

COWICHAN REGION

RESTRICTED

SOCIO-ECONOMIC FACTORS AFFECTING LAND USE

in
the

COWICHAN REGION

December
1971

DEPARTMENT OF INDIAN AFFAIRS
and NORTHERN DEVELOPMENT

VANCOUVER
BRITISH COLUMBIA

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~~RESOURCES DEVELOPMENT SECTION,
DEVELOPMENT SERVICES DIVISION,
INDIAN-ESKIMO ECONOMIC DEVELOPMENT BRANCH,
DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN
DEVELOPMENT, CENTENNIAL TOWER.~~

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KNOW WHERE TO BORROW IT AGAIN.

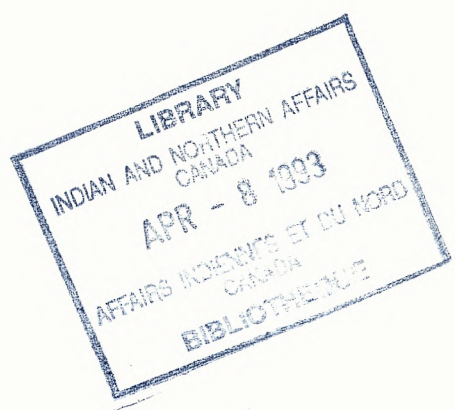
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AND NORTHERN DEVELOPMENT
VANCOUVER, B. C.

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Research Officer, Surveys and Mapping Branch, Department of Lands,
Victoria, B.C.

Public Information Officer, British Columbia Forest Service,
Victoria, B.C.

Economics and Statistics Branch, Department of Industrial Development,
Trade and Commerce, Victoria, B.C.

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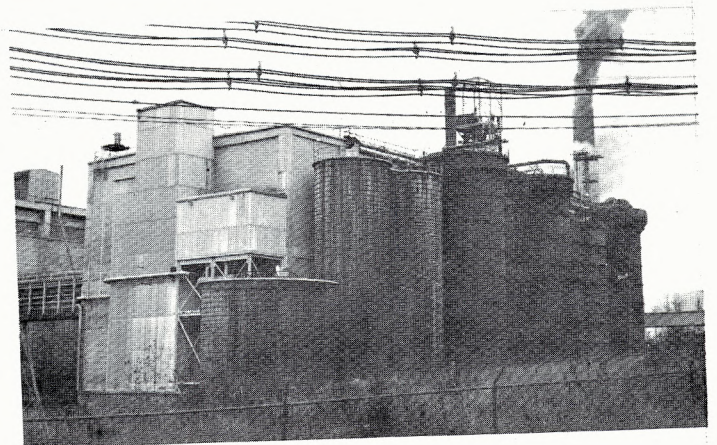
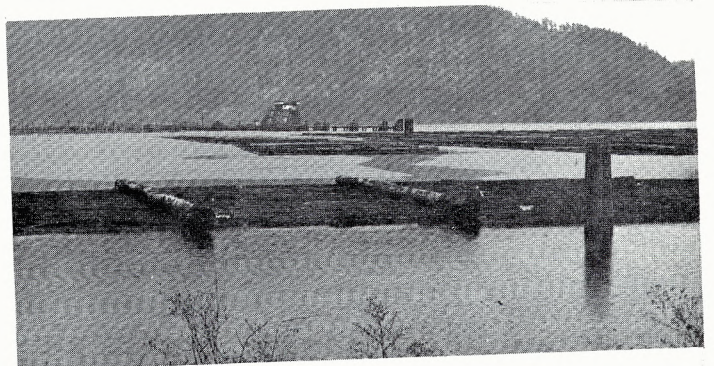
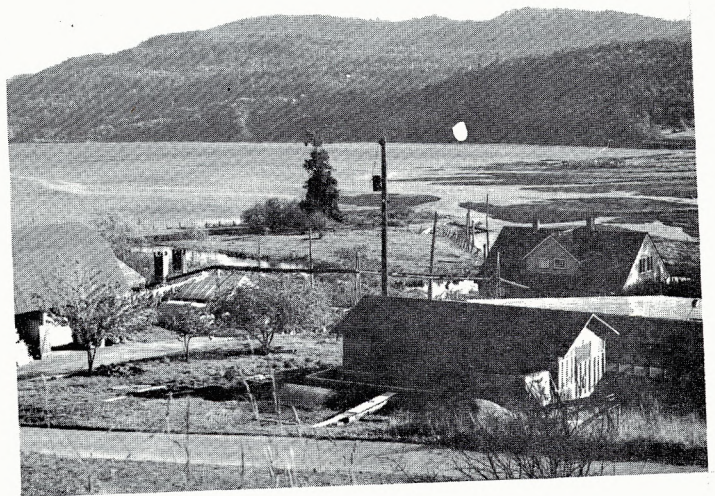
STUDY PARTICIPANTS

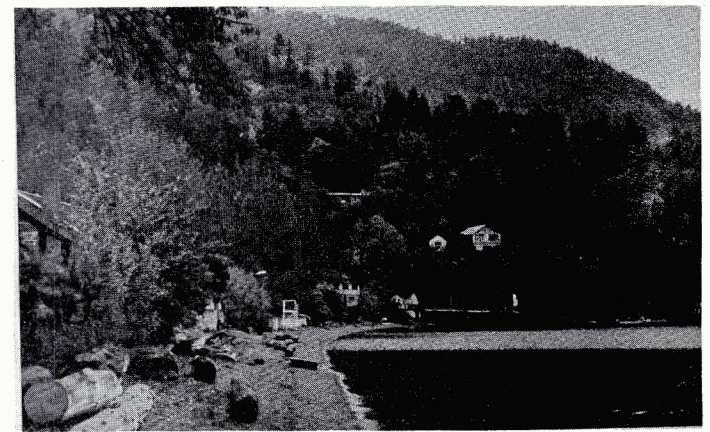
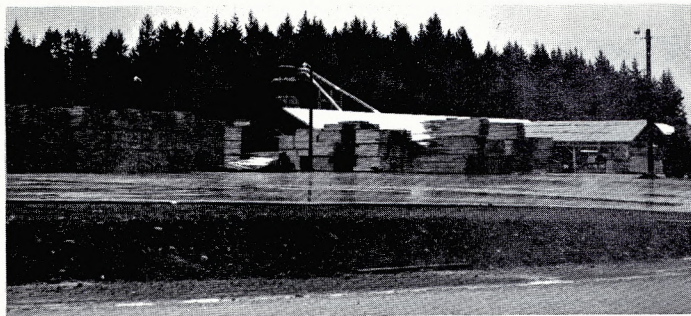
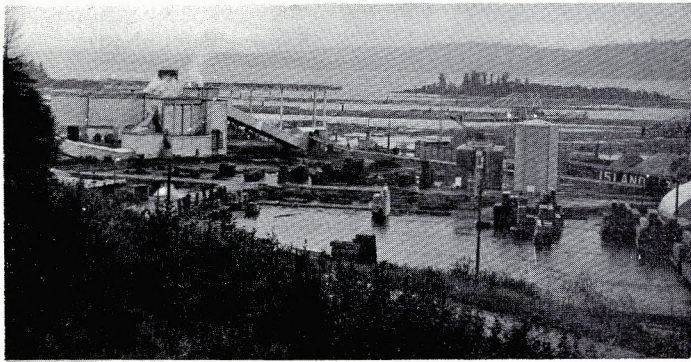
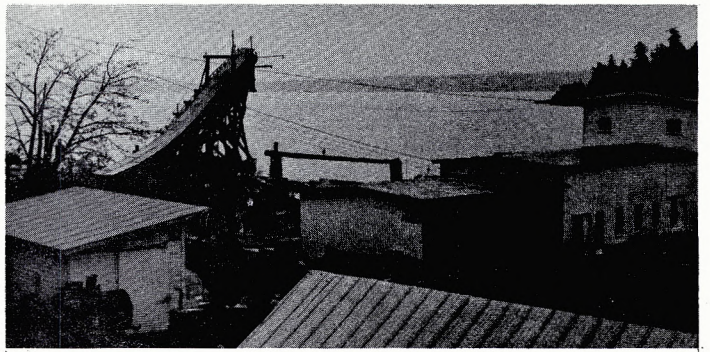
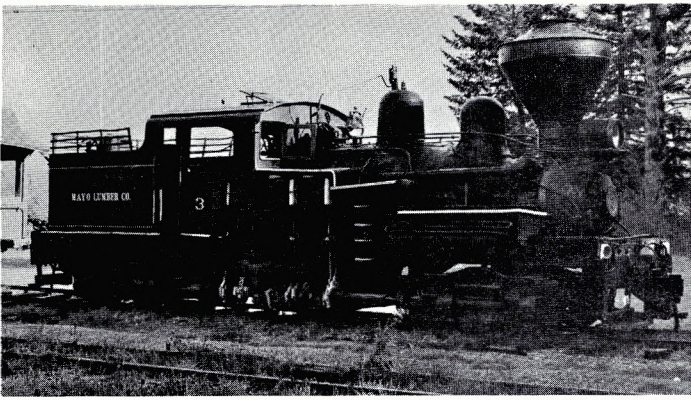
H. D. Kent, R.P.F., A.A.C.I.
Land Use Services
Kelowna, B.C.

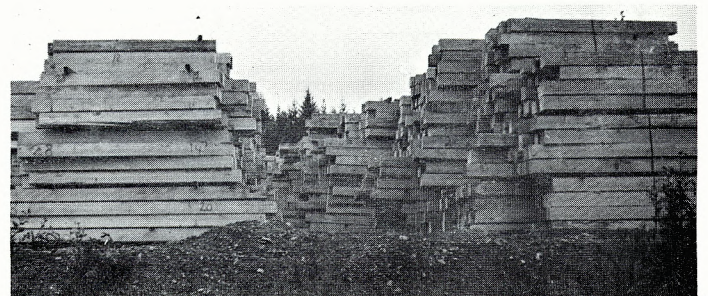
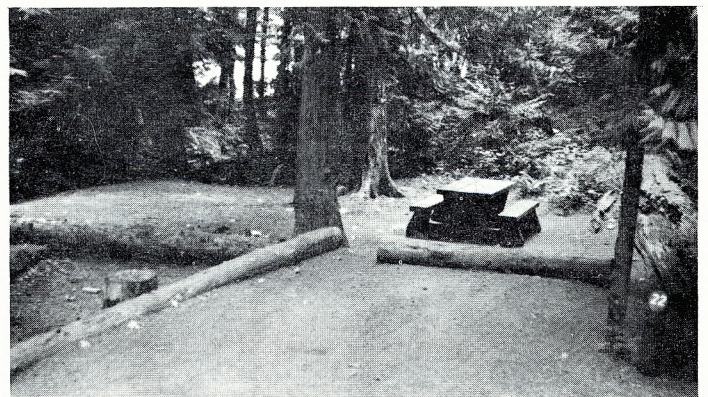
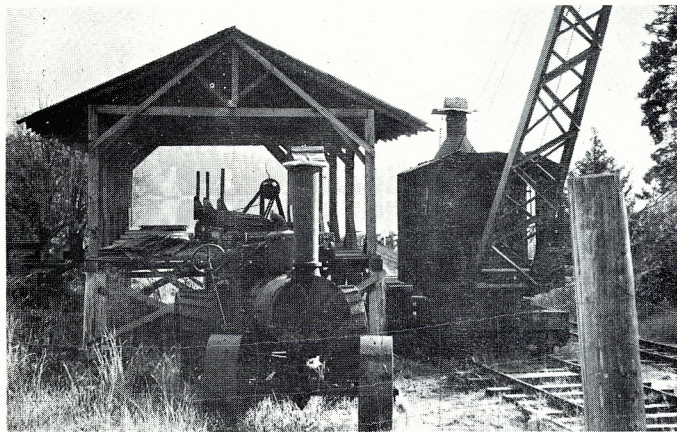
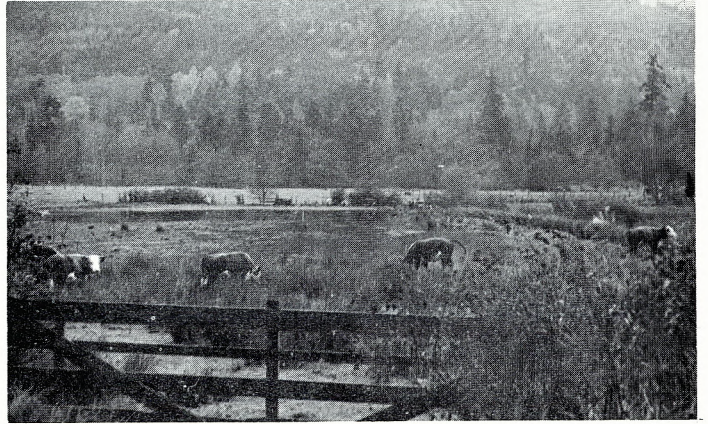
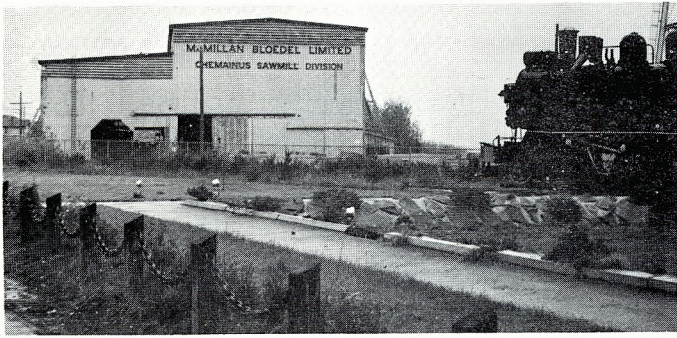
R. N. Hitchman, B.S.A., D.P.A., P.Ag.
Consultant
Vancouver, B.C.

