan	18,150	8.1	23.3	17.2	11.3	11.2	12.0	9.1	7.8
Ocean Falls	2,330	10.1	29.4	17.0	13.7	11.2	7.7	6.4	4.5
Okanagan-Similkameen	18,965	6.0	19.1	16.7	9.3	11.0	13.2	12.1	12.6
Peace River-Liard	18,750	11.1	27.4	17.4	13.1	11.4	8.8	5.8	4.9
Powell River	4,715	9.8	22.4	17.3	14.3	10.5	10.1	9.8	5.9
Skeena A	4,870	11.7	26.4	18.5	15.7	11.1	7.2	5.3	4.1
Squamish-Lillooet	9,975	10.5	25.4	18.7	14.5	12.4	9.4	5.9	3.4
Stikine	-	-	-	-	-	-	-	-	-
Sunshine Coast	7,535	7.7	19.0	15.2	11.3	10.0	11.1	12.6	13.1
Thompson-Nicola	24,275	10.1	23.8	17.9	14.9	11.5	10.0	7.1	4.7

Source: Statistics Canada, 1971 Census, User Summary Tapes and our calculations.

TABLE 12.1

## RURAL POPULATION AGED 15 AND OVER BY LEVEL OF SCHOOLING - 1971

(Census rural minus "remote" population)

Census Division	Population aged 15+	Less than Grade 5	Grades 5-8	Grades 9-10	Grades 11-13	Some University	University Degree
		%	%	%	%	%	%
<u>B.C. TOTAL</u>	<u>348,630</u>	<u>4.6</u>	<u>24.6</u>	<u>26.3</u>	<u>35.2</u>	<u>6.2</u>	<u>3.1</u>
Alberni-Clayoquot	4,990	2.5	26.1	29.5	32.3	5.0	2.7
Bulkley-Nechako	9,900	7.4	31.2	24.2	29.8	5.7	2.3
Capital	23,030	1.7	16.8	24.8	42.9	9.0	5.5
Cariboo	14,705	5.8	30.1	28.6	29.8	4.9	1.7
Central Fraser Valley	34,135	3.6	26.0	25.8	36.2	5.6	2.9
Central Kootenay	16,645	9.8	25.7	24.8	29.5	6.7	2.9
Central Okanagan	11,545	4.2	23.0	27.5	35.5	6.9	3.8
Columbia-Shuswap	14,170	3.6	26.0	27.0	32.9	7.0	3.6
Comox-Strathcona	12,825	2.8	23.0	28.6	36.7	6.3	3.3
Cowichan Valley	17,040	3.5	21.1	27.0	37.0	6.5	3.1
Dewdney-Alouette	14,520	4.0	25.9	27.4	34.8	5.1	2.1
East Kootenay	8,350	3.2	26.4	28.7	33.8	4.8	2.0
Fraser-Cheam	16,175	4.2	28.1	27.1	34.5	4.9	2.9
Fraser-Fort George	12,170	5.3	32.3	29.9	28.6	4.4	1.9
Greater Vancouver	36,345	2.5	18.5	24.3	42.3	7.9	4.4

..... continued

TABLE 12.2 RURAL POPULATION AGED 15 AND OVER BY LEVEL OF SCHOOLING, concluded  
(Census rural minus "remote" population)

Census Division	Population aged 15+	Less than Grade 5	Grades 5-8	Grades 9-10	Grades 11-13	Some University	University Degree
		%	%	%	%	%	%
Kitimat-Stikine	5,705	9.3	29.5	27.3	27.0	4.4	2.4
Kootenay Boundary	5,925	10.7	26.1	24.4	31.6	5.1	2.0
Mount Waddington	4,710	3.9	19.7	26.9	40.7	6.9	3.9
Nanaimo	12,265	2.6	21.4	25.2	41.2	7.0	4.2
North Okanagan	12,320	4.2	26.0	25.6	34.9	5.9	2.4
Ocean Falls	1,455	10.7	37.1	22.3	25.1	4.8	3.1
Okanagan-Similkameen	14,220	5.1	25.2	24.4	33.4	7.2	3.6
Peace River-Liard	11,490	6.3	29.6	26.1	26.9	4.7	1.3
Powell River	3,195	3.6	22.5	27.1	35.7	5.9	2.3
Skeena A	3,090	7.8	31.2	24.6	29.9	5.8	2.6
Squamish-Lillooet	6,280	4.9	23.9	28.0	35.8	6.1	2.8
Stikine	-	-	-	-	-	-	-
Sunshine Coast	5,490	2.4	20.9	27.1	39.5	7.4	3.3
Thompson-Nicola	15,850	9.7	24.9	25.8	31.8	4.3	1.4

Source: Statistics Canada, 1971 Census, User Summary Tapes and our calculations.

TABLE 13.1

## RURAL POPULATION BY LEVEL OF TOTAL INCOME REPORTED 1971

(Census rural minus "remote" population)

Census Division	S I Z E O F I N C O M E R E P O R T E D					
	Total Reported	Zero Income	Less than \$3,000	\$3,000- \$5,999	\$6,000- \$9,999	\$10,000+
		%	%	%	%	%
<u>B.C. TOTAL</u>	<u>348,460</u>	<u>25.7</u>	<u>32.7</u>	<u>15.1</u>	<u>17.7</u>	<u>8.7</u>
Alberni-Clayoquot	5,000	28.6	24.6	12.7	23.5	9.9
Bulkley-Nechako	9,885	30.2	30.4	14.2	17.5	8.0
Capital	23,025	22.0	34.0	15.6	17.9	10.4
Cariboo	14,685	30.1	28.6	15.7	18.3	7.3
Central Fraser Valley	34,110	24.9	34.6	15.9	16.0	8.4
Central Kootenay	16,645	27.5	35.8	13.2	17.4	6.1
Central Okanagan	11,550	22.1	36.9	18.4	14.4	8.0
Columbia-Shuswap	14,190	24.9	33.8	15.0	16.9	9.1
Comox-Strathcona	12,820	27.0	30.2	14.6	19.0	8.1
Cowichan Valley	17,090	25.9	30.6	14.4	20.6	8.3
Dewdney-Alouette	14,560	25.5	34.0	14.5	18.1	7.7
East Kootenay	8,345	24.6	31.6	14.7	21.2	7.6
Fraser-Cheam	10,095	6.4	37.7	24.8	21.4	9.7
Fraser-Fort George	7,990	4.2	29.7	21.9	31.9	12.3
Greater Vancouver	36,445	25.0	29.8	14.0	18.7	12.5

..... continued



TABLE 13.2

## RURAL POPULATION BY LEVEL OF TOTAL INCOME REPORTED, concluded

(Census rural minus "remote" population)

Census Division	Total Reported	S I Z E O F I N C O M E R E P O R T E D				
		Zero Income	Less than \$3,000	\$3,000- \$5,999	\$6,000- \$9,999	\$10,000+
		%	%	%	%	%
Kitimat-Stikine	6,700	23.9	26.5	12.2	14.6	9.0
Kootenay Boundary	5,905	26.4	35.2	12.8	20.6	4.7
Mount Waddington	4,675	20.7	24.4	16.0	22.6	16.7
Nanaimo	12,220	24.9	34.6	14.4	18.3	8.0
North Okanagan	12,315	26.3	34.2	16.3	16.6	6.5
Ocean Falls	1,135	23.3	41.9	26.0	14.1	4.8
Okanagan-Similkameen	14,230	19.3	43.8	18.0	13.0	5.9
Peace River-Liard	11,635	27.6	33.9	14.7	14.1	8.6
Powell River	3,205	28.1	27.8	12.6	22.3	9.4
Skeena A	3,085	24.1	32.9	14.7	16.0	11.8
Squamish-Lillooet	6,295	26.4	30.1	12.2	21.3	10.1
Stikine	-	-	-	-	-	-
Sunshine Coast	5,475	23.6	37.3	15.4	15.9	8.4
Thompson-Nicola	15,945	30.0	29.8	15.0	17.6	7.1

Source: Statistics Canada, 1971 Census, User Summary Tapes and our calculations.

TABLE 14 NATIVE INDIAN POPULATION CHARACTERISTICS

Census Division	Total Indian Population	Census Rural Indian Population	Number of Indians on Reserves	Own Language Most Spoken at Home
<u>B.C. TOTAL</u>	<u>52,215</u>	<u>34,040</u>	<u>27,125</u>	<u>8,965</u>
Alberni-Clayoquot	2,095	1,315	1,170	95
Bulkley-Nechako	3,255	2,725	1,960	1,270
Capital	2,110	810	870	165
Cariboo	2,935	2,730	1,855	1,375
Central Fraser Valley	455	410	160	15
Central Kootenay	205	180	75	15
Central Okanagan	425	240	90	60
Columbia-Shuswap	365	340	200	20
Comox-Strathcona	1,470	945	770	205
Cowichan Valley	2,410	2,210	2,075	305
Dewdney-Alouette	540	300	125	25
East Kootenay	485	340	240	35
Fraser-Cheam	2,025	1,530	1,025	120
Fraser-Fort George	1,840	850	75	105
Greater Vancouver	6,865	445	1,290	535
Kitimat-Stikine	6,220	5,465	4,655	1,850
Kootenay Boundary	120	15	no IRs	5
Mount Waddington	1,430	1,350	1,090	425
Nanaimo	835	260	330	40
North Okanagan	700	605	505	125
Ocean Falls	1,375	1,315	1,210	30
Okanagan-Similkameen	700	625	520	75
Peace River-Liard	2,560	1,635	745	885
Powell River	530	395	390	370
Skeena A	4,335	1,990	1,730	250
Squamish-Lillooet	1,680	1,590	1,430	130
Stikine	210	40	10	5
Sunshine Coast	375	320	225	5
Thompson-Nicola	3,665	3,065	2,310	430

Source: Statistics Canada, 1971 Census, Catalogues 92-744 Table 2, 92-725 Table 20, 92-726 Table 28 and User Summary Tapes.

TABLE 15 CENSUS RURAL FARM AND NON-FARM POPULATION

Census Division	Total Population	Rural Population	Rural Farm	Rural Non-Farm
<u>B.C. TOTAL</u>	<u>2,184,620</u>	<u>530,215</u>	<u>73,515</u>	<u>456,700</u>
Alberni-Clayoquot	31,745	8,630	310	8,320
Bulkley-Nechako	27,145	17,595	3,230	14,365
Capital	204,805	31,940	2,440	29,500
Cariboo	39,355	24,920	3,430	21,485
Central Fraser Valley	58,085	49,725	11,165	38,560
Central Kootenay	44,790	24,060	2,915	21,150
Central Okanagan	50,175	16,670	3,780	12,890
Columbia-Shuswap	30,640	20,795	2,325	18,475
Comox-Strathcona	47,345	19,935	1,200	18,740
Cowichan Valley	38,985	25,325	1,800	23,530
Dewdney-Alouette	40,100	21,330	3,155	18,170
East Kootenay	39,720	12,435	1,370	11,065
Fraser-Cheam	46,095	23,645	4,990	18,655
Fraser-Fort George	64,365	19,980	2,130	17,845
Greater Vancouver	1,028,330	53,170	5,855	47,315
Kitimat-Stikine	37,330	13,180	270	12,905
Kootenay Boundary	31,395	8,530	1,205	7,320
Mount Waddington	10,410	8,900	55	8,845
Nanaimo	48,005	17,150	1,100	16,055
North Okanagan	34,040	17,950	4,265	13,685
Ocean Falls	4,215	2,840	60	2,780
Okanagan-Similkameen	42,750	19,105	5,570	13,535
Peace River-Liard	43,995	19,150	6,335	12,815
Powell River	18,535	4,810	105	4,705
Skeena A	22,295	5,530	65	5,470
Squamish-Lillooet	13,080	9,965	395	9,575
Stikine	1,470	390	-	390
Sunshine Coast	9,655	7,720	115	7,610
Thompson-Nicola	75,750	24,825	3,885	20,945

Source: Statistics Canada, 1971 Census, Catalogue 92-709 Table 11.

TABLE 16

## CENSUS RURAL POPULATION BY SEX

Census Division	Total Rural Population	Males	Females	Masculinity Ratio*
<u>B.C. TOTAL</u>	<u>530,215</u>	<u>278,305</u>	<u>251,910</u>	<u>52.49</u>
Alberni-Clayoquot	8,630	4,545	4,085	52.67
Bulkley-Nechako	17,595	9,470	8,125	53.82
Capital	31,940	16,170	15,770	50.63
Cariboo	24,920	13,370	11,545	53.65
Central Fraser Valley	49,725	25,605	24,120	51.49
Central Kootenay	24,060	12,540	11,525	52.12
Central Okanagan	16,670	8,575	8,095	51.44
Columbia-Shuswap	20,795	10,940	9,860	52.61
Comox-Strathcona	19,935	10,465	9,475	52.50
Cowichan Valley	25,325	12,975	12,350	51.23
Dewdney-Alouette	21,330	11,005	10,320	51.59
East Kootenay	12,435	6,730	5,710	54.12
Fraser-Cheam	23,645	12,435	11,215	52.59
Fraser-Fort George	19,980	10,865	9,115	54.38
Greater Vancouver	53,170	27,455	25,720	51.64
Kitimat-Stikine	13,180	7,110	6,070	53.95
Kootenay Boundary	8,530	4,465	4,065	52.34
Mount Waddington	8,900	4,895	4,000	55.00
Nanaimo	17,150	8,865	8,285	51.59
North Okanagan	17,950	9,240	8,710	51.48
Ocean Falls	2,840	1,545	1,300	54.40
Okanagan-Similkameen	19,105	9,940	9,165	52.03
Peace River-Liard	19,150	10,360	8,785	54.10
Powell River	4,810	2,565	2,240	53.33
Skeena A	5,530	3,090	2,440	55.88
Squamish-Lillooet	9,965	5,335	4,630	53.54
Stikine	390	235	150	60.26
Sunshine Coast	7,720	4,025	3,700	52.14
Thompson-Nicola	24,825	13,490	11,335	54.34

\* Masculinity Ratio = Males/Total Population multiplied by 100.

TABLE 17

BRITISH COLUMBIA - HOUSEHOLD FACILITIES BY DWELLING CATEGORY  
1971 Census of Canada

Dwelling Category	Number of Dwellings	NUMBER AND PERCENTAGE OF DWELLINGS WITH:				
		Refrigerator	Television (b+w or colour)	Home Freezer	Automatic Clothes Dryer	Electric Dish Washer
<u>Rural Farm</u>	18,000	17,255	15,560	14,355	8,015	2,185
- Owned	16,100	(96%)	(86%)	(80%)	(45%)	(12%)
- Rented	1,900					
<u>Rural Non-Farm</u>	128,160	121,695	113,090	68,525	49,580	10,345
- Owned	95,105	(95%)	(88%)	(53%)	(39%)	(8%)
- Rented	33,055					
<u>Urban under 5,000</u>	38,620	38,030	35,925	19,320	16,060	2,965
- Owned	26,150	(98%)	(93%)	(50%)	(42%)	(8%)
- Rented	12,470					

Source: Statistics Canada, 1971 Census, Catalogue 93-737, Table 16

## II RURAL BUSINESS AND INDUSTRY PROFILES

In order to provide descriptions of the B.C. region with respect to rural business and industry, we have grouped the 29 regional districts (equivalent to census divisions) into 8 sub-regions as illustrated on the following map. The grouping was done on the basis of our knowledge of the economic bases of the different parts of the province as well as the geographic variations which affect the economic development. In the following descriptions of the sub-regions, we have incorporated brief notes on the topography and climate, the population distribution, the main economic activities and industries as well as the prospects for future change in rural population and rural industry.

The sub-regions, with their constituent regional districts are as follows:

<u>Sub-region Name</u>	<u>Regional Districts</u>
A North East B.C.	Peace River-Liard
B North West B.C.	Kitimat-Stikine, Skeena-Queen Charlotte*, Bulkley-Nechako, Stikine
C Central B.C.	Fraser-Fort George, Cariboo, Thompson-Nicola, Squamish-Lillooet
D Mid Coast B.C.	Ocean Falls, Mount Waddington, Comox-Strathcona, Powell River
E Kootenay	Columbia-Shuswap, East Kootenay, Central Kootenay, Kootenay Boundary
F Okanagan	Central Okanagan, North Okanagan, Okanagan-Similkameen
G South West B.C.	Central Fraser Valley, Dewdney-Alouette, Fraser Cheam, Greater Vancouver, Sunshine Coast
H South Vancouver Island	Alberni-Clayoquot, Capital, Cowichan Valley, Nanaimo

\* Skeena-Queen Charlotte regional district is the same area as Skeena A census division.



KEY TO SUB-REGIONS

- |   |            |   |                        |
|---|------------|---|------------------------|
| A | NORTH EAST | E | KOOTENAY               |
| B | NORTH WEST | F | OKANAGAN               |
| C | CENTRAL    | G | SOUTH WEST             |
| D | MID COAST  | H | SOUTH VANCOUVER ISLAND |

MAP 5  
SUB-REGION A: NORTH EAST



Regional District

Peace River-Liard

Land Area (sq. miles)

Total Area 75,312.13

Rural Study  
Area 17,424.93

Major Economic Activities

Agriculture  
Mining and Petroleum  
Forestry  
Transportation

Population (1971 Census)

Total Area 43,996

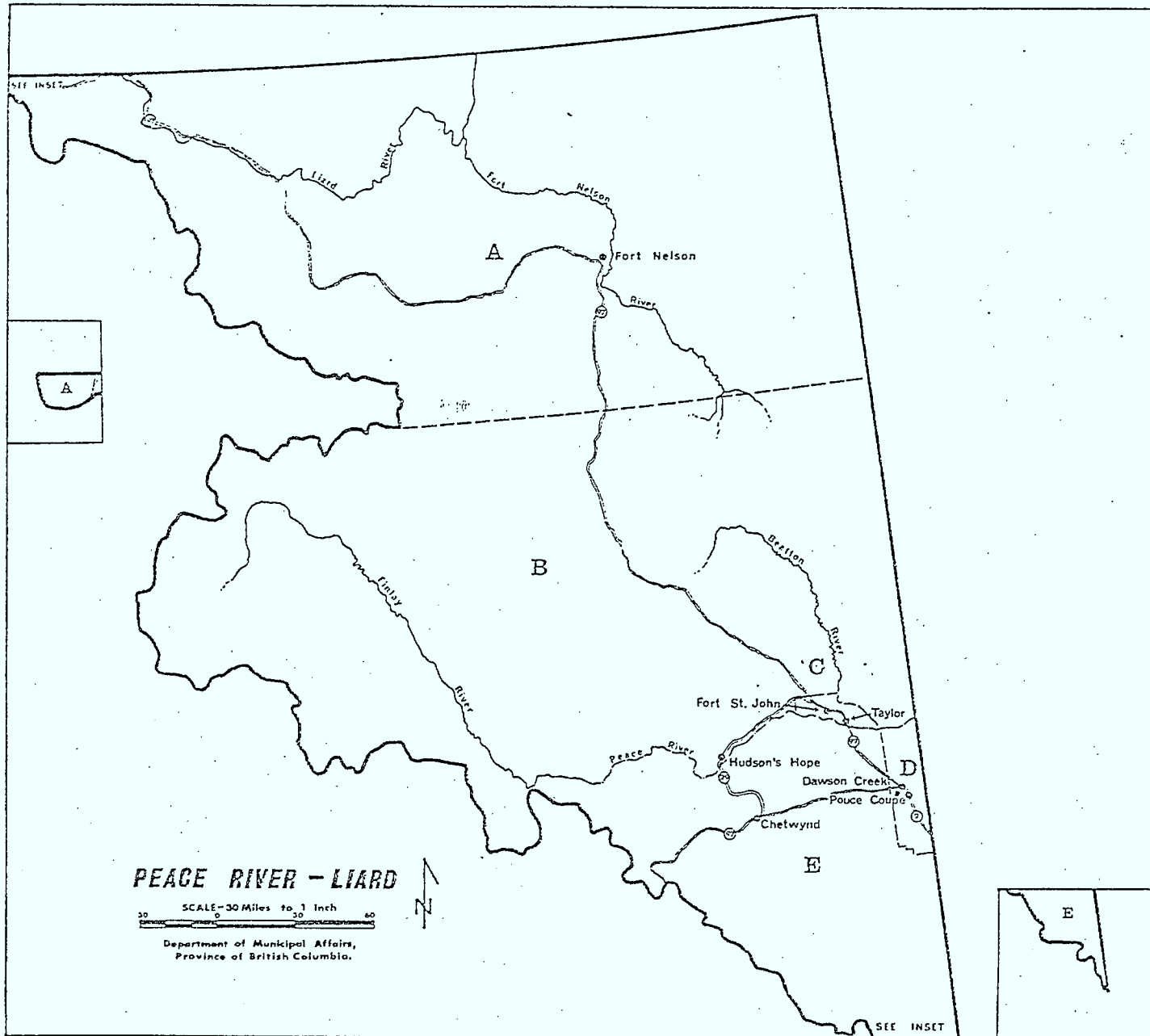
Rural Study  
Area 23,395

Labour Force (1971 Census)

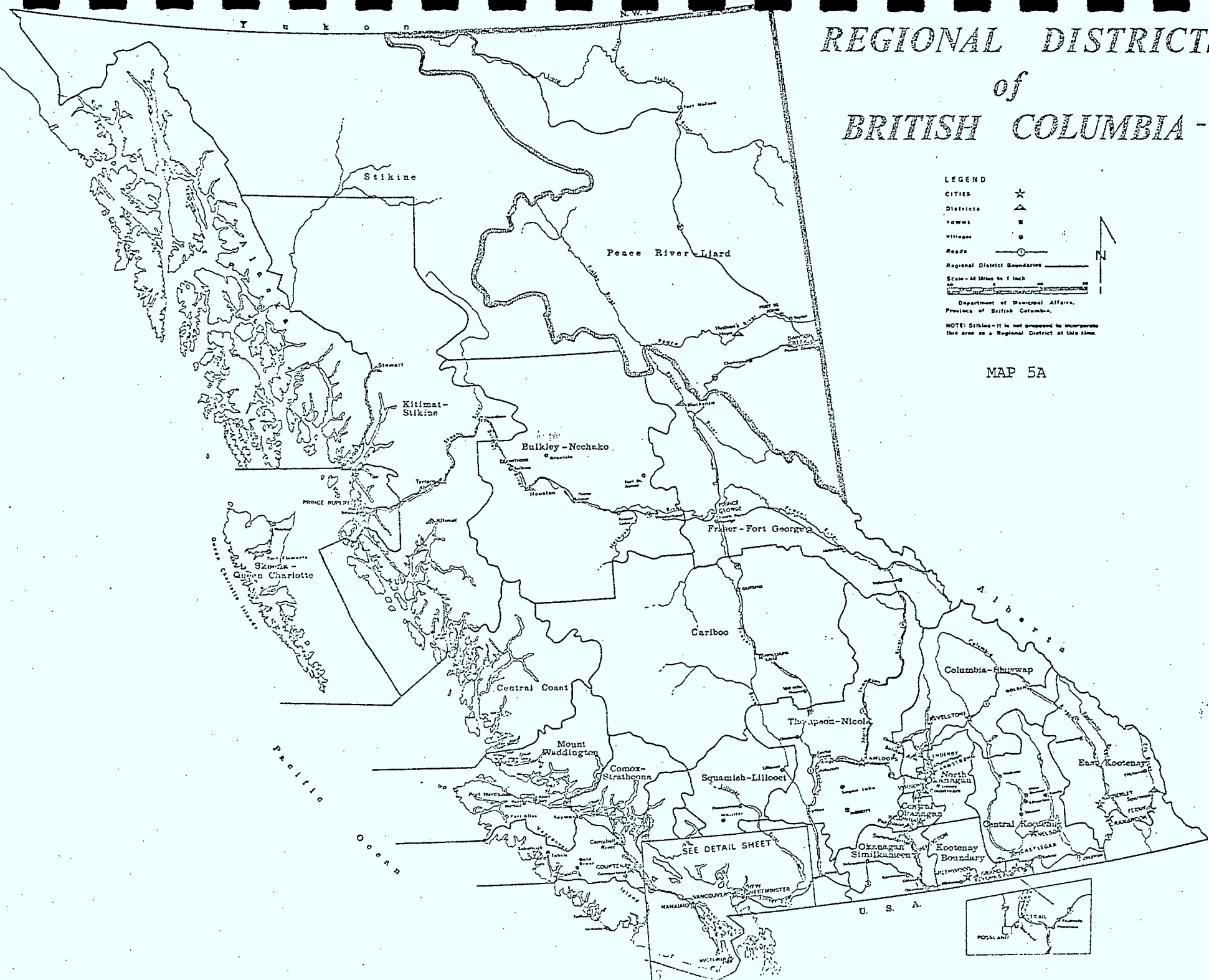
Rural Study Area - Aged 15 & Over

Total 8,900





# REGIONAL DISTRICTS of BRITISH COLUMBIA - A



MAP 5A

SEE DETAIL SHEET



SUB-REGION A: NORTH EAST B.C.Regional District: Peace River-LiardPhysical Description

The regional district of Peace River-Liard is so large in area and distinct from its neighbours that it merits a sub-region to itself. The total land area is about 75,310 square miles, of which about 60,000 square miles is east of the Rocky Mountain divide. By our estimates, almost 80% of this sub-region is remote. We have estimated that there were about 24,000 people in the rural study area in this sub-region in 1971, with a population density of 1.34 per square mile.

Physically, North East B.C. is roughly triangular in shape, bounded on the east by Alberta and on the north by the Yukon and N.W.T. The third side is approximately aligned to the Rocky Mountains, with a large loop westwards to take in the Williston Lake catchment area. The rocks of the sub-region are mainly sedimentary, upthrust in the west to form the Rockies and their foothills and lying flat in the east. They were formed by ancient seabeds and are hosts for rich oil and gas deposits, an important source of wealth for the area. Metallic minerals are rare in the area.

The climatic characteristics are roughly similar to those of northern Alberta and Saskatchewan. Precipitation is about 30 inches per year in the western mountains but decreases to 15 to 20 inches in the plains. Precipitation is sporadic and localized with a summer peak (unlike the rest of the province where peak precipitation is in the winter and rain storms are over wider areas). Winter is the longest and most dominant

season, being seven months long. Winters are cold but clear with temperatures around 0°F in January; summers average 55° to 60° F, with long hours of daylight.

The eastern part of the sub-region can be divided into two geographic areas: the Peace River "Block", which is the Dawson Creek, Fort St. John area, and the Interior Plain which is mostly north of the Peace River Block. The former area is the most heavily populated part of the sub-region and is similar to the agricultural belt of the Prairies. The Interior Plain is unsuited for extensive agricultural development because of poor soils and large areas of muskeg. Forest cover is mostly coniferous but the trees are small and poorly developed. The area is mostly notable for oil and gas development.

Population distribution in the sub-region is not spread evenly but is heavily concentrated in a broad belt connecting Chetwynd, Hudson's Hope, Dawson Creek and Fort St. John. Elsewhere, people are spread thinly along the main highways and clumped in communities such as Wonowon, Fort Nelson, and Lower Post. The majority - about two-thirds - of the population is under 35 years of age, which indicates something of the pioneer quality of the area. In the agricultural area, the increasing dominance of the few urban centres such as Dawson Creek is occurring at the smaller communities such as Rolla because of improved transportation links. A move by farmers into larger towns even while maintaining their property in the farming areas is occurring here as in parts of the Prairies. Along the Alaska Highway, north of the Blueberry River, communities depend on the highway in one way or another for existence. Their growth is not likely to be rapid but, on the other hand, they are ensured of continued existence by the need to maintain the Highway and to provide accommodation for travellers.

### Economic Activity

The agricultural sector is an important component of the economy in the North East and has been a major factor in the area's development in the past. In 1971, the sub-region contained 50% of B.C.'s farm land area in crops. The rate of new land breaking has decreased in recent years and this trend is expected to continue because there is relatively little undeveloped land available which is not marginally productive. Cereal grain and oilseed crops are the most important at present, accounting for 60% of the value of farm production in 1971. The agricultural labour force was 1,655 people in 1971 (1450 in the rural study area), with 15% of the sub-region's population living on the farms. More than half of farm operators in 1971 reported off-farm work, which indicates the marginal profitability of many of the farms. During the winter months, farm operators are able to obtain employment in logging, trucking and the exploration industries. Although this sub-region is a major crop producer for the B.C. region, there is little processing of the products in this area and prospects for this to develop are not significant.

The forestry sector has experienced changes recently in the move from small mills, seasonally operated, to large less seasonal operations. These changes have resulted from better world markets for forestry products resulting in higher prices, better technology in the processing of small diameter logs and the availability of rail transport to get the products to markets. The physical potential of the forests in this sub-region is estimated at 1.9 million cunits as the Adjusted Current Allowable Annual Cut (A.A.C.) but almost 25% of this is hardwoods which are more expensive to harvest and process with a lower market value as well. In 1974, log production was at close to half million cunits, providing employment of

833 people in logging and a further 964 people in milling operations. There were 20 sawmills operating in 1974. Neither logging nor milling provide year-round employment, with logging at about 120-200 days per year in the southern part and less than 100 days per year in the northern areas. Milling is now able to provide about 7 months of employment each year.

In the minerals sector, the North East sub-region accounts for 100% of the primary production of crude oil and natural gas resources in B.C. The development of these resources has made a significant contribution to the sub-regional economy through direct and indirect employment associated with the various facets of this sector. Compared to petroleum and natural gas, however, minerals and coal resources have been a relatively insignificant factor in the economy to date although activities centered on coal are expected to have a major impact on the socio-economic development of the sub-region in the future. This future development will be providential because the crude oil production is forecast to decline gradually in the next 10 years and may cease after that time if major new reserves are not discovered. Natural gas production is still high, with a reserve estimated to be 9.1 trillion cubic feet but the recovery rate from the fields will decline within the next five years unless supplemented by new finds.

The oil and gas industry is not labour intensive although the direct and indirect employment related to the various phases of development has been significant in the sub-regional economy. The exploration and development well drilling phases of production are the most labour intensive but provide only seasonal employment; furthermore, this type of activity has declined in B.C. in recent years, due partly to difficulties of geophysical structure in comparison to Alberta and partly to lack of provincial government encouragement of exploration, again compared to Alberta. The most

recent employment figures for drilling activities are for 1972, which indicates there were about 350 to 500 people employed directly in drilling and a further 350 to 500 people in direct oil well servicing, in the peak winter months. These figures are probably lower each year since 1972. The processing phase of the oil and gas industry employed about 200 people in 1974, with pipeline construction employing others although no numbers are available on this. The future employment potential of the coal production industry in this sub-region can only be estimated at this time. The Sukunka coal mine area is going to be developed but the scale of development depends on the availability of rail transport from the mine to link up with existing rail lines from Chetwynd to Vancouver or Prince Rupert and the development of suitable port facilities at Prince Rupert to handle coal for export. If fully developed, the Sukunka mine could become a \$400 million mining operation designed to produce 3 million tons of high grade coal per year by 1990. In 1977, about \$2 million will be spent on drilling, mine engineering and market development for the coal. No employment figures are available at this time.

In secondary manufacturing, this sub-region's distance from large markets, economics of scale in production and small local markets all prevent the development of manufacturing anything other than that which is resource-based. Wood products processing employs half of the labour force in this sector, with agricultural processing and oil and gas processing each employing 10%. The remaining 30% is spread over a variety of plants, engaged in sash and door production, upholstery production, metal fabrication or machine shop plants and food and beverage manufacturers.

Transportation is an important sector both in providing employment and in allowing certain other developments to occur once transportation

links are in place. Historically, this sub-region has been linked to Alberta centres because that is how the transport links were developed. It was not until 1952, when the Hart Highway from Prince George to Dawson Creek was opened, that a link existed with the rest of British Columbia. The development of the PGE Railway (now British Columbia Railway) to Fort St. John and Dawson Creek in 1958 strengthened communications to the south and the pattern of goods movement has gradually tied this area into the rest of the province, especially with the development of the forest products industry. Approximately 14% of the labour force in the sub-region is engaged in the transportation/communication sector. The actual number of employees in 1971 was 2,443; this sector represents a significant and stable component in the regional economy. In the most general context, the transportation network of this sub-region plays a crucial role in regional socio-economic development because of its relation to the extraction of primary resources and the exchange of goods and services to a widely dispersed population.

The construction sector is relatively underdeveloped in this sub-region. The relatively small size of the sustained market for construction services here and the fact that labour and capital in the industry is highly mobile (and, therefore, is easily drawn away to larger, more stable areas of activity) have retarded the development of this sector. Like other service industries, the construction sector is heavily dependent on other economic activities for its own development. In the North East, resource development is the major activity (other than agriculture) and this tends to be subject to wide fluctuations in levels of activity, due either to the discovery of new reserves or to the fluctuations in world prices for the products or both. One element in construction which fluctuates widely for reasons of its own



is the construction of hydro-electric power dams by B.C. Hydro, a provincial crown corporation. For a number of years, there have been a series of dams built in the Peace River system, not all in the North East. The two dams built within the sub-region are the Bennett Dam and Site One at Hudson's Hope. The nature of these construction projects is such that thousands of workers are required for a relatively short span of years and townsites can mushroom and wither away within 10 or 15 years. At present, Site One is at the peak of employment with a labour force of 1,100 and will require progressively fewer workers from 1977 to 1980, when only 200 workers are to be required.

About 37.8% of the sub-region's labour force is occupied in the trade and service sector, compared to 45.6% for B.C. as a whole. Of those employed in trade and service, a significant proportion of them are involved in accomodation provision and restaurants. In fact, this service group accounts for 80% of total service receipts in the sub-region. The dominance of this group is related to the extensive use of hotels and motels to accomodate the transient labour force which is seasonally occupied in the oil and gas and construction industries. During the summer, this group is also able to benefit from the tourist trade which is gradually developing from traffic along the Alaska Highway and a few resort areas such as Moberly Lake, near Chetwynd.

#### Future Prospects

The North East has been subject to extreme fluctuations in growth in the past and this seems to be likely in the future, with or without government initiatives designed to create managed economic development. The population of the sub-region should grow at a steady rate of around 5% per year but

much of this growth will be in the relatively small area around Dawson Creek and Fort St. John as well as in the towns themselves. Communities outside the Peace River Block will grow more slowly unless they happen to be one of those where major resource development or construction projects are to occur. The likelihood of any one of these developments occurring is extremely hard to predict partly because they often depend on certain government concessions being granted but also because their viability is closely tied to the world price for the specific product to be exported. The Sukunka coal development is a case in point: if the provincial government grants certain coal leases and builds extensions to the BCR, and if the world price for high-grade coal remains at its present level and if the federal government and provincial government can agree on the provision of appropriate port facilities at Prince Rupert and the transportation costs of moving the coal from Sukunka to the coast remain favourable, then the development will go ahead. At this time, there are still too many "ifs" unresolved to be able to predict what will happen.

MAP 6  
SUB-REGION B: NORTH WEST



Regional Districts

Kitimat-Stikine  
Skeena-Queen Charlotte  
Bulkley-Nechako  
Stikine

Land Area (sq. miles)

Total Area	114,758.54
Rural Study Area	11,049.04

Major Economic Activities

Forestry  
Fishing  
Mining and Smelting  
Agriculture

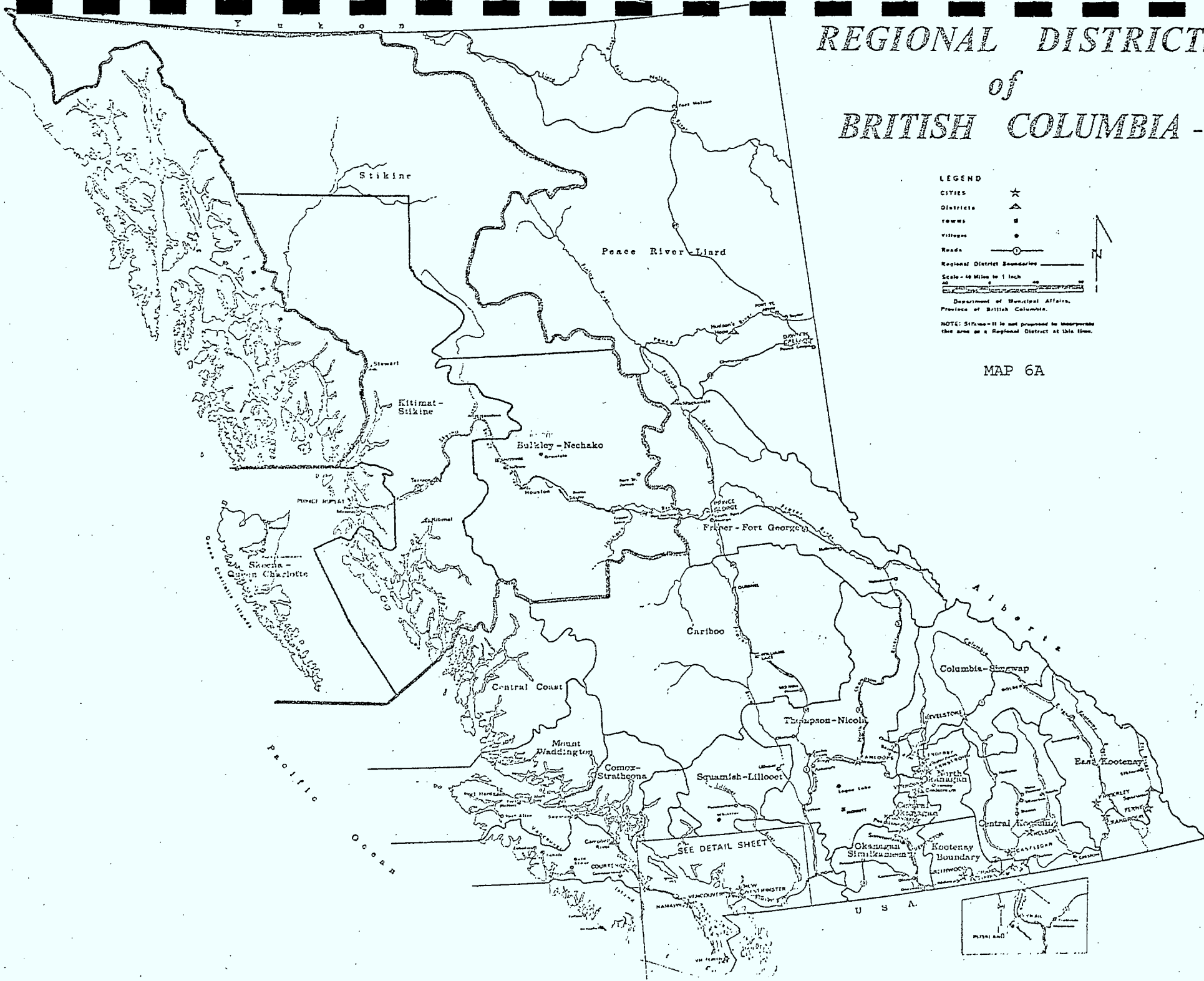
Population (1971 Census)

Total Area	88,240
Rural Study Area	42,480

Labour Force (1971 Census)

Rural Study Area - Aged 15 & Over	
Total	15,465

# REGIONAL DISTRICTS of BRITISH COLUMBIA - B



**LEGEND**

CITIES           ★

Districts       ▲

towns           ■

villages         ●

Roads           —○—

Regional District Boundaries   ———

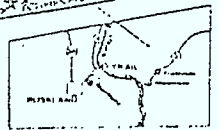
Scale - 40 Miles to 1 Inch

Department of Municipal Affairs,  
Province of British Columbia.