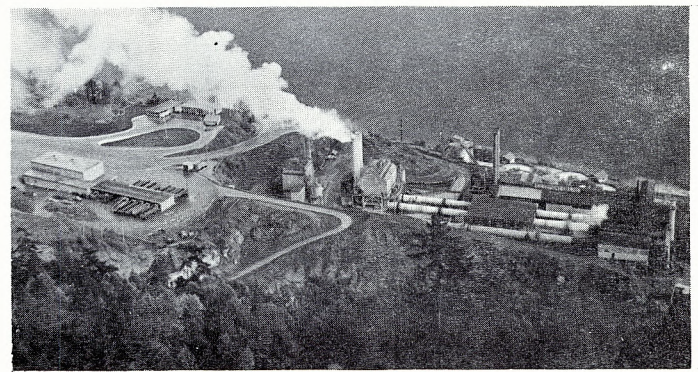
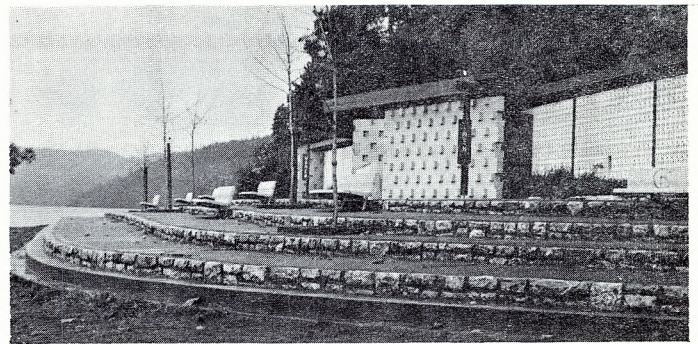
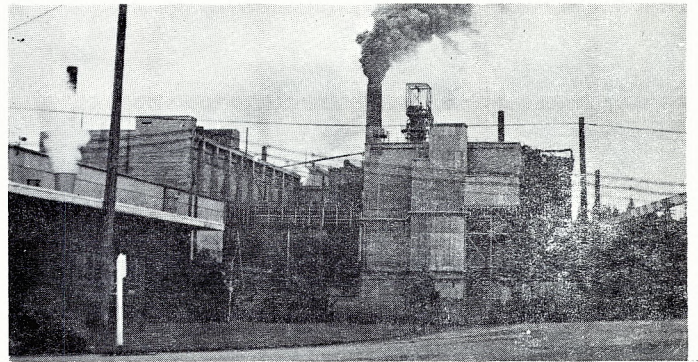
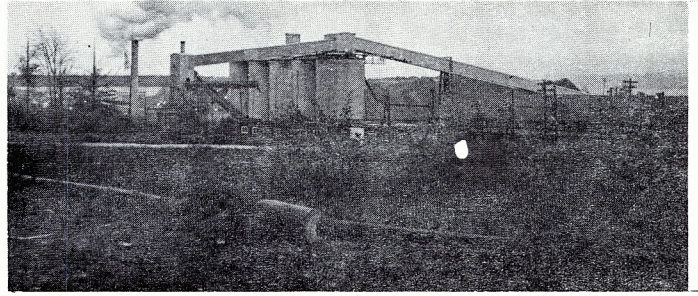
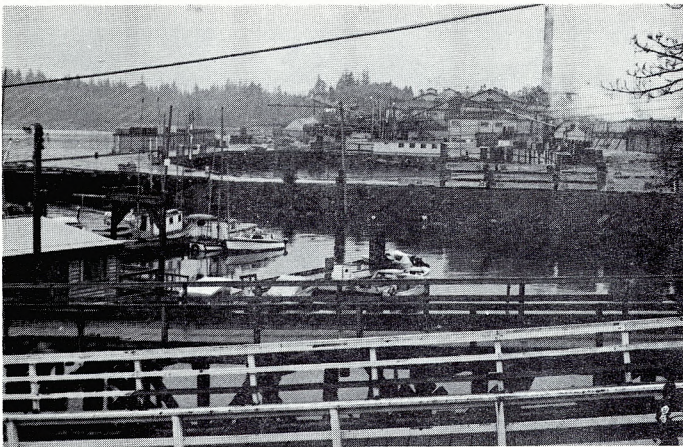
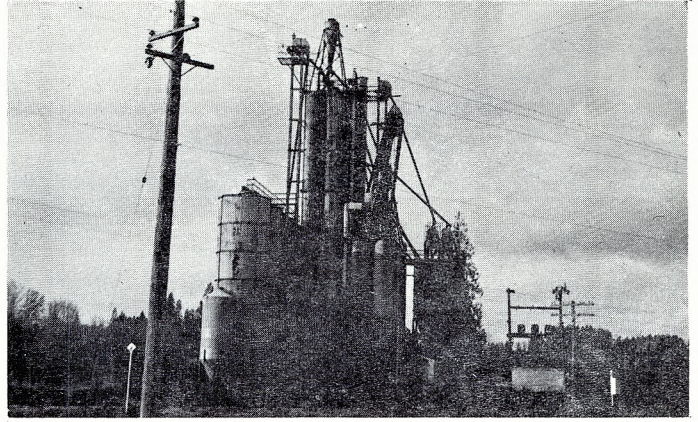
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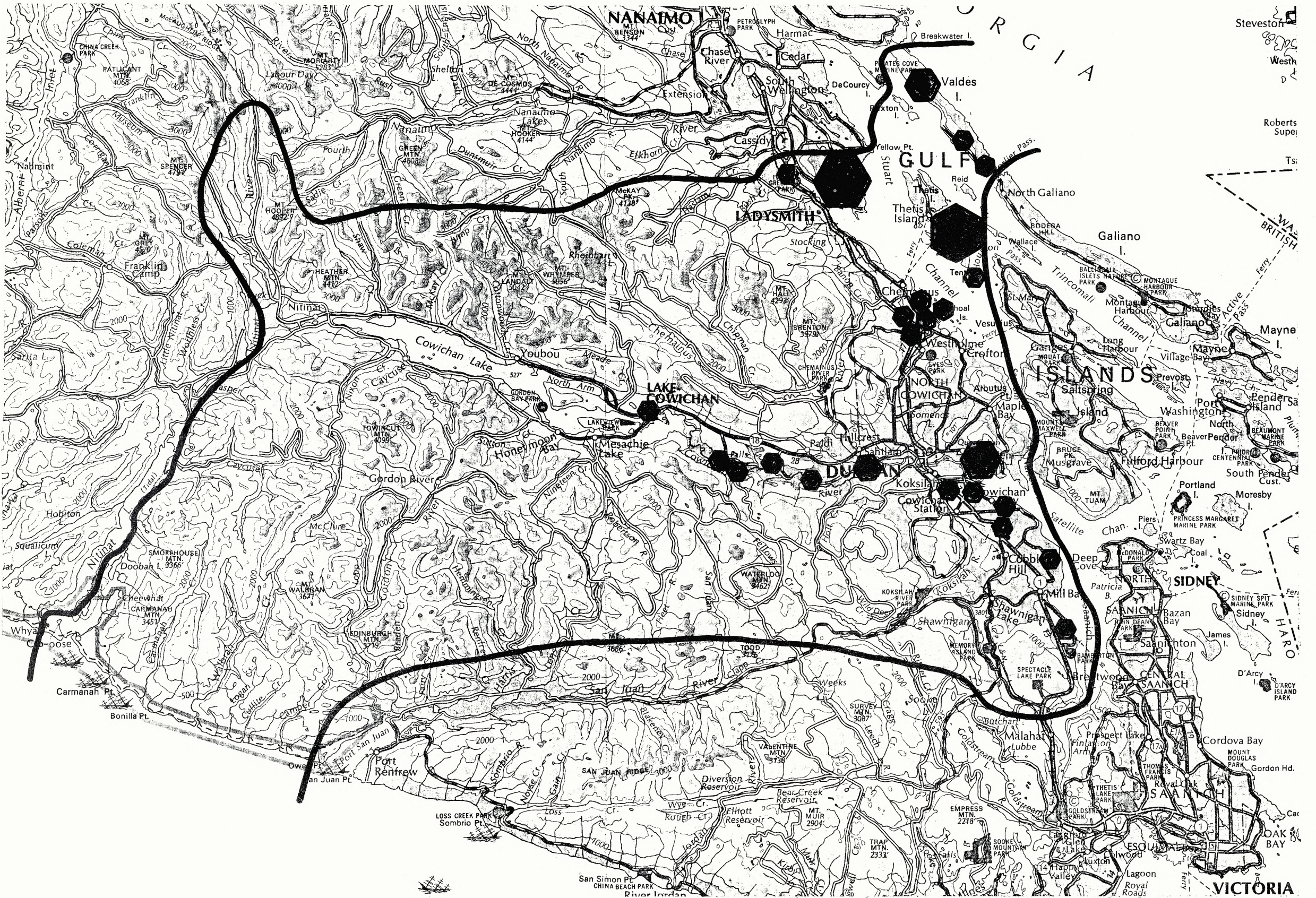




THE COWICHAN REGION
(In Relation to British Columbia)



Map Showing
LOCATION OF INDIAN RESERVES
in Relation to
BOUNDARY OF COWICHAN REGION
1 inch = 6 miles



PURPOSE AND SCOPE

An accurate analysis of regional socio-economic conditions is an integral part of a land use report, a development feasibility study, or an appraisal of market value. A land use report essentially relates physical characteristics of a specific parcel of land to socio-economic conditions in order to determine the highest and best use of the parcel. A development feasibility study examines the capability of a parcel of land to produce an income if developed for a specific use. An appraisal of market value or an appraisal of loss or damage caused by a taking of land begins with an analysis of regional socio-economic data. This analysis is the one basic component of an appraisal which influences all other calculations.

Basically, these three exercises:- land use studies, land appraisals and development feasibility studies, are involved with establishing land use priorities which must be compatible with regional socio-economic conditions. In fact, it is not unusual to abandon a development project after completing a regional socio-economic study. If socio-economic conditions do not invite profitable development of a parcel for a specific use, there is nothing to be gained by continuing the study to include a detailed analysis of the engineering aspects of the proposal.

The purpose of this report, therefore, is to examine the resources of the region; to offer a historical account of the development of these resources; to examine significant existing developments within the region and finally to co-ordinate these findings to reach significant conclusions regarding future trends. Finally, these conclusions will relate to the use and development of land within the region in order that land managers, such as individual Indian Bands, can use the information as an aid in deciding whether or not a land appraisal, a development proposal or a land use study would be beneficial. Further, it is anticipated that this presentation can be used as a reference document by land use consultants and appraisers in the completion of assignments contracted with the Band or the Indian Affairs Department. When several such assignments have been commissioned within a region, it is repetitious and costly for each researcher to retrace the same routes as his colleagues in search of socio-economic data. He can use this document as a reference text and briefly

comment on its content in his report, thus reducing the bulk of material presented and the final cost of the project.

The usefulness of the document will decrease as time passes. Current statistics and predictions of future trends will eventually become history and the report will be obsolete. The development of the Cowichan Valley region is still heavily influenced by established industrial activity within the region. Its growth has been slow but steady as industry expands and new service industries become established. Duncan has emerged as the region's commercial hub with the entire regional population traveling to that centre for shopping, business or amusement purposes. Although the region possesses attractive recreational features which represent good potentials for future development, recreation and tourism have not emerged as strongly as they have in the neighbouring regions, Nanaimo and Victoria. Undoubtedly, the region's pace of development will eventually be influenced by the development momentum experienced to the north and south. At the present time the danger of premature development of land exists and, therefore, a report of this nature is timely.

This report does not attempt to analyze world-wide economic conditions as they affect the value and use of land within the region. It is recognized, however, that international economic conditions have a direct effect on the sale and marketing of goods produced within the region and, therefore, significant international economic developments will affect socio-economic conditions of the region. For example, the attitude that various nations have towards the International Common Market, the rise and fall of the interest rate in the United States or the exchange rate of the Canada-U.S. dollar all have a significant effect on the development of the region.

It is emphasized that the scope of the report is restricted to only those socio-economic factors that affect the value and use of land and, therefore, the data will have limitations if used for other purposes.

PART I

GENERAL ANALYSIS

DEVELOPMENT HISTORY

It is reported that the first white settler in "the valley of the Big Trees" was John Humphreys. He settled on a tract of land near Quamichan Lake in 1858 when Vancouver Island became a Crown colony. At that time Cowichan Valley was described as the best agricultural land on Vancouver Island, containing over 50,000 acres of potentially arable land. From 1858 to 1859 potential settlers applied for nearly 10,000 acres paying a price of 1 pound per acre to the Hudsons Bay Co. Very few purchasers took up residence until 1862 when the S.S. "Hecate" arrived at Cowichan Bay from Victoria with 100 prospective farmers anxious to set their hands to the plow. During the same period 212 persons were granted land in the vicinity of Chemainus and 29 others on Salt Spring Island. The Chemainus settlement failed because of the lack of arable land.

Although a trail had been constructed from Victoria to Cowichan most supplies were transported by steamer to Cowichan Bay and Maple Bay.

Sawmills were being erected to produce lumber for the growing community but it was difficult to transport lumber to the building sites and, therefore, most of the early buildings were comprised of logs. The first sawmill, at Sayward, on Mill Bay had difficulty in selling its product until a road was built from the Bay into the valley to serve the settlers. At this time lumber was being produced in significant volumes in Victoria and finished boards along with window sashes and nails were shipped to Cowichan to assist the settlers in the construction of more comfortable homes.

The first school was constructed near Somenos in 1863 with an enrollment of 23 pupils, and the first Anglican Parish was established in 1859. The same year the Methodists were established at Maple Bay.

That year the Cowichan, Salt Spring and Chemainus Agricultural Society was formed. Its first fall exhibition took place in 1869 supported by 67 subscribers. It is the oldest agricultural society in the province. Wheat for flour was ground in a gristmill in 1866 and sawmills were constructed at Mill Bay and Chemainus shipping lumber regularly to Victoria. Tourism had its start in 1864 when the John Bow Inn located at Cowichan Bay and another inn at Maple Bay which at that time were main ports.

With Confederation in 1871 Cowichan elected members to vote in the Provincial and Dominion House. The total population at that time had grown to 486 people.

On June 18, 1873, North Cowichan was incorporated as a district municipality because they were unsatisfied with the Provincial road building crews that were sent up from Victoria each summer. Thus, the third oldest district municipality in British Columbia was born. The Municipal Act was passed in Victoria the previous year.

A wharf was constructed at Maple Bay in 1875 at a cost of \$1,000 and thus Maple Bay was established as the main port for receiving supplies and shipping produce from the Cowichan Valley. By 1879 the total assessment roll for the district reached a value of \$56,950.

The main mode of transportation during the 1870's was the steamer to and from Victoria. A foot trail existed from Victoria to Cowichan but it was certainly not suitable for transporting produce. In 1875 a cattle trail was opened from Cowichan to Nanaimo but it was not until 1884 that a wagon road was completed to Victoria and in 1879 a telegraph line between Victoria and Nanaimo was completed. The first wagon was brought into the district in 1870 and gradually the farmers made the change over from oxen to horses.

A saw for felling trees was brought into the area in 1884. A small amount of logging and sawmilling was being done but generally timber was considered as a nuisance particularly since the price of lumber was only \$6 per thousand board feet. The first sawmill was constructed in 1878 by a Mr. Sutton at Genoa Bay and a timber lease in the Cowichan Valley, covering 7,069 acres, was awarded to Mr. Sutton at "Big Lake". Actual logging operations never started in the area until 1884, a few years after the Thomas Askew mill had been constructed at Chemainus. The Chemainus mill is probably the oldest in the province today with a continuous history.

The completion of the Esquimalt-Nanaimo Railway in 1886 influenced the economy of the district significantly. The station was established at Duncan and since that time this community has grown as the commercial centre of the district. Town lots were surveyed, residences constructed and businesses were quickly attracted to the area. With the railway came the remittance man. Duncan apparently attracted more than their

share of the black sheep of aristocratic families.

Although farming and settlements had not taken hold at Cowichan Lake, a road was constructed from Duncan to that community after the railway was constructed. By this time logging was becoming fairly active at Cowichan Lake and a hotel was constructed. By 1885, several sawmills were established in the district including the David Holmes Mill on Holmes Creek and the Chemainus Mill which sold several times until 1889 when it was converted to one of the largest and most modern plants on the continent by the Victoria Lumber and Manufacturing Co. In 1889 this mill was cutting 60,000 board feet per day. In 1890, the new mill had a capacity of 500,000 board feet and employed about 150 men working ten hour shifts. Victoria Lumber and Manufacturing Co. put the first "steam donkey" in the woods in 1892. Shawnigan Lake Lumber Co. was prospering during this same period. The following year a wide spread economic depression closed the mill for four years.

Not satisfied with an economy supported by only agriculture and logging, the early settlers devoted much time to prospecting but it was not until 1896 that a significant copper showing was uncovered. However, about this time mining interests were directed to the Yukon and copper deposits of the Cowichan country were not developed.

With trading and commerce centred around Duncan, Maple Bay lost its glory as a trading centre but continued to grow as a popular spot for summer campers as the district moved into the twentieth century.

The district's new newspaper, the "Weekly Enterprise", was established in 1900 and that same year lots were being surveyed adjacent to the Lenora Mine. At that time it was predicted that Lenora would be a future Rossland of British Columbia. Also in 1900 the Tye Copper Co. commenced operation with a three compartment shaft extending to the 1,400 foot level. The Lenora Mine was producing about 100 tons monthly at \$20 to \$30 per ton, and the settlement adjacent to the mine supported a population of 300 people. Other smaller mines flourished and to 1966 it was estimated that total output from all mines had reached 280,000 tons. However, a slump in the copper price on the world market closed the mining camp on Mount Sicker in 1906. By this time a smelter had been constructed on Osborne Bay and Crofton had been established as a main commercial centre serving the miners and their families. After 1906 the mining community

nearly disappeared completely and prior to the shutdown mining was considered to be the valley's main industry with agriculture "coming along" and lumbering in third position.

Agriculture, although it rated only secondary importance, was still the main stay of the valley. In 1910 the Cowichan Creamery handled over 37,000 dozen eggs and over 150,000 dozen in its second year of operation. Sheep raising was common and fruit production was doing well. The advent of stumping powder and the arrival of a stumping machine in 1906 caused a flurry in agriculture development.

Although sawmilling was only given third rating in the valley, by 1910 several mills had become established in addition to the large mill at Chemainus. Quamichan Mill Co. was established on Somenos Lake with other mills at Cobble Hill, Cowichan Station, Westholm, along with the Cowichan Lumber Co. mill at Genoa Bay. Cowichan Lake was becoming known as the main logging area of the valley and as populations grew three stagelines served the community and a railway spur was extended to the town in 1913. During this year the automobile was becoming a familiar site on Duncan streets and history reports that in 1912 a driver was fined for exceeding the 10 m.p.h. speed limit. Much of the business section of Duncan was burned by its "great fire" of 1911, however, by 1913 the area was rebuilt and in fact, more businesses became established.

As early as 1906 the village of Duncan was served by a water system but it was not until 1912 that power was provided. That same year the city of Duncan with a population of 1,500 people received its Letters Patent and the first mayor, Kenneth Duncan, was elected by acclamation. During the first 14 years of the century the valley prospered. Many well to do settlers moved to the district and spent their money freely. Development slackened considerably during the following war years as most of the young men answered the call. Cowichan claimed the highest percentage of enlistments of any community in the country. 1,066 Cowichan soldiers, sailors and nurses served in the war with three men earning military crosses.

Near the end of the war two of the most prominent lumbering industries became established. In 1917, Hillcrest Lumber Co. established in the Sahtalam District and in August of the same year the Mayo Lumber Co. acquired tracts of E and N timber in the vicinity of Sahtalam. In 1923,

the Victoria Lumber and Manufacturing Co. increased their mill to a daily cut of 400,000 board feet. Two months later the mill, valued at around \$1 million, was destroyed by fire. The mill was replaced by a modern electric operation and by 1926 Hillcrest Lumber had increased its output to 100,000 feet daily matching the increased output recently achieved by Genoa Bay Co. The minimum wage for mill workers at this time (1926) was 40¢ an hour.

Agriculture, during this period, was still "plugging along". Seed growing had come into prominence and some interest was being shown in fox ranching. Poultry and rabbits were other products displayed at the fall fair.

After the first World War mining was revived. In 1915 the Blue Grouse Copper claim at Cowichan Lake was discovered and later became the property of Cowichan Copper Co. In 1927 it is reported that the mine produced \$1,800 profit for 5 weeks of operation using two men and a horse. B.C. Manganese Co. employed 11 men on their properties at "Hill 60". The Lenora Mine was reopened with 12 employees.

Industry and agriculture stagnated and in several cases slumped during the depression years commencing in 1929. However, prosperity returned in 1942 during the second World War and the logging and saw-milling industries expanded again. Western Forest Products built a mill at Honeymoon Bay on Cowichan Lake with a capacity of 250,000 feet per shift or 115 million feet per year. Hillcrest Lumber constructed a new mill in 1943 on Mesachie Lake with a daily capacity of 280,000 feet. By 1944 the village of Cowichan was incorporated with a population of 660 people. Truck logging was replacing railway logging and in 1955 a road was constructed to Caycuse and extended onto Nitinat in 1957. B.C. Forest Products installed chippers in 1951 and trucked chips to the new Harmac mill at Nanaimo and the era of the great fleets of chip trucks commenced. By 1959 Lake Cowichan village claimed a population of 2,225 people; Youbou, 1,350; Honeymoon Bay, 600; and Mesachie, 300.

Crofton was revived when construction of the B.C. Forest Products Pulp Mill started on Osborne Bay. It came into operation with a capacity of 500 tons of bleached sulphate pulp per day in 1958.

The historic sawmill at Chemainus changed hands twice since the second World War and was finally purchased by MacMillan-Bloedel Co. in 1958. The

mill was producing half million f.b.m. daily at that time.

Thus, the logging and sawmilling industries became firmly established as the dominant employer and income producer within the region. However, mining was once again revived in 1950 when Cowichan Copper modernized their plants on the Old Blue Grouse property and other copper claims. By 1954, Cowichan Copper Co. Ltd. had opened up good veins of copper with a fair amount of silver, and lesser amounts of gold. In 1958, a floatation mill was constructed producing 10,700 tons of copper concentrate that year. A company owned wharf was constructed at Hatch Point where docking facilities can accommodate 15,000 ton deep sea freighters. 400 tons per hour were loaded by belt conveyers and the ore was exported to Japanese smelters. By this time, over 100 men were permanently employed in the Cowichan Copper operation.

In the late 1950's and early 1960's urban communities developed throughout the entire region as subdivisions were laid out and new people moved into the area. Maple Bay finally realized its dream of becoming an urban community when the original townsite laid out in 1852 was finally occupied during the late 1950's.

Duncan emerged as the commercial and distribution centre for the region but not without several planning problems. The sewer system was finally installed in 1950 but the presence of the railway traversing through the town centre, the location of highway No. 1, completed in 1950, and the large Indian Reserve crowding the village boundaries to the south proved to be a hindrance to good planning.

Today, the city of Duncan is still faced with land shortage problems and it is reported that the village is "filled up". Proposed boundary extensions, negotiations with the Indian Band to the south and cooperation with the Regional District administration are common topics for discussion at council meetings. In the meantime, North Cowichan, Cobble Hill and the area immediately outside Duncan's city boundary is increasing in population and the problem of supplying services to quickly expanding communities is facing the Regional District. In due course, the city's problems will be the Regional District's problems and vice versa, and it is anticipated that orderly development will eventually emerge.

PHYSICAL DESCRIPTION

The study area covers the southern extremity of Vancouver Island excluding the Victoria region in the extreme south. On the east coast, it extends northward to Ladysmith and southward to Malahat including the communities of Shawnigan Lake, Mill Bay, Cobble Hill, Cowichan Bay, Duncan, Maple Bay, North Cowichan, Crofton, Westholme and Chemainus.

The region extends westward to the southwest coast of the island and includes the village of Lake Cowichan and the entire drainage basin of Cowichan Lake. Several communities such as Mesachie Lake, Honeymoon Bay, Caycuse, Nitinat and Youbou, lie adjacent to the lake and were established originally as logging camps or sawmill camps.

That portion of the region lying adjacent to the southwest coast of the island includes a portion of the historical west coast lifeline trail extending from Fort Renfrew to Nitinat River.

The region covers an area measuring nearly 60 miles by 25 miles and contains approximately 14,050 square miles. Although urban development has been restricted to the eastern seashore, the inland areas supports a vast network of roads which have been constructed over the years by the logging industry.

GEOLOGICAL HISTORY

Most of the eastern coastal lowland of Vancouver Island is composed of shale, sandstones and conglomerates. Generally the island is underlain by volcanic rocks which are rich in calcium, iron and magnesium. Limestone occurs frequently along with chert, argillite, tuff and greywacke. Shales and sandstones are other common materials.