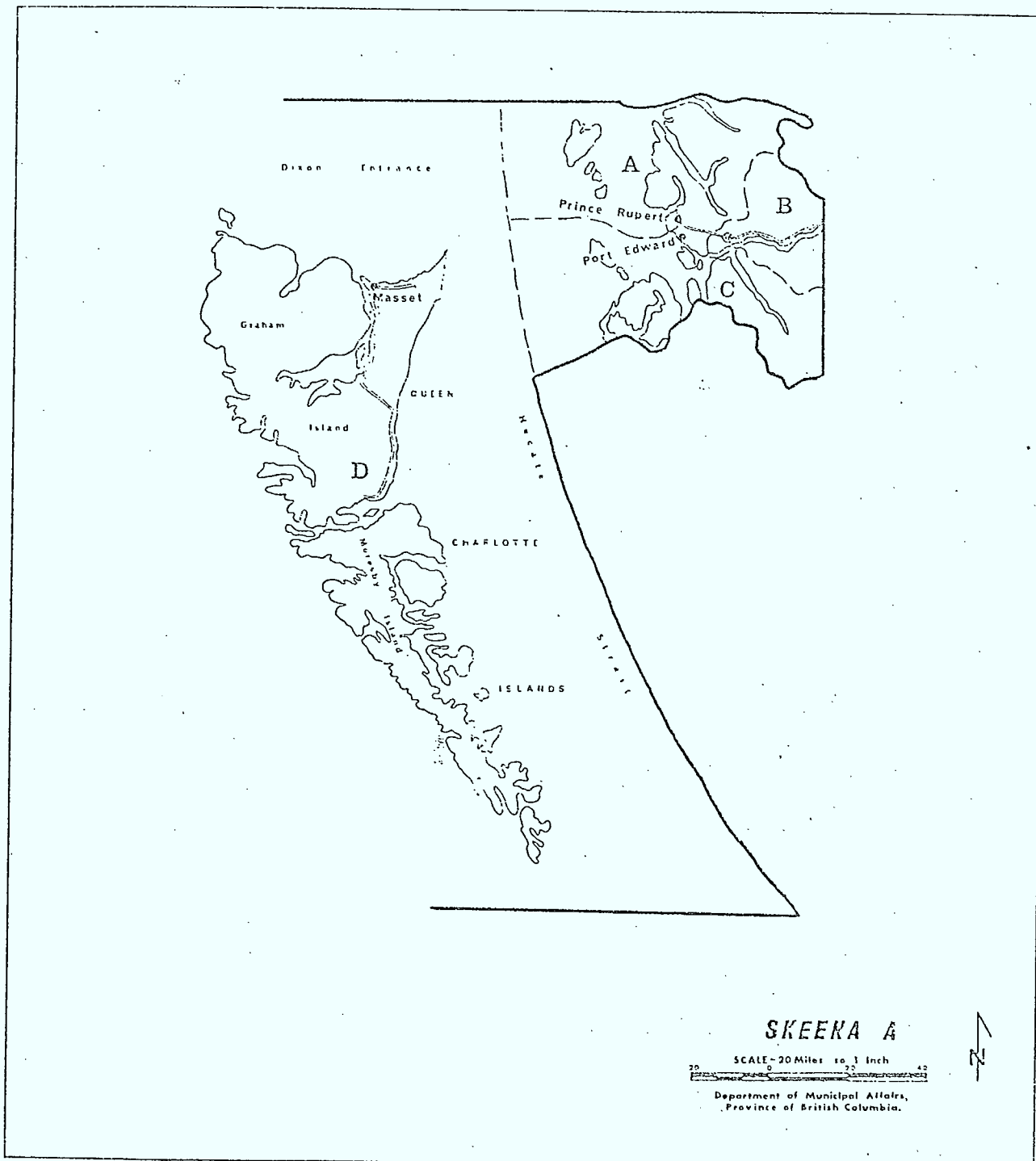
NOTE: Stikine is not proposed to incorporate this area as a Regional District at this time.

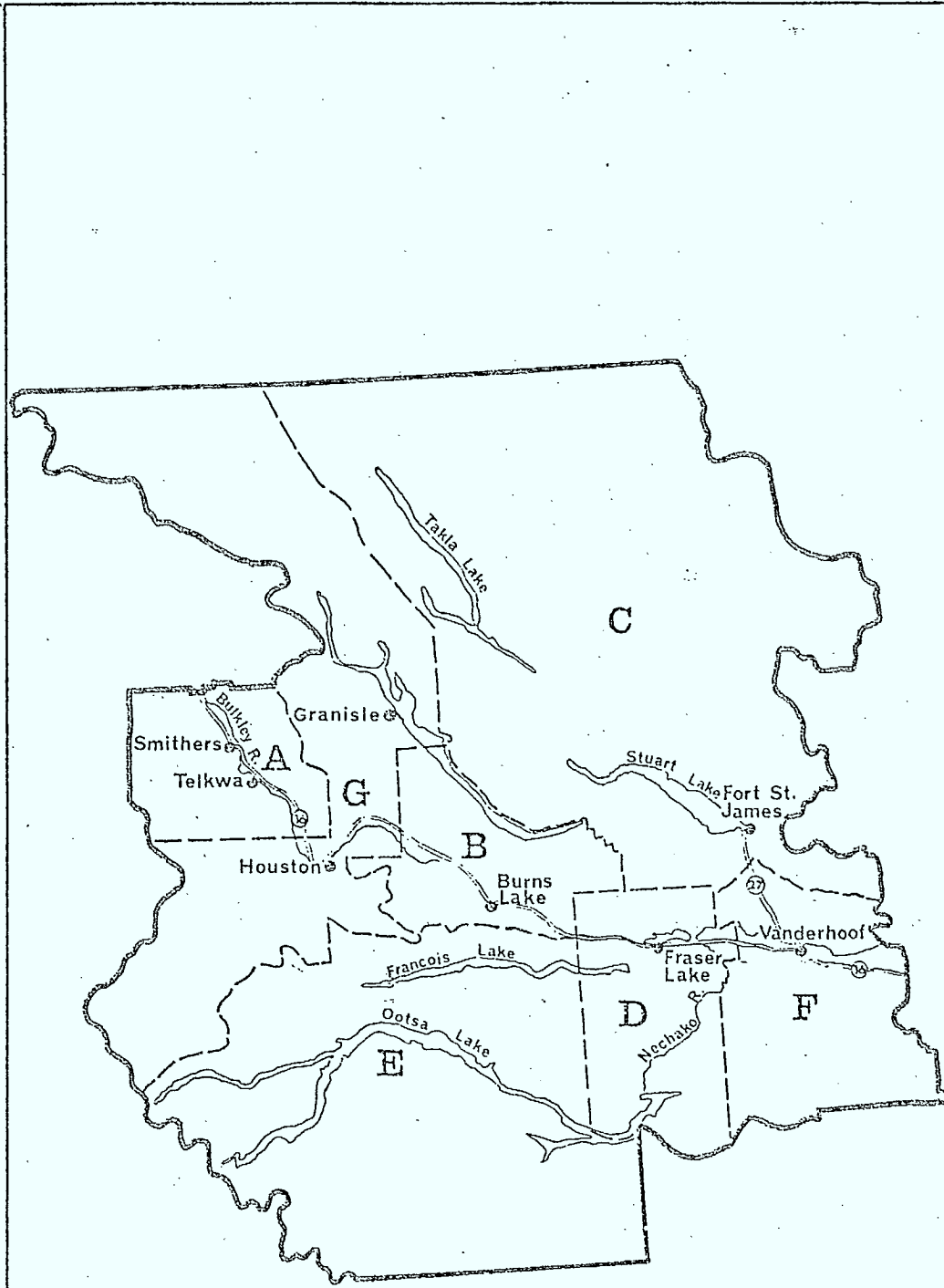
MAP 6A

SEE DETAIL SHEET

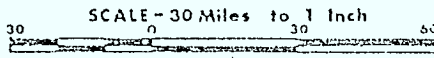




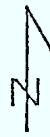




**BULKLEY - NECHAKO**



Department of Municipal Affairs,  
Province of British Columbia.



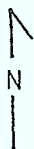
MAP 6A-4

\* Atlin

\* Cassiar

S T I K I N E

\*Dease Lake





SUB-REGION B: NORTH WEST B.C.

Regional Districts: Kitimat-Stikine, Skeena-Queen Charlotte, Bulkley-Nechako, Stikine

Physical Description

North West is a sub-region of approximately 115,000 square miles, divided into four regional districts. Physically, the area has two distinct elements: the coastal area of rugged mountains, numerous fjords and islands with land rising steeply from the sea. The land is covered by dense forests generally in an over-mature state, except in the Prince Rupert area which has a granite rock base and is covered with muskeg. The other element in the sub-region is the interior area which is forested rolling land and some mountain ranges, numerous lakes and generally less dense forest cover with smaller trees.

Although the sub-region is extremely large, we estimate that only about 16,550 square miles are within the rural study area as actually inhabited to a measurable extent. Stikine Regional District is the extreme example in that we consider the whole district as remote except for the town of Cassiar. The major peaks of the Coastal Mountain Range are in Stikine; further east is the Stikine Plateau which has a gently rolling to hilly surface indented by large rivers. Precipitation is high on the coastal mountains (more than 60 inches per year) but the interior receives 20 inches or less. Winters are long and cold with snowfalls of about 60 inches in the valleys; temperatures hover around 0° F in winter with the mean temperature in July being 50° F.

Virtually all of Kitimat-Stikine is in the coastal mountain area, although only about one-sixth of it can be considered populated. The

coastline is extremely rugged and indented; except for Kitimat itself at the head of an inlet, it is uninhabited and probably will remain so. The Skeena river valley cuts across this district and contains most of its people, as well as the transportation routes between Prince Rupert and Prince George. Kitimat-Stikine has a climate similar to that of Stikine, with winters slightly warmer on the coast.

Skeena-Queen Charlotte consists mainly of the Queen Charlotte Islands which are about 50 miles west of the mainland and are a smaller scale version of the coastal scenery south of Prince Rupert. The mountains are only 3,500 feet high with rugged peaks. Except for the north eastern portion of the main island, the land is mountainous and generally inaccessible except by sea. The area between Port Clements and Masset is flat but swampy and unusable for agriculture, except for the Tlell area. Precipitation on the Islands and on the area around Prince Rupert is extremely high and sunshine rare in winter-time. Rainfall at Prince Rupert averages 95 inches per year and the annual average on the Islands is around 55 inches. Temperatures rarely fall below 0°F on monthly averages in winter and summer temperatures are around 58°F in July and August.

Bulkley-Nechako has mountainous terrain in the western part of the district with the eastern part being a plateau containing lakes and gently sloping landscape. Rainfall here is much lower in this eastern part than in the rest of the sub-region, being about 15 to 20 inches annually. The western part of the district has rainfall similar to that of the other coastal mountainous areas, between 50 to 100 inches. Temperatures in winter go well below freezing with the average January temperature at about 10°F; it can go as low as -53°F. The summer temperature is highest on average in July at 57°F although it can be up in the 90's.

The population of North West B.C. is concentrated in small settlements and incorporated communities along the river valleys or on the coast. In the interior, 70% of the people live in Terrace, Smithers, Telkwa and Houston. Most of the rural farm population lives in the Bulkley Valley.

#### Economic Activity

The major industry and the one affecting virtually every town in the North West is forestry. The second major employer is the fishing industry, both sea fishing and freshwater fishing as far as Moricetown on the Bulkley. Historically, fishing was the mainstay of the North West economy. The third major employer is the mining and smelting industry. Fourth and fifth are agriculture and tourism and recreation; the former is in decline but the latter is increasing rapidly although both are relatively minor influences on the economy compared to the first three mentioned.

In forestry, most of the developments have occurred recently, the southern coast and the Islands being developed first. The northern coast has large volumes of over-mature timber but it is difficult to reach because of the steep terrain. The interior area is easier to reach but much of the northern portions produce smaller timber volume for climatic reasons. In the Bulkley-Nechako district, forest cover is dominated by lodgepole pine, spruce and balsam. Logging here is carried on mainly in the winter months because of difficult ground conditions especially during spring break-up. Most logging takes place along the CNR line, on lakeshores and near highways. Stikine has no usable timber resources at present primarily because there is a lack of transportation routes to allow access to those areas where valuable timber stands exist. Kitimat-Stikine contains sizeable forestry reserves and all three stages of production are engaged.

in: logging, sawmilling and pulp production. The northern part of the district is like Stikine in that remoteness and inaccessibility prevent much logging but the areas in reach of roads are well-developed. Skeena-Queen Charlotte logging is almost entirely on the Queen Charlotte Islands, with the logs being processed on the mainland either at Prince Rupert or at Kitimat.

As elsewhere in the province, sawmills are diminishing in number but increasing in size. They are now concentrated in about 9 centres which have saw and planing mills. Milling in Bulkley-Nechako provided employment for about 1,200 people in 1971. There are three pulp mills on the coast, two at Port Edward and one at Kitimat. Over half of the 1,780 forestry workers in the Skeena-Queen Charlotte district are employed at the Port Edward plants.

Fishing is of major importance in Skeena-Queen Charlotte, with 5,000 people being employed in the industry at its seasonal peak. There is a major processing establishment at Prince Rupert, with salmon as the main catch; there are 5 salmon canneries in the Prince Rupert area. This area around Prince Rupert accounts for about 30% of the annual value of fish products for all B.C. However, the work is seasonal and cyclical and does not provide an adequate full year's income for the workers. In 1973, Port Simpson (which is near Prince Rupert) had the lowest average income level in the province, of \$6,064 - 21% below the provincial average of \$7,675. Fishing and trapping are important activities in Stikine and Bulkley-Nechako, especially for the native people, but do not produce sizeable cash incomes.

The mining and smelting sector of the economy has been a long time in developing to its present strength. Mining development has been very

erratic in growth since early years of this century, achieving a growth rate of only 2% per year through that time. In 1973, there were 19,922 people employed in the industry, which has shifted from being labour intensive to being capital intensive. Since 1974, mineral development has slowed further due to poor world metal prices and no upturn has been indicated yet.

Most mines in operation are less than 15 years old: for example, the Granisle copper mine began in 1972 and the Endako molybdenum mine near Burns Lake began production in 1965. However, the aluminum smelter at Kitimat has been going since 1954. The Bulkley-Nechako district has considerable mineral resources and production is significant in the mines at Endako, Granisle and Pinchi; these three mines employ about 725 people altogether and produce molybdenum, copper and mercury respectively, mostly for export to Japan. All three have prospects for production at the current rates for at best 10 more years. In Stikine, there are no lode mines in operation at present and only 75 people are directly employed in mining and prospecting, mostly on small-scale placer operations or on exploration work. At Cassiar, an asbestos mine is in operation. In Kitimat-Stikine, there are several mines operating, principally the Granduc copper mine near Stewart and the molybdenum operations near Kitimat. In Skeena-Queen Charlotte, there is only one mine in the district, at Tasu on the Islands, producing iron ore by open pit mining.

Agriculture exists in all districts except Stikine but little of it is a self-supporting activity. Most farms are run by people who need other income sources to survive or who are "retired". Most farming is in Bulkley-Nechako where forage crop and livestock production are the main base. Dairy farming is concentrated in the Bulkley Valley around Smithers

and east from Vanderhoof. In Skeena-Queen Charlotte, there are only 17 Census farms, 16 of which are on the Islands. This district is generally unsuitable for farming because of poor soil conditions, the mountainous terrain and difficulty of access. In Kitimat-Stikine, there is agricultural activity similar to Bulkley-Nechako but on a less intensive scale. Most of it is along the Skeena River, with approximately 1,000 acres in crop. Most farms are small in acreage but production is high. One of the difficulties for farmers in this sub-region is the small number of days which are frost-free each year: between 52-80 days usually.

#### Future Prospects

A great deal depends on the transportation developments which may occur over the next 10 years in this sub-region. The development of large scale port facilities at Prince Rupert which are capable of handling a variety of products has been planned for many years and their construction is necessary for the northern half of the province to expand its economic base. Another major development which has been anticipated for years - but which has recently been put into question - is the extension of the B.C. Railway northwards from Fort St. James to Dease Lake and beyond. Two hundred miles of track have been built but work is now halted for an indefinite period. The development of much of Stikine as well as parts of Bulkley-Nechako depend directly on the viability of this railway extension. Highway development in Stikine and Kitimat-Stikine are also the key to developments in certain areas of these districts; without such transportation links, development will not occur. Within those areas now served by road in the Skeena and Bulkley river valleys, expansion of sawmill capacity is expected, which will allow the reduction of the use of roundwood by the existing pulp mills on

the coast and thus be less wasteful of good timber. The development of tourism and recreation will occur gradually throughout the sub-region as greater access to recreational areas is achieved. Tweedsmuir Park occupies one corner of Bulkley-Nechako and there are many areas not officially designated as parks which have recreational possibilities. The development of new roads and better surfaces on existing roads will encourage tourism of a general kind as well as the fishing and hunting enthusiasts. As this becomes a more important part of the North West's economy, there could be conflicts in development plans with those of the resource extraction industries but this stage has not yet been reached. Population growth in the rural areas will continue to be slow and most of it will be within the limits of the present population corridors between Prince Rupert and Vanderhoof.

MAP 7  
 SUB-REGION C: CENTRAL



Regional Districts

Cariboo  
 Fraser-Fort George  
 Squamish-Lillooet  
 Thompson-Nicola

Land Area (sq. miles)

Total Area 70,182.03

Rural Study Area 22,672.81

Major Economic Activities

Forestry  
 Mining  
 Agriculture  
 Construction  
 Tourism and Recreation

Population (1971 Census)

Total Area 192,554

Rural Study Area 97,665

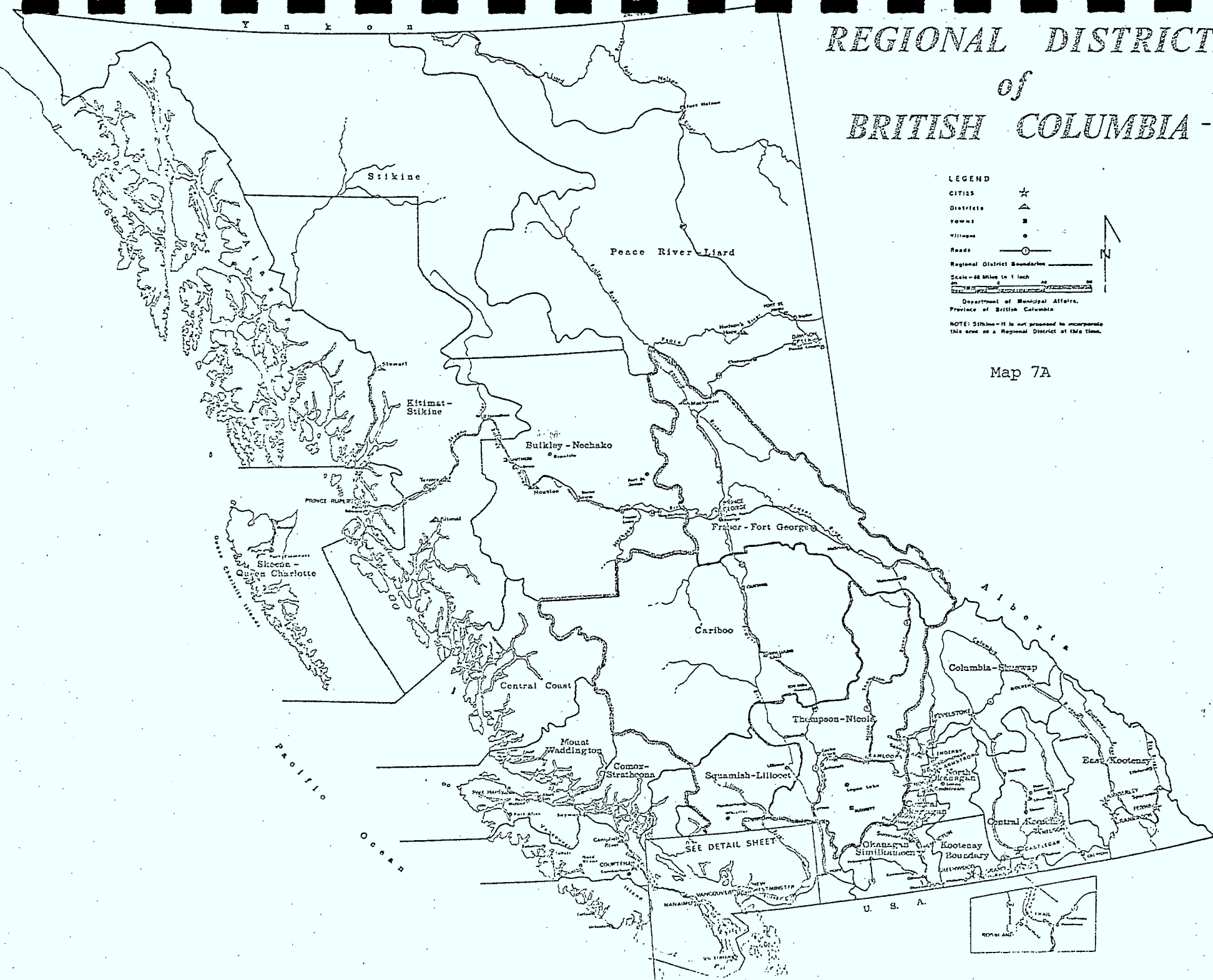
Labour Force (1971 Census)

Rural Study Area - Aged 15 & Over

Total 37,970



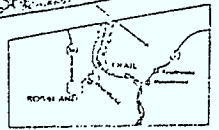
# REGIONAL DISTRICTS of BRITISH COLUMBIA - C



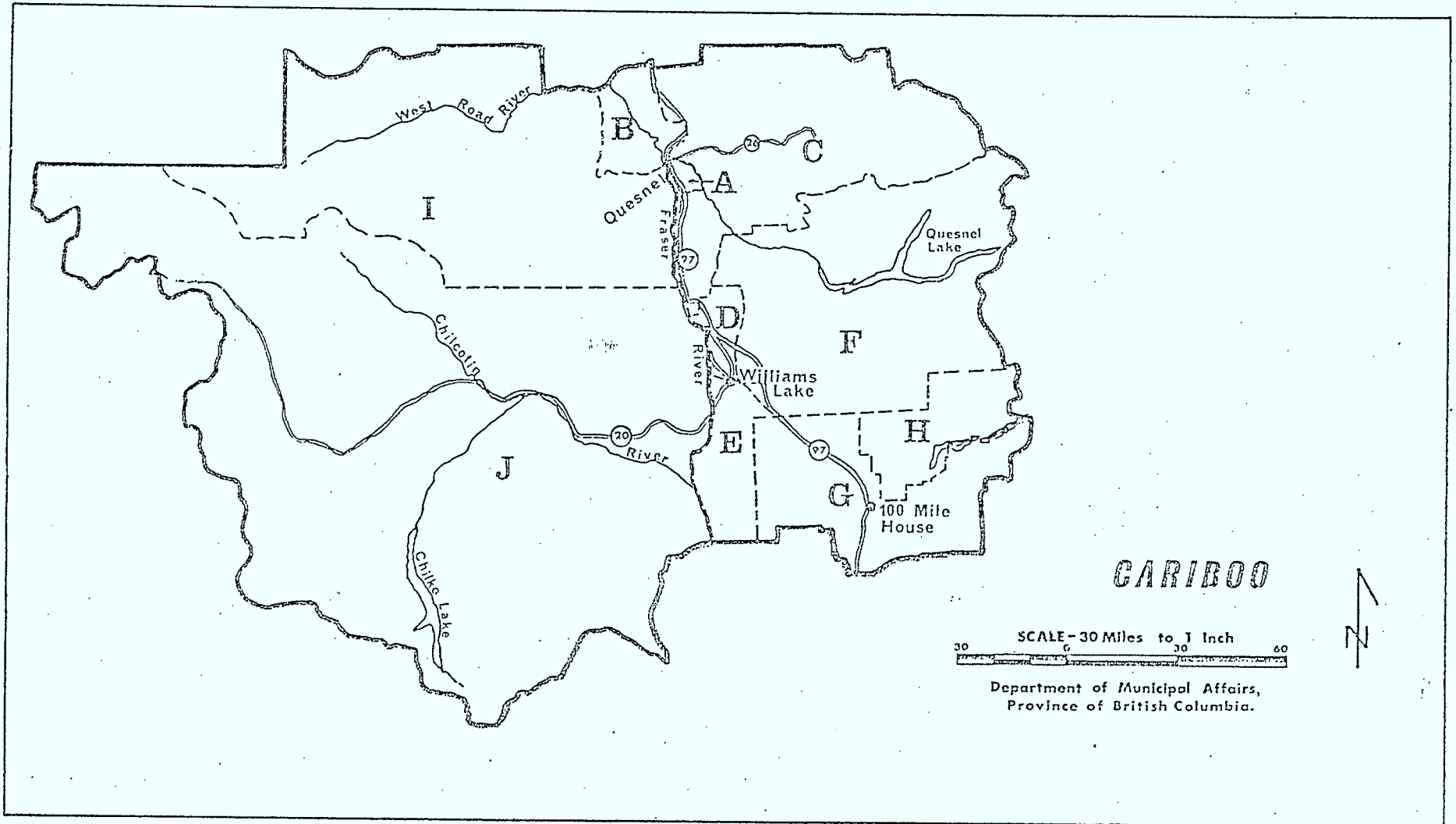
Map 7A

SEE DETAIL SHEET

U. S. A.



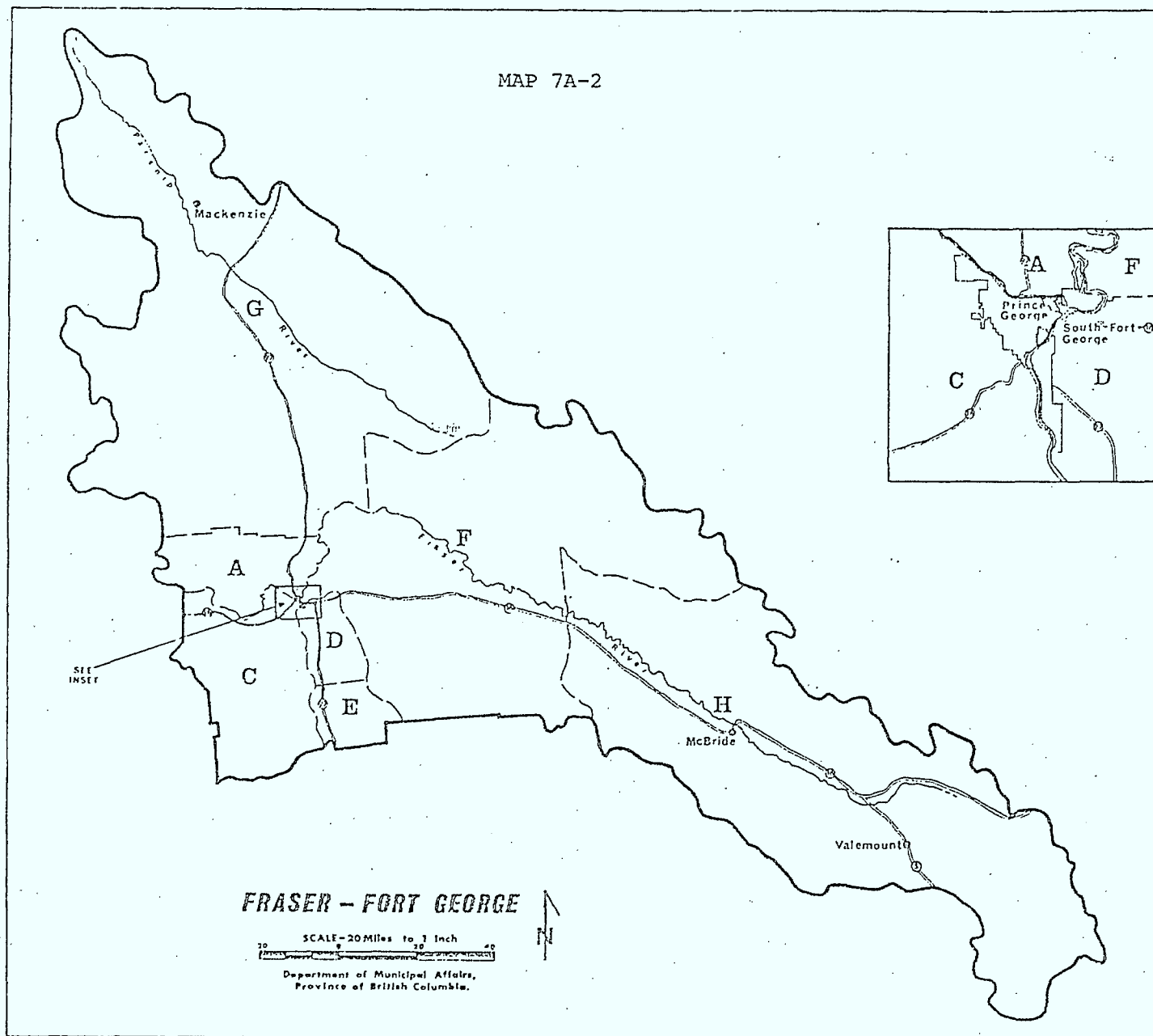
MAP 7A-1



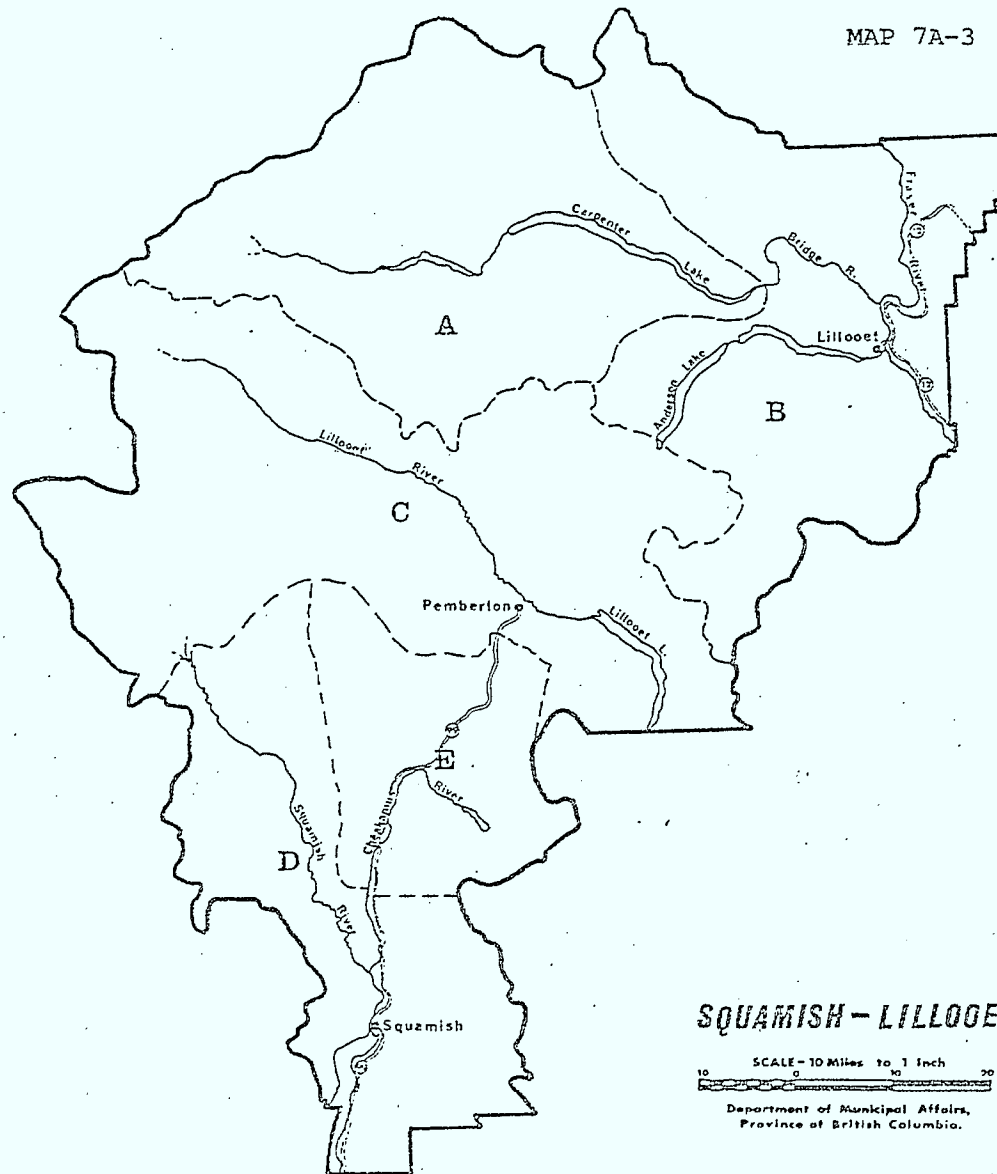
SCALE - 30 Miles to 1 Inch

Department of Municipal Affairs,  
Province of British Columbia.

MAP 7A-2



MAP 7A-3

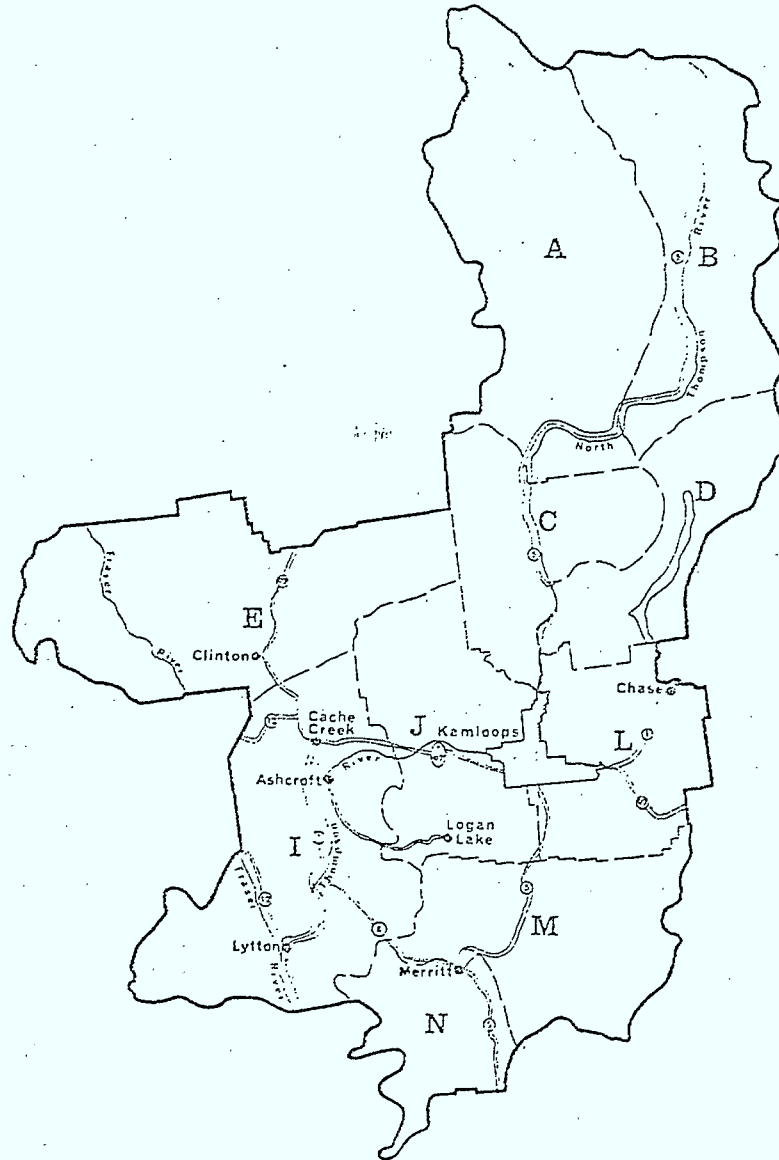


**SQUAMISH-LILLOOET**

SCALE - 10 Miles to 1 Inch

Department of Municipal Affairs,  
Province of British Columbia.

MAP 7A-4



**THOMPSON - NICOLA**

SCALE - 20 Miles to 1 Inch  
20 0 20 40

Department of Municipal Affairs,  
Province of British Columbia.

SUB-REGION C: THE CENTRAL REGION

Regional Districts: Cariboo, Fraser-Fort George, Squamish-Lillooet, and  
Thompson-Nicola

Physical Description

The Central Region includes within its boundaries some 70,182 square miles of land in a large adjuncted rectangle situated roughly between 50° and 55° north latitude. It is bounded on the north and east by the Peace River-Liard Regional District and Alberta, or in other terms, by the line of Rocky Mountains which separate northeastern B.C. from the rest of the Province. From there, running in a southwesterly direction much of the landscape is made up of rolling hills and flat highland plateaus. This is characteristic of the large Interior Plateau, of which most of the sub-region is comprised, extending as it does west to the Coast Mountains and south to the Okanagan. Within this landscape the large rivers occupy prominent, deep valleys. The lowest altitudes, less than 500 feet above sea level, are in the Fraser Canyon south of Lytton in the south-central part of the sub-region. The highest altitudes, in excess of 8,000 feet, may be found in the mountains around Lytton and in the northeast, around Blue River.

On the basis of air-mass influence, latitude and relief, the Central Region may be subdivided into four climatic zones. One zone is confined to the Pemberton Valley in the southwestern corner of the sub-region, and has a climate resembling that of the south-western Pacific Coast; that is, a moderately heavy annual rainfall with a winter peak, a rather long growing period, and moderate temperatures. A second zone follows the trenches of the Fraser and Chilcotin Rivers, where low elevation and the sheltering effect of high valley walls combine to produce warm summer temperatures, a long growing season, and low annual precipitation (10 to 20 inches). A third

zone covers the surface and higher valleys of the Interior Plateau from 3,000 to 5,000 feet elevation. More direct exposure to air-mass weather systems and greater elevation produce cooler temperatures and higher totals of rain and snow (15 to 40 inches). The fourth zone is associated with the mountains, where cool, short summers and fairly heavy precipitation (usually more than 40 inches annually) are the rule.

In the Cariboo Regional District, Quesnel is the only urban centre. Its suburbs on both sides of the Fraser River contain approximately 80% of the local population. However it is surrounded by a number of small rural settlements including Wells, Hixon, Kersley and Likely, which have only a few hundred residents or less. The Chilcotin area and that adjoining Anahim to the north are sparsely inhabited, with a population density still below one person per square mile. Most of the settlements are not far west of the major river valleys, at Riske Creek, Hanceville, and Alexis Creek. Further west the level of settlement is extremely low, due in part to the existence of Tweedsmuir Provincial Park which extends into the area, but is not developed. At Williams Lake and south to 100 Mile House there is a continuous ribbon of settlement along the Cariboo Highway (no. 97). West of the highway there is a light sprinkling of population, with local clusters around Big Bar Creek, Jesmond, Dog Creek and Alkali Lake.

In the Thompson-Nicola Regional District the main concentration of settlement is in Kamloops, which, together with its immediate suburbs, contains more than one-half of the district's total population. Elsewhere, the rural population is drawn out along main river valleys, notably that of the North Thompson and to a lesser extent on accessible upland plateaus. Some of the more notable rural settlements include Clinton and Cache Creek on Highway 97 and Ashcroft, on the Thompson River west of Kamloops.

The rural population in the Fraser-Fort George Regional District is located in small patches of settlement along the Fraser River Valley to the south and east of Prince George. These include McBride and Valemount, near the Alberta border, and Hixon, about 30 miles south of the large interior centre. As well, Mackenzie and Summit Lake which are to the north of Prince George along the B.C. Railway and Highway 97 constitute two of the more notable rural clusters.

The population of the Squamish-Lillooet Regional District, in the southwestern corner of the sub-region, is considered to be almost completely rural. The Municipality of Squamish at the head of Howe Sound has nearly one-half of the district's 13,000 inhabitants within its boundaries. As the distance from tide water increases, the density of settlement decreases substantially, although there is patchy settlement along the highway to Pemberton. The villages of Lillooet and Pemberton are two other important centres. They are in the eastern portion of the district and each has a rural hinterland that follows nearby rivers for a distance of ten miles or more.