The soils found today have resulted from several glacial actions which moved across southwest British Columbia. The last two glacial invasions were responsible for most of the present deposits.

Prior to the last glaciation the eastern coast of Vancouver Island was buried by rivers in finely cut deep channels before being scoured by the glacial action. This last movement of glacier ice deposited much of the sand and gravel which now exists along the east coastal bench. This glaciation period saw the depression between Vancouver Island and the mainland filled with ice. As the ice sheet melted rivers formed beneath the

ice and along its margins. When the ice completely disappeared an irregular surface of ridges, humps and hollows and terraces composed of gravels and sands remained as washouts from these streams. The sea entered the Strait of Juan de Fuca after the glaciers retreated and it is believed that there was an upheaval since the retreat of the glaciers because marine deposits have been found 400 feet above sea level near Nanaimo and as high as 500 feet above sea level at Qualicum. Shells and marine deposits similar in character to those now found along the southern coast of Alaska would suggest that climate at that time was much different than it is today. The seashore in its present location has existed for several thousand years and significant deltas and flat flood plains have developed at the mouths of most larger rivers.

TOPOGRAPHY AND DRAINAGE

The mountains of Vancouver Island and extending north to the Queen Charlotte Islands form the Insular Mountain Range. The seaway between the island and the mainland is referred to as the Coastal Trench. Most development on the island has been restricted to a narrow corridor lying between the east coast and the foothills of the mountains and is commonly referred to as the Coastal Plain. The Cowichan region reaches from the Coastal Plain on the east coast of the island, westward to the west coast and includes the southern extremity of the Insular Mountain Range. This mountain range, which forms the "backbone" of Vancouver Island contains peaks exceeding 6,000 feet in height in the central portion of the island, moderating to 4,000 feet in the southern portion. The Cowichan region contains very few peaks exceeding 4,000 feet in height.

The Coastal Plain contains an undulating surface with a rugged coastline characterized by wave-cut cliffs, steep promontories and rocky islands or islets offshore. Major rivers have formed deltas at their mouths with a Kettle-like topography developed between the main river drainages. The ridges and depressions and rolling moraines present a very heterogeneous distribution of soil types as described later in the text. Cowichan Lake and Cowichan River form the main depressional area running east and west through the center of the region while Nitinat Lake, a tidal lake, forms the west boundary of the region. The San Juan River follows the south boundary of the region with a low mountain range lying between Cowichan

Lake and the San Juan River.

SOILS

Climatic and soil conditions have permitted a more viable agricultural economy in the Cowichan region than in the Nanaimo region. Although the variation in climatic conditions are not very significant between the two regions, the 1959 Soil Survey shows that much larger homogenous soil types prevail in the Cowichan area than in the Nanaimo region. A description of the main soil phases within the region is as follows.

The most extensive soil phase occurring within the region is the Shawnigan gravelly sandy loam. The Soil Survey mapped 79,000 acres of this soil phase, most of which occurs within the Cowichan region. It is found most extensively between Mill Bay and Shawnigan Lake, along the northern benches of the Cowichan River and between Ladysmith Harbour and Chemainus. Several isolated patches are found between Crofton and Duncan. Malahat Indian Reserve No. 12 is comprised mostly of this soil type. It is described as a compact gravelly sandy loam glacial till containing a moderate number of cobbles and stones. A light yellowish brown permeable granular gravelly sandy loam overlays a compact but permeable gravelly sandy loam till. A very limited number of acres have been cultivated. Topography, high cost of clearing, stoniness and low fertility are factors which will limit extensive agricultural development. It is described mainly as a forest soil producing some of the higher forest site indexes on the island.

Probably the second most extensive soil type within the region is the Fairbridge silt loam which sometimes ranges to a silty clay loam. It occurs most extensively along the south slopes to Cowichan Bay, on the bench lands on both sides of the Cowichan River, west of Duncan and between Somenos Lake and Quamichan Lake. Fingers of the phase can be found meandering through that area west of Somenos Lake to the foot of the mountains. This phase is well represented within Cowichan Indian Reserves No. 1, 2 and 3. It is best described as brown to light yellowish brown permeable silty clay loam overlying a pale brown blocky permeable silty clay loam. Stoniness or gravel phases are seldom encountered. These soils are rated

as highly suitable for general agricultural purposes even though fertility and phosphorous content is low. The soil responds favourably to recommended fertilizer application.

A fairly extensive area of Dashwood loamy sand or gravelly loamy sand lies west of Shawnigan Lake. Other isolated patches are located west of Mill Bay and south of Fuller Lake. They are recognized as a yellowish brown loose permeable gravelly loamy sand overlying a gray, often mottled, very slowly permeable gravelly sandy loam till or marine clay. The stone content is variable. The stoniness, coarse texture, low fertility and low moisture holding capacity render this soil unsuitable for agricultural purposes. They are classed as a good forest soil.

The Qualicum loamy sand or gravelly loamy sand is not found too frequently within the region, however, a fairly extensive patch has been mapped in the vicinity of Chemainus. The bottom land adjacent to the Cowichan River supports this soil type. It is characterized by a yellowish brown to pale brown loose very permeable loamy sand or gravelly loamy sand overlying a pale brown or gray loose sand or gravel. It is submarginal for agricultural purposes and very few acres are presently developed. Organic matter, nitrogen and phosphorous contents are low. Irrigation and the application of commercial fertilizers are essential for economic production.

The Chemainus fine sandy loam or silt loam and clay loam will be of most interest to Indian Bands within the region. A large part of Cowichan Indian Reserve No. 1 and 6 contains this soil type. It is found most extensively in the vicinity of Duncan and near the mouth of the Chemainus River. It is characterized by a dark brown granular permeable fine sandy loam to clay loam overlying a grayish brown permeable stratified alluvium. These soils are described as being highly fertile and productive, high in organic matter and nitrogen content, and moderately well supplied with phosphorous. In poorly drained areas this soil type is not suitable for agriculture unless adequately drained or dyked. Mixed farming, dairy farming, potatoes and other truck crops and vegetable seeds have been grown successfully on this soil series.

Other soil series occurring within the region are too limited in extent to warrant discussion. However, the Haslam shaly loam, occurring fairly extensively in patches north of Duncan is being farmed successfully

and is characterized by a dark brown granular shaly loam overlying a yellowish brown subangular blocky and very permeable shaly loam. Most of this soil series north of Duncan is unsuitable for agricultural purposes because of droughtiness, low fertility and the frequency of rock outcrops. Those selected areas which are being farmed contain a deep solum over shale.

FOREST COVER AND NATURAL VEGETATION

The climax forest type within the region is considered to be the Douglas Fir, Western Hemlock and Salal association. The ideal sites for this climax type are well drained uplands where there is little or no lateral movement of moisture. Under extreme dry conditions lodgepole pine sometimes occurs along with Arbutus closer to the seashore.

On the medium to fine textured soils with a greater moisture holding capacity or where ground water accumulates sword fern is associated with the climax type indicating an extremely high growing site. Douglas Fir stands sometimes yield 20 M.c.f. per acre on such sites.

Muck and peat soils generally produce Western Red Cedar, Red Alder, and Skunk Cabbage associations.

Alluvial soils generously provided with moisture usually support Western Red Cedar, Grand Fir and Maiden Hair fern associations.

These associations characterize virgin timber types but since most of the mature timber has been logged from the region very few classical examples of these associations can be found. Alder, Willow and Maple have become established over most of the logged areas. These are generally short lived species which will eventually give way to the coniferous forest after 30-40 years.

CLIMATE

A variety of climatic conditions prevails throughout the region. Data from three recording stations is presented in the following schedule. Duncan, at 28 feet above sea level, will vary from the station at Cowichan Bay which sits at 340 feet above sea level. Cowichan Lake station is removed somewhat from the moderating influences of the seashore and is located 580 feet above sea level.

Duncan and Cowichan Bay do not enjoy as much sunshine as Victoria but in a full year they receive approximately 500 hours more than Cowichan Lake. Further, Cowichan Lake at 1,462 hours per year is low relative to most other regions of the province. This would be of significance from a recreational viewpoint.

Further, Cowichan Lake receives twice as much rainfall as Duncan and Cowichan Bay and three times as much as Victoria. In the winter months it snows twice as much as Cowichan Lake as it does at Duncan. The total number of days with measurable precipitation does not reach the above portions and, therefore, it is concluded that violent downpours occur more frequently at Cowichan Lake than they do at Duncan.

Mean daily temperatures do not vary significantly between Victoria and the three Cowichan stations. In fact Duncan and Victoria are very nearly the same but the average summer temperature is 5 degrees higher at Duncan while the average winter temperature is 2 degrees lower. Cowichan Lake's average temperatures are 3 or 4 degrees lower than Duncan and Victoria during any month of the year. It is interesting to note that early pioneers referred to the Cowichan Valley as "the warm valley" when the weather reports actually show average temperatures to be less than Victoria while summer temperatures exceed those at Victoria only slightly.

From a recreational viewpoint tourists in search of sunshine and rainless days would certainly not venture to the Cowichan Valley. The chances, however, of enjoying moderate temperatures with no rain and a reasonable amount of sunshine in the Duncan neighbourhood is fairly good but certainly not as favourable as Victoria.

From an agricultural viewpoint, the likelihood of crop damage from

a late spring frost is more likely at Duncan than it is at Cowichan Bay or Cowichan Lake. Further, the likelihood of an early fall frost is greater at Duncan than it is at Cowichan Bay or Cowichan Lake. Victoria on the other hand has, on occasion, enjoyed a full year with no frost.

CLIMATIC NORMALS

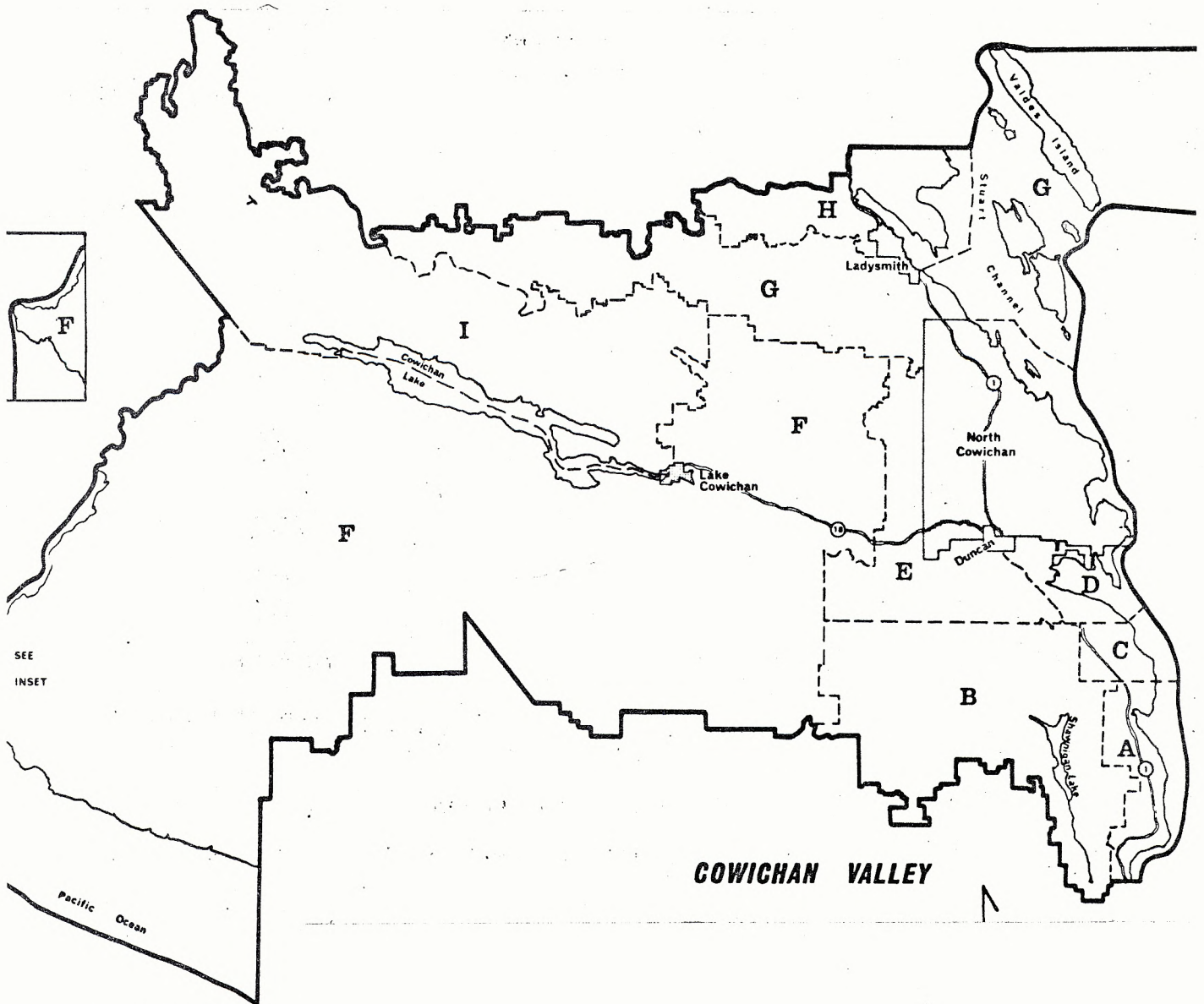
(from Canada Department of Transport, Meteorological Branch)

	Duncan 28' a.s.l.	Cowichan Bay 340' a.s.l.	Cowichan Lake 580' a.s.l.
Hours with bright sunshine	--	1,829	1,462
Earliest, last spring frost	Mar. 28	Feb. 21	April 16
Latest, last spring frost	June 21	May 1	May 31
Earliest, first fall frost	Sept. 15	Oct. 18	Sept. 29
Latest, first fall frost	Oct. 31	Dec. 29	Nov. 7
Longest frost free period	209 days	289 days	200 days
Shortest frost free period	87 days	176 days	121 days
Mean annual rainfall	38.81"	34.98"	75.63"
Mean snowfall	23.4"	20.5"	70.9"
Mean total precipitation	41.15"	37.03"	82.72"
Number of days with measurable rain	140	149	156
Number of days with measurable snow	7	8	19
No. of days with meas. precipitation	145	156	172
Maximum Precipitation in 24 hours	4.34"	3.80"	4.57"
Mean daily Temperature (annual)	50.9 ^o	49.5 ^o	48.1 ^o
Mean daily temperature (July)	65.3 ^o	63.7 ^o	62.4 ^o
Mean daily temperature (January)	37.0 ^o	36.3 ^o	34.7 ^o
Maximum temperature	106 ^o	96 ^o	97 ^o
Minimum temperature	-5 ^o	3 ^o	0 ^o

HUMAN RESOURCES

POPULATION
(1966 Census)

City: Duncan	4,229	Electoral Areas	
		A	968
District: North Cowichan	10,384	B	1,229
		C	768
Town: Ladysmith	3,410	D	1,139
		E	1,571
Village: Lake Cowichan	2,353	F	2,150
		G	1,464
		H	964
		I	1,765
		<u>Total</u>	<u>32,464</u>



POPULATION CHARACTERISTICS

District	Percent of Population				
	Male	Female	0-19 yrs.	20-64 yrs.	65+
Duncan Area	51.4	48.6	42.7	48.3	9.0
Lake Cowichan Area	53.8	46.2	43.5	52.4	4.1

Several unmarried workers are attracted to the forest industries surrounding Cowichan Lake and, therefore, the percentage of males exceeds that of the Duncan area. The working force, age group 20-64 years, is also higher in the more industrialized area. The Duncan area is commonly thought of as a community with a high percentage of retired people. However, the statistics do not confirm this. 9% is comparable with the Provincial average and much below popular retirement areas like the Okanagan and Victoria. A percentage of 4.1 as illustrated by the Cowichan Lake area is typical of industrialized areas.

GROWTH

Formally compiled estimates of future growth will not be available until the 1971 Census figures have been compiled. However, past trends are interesting to note. Between 1956 and 1961 the population of the Duncan area increased by nearly 20%. From 1961 to 1971 the population of the city of Duncan increased by 23%, an indicated annual increase of approximately 2%. From 1956 to 1961 the population of the Cowichan area decreased 4% with the closure of Cowichan Copper which employed over 90 men. From 1961 to 1971 the population of Cowichan Lake village increased only 10% indicating an annual increase of 1%. The rate of growth of Duncan city and Lake Cowichan village is below the provincial average. If statistics were available for the remaining areas, a higher rate of growth might be indicated.

	<u>POPULATION GROWTH</u>		
	<u>1961</u>	<u>1966</u>	<u>1971</u>
Duncan City	3,575	4,299	4,391
Lake Cowichan Village	2,149	2,353	2,368*

* Boundary change in 1966

NATURAL RESOURCESMINING

Although there are no active mines within the region, copper mining has played an important role in the area's economy in the past. Cowichan Copper employed over 90 men in their mines on Cowichan Lake until its closure in the early 1960's. Copper prospects were explored by the early pioneers in search of a basic industry to help boost the economy.

Today, the only active mining industry is the Cement manufacturing plant at Bamberton owned by British Columbia Cement Co. Ltd. This industry has experienced fairly healthy growth. In 1957 \$2.5 million was spent enlarging the plant and a further expansion program in 1960 cost \$750,000. Its crusher plant has a capacity of 600 tons per hour. In 1963 the company shipped 250,301 tons of cement valued at \$4,518,457. At that time 106 persons were employed. Its limestone is quarried within the region at Cobble Hill. In 1971 the company spent \$3 million constructing three 140 foot storage silos and a finish mill powered by 1,750 horsepower. 165 men are now employed at the plant.

Copper properties are still actively explored within the region in the vicinity of Cowichan Lake, Cheewhat Lake, Mesachie Lake, Chemainus River, Crofton Lake and on Mount Sicker. Mount Sicker was the site of earlier mining ventures worked by hand by the early pioneers.

It is difficult to predict whether or not copper mining will once again become a significant contributor to the economy. For the purpose of this report it is sufficient to note that it played a minor part in the activities of early pioneers, it has contributed to the economy in the past and exploration is fairly brisk at the present time.

FORESTRY

The Valley of the Big Trees has supported the forest industry as the main economic force in the region for several years. Abundant fresh water and facilities for deep sea shipping are characteristics which have attracted pulp mills. Douglas Fir, hemlock, cedar and balsam are the main species harvested.

Most of the forest lands in the region lie within the E and N Railway

belt but have since been sold to large forestry companies. Outside the E and N belt, to the west, logs are cut from Tree Farm Licences 22 and 27 operated by British Columbia Forest Products Ltd. and from Tree Farm No. 1 held by MacMillan-Bloedel Co. Ltd. Most of the wood cut within the Cowichan Lake area is processed in plants within the region while logs cut in the Nitinat Lake area are processed outside the region

In 1960 Lake Cowichan was classed as the second most important sawmilling area on Vancouver Island with 4 large sawmills in operation. British Columbia Forest Products, Hillcrest Lumber, Mayo Lumber, and Western Forest Industries employed 1,200 persons in sawmills while the associated logging industry employed 700 workers. The four mills together produced over 220,000 M.b.m. In 1963 B.C. Forest Products acquired the Mayo Lumber mill at Youbou and this mill along with mills operated by Western Forest Industries and Hillcrest Lumber Co. Ltd. produced 320,000 M.b.m. A total of 1,970 persons were employed in logging and sawmilling.

Today, the industry has stabilized significantly. Some mills have been shut down and new mills have been constructed. The MacMillan-Bloedel Chemainus mill, one of the oldest sawmills in the province, produces 300 M.f.b.m. per shift. Only two mills are operating on Lake Cowichan. The British Columbia Forest Products mill at Youbou produces 200 M.f.b.m. per shift. The Western Forest Industries mill (Raynier Canada B.C. Ltd.) at Honeymoon Bay on Cowichan Lake produces 245 M.f.b.m. per shift. Two new mills in the region are Pacific Logging, a subsidiary company of Canadian Pacific Railway Co. Ltd., and Slegg Forest Products Ltd. Pacific Logging supply logs to Domans Sawmill at Cowichan Bay and Ladysmith while Slegg Forest Products operate a new sawmill at Cowichan Bay. Crown Zellerbach log in the vicinity of Nitinat Lake and operate a sawmill at Ladysmith.

The region has been logged heavily in the past and although considerable timber reserves remain in the Nitinat Lake area and north of Cowichan Lake, the area between Duncan and extending westward and south of Cowichan Lake can not support the present rate of logging indefinitely. Some authorities believe that the mature timber within this area will be depleted within 6 or 7 years, others state 10 to 15 years. Further, the age class

of immature stands is such that a 20-30 year period of inactivity may develop while the second growth trees reach maturity. In a few years there may be only one sawmill operating on Cowichan Lake.

The B.C. Forest Products pulp mill at Crofton commenced production in 1958. It produces craft pulp, ground wood pulp and newsprint. Their ground wood plant, brought into production in 1967, is capable of utilizing sawdust. Their newsprint machine installed in 1964 had an annual capacity of 125,000 tons. The total annual production of the mill is

Sulphate pulp - 340,000 tons

Ground wood pulp - 180,000 tons

Newsprint paper - 240,000 tons

The economy of the region is strongly dependent upon the forest industries. Shutdowns caused by labour strife, adverse market conditions or high fire hazards in the woods have a crippling effect on all businesses within the region. However, industries have invested large sums in manufacturing and processing plants and are, therefore, stabilized. The supply of raw material is limited by annual allowable cut restrictions and, therefore, any expansion within the industry can result only from better utilization of the raw material. It is unlikely that the industries will expand significantly.

From a land use point of view, the industry provides a good market for the sale of logs from private lands. Individual land owners holding significant acreages of forest lands can enjoy substantial periodic incomes through the controlled harvest of their forests. The region is blessed with some extremely high growing sites and tree farming can be a profitable venture.

RECREATION

Tourism

Although the Cowichan region possesses attractive natural features to attract the tourist, tourism does not appear to hold a very prominent position in the total economy. In a region whose economy is so heavily dependent upon the forest industries other resource potentials are sometimes unnoticed. The Nanaimo region, to the north, is renown for its beach resorts and salt water sports fishing. The Victoria region,

to the south, offers unique recreational amenities to the tourists in their downtown core which has been deliberately designed to promote tourism. The Cowichan region, on the other hand, with its cement plant, pulp mill and several sawmills is known as an industrial area and it is easy for the tourist to travel the main island highway through the region without being attracted by any obvious recreational focal point. Although a few small seashore resorts are operating, no extensive recreational areas have been developed. An examination of the shoreline within the region shows that, for the most part, it is comprised of precipitous rock faces, difficult to develop. Industry has been given preference over recreation on much of the usable seashore with a large percentage of the remaining usable frontage committed to established residential neighbourhoods. It is reported that it is difficult to purchase usable seashore within the region and further, that any available undeveloped seashore is priced beyond the market.

The region is much larger than the neighbouring regions to the north and south, containing 1,354.4 square miles and extending from the east coast to the west coast of the island. Cowichan Lake, an attractive inland lake, is centrally located within the region. It is the basin of a vast drainage area where logging has been given top priority since the turn of the century. The logging industry has been criticized for its harvesting practices which have denuded expansive areas. However, the industry has opened up this vast inland area with a network of roads giving the tourist access to hunting areas, good fishing streams and attractive points of recreational interest. The forests will return and another generation will have road access through a vast living forest where industry and recreation will respect each other. However, in view of the extremely productive forest growing sites throughout the region, it is unlikely that forestry will ever lose its number one priority position to other land uses. Government and industry are recognizing that public recreation should enjoy some priority in the forest. The Forest Service, through their "task force on recreation", are exploring the advisability of encouraging multiple use of public forests. Tree Farm Licence No. 27, held by B.C. Forest Products and located on the west shores of Nitinat Lake, is the experimental ground

for testing a new Government concept where industry will construct recreational facilities within Tree Farm Licences and the cost will be shared by the Government and the Tree Farm Licence holder. Although Tree Farm Licence No. 27 lies outside the Cowichan region, it is adjacent to its west boundary and if the project is successful it may have an effect on the recreational use of forests within the entire Cowichan region.

The west coast of the Regional District contains the historical "life-line trail". This is a foot trail constructed between Bamfield and Fort Renfrew during the pioneer days of west coast shipping. Ship wrecked sailors who reached the coast were able to walk to the closest settlement for assistance. The portion of the trail lying within the Cowichan Regional District is part of Phase III of the proposed Pacific Rim National Park. Phase II includes islands within Barkley Sound while Phase I includes Long Beach. Long Beach is already experiencing very intensive use. As this use extends southward into the area of Phase III the Cowichan Regional District will experience recreational pressures from the west as well as from the east.

It is interesting to examine existing tourist facilities in the region.

<u>Type of Accommodation</u>	<u>No. of Establishments</u>	<u>Total No. Of Units</u>
Hotels	5	127
Motels or Lodges	36	537
Trailer or Campsites	21	699

The Cowichan region contains only half the number of motel units as the Nanaimo region and one third the number found in the Victoria region. It contains less than half the number of campsite units as the Nanaimo region and perhaps 30 more campsite units than the Victoria region. The number and various types of tourist accommodation found within the Vernon region in the Okanagan area is very similar to the figures quoted for the Cowichan region. Vernon is recognized as a key summer recreational area and, therefore, based on the number of facilities available it must be concluded that the Cowichan region presents itself reasonably well.

as a recreational area.