#### Economic Activity

The forestry sector is one of the most important to the economy of the Central Region, although it does not occupy a position of overwhelming dominance, such as is the case in certain other regions of B.C. Sawmills, pulp mills, plywood and veneer mills and other woodworking and wood-using enterprises are found in all parts of the sub-region, as are logging, trucking and other support enterprises critical to the sector. Generally speaking centralization and integration of processing facilities has not advanced to the same degree as elsewhere, meaning that dozens of sawmills exist in dispersed parts of the sub-region operating close to their source of wood supply.



However some concentration of facilities does occur in the larger centres, including Williams Lake, 100 Mile House, and Merritt. There are 9 plywood and veneer plants operating in nine separate places and until recently there were 8 pulp mills dispersed among the five centres of Woodfibre, Prince George, Mackenzie, Quesnel, and Kamloops. This total was reduced by one with the closure of Cariboo Pulp and Paper near Quesnel in February of this year. Its shut-down, "for an indefinite period", was attributed to market conditions and a strike at three Lower Mainland chemical plants on which it depended. This exemplifies some of the problems faced by forest-based operations in the sub-region: competition from larger, highly integrated facilities, coupled with a dependence on distant suppliers for producers goods. As well, the species of trees utilized in local mills tend to be smaller and less valuable than those harvested on the coast. Statistics regarding market production of pulp, paper and related products, lumber, veneer and plywood indicate that the more integrated facilities at Prince George, Kamloops and Mackenzie have the largest outputs, respectively, of products in all categories except plywood. A Quesnel mill excels in this category. Employment figures for the regional districts show that the following numbers of people were employed in 1971 in the manufacture and processing of wood, paper and furniture: Cariboo, 3,135; Thompson-Nicola, 2,740; Fraser-Fort George, 4,420; and Squamish-Lillooet, 370.

The minerals sector occupies a position of considerable importance in the Central Region. Perhaps only in the Kootenay sub-region is there a comparable volume of activity in this regard. Producing metal mines employed close to 2700 people in 1973, non-metallic mines employed 225, and exploration and development provided an additional 650 seasonal jobs. Value of metal production (1973) was near \$286 million. Two areas of sustained activity are

the Highland Valley, southwest of Kamloops and the North Thompson-Cariboo area. The Lornex Mining Corp. has developed its own townsite at Logan Lake which presently has a population around 1,350. Pioneer and Bralorne mines, west of Lillooet did at one point employ 1,000 men, but these have declined to the point of closure over the last decade. Regarding the production of structural and industrial minerals the majority of employment, some 600 jobs, is provided by one cement plant in Kamloops and various sand and gravel pits.

Although there are no producing coal mines in the region at the present time, there are two major coal properties with potential for development: BC Hydro at Hat Creek (just west of Cache Creek) and Northern Coal Mines Ltd. on the Bowron River just southeast of Prince George.

The Central Region study area encompasses a large portion of the province's agricultural land - in excess of 2,700,000 acres, or over 47 per cent of the Provincial total. Much of this is natural range used by the cattle ranching industry. The region's farm population exceeds 15,000; well above the Provincial average, however the value of output produced - mainly livestock - is very low. In 1971 some 40% of census farms had a value of production less than \$2,000 while over two-thirds (68%) sold products worth less than \$5,000. This is indicative of the fact that many operations are subsidized by income earned at other occupations by their owners. Calculations from figures in the 1971 Census show that as much as 5 to 7 work months are spent off the farm/ranch by at least half the operators, primarily in logging and construction jobs. Values of the major agricultural products sold (1971) are: cattle \$19,357,000; dairy products \$3,257,000; eggs \$1,736,000; and hay \$1,120,000.

In the 1971 Census nearly 8,000 workers were indicated as being in the transportation and communication sector. These were located disproportionately throughout the sub-region, with Prince George and Kamloops having large

numbers of such workers nearby. As a general rule, employment in this sector fluctuates before and after the establishment of resource-based industries. For example, the relocation and upgrading of roads now occurring in the Highland Valley area is necessary for new mining projects to proceed, whereas in more established centres like Kamloops, activities are geared toward the provision of urban services and amenities. The Squamish-Lillooet Regional District is significantly influenced by this sector because of the presence of the B.C. Railway. Some 230 people at Lillooet were employed by the B.C.R. in 1971, while close to 300 people work at the rail car factory near Squamish. Recently the factory has been unable to secure sufficient orders to maintain long term production and its future is in doubt.

The construction sector of the Central Region has shown significant instability in the level of activity. This basically indicates the marked swings in the level of general economic activity in the sub-region which have been heightened by major pulp mill construction programs (at Mackenzie, Prince George, Quesnel and Kamloops) and major mining developments (most recently at McLeese Lake and in the Highland Valley). Activity in the sub-region by type (residential, commercial, industrial, etc.) and in total has varied significantly since 1966. Total building construction rose six-fold from a low point of \$23.5 million in 1968 to a peak of \$139 million in 1973.

In 1975 the tourist and recreation sector provided employment for about 6,000 people in the sub-region. While many of these jobs were part-time or temporary, they provided an important contribution to the resort areas and rural economies in the Cariboo and Thompson-Nicola Regional Districts. Fishing and hunting are estimated to account for some \$40 million in annual expenditures by tourists. However, it is expected that this may decline somewhat in future years because of a moderate depletion in game stocks. There are close to 30

ski areas in the sub-region, the most notable of these being Whistler, near Squamish. Others include Tod Mountain near Kamloops and Valemount, which serves as a base for helicopter skiing in the Rockies. Estimated employment exceeds 150 full-time and part-time workers during peak periods, while some \$3.5 million is spent annually by skiers in the sub-region.

#### Future Prospects

Future developments in the forestry sector will likely involve movement towards more centralized and integrated processing facilities. This will result in an increased concentration of saw and pulp mills around these towns and municipalities which have already demonstrated an ability to provide suitable locations: Prince George, Quesnel, Kamloops, and Merritt. In many cases the rationalization process will result in additions to existing plants. According to B.C. Government forecasts the District of Mackenzie is expected to be the community most affected by developments in the forest industry over the next ten years. By 1985 substantial additions to sawmill and pulp mill capacity, plus forward integration into newsprint could support an increased labour force of 220 loggers and 1,200 production workers there.

In the minerals sector, it is expected that 200 jobs will be lost within a year when a molybdenum mine northeast of 100 Mile House is closed. However, overall activity in the region is expected to increase significantly as a result of the Afton Copper mine's imminent opening. This operation near Kamloops is expected to employ 250 people and open the way for development of a copper smelter somewhere in the province. The Provincial Government has recently introduced legislation designed to encourage copper smelting operations in B.C. It is expected that an Afton Smelter would employ 100 persons.

Major new developments in coal mining are also likely at Hat Creek (near

Cache Creek) and to a lesser extent at Bowron River south of Prince George. Though at the present time no firm plans have been set for Hat Creek the likelihood that development will occur increases with each rise in the price of oil and natural gas, and with rising public demand for electricity generation by means which are likely to cause minimal environmental disruption. Should development come it is expected to occur by 1983-4 and would employ in excess of 500 people in the mine and thermal plant operations. Other coal-related developments in the sub-region are dependent upon the construction of a steel mill in the province. While the government has been attempting to secure investment from Japanese interests in this regard, there is still no way of determining whether or not this will take place.

The construction and transportation sectors are expected to fluctuate in response to new resource-based developments in the region. But as well as being affected by forestry and mining, spending by the federal government will have some impact on this type of activity. Between 1977 and 1980 improvements and expansions at most existing airports in the sub-region are expected. And \$13.5 million has recently been set aside for work on a new maximum security prison in Lillooet.

No significant expansion is anticipated in the agricultural sector and secondary manufacturing will likely decline in terms of relative importance. Increases in the volume of hotel/motel accommodation will mostly benefit the urban centres of Kamloops and Prince George, creating 250-350 new jobs over the next fifteen years. Over the same period, tourist-related employment in rural communities may only expand at one-half this rate, allowing for seasonal fluctuations and isolated exceptions where local attractions may encourage more rapid development.

MAP 8  
SUB-REGION D: MID-COAST



Regional Districts

Comox-Strathcona  
Mount Waddington  
Powell River  
Ocean Falls

Land Area (sq. miles)

Total Area	27,691.77
Rural Study Area	1,774.97

Major Economic Activities

Forestry  
Fishing

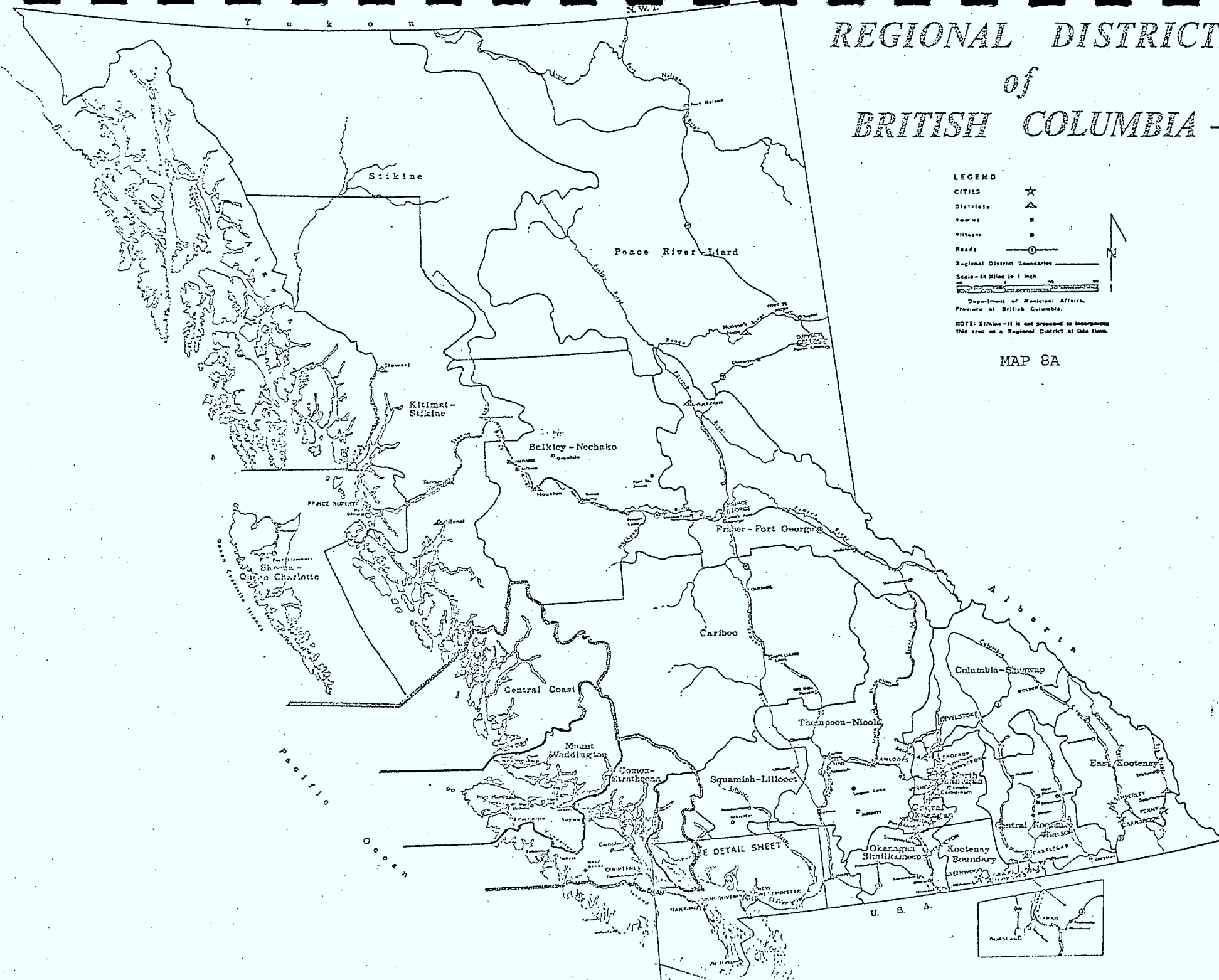
Population (1971 Census)

Total Area	80,504
Rural Study Area	46,440

Labour Force (1971 Census)

Rural Study Area - Aged 15 & Over	
Total	18,015

# REGIONAL DISTRICTS of BRITISH COLUMBIA - D



**LEGEND**

- CITIES           ★
- Districts       ▲
- Towns           ■
- Villages       ●
- Roads           —○—

Regional District Boundaries ————

Scale—48 Miles to 1 Inch

Department of Municipal Affairs,  
Province of British Columbia.

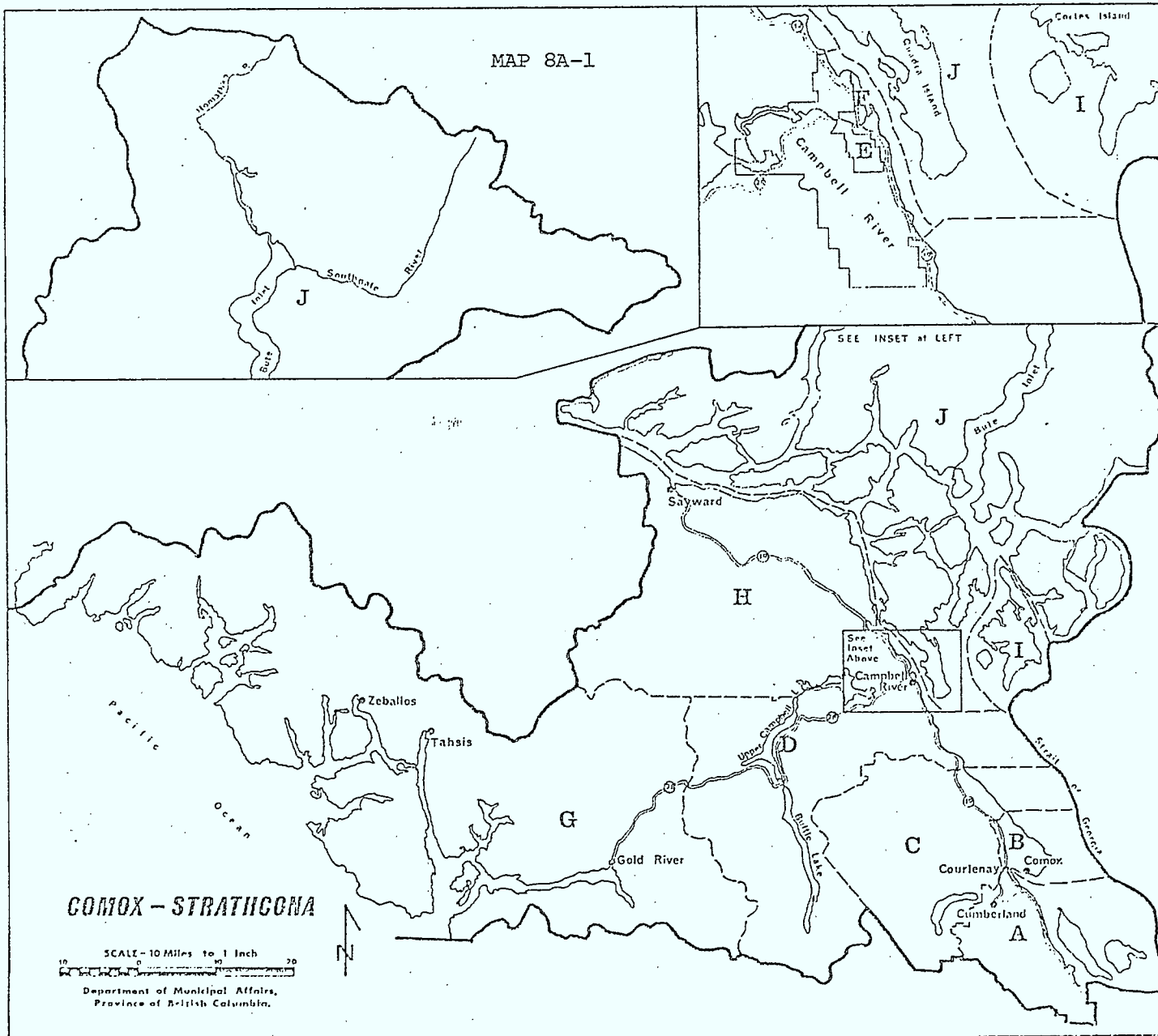
NOTE: Stikine—It is not proposed to incorporate this area as a Regional District at this time.

MAP 8A

SEE DETAIL SHEET

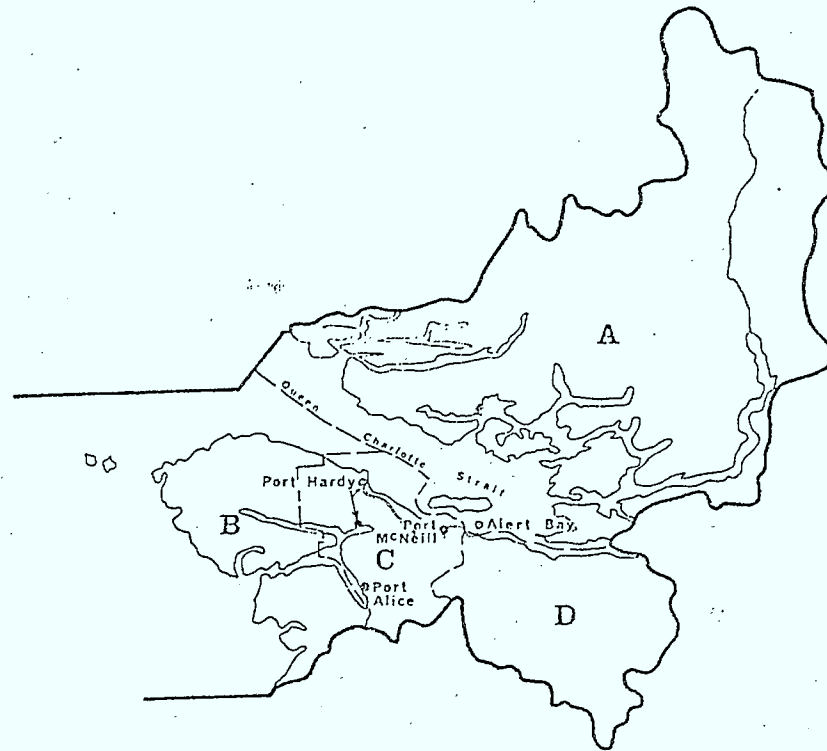
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MAP 8A-2

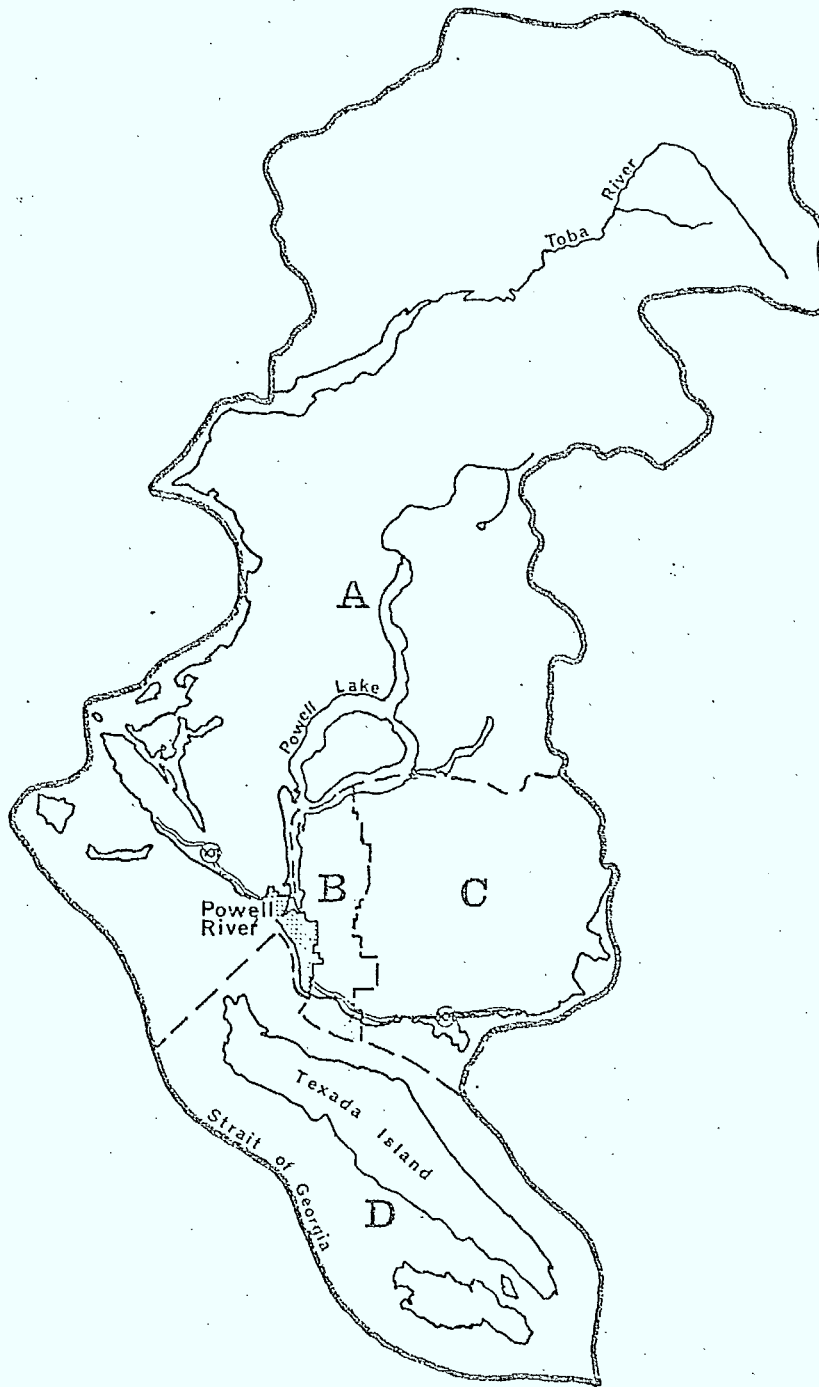


**Mount Waddington**

SCALE - 20 Miles to 1 Inch

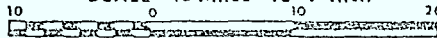
Department of Municipal Affairs,  
Province of British Columbia.



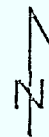


# POWELL RIVER

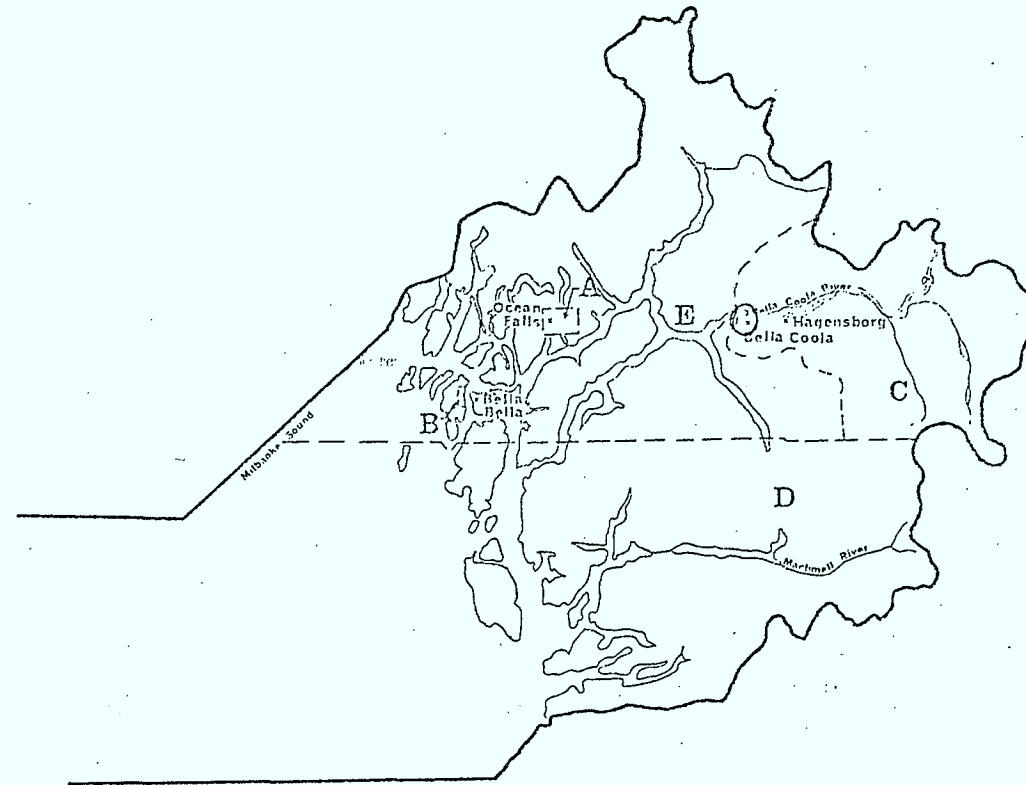
SCALE - 10 Miles to 1 Inch



Department of Municipal Affairs,  
Province of British Columbia.

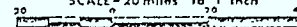


MAP 8A-4



**OCEAN FALLS**

SCALE - 20 Miles to 1 Inch



Department of Municipal Affairs,  
Province of British Columbia.

SUB-REGION D: THE MID-COAST

Regional Districts: Comox-Strathcona, Mount Waddington, Powell River, and Ocean Falls

Physical Description

The Mid-Coast sub-region includes the entire portion of Vancouver Island that lies north of the undulating southern boundary of the Comox-Strathcona Regional District, and a large section of the coastal mainland (some 11,500 square miles) stretching from Powell River north to Bella Bella and Ocean Falls, and inland to include virtually all of the Coast Mountain Range. As are those on Vancouver Island, the Coast Mountains are rugged and rise steeply from the sea. In fact so much of the land area in the sub-region is mountainous and unsuitable for settlement that we have classified 93% as remote.

Most of the rural population is located in the other 7% of land; a narrow strip along the east coast of northern Vancouver Island and isolated pockets, usually small river valleys, along the coastal mainland. On Vancouver Island, Comox, Courtenay and Campbell River are the largest urban centres, although rural places such as Port McNeill and Port Hardy, further north, have been experiencing rapid growth over the last five years. On the mainland a large rural population (approximately 3,000) surrounds the town of Powell River whereas other coastal towns such as Ocean Falls, and Bella Coola are entirely rural in composition.

The climate of the area is determined largely by the effect of the mountains upon moist eastward flowing oceanic air masses. As this air passes over the rising land it releases a large proportion of its moisture, resulting in large volumes of precipitation. Both the west coast of Vancouver Island and that portion of the coastal mainland which is exposed to the

open ocean are among the wettest parts of Canada, with several locations recording more than 100 inches of precipitation annually. The east coast of northern Vancouver Island is within the rainshadow created by nearby mountains and is much drier. There 30 inches to 50 inches of precipitation per year is typical, a factor which enhances the agricultural potential of the area. Temperature records do not exist for higher elevations, and thus refer to those areas where the population is located. Winter lows vary between 35°F and 40°F for Vancouver Island and oscillate around the 30°F mark on the mainland, although they can register as low as 0°F, or lower in some areas (such as Bella Coola). Summer temperatures reach their peak in August with 60°F being an average high for most areas, although absolute maximums have reached the 89°F to 105°F range.

#### Economic Activity

The forestry sector in its various phases occupies a position of overwhelming dominance in the economy of the Mid-Coast region. With the possible exception of the Comox-Campbell River area most employment in all parts of the region is closely related to and dependent on some form of forestry activity. In Mount Waddington virtually all activity in this sector is based on the exploitation and harvesting of wood, rather than the processing of wood and the manufacturing of wood products. Except for a small sawmill at Telegraph Cove, the only major processing facility is the Rayonier Pulp Mill at Port Alice. Logs are boomed and barged south to saw and pulp mills on the Lower Mainland and on lower Vancouver Island or are transferred south for export from the ports of Nanaimo and Vancouver. The tree farm licences on northern Vancouver Island are held primarily by Crown Zellerbach, Rayonier, MacMillan Bloedel, and Canadian Forest Products

Ltd. As a rough estimate, approximately 2,800 employees were associated with the forestry sector in this area of the region in 1971.

The Ocean Falls and Powell River districts depend on somewhat different phases of the forestry sector. Ocean Falls is a single industry community with a population in 1971 of about 1,400. The single industry is a pulp and paper mill owned by the BC Government through the Ocean Falls Corporation. The population of the town is down from a mid-1960's peak of about 3,000, because operational cut-backs in the mill were implemented by its former owner, Crown Zellerbach. However since the take-over by the provincial government there has been an increase in employment security and a reduction in labour turnover.

In the Bella Coola/Hagensborg area a population of about 1,300 (1971) depends on logging for about one-half of the employment opportunities. It is significant to note that members of the native Bella Coola Band comprise about one-half of the population there, and that many of these people are unemployed.

The town of Powell River derives much of its activity from a MacMillan Bloedel pulp and paper operation which is one of the largest in the world. It employs about 2,400 people. The town had a population exceeding 14,500 and an average family income of \$9,963 in 1971. However, the population of the rural hinterland surrounding Powell River is only indirectly tied to the dynamics of the mill and this is reflected in a lower average income, as well as varying political attitudes and lifestyles.

On the west coast of Vancouver Island, Gold River, Tahsis and Zeballos have economies based on pulp production, saw milling and logging, respectively. Gold River has a permanent population of around 2,000, and Tahsis around 1,100, while Zeballos has 200 or fewer permanent residents. These three

settlements are the focus of most forestry-related activity in the Comox-Strathcona Regional District.

Fishing is the single and most important industry for the native Indian community of Bella Bella, near Ocean Falls. The salmon fishery provides residents with most of their income. However, because of the high degree of seasonability in this sector, as many as 70 per cent of the community labour force may be unemployed at any time. Other than fishing there is a lack of alternative job opportunities, and this has contributed to a number of serious social problems, including a lack of community stability, underdevelopment of other employment sectors, poor educational facilities, and a higher than average incidence of alcoholism.

In the Bella Coola/Hagensborg area fishing is of secondary importance, after logging, as a source of local income. In 1972 a total of 78 people, or 30.9% of the labour force were employed in this sector, and \$510,000 gross income was generated by their work.

Fishing is also of some importance to the Mount Waddington area because the nearby waters of Queen Charlotte Strait are among the more valuable harvesting grounds in the province. However, statistics regarding numbers of persons employed and gross income received are difficult to calculate in a meaningful way because it is known that much of the revenue derived from this activity flows immediately out of the region to fishermen who are based elsewhere, notably Vancouver and Prince Rupert. Of the 5,500 commercial fishing boats on the BC coast, available data indicate that approximately 100 vessels, or less than two per cent of the total commercial fleet are based in the northern Vancouver Island region.

The minerals sector is important in two separate places in the sub-region. The Island Copper property of Utah Mines Ltd. near Port Hardy began production

in 1971 and now employs over 700 people. This makes mining the second largest production sector in the Mount Waddington Regional District. Copper/molybdenum concentrate from this mine is shipped directly to Japan from the company's dock on Rupert Arm. On Texada Island, just off shore from Powell River work in an iron mine employed about 200 people in 1971. Though it is likely that this will close within the next two years because remaining ores will cease to be economically recoverable, there are operations in adjacent limestone quarries with considerable development potential. It is hoped that a gradual phasing of production and employment will be possible without serious disruption to the economic/employment structure of the island's residents.

In most areas of the Mid-Coast Region secondary and tertiary sector activity is in evidence only as required to meet small, localized demand. The exception to this occurs in the Comox/Courtenay/Campbell River area of the Comox-Strathcona Regional District, an area which demonstrates an economic structure indicating more balance than is usually associated with semi-rural parts of the province. There, while forestry, fishing and to a lesser extent, agriculture, are important primary activities, the manufacturing and financial/service sectors are also fairly well developed. Secondary manufacturing activities include boat building and repair, machine shops, and forest equipment sales and service. Employment in the public administration sector is particularly distinctive due to a well developed system of local government as well as the existence of CFB Comox. Tourism and recreation also contribute to the area's economy, especially in the summer months when motels and beach resorts along the Island Highway are busiest. And the area is important for hydro-electric generation and distribution to southern Vancouver Island points, although this is a



capital intensive activity with no direct benefit in terms of local employment opportunities.

#### Future Prospects

Because of the sub-region's dependence on resource-based activity, primarily the forestry sector, future growth will depend on the operation and investment policies of the companies involved in this activity, taking into account the nature of demand in their markets. It is worth noting that over the last three decades a process of centralization and rationalization in several sectors has been accelerating, for a variety of economic and operational reasons. The fishing industry, in particular, has centralized processing and manufacturing operations at locations outside the study region. Similarly, the forest industry has integrated and concentrated in a number of large centres. The gradual reduction of economic activity in the smaller communities has placed many of them in a precarious position and has often had its greatest impact on the long-time residents of these communities, particularly native Indians.

Regarding forestry, a surplus exists for the allowable annual cut in a number of logging units in the Ocean Falls/Bella Coola area. It is estimated that utilization of this surplus could create 1500 or more jobs over the next fifteen years. This would increase the number of logging jobs available in that area, but more significantly, it would create a large number of jobs in a related milling operation, possibly to be located in the Port Hardy area.

The marine resources sector offers limited development potential within the study region for reasons mentioned above as well as the fact that the industry is characterized by an inherent over-production capacity. The

proposed implementation of a federal-provincial salmon enhancement program will mean the rehabilitation, development, and maintenance of fishways and artificial rearing areas on a number of rivers in the region. While some employment impact is likely during the construction/development stage, it is unlikely that the increased resource base will bring increased regional fishing and processing employment.

The mineral sector will also not be an area of immediate expansion and may well suffer an absolute decline over the next ten to fifteen years. With the exception of Island Copper mine near Port Hardy, all other producing mines will likely exhaust available reserves by 1990. While there is significant mineralization in the region (notably coal near Port McNeill) which may support production at some future time, there is not yet sufficient information on which to base projections of the location, size and timing of possible future developments.

The agricultural sector is constrained by the availability of and competition for productive land and, in some parts of the region, by climate. Intensive agriculture may be possible in the Comox Valley, but expansion of the sector will be restricted by competing land uses and the size of the local market.

The major development in transportation will be the completion of Highway 19 to Port Hardy from Campbell River, expected sometime in 1978. This will have a significant impact on the growth of Northern Vancouver Island, making it more accessible for tourists; while reducing the cost of goods transport for local residents. It is expected that during the period from 1980 to 1990 an upsurge will occur in this area especially in the construction and trade and service sectors. Provincial government forecasts indicate that 250 construction jobs will be created and maintained

in the 1980 to 1985 period, falling off fairly rapidly thereafter, while spin-off effects of the anticipated upsurge could create 600 or more jobs in the trade and service sector.

MAP 9  
SUB-REGION E: KOOTENAY



Regional Districts

Columbia-Shuswap  
East Kootenay  
Central Kootenay  
Kootenay-Boundary

Land Area (sq. miles)

Total Area 34,621.00

Rural Study  
Area 9,170.78

Major Economic Activities

Forestry  
Mining and Smelting  
Secondary Manufacturing  
Transportation  
Agriculture

Population (1971 Census)

Total Area 146,548

Rural Study  
Area 106,285

Labour Force (1971 Census)

Rural Study Area - Aged 15 & Over

Total 41,490

# REGIONAL DISTRICTS of BRITISH COLUMBIA - E

## LEGEND

- CITIES ★
- Districts ▲
- Towns ●
- Villages ○
- Roads —○—

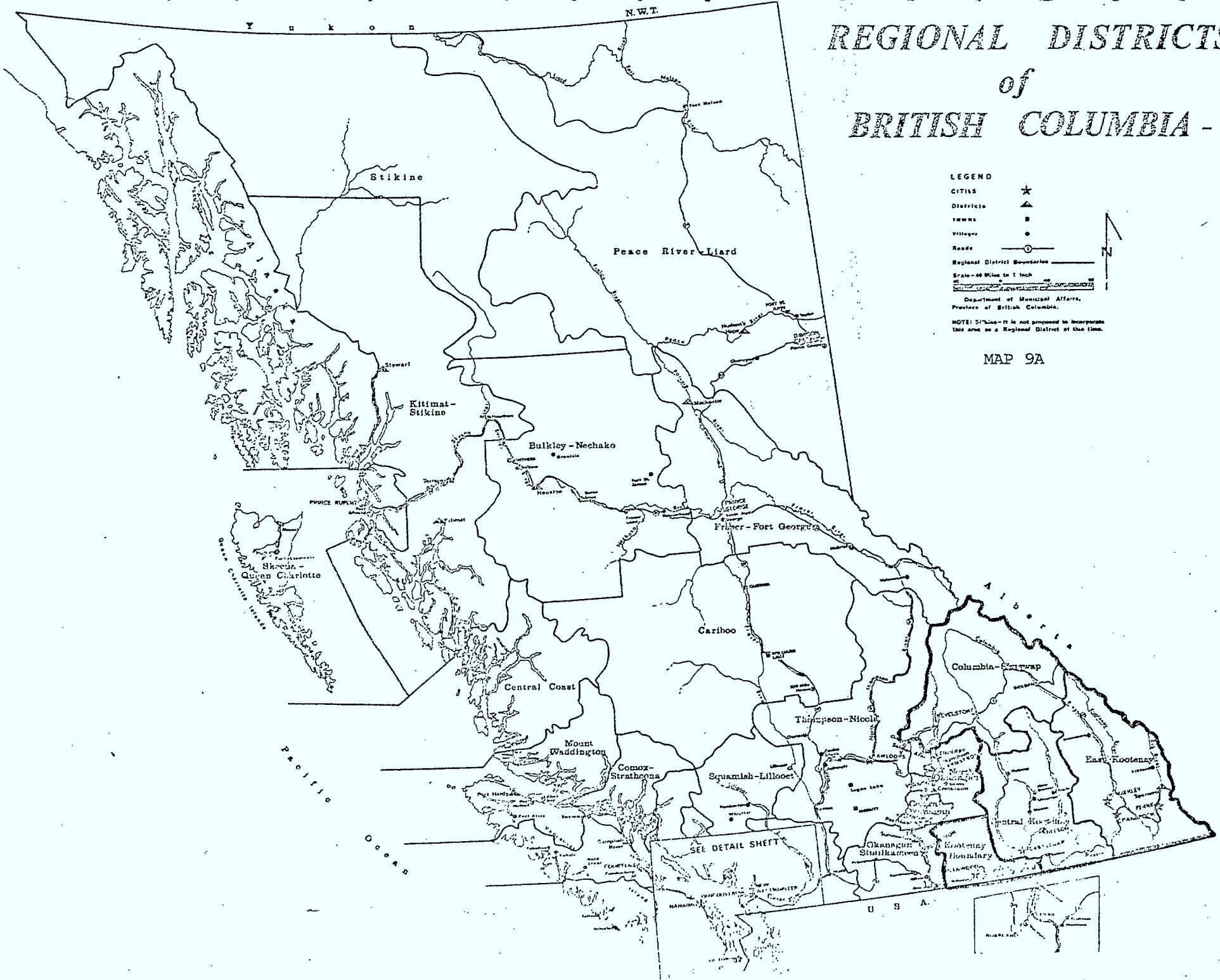
Regional District Boundaries ———

Scale - 40 Miles to 1 Inch

Department of Municipal Affairs,  
Province of British Columbia.

NOTE: 5' Lines - It is not proposed to incorporate  
this area as a Regional District at this time.