Public Recreation Facilities

The Cowichan River is renowned as a good steelhead fishing stream. The main highway from Duncan to Lake Cowichan village parallels the river but lies some distance from it. Local fish and game clubs and the Provincial Parks Branch are anxious to maintain road access to the river at various points along with a network of foot trails along the banks for sports fishermen. The river is ideally suited for a relatively new sport known as tubing. It flows fairly rapidly and one can enjoy an exciting ride in an inner tube or a crude rubber craft. The Provincial Parks Branch are interested in the river's potential for this sport.

Cowichan Lake compares favourably with any other lake on Vancouver Island from a recreational viewpoint but there are very few commercial recreational facilities on the lake. Perhaps the industrial activity has discouraged such development or maybe the 75 inches of annual rainfall discourages the tourist. It should be noted, however, that rainfall during July is only 1.29 inches and in August, 1.60 inches. This is very similar to Vancouver's summer rainfall but more than twice as much as Victoria's summer soaking. It is twice as much as the summer rain experienced in the Central Okanagan. Therefore, it is apparent that most of the 75 inches falls during the winter months and the summer rainfall is not as great a deterrent to summer recreation as the total figure would suggest.

The use statistics for three Provincial Government campsites within the region are presented on the following table.

PARK ATTENDANCEProvincial Parks Branch CampsitesWITHIN THE COWICHAN REGIONAL DISTRICT

Year	Number of Visitors			Camper Origin Percentage			Camper Accommodation Percentage			
	Day Use	Camper Nights	Total	B.C.	Can.	U.S.	Camp.	Tyler.	Tyler.	Tents

BAMBERTON

50 Campsites, 46 Picnic Tables, Salt Water Swimming

1968	84,624	14,780	99,404	69.5	16.7	13.8	--	--	--	--
1969	84,724	17,300	102,024	66.3	15.1	18.6	13.9	13.8	19.2	53.1
1970	125,436	18,444	143,880	70.6	13.0	16.4	15.1	12.3	18.2	54.4

IVY GREEN

51 Campsites, 44 Picnic Tables, on Salt Water

1968	102,268	17,060	119,328	47.3	20.5	32.2	--	--	--	--
1969	141,112	18,344	159,456	43.3	21.9	34.8	28.2	17.0	17.0	37.8
1970	70,608	22,040	92,648	45.1	18.2	36.7	36.0	14.8	15.3	33.9

GORDON BAY

on Cowichan Lake

1970	8,592	8,592	87.1	6.0	6.9	48.3	24.6	11.1	16.1
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Bamberton Campgrounds are located near the southern boundary of the district while Ivy Green Campsites front on Ladysmith Harbour near the northern boundary of the district. Gordon Bay is a relatively new development on Cowichan Lake. Over the three years presented in the table, the number of campers using the facilities at both Bamberton and Ivy Green has increased nearly 30% representing an annual increase of nearly 10%. This same trend has been displayed throughout the province. Bamberton with its attractive swimming facilities will attract more day users than Ivy Green. Bamberton attracts more British Columbia users than Ivy Green while Ivy Green attracts twice as many U.S. visitors. The Provincial trend is away from the use of tents with an increase in the use of trailers and campers.

Ivy Green follows this trend while Bamberton shows an increase in the number of tent users. It is interesting to note that Gordon Bay on Cowichan Lake was used primarily by British Columbia campers with only 12.9% of the users arriving from other parts of Canada and the United States.

Finally, it is apparent that the recreation resource has not been developed as quickly within the Cowichan region as it has within neighbouring regions. However, as use pressures become more pressing within the neighbouring regions development should proceed more briskly within the Cowichan region. Several economic indicators show that the significance of tourism on Vancouver Island will increase rapidly in the future. The Nanaimo and Victoria regions have been defined as areas which will experience the greatest activity. The Cowichan region, bounded by these two regions, is likely to benefit from the overflow. The total receipts from tourism on Vancouver Island in 1970 was \$80 million. The following is a quote from "Visitors '63", a British Columbia Government study on tourism.

"Considering the tourist parties expenditure by region, Vancouver Island enjoyed by far the highest total, with an average more than double the average of all other regions. The Lower Mainland stood second, some distance back; the Okanagan was close behind with all other areas closely grouped again some distance back."

The study pointed out that tourists visit Victoria to view the city, shop, enjoy the scenery and examine the historical sites. Further, they visit the Nanaimo region to enjoy the attractive beaches and good fishing. The recreational resources of the Cowichan region require further identifying and advertising. Ferry traffic to the island has more than tripled during the past ten years and the number of mobile homes, campers and trailers using the ferries increased 20% from 1969 to 1970. This figure does not include those tourists who camp in tents. The number of recreational vehicles using the ferries during the winter months has more than doubled. The traffic flow on the island highway within the region has

increased at a rate varying between 7% and 9% from 1968 to 1970.¹ Isolated areas record volume increases exceeding 50% during this period where the local traffic bears a significant influence. All these statistics point out that the volume of tourism on Vancouver Island in general will increase at an annual rate of approximately 10%. The Cowichan region is well positioned to enjoy a fair share of this increase.

Sports Fishing

A socio-economic study of the Nanaimo and Victoria regions (Land Use Services, 1971) has pointed out that sports fishing contributes significantly to the recreation sector in both areas. The Cowichan region is known for its good sports fishing chance in Cowichan Bay and its steelhead runs in Cowichan River. It is interesting to compare catch statistics within the region with those of other regions.

Period	Nanaimo Total Catch	Duncan-Cowichan Bay Total Catch	Victoria Region Total Catch
1967	22,450	27,025	90,000
1968	30,600	15,800	73,530
1969	28,575	23,200	103,175
1970	<u>31,650</u>	<u>19,625</u>	<u>66,200</u>
	113,275	85,670	332,905

Source: Salmon Sports Fishing Catch, Statistics for Tidal Waters of British Columbia - 1970, Department of Fisheries and Forests.

The total catch for the Victoria region far exceeds that of Nanaimo and Cowichan Bay. However, a large percentage of the fishermen in the Victoria region are local in origin and, therefore, the comparison is distorted. The Nanaimo figures are more comparable with the Cowichan Bay figures. Although the total catch at Nanaimo over the past four years has exceeded that of Cowichan by 30% it would be a mistake to discount sports fishing as an important sector of tourism within the Cowichan area. The Nanaimo region is perhaps better known to tourists than the Cowichan

¹ Summer Traffic Volumes, Provincial Department of Highways, 1967-1970.

region. More tourists visit that region with their families who are anxious to frolic on the sandy beaches. The following table analyzes catch figures for various months of the year.

SALMON SPORTS CATCH, FISHING EFFORT AND SUCCESS BY MONTH,
IN THE DUNCAN-COWICHAN BAY AREA, 1970

Period	Total Catch	Boat Days	Average Catch/ Boat Day
January to April	1,100	1,250	0.9
May	625	850	0.7
June	3,050	2,225	1.4
July	6,550	5,425	1.2
August	4,950	7,700	0.6
September	4,575	5,500	0.8
October	4,850	4,850	1.0
November	775	875	0.9
December	550	385	1.4
Total	27,025	29,050	0.9

Source: Salmon Sports Fishing Catch Statistics for Tidal Waters of British Columbia, 1970, Department of Fisheries and Forests.

The above table shows that July and August are heavy use months. However, the early spring period and early winter period produces better catches. Thus, winter salmon fishing could contribute significantly to the success of operating a seaside tourist resort, catering to fishermen.

The total average catch per boat day in the Nanaimo region in 1970 was 1.2 fish compared to 0.9 for the Duncan-Cowichan Bay area. Thus, it would appear that the chances of catching a salmon at Nanaimo is better than it is at Duncan. However, during June Nanaimo's average catch per boat day is 1.0 fish compared to Cowichan's 1.4 fish. In July 0.9 compares with Cowichan's 1.2 and in August Nanaimo's 0.8 compares with Cowichan's 0.6. Therefore, during the summer months, the tourist season, the fishing is better at Duncan-Cowichan Bay than it is at Nanaimo.

The impact of tidal water sports fishing on the tourist industry on

Vancouver Island was analysed in a 1969 survey completed by the Federal Department of Fisheries and Forests entitled, "Participation by United States Residents in West Coast Tidal Sports Fisheries". The survey revealed that,

"During any single day of the four months, May, June, July and August, of 1969, the potential number of U.S. self contained units visiting Canada primarily to participate in the west coast tidal fishery is 400. Of the 400 approximately 320 would be located on Vancouver Island and 80 on the mainland. It was found on the average that these units contained 2 to 3 persons. This means that there were on the average approximately 920 American visitors in British Columbia primarily to participate in the tidal fishery each night during the summer of 1969".

Cowichan's summer salmon fishing is better than that of Nanaimo's. Therefore, Cowichan's fishing resorts should be capturing a larger share of these American visitors.

Of the 41,610 steelhead landed in B.C. in 1968, 40% , or 16,509, were caught on Vancouver Island. The Cowichan River, Vancouver Island's most productive steelhead stream, produced 1,346 fish during this period, or 8% of the island's total catch. Of the 30 major steelhead rivers in B.C., the Cowichan ranks either number four or five, ahead of such well known steelhead rivers as the Bulkley, the Cheakamus, the Morice, the Kispiox and the Babine. It is continually exceeded only by the Vedder, the Thompson and the Bella Coala. Catch statistics from 1966 are shown on the following table¹.

<u>Period</u>	<u>Catch</u>	<u>No. of Anglers</u>
1966-67	3,205	2,805
1967-68	1,583	1,688
1968-69	1,346	1,571

1 British Columbia Steelhead Sport Fishery Survey, 1968-1969, Fish and Wildlife Branch, Department of Recreation and Conservation.

The Cowichan is also renowned for its Brown Trout and Eastern Brook Trout. Brown Trout to 5 pounds are not uncommon. Cowichan Lake produces Cutthroat and Dolly Varden. Finally, it is evident that the Cowichan region can offer a variety of sports fishing which is unexcelled by its neighbouring regions. This appears to be its most valuable recreational asset and the feature which will likely increase tourism in the future.

Summer Homesites

Summer homesites are not a common form of recreation within the region. Cowichan Lake lies within the E and N belt and its adjacent lands are owned by large logging companies who are not anxious to encourage recreational use of the land. Somenos and Quamachan Lake lie close to the city of Duncan and their shorelines are occupied by permanent residences. Shawnigan Lake is a favourite vacation spot but there is very little available vacant land remaining suitable for subdivisions. The seashore is either steep and rocky, or occupied by industrial uses or permanent homesites. An exception to this rule lies in the northern extremity of the region on the east shore of Ladysmith Harbour where some lands have been subdivided for summer homesite and retirement purposes. The relative inactivity in this form of recreation does not necessarily indicate that there is a lack of demand for recreation property. On the contrary, there is a shortage of suitable land and it is likely that attractive water front properties developed for recreational purposes would enjoy a good market.

FISHERIES

Commercial fishing has been a way of life for a few people within the region for several years. In 1960 38 fishing boats were based in the Duncan area employing an estimated 60 men. In 1964 there were 55 commercial fishing vessels employing about 50 persons. There are no current statistics available, however, the fishing fleet in adjacent regions, Victoria and Nanaimo, has declined in recent years and it is likely that the fleet in the Cowichan area is following the same trend.

Most fishermen require additional employment to supplement their income. The average net fishing income before tax in the Victoria region in

1970 was \$3,320. In Nanaimo it was only \$2,888. There are no canneries within the region, the fleet is small and the average income of the fishermen is small. It is, therefore, evident that commercial fishing is not an important contributor to the economy of the region.

AGRICULTURE

Farming within the region is restricted to the coastline of the Gulf of Georgia and inland from Duncan within the Cowichan Valley. Much of the region is covered with forests and mountains with only 5% of the area supporting agricultural activity. Historically, a relatively large number of people made their living from farming, although in the past 15 years, with the need for greater efficiency, a considerable amount of amalgamation of farms has taken place and consequently, fewer people find employment in this sector of the economy.

The climate is characterized by a hot, dry summer with abundant sunshine and a mild winter with occasional snow. Most of the precipitation occurs in the winter months and drought is prevalent in the summer growing season necessitating irrigation if full benefit is to be derived from the land. Annual average rainfall is in the thirty-inch range with less than three inches falling in the growing season. Nearly 1,900 hours of sunshine per year is normal.

Soils in the area, cover a wide range of material, from clays and muck soils to sandy gravel and often these different soil types appear together in relatively small patches of a few acres each. The topography is generally undulating with a series of small valleys and ridges. The hills are covered with sparse growth and have only limited value for grazing. The valleys generally support agricultural activity and in these areas is found the conglomerate of different soils which place certain restrictions on the farm's operations. If the land is to be farmed to its fullest capacity, farmers must recognize the limitations of the different soils and treat them accordingly.

The part-time farmer, holding a full time job in town, has been attracted to the land causing prices to inflate. These high land values and increasing production costs have forced many farmers to sell and consequently, considerable acreage has recently been lost from agriculture.

The Duncan area is a major milk shed for the Victoria region with some sixty dairy farms producing over 50% of the milk produced on Vancouver Island. Dairying makes up approximately 85% of the agricultural economy of the Cowichan Regional District. Dairy farms vary in size, with most of the operations milking 40 cows or over. The 40 cow herd is considered

to be an economic unit for a family operation and larger units generally jump to the 80 or 100 cow size, although some stabilize at 60 cows. There is generally a five to four ratio of milking cows to other dairy stock on the farm with heifers being raised for replacement stock and a number of dry cows awaiting parturition so that they can again take their place in the milking herd. In 1970, the price paid for quota milk on Vancouver Island ranged from \$6.89 to \$7.38 per c.w.t., while the excess milk ranged in price from \$3.44 to \$4.11 per hundred pounds. The weighted average price for both quota and excess milk ranged from \$6.54 per c.w.t. to \$7.10 per c.w.t.

The Vancouver Island milk producer is facing stiff competition from the Vancouver area where milk is placed in cartons and shipped to the Vancouver Island market. The total Vancouver Island market for fluid milk in 1970 increased by 5.41% over the 1969 market. The Vancouver Island milk producers' share of this market increased only 4.1% (71,800,000 pounds to 74,800,000 pounds) 60% of the increase in the total market. The Vancouver area was able to furnish about 40% of the increase. The Vancouver Island shipper put 86.67% of his milk on the fluid market in 1970 and 85.55% in 1969. In the Vancouver area approximately 60% of the milk produced by the shipper goes to the fluid market.

These figures indicate that the Vancouver Island milk shipper is still making gains in total revenue derived from milk despite competition from the Vancouver marketing firms. It would, therefore, appear safe to expect the dairy industry on Vancouver Island to continue its expansion and considerable expansion will take place in the Duncan area. This expansion is likely to result from higher per cow production and from more cows being kept by existing operators. The number of dairy farms might decrease slightly.

Due to the fact that there are no licenced abattoirs, figures on the amount of cattle produced in the area for meat purposes are not available. There are a few herds of beef cattle although these herds are small and the majority of the animals which go to slaughter will be cows from the dairy herds or calves of the dairy herds sold as veal. There are also a few sheep and goats in the area, however, their importance is insignificant.

Horticultural crops such as blackberries, potatoes, tomatoes, holly

and ornamentals are being produced. Blackberries, potatoes and holly are shipped out of the area, however, the ornamentals are for the local demand only. Holly farming takes up ten to fifteen acres and is expected to decline as the use of the artificial product becomes more prevalent. Approximately twenty-five acres of blackberries are under cultivation at the present time. The price of blackberries is quoted at 19¢ per pound and yields of three tons per acre are normal with five tons per acre possible under extremely good management. The District Agriculturist in the area indicated that the cost of culture for an acre of blackberries is in the vicinity of \$600, while the gross return is in the vicinity of \$1,200.

There are several large potato growers in the vicinity with most of the product being marketed in the Victoria area. Other vegetables are grown and marketed through a vegetable marketing co-op in Duncan. However, the value of these crops is relatively small when compared to the overall agriculture picture. 40,000 square feet of greenhouses producing tomatoes and cucumbers are located in the region. The local demand for these products are not met by the existing square footage and more greenhouses are likely to be constructed in the near future.

Several broiler operations in the area market their product in the Victoria Health of Animals inspected abattoirs. A limited number of egg producers supply the local market. The success of poultry broiler operations are limited by two factors.

1. The high cost of feed on Vancouver Island places the grower at a disadvantage when compared to the grower in the Lower Fraser Valley area.

2. The market in Victoria demands a fresh bird which limits the amount of broilers which can be raised at any one time. Thus the grower is limited in size and can not reach the optimum economic size. If birds could be frozen and placed in storage until required, larger flocks would be possible.

The trends in agriculture in this area will be towards more inten-

sive use of the land through either horticultural crops or dairying. The dairy industry is experiencing shortages of hay which must be imported. The going price for local hay is \$30 to \$35 per ton depending upon quality. There is an opportunity for some land to be put into this type of production, where irrigation is available.

As the agricultural process becomes more intensive the need for labour decreases although labour must become more highly trained. The Victoria area, lying immediately south of the Cowichan Regional District, produces approximately 25% of its food requirements and the possibility of land in the Cowichan Regional District being used for food production for this large population is evident. A market exists for horticultural crops such as blackberries, potatoes and other vegetables, or hay for the dairy segment. Successful production will depend on the amount of arable land available and the ease with which it can be irrigated.

WATER

The availability of water has never been a factor limiting the use of land within the region and, therefore, the subject warrants very little attention. It is conceivable that an agricultural venture could suffer for lack of irrigation water if adequate surface water were not available. However, most agricultural development within the region is located close to a major stream and if irrigation is necessary during a dry summer, it is generally available. With the high rainfall captured by the interior portion of the region, there should never be a water shortage either for domestic or irrigation purposes. However, the distribution of water for domestic purposes is costly and, therefore, most urban developments outside major population centres rely on ground water from wells. There have been no large scale urban developments within the region and, therefore, the availability of domestic water has never become an important issue.

TRANSPORTATION

From a commercial viewpoint the Coastal Plain of the region enjoys all the advantages of modern transportation conveniences. The E and N Railway and the Island Highway pass through Duncan and B.C. Government ferry service links Thetis Island, Kuper Island and Salt Spring Island to the mainland. Patricia Bay Airport, out of Victoria, is less than two hours drive from Duncan providing several daily flights to Vancouver International Airport. Further, ferries to Vancouver from Nanaimo are less than an hour's drive from Duncan via the Island Highway. A relocation of the paved highway from Duncan to Lake Cowichan is very nearly complete and a vast network of logging roads leads from Cowichan Lake throughout the entire district and to the west coast of the island. Logging roads constructed within the interior of the region are part of a long term forest management plan and are maintained in good repair, suitable for normal vehicular traffic. Private companies control public access through most of these roads and, therefore, during periods of extreme fire hazard or when log hauling presents a hazard to public travel, some roads are closed to the public. These roads open up a vast area bountiful with game and exciting recreational features. The British Columbia Forest Service is presently investigating ways and means of "opening up" these areas to the public by means of a multiple land use program which will offer the private tree farm holder certain economic advantages.

Transportation has influenced the development of the city of Duncan significantly. The four lane highway was constructed to pass the outskirts of Duncan at a time when the city could offer no land for future development purposes. Consequently, dense commercial development has grown along the highway and the congestion, even during the winter months, is a planner's nightmare. The transportation pattern throughout downtown Duncan was designed several decades ago to suit the modest requirements of those days. Since then Duncan has emerged as the commerce center of the region and urban development surrounding the village has been brisk. As a result, Duncan's downtown section is generally congested and incapable of handling the traffic load. Unless the city can institute appropriate planning measures, commercial development will continue to stretch

further along the highway and the result will be a hodgepodge land use pattern. One of the most critical issues affecting future planning of the community is the availability of Indian Reserve No. 1 lying adjacent to the village boundary. Already, the commercial highway strip is utilizing Indian Reserve land but the use of these lands appears to be dependent upon the developer's ability to negotiate with the Indian Band rather than the village's success in negotiating with the Band. Herein lies a classic illustration of where the use of Indian Reserve lands is effecting the development of an entire neighbourhood. Commercial development along the main highway through the reserve has been a catalyst to the problem. An overall development plan acceptable to the city, the Regional District and the Indian Band would benefit Band members, the city and the region.

INDUSTRY

Duncan, lacking direct transportation facilities to the main land, has not developed industrially to the same extent as Victoria to the south or Nanaimo to the north. Wood processing and cement manufacturing are the only primary industries. The retail service industry has expanded but secondary industry and wholesale services have not grown to the same extent.

The forest industry is the most prominent contributor to the economy of the region, employing in the vicinity of three thousand people. Lumber, pulp chips, veneer, shingles and shakes are all produced from the forest resources of the Cowichan Lake area. The pulp and paper mill at Crofton was established in 1958 with a capacity of 425 tons per day. In 1964, a \$34 million expansion program included the construction of a ground-wood pulp mill, and the installation of a newsprint paper machine. Pole and piling production is also of importance along with some Christmas tree production. Other mills in the Chemainus region produce lumber for overseas export.

The cement plant at Bamberton employs approximately 150 people and produces in excess of \$5 million of cement per year. The plant is situated on tide-water for transportation purposes while raw materials are quarried nearby.

Deep-sea ports are located at Bamberton, Crofthill, Crofton and Chemainus. Bamberton is involved almost exclusively in the shipment of cement. The other ports export primarily lumber and pulp and paper products although some general cargo is unloaded.

The per capita retail sales in the Duncan area at \$3,848 are the fourth highest in British Columbia reflecting Duncan's important position as a shopping centre for the outlying districts. The retail service industry employing some 2,200 people is the largest employer second only to the forest industry.

In 1966 secondary industry consisted of eleven firms employing approximately 86 people and having a gross sales of \$847,000 per year. Bakeries, concrete block plants and machine shops all sell their product locally.

Fishing provides employment for some sixty individuals with approximately 55 vessels using the area as a home port. There are no fish processing plants in the district and the value of the catch from these vessels is unknown.

The construction industry has been fairly active over the past ten years. Reliable figures are available for only a part of the region. Building permits in North Cowichan municipality exceeded \$3 million in 1964 when additional loggers and pulp mill workers moved into the region. Other economic indicators registered increases that were very similar to the Provincial average.

It is unlikely that further industrialization will occur throughout the region. Victoria or Nanaimo are both more favoured locations. The forest industries may expand slightly reflecting better utilization of the raw material. Tertiary or service industries will probably experience normal growth.

REGIONAL DISTRICT
ADMINISTRATION, REGULATION & ZONING

The Regional District of Cowichan Valley was incorporated September of 1967. The Board of Directors contains a representative from the City of Duncan, the District of North Cowichan, the Town of Ladysmith, the Village of Lake Cowichan plus a director from each of seven electoral districts. The office, located in Duncan, is staffed by a secretary-treasurer and his assistant plus a stenographer. Planning as required is supplied by a consulting service.

Significant projects financed through the Regional District machinery include an ambulance service, a sports arena and a water-sewer system at Mesachie Lake.

There is presently no building regulation or zoning bylaw throughout the region and the "Regional Plan and Land Use Maps" have not been prepared. The acceptance of the Regional District concept by the constituents appears somewhat vague and it is difficult to judge at this time how the Regional District administration will affect the development of the entire region. It appears that the city and the region itself could benefit from the services of a staff planner. Outside the municipal boundaries there is no building inspection service. A subdivision bylaw has been prepared but it has not yet been approved by the directors.

LAND VALUESCITY OF DUNCAN

Land sales are fairly rare within Duncan because there is very little unoccupied land available. The few land sales that have been registered indicate the following values.

Residential - \$3,500-\$4,500

Exclusive residential neighbourhoods - \$5,000

Downtown Commercial

No. 1 neighbourhoods - \$1,000 per front foot

Secondary neighbourhoods - \$500-\$700 per front foot

Highway Commercial - \$400 per front foot.

OTHER NEIGHBOURHOODS

Cowichan Bay, ½ acre lots with road and water - \$4,000-\$4,500

Telegraph Bay, with road and water, 2 acre lots - \$5,000-\$6,000

Mill Bay

1 acre lots - \$3,500-\$4,000

6 acre lots - \$10,000-\$12,000

Cobble Hill, 60' x 100' lots with water - \$2,000

Seashore - \$100-\$175 per front foot

Highway Commercial

Small parcels - \$6,000-\$12,000 per acre

Acreage - \$4,000-\$5,000 per acre

Acreage with residential potential

Up to 5 acres - \$2,000 per acre

20 acres ± - \$1,000 per acre

Wild undeveloped land with no residential potential- \$400-\$500 per acre.

URBAN DEVELOPMENT

CITY OF DUNCAN
BUILDING PERMITS ISSUED
 1970

	No. of Units	Total Value
Residential.		
New Dwellings	17	\$ 284,600
Others	29	36,650
Commercial		
Signs	17	8,795
Others	19	111,400
Government and Institutional	3	123,900
Total, 1970	85	\$ 556,345
Total, 1969	88	\$1,601,092

CITY OF DUNCAN
VALUE OF BUILDING PERMITS ISSUED
 1965-1970

Year	Value (\$)
1970	\$ 565,343
1969	1,601,092
1968	663,555
1967	1,034,330
1966	1,605,470
1965	1,378,083

DISTRICT MUNICIPALITY OF NORTH COWICHAN

Number of building permits issued in 1970 - 258 including 173 housing starts

Number of building permits issued in 1971 to October 31 inclusive- 245 including 132 housing starts.