MAP 9A



MAP 9A-1



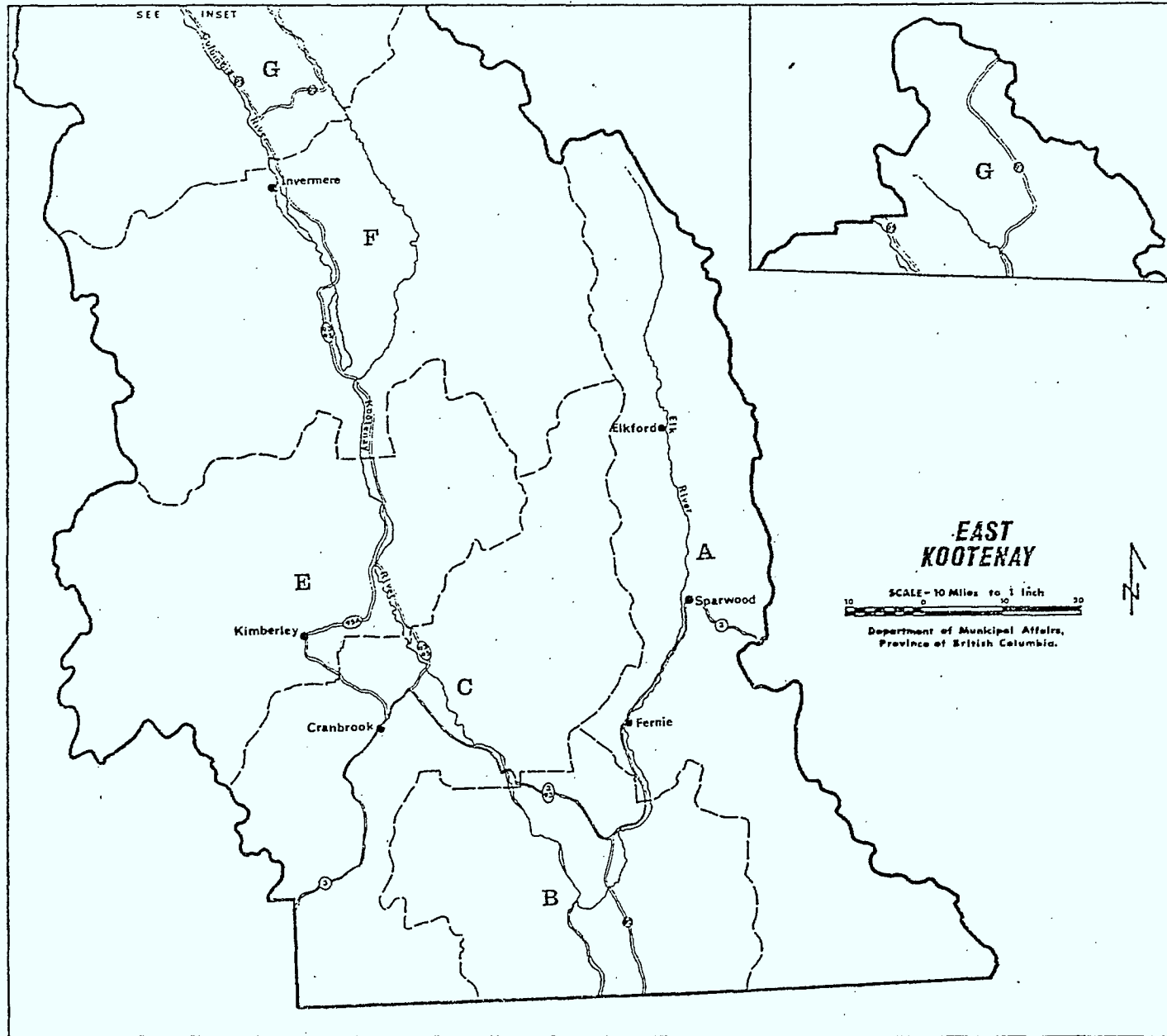
**COLUMBIA - SHUSWAP**

SCALE - 20 Miles to 1 Inch

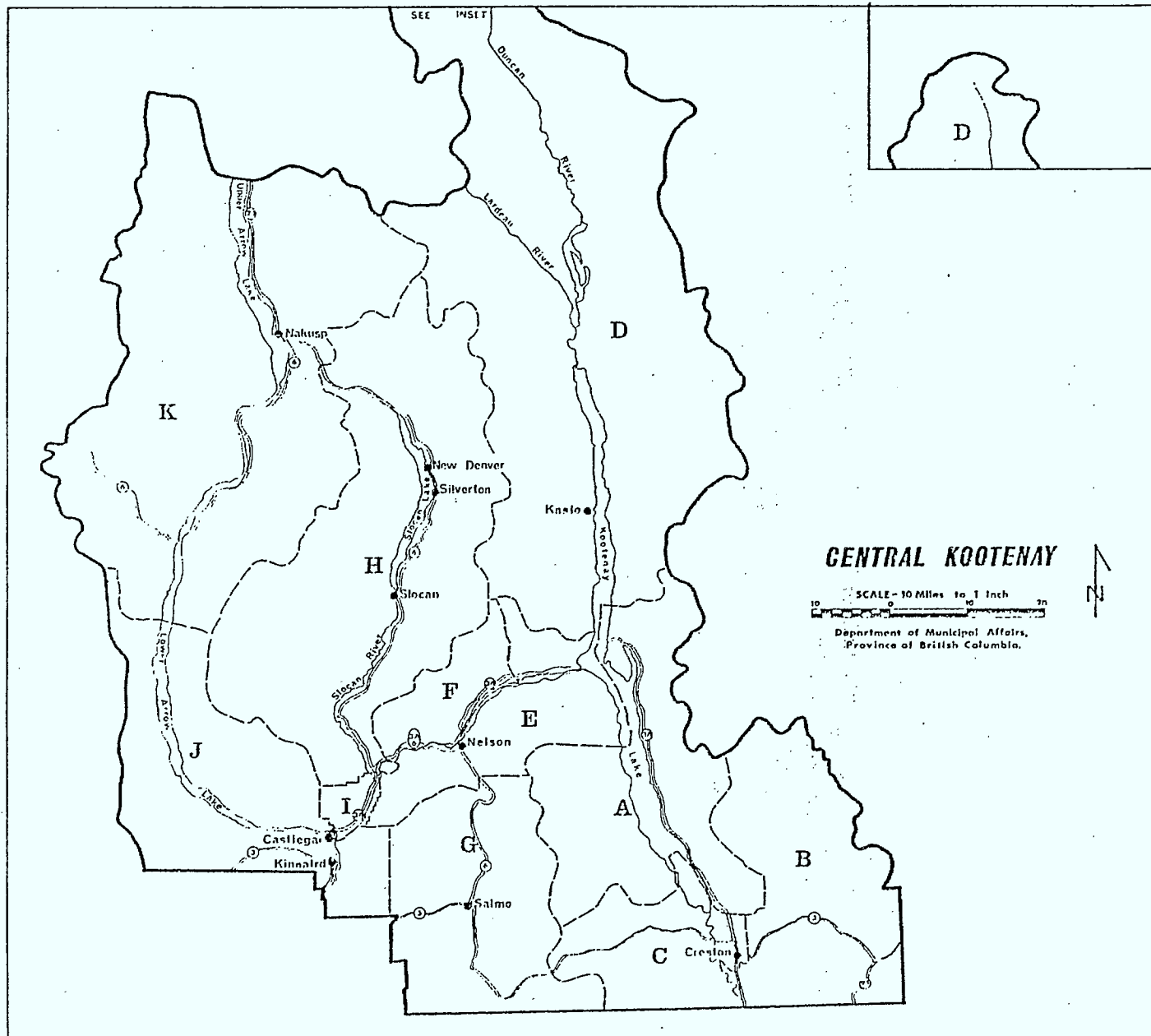
Department of Municipal Affairs,  
Province of British Columbia.



MAP 9A-2

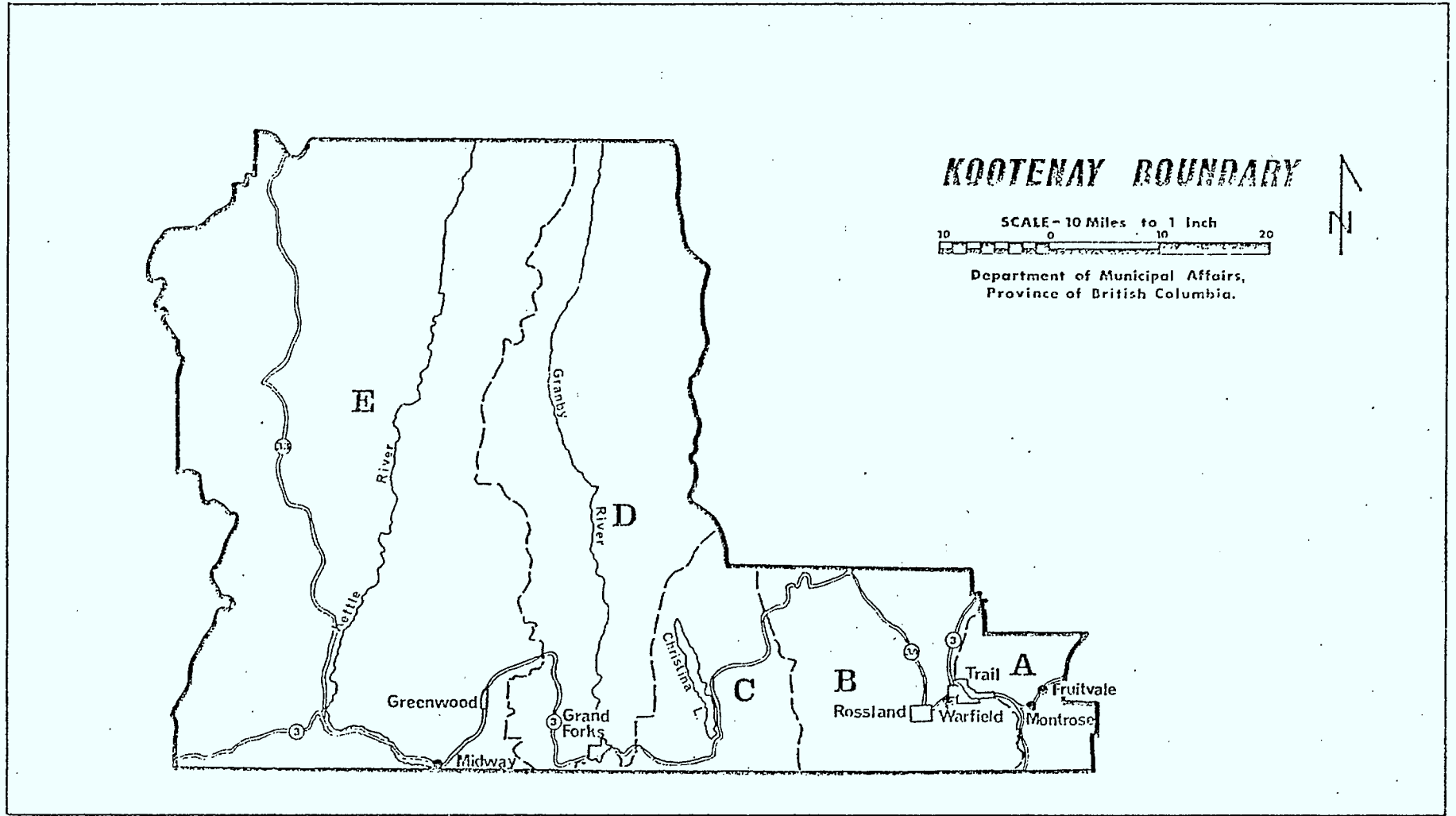


MAP 9A-3





MAP 9A-4



SUB-REGION E: KOOTENAY

Regional Districts: Columbia-Shuswap, East Kootenay, Central Kootenay,  
Kootenay-Boundary

Physical Description

The Kootenay region encompasses a total land area of 34,621 square miles, of which 73.5% can be considered remote. The rural study area population was 105,585 in 1971. The population centres follow the lake river valley systems within the region and can be grouped into three main areas. The south-west corner (Trail, Rossland, Castlegar, and Nelson and other communities) accounts for 25% of the population. The northern portion (Golden and Revelstoke) accounts for 6%, and the south-east corner, (Kimberly, Cranbrook and Fernie) 18%. Most of the rural population is located in areas adjacent to incorporated municipalities. Between 1961 and 1971, the East Kootenay area which encompasses the East Kootenay Regional District and half of Columbia-Shuswap had a population growth rate of 26.8% whereas in the remaining areas, the population declined by 0.3%.

The major topographical characteristics of the region are the north-south mountain ranges: the Rocky Mountains form the eastern boundary and the Columbia ranges (Monashee, Selkirk, and Purcell) form the western boundary. The East Kootenay Regional District contains the Rocky Mountain Trench, flat lands 2 miles wide in the north and 10 miles wide in the south. The Kootenay-Boundary Regional District is characterized by rolling mountains and open grasslands, in contrast to the rugged mountainous terrain in other areas. The Central Kootenay area encompasses five major lakes, the largest of which are Kootenay Lake (165 square miles) and the Upper and Lower Arrow Lakes (200 square miles). This area is also a rich source of minerals.

Ground cover is predominantly medium to heavy coniferous forest up to

the 5,000 to 6,000 foot elevation although the southern valley areas have patches of grassland and open forest. The Columbia-Shuswap area is the most densely forested region while flood plains and swamp vegetation can be found in the East Kootenay area.

The climate is dominated by the flow of Pacific Maritime air masses which retain moisture although 200 miles inland. Most of the precipitation in winter in the mountains falls as snow in excess of 150 inches. The valleys in the northern areas receive 40 to 60 inches of precipitation annually, but this decreases to 15 to 30 inches in the south. Overall precipitation decreases from west to east.

Average temperatures in winter are in the 15°F to 25°F range and 60°F to 70°F in summer. However there is variability in temperatures within the regional districts. The number of frost-free days in the Central Kootenay is 100 to 150 days, as compared to 90 to 95 days near Golden and Revelstoke in the Columbia-Shuswap area. Some variation occurs within regional districts as well; for example, Revelstoke experiences much milder winters (22°F) than Golden (13°F). Generally, warm summers and cool winters prevail throughout the region.

#### Economic Activity

The largest percentage of employment opportunities in the Kootenay region are in the trade, finance and service sectors, but the combined primary industries and manufacturing industries are the most important contributor to the regional economy.

The agricultural sector provided 1,435 jobs in 1971 for 3.1% of the labour force. 50% of all agricultural activity is concentrated in the Central Kootenay Regional District in the Creston Valley which is best suited

for grain crop production. Vegetables, forage seeds and alfalfa also provide an income source. The range lands in the Rocky Mountain Trench area provide food for beef production. The Grand Forks-Kettle Valley and Salmon Arm areas are the other major centres in agricultural productions in the sub-region.

Agricultural processing provides employment for 400 persons mostly in the Creston area. In the last two years, a vegetable processing plant, and a packing warehouse were established through government financial assistance.

Forestry employs 14.5% of the labour force, or 2,295 persons in 1971. There are four large operations in the Central Kootenay Regional District. Kootenay Forest Products operates a sawmill at Nelson, Celgar Canadian Cellulose operates a sawmill and pulp plant at Castlegar, Pacific Logging has a sawmill at Slocan, and Crestbrook, a sawmill and veneer plant at Creston. Greenwood, Midway and Grand Forks are also centres for sawmilling activity. Golden, in the Columbia-Shuswap district, is almost totally dependent on logging, sawmill and plywood operations. The forestry sector is not as highly developed or integrated as in other areas of the province and processing output does not go beyond the lumber and pulp stages.

Although the Kootenay sub-region produces 20% of the province's total value of mineral production the mining industry is highly unstable. This is due to fluctuations in market demand and world prices. This sector provided employment for 7,185 persons in 1971. The availability of hydro-electric power has enabled processing within the region. Cominco in the Rossland-Trail area, has a non-ferrous smelter-refinery - chemical complex which employs 4,000 people, 30% of the Kootenay Boundary labour force.

The East Kootenay area has been the site of major coking coal developments at Elko (Crown West Industries), Sparwood (Kaiser Resources), and Elkford (Fording

Coal). Lead and zinc are mined in the Kimberly area at the Cominco Sullivan mine operation; gypsum and bauxite in the Invermere area. The relative importance of mineral resources in the Central Kootenays has been declining.

Secondary manufacturing provides employment for 19.8% of the labour force. The majority of jobs, 3,110 in 1971, are related to resource-based manufacturing, i.e. forest and mineral processing. Food and beverages, textile products, household wood products, printing and publishing, small machinery and parts, fabricated metal products and concrete production are the major industries in the non-resource based manufacturing sector. Approximately 6,200 persons were employed in 1971.

In the Golden area, the economy is almost completely dependent on the area's forest resources and manufacturing employs 27% of the labour force. The Quadra chain saw plant and a small lumber veneer plant are sources of employment in the Fruitvale area.

The transportation sector employs 27% of the labour force in this region. This includes highways, railways, water and air transportation and pipe lines. Rail service is provided by the CPR and Burlington Northern lines. The area is served by Pacific Western Airlines which flies to Castlegar and Cranbrook. Arrow-Aviation provides services between Kelowna, Grand Forks, Kamloops, Castlegar and Revelstoke. Transport and storage and the communication industries employed 4,625 persons in 1971 in the Kootenay area. In the Revelstoke area, 30% of the labour force in 1971 was employed in the transportation sectors largely because Revelstoke serves as a service centre for the CPR.

Four National Parks (Yoho, Kootenay, Glacier and Mt. Revelstoke), approximately 36 Provincial parks, and numerous regional parks provide a continuing source of growth for the recreation and tourist industries. 6.2%

of the labour force is employed in this sector. Tourists are attracted from Alberta and the United States for skiing, hunting and fishing. The completion of the Rogers Pass section of the Trans-Canada Highway in the Columbia-Shuswap area has provided for growth in overnight accommodations and other facilities for trailers.

The service and trade sectors of the economy utilizes 33% of the total labour force. Most communities are equipped with essential trade and service facilities. The 3,000 employment figure in educational and related services sector in 1971 compared favourably to the provincial average. Employment of 2,570 persons in health and welfare services fell below provincial levels. Employment for 7,780 persons in wholesale trade, retail trade, finance, insurance and real estate in 1971 indicates a slight inadequacy in this area, compared to other sub-regions.

Grand Forks is predominately a service area which provides for the needs of the surrounding rural population. 40% of the labour force in the Kootenay Boundary area is employed in trade, finance and the service sectors. Cranbrook is the major service centre for the East Kootenay area although the economy is dominated by primary resource activity. In the Columbia-Shuswap area, Revelstoke has experienced growth in the service sector providing for the needs of the Mica Dam construction area.

Construction of dams for hydro-electric power supplies contributes to the employment opportunities of the Kootenay region on a short-term basis.

#### Future Prospects

The economic growth prospects for this region will be largely dependent on the development of the primary resource sectors which create jobs both directly and indirectly in secondary manufacturing.

The proposed developments in the Crowsnest coal fields are expected to

produce 5,000 new jobs in mining and 7,500 indirect jobs in the Fernie-Cranbrook area. A decline is predicted in production and employment in the smaller mining operations in the region. However, Cominco mines (Trail area), Salmo mines, and Sullivan mines are expected to continue in production for 20-25 years. Coal developments at Fernie, Sparwood, and Elkford will continue to be a major economic factor in the East Kootenay area. There is a possibility that the Coxe molybdenum mines will reopen in the Trail area. The construction stages of Noranda mines in the Columbia-Shuswap area will employ 500 people and 150 in the production stages.

Little change or a possible decline is predicted in the forestry sector. Reductions will be related to the decreasing availability of annual timber volumes for logging and processing. There are plans for expansion for the wood processing sector near Castlegar and Skookumchuck.

Few major changes are predicted for the agricultural sector although government assistance in the Creston area may provide some jobs. A slight increase in the cattle production is forecasted for the Grand Forks area in the next 5 to 10 years.

The abundance of natural resources, population and income growth in Alberta and within the region will contribute to the tourism and recreation industry. Development in the Castlegar area is expected following the completion of the Castlegar-Salmo highway which will channel freight and passengers away from Trail. Creston and Nakusp are expected to become increasingly important commercial centres. Future development of ski facilities at Trail, Invermere and Golden can be expected to provide jobs.

Construction at major mine and hydro projects is expected to provide a short-term burst in employment opportunities to 1983. The Seven Mile Dam in the Trail area will require 1,200 employees in 1978 but construction

phases are expected to terminate after 1980. The proposed construction of the Revelstoke Dam by 1980 would provide employment for a further 3,000 persons, while the Noranda Mines site at Goldstream River would employ 500 people in the construction phase and 150 once the operation was underway.

The 1977 Provincial Government Economic report on the Kootenay area predicts that resource development and processing will dominate the economy of the sub-region. Dependence on external market demands may contribute to economic instability in the future.



MAP 10  
SUB-REGION F: OKANAGAN



Regional Districts

North Okanagan  
Central Okanagan  
Okanagan-Similkameen

Land Area (sq. miles)

Total Area	8,286.71
Rural Study Area	4,583.22

Major Economic Activities

Agriculture  
Forestry  
Manufacturing  
Recreation and Tourism

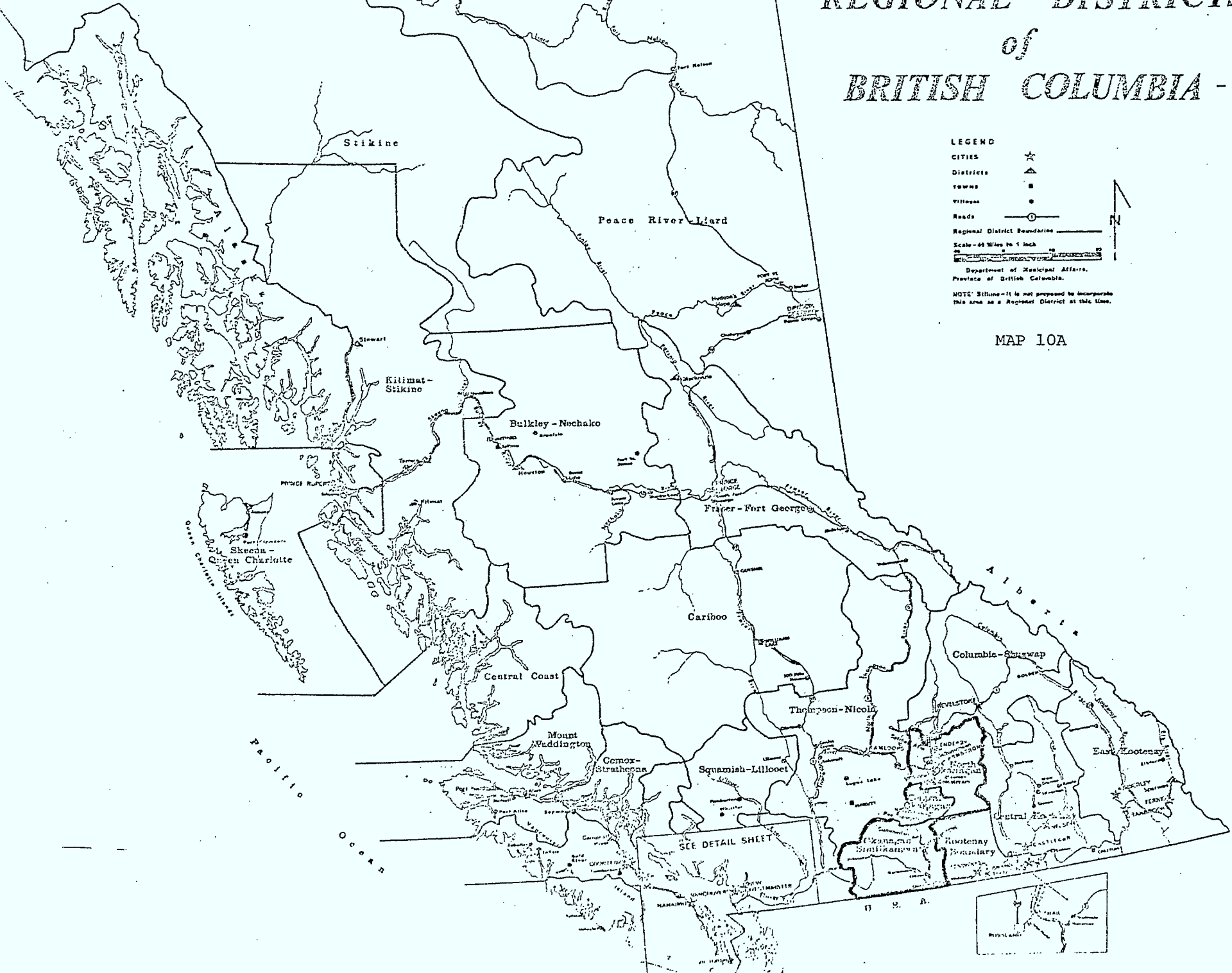
Population (1971 Census)

Total Area	126,968
Rural Study Area	61,975

Labour Force (1971 Census)

Rural Study Area - Aged 15 & Over	
Total	24,925

# REGIONAL DISTRICTS of BRITISH COLUMBIA - F

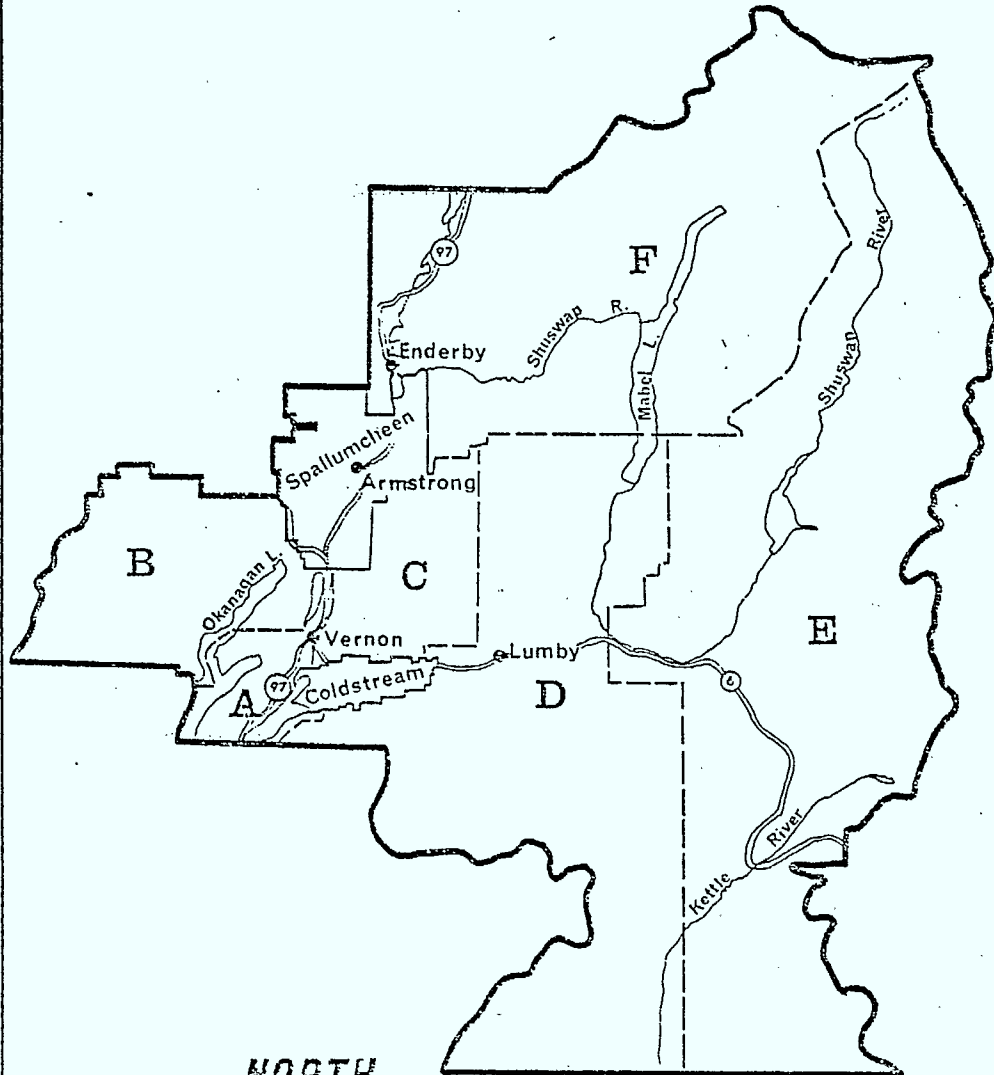


MAP 10A

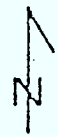
SEE DETAIL SHEET



MAP 10A-1

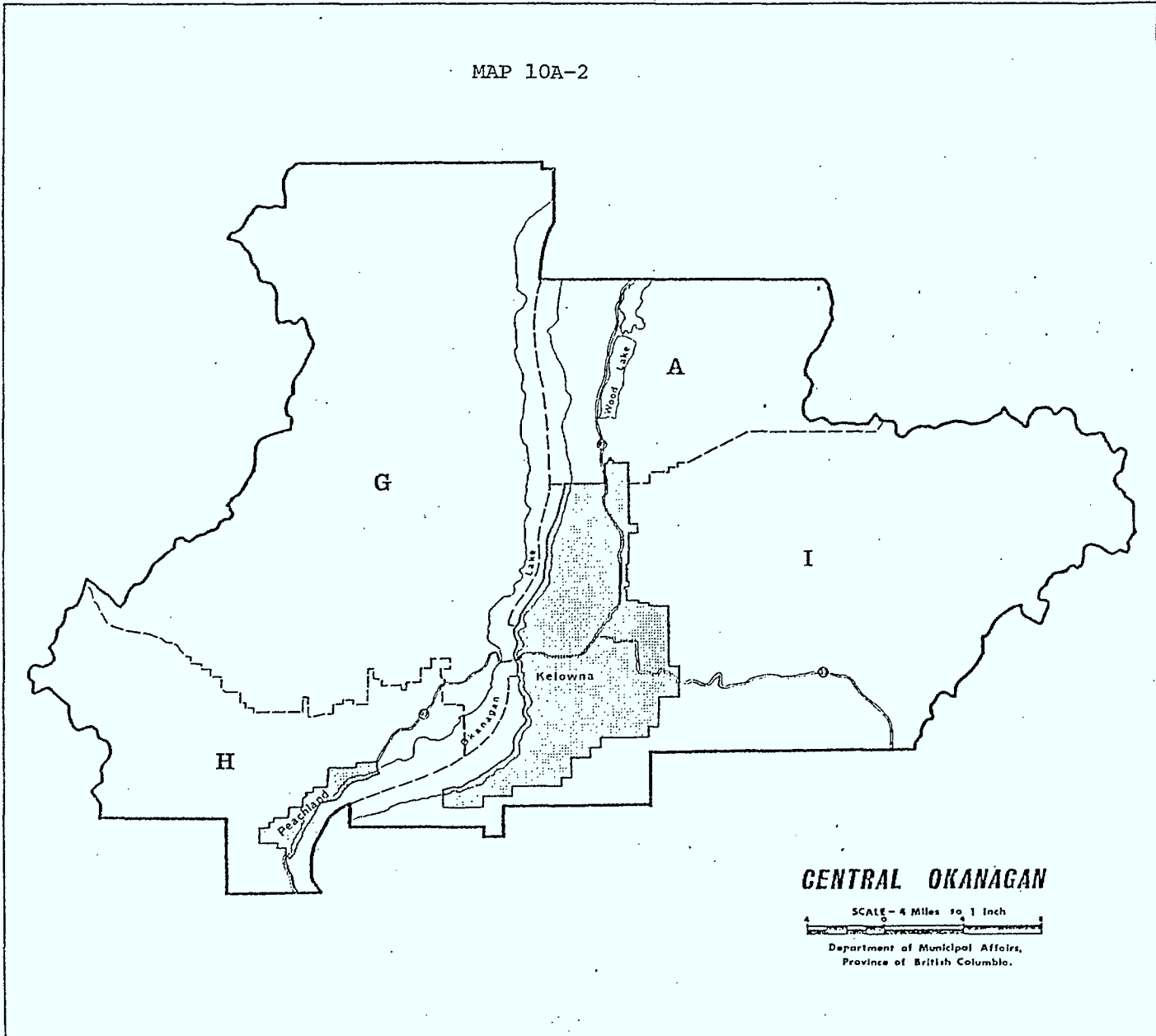


**NORTH  
OKANAGAN**

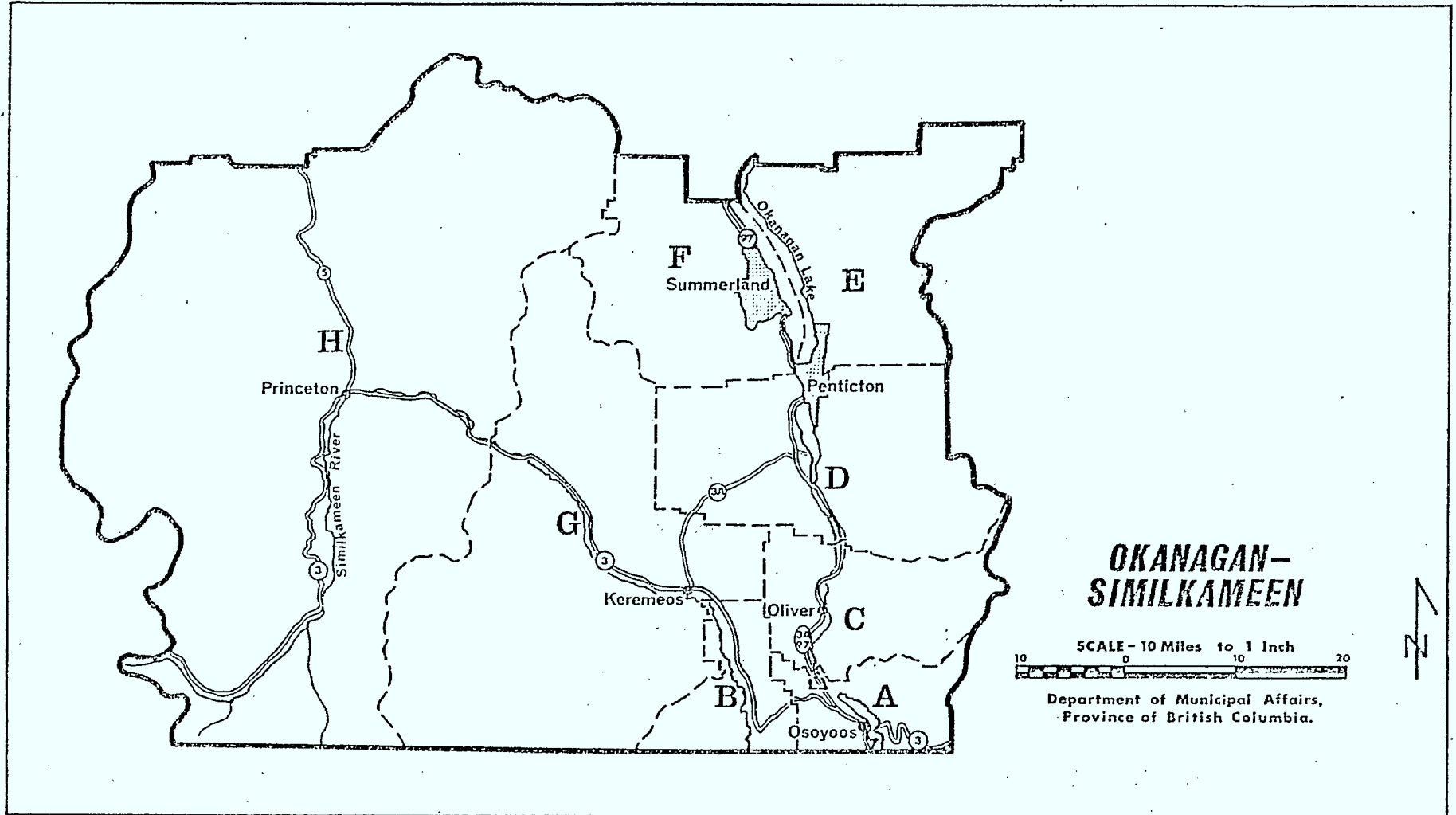


Department of Municipal Affairs,  
Province of British Columbia.

MAP 10A-2



MAP 10A-3



SUB-REGION F: OKANAGANRegional Districts: North Okanagan, Central Okanagan, Okanagan-SimilkameenPhysical Description

The total land area included in the Okanagan sub-region is about 8,290 square miles. The area roughly resembles an hourglass, extending from Mabel Lake near Armstrong in the northeast, south and west to the Canada-U.S. border. The region includes the southern portion of the Interior Plateau, bounded on the east and southwest by mountains. Of the total land area, about 45% is considered remote and the total rural study population was 80,760 in 1971. The Okanagan and Shuswap Rivers, Okanagan Lake, and several smaller lakes comprise the 3,200 square mile Okanagan watershed and it is here that most of the population is concentrated. The major urban centres of Kelowna, Penticton, Vernon and Princeton, contain two-thirds of the total population. Much of the rural population is located within a few miles of these urban centres, connected by transportation networks.

The eastward flow of modified Pacific Maritime air over the Cascade and Monashee mountain ranges results in a wide variation of climatic conditions within the region. Much of the moisture carried by the air flows is dropped on the mountains and upland ridges creating arid conditions in the valleys with warm summers and cool winters. In contrast to the tree growth in the upland areas, the valleys receive sufficient moisture to support only grassland vegetation.

Precipitation peaks occur twice annually in mid-winter and late spring. More than two-thirds of the total falls as snow in the mountains, one-quarter in the valleys. The total annual precipitation increases northward from Oliver (10 inches) to Penticton (11.7 inches), to Vernon (15.4 inches)

and Armstrong (17 inches).

Mean temperatures in January are moderate, ranging from 25°F to 28°F although the upper Similkameen averages about 5°F cooler. Outbreaks of polar air from the northern part of the continent result in spells of winter temperatures as low as -10°F to -20°F or colder. For example, the lowest temperature recorded for Vernon is -38°F, for Kelowna -24°F, and for Princeton -45°F. In July average daily temperatures in the valleys are between 60°F to 70°F, although mid-day temperatures often exceed 90°F to 100°F. Vernon has recorded temperatures of 104°F, Kelowna, 102°F, and Princeton 107°F. The growing season (daily temperatures averaging more than 42°F) usually begins before the end of March in the southern areas, moving northward so that most of the valleys are green before mid-April. The season ordinarily extends to the last week of October.

#### Economic Activity

The industries of primary importance during the mid-sixties were agriculture, forestry and mining. However, improved transportation links have made non-resource based manufacturing and service industries increasingly viable, and diversified the economic base. Manufacturing expansion was encouraged by financial assistance under the Area Development Incentives Act. Irrigation improvement through ARDA assistance, renewed mining activity from 1965 onwards, and increased utilization of timber resources have contributed substantially to economic growth in the region.

The agriculture industry varies between northern and southern regions. Mixed farming, based on dairying and irrigated pasture lands, predominates in the North Okanagan, particularly the Spallumcheen Valley. Tree fruits and other horticultural crops are grown intensively in the south. The sub-region

produces over 90% of all tree fruit in B.C. and about 10% of provincial vegetable production in 1970. Livestock beef production accounted for 6.8% of the total value of agricultural production. Vegetables accounted for 3.1%, largely from potato crops in the Armstrong-Spallumcheen area. Dairying, poultry and eggs, and other agricultural products contributed a remaining 10.7% of the total values of agricultural production. Employment in the agricultural sector of the economy was estimated at 4,445 in the 1971 Census.

The forest industry in the Okanagan sub-region was originally based on local markets prior to WW II but has experienced considerable growth in recent years. In 1970, the logging, lumber, and plywood sectors directly employed 3,800 persons in production, administrative and office positions as compared to 4,300 in 1969. Employment in logging, industry production of poles, pilings, and Christmas trees decreased in the 1969-1970 period due to weak market conditions and industrial disputes. New facilities planned in 1971 were expected to raise the number of employment opportunities.

The wood processing sector is becoming increasingly centralized due to rising costs so that in 1970 the eleven largest sawmills (out of 148) produced approximately 48% of the total output. This has resulted in a decline in the number of small "bush" mills operating in the region. In 1970, a \$4.5 million corrugated container plant was opened at Kelowna. It serves local fruit and vegetable packers as well as the distillery at Winfield and various local wineries. The major sawmills are located near Princeton, Okanagan Falls, Kelowna, Vernon, Armstrong, Salmon Arm and Chase.

The mining industry has become a significant factor in the economy with production commencing at Utica Mines in 1965, the Brenda Mines in 1970, Trent Resources Mines in the mid-70's and Ingerbelle copper mine in the 1970's near Princeton. The mineral resources in the region include copper,



molybdenum, silver, lead and zinc. Brenda mines, 18 miles west of Peachland employed 390 persons in 1974 and has an expected life span of not less than 20 years. All of the daily 24,000 tons of copper valued at \$790 million (1970 prices) and some of the molybdenum is exported to Japan. Minor amounts of gold and silver are also recovered at this site. The Ingerbelle copper mine, 13 miles south of Princeton produces 15,000 tons per day valued at \$430 million (1970 prices) and is expected to remain in operation at least until 1985. Finally, the Trent Resources Galconda Mine, north of Keremeos, employed 45 persons in 1974 and produces 150 tons of copper daily.

Silver, lead, and zinc are recovered from the Skookum (north west of Vernon) and Chuput & DCK mines (north and east of Vernon), however no data on production values or employment is available.

The non-resource based manufacturing and service industry expanded rapidly between 1961 and 1970. The growth rate for this period was 22% in contrast to 3.5% for resource based manufacturing. Total employment in the Okanagan Basin increased by 53% between 1961 and 1970 on 9,820 jobs. The federal government's Regional Incentives Program was largely responsible for this increase and the accompanying increased population growth rates for the area.

The recreation and tourism industries are important resources in this area. In 1970 more than 800,000 visitors spent approximately \$17 million; \$11-12 million of this total was spent on accommodation. There are 13 provincial and 25 municipal "recreation sites" in the main valley lake areas and the number of private accommodation for tourists rose from 17% of the provincial total to 22% in 1970.

In the tertiary industries, retail trade principally in Kelowna, Penticton and Vernon provided employment for 5,025 persons in 1970.

Community, business and personal services provided year-round employment for 3,270 persons in the same year.

#### Future Prospects

The Kelowna area is expected to dominate all categories of economic activity except tourism in projections for employment to 1980. The area contains most of the tree-fruit acreage in the sub-region, the Brenda Mine, a plywood plant and one-third and almost one-half of the Okanagan's sawmill and fruit and vegetable capacity respectively; and a large part of non-resource-based manufacturing activity. It is expected that the region will attract household, investment, government, manufacturing and export demands to fill a projected employment gap. The Kelowna area is expected to experience the largest increase in service trade employment to 1980. The area will also continue to be the centre of non-resource-based manufacturing with 1,000 jobs expected by 1980. Tourism is expected to maintain its importance and a small decline in logging employment is expected.

The Vernon area is increasingly dependent on the expansion of manufacturing and 450 new jobs are expected by 1980. 270 jobs are predicted in resource-based manufacturing in the area largely due to the presence of a plywood plant at Armstrong which opened in 1971. Tourism expansion is expected to provide 100 jobs by 1980. Agriculture is expected to decline in terms of economic importance but will continue to provide employment.

In the Penticton area, non-resource-based manufacturing and tourism as well as mining, logging and resource-based manufacturing will provide the major thrust to growth in 1980. 300 new jobs are predicted for non-resource-based manufacturing, 200 jobs in the tourism sector, and no change in the agricultural sector. There is a decline predicted in labour requirements

in the logging and canning industries.

The Oliver-Osoyoos area will experience increasing dependence upon agriculture and tourism service employment but is also expected to benefit from expansion of non-resource-based manufacturing. 170 jobs are predicted in both the mobile home manufacturing and tourist sector. 120 jobs are projected in the grape production sector. Overall, the region is expected to experience over 60% (150 jobs) of the expansion of agricultural employment in the basin. Resource-based manufacturing, (i.e. sawmills) and logging is expected to remain constant.

In summary, the Kelowna area is expected to experience growth in all industries except tourism; Vernon will become more dependent on manufacturing as will the Penticton region. Resource-based manufacturing will continue to grow but at a slower rate than non-resource based industry in all areas.

MAP 11  
 SUB-REGION G: SOUTH WEST



Regional Districts

Central Fraser Valley  
 Dewdney-Alouette  
 Greater Vancouver  
 Fraser-Cheam  
 Sunshine Coast

Land Area (sq. miles)

Total Area	7,989.76
Rural Study Area	2,527.15

Major Economic Activities

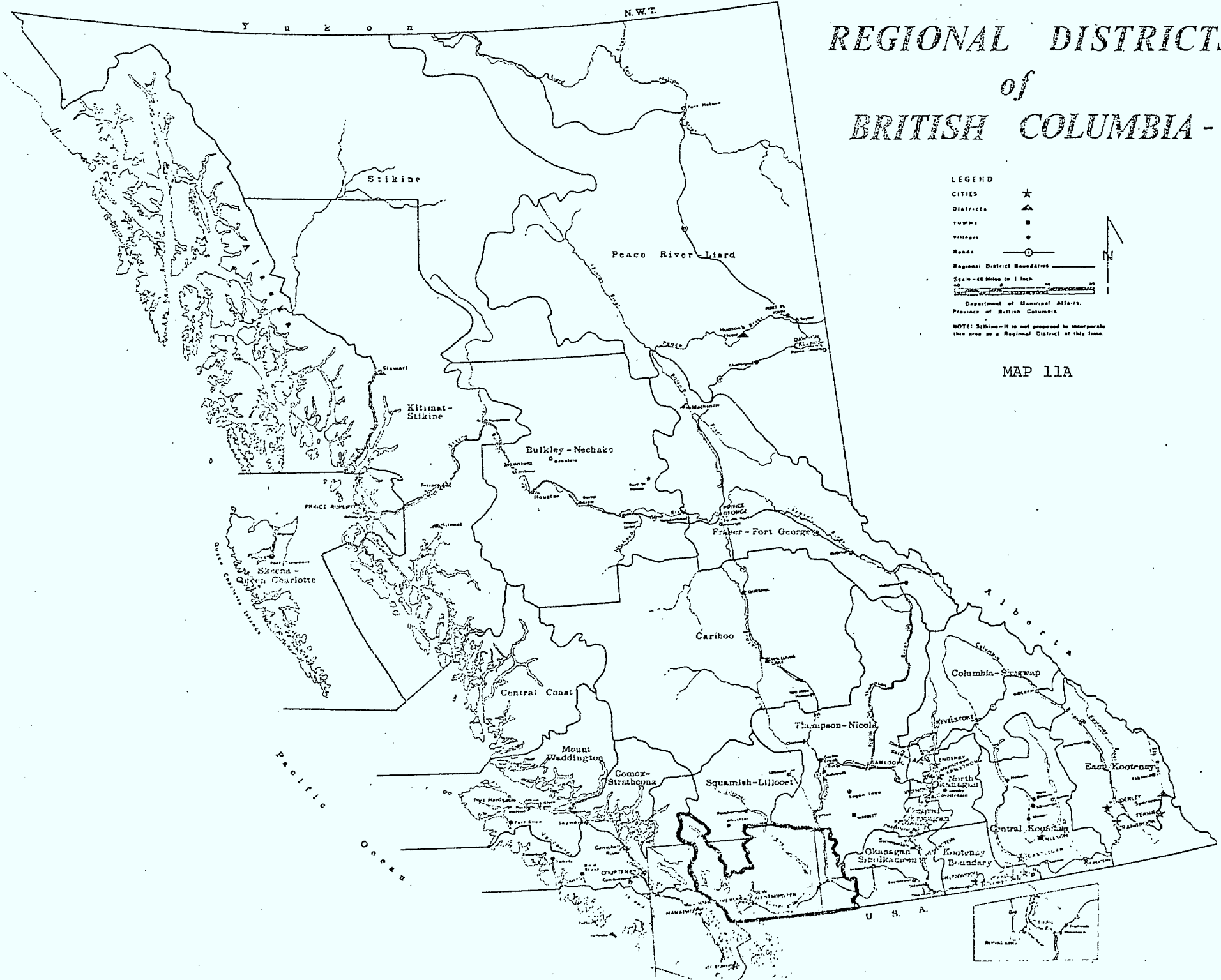
Agriculture  
 Forestry  
 Manufacturing  
 Fishing  
 Recreation and Tourism

Population (1971 Census)

Total Area	1,182,267
Rural Study Area	160,580

Labour Force (1971 Census)

Rural Study Area - Aged 15 & Over	
Total	63,300



# REGIONAL DISTRICTS of BRITISH COLUMBIA - G

**LEGEND**

CITIES           ★

Districts        ▲

Towns           ■

Villages         ●

Roads           —○—

Regional District Boundaries ———

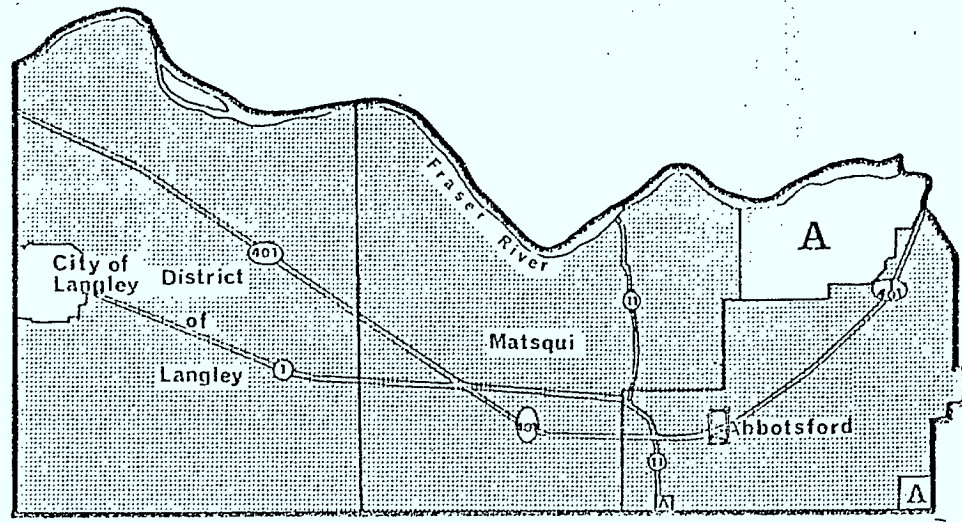
Scale—48 Miles to 1 Inch

Department of Municipal Affairs,  
Province of British Columbia

NOTE: Stikine—It is not proposed to incorporate this area as a Regional District at this time.

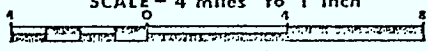
MAP 11A

MAP 11A-1



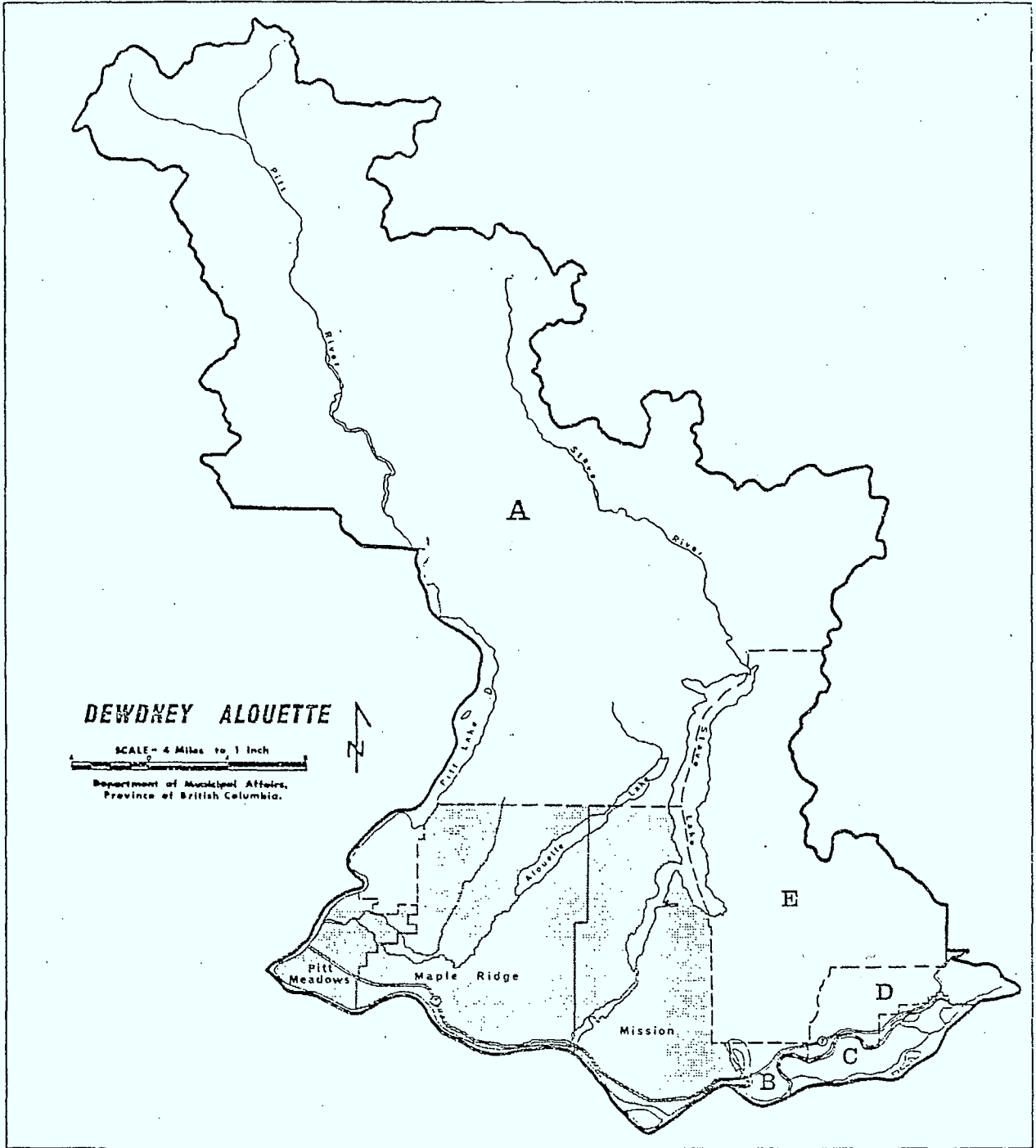
### CENTRAL FRASER VALLEY

SCALE - 4 Miles to 1 Inch

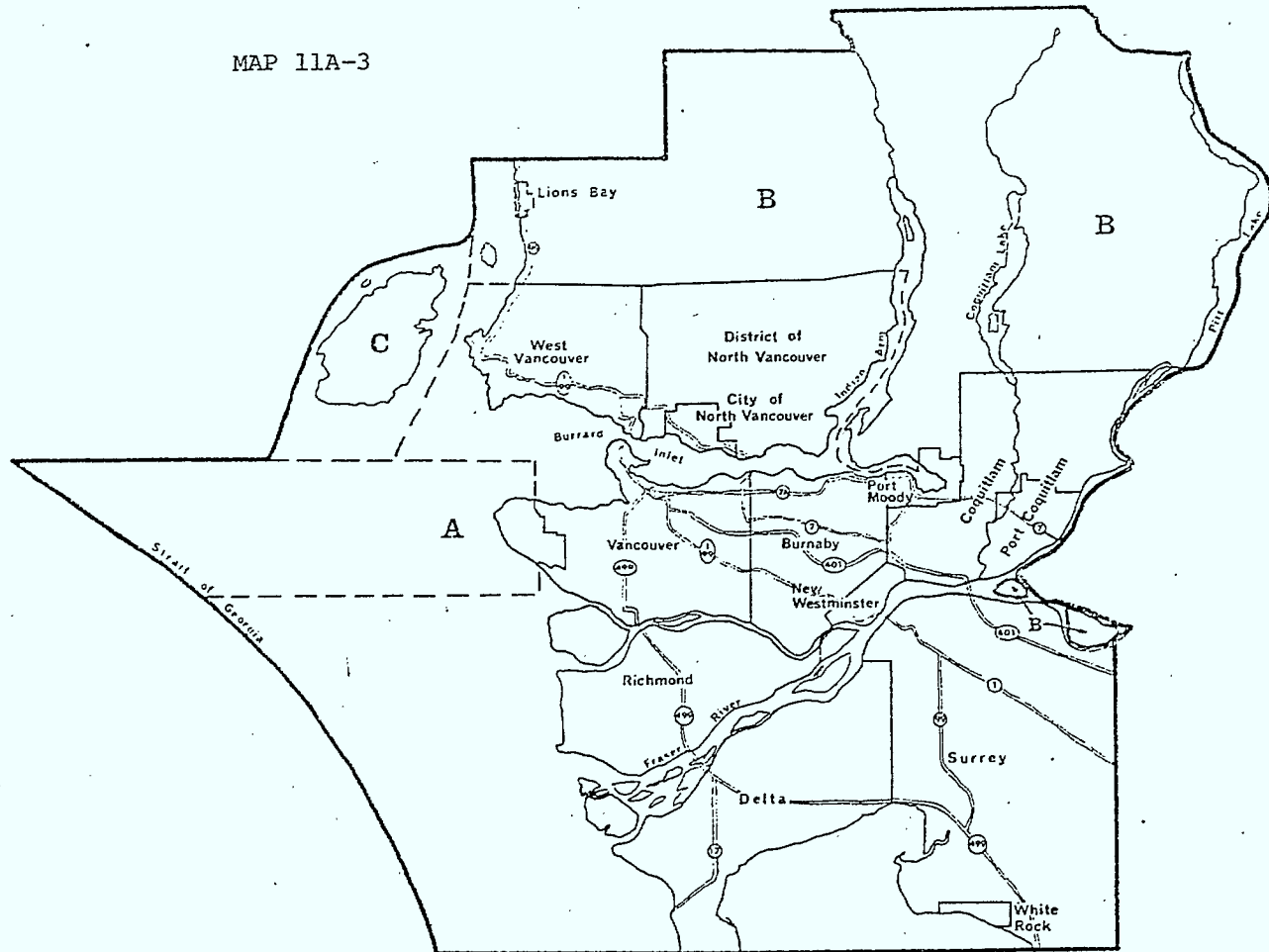


Department of Municipal Affairs,  
Province of British Columbia.

MAP 11A-2



MAP 11A-3



**GREATER VANCOUVER**

SCALE - 4 Miles to 1 Inch

Department of Municipal Affairs,  
Province of British Columbia.



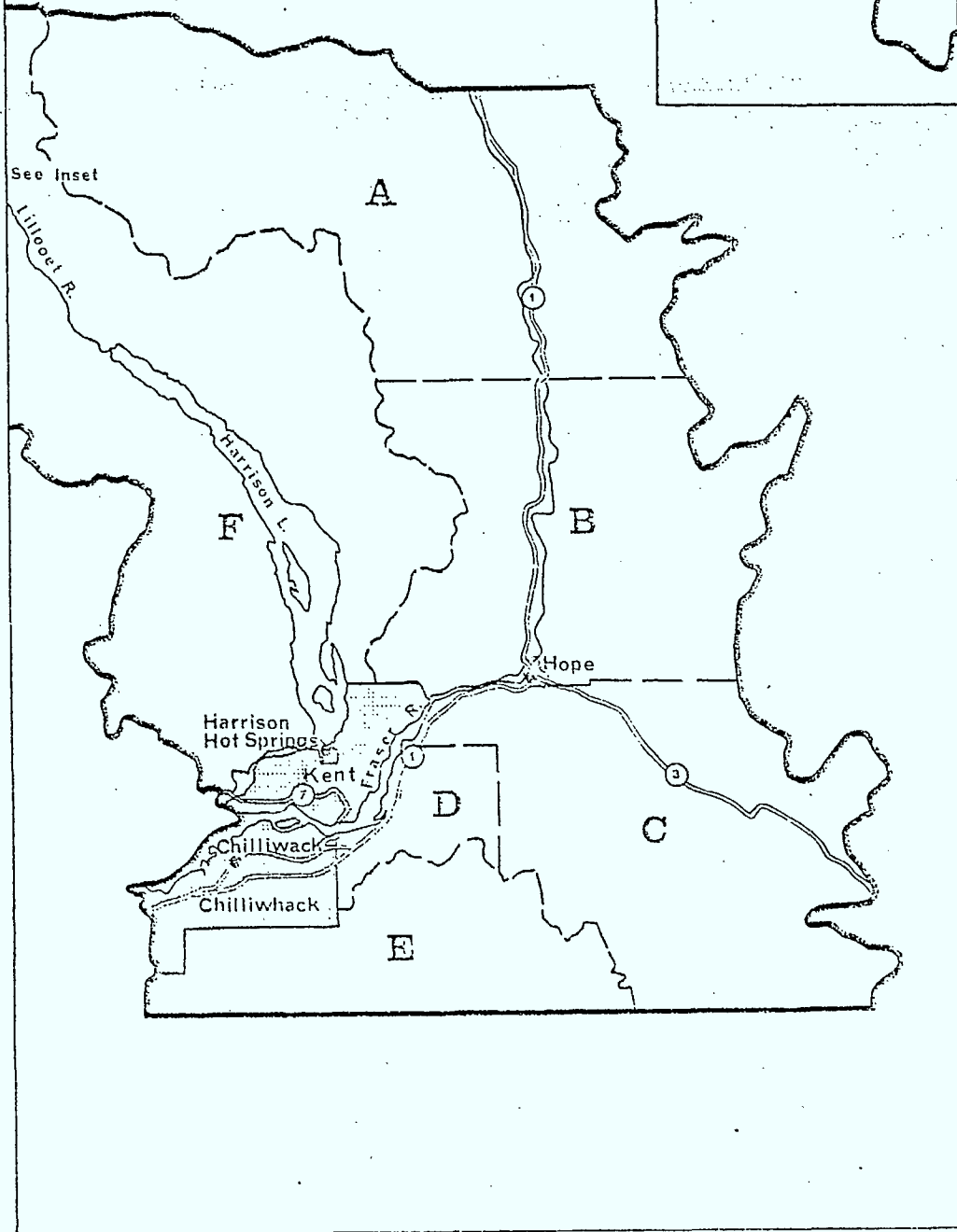
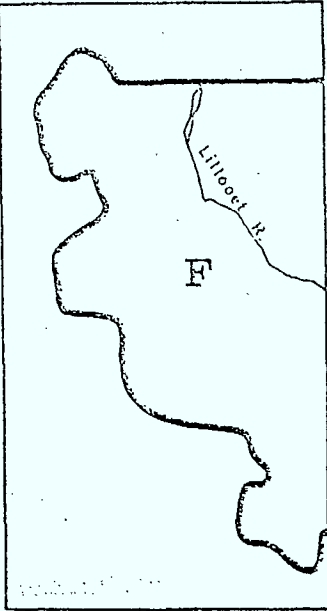
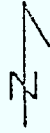


# FRASER-GHEAM

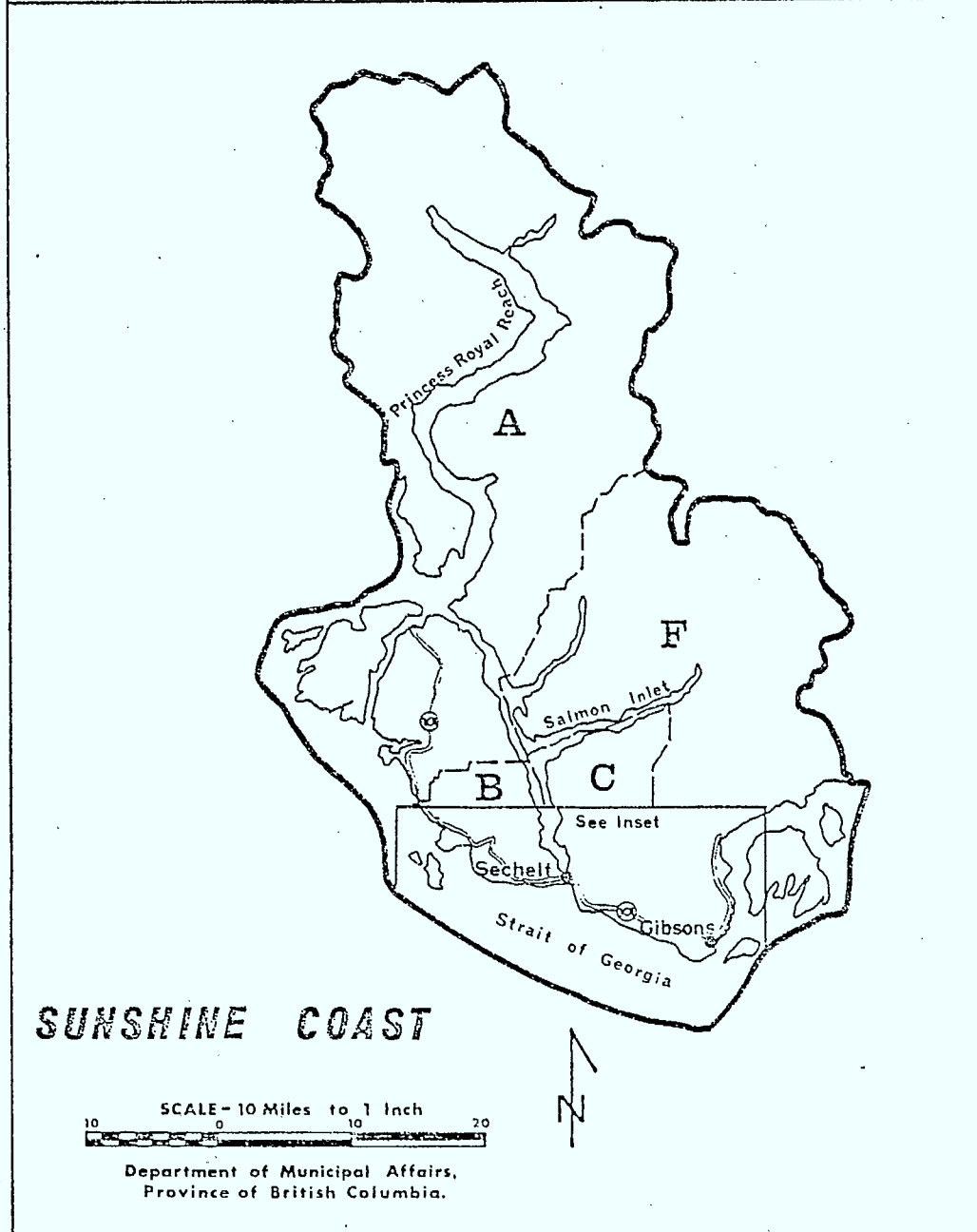
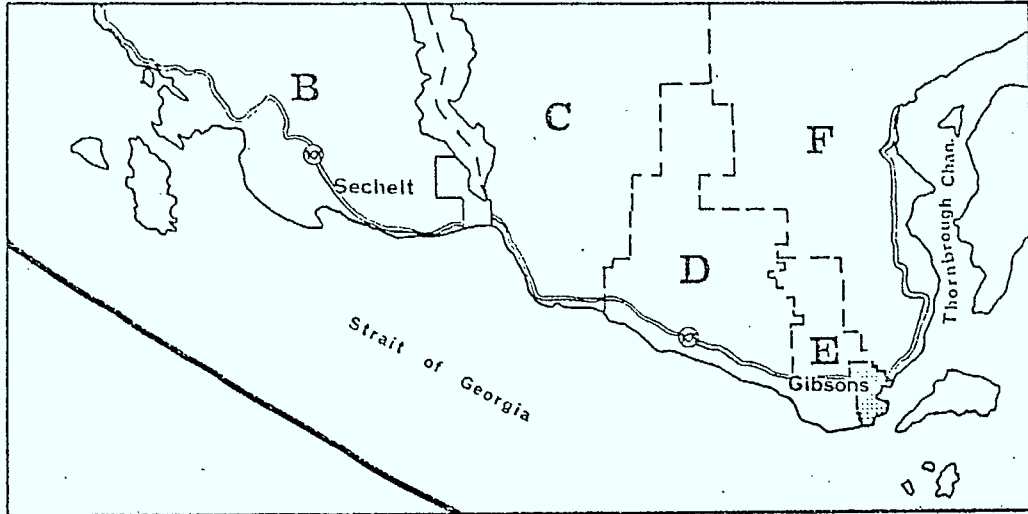
SCALE - 10 Miles to 1 Inch



Department of Municipal Affairs,  
Province of British Columbia.



MAP 11A-5



**SUNSHINE COAST**

SCALE - 10 Miles to 1 Inch

Department of Municipal Affairs,  
Province of British Columbia.

SUB-REGION G: SOUTH WEST B.C.

Regional Districts: Central Fraser Valley, Dewdney-Alouette, Greater Vancouver, Fraser-Cheam, Sunshine Coast

Physical Description

The total land area included in this sub-region is 7,990 square miles, of which 68% can be considered remote because of its mountainous terrain. The Greater Vancouver and Central Fraser Valley districts have the largest numbers of people in the rural areas, according to the Census; however, in Greater Vancouver the rural residents represent only 5% of the district's population while the rural residents in Central Fraser Valley are over 85% of that districts total population. In the rural study area for this sub-region, there were 172,835 people in 1971, of which more than half were in the two districts mentioned above.

Physically, the sub-region extends to the northeast of the Lower Mainland, to include the Fraser Canyon and the Cascade Mountains; it also extends south to the U.S. border. The western boundary is formed along the coast by the Coast Mountain range. The Alouette and Fraser River valleys and the Fraser delta are also included in the sub-region. The Sunshine Coast area includes the Sechelt peninsula, Gambier and Nelson Islands and other smaller islands between Howe Sound and Jervis Inlet.

The topographic characteristics of the sub-region are dominated by mountainous terrain, land forms created by glaciation, and by the river deltas formed by sediment deposited by the Fraser River. The Fraser-Cheam regional district includes the Fraser Canyon. Formed by river erosion it drops some 300 feet in places. Narrow terraces of level land on the side of the canyon support a small population and also have to make room for the Trans Canada Highway and both the CPR and CNR lines to Vancouver. In the Cascade

Mountain area, the population is largely concentrated along the highway routes in the valleys. The south-east corner of the district is low-lying and includes Harrison Lake, the Fraser River and Chilliwack River.

The Dewdney-Alouette district is also characterized by the Fraser lowlands and it extends from the Pitt River valley in the west to the Fraser-Cheam boundary. Channel and flood plain sedimentary deposits have contributed to the rich agricultural soils in the lowlands. Central Fraser Valley consists entirely of the Fraser flood-plain and this type of terrain continues into Greater Vancouver, to the coast. The northern part of Greater Vancouver, however, consists of the edge of the Coast Mountains and habitation exists only along the coastline of their steep slopes. On the North Shore of Greater Vancouver, east of North Vancouver there is the Deep Cove area, a rural settlement still; also, north of West Vancouver along the coast, there is the village of Lion's Bay. Just off the coast, there are people living on Bowen Island. The Sunshine Coast district is not reachable by road from the Lower Mainland but is linked by ferry. This district is coastal with indented shore and rocky terrain backed by steep mountains, between Howe Sound and Jervis Inlet. The population is located along Highway 101 and the coastline; there are three small population centres here: Gibson's Landing, Sechelt and Port Mellon.

The climatic characteristics of the South West can be classified as West Coast Marine: temperatures are moderate and uniform throughout the area although the influence of the ocean decreases as one moves eastwards. Winters tend to be wet and snowfall increases eastwardly and at higher elevations. Because of the steepness of the mountain slopes, settlements do not go high above sea-level unless they follow a highway route. With the exception of the Lower Mainland, summers in this sub-region are sunny and dry.

### Economic Activity

The proximity of metropolitan Vancouver to other areas of this sub-region has a dramatic influence on the kind of economic activity that is supportive of the nearby rural population. For example, development in the Sunshine Coast area has been somewhat suburban in character and residents there depend heavily on Vancouver for employment opportunities and social services. In contrast, people in the Fraser Valley have a different relationship with the city. Historically they have engaged almost exclusively in agricultural production, because the land and climate were suitable for this type of activity, and because Vancouver provided an accessible market which made farming economically viable. These factors still give support to agricultural activity in the area, but over the years the farming population has declined in size, relative to that which is supported by other forms of industry. The construction of major transportation routes through the sub-region (notably Highway 1 from Vancouver to Hope) combined with the encouraged growth of secondary industry in most municipalities has led to a rapid increase in the size of semi-urban centres and the numbers of urbanized and semi-urbanized residents. Until the implementation of the Agricultural Land Reserve policy by the Provincial government in 1973, much of this rapidly increasing development was occurring on available farmland because farmers were able to realize substantial profits through the subdivision and sale of acreage for suburban real estate. Now, and for as long as the ALR policy remains in force, it can be assumed that agricultural production in the Fraser Valley which is economically viable will continue. However it is important to note that certain local governments are continuing to allow the growth of secondary industry and suburban residential construction within zones near to previously-established centres, even though this may involve exempting land from the Agricultural Reserve. As a result of such a

policy, the municipalities of Richmond, Surrey, Delta and to a lesser extent Langley and Maple Ridge might be considered as suburban satellites of Greater Vancouver, though large blocks of open rural land still exist within their boundaries.

Agricultural activity within the South West sub-region is vitally important to British Columbia. Statistics for 1970 indicate that approximately \$113,513,000 worth of agricultural products were sold from farms there. This was over one-half of the Provincial total of about \$219,598,000. The Central Fraser Valley Regional District alone accounted for some \$50,488,000, or nearly one-quarter of the total for the Province. Farms within the Greater Vancouver and Fraser-Cheam Regional Districts sold about \$33 million and \$21 million worth of goods respectively, while those in Dewdney-Alouette accounted for about \$9 1/3 million. In sharp contrast to these areas was the Sunshine Coast, which registered less than \$20,000 worth of receipts from agricultural sales in the same year. This is due in large part to the scarcity of arable land, the presence of rugged, mountainous terrain and a climate with extreme local variations.

The Central Fraser Valley Regional District has the largest farm population of any in the Province; 11,249 in 1971. On some 91,000 acres of farmland the most profitable agricultural activity is oriented toward the production and sale of milk, eggs, poultry and beef cattle. Important crops include strawberries, vegetables, and nursery plants which may be grown in one of the area's many greenhouse operations. To the north and east in Dewdney-Alouette and Fraser-Cheam, farms also depend heavily on dairy products, eggs, and beef cattle for their income, while those in Greater Vancouver are similar for their relative dependence on nursery operations. In the Central Fraser Valley agricultural workers account for the second-largest proportion of the labour

force (16.1%), close behind service workers (18.1%). This is indicative of recent growth trends in the sub-region.

Agriculture is also a major activity in the Fraser-Cheam and Dewdney regions. Dairy farming is of prime importance, although poultry products, vegetables and small fruit farming, specialized horticulture, beef cattle, swine and fur-bearers play a role. Dairy farming is important in the Pitt Meadows, Maple Ridge and Mission areas in the low-lying flood plains. There are also small scattered farms in the Highland Plateau, south of Mission. Some mixed beef and dairy farming is located on the terraced areas of the Fraser Canyon. In Greater Vancouver, the Delta and Richmond areas have approximately 42,000 acres of land within Agricultural Land Reserves.

Forestry plays an important role in the economy of the Sunshine Coast, particularly at Gibson's Landing and Nelson Island. There is a pulp and paper mill at Port Mellon and log storage and booming facilities at Gambier Island. Logging and sawmilling are the major economic activities in the Fraser Canyon and Cascade Mountain area. There is some logging north of Pitt Lake and east of Stave Lake and Lake Erroch in the Dewdney-Alouette district. Secondary industries related to forest products are located in the Maple Ridge area.

Mining is of less importance in this part of the B.C. region than in other areas. A small amount of mining takes place in the Cascade Mountain area and metallic ores, such as nickel, are found in the Hope and Yale area of the Fraser Canyon.

Manufacturing industrial activity is concentrated in the Dewdney-Alouette, Central Fraser Valley and Greater Vancouver districts. The Municipality of Maple Ridge is a major industrial area. Wood products are produced in the Albion Flats, Ruskin, and Hammond areas. Concrete production, boat building, brick and tile production and gravel are also important industries in the area.

Fishing is a year-round activity in the Sunshine Coast area but commercial fishing operates to a large extent from Vancouver and Fraser River harbour facilities. There are an estimated 2,000-3,000 boats based in this area.

Tourism and recreation is a major contributing factor in the economy of the Sunshine Coast area where there are approximately 30 tourist lodges. Tourism is also a major industry in Greater Vancouver providing employment and income. The Fraser-Cheam area includes part of Manning Park which is a source of recreational fishing. Garibaldi, Golden Ears, Rolley and Davis Lake Provincial Parks are all located in the Dewdney-Alouette district and provide summer and winter recreational facilities.

#### Future Prospects

The nature of future growth in most areas of the sub-region is largely dependent on the Provincial Government's ongoing policies regarding the Agricultural Land Reserve. Either an abrupt abolition of, or a process of piecemeal exemption from, the ALR would lead to an increased level of urbanization in all areas except the Sunshine Coast. Parts of the Fraser-Cheam and Dewdney-Alouette Regional Districts towards their northern borders would likely also remain unaffected, but this is due to the presence of low mountains and marshland which form the drainage areas of the Chilliwack, Alouette and Pitt River systems.

Improved transportation links now under construction between Greater Vancouver and Maple Ridge and Pitt Meadows, in the southwestern portion of the Dewdney-Alouette district are likely to increase the size of the commuter population there. Over the past 5 years local municipalities have encouraged the transformation of farmland into suburbs near their commercial centres



and this is expected to continue, if only at a slow pace. Likewise the municipality of Langley has approved a large light-industrial-residential development for its northwest corner. An additional population of 16,000 is forecast for this spot over the next five years. And a large metal fabrication plant will form the backbone of the industrial park.

In the Greater Vancouver Regional District industry is expected to continue to become more diversified. Employment in the primary sectors (agriculture, forestry, fishing and mining) is expected to decrease to 1.2% by 1986 from its current level of 1.9%. Secondary industry, manufacturing, construction, transportation and wholesale trade will employ about 39.3% of the labour force by 1986; a drop from the 1971 level of 43.8 per cent. Employment in the tertiary sector including retail trade, finance, services, and public administration is expected to rise and reach 59.5% of the labour force in the next decade, up from a 1971 level of 54.2 per cent.

MAP 12  
 SUB-REGION H: SOUTH VANCOUVER ISLAND



Regional Districts

- Alberni-Clayoquot
- Capital
- Cowichan Valley
- Nanaimo

Land Area (sq. miles)

Total Area	5,975.46
Rural Study Area	3,533.53

Major Economic Activities

- Forestry
- Fishing
- Mining
- Agriculture
- Recreation & Tourism

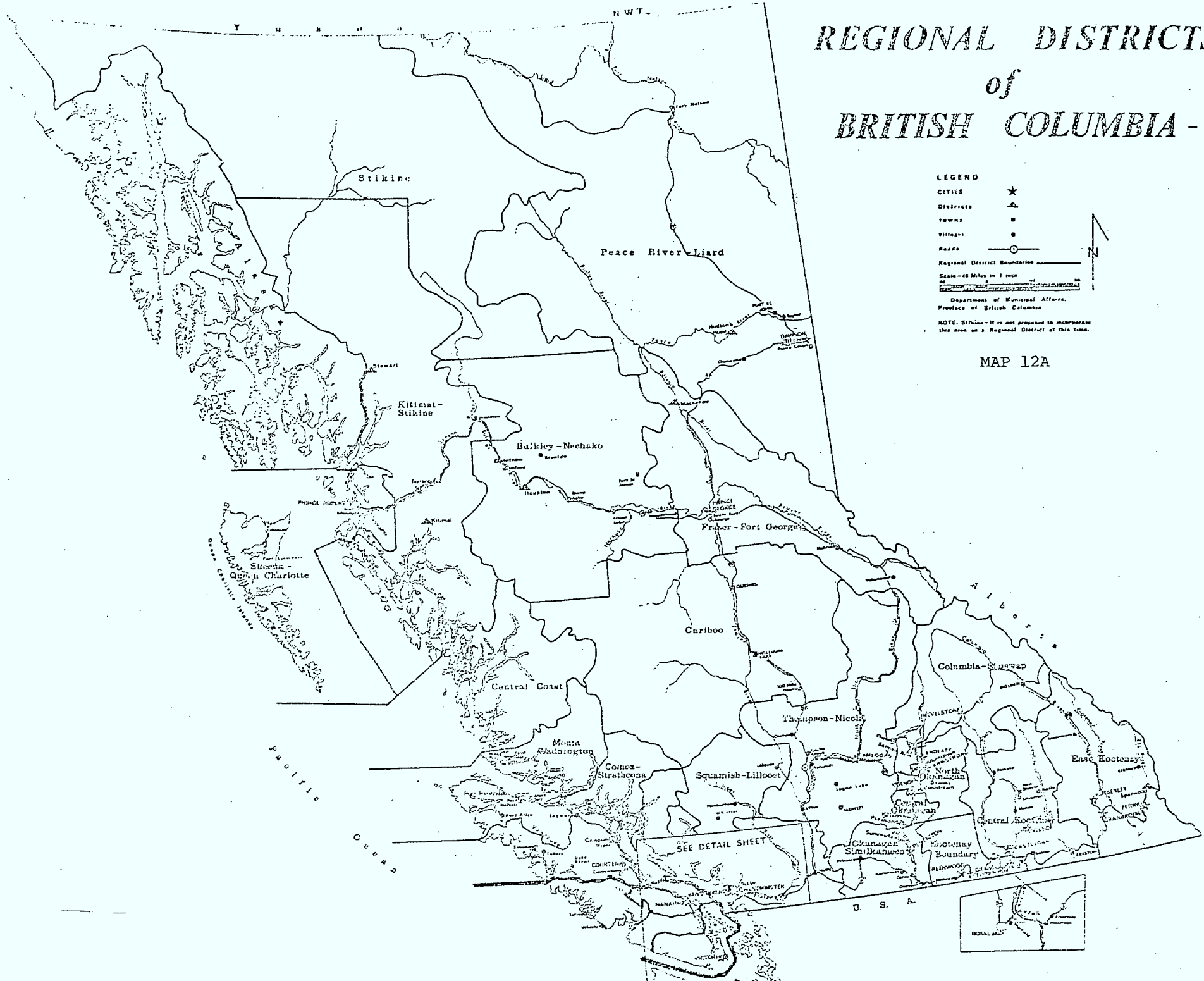
Population (1971 Census)

Total Area	323,544
Rural Study Area	101,265

Labour Force (1971 Census)

Rural Study Area - Aged 15 & Over	
Total	38,925

# REGIONAL DISTRICTS of BRITISH COLUMBIA - H



**LEGEND**

CITIES           ★

Districts       ▲

Towns           ■

Villages       ●

Roads           —○—

Regional District Boundaries ———

Scale—48 Miles to 1 inch

Department of Municipal Affairs,  
Province of British Columbia

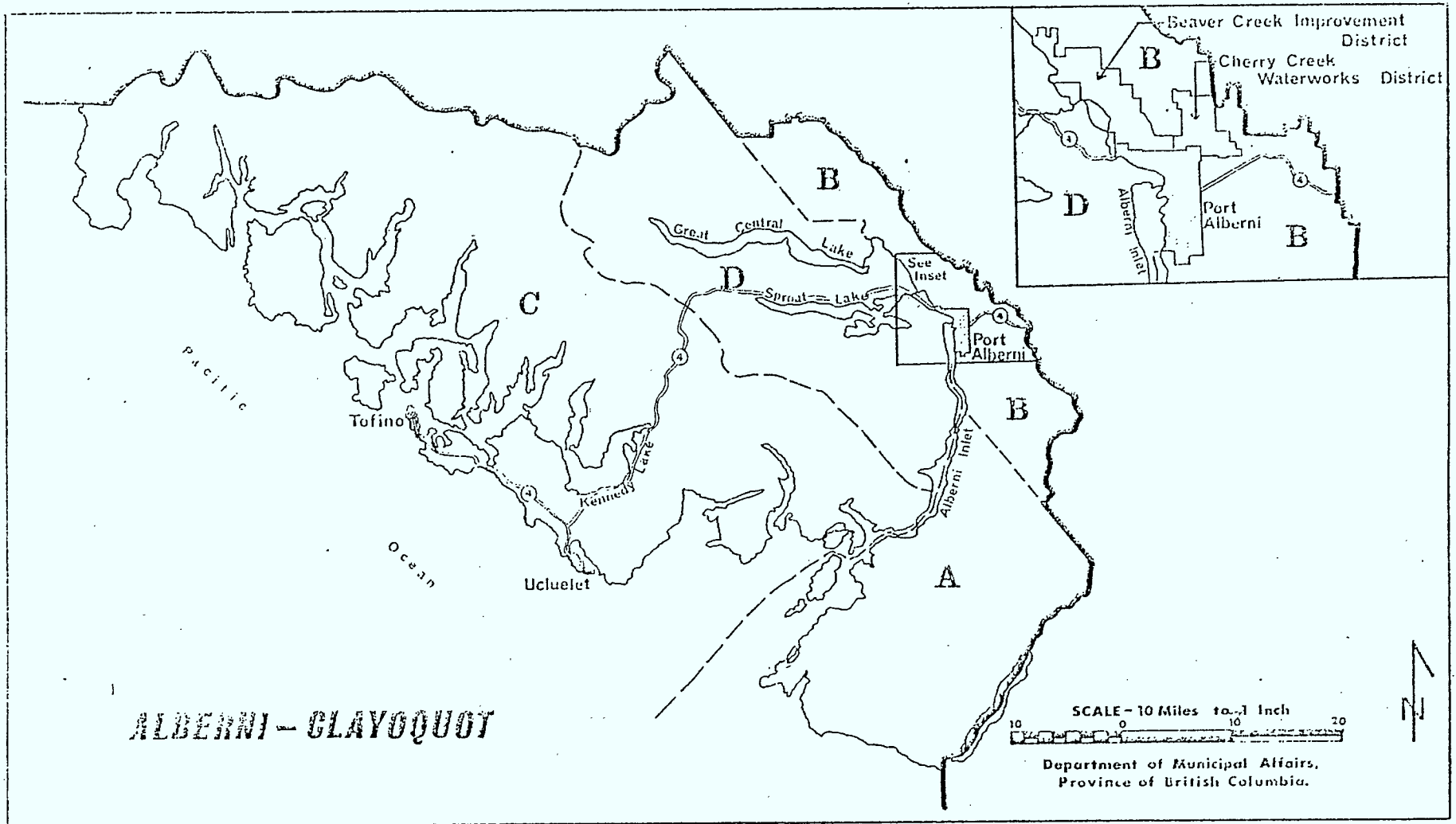
NOTE: Stikine—it is not proposed to incorporate  
this area as a Regional District at this time.

MAP 12A

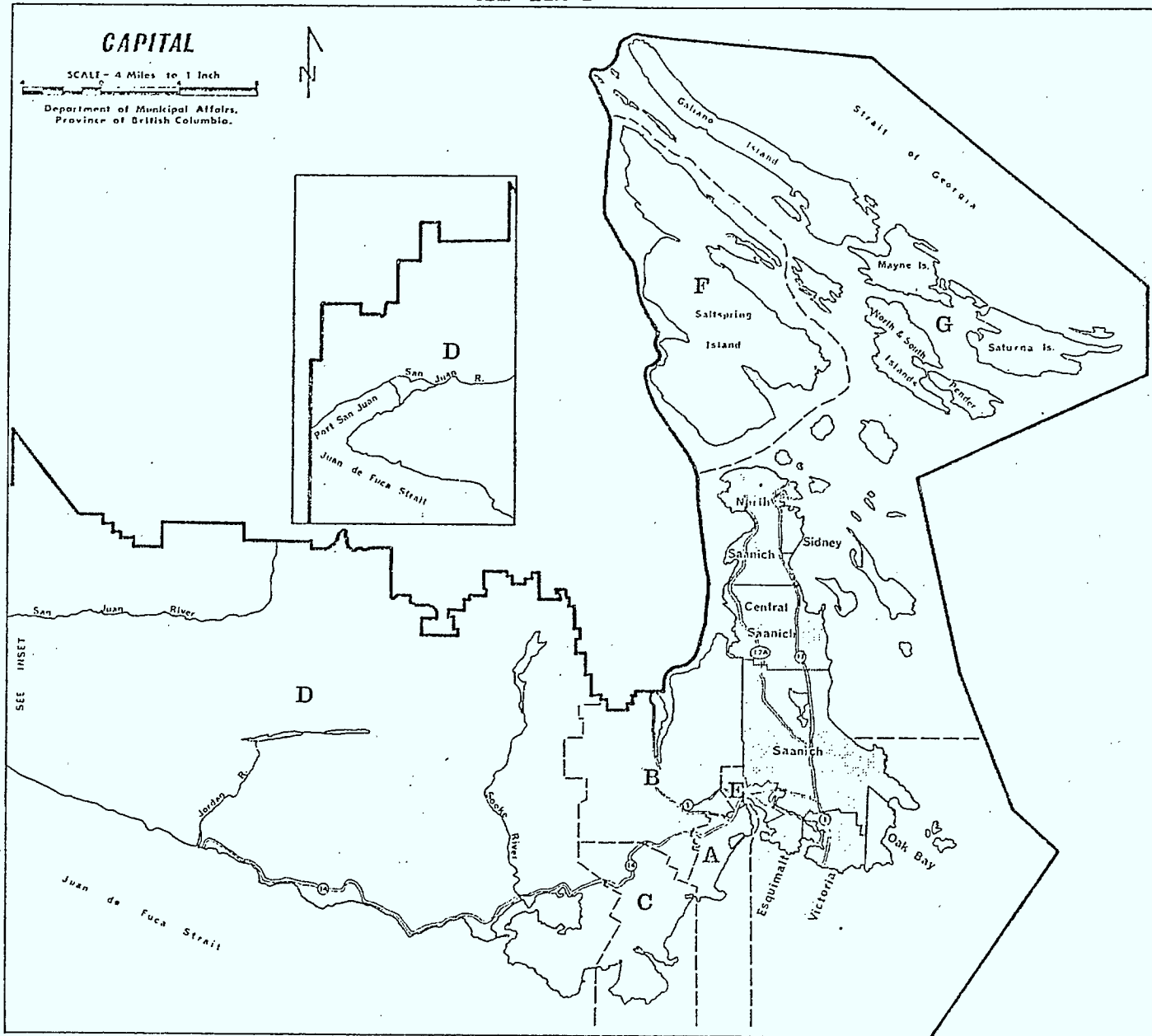
SEE DETAIL SHEET

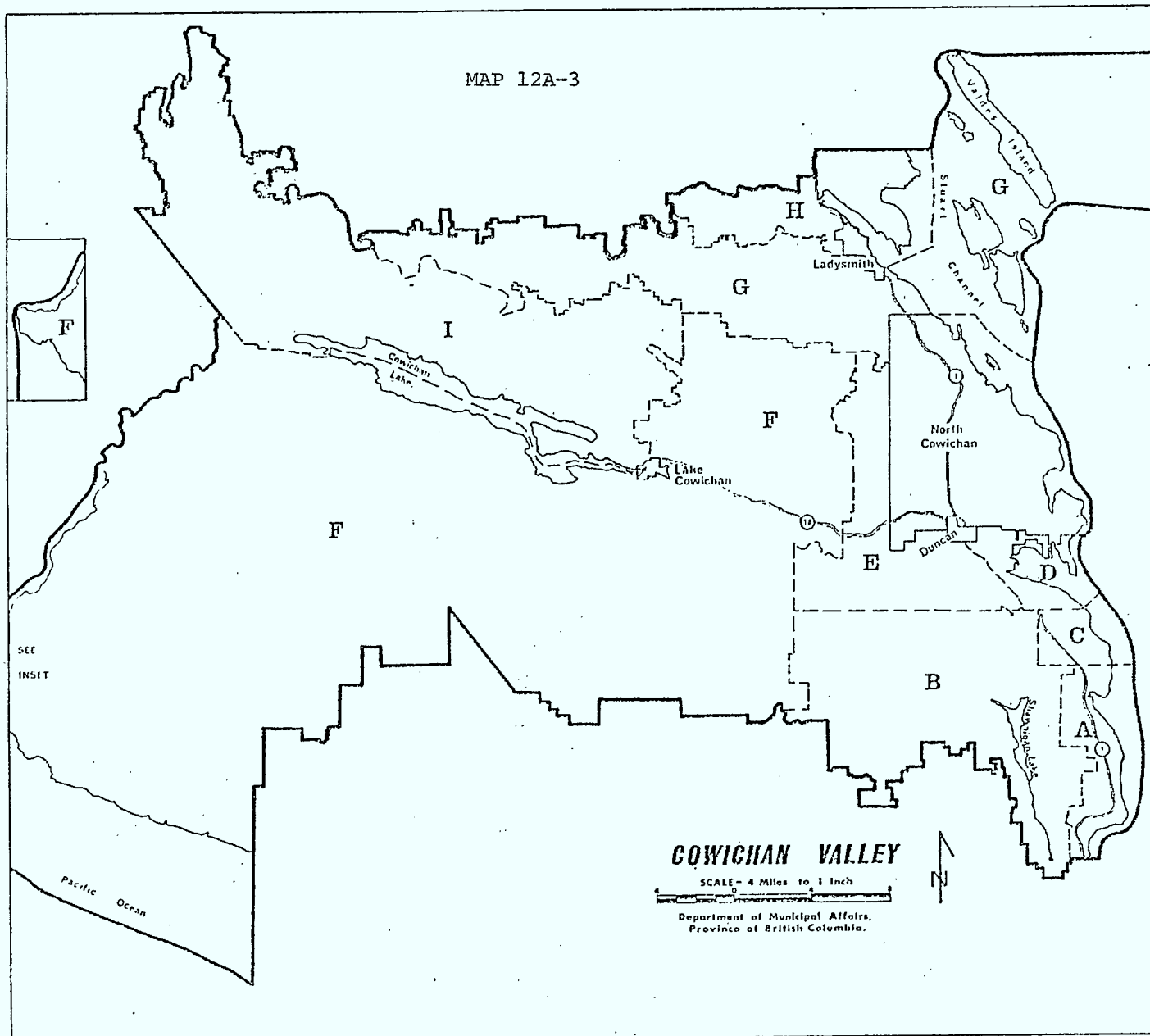


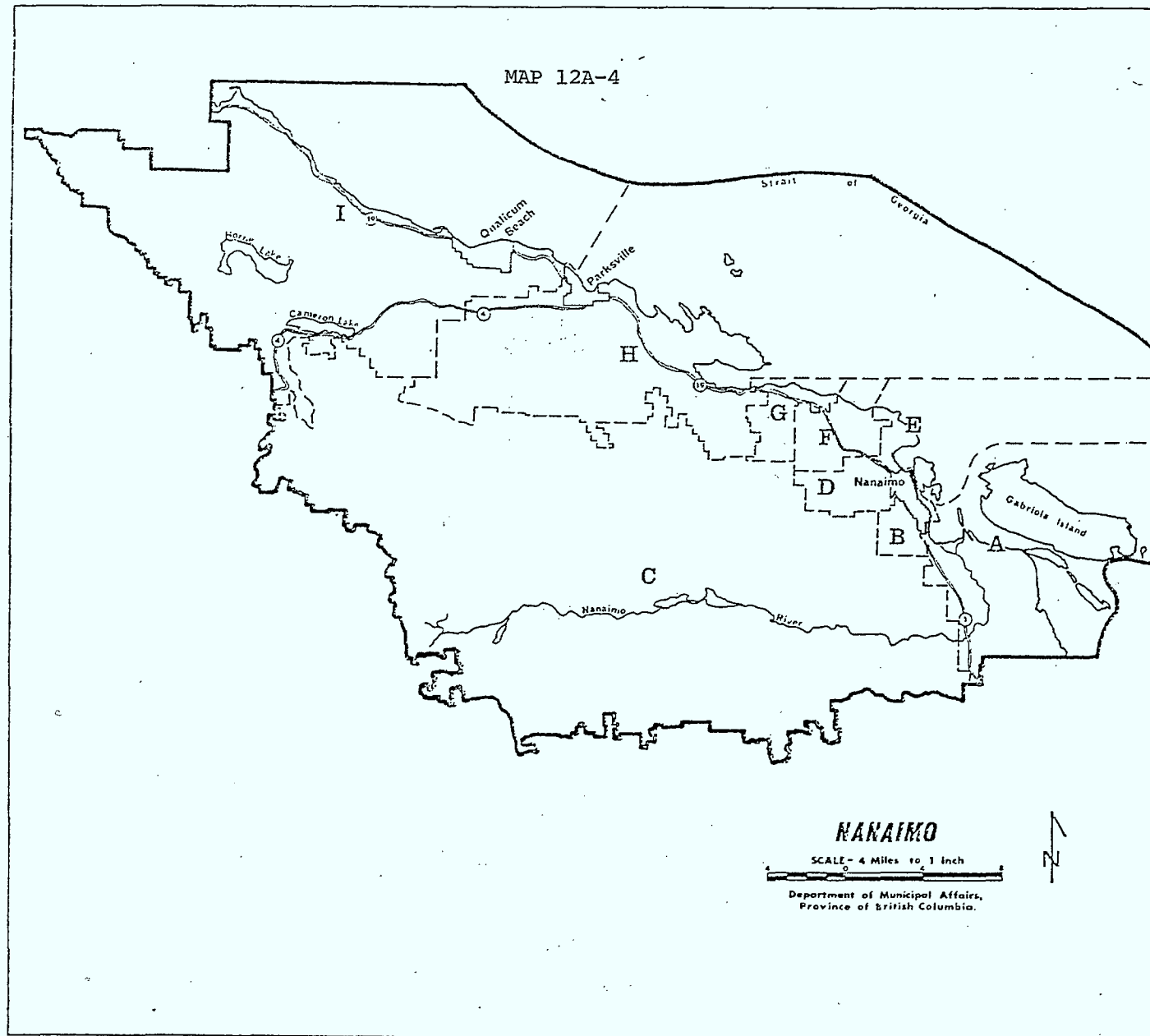
MAP 12A-1



MAP 12A-2







SUB-REGION H: SOUTH VANCOUVER ISLANDRegional Districts: Alberni-Clayoquot, Capital, Cowichan Valley, NanaimoPhysical Description

This sub-region occupies the southern portion of Vancouver Island and the smaller islands to the east in the Straits of Georgia known as the Gulf Islands. The northern boundary stretches from the mouth of Nootka Sound on the west coast of Vancouver Island to the community of Mud Bay on the east which is about 40 miles north of Nanaimo. The sub-region includes the second most densely populated area in the province: the Capital region, containing Victoria.

Mountainous terrain characterizes much of the land area and the mountain chain forms a spine running the length of Vancouver Island, somewhat west of centre. The eastern side of the Island slopes more gently into the sea and has a coastal plain of varying width in the southern part. Glaciation has resulted in lowland soil and gravel deposits in these areas and river outflows have also created delta areas from silt deposition. Virtually all the population on the coast is located in these eastern areas which are connected by transportation routes. The west coast is much more rugged and indented, with sparse settlements and generally no transportation links except for a few places. While much of the sub-region has a dense forest cover, the Saanich Peninsula north of Victoria and the area northwest of Nanaimo are suitable for agriculture.

The mountains and the 'Gulf Stream' ocean currents have a profound effect on the climatic conditions in the sub-region. Moist air masses moving in from the Pacific Ocean release most of their moisture on the west side of the mountain range while the east coast lies within the



rainshadow and receives relatively little rainfall. Mean annual precipitation totals of 128.2 inches have been recorded at Kildonan at the mouth of Alberni Inlet while, in contrast, easterly areas including Victoria and the Gulf Islands receive 25 to 35 inches of precipitation annually. Average temperatures decrease sharply with increases in altitude, especially along the west coast, and cause marked differences in the snowfall recorded. At an elevation of 250 feet, 70 to 80 inches of snow annually is not unusual although the coastal areas generally receive only 20 to 30 inches per year.

The warm Pacific Ocean currents which flow north westerly after coming in from the Central Pacific create a "Mediterranean" climate for Victoria and adjacent areas. Temperatures average 62°F in summer and 38°F in winter. Other populated areas of the sub-region experience average temperatures of 56°F to 62°F in summer and 32°F to 36°F in winter although extremes in excess of 100°F and 0°F have been recorded.

Population is distributed very unevenly across this sub-region, with most of the people being concentrated in the Capital region and in Nanaimo or Port Alberni. The total land area is approximately 5,975 square miles, of which slightly over 40% can be considered remote. The rural study area population in 1971 was about 105,100; the majority of these people live in the western sector of the Capital district, the Gulf Islands and the eastern sector of the Cowichan Valley.

#### Economic Activity

The most important industries are forestry, fishing, mining and to some extent agriculture. The Capital regional district is an exception because public administration and defence, community business, personal services and tourism are most important in the metropolitan area. The

western sector of this district, however, is dependent on forestry and the temporary employment of 300 people by the Jordan River hydro-electric project along with manufacturing, fishing and mining. The basic industries of the Gulf Islands include forestry, fishing and recreational businesses. In the Nanaimo area, commercial agriculture, logging and fishing contribute to the economic base although secondary manufacturing is growing in importance. Forestry and mining are very important in the Cowichan Valley and forestry as well as fishing are the major industries in the Alberni-Clayoquot district.

Forestry is clearly of major importance throughout the populated areas of the sub-region, except for Metropolitan Victoria where only processing and the shipment of logs is related to this industry. Port Renfrew and Jordan River in the western sector of the Capital district are almost entirely dependent on logging, which employed 500 to 600 people in 1970. The Gulf Islands, particularly Saltspring and Galiano, provide a forest resource base. In 1971, 930 people were employed by the logging industry in the Nanaimo area and the current rate of harvesting was expected to continue for 10 to 15 years at that time.

The Cowichan Valley supports a major pulp and paper mill at Crofton and sawmills are localized at Youbou and Honeymoon Bay. The Saltair Lumber Co. provides employment for 100 at Ladysmith which also functions as a service centre for the forestry industry. Logging - sawmilling and shakes - provided employment for 250 in 1976 in the Alberni-Clayoquot regional district. Timber harvesting by MacMillan Bloedel accounted for 60% of the logging activity in the Tofino-Ucluelet area. Most of the logs are shipped to Port Alberni for processing in the kraft paper and newsprint and plywood plants which employ over 5,000 persons. Logging is of vital importance in this district because of the stability it provides in the

forestry sector and in related support industries. Port Alberni benefits from the overseas export of forest products because it is a sea port on the west coast. In fact, this is the fourth largest port by tonnage in B.C. and transportation services (trucking, dock work and the railway) employ a substantial work force. Port Alberni is also the home base for a fishing fleet of about 110 vessels which engaged in salmon fishing.

Fishing in the Metropolitan Victoria area supported 430 commercial boats in 1970 but is of only minimal importance to the western Capital area. The Gulf Islands serve as a base for 28 commercial fishboats which employ 44 persons. In Nanaimo, the salmon and herring catches in 1972 produced 1.4 million in revenue but the stability of this resource base will depend on Nanaimo port developments and environmental effects. Fishing provides 28% of the current employment opportunities in the Ucluelet-Tofino area of Alberni-Clayoquot: 210 jobs in fishing and 70 in fish processing in 1976. This industry is seasonal with peaks occurring during the period May through September. The three fish processing plants in the area employ 450-500 people during the 6 to 8 week herring season from March to May. Despite the seasonability of this industry it is expected to expand gradually as the diversity and quantity of the fish resource base is adequate to sustain growth.

Agriculture: The Saanich Penninsula is the predominant location of agricultural activities with 683 Census farms in 1971, which generated a gross income of over \$7 million. Poultry and dairy products, fruit, vegetables and stock raising contributed to this income source. Urban expansion and rising land costs may threaten the dairying, stock raising and tree fruit farms in the future. Although agriculture does not play a major

role in the Gulf Islands, there is a potential for development dependent on market availability. In the Nanaimo regional district, less than 200 people are engaged in commercial agriculture (dairying and truck farming) and the sales of produce amount to approximately \$2 million per year.

Mining is not as important to this sub-region as it has been historically. In the Western sector of the Capital area, Pechiney Development Ltd. is expected to reopen the copper mine near the Sooke area to provide 120 jobs. In the Nanaimo area, mining is only of commercial importance in extraction of sand and gravel for construction purposes. The limestone quarry at Cobble Hill in the Cowichan Valley provides a resource base for cement manufacturing. Since the 1968 closure of the Brynnam Mine, employment opportunities have been restricted to sporadic exploration in the Alberni-Clayoquot area.

Manufacturing industries (wool products, food and beverages, transportation equipment, chemical products etc.) provided an estimated 6,000 jobs in the Capital region in 1966 but are dependent on locally obtained raw material for growth. Saturna-lite (a shale aggregate) contributes to the economy of the Gulf Islands. In the Nanaimo area most manufacturing is related to forestry; 64 firms employed 2,100 in 1971. The Ocean Cement Company located at Bamerton in the Cowichan Valley provides employment and processes limestone into cement. Manufacturing activity in the Tofino-Uculuelet areas is limited to a small number of firms producing or repairing goods for the local market and support for the fishing vessels and equipment.

In the Capital district, public administration, defence, personal services, health and welfare, and education provide the major sources of employment. Trade, Services and Administration opportunities in other areas

are dependent on employment and growth in the basic industries which result in spinoffs from wages and salaries.

Tourism contributes substantially to both the community business, personal services, and trade sectors particularly in the Capital Region and Gulf Islands. The Nanaimo Regional District is also dependent on retirement and tourism as generators of income. This is reflected by the large proportion of employment opportunities (64%) related to tourism. The impact of tourism is difficult to assess, but, for example, estimated jobs derived from tourism expenditures in the Tofino-Ucluelet areas was 10 - 15% of the total employment available in 1976. The further development of recreational areas in the Pacific Rim National Park will increase the reliance of this district on tourism in the future.

#### Future Prospects

It is expected that growth in the Western sector of the Capital region will be limited to the area around Sooke and will remain stable barring changes in the forestry industry. It is possible that this area may become a suburb of Victoria, in which case development could be expected. The Gulf Islands summer resident population has been growing steadily, while the permanent population has decreased as a result of the lack of employment opportunities. In the Cowichan Valley, continued development of natural resources (particularly expansion by Crown Zellerbach), development in service industries, and secondary manufacturing are expected to provide attractions for additional population. In the Nanaimo area the future is projected to depend on tertiary sector growth based on the forest industry, an expanding tourist industry and population growth throughout Northern Vancouver Island. Again, in the Alberni-Clayoquot area, growth

is expected to depend on the development of Pacific Rim National Park, tourist trade, and expansion of forest industries. Fishing is expected to expand slowly in the Tofino-Ucluelet area.

In summary, expansion of the economic opportunities in this sub-area are dependent on the stability and planned growth of the established natural resource bases: fishing, forestry and mining. Expansion in these areas over time will provide the stimulus for growth in secondary and tertiary industry.

### III RURAL TELEPHONE SERVICE

#### A Telephone Exchanges in the Rural Study Area

The production of rural telephone service data which could be comparable to the population data for the "rural study area" has been a complex process. Such information is not readily available from the telephone companies in this form so it had to be extracted from the data which they could provide. The first task was to arrange the exchanges by census division rather than by telephone division or district. This we were able to do with the use of census enumeration area maps and with the maps which the telephone companies were able to provide. In a few instances, we found that an exchange provided service in more than one census division but we were able to assign the exchange to the division which received the majority of the service; in all such cases, only a handful of subscribers lived in the other census division.

The allocation of exchanges in B.C. by census division is given in Table 18, following. As is shown in that table, almost all the exchanges in this region are operated by B.C. Telephone: 232 out of 257. Although Okanagan Telephone is a provincially incorporated and regulated company, it is a subsidiary of B.C. Tel and its operation of 16 exchanges is closely coordinated with those of B.C. Tel. Of the remaining 10 exchanges, nine are provided by CN Telecommunications and one by the City of Prince Rupert.

To narrow the scope of the data collection to those exchanges which had rural service areas, we examined the available service areas for all exchanges and eliminated those which served only urban areas with a population of at least 5,000. Altogether, 16 exchanges were categorized as urban exchanges: 14 of them are in Greater Vancouver, one exchange in

Kitimat-Stikine (Kitimat) and one in Skeena A (Prince Rupert). In addition to these exclusions, we also eliminated the exchanges which served communities in areas we had already defined as remote for the purposes of this study. There were 8 of these exchanges, as follows:

<u>Census Division</u>	<u>Exchange</u>
Alberni-Clayoquot	Ahousat
Cariboo	Anahim
Kitimat-Stikine	Aiyansh, Kemano
Ocean Falls	Bella Bella
Skeena A	Tasu
Stikine	Atlin, Dease Lake

Altogether, 24 exchanges were excluded from the rural study area so that left 233 exchanges, grouped by census division as shown in Table 19. The average number of communities and the average population served by exchange in each census division is given in Table 20, using the 1971 Census statistics.



TABLE 18.1

## NUMBER OF EXCHANGES IN B.C. REGION

Census Division	B. C. TELEPHONE CO. DIVISIONS					OK TEL	CNT	TOTAL
	Coastal		Interior	Island	Northern			
	West	East						
<u>B.C. TOTAL</u>	<u>24</u>	<u>19</u>	<u>92</u>	<u>42</u>	<u>54</u>	<u>16</u>	<u>9</u>	<u>257*</u>
Alberni-Clayoquot				5				5
Bulkley-Nechako					12			12
Capital				6				6
Cariboo			13		3			16
Central Fraser Valley		4						4
Central Kootenay			20					20
Central Okanagan						5		5
Columbia-Shuswap			7			4		11
Comox-Strathcona				9				9
Cowichan Valley				6				6
Dewdney-Alouette		2						2
East Kootenay			14					14
Fraser-Cheam		4						4
Fraser-Fort George					15			15
Greater Vancouver	15	9						24

\* includes Prince Rupert

.... continued

TABLE 18.2

## NUMBER OF EXCHANGES IN B.C. REGION, concluded

Census Division	Coastal		Interior	Island	Northern	OK Tel	CNT	TOTAL
	West	East						
Kitimat-Stikine					7			7
Kootenay Boundary			9					9
Mount Waddington				7				7
Nanaimo				4				4
North Okanagan						4		4
Ocean Falls			1	2				3
Okanagan-Similkameen			6			3		9
Peace River-Liard					9		7	16
Powell River				3				3
Skeena A					7			8*
Squamish-Lillooet	5		3					8
Stikine					1		2	3
Sunshine Coast	4							4
Thompson-Nicola			18					18

\* includes Prince Rupert

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 19.1

RURAL STUDY AREA  
NUMBER OF EXCHANGES BY CENSUS DIVISION

Census Division	B. C. TELEPHONE CO. DIVISIONS						TOTAL	
	Coastal		Interior	Island	Northern	OK Tel		CNT
	West	East						
<u>B.C. TOTAL</u>	<u>13</u>	<u>16</u>	<u>91</u>	<u>40</u>	<u>49</u>	<u>16</u>	<u>8</u>	<u>233</u>
Alberni-Clayoquot				4				4
Bulkley-Nechako					12			12
Capital				6				6
Cariboo			12		3			15
Central Fraser Valley		4						4
Central Kootenay			20					20
Central Okanagan						5		5
Columbia-Shuswap			7			4		11
Comox-Strathcona				9				9
Cowichan Valley				6				6
Dewdney-Alouette		2						2
East Kootenay			14					14
Fraser-Cheam		4	1					5
Fraser-Fort George					15			15
Greater Vancouver	4	6						10

.... continued

TABLE 19.2

## RURAL STUDY AREA

NUMBER OF EXCHANGES BY CENSUS DIVISION, concluded

Census Division	Coastal		Interior	Island	Northern	OK Tel	CNT	TOTAL
	West	East						
Kitimat-Stikine					4			4
Kootenay Boundary			9					9
Mount Waddington				7				7
Nanaimo				4				4
North Okanagan						4		4
Ocean Falls			1	1				2
Okanagan-Similkameen			6			3		9
Peace River-Liard					9		7	16
Powell River				3				3
Skeena A					6			6
Squamish-Lillooet	5		3					8
Stikine							1	1
Sunshine Coast	4							4
Thompson-Nicola			18					18

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 20.1

AVERAGE NUMBER OF COMMUNITIES AND AVERAGE POPULATION SERVED BY EXCHANGE  
1971

Census Division	Number of Exchanges	Number of Communities (50-5,000)	Number of Communities /Exchange	Rural Study Area 1971 Population	Average Population /Exchange
<u>B.C. TOTAL</u>	<u>233</u>	<u>770</u>	<u>3.30</u>	<u>639,355</u>	<u>2,744.01</u>
Alberni-Clayoquot	4	11	2.75	8,745	2,186.25
Bulkley-Nechako	12	49	4.08	25,840	2,153.33
Capital	6	21	3.50	31,980	5,330.00
Cariboo	15	67	4.47	30,910	2,060.67
Central Fraser Valley	4	4	1.00	49,720	12,430.00
Central Kootenay	20	76	3.80	35,375	1,768.75
Central Okanagan	5	14	2.80	16,680	3,336.00
Columbia-Shuswap	11	35	3.18	30,625	2,784.09
Comox-Strathcona	9	35	3.89	29,330	3,258.89
Cowichan Valley	6	32	5.33	38,975	6,495.83
Dewdney-Alouette	2	10	5.00	21,285	10,642.50
East Kootenay	14	41	2.93	20,040	1,431.43
Fraser-Cheam	5	23	4.60	26,740	5,348.00
Fraser-Fort George	15	42	2.80	21,910	1,460.67
Greater Vancouver	10	9	0.90	53,655	5,365.50

..... continued

TABLE 20.2

AVERAGE NUMBER OF COMMUNITIES AND AVERAGE POPULATION SERVED BY EXCHANGE, concluded  
1971

Census Division	Number of Exchanges	Number of Communities (50-5,000)	Number of Communities /Exchange	Rural Study Area 1971 Population	Average Population /Exchange
Kitimat-Stikine	4	22	5.50	9,585	2,396.25
Kootenay Boundary	9	22	2.33	20,245	2,249.44
Mount Waddington	7	15	2.01	8,695	1,242.14
Nanaimo	4	17	4.25	20,565	5,141.25
North Okanagan	4	14	3.50	20,375	5,183.75
Ocean Falls	2	7	3.50	3,715	1,857.50
Okanagan-Similkameen	9	19	2.01	24,560	2,728.89
Peace River-Liard	16	43	2.69	23,395	1,462.19
Powell River	3	11	3.67	4,700	1,566.67
Skeena A	6	13	2.01	5,975	995.83
Squamish-Lillooet	8	30	3.75	13,000	1,625.00
Stikine	1	1	1.00	1,080	1,080.00
Sunshine Coast	4	18	4.50	9,450	2,362.50
Thompson-Nicola	18	69	3.83	31,835	1,768.61

Source: Previous Tables and our calculations.

### III B Telephone Service Data

Having determined which exchanges were to be included in the data collection, we then had to seek ways in which service data on the rural portions of each exchange could be distinguished from the total figures on the exchange. The urban-rural split was done using the same definitions of rural as were used in the first Section: that is to say, Census rural enumeration areas (excluding remote E.A.s) plus certain places up to 5,000 population. With this definition, many exchanges were entirely rural, particularly in the northern half of the region. Others, however, required an allocation of service data between the urban centre and the rural surroundings. In the CN Tel exchanges, there were no urban centres over 5,000 so these exchanges were totally rural for the purposes of this study. However, the B.C. Tel and OK Tel exchanges had to be examined more closely. With the assistance of B.C. Tel staff, we were able to make a reasonably accurate estimate of the number of telephones in rural areas by the following procedure.

B.C. Tel and OK Tel information is collected at the central office and exchange level. In urban areas, where there are large numbers of telephones, there is generally more than one central office in the exchange. With a few exceptions, each central office area (or whole exchange area where there is no subdivision of the exchange into central offices) has a forecast of future demand for telephone service calculated for it. The few exchanges without current forecasts are those which are serving communities which are presently declining or static in population due to the closing of the main industry or for other economic reasons.

The telephone service forecasts for all exchanges were made available to us and, from them, we were able to obtain service statistics and a means to separate the urban area service from rural area service. This was possible because the forecasts are made at a level much smaller than an exchange or central office. Each exchange is split into many market development areas - MDAs- and maps are drawn to show the general limits of each MDA. The telephone data is provided for each MDA in most exchanges and our procedure was to assign the MDAs in each exchange and central office to either the rural or urban category. We did this by using the Statistics Canada Official List of enumeration area classification, together with the Census information on population size of urban centres and the Census enumeration area maps.

Even with this detailed source of information, we still were faced with the difficulty of lining up the dates of all our information from the various sources. As already explained at the beginning of this report, the population information for the 1976 Census is not available yet at the detailed level we require so that 1971 data has been used throughout Section I. However, the use of 1971 telephone service data did not seem to us to be appropriate -- even though it would be consistent with the population data.

Therefore, we decided to collect telephone service data for 1976 and update the population statistics as soon as the detailed breakdown of the 1976 Census becomes available. From B.C. Tel, we were able to get telephone service data for May 1976 for both B.C. Tel and Okanagan Tel. From CN Tel, we used the service data for December 1976; given the small numbers of telephones involved, it did not seem to us to be justified to ask CN Tel for a second tabulation for their B.C. exchanges as of May 1976.



Using the urban-rural split already determined from study of the MDA - level forecasts for each B.C. Tel and OK Tel exchange, we have apportioned the telephone service numbers for May 1976 in the same ratio between rural service and urban service. As already mentioned, all B.C. exchanges operated by CN Tel are totally within the rural study area so that no urban-rural split was necessary there.

By the above method, then, we collected data on the exchanges or portions of exchanges in the rural study area. The data collected on all relevant exchanges were on the numbers of business telephones and numbers of residence telephones. With regard to business telephones, the B.C. Tel forecast data on coin telephones was not broken down to the MDA level in a number of exchanges so we have had to assume that coin telephones for each such exchange could be split between urban and rural service in the same proportion as business telephones generally were split in the exchange. In Table 21, we list the numbers of business telephones by census division for different types of business telephone service in the rural study area in 1976.

With this table, and with Tables 22 to 26 inclusive, we have provided a split of the numbers of telephones between three categories within the rural study area: A. rural areas and communities of less than 1,000 people; B. communities between 1,000 and 2,500 population; C. communities between 2,500 and 5,000 population. The three categories are mutually exclusive so that, for example, the numbers given in the 21A, 21B and 21C series of tables, when added together, produce the total numbers given in Table 21, which lists the numbers for the rural study area as a whole. This breakdown allows us to see the differences in service extension between those rural areas which are sparsely populated and the communities of two size-groups. Because the communities of various sizes

are not distributed throughout the region, some census divisions are shown as blank in one or two of the tables because, in those instances, they do not contain any communities of the appropriate size.

Tables 22 to 22C provide data on residence telephone service by census division in 1976. The categories of residence service are single-party, two-party and multi-party; B.C. Tel does not provide a breakdown of multi-party service so that 3-party, 4-party, and so on, service could be distinguished. The total of residence service is given as residence main telephones so these tables do not contain figures on extension telephones.

Again, as in Table 21, the data in Table 22 is given in actual numbers and no sense of the level of service in different areas can be obtained without reference to the varying population sizes in the census divisions. Therefore, the number of people and households in each division has to be introduced. But the rural study area population of 1971 cannot be matched with the 1976 telephone service data and still allow valid comparison between census divisions except where census divisions have had equal rates of population growth between 1971 and 1976. So, the next step to be taken is the construction of estimates of the 1976 rural study area population.

The only way we could estimate the 1976 population in the rural study area was to use the preliminary population counts for B.C. census divisions, sub-divisions and incorporated areas. Of necessity, the estimated change between 1971 and 1976 population is rough and a more accurate estimate can only be undertaken when the enumeration area - level population data is released by Statistics Canada towards the end of this year. The estimated

1976 population for the rural study area (and its three sub-categories) is given in the Table 23 to 23C series. One interesting thing about the estimates is that we have found the communities with between 2,500 and 5,000 people grew only 8.56% overall and that some of them actually lost population between 1971 and 1976. The communities with between 1,000 and 2,500 people appear to have grown faster than the larger communities in the rural study area although there were two areas which again lost population. Kootenay Boundary is the loser in both categories. The greatest rate of growth appears to have occurred in the rural enumeration areas and in communities of less than 1,000 population. In the rural study area as a whole, we have calculated that the regional increase in population was 22.07% from 1971 to 1976. The greatest rate of increase appears to have been in Nanaimo with 51%, followed by Central Okanagan with 48.42%. Such growth rates are extraordinarily high and may prove to be exaggerated when the final population statistics are published.

In the Table 24 to 24C series, we have attempted through estimations and assumptions to arrive at a figure for the number of residence telephones per 100 households in each census division. Starting from the estimated rural study area population for 1976, we have then listed an average persons-per-household (PPH) for each division. From the preliminary 1976 figures, it is apparent the PPH average has dropped in B.C. generally since 1971 and we have assumed that the 1976 average for each census division is 10% lower than the average in 1971. Therefore, we have taken the PPH averages for the rural study area portion of the census divisions, already listed in Table 8, and reduced each average by 10%. Using these new PPH averages, we have then estimated the numbers of house-

holds in the rural study area in 1976. These figures can be matched with the 1976 residence telephone numbers to arrive at an index of the numbers of residence telephones per 100 households.

Since it is unusual for a household to have more than one residence telephone and since there are always at least a few households without telephone service, this index should be below 100 and, on average, we have found it is 94.04. However, Central Kootenay is listed at 100 exactly and there are four divisions over 100: Cowichan Valley (103), Greater Vancouver (159), Stikine (128) and Sunshine Coast (102). Given that a number of assumptions and estimates have gone into the production of the index, it is clear that these figures can only be improved by the availability of accurate population statistics. In Greater Vancouver, it seems likely that the urban-rural split has been incorrectly made because of the spread of the metropolitan population into the rural fringes. Again, the 1976 Census will help to correct these imbalances.

In looking at the indices for the three categories in the rural study area, it appears that communities over 2,500 show an average index significantly higher than for the other two categories. Within all three categories, there are wide variations in numbers of residences per 100 households between census divisions.

At the bottom end of the scale, those divisions with an index of less than 85 probably contain many people who do not have telephone service. Reference to the information in Table 14 (page 46) on the location and size of native Indian populations, especially those in rural areas, shows that most of the census divisions listed below (on page 170) are also those with sizeable Indian populations, in numbers or in percentages of rural study area population for the division. The telephone companies have found that Indian households, especially those on the reserves, do not generally

request telephone service - whether for social or economic reasons we do not know.

Certainly, the match between areas with a low residence telephones/100 households index and areas with high numbers or proportions of native Indian households is not exact. For instance, several census divisions with large Indian populations in the rural areas appear to have a high residence telephones/100 households index: Cowichan Valley, Fraser-Cheam, Mount Waddington, Squamish-Lillooet and Thompson-Nicola. Conversely, a low index is estimated for three divisions which do not have large Indian populations: Comox-Strathcona, East Kootenay and North Okanagan. Therefore, the presence of a high number of native Indian households cannot be the sole explanation for a low residence telephones/100 households index.

Another factor is the existence of radio telephone service in rural areas. Amongst the households without telephone line service, we understand that some have got radio telephone service which connects with the nearby conventional telephone exchange. For the purposes of subscriber usage, those households should be regarded as having telephone service. However, the estimation of their numbers is difficult for two reasons. Firstly, although the number of radio telephones outside urban areas might be obtained from the telephone companies, those subscribers may be in remote areas or in the rural study area and we have no way of distinguishing between them without detailed examination of the location of all such radio telephone subscribers. A second difficulty is that each radio telephone in a non-urban area may be used by several households and, again, a detailed study would be required to establish how many households are involved in such usage.

A third group of households which are included presumably in our estimates of households without telephone service are those - other than native Indian households - which do not wish to have the service. Through the use of surveys

in specific areas, the probable numbers of such households in the rural study area could be estimated. At present, these numbers are not known for the rural study area as defined in this report although market surveys in certain exchange areas have been conducted by the telephone companies periodically.

Bearing in mind the tentative nature of our population estimates for 1976, especially in divisions which contain large urban populations (e.g. Central Fraser Valley, Central Okanagan and Fraser-Fort George), we consider that the following census divisions contain many households which were without the regular telephone service in 1976; for various reasons: Alberni-Clayoquot, Bulkley-Nechako, Cariboo, Comox-Strathcona, East Kootenay, Kitimat-Stikine, North Okanagan, Ocean Falls, Peace River-Liard, Powell River, Skeena A.

A more accurate assessment of actual numbers of households (instead of household estimates) will have to await not only until the Census household count for 1976 is available at the E.A. level, but also for a detailed examination of specific exchange areas where lower service levels appear to exist, according to the data at the census division level.

Another way of looking at the numbers of residence telephones is to provide a breakdown of the different types of residence service and their frequency in households or in relation to each other. In the Table 25 series, we have calculated the numbers of single-party, two-party and multi-party residence telephones per 100 households in 1976; in the Table 26 series, the percentage of each type of service out of all residence telephones is given. This allows for comparisons between census divisions which are otherwise not comparable in terms of service extensions or in population size. The first thing noticeable about Table 26 is that, on average, just over half of those who have residence telephone service in the rural study have single-party service. Almost 30% have multi-party service and the remaining 20% have two-party service. Between divisions, Mount Waddington and Skeena A have the

highest percentage of single-party service and these are both areas where large portions of the census division land area are remote. Thus, the people we have listed as "rural" for the rural study area are living in or near the few communities which exist. As can be seen from Tables 26A to 26C, the percentage of single-party service tends to increase as communities become larger although the major difference is between the rural areas and the communities over 1,000 rather than between all three categories.

In a breakdown of business telephone service, using the same estimates of 1976 rural study area population given in Table 23, we have calculated statistics on the number of coin phones and number of single-party and multi-party business telephones per 1,000 people in 1976; this information is given in Table 27. Because the number of coin phones is relatively small, we have used 1,000 people as the basic unit of comparison, rather than 100 people. With business phones, it would have been more useful to have contrasted these figures with the numbers and types of businesses in the census divisions but this information was unobtainable.

Finally, Table 28 provides some information on the number of extensions in business and residence telephone service. Because this information was not available for all exchanges at the MDA level, we were not able to make a rural-urban division of the numbers of extensions in the exchanges. However, certain exchanges are entirely within the rural study area and there are ten census divisions which consist of exchanges of this type. These were selected for use in Table 28 and, because the population for these exchange areas is equivalent to that of the rural study area of the census division in each case, calculations could be made of the number of extensions in relation to population and households.

TABLE 21  
1976 BUSINESS TELEPHONE SERVICE  
IN RURAL STUDY AREA

Census Division	Single Party Business	Multi-Party Business	Coin Phones	Business Main Telephones
<u>B.C. TOTAL</u>	<u>29,555</u>	<u>2,474</u>	<u>2,356</u>	<u>34,385</u>
Alberni-Clayoquot	255	46	46	347
Bulkley-Nechako	1,503	127	122	1,752
Capital	1,143	97	102	1,342
Cariboo	1,550	201	132	1,883
Central Fraser Valley	2,050	148	84	2,282
Central Kootenay	1,641	156	108	1,905
Central Okanagan	446	39	30	515
Columbia-Shuswap	1,733	166	144	2,043
Comox-Strathcona	815	84	100	999
Cowichan Valley	1,923	131	133	2,187
Dewdney-Alouette	617	101	28	746
East Kootenay	990	112	80	1,182
Fraser-Cheam	1,064	120	124	1,308
Fraser-Fort George	710	72	62	844
Greater Vancouver	3,556	40	143	3,739
Kitimat-Stikine	234	34	27	295
Kootenay Boundary	697	30	134	861
Mount Waddington	672	7	65	744
Nanaimo	1,300	108	78	1,486
North Okanagan	639	97	46	782
Ocean Falls	169	15	13	197
Okanagan-Similkameen	1,245	75	98	1,418
Peace River-Liard	963	134	93	1,190
Powell River	124	16	12	152
Skeena A	373	9	33	415
Squamish-Lillooet	788	54	86	928
Stikine	59	1	6	66
Sunshine Coast	635	49	79	763
Thompson-Nicola	1,661	205	148	2,014

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.



TABLE 21 A                      1976 BUSINESS TELEPHONE SERVICE  
 IN RURAL AREAS AND COMMUNITIES OF LESS THAN 1,000

Census Division	Single-Party Business	Multi-Party Business	Coin Phones	Business Main Telephones
<u>B.C. TOTAL</u>	<u>20,715</u>	<u>2,417</u>	<u>1,723</u>	<u>24,855</u>
Alberni-Clayoquot	156	36	46	238
Bulkley-Nechako	582	124	55	761
Capital	1,143	97	102	1,342
Cariboo	504	201	57	762
Central Fraser Valley	2,050	148	84	2,282
Central Kootenay	1,107	156	83	1,346
Central Okanagan	446	39	30	515
Columbia-Shuswap	678	155	75	908
Comox-Strathcona	437	84	56	577
Cowichan Valley	993	129	78	1,200
Dewdney-Alouette	617	101	28	746
East Kootenay	488	112	51	651
Fraser-Cheam	1,022	120	118	1,260
Fraser-Fort George	519	72	46	637
Greater Vancouver	3,556	40	143	3,739
Kitimat-Stikine	234	34	27	295
Kootenay Boundary	284	29	109	422
Mount Waddington	595	7	58	660
Nanaimo	916	105	53	1,074
North Okanagan	422	88	29	539
Ocean Falls	169	15	13	197
Okanagan-Similkameen	685	72	56	813
Peace River-Liard	465	125	47	637
Powell River	124	16	12	152
Skeena A	329	6	26	361
Squamish-Lillooet	372	54	52	478
Stikine	-	-	-	-
Sunshine Coast	538	49	69	656
Thompson-Nicola	1,284	203	120	1,607

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 21 B

1976 BUSINESS TELEPHONE SERVICE  
IN COMMUNITIES 1,000 - 2,500

Census Division	Single-Party Business	Multi-Party Business	Coin Phones	Business Main Telephones
<u>B.C. TOTAL</u>	<u>4,350</u>	<u>45</u>	<u>334</u>	<u>4,909</u>
Alberni-Clayoquot	99	10	-	109
Bulkley-Nechako	578	3	51	632
Capital	-	-	-	-
Cariboo	240	-	17	257
Central Fraser Valley	-	-	-	-
Central Kootenay	114	-	6	120
Central Okanagan	-	-	-	-
Columbia-Shuswap	365	6	17	388
Comox-Strathcona	129	-	11	140
Cowichan Valley	233	1	17	251
Dewdney-Alouette	-	-	-	-
East Kootenay	233	-	12	245
Fraser-Cheam	-	-	-	-
Fraser-Fort George	-	-	-	-
Greater Vancouver	-	-	-	-
Kitimat-Stikine	-	-	-	-
Kootenay Boundary	71	-	4	75
Mount Waddington	77	-	7	84
Nanaimo	384	3	25	412
North Okanagan	217	9	17	243
Ocean Falls	-	-	-	-
Okanagan-Similkameen	357	-	22	379
Peace River-Liard	498	9	46	553
Powell River	-	-	-	-
Skeena A	44	3	7	54
Squamish-Lillooet	416	-	34	450
Stikine	59	1	6	66
Sunshine Coast	97	-	10	107
Thompson-Nicola	319	-	25	344

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 21 C                      1976 BUSINESS TELEPHONE SERVICE  
 IN COMMUNITIES 2,500 - 5,000

Census Division	Single-Party Business	Multi-Party Business	Coin Phones	Business Main Telephones
<u>B.C. TOTAL</u>	<u>4,310</u>	<u>12</u>	<u>299</u>	<u>4,621</u>
Alberni-Clayoquot	-	-	-	-
Bulkley-Nechako	343	-	16	359
Capital	-	-	-	-
Cariboo	806	-	58	864
Central Fraser Valley	-	-	-	-
Central Kootenay	420	-	19	439
Central Okanagan	-	-	-	-
Columbia-Shuswap	690	5	52	747
Comox-Strathcona	249	-	33	282
Cowichan Valley	697	1	38	736
Dewdney-Alouette	-	-	-	-
East Kootenay	269	-	17	286
Fraser-Cheam	42	-	6	48
Fraser-Fort George	191	-	16	207
Greater Vancouver	-	-	-	-
Kitimat-Stikine	-	-	-	-
Kootenay Boundary	342	1	21	364
Mount Waddington	-	-	-	-
Nanaimo	-	-	-	-
North Okanagan	-	-	-	-
Ocean Falls	-	-	-	-
Okanagan-Similkameen	203	3	20	226
Peace River-Liard	-	-	-	-
Powell River	-	-	-	-
Skeena A	-	-	-	-
Squamish-Lillooet	-	-	-	-
Stikine	-	-	-	-
Sunshine Coast	-	-	-	-
Thompson-Nicola	58	2	3	63

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 22 1976 RESIDENCE TELEPHONE SERVICE  
IN RURAL STUDY AREA

Census Division	NUMBER OF RESIDENCE			
	Single-Party	Two-Party	Multi-Party	Residence Main
<u>B.C. TOTAL</u>	<u>122,200</u>	<u>40,909</u>	<u>67,284</u>	<u>230,393</u>
Alberni-Clayoquot	690	427	871	1,988
Bulkley-Nechako	4,080	538	2,280	6,898
Capital	5,774	3,043	4,540	13,357
Cariboo	4,762	1,270	3,842	9,874
Central Fraser Valley	7,476	4,108	7,373	18,957
Central Kootenay	6,125	3,443	3,490	13,058
Central Okanagan	2,692	1,317	850	4,859
Columbia-Shuswap	5,619	1,094	3,194	9,907
Comox-Strathcona	4,735	1,611	2,494	8,840
Cowichan Valley	6,190	3,825	4,691	14,706
Dewdney-Alouette	3,092	1,101	3,702	7,895
East Kootenay	4,359	649	2,017	7,025
Fraser-Cheam	3,608	1,715	3,360	8,683
Fraser-Fort George	3,635	325	1,926	5,886
Greater Vancouver	23,156	4,943	3,653	31,752
Kitimat-Stikine	715	173	582	1,470
Kootenay Boundary	3,467	1,904	917	6,288
Mount Waddington	2,249	199	195	2,643
Nanaimo	5,034	2,045	3,946	11,025
North Okanagan	2,916	1,363	2,652	6,931
Ocean Falls	536	71	125	732
Okanagan-Similkameen	4,707	2,611	2,276	9,594
Peace River-Liard	2,465	495	2,464	5,424
Powell River	589	264	642	1,495
Skeena A	1,213	103	104	1,420
Squamish-Lillooet	2,957	547	772	4,276
Stikine	151	163	8	322
Sunshine Coast	2,582	776	1,341	4,699
Thompson-Nicola	6,626	786	2,977	10,389

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 22 A

## 1976 RESIDENCE TELEPHONE SERVICE

IN RURAL AREAS AND COMMUNITIES OF LESS THAN 1,000

Census Division	NUMBER OF RESIDENCE			
	Single-Party	Two-Party	Multi-Party	Residence Main
<u>TOTAL</u>	<u>91,366</u>	<u>30,934</u>	<u>65,116</u>	<u>187,416</u>
Alberni-Clayoquot	590	276	567	1,433
Bulkley-Nechako	1,680	208	2,126	4,016
Capital	5,774	3,043	4,540	13,357
Cariboo	1,864	432	3,774	6,070
Central Fraser Valley	7,746	4,108	7,373	18,957
Central Kootenay	4,025	2,145	3,441	9,611
Central Okanagan	2,692	1,317	850	4,859
Columbia-Shuswap	2,098	497	2,891	5,486
Comox-Strathcona	2,166	872	2,436	5,474
Cowichan Valley	3,289	2,348	4,623	10,260
Dewiney-Alouette	3,092	1,101	3,702	7,895
East Kootenay	2,286	301	1,938	4,525
Fraser-Cheam	3,158	1,545	3,350	8,053
Fraser-Fort George	2,612	314	1,918	4,844
Greater Vancouver	23,156	4,943	3,653	31,752
Kitimat-Stikine	715	173	582	1,470
Kootenay Boundary	1,227	687	736	2,650
Mount Waddington	1,869	165	194	2,228
Nanaimo	4,137	1,396	3,744	9,277
North Okanagan	2,138	1,041	2,376	5,555
Ocean Falls	536	71	125	732
Okanagan-Similkameen	3,395	2,022	2,151	7,568
Peace River-Liard	1,330	99	2,326	3,755
Powell River	589	264	642	1,495
Skeena A	1,081	70	61	1,212
Squamish-Lillooet	1,631	316	751	2,698
Stikine	-	-	-	-
Sunshine Coast	2,115	628	1,328	4,071
Thompson-Nicola	4,645	552	2,918	8,115

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 22 B  
1976 RESIDENCE TELEPHONE SERVICE  
IN COMMUNITIES 1,000 - 2,500

Census Division	NUMBER OF RESIDENCE			
	Single-Party	Two-Party	Multi-Party	Residence Main
<u>B.C. TOTAL</u>	<u>15,025</u>	<u>4,893</u>	<u>1,572</u>	<u>21,490</u>
Alberni-Clayoquot	100	151	304	555
Bulkley-Nechako	1,671	190	146	2,007
Capital	-	-	-	-
Cariboo	343	152	6	501
Central Fraser Valley	-	-	-	-
Central Kootenay	457	239	8	704
Central Okanagan	-	-	-	-
Columbia-Shuswap	1,061	312	179	1,552
Comox-Strathcona	854	189	-	1,043
Cowichan Valley	748	565	38	1,351
Dewdney-Alouette	-	-	-	-
East Kootenay	942	107	64	1,113
Fraser-Cheam	-	-	-	-
Fraser-Fort George	1,023	11	8	1,042
Greater Vancouver	-	-	-	-
Kitimat-Stikine	-	-	-	-
Kootenay Boundary	873	404	40	1,317
Mount Waddington	380	34	1	415
Nanaimo	897	649	202	1,748
North Okanagan	778	322	276	1,376
Ocean Falls	-	-	-	-
Okanagan-Similkameen	661	477	75	1,213
Peace River-Liard	1,135	396	138	1,669
Powell River	-	-	-	-
Skeena A	132	33	43	208
Squamish-Lillooet	1,326	231	21	1,578
Stikine	151	163	8	322
Sunshine Coast	467	148	13	628
Thompson-Nicola	1,026	120	2	1,148

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 22 C                      1976 RESIDENCE TELEPHONE SERVICE  
 IN COMMUNITIES 2,500 - 5,000

Census Division	NUMBER OF RESIDENCE			
	Single-Party	Two-Party	Multi-Party	Residence Main
<u>B.C. TOTAL</u>	<u>15,809</u>	<u>5,082</u>	<u>572</u>	<u>21,487</u>
Alberni-Clayoquot	-	-	-	-
Bulkley-Nechako	729	140	8	877
Capital	-	-	-	-
Cariboo	2,555	686	62	3,303
Central Fraser Valley	-	-	-	-
Central Kootenay	1,643	1,059	41	2,743
Central Okanagan	-	-	-	-
Columbia-Shuswap	2,460	285	124	2,869
Cornox-Strathcona	1,715	550	58	2,323
Cowichan Valley	2,153	912	30	3,095
Dewdney-Alouette	-	-	-	-
East Kootenay	1,131	241	15	1,387
Fraser-Cheam	450	170	10	630
Fraser-Fort George	-	-	-	-
Greater Vancouver	-	-	-	-
Kitimat-Stikine	-	-	-	-
Kootenay Boundary	1,367	813	141	2,321
Mount Waddington	-	-	-	-
Nanaimo	-	-	-	-
North Okanagan	-	-	-	-
Ocean Falls	-	-	-	-
Okanagan-Similkameen	651	112	50	813
Peace River-Liard	-	-	-	-
Powell River	-	-	-	-
Skeena A	-	-	-	-
Squamish-Lillooet	-	-	-	-
Stikine	-	-	-	-
Sunshine Coast	-	-	-	-
Thompson-Nicola	955	114	57	1,126

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

TABLE 23 ESTIMATED 1976 POPULATION OF RURAL STUDY AREA

Census Division	Rural Study Area Population 1971	Estimated % Increase to 1976	Estimated 1976 Population of Rural Study Area
<u>B.C. TOTAL</u>	<u>639,355</u>	<u>22.07</u>	<u>780,487</u>
Alberni-Clayoquot	8,745	6.5	9,313
Bulkley-Nechako	25,840	16	29,974
Capital	31,980	22.32	39,119
Cariboo	30,910	32.78	41,041
Central Fraser Valley	49,720	43.12	71,158
Central Kootenay	35,375	10	38,913
Central Okanagan	16,680	48.42	24,756
Columbia-Shuswap	30,625	13.5	34,759
Comox-Strathcona	29,330	13.83	33,387
Cowichan Valley	38,975	13	44,042
Dewdney-Alouette	21,285	30.85	27,581
East Kootenay	20,040	28	25,651
Fraser-Cheam	26,740	13	30,216
Fraser-Fort George	21,910	29	28,264
Greater Vancouver	53,655	20	64,386
Kitimat-Stikine	9,585	4.5	10,016
Kootenay Boundary	20,245	6	21,460
Mount Waddington	8,695	18	10,260
Nanaimo	20,565	51	31,053
North Okanagan	20,735	42.5	29,547
Ocean Falls	3,715	-2	3,641
Okanagan-Similkameen	24,560	20.5	29,595
Peace River-Liard	23,395	3.5	24,214
Powell River	4,700	22.5	5,758
Skeena A	5,975	17	6,991
Squamish-Lillooet	13,000	18	15,340
Stikine	1,080	5	1,134
Sunshine Coast	9,450	26.75	11,978
Thompson-Nicola	31,845	16	36,940

Source: Statistics Canada, 1976 Census, "Population: Preliminary Counts", and our calculations.



TABLE 23 A ESTIMATED 1976 POPULATION  
IN RURAL AREAS AND COMMUNITIES LESS THAN 1,000

Census Division	Rural Study Area Population 1971	Estimated % Increase to 1976	Estimated 1976 Population of Rural Study Area
<u>B.C. TOTAL</u>	<u>518,330</u>	<u>23.99</u>	<u>642,658</u>
Alberni-Clayoquot	7,730	5.34	8,143
Bulkley-Nechako	16,285	21.02	19,708
Capital	31,980	22.32	39,119
Cariboo	23,285	29.70	30,201
Central Fraser Valley	49,720	43.12	71,158
Central Kootenay	24,070	11.33	26,797
Central Okanagan	16,680	48.42	24,756
Columbia-Shuswap	20,770	18.50	24,612
Comox-Strathcona	18,745	11.96	20,987
Cowichan Valley	25,315	17.32	29,699
Dewdney-Alouette	21,285	30.85	27,581
East Kootenay	12,410	37.49	17,062
Fraser-Cheam	23,595	15.71	27,301
Fraser-Fort George	19,930	19.18	23,753
Greater Vancouver	53,655	20.00	64,386
Kitimat-Stikine	9,585	4.5	10,016
Kootenay Boundary	8,535	19.14	10,169
Mount Waddington	7,190	21.88	8,763
Nanaimo	17,155	52.68	26,188
North Okanagan	17,940	45.13	26,036
Ocean Falls	3,715	-2.00	3,641
Okanagan-Similkameen	19,065	20.83	23,036
Peace River-Liard	18,690	1.74	19,015
Powell River	4,700	22.50	5,758
Skeena A	4,955	18.30	5,862
Squamish-Lillooet	9,890	11.31	11,009
Stikine	-	-	-
Sunshine Coast	7,515	33.16	10,007
Thompson-Nicola	23,940	16.52	27,895

Source: Statistics Canada, 1976 Census, "Population: Preliminary Counts",  
and our calculations.

TABLE 23 B ESTIMATED 1976 POPULATION  
IN COMMUNITIES 1,000 - 2,500

Census Division	Rural Study Area Population 1971	Estimated % Increase to 1976	Estimated Population of Rural Study Area
<u>B.C. TOTAL</u>	<u>58,980</u>	<u>19.49</u>	<u>70,473</u>
Alberni-Clayoquot	1,015	15.27	1,170
Bulkley-Nechako	5,680	16.00	6,589
Capital	-	-	-
Cariboo	1,125	36.71	1,538
Central Fraser Valley	-	-	-
Central Kootenay	2,205	13.83	2,510
Central Okanagan	-	-	-
Columbia-Shuswap	1,965	20.05	2,359
Comox-Strathcona	4,955	4.28	5,167
Cowichan Valley	5,610	14.65	6,432
Dewdney-Alouette	-	-	-
East Kootenay	3,215	25.72	4,042
Fraser-Cheam	-	-	-
Fraser-Fort George	1,980	127.83	4,511
Greater Vancouver	-	-	-
Kitimat-Stikine	-	-	-
Kootenay Boundary	4,650	-1.16	4,596
Mount Waddington	1,505	-0.53	1,497
Nanaimo	3,410	42.67	4,865
North Okanagan	2,795	25.62	3,511
Ocean Falls	-	-	-
Okanagan-Similkameen	2,890	19.97	3,467
Peace River-Liard	4,705	10.50	5,199
Powell River	-	-	-
Skeena A	1,020	10.69	1,129
Squamish-Lillooet	3,110	39.27	4,331
Stikine	1,080	5.00	1,134
Sunshine Coast	1,935	1.86	1,971
Thompson-Nicola	4,130	7.87	4,455

Source: Statistics Canada, 1976 Census, "Population: Preliminary Counts", and our calculations.

TABLE 23 C

ESTIMATED 1976 POPULATION  
IN COMMUNITIES 2,500 - 5,000

Census Division	Rural Study Area Population 1971	Estimated % Increase to 1976	Estimated Population of Rural Study Area
<u>B.C. TOTAL</u>	<u>62,045</u>	<u>8.56</u>	<u>67,356</u>
Alberni-Clayoquot	-	-	-
Bulkley-Nechako	3,875	-5.11	3,677
Capital	-	-	-
Cariboo	6,500	43.11	9,302
Central Fraser Valley	-	-	-
Central Kootenay	9,100	5.56	9,606
Central Okanagan	-	-	-
Columbia-Shuswap	7,890	-1.29	7,788
Comox-Strathcona	5,630	2,847	7,233
Cowichan Valley	8,050	-1.73	7,911
Dewdney-Alouette	-	-	-
East Kootenay	4,415	2.99	4,547
Fraser-Cheam	3,145	-7.55	2,915
Fraser-Fort George	-	-	-
Greater Vancouver	-	-	-
Kitimat-Stikine	-	-	-
Kootenay Boundary	7,060	-5.17	6,695
Mount Waddington	-	-	-
Nanaimo	-	-	-
North Okanagan	-	-	-
Ocean Falls	-	-	-
Okanagan-Similkameen	2,605	18.69	3,092
Peace River-Liard	-	-	-
Powell River	-	-	-
Skeena A	-	-	-
Squamish-Lillooet	-	-	-
Stikine	-	-	-
Sunshine Coast	-	-	-
Thompson-Nicola	3,775	21.59	4,590

Source: Statistics Canada, 1976 Census, "Population: Preliminary Counts", and our calculations.

TABLE 24.1

1976 HOUSEHOLD ESTIMATES AND RESIDENCE TELEPHONES  
IN RURAL STUDY AREA

Census Division	Estimated RSA Population	Estimated PPH Averages	Estimated RSA Households	Number of Res. Phones	Number of Res. Phones/ 100 Households
<u>B.C. TOTAL</u>	<u>780,487</u>	<u>3.19</u>	<u>245,000</u>	<u>230,393</u>	<u>94.04</u>
Alberni-Clayoquot	9,313	3.46	2,692	1,988	73.85
Bulkley-Nechako	29,974	3.65	8,212	6,898	84.00
Capital	39,119	2.86	13,678	13,357	97.65
Cariboo	41,041	3.41	12,035	9,874	82.04
Central Fraser Valley	71,158	3.14	22,662	18,957	83.65
Central Kootenay	38,913	2.98	13,058	13,058	100.00
Central Okanagan	24,756	3.08	8,038	4,859	60.45
Columbia-Shuswap	34,759	3.15	11,035	9,907	89.78
Comox-Strathcona	33,387	3.14	10,633	8,840	83.14
Cowichan Valley	44,042	3.11	14,161	14,706	103.85
Dewdney-Alouette	27,581	3.08	8,955	7,895	88.16
East Kootenay	25,651	3.11	8,248	7,025	85.17
Fraser-Cheam	30,216	3.38	8,940	8,683	97.13
Fraser-Fort George	28,264	3.47	8,145	5,886	72.27
Greater Vancouver	64,386	3.24	19,872	31,752	159.78

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TABLE 24.2

## 1976 HOUSEHOLD ESTIMATES AND RESIDENCE TELEPHONES

IN RURAL STUDY AREA, concluding

Census Division	Estimated RSA Population	Estimated PPH Averages	Estimated RSA Households	Number of Res. Phones	Number of Res. Phones/ 100 Households
Kitimat-Stikine	10,016	3.89	2,575	1,470	57.09
Kootenay Boundary	21,460	3.03	7,083	6,288	88.78
Mount Waddington	10,260	3.47	2,957	2,643	89.38
Nanaimo	31,053	2.79	11,130	11,025	99.06
North Okanagan	29,542	3.11	9,501	6,931	72.95
Ocean Falls	3,641	3.45	1,055	732	69.38
Okanagan-Similkameen	29,595	2.89	10,240	9,594	93.69
Peace River-Liard	24,214	3.76	6,440	5,424	84.22
Powell River	5,758	2.98	1,932	1,495	77.38
Skeena A	6,991	3.84	1,821	1,420	77.98
Squamish-Lillooet	15,340	3.38	4,538	4,276	94.23
Stikine	1,134	4.51	251	322	128.29
Sunshine Coast	11,978	2.61	4,589	4,699	102.40
Thompson-Nicola	36,940	3.51	10,524	10,389	98.72

Source: Previous Tables and our calculations.

TABLE 24 A.1

1976 HOUSEHOLD ESTIMATES AND RESIDENCE TELEPHONES  
IN RURAL AREAS AND COMMUNITIES OF LESS THAN 1,000

Census Division	Estimated Population	Estimated PPH Averages	Estimated Households	Number of Res. Phones	Number of Res. Phones/ 100 Households
<u>B.C. TOTAL</u>	<u>642,158</u>	<u>3.21</u>	<u>200,009</u>	<u>187,416</u>	<u>93.70</u>
Alberni-Clayoquot	8,143	3.48	2,340	1,433	61.24
Bulkley-Nechako	19,708	3.74	5,272	4,014	76.14
Capital	39,119	2.86	13,678	13,357	97.65
Cariboo	30,201	3.80	7,951	6,070	76.34
Central Fraser Valley	71,158	3.14	22,662	18,957	83.65
Central Kootenay	26,797	3.03	8,857	9,611	108.51
Central Okanagan	24,756	3.08	8,038	4,859	60.45
Columbia-Shuswap	24,612	3.16	7,781	5,486	70.51
Comox-Strathcona	20,987	2.93	7,152	5,474	76.54
Cowichan Valley	29,699	3.19	9,300	10,260	110.32
Dewdney-Alouette	27,581	3.08	8,955	7,895	88.16
East Kootenay	17,062	3.12	5,469	4,525	82.74
Fraser-Cheam	27,301	3.43	7,968	8,053	101.07
Fraser-Fort George	23,753	3.46	6,858	4,844	70.63
Greater Vancouver	64,386	3.24	19,872	31,752	159.78

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TABLE 24 A.2

1976 HOUSEHOLD ESTIMATES AND RESIDENCE TELEPHONES  
IN RURAL AREAS AND COMMUNITIES OF LESS THAN 1,000, concluding

Census Division	Estimated Population	Estimated PPH Averages	Estimated Households	Number of Res. Phones	Number of Res. Phones/ 100 Households
Kitimat-Stikine	10,016	3.89	2,575	1,470	57.09
Kootenay Boundary	10,169	3.01	3,380	2,650	78.40
Mount Waddington	8,763	3.43	2,553	2,228	87.27
Nanaimo	26,188	2.87	9,111	9,277	101.82
North Okanagan	26,036	3.17	8,201	5,555	67.74
Ocean Falls	3,641	3.45	1,055	732	69.38
Okanagan-Similkameen	23,036	2.95	7,802	7,568	97.00
Peace River-Liard	19,015	3.83	4,967	3,755	75.60
Powell River	5,758	2.98	1,932	1,495	77.38
Skeena A	5,862	3.76	1,557	1,212	77.84
Squamish-Lillooet	11,009	3.53	3,123	2,698	86.39
Stikine	-	-	-	-	-
Sunshine Coast	10,007	2.62	3,819	4,071	106.60
Thompson-Nicola	27,895	3.59	7,781	8,115	104.29

Source: Previous Tables and our calculations.

TABLE 24 B.1

## 1976 HOUSEHOLD ESTIMATES AND RESIDENCE TELEPHONES

IN COMMUNITIES 1,000 - 2,500

Census Division	Estimated Population	Estimated PPH Averages	Estimated Households	Number of Res. Phones	Number of Res. Phones/ 100 Households
<u>B.C. TOTAL</u>	<u>70,473</u>	<u>3.08</u>	<u>22,888</u>	<u>21,490</u>	<u>93.89</u>
Alberni-Clayoquot	1,170	3.32	352	555	157.67
Bulkley-Nechako	6,580	3.45	1,907	2,007	105.24
Capital	-	-	-	-	-
Cariboo	1,538	3.21	479	501	104.59
Central Fraser Valley	-	-	-	-	-
Central Kootenay	2,510	2.90	866	704	81.29
Central Okanagan	-	-	-	-	-
Columbia-Shuswap	2,359	2.64	894	1,552	173.60
Comox-Strathcona	5,167	3.33	1,552	1,043	67.20
Cowichan Valley	6,432	3.07	2,095	1,351	64.49
Dewdney-Alouette	-	-	-	-	-
East Kootenay	4,042	3.15	1,283	1,113	86.75
Fraser-Cheam	-	-	-	-	-
Fraser-Fort George	4,511	3.56	1,287	1,042	80.96
Greater Vancouver	-	-	-	-	-

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TABLE 24 B.2

1976 HOUSEHOLD ESTIMATES AND RESIDENCE TELEPHONES  
IN COMMUNITIES 1,000 - 2,500, concluding

Census Division	Estimated Population	Estimated PPH Averages	Estimated Households	Number of Res. Phones	Number of Res. Phones/ 100 Households
Kitimat-Stikine	-	-	-	-	-
Kootenay Boundary	4,596	3.19	1,441	1,317	91.39
Mount Waddington	1,497	3.71	404	415	102.72
Nanaimo	4,865	2.41	2,019	1,748	86.58
North Okanagan	3,511	2.70	1,300	1,376	105.85
Ocean Falls	-	-	-	-	-
Okanagan-Similkameen	3,467	2.47	1,404	1,213	86.40
Peace River-Liard	5,199	3.53	1,473	1,669	113.31
Powell River	-	-	-	-	-
Skeena A	1,129	4.27	264	208	78.79
Squamish-Lillooet	4,331	3.06	1,415	1,578	111.52
Stikine	1,134	4.52	251	322	128.29
Sunshine Coast	1,971	2.56	770	628	81.56
Thompson-Nicola	4,455	3.11	1,432	1,148	80.17

Source: Previous Tables and our calculations.

TABLE 24 C.1

1976 HOUSEHOLD ESTIMATES AND RESIDENCE TELEPHONES  
IN COMMUNITIES 2,500 - 5,000

Census Division	Estimated Population	Estimated PPH Averages	Estimated Households	Number of Res. Phones	Number of Res. Phones/ 100 Households
<u>B.C. TOTAL</u>	<u>67,356</u>	<u>3.05</u>	<u>22,103</u>	<u>21,487</u>	<u>97.21</u>
Alberni-Clayoquot	-	-	-	-	-
Bulkley-Nechako	3,677	3.56	1,033	877	84.90
Capital	-	-	-	-	-
Cariboo	9,302	2.58	3,605	3,303	91.62
Central Fraser Valley	-	-	-	-	-
Central Kootenay	9,606	2.88	3,335	2,743	82.25
Central Okanagan	-	-	-	-	-
Columbia-Shuswap	7,788	3.30	2,360	2,869	121.56
Comox-Strathcona	7,233	3.75	1,929	2,323	120.43
Cowichan Valley	7,911	2.86	2,766	3,095	111.89
Dewdney-Alouette	-	-	-	-	-
East Kootenay	4,547	3.04	1,496	1,387	92.71
Fraser-Cheam	2,915	3.00	972	630	64.81
Fraser-Fort George	-	-	-	-	-
Greater Vancouver	-	-	-	-	-

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TABLE 24 C.2

## 1976 HOUSEHOLD ESTIMATES AND RESIDENCE TELEPHONES

IN COMMUNITIES 2,500 - 5,000, concluding

Census Division	Estimated Population	Estimated PPH Averages	Estimated Households	Number of Res. Phones	Number of Res. Phones/ 100 Households
Kitimat-Stikine	-	-	-	-	-
Kootenay Boundary	6,695	2.96	2,262	2,321	102.61
Mount Waddington	-	-	-	-	-
Nanaimo	-	-	-	-	-
North Okanagan	-	-	-	-	-
Ocean Falls	-	-	-	-	-
Okanagan-Similkameen	3,092	2.99	1,034	813	78.63
Peace River-Liard	-	-	-	-	-
Powell River	-	-	-	-	-
Skeena A	-	-	-	-	-
Squamish-Lillooet	-	-	-	-	-
Stikine	-	-	-	-	-
Sunshine Coast	-	-	-	-	-
Thompson-Nicola	4,590	3.50	1,311	1,126	85.89

Source: Previous Tables and our calculations.

TABLE 25                    1976 RESIDENCE TELEPHONE SERVICE LEVELS  
 PER 100 HOUSEHOLDS ESTIMATED  
 IN RURAL STUDY AREA

Census Division	Single Party	Two- Party	Multi- Party	Residence Main
<u>B.C. TOTAL</u>	<u>49.88</u>	<u>16.70</u>	<u>27.46</u>	<u>94.04</u>
Alberni-Clayoquot	25.63	15.86	32.36	73.85
Bulkley-Nechako	49.68	6.55	27.77	84.00
Capital	42.41	22.25	33.19	97.65
Cariboo	39.57	10.55	31.92	82.04
Central Fraser Valley	32.99	18.13	32.53	83.65
Central Kootenay	46.91	26.37	26.72	100.00
Central Okanagan	33.48	16.38	10.59	60.45
Columbia-Shuswap	50.92	9.92	28.94	89.78
Comox-Strathcona	44.53	15.15	23.46	83.14
Cowichan Valley	43.71	27.01	33.13	103.85
Dewdney-Alouette	34.53	12.29	41.34	88.16
East Kootenay	52.85	7.87	24.45	85.17
Fraser-Cheam	40.36	19.18	37.59	97.13
Fraser-Fort George	44.63	3.99	23.65	72.27
Greater Vancouver	116.53	24.87	18.38	159.78
Kitimat-Stikine	27.77	6.72	22.60	57.09
Kootenay Boundary	48.95	26.88	12.95	88.78
Mount Waddington	76.06	6.73	6.59	89.38
Nanaimo	45.23	18.37	35.46	99.06
North Okanagan	30.69	14.35	27.91	72.95
Ocean Falls	50.81	6.73	11.84	69.38
Okanagan-Similkameen	45.97	25.50	22.22	93.69
Peace River-Liard	38.28	7.68	38.26	84.22
Powell River	30.49	13.66	33.23	77.38
Skeena A	66.61	5.66	5.71	77.98
Squamish-Lillooet	65.16	12.05	17.02	94.23
Stikine	60.16	64.94	3.19	128.29
Sunshine Coast	56.27	16.91	29.22	102.40
Thompson-Nicola	62.96	7.47	28.29	98.72

Source: Previous Tables and our calculations.

TABLE 25 A                    1976 RESIDENCE TELEPHONE SERVICE LEVELS  
 PER 100 HOUSEHOLDS ESTIMATED  
 IN RURAL AREAS AND COMMUNITIES OF LESS THAN 1,000

Census Division	Single Party	Two- Party	Multi- Party	Residence Main
<u>B.C. TOTAL</u>	<u>45.68</u>	<u>15.47</u>	<u>32.55</u>	<u>93.70</u>
Alberni-Clayoquot	25.22	11.79	24.23	61.24
Bulkley-Nechako	31.87	3.95	40.32	76.14
Capital	42.21	22.25	33.19	97.65
Cariboo	23.44	5.43	47.47	76.34
Central Fraser Valley	32.99	18.13	32.53	83.65
Central Kootenay	45.44	24.22	38.85	108.51
Central Okanagan	33.48	16.38	10.59	60.45
Columbia-Shuswap	26.96	6.39	37.16	70.51
Comox-Strathcona	30.29	12.19	34.06	76.54
Cowichan Valley	35.37	25.25	49.70	110.32
Dewdney-Alouette	34.53	12.29	41.34	88.16
East Kootenay	41.80	5.50	35.44	82.74
Fraser-Cheam	39.63	19.39	42.05	101.07
Fraser-Fort George	38.09	4.58	27.96	70.63
Greater Vancouver	116.53	24.87	18.38	159.78
Kitimat-Stikine	27.77	6.72	22.60	57.09
Kootenay Boundary	36.30	20.32	21.78	78.40
Mount Waddington	73.21	6.46	7.60	87.27
Nanaimo	45.41	15.32	41.09	101.82
North Okanagan	26.07	12.69	28.98	67.74
Ocean Falls	50.81	6.73	11.84	69.38
Okanagan-Similkameen	43.51	25.92	27.57	97.00
Peace River-Liard	26.78	1.99	46.83	75.60
Powell River	30.49	13.66	33.23	77.38
Skeena A	69.43	4.50	3.91	77.84
Squamish-Lillooet	52.23	10.12	24.04	86.39
Stikine	-	-	-	-
Sunshine Coast	55.38	16.44	34.78	106.60
Thompson-Nicola	59.70	7.09	37.50	104.29

Source: Previous Tables and our calculations.

TABLE 25 B                    1976 RESIDENCE TELEPHONE SERVICE LEVELS  
 PER 100 HOUSEHOLDS ESTIMATED  
 IN COMMUNITIES 1,000 - 2,500

Census Division	Single Party	Two- Party	Multi- Party	Residence Main
<u>B.C. TOTAL</u>	<u>65.64</u>	<u>21.38</u>	<u>6.87</u>	<u>93.89</u>
Alberni-Clayoquot	28.41	42.90	86.36	157.67
Bulkley-Nechako	87.62	9.96	7.66	105.24
Capital	-	-	-	-
Cariboo	71.61	31.73	1.25	104.59
Central Fraser Valley	-	-	-	-
Central Kootenay	52.77	27.60	0.92	81.24
Central Okanagan	-	-	-	-
Columbia-Shuswap	118.68	34.90	20.02	173.60
Comox-Strathcona	55.02	12.18	-	67.20
Cowichan Valley	35.70	26.97	1.82	64.69
Dewdney-Alouette	-	-	-	-
East Kootenay	73.42	8.34	4.99	86.75
Fraser-Cheam	-	-	-	-
Fraser-Fort George	79.49	0.85	0.62	80.96
Greater Vancouver	-	-	-	-
Kitimat-Stikine	-	-	-	-
Kootenay Boundary	60.58	28.04	2.77	91.39
Mount Waddington	94.06	8.42	0.24	102.72
Nanaimo	44.43	32.14	10.01	86.58
North Okanagan	59.85	24.77	21.23	105.85
Ocean Falls	-	-	-	-
Okanagan-Similkameen	47.08	33.97	5.35	86.40
Peace River-Liard	77.06	26.88	9.37	113.31
Powell River	-	-	-	-
Skeena A	50.00	12.50	16.29	78.79
Squamish-Lillooet	93.71	16.33	1.48	111.52
Stikine	60.16	64.94	3.19	128.29
Sunshine Coast	60.65	19.22	1.69	81.56
Thompson-Nicola	71.65	8.38	0.14	80.17

Source: Previous Tables and our calculations.

TABLE 25 C                    1976 RESIDENCE TELEPHONE SERVICE LEVELS  
 PER 100 HOUSEHOLDS ESTIMATED  
 IN COMMUNITIES 2,500 - 5,000

Census Division	Single Party	Two- Party	Multi- Party	Residence Main
<u>B.C. TOTAL</u>	<u>71.52</u>	<u>22.99</u>	<u>2.70</u>	<u>97.21</u>
Alberni-Clayoquot	-	-	-	-
Bulkley-Nechako	70.57	13.55	0.78	84.90
Capital	-	-	-	-
Cariboo	70.87	19.03	1.72	91.62
Central Fraser Valley	-	-	-	-
Central Kootenay	49.27	31.75	1.23	82.25
Central Okanagan	-	-	-	-
Columbia-Shuswap	104.23	12.08	5.25	121.56
Comox-Strathcona	88.91	28.51	3.01	120.43
Cowichan Valley	77.84	32.97	1.08	111.89
Dewdney-Alouette	-	-	-	-
East Kootenay	75.60	16.10	1.01	92.71
Fraser-Cheam	46.30	17.49	1.02	64.81
Fraser-Fort George	-	-	-	-
Greater Vancouver	-	-	-	-
Kitimat-Stikine	-	-	-	-
Kootenay Boundary	60.43	35.94	6.24	102.61
Mount Waddington	-	-	-	-
Nanaimo	-	-	-	-
North Okanagan	-	-	-	-
Ocean Falls	-	-	-	-
Okanagan-Similkameen	62.96	10.83	4.84	78.63
Peace River-Liard	-	-	-	-
Powell River	-	-	-	-
Skeena A	-	-	-	-
Squamish-Lillooet	-	-	-	-
Stikine	-	-	-	-
Sunshine Coast	-	-	-	-
Thompson-Nicola	72.85	8.70	4.34	85.89

Source: Previous Tables and our calculations.

TABLE 26 TYPE OF RESIDENCE TELEPHONE SERVICE AS  
 PERCENTAGE OF ALL RESIDENCE TELEPHONES IN 1976  
 IN RURAL STUDY AREA

Census Division	Single Party	Two- Party	Multi- Party
<u>B.C. TOTAL</u>	<u>53</u>	<u>18</u>	<u>29</u>
Alberni-Clayoquot	35	21	44
Bulkley-Nechako	59	8	33
Capital	43	23	34
Cariboo	48	13	39
Central Fraser Valley	39	22	39
Central Kootenay	47	26	27
Central Okanagan	55	27	18
Columbia-Shuswap	57	11	32
Comox-Strathcona	54	18	28
Cowichan Valley	42	26	32
Dewdney-Alouette	39	14	47
East Kootenay	62	9	29
Fraser-Cheam	42	20	38
Fraser-Fort George	62	5	33
Greater Vancouver	73	15	12
Kitimat-Stikine	49	12	39
Kootenay Boundary	55	30	15
Mount Waddington	85	8	7
Nanaimo	46	18	36
North Okanagan	42	20	38
Ocean Falls	73	10	17
Okanagan-Similkameen	49	27	24
Peace River-Liard	46	9	45
Powell River	39	18	43
Skeena A	86	7	7
Squamish-Lillooet	69	13	18
Stikine	47	51	2
Sunshine Coast	55	17	28
Thompson-Nicola	64	7	29

Source: Previous Tables and our calculations.



TABLE 26 A                    TYPE OF RESIDENCE TELEPHONE SERVICE AS  
 PERCENTAGE OF ALL RESIDENCE TELEPHONES IN 1976  
 IN RURAL AREAS AND COMMUNITIES OF LESS THAN 1,000

Census Division	Single Party	Two- Party	Multi- Party
<u>B.C. TOTAL</u>	<u>49</u>	<u>16</u>	<u>35</u>
Alberni-Clayoquot	41	19	40
Bulkley-Nechako	42	5	53
Capital	43	23	34
Cariboo	31	7	62
Central Fraser Valley	39	22	39
Central Kootenay	42	22	36
Central Okanagan	55	27	18
Columbia-Shuswap	38	9	53
Comox-Strathcona	40	16	44
Cowichan Valley	32	23	45
Dewdney-Alouette	39	14	47
East Kootenay	50	7	43
Fraser-Cheam	39	19	42
Fraser-Fort George	54	6	40
Greater Vancouver	73	16	11
Kitimat-Stikine	49	12	39
Kootenay Boundary	46	26	28
Mount Waddington	84	7	9
Nanaimo	45	15	40
North Okanagan	38	19	43
Ocean Falls	73	10	17
Okanagan-Similkameen	45	27	28
Peace River-Liard	35	3	62
Powell River	39	18	43
Skeena A	89	6	5
Squamish-Lillooet	60	12	28
Stikine	-	-	-
Sunshine Coast	52	15	33
Thompson-Nicola	57	7	36

Source: Previous Tables and our calculations.

TABLE 26 B                   TYPE OF RESIDENCE TELEPHONE SERVICE AS  
 PERCENTAGE OF ALL RESIDENCE TELEPHONES IN 1976  
 IN COMMUNITIES 1,000 - 2,500

Census Division	Single Party	Two- Party	Multi- Party
<u>B.C. TOTAL</u>	<u>70</u>	<u>23</u>	<u>7</u>
Alberni-Clayoquot	18	27	55
Bulkley-Nechako	83	10	7
Capital	-	-	-
Cariboo	69	30	1
Central Fraser Valley	-	-	-
Central Kootenay	65	34	1
Central Okanagan	-	-	-
Columbia-Shuswap	68	20	12
Comox-Strathcona	82	18	-
Cowichan Valley	55	42	3
Dewdney-Alouette	-	-	-
East Kootenay	85	10	5
Fraser-Cheam	-	-	-
Fraser-Fort George	98	1	1
Greater Vancouver	-	-	-
Kitimat-Stikine	-	-	-
Kootenay Boundary	66	31	3
Mount Waddington	92	8	-
Nanaimo	51	37	12
North Okanagan	57	23	20
Ocean Falls	-	-	-
Okanagan-Similkameen	55	39	6
Peace River-Liard	68	24	8
Powell River	-	-	-
Skeena A	63	16	21
Squamish-Lillooet	84	15	1
Stikine	47	51	2
Sunshine Coast	74	24	2
Thompson-Nicola	89	11	-

Source: Previous Tables and our calculations.

TABLE 26 C TYPE OF RESIDENCE TELEPHONE SERVICE AS  
 PERCENTAGE OF ALL RESIDENCE TELEPHONES IN 1976  
 IN COMMUNITIES 2,500 - 5,000

Census Division	Single Party	Two- Party	Multi- Party
<u>B.C. TOTAL</u>	<u>73</u>	<u>24</u>	<u>3</u>
Alberni-Clayoquot	-	-	-
Bulkley-Nechako	83	16	1
Capital	-	-	-
Cariboo	77	21	2
Central Fraser Valley	-	-	-
Central Kootenay	60	39	1
Central Okanagan	-	-	-
Columbia-Shuswap	86	10	4
Comox-Strathcona	74	24	2
Cowichan Valley	70	29	1
Dewdney-Alouette	-	-	-
East Kootenay	82	17	1
Fraser-Cheam	71	27	2
Fraser-Fort George	-	-	-
Greater Vancouver	-	-	-
Kitimat-Stikine	-	-	-
Kootenay Boundary	59	35	6
Mount Waddington	-	-	-
Nanaimo	-	-	-
North Okanagan	-	-	-
Ocean Falls	-	-	-
Okanagan-Similkameen	80	14	6
Peace River-Liard	-	-	-
Powell River	-	-	-
Skeena A	-	-	-
Squamish-Lillooet	-	-	-
Stikine	-	-	-
Sunshine Coast	-	-	-
Thompson-Nicola	85	10	5

Source: Previous Tables and our calculations.

TABLE 27.1 NUMBER OF COIN AND BUSINESS TELEPHONES PER 1,000 PEOPLE IN RURAL STUDY AREA

1976

Census Division	Estimated R.S.A. 1976 Population	COIN TELEPHONES		SINGLE PARTY BUS.		MULTI-PARTY BUS.	
		Total Number	Number/ K Pop.	Total Number	Number/ K Pop.	Total Number	Number/ K Pop.
<u>B.C. TOTAL</u>	<u>780,487</u>	<u>2,356</u>	<u>3.02</u>	<u>29,555</u>	<u>37.87</u>	<u>2,474</u>	<u>3.17</u>
Alberni-Clayoquot	9,313	46	4.94	255	27.38	46	4.94
Bulkley-Nechako	29,974	122	4.07	1,503	50.14	127	4.24
Capital	39,119	102	2.61	1,143	29.22	97	2.48
Cariboo	41,041	132	3.22	1,550	37.97	201	4.90
Central Fraser Valley	71,158	84	1.18	2,050	28.81	148	2.08
Central Kootenay	38,913	108	2.78	1,641	42.17	156	4.01
Central Okanagan	24,756	30	1.21	446	18.02	39	1.58
Columbia-Shuswap	34,759	144	4.14	1,733	49.86	166	4.78
Comox-Strathcona	33,387	100	2.30	815	24.41	84	2.52
Cowichan Valley	44,042	132	3.02	1,923	43.66	131	2.97
Dewdney-Alouette	27,581	28	1.02	617	22.37	101	3.66
East Kootenay	25,561	80	3.19	990	38.60	112	4.37
Fraser-Cheam	30,216	124	4.10	1,064	35.21	120	3.97
Fraser-Fort George	28,264	62	2.19	710	25.12	72	2.55
Greater Vancouver	64,386	143	2.22	3,556	55.23	40	0.62

..... continued

TABLE 27.2 NUMBER OF COIN AND BUSINESS TELEPHONES PER 1,000 PEOPLE IN RURAL STUDY AREA, concluded

1976

Census Division	Estimated R.S.A. 1976 Population	COIN TELEPHONES		SINGLE PARTY BUS.		MULTI-PARTY BUS.	
		Total Number	Number/ K Pop.	Total Number	Number/ K Pop.	Total Number	Number/ K Pop.
Kitimat-Stikine	10,016	27	2.70	234	23.36	34	3.39
Kootenay Boundary	21,460	134	6.24	697	32.48	30	1.40
Mount Waddington	10,260	65	6.34	672	65.50	7	0.68
Nanaimo	31,053	78	2.51	1,300	41.86	108	3.48
North Okanagan	29,547	46	1.56	639	21.63	97	3.28
Ocean Falls	3,641	13	3.57	169	46.42	15	4.12
Okanagan-Similkameen	29,595	98	3.31	1,245	42.07	75	2.53
Peace River-Liard	24,214	93	3.84	963	39.77	134	5.53
Powell River	5,758	12	2.08	124	21.54	16	2.78
Skeena A	6,991	33	4.72	373	53.35	9	1.29
Squamish-Lillooet	15,340	86	5.61	788	51.37	54	3.52
Stikine	1,134	6	5.29	59	52.03	1	0.88
Sunshine Coast	11,978	79	6.60	635	53.01	49	4.09
Thompson-Nicola	36,940	148	4.01	1,661	44.96	148	4.01

Source: Previous Tables and our calculations.

TABLE 28

## RESIDENCE AND BUSINESS EXTENSIONS IN SELECTED CENSUS DIVISIONS

1976

Census Division	Estimated R.S.A. 1976 Population	Business Extensions	Bus. Ext./ 1,000 Pop.	Estimated R.S.A. 1976 Households	Residence Extensions	Res. Ext./ 100 Hhlds.
Bulkley-Nechako	29,974	1,289	43.00	8,212	2,142	26.08
Columbia-Shuswap	34,759	1,570	45.17	11,035	2,691	24.39
Cowichan Valley	44,042	1,690	38.34	14,161	4,507	31.83
Mount Waddington	10,260	531	51.75	2,957	1,021	34.53
Ocean Falls	3,641	153	42.02	1,055	244	23.13
Skeena A	6,991	298	42.63	1,821	577	31.69
Squamish-Lillooet	15,340	572	37.29	4,538	677	14.92
Stikine	1,134	14	12.35	251	28	11.16
Sunshine Coast	11,978	554	46.25	4,589	1,162	25.32

Source: B.C. Telephone, Okanagan Telephone and CN Telecommunications.

### III C Population Projections

The change over time in any population depends on two factors: natural increase (excess of births over deaths) and net migration. Over the past one hundred years, B.C.'s population has been increasing at a rate greater than that of Canada as a whole and this accelerated rate of growth has depended on net migration rather than on natural increase. Such a pattern of growth is not found in any other region of Canada. The importance of net migration to B.C.'s population growth is perhaps accentuated by the relatively low rate of natural increase in the province but the rate of in-migration both from other provinces and from outside has nevertheless been high - higher than any other province in each 10 year period between 1931 and 1971, according to Statistics Canada Profile Studies (Cat. 99-701).

As far as interprovincial net migration is concerned, B.C. has been the strongest gainer in these moves, according to figures available for the period 1956 to 1971. In the 1966-71 period, B.C. not only had maintained the highest rate of in-migration but also had the highest actual number of immigrants, even over Ontario which has shown increasing gains in this type of migration. The period 1971-77 may well show that Ontario gained the greatest number of interprovincial migrants although B.C. may have maintained its position as the province with the highest rate of in-migration. It is also possible that Alberta has gained population from interprovincial moves at a rate higher than in the past and that gain may have been at the expense of B.C.'s population growth from migration. B.C.'s net migration gain was at a rate of 54 people per 1,000 in 1961-66 and at a rate of 65 people per 1,000 in the

1966-71 period.

In relation to foreign immigration, B.C. has received fewer people from this than from interprovincial migration each year from 1961 to 1971. So, while both types of in-migration have been gains for B.C., the main contribution has come from other provinces, not from outside Canada. However, an estimate made for the 1974-75 year (in the document "Internal Migration and Immigrant Settlement" published by the Manpower and Immigration Department, Ottawa) shows that migration to B.C. from other provinces could have fallen below the migration from other countries. If the estimate proves correct and if this is to be a new trend because of the poor economic climate in the province, then estimates of future population growth in B.C. may have to be reduced accordingly.

Within B.C., population is unequally divided between urban and rural residents. In 1971, urban population was calculated as 75.5% of the province's total population and this percentage may have increased slightly by 1976. However, the number of people in rural areas may increase even though their share of the provincial total may decline slightly or remain as it was in 1971. The definitional split between urban and rural has caused difficulties for census-takers in the past and it is as well to remember there is no hard and fast division between the two categories so that people formerly considered rural can be reclassified as urban in a new Census count. In this study, we have taken a broader definition of rural than the Census definition and our perusal of the preliminary figures for 1976 have led us to estimate that the population in our rural study area has grown by 22% in the 1971-76 period. This is higher than the 13% increase which the provincial population as a whole is



estimated to have grown from 1971 to 1976 and much higher than the 7.8% which Metropolitan Vancouver has grown. The City of Vancouver itself is supposed to have declined in population by 3.8%.

Even if the 1976 Census data was available now, it would not provide much assistance in predicting population growth over the next 10 or 15 years in rural B.C. There are too many unpredictable factors to allow for a realistic projection; migration into B.C. in the past has maintained a high level but economic conditions strongly influence such population movement and B.C.'s economic buoyancy has been poor since the early 1970's and could remain that way for another 5 or more years. Much of the economic activity in the province depends on the primary industries and, as we have seen in reviewing the rural areas, economic activity there is particularly dependent on a few large-scale industries, all of which expand or contract their activities in response to international price structures and other financial decisions not controlled within B.C. -- or indeed within Canada.

In April of 1977, B.C.'s unemployment rate was reported as 9.5% by Statistics Canada. Within the province's labour force, variations in the unemployment rate occur between industries and the highest rate in April was in the logging, fishing and mining industry grouping: a rate of 20.9%. The majority of these workers live in the rural study area and such an unemployment level will cause, in the longer term, the movement of workers either to other industries with better chance of employment or else to other provinces. The fact that employment in certain industries has been more easily obtainable in Alberta in the past few years will undoubtedly have caused migrating workers to go there in preference to B.C. This would mean not only that people from provinces east of Alberta would choose that

province over B.C. and also that B.C. people would move to Alberta. Both these choices would reduce the net migration figures to B.C. and an annual growth rate of only 2-3% in B.C.'s total population is likely to prevail while the regional economy remains depressed.

Unemployed workers who are able to find employment in another industry will probably not leave the province but the movement of rural residents to urban areas because of this is hard to estimate. It has been our observation that rural areas around certain urban centres - Prince George, Kamloops, Kelowna and Quesnel, for example - have had an increased rate of population growth in recent years and their more diversified economy will suffer less from the generally depressed conditions than will those rural areas which depend wholly or largely on one of the primary industries. Communities such as Ocean Falls and Mackenzie gain or lose population very directly as a result of the expansion or construction of their single industry although these communities are becoming fewer than in the past. As a general trend in the rural study area, we expect the population to grow at a rate higher than the provincial average, possibly at 3.5% per year; this rate will be accelerated, we believe, when the general economic climate in the province improves.

### III D Summary and Conclusions

In examining telephone service data at and below the exchange level, and in contrasting the extent to which telephone service is provided to various types of rural areas, we have observed several factors at work. Firstly, the distance of a rural area from a large urban centre is a major factor. The rural fringes of a large urban centre usually receive the same service (or close to the same) as the urban areas. From a major exchange plant, it is often possible to extend service to the rural edges without the establishment of a new exchange, at least in the initial stages of settlement. Secondly, the degree of dispersion of the population affects the ability of the telephone company to service the area; for example, people spread along a highway, even for long distances, are more likely to be served than the same number of people spaced lightly over many square miles on a network of minor roads.

Thirdly, the speed of population growth and the telephone company's ability to forecast that speed accurately affects the rate of service extension in a rural area. This factor is related fairly closely - although not identical to it - to a fourth factor: the newness of settlement in a rural area. An area which has had people living there for a long period of time will often have a higher frequency of service than a new area with a population which has not yet settled into a permanent community.

In the B.C. region, many new and old communities depend heavily on one of the resource-based industries for its economic survival; the industries are prone to sharp upswings and downturns of activity because of financial

and political decisions made outside the region - indeed, often outside the country. The result of such a dependence on primary resource industries is that the expansion of population in the rural areas is often a very erratic one, subject to sudden setbacks. The rural areas which seem to show a consistent pattern of growth are those which are adjacent to the major and medium-sized urban centres - centres not dependent on any one industry and having a broader economic base than the resource industries alone. The Lower Mainland area around Vancouver is, of course, the main draw in the region but rural populations also seem to be growing around Victoria, Nanaimo, Kelowna, Kamloops and Prince George.

In selecting typical rural areas in the region, we found many areas in which it would be useful to conduct more detailed examinations of the telephone service and its extension to outlying areas. However, in reducing the selection to the minimum, we have decided that six areas could reflect adequately all the main characteristics we consider to be typical of rural areas of B.C.

1) Kelowna area (Central Okanagan): an area of rapid population growth and one which depends on the urban core for expansion; the economic base is varied and should grow steadily over the next 10 years. We chose this rural fringe area instead of the Lower Mainland fringe because it would be more like other such centres in the region; Vancouver is not like anywhere else because of its sheer size and economic dominance in B.C.

2) Port Alice - Port Hardy area (Mount Waddington): this is the northern tip of Vancouver Island, where there are five small communities grouped fairly closely together but separated from the nearest major centre

of Campbell River by about 185 miles over secondary roads. The communities depend on fishing and logging, apart from Holberg which also has a Canadian Armed Forces base. This area is not enjoying rapid growth but is expanding at a steady pace, with the communities developing a greater permanence. Whenever communities are established further north on the mainland (apart from Ocean Falls and a few others now in existence) their development would probably be similar to the pattern occurring at the northern end of Vancouver Island. This is the only coastal area we have selected.

3) Hudson's Hope - Fort St. John area (Peace River-Liard): this area has an interesting mixture of economic strengths and weaknesses. Hudson's Hope is an example of the boom and bust communities of northern B.C. which depend on hydro-electric dam projects for their raison d'etre. Now, Hudson's Hope is at the peak of a dam construction project and its population will be diminishing over the next 5 years. Fort St. John competes with Dawson Creek as the focus of transportation activities for the agricultural and other products of the area. North of Fort St. John is the beginning of the Alaska Highway pattern of population settlement and the southern part of our selected area is on the edge of the prairie-type grain farming district, a unique part of B.C.

4) Williams Lake area (Cariboo): This is basically an agrarian area with communities both along the main highway north and south of Williams Lake but also east and west along minor roads; the area is generally lightly populated over a large area. The area immediately around Williams Lake seems to be gaining population faster than is the area generally. Besides

agriculture (especially livestock production) and some secondary manufacturing, there is forestry activity in this area also.

5) Hazelton-Smithers area (Kitimat-Stikine, Bulkley-Nechako): forestry is extremely important here and most communities are located on or near a major highway which threads its way through mountain ranges. This area is not near an urban centre of 5,000 or more people and it does not depend on local markets for its prosperity. While some communities have been in existence for most of this century, others (Houston and Granisle) are quite new and telephone service capacity for them could be planned adequately in advance of population influx. The area also has several of the larger Indian communities in it.

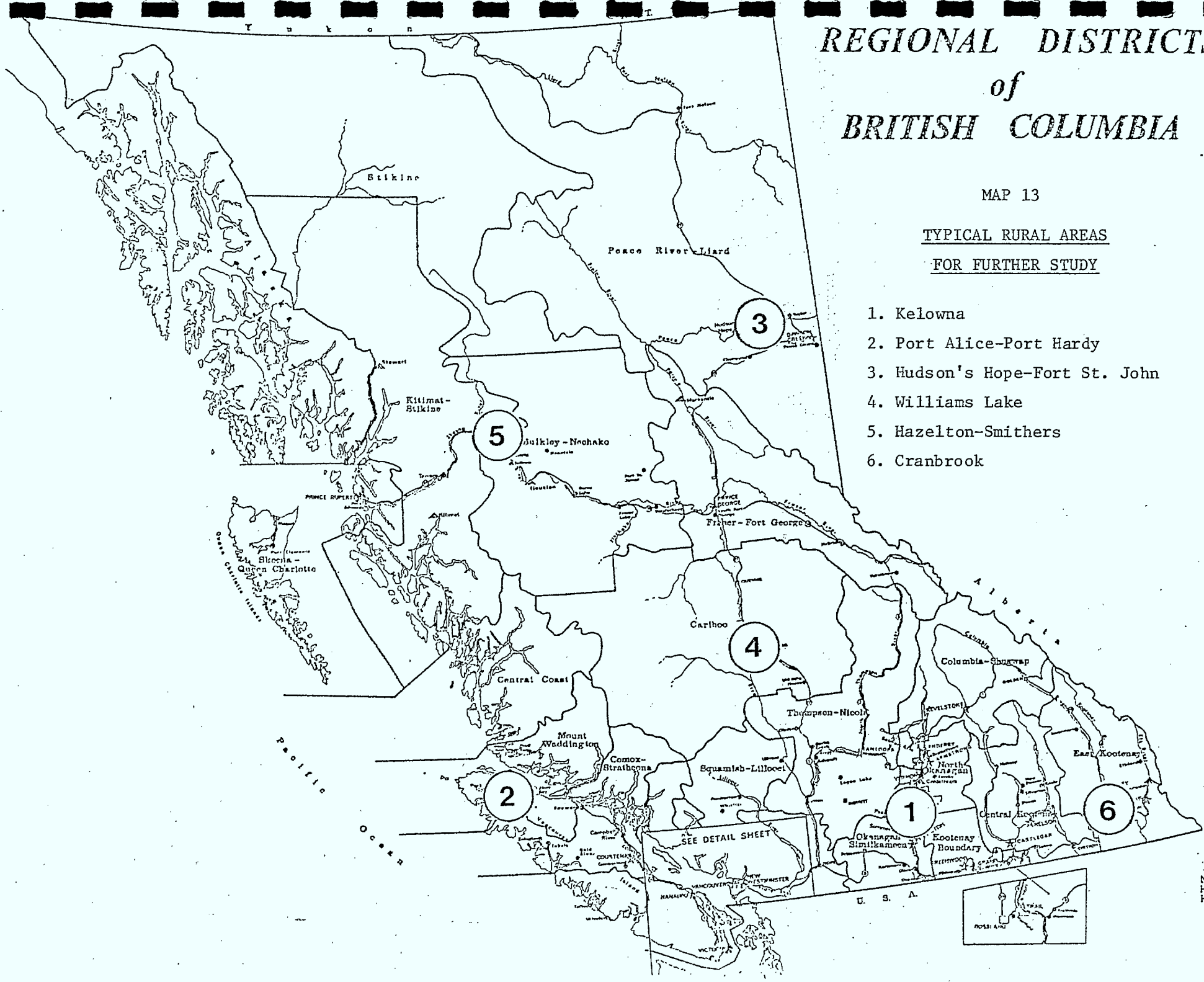
6) Cranbrook area (East Kootenay): this area looks to Alberta for much of its consumer requirements, not Vancouver. It is also an area more heavily dependent on mining activity for its livelihood than anywhere else in the region. At present, some communities in the area appear to be growing quite fast but, with reliance on an industry which is subject to wide fluctuations of activity, steady growth in the area is unlikely. Because of the mountainous nature of the area's terrain, settlements are concentrated in the narrow valleys and population is not spread over many square miles.

# REGIONAL DISTRICTS of BRITISH COLUMBIA

MAP 13

TYPICAL RURAL AREAS  
FOR FURTHER STUDY

1. Kelowna
2. Port Alice-Port Hardy
3. Hudson's Hope-Fort St. John
4. Williams Lake
5. Hazelton-Smithers
6. Cranbrook



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SOIL AND TERRAIN

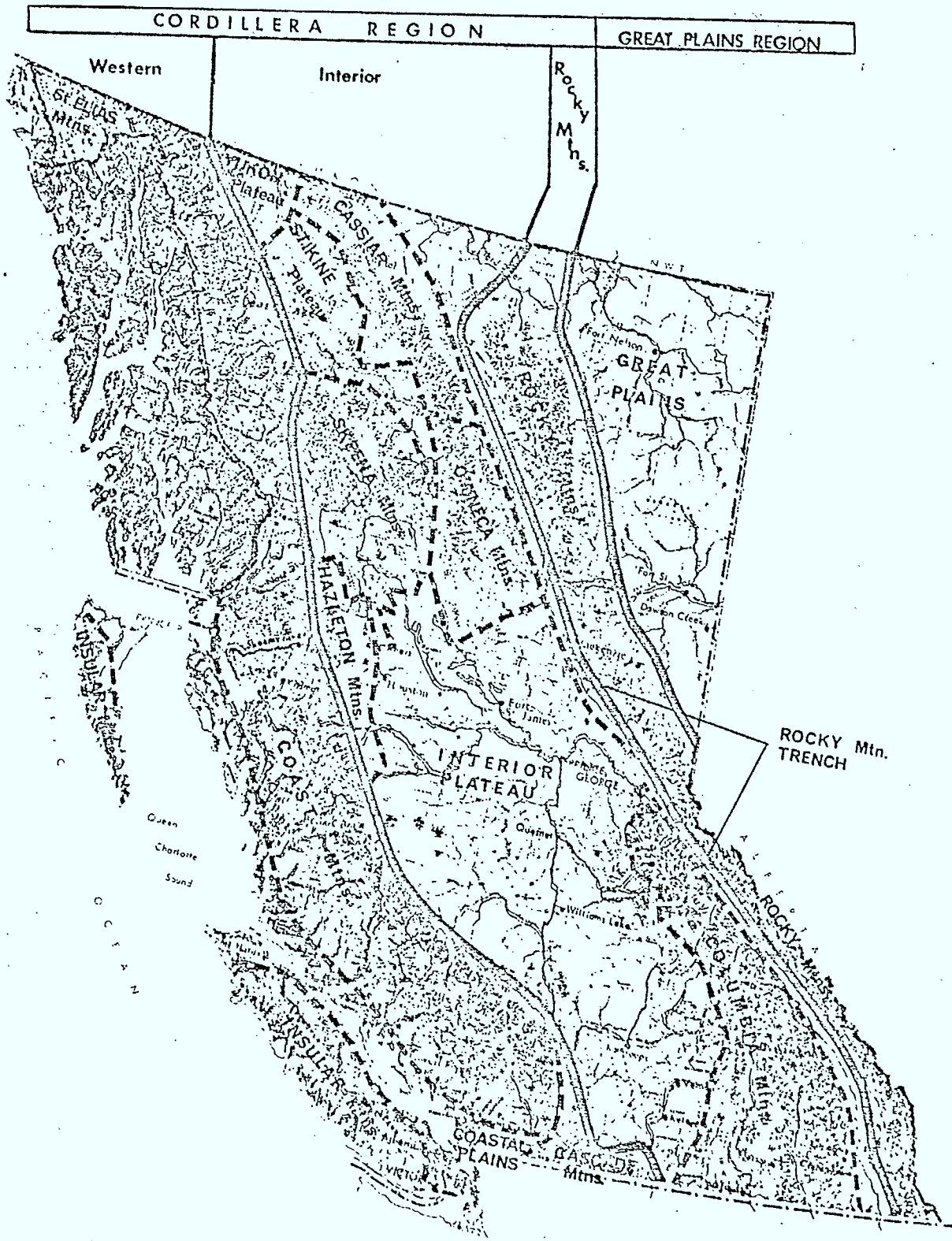
British Columbia, third largest province in Canada, rests almost exclusively within the Canadian Cordillera Region. Only the north-east corner of B.C. (about one-tenth of its overall area) lies within the Great Plains Region. Map 14, provides some indication of the mountainous nature of this province.

Because of the peculiar nature of this mountainous region, the climate and soils of B.C. are as varied as its terrain. Climate variation, for example, can be illustrated by the fact that while extensive ice fields are found in the higher mountains, desert conditions can be reached in some of the interior valleys.

Soils in British Columbia as shown by Map 15, similarly reflect this pattern of variation. Soils range from brown grassland soils developed under less than 10 inches of annual precipitation to strongly leached (podzolid) soils developed under dense forest and 150 inches of annual precipitation. Their formations also range from acidic parent materials to soils derived from almost pure calcium deposits.

Although the scale of the maps reproduced for this report are not suitable for showing the extreme complexity of these patterns of variation, they do indicate broad geographic relationships of some of the major physiographical and soil groups found in British Columbia.

PHYSIOGRAPHY



From: British Columbia, Department of Economic Development,  
 "British Columbia Manual of Resources and Development"  
 (Victoria, November 1974), page 13.



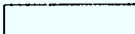
SOILS

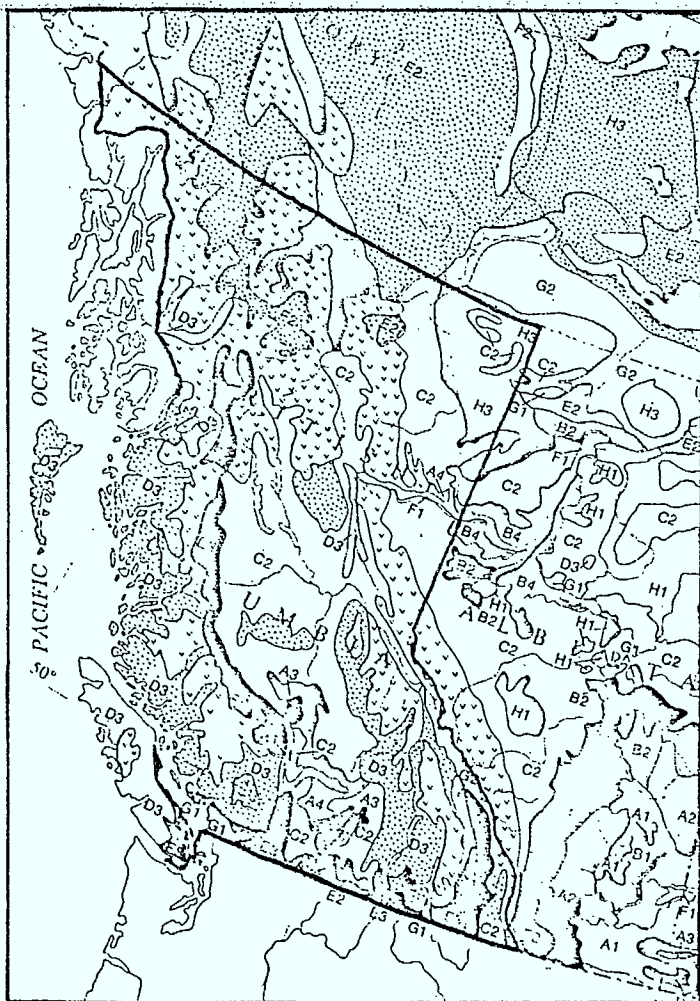
NOTE. The soils represented on the map are identified at the Order, Great Group or Subgroup levels of the *System of Soil Classification for Canada*.<sup>1</sup> The map does not reflect the true complexity of the national classification system which consists of 8 Orders, 23 Great Groups, 165 Subgroups and further sub-divisions. The map scale does not permit the separate identification of all Great Groups or Subgroups but provides for their inclusion within the correct Order. The letters used to identify the Orders, and the numerals used to identify Great Groups and Subgroups are particular to the map, and are not a part of the Classification nomenclature.

In addition to the soil areas delineated on the map according to the classification, certain "Land Types" are recognized. They are defined as "Dominantly Rockland" and "Rocky and Stony Phases", signified on the map by overprinted symbols.

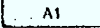
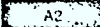
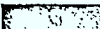
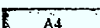
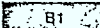
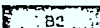
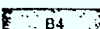
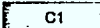
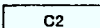
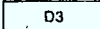
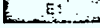
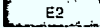

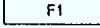
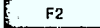
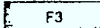
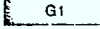
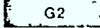
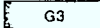
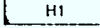
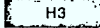
<sup>1</sup> Canada, Department of Agriculture, 1970. *The System of Soil Classification for Canada*, (prepared by the Canada Soil Survey Committee) Ottawa, Queen's Printer for Canada.

LAND TYPES

-  DOMINANTLY ROCKLAND
-  ROCKY AND STONY PHASES  
(soil areas characterised by excessive stoniness and/or rock outcrops)
-  GLACIERS



ORDER GREAT GROUP OR SUBGROUP

- A: DOMINANTLY CHERNOZEMIC
  -  BROWN CHERNOZEMIC
  -  DARK BROWN CHERNOZEMIC
  -  BLACK CHERNOZEMIC
  -  DARK GRAY CHERNOZEMIC
- B: DOMINANTLY SOLONETZIC
  -  BROWN SOLONETZ\*
  -  BLACK SOLONETZ\*
  -  SOLOO
- C: DOMINANTLY LUVISOLIC
  -  GRAY BROWN LUVISOL
  -  GRAY LUVISOL
- D: DOMINANTLY PODZOLIC
  -  HUMO-FERRIC POOZOL
- E: DOMINANTLY BRUNISOLIC
  -  MELANIC BRUNISOL
  -  EUTRIC BRUNISOL
  -  OYSTRIC BRUNISOL
- F: DOMINANTLY REGOSOLIC
  -  ORTHIC REGOSOL\*
  -  CUMULIC REGOSOL\*
  -  CRYIC REGOSOL\*
- G: DOMINANTLY GLEYSOLIC
  -  HUMIC GLEYSOL
  -  GLEYSOL
  -  CRYIC GLEYSOL\*
- H: DOMINANTLY ORGANIC
  -  FIBRISOL
  -  CRYIC FIBRISOL\*

\* Subgroup level of soil classification

This map is a reduced adaptation of the "Soil Map of Canada" produced by the Soils Research Institute, Canada Department of Agriculture and the Canadian National Soil Survey Committee.

Compiled by J.S. Clayton and I.B. Marshall, Canada, Department of Agriculture, 1972.