There are no current statistics available measuring urban development trends within the region. The above tables show that only a modest amount of urban development takes place within the city of Duncan but this can be expected since it is reported that there is very little room for further construction within the boundaries of the city. Evidently, a boundary extension presents problems because the District of North Cowichan borders to the north and Cowichan Indian Reserve No. 1 lies immediately to the south, east and west. The District Municipality of North Cowichan contains over 50,000 acres compared to the city of Duncan's 8,035 acres. It is not surprising, therefore, that the number of building permits issued within the municipality should far exceed the number issued within the city. According to the 1971 Census the population growth in the city of Duncan over the past five years is barely measurable. The 1971 Census is not available for North Cowichan but the district office estimates the present population at 12,800 an increase of 2,416 people since 1966 indicating an annual rate of increase of 4.6%, much higher than the Provincial average.

In 1970, B.C. Hydro completed 960 new electrical connections within an area bounded by the Chemainus River to the north and Malahat in the south and westward including the Lake Cowichan area and encompassing the Gulf Islands to the East. The figure does not include the area from Ladysmith to the Chemainus River which lies within the region. It is not possible to isolate the number of connections completed on the Gulf Islands, outside the district. It appears that the total number of connections within the region may be in the vicinity of 600, approximately half that of the Nanaimo region.

There has been no official count of the number of residential lots created by subdivision within the region but an estimate of 200 lots during the past year was offered by a Government subdivision approving officer. This appears to be a conservative estimate in view of the number of power connections reported by B.C. Hydro and the total number of housing starts recorded in North Cowichan District alone. In the future, subdivision activity will decline because of the Regional District's bylaw proposal which limits the size of subdivided lots to five and two acres until a zoning bylaw can be approved.

Although no documented statistics can be offered to accurately measure urban development within the region, from the above figures it is evident that development is not as brisk as that experienced in the adjacent regions of Nanaimo and Victoria. Urban development has been loosely scattered throughout the region; generally on lots exceeding one acre in size with each home builder obviously selecting his site because of some desirable natural characteristic. More densely populated neighbourhoods are generally occupied by older homes and an occasional new subdivision has developed where only a few of the lots are occupied.

EMPLOYMENT OPPORTUNITIES

There are no outstanding or unusual opportunities for employment within the region. The forest industries are the only large employers and opportunities arise from time to time as part of the normal growth of the industry. With the exception of the B.C. Cement plant at Bamberton there are no other industries or manufacturing plants supporting significant payrolls.

The Chemainus-Crofton and District Chamber of Commerce have suggested that the following investment opportunities exist within their region¹. These opportunities are mentioned in this section of the report only because development usually causes employment.

The Chamber reports that there is a shortage of all types of housing and rental apartments and, therefore, an opportunity for investment in this field exists.

A large chain grocery store is required.

An opportunity exists for a marina operation emphasizing boat rentals.

1 A Summary of Regional Investment Opportunities in British Columbia, Department of Industrial Development, Trade and Commerce, May 1969.

SUMMARY AND FUTURE OUTLOOK

Historically, the Cowichan region was settled primarily as an agricultural area and the presence of the extremely large trees were a severe hindrance to the development of the community. In an attempt to establish a second industry, the early settlers devoted much time to prospecting. Copper mining had a flurry. Finally, as transportation improved and the market for lumber was established, large sawmills were constructed and the forests were finally recognized as a valuable resource rather than a hindrance to development. Today, the forest industries are the prime supporters of the economy.

Although the soils of the region are extremely variable, approximately 5% of the total area is supporting agricultural activity. Over 50% of the milk produced on Vancouver Island comes from the Cowichan region. Poultry and horticultural products are also grown successfully. It is anticipated that as metro Victoria grows, agriculture in the Cowichan area will also expand and become intensified to supply the strong market for fresh produce in Victoria.

The climate of the region is moderate with extreme differences between the western and eastern portions. The Cowichan Lake area receives twice as much rain as the Duncan area. Temperature and precipitation normals are compatible with both recreational activity and agricultural production. However, drought can occur in the summer time thus necessitating irrigation. Further, violent downpours can occur in the Cowichan Lake area restricting recreational activity.

Population growth within the city of Duncan and the villages has been slow and below the Provincial average. For the most part, the growth has occurred in the unorganized areas and particularly within North Cowichan district municipality where the growth rate has exceeded the Provincial average.

Although the city of Duncan is strictly a commercial and distribution centre, the economy of the entire region is extremely dependent upon its natural resources. Several copper mines have produced profitably in the past although at the present time there are no active mines. Although agriculture has declined over the years, in relative importance to the

economy, its growth has been steady and production will continue to increase in the future. Commercial fishing is simply a way of life for a handful of residents and its contribution to the total economy is insignificant. Recreation has not been fully exploited within the region. Sports fishing, both tidal and fresh water, is the main recreational asset supporting tourism. Seashore property, suitable for recreational development is scarce and, therefore, the development of tourist facilities has proceeded slowly. With the rapid growth in tourism within the adjacent regions it is anticipated that land use pressures will eventually develop and tourism will expand within the Cowichan region to accommodate the overflow from adjacent regions.

Forestry has emerged as the main industry supporting the economy. In fact, in terms of output and employment all other industries are insignificant compared to the forest industry. In view of the large investments in processing plants, it is evident that the economy of the region will continue to be dependent upon this industry.

The growth of tourism in the future will be greatly dependent upon the ability of transportation systems to accommodate increased traffic. The use of the B.C. Government Ferry service from the mainland to Vancouver Island increases annually and these facilities must expand to handle the peak summer tourist load. The use of the vast network of logging roads throughout the western portion of the region has resulted in some conflict. As these conflicts are resolved recreational use of the forest lands will likely extend through to the west coast of the region.

The Regional District is attempting to curb urban sprawl by the use of subdivision regulations which restrict the size of subdivided lots. Although the long term effect of the regulations will be beneficial to urban development, a shortage of residential lots may develop before a land use bylaw has been approved.

Although land values have increased recently and have alarmed some local people, they still lie at a moderate level compared with the values within other regions of the province where development has been more brisk.

Finally, from a land use point of view, the region is in a relatively early stage of development. Although the city of Duncan is presently experiencing a land shortage the surrounding area is capable of supporting more intensified use from the residential, recreational or agricultural sectors. The potential for expansion is good.

PART II

REFERENCE

to

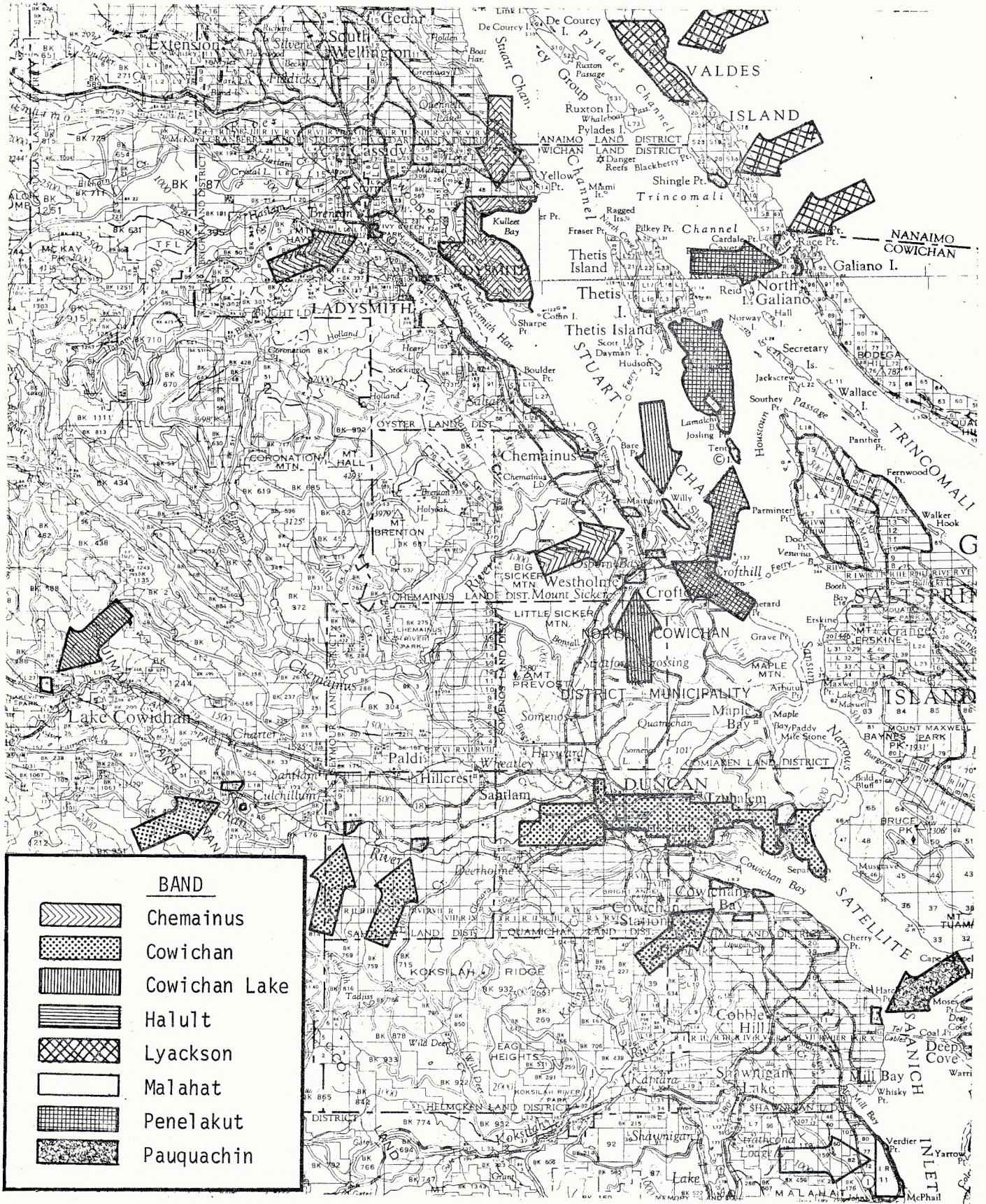
SPECIFIC RESERVES

INDIAN RESERVES

in the

COWICHAN REGION

1 inch = 4 miles



PART IIREFERENCE TO SPECIFIC RESERVESRESERVE AND BAND DATAINDIAN BANDS WITH LAND IN THE COWICHAN REGION

(1971)

	Chemainus Band	Cowichan Band	Cowichan Lake Band	Halalt Band	Lyackson Band	Malahat Band	PeneJakut Band	Pauguachin Band	Total
Residents on Reserve	411	1,305	3	59	48	66	307	104	2,303
Residents off Reserve	45	179	3	56	40	45	74	35	477
Total Population	456	1,484	6	115	88	111	381	139	2,780
Number of Reserves	4	9	1	2	3	1	3	1	24
Total Area (Acres)	2,800	6,128.99	100.16	397.46	1,840.00	565.93	2,256.00	92.00	14,180.54
Number of leases	4	46	0	2	0	1	12	2	67
Annual Rental (\$)	2,200	67,400	0	600	0	300	2,600	3,900	77,000
Chief	L.Harris	D.Alphonse	--	Mrs.August	A.Norris	M.Harry	A.James	M.Henry	
Pupil Enrollment	133	485	--	27	23	42	86	42	838
Welfare (Annual) (\$M)	95.2	271.8	.2	13.5	5.0	21.8	58.9	29.8	496.2
Employment-permanent	36	115	--	12	7	4	35	17	226
Number of Cattle	--	40	--	--	--	--	--	--	40

POPULATION CHARACTERISTICS OF INDIAN BANDS
IN THE COWICHAN REGION
(1969)

Age Group	Population		Total
	Male	Female	
<u>CHEMAINUS</u>			
0-14	116	101	217
15-19	24	24	48
20-54	65	77	142
55-69	15	6	21
70-89	3	5	8
	<u>223</u>	<u>213</u>	<u>436</u>
<u>COWICHAN</u>			
0-14	326	373	699
15-19	85	76	161
20-54	241	243	484
55-69	34	34	68
70-79	20	13	33
	<u>706</u>	<u>739</u>	<u>1,445</u>
<u>COWICHAN</u>			
0-14	--	1	1
15-19	--	--	--
20-54	2	1	3
55-69	1	1	2
70+	--	--	--
	<u>3</u>	<u>3</u>	<u>6</u>
<u>HALALT</u>			
0-14	26	20	46
15-19	7	4	11
20-54	21	21	42
55-69	1	4	5
70-84	1	1	2
	<u>56</u>	<u>50</u>	<u>106</u>
<u>LYACKSON</u>			
0-14	22	21	43
15-19	5	5	10
20-54	16	12	28
55-69	2	2	4
70-84	--	--	--
	<u>45</u>	<u>40</u>	<u>85</u>

Age Group	Population		Total
	Male	Female	
<u>MALAHAT</u>			
0-14	35	31	66
15-19	9	7	16
20-54	9	12	21
55-69	1	2	3
70-84	--	3	3
	<u>54</u>	<u>55</u>	<u>109</u>
<u>PENELAKUT</u>			
0-14	73	87	160
15-19	20	21	41
20-54	55	65	120
55-69	16	14	30
70-94	6	6	12
	<u>170</u>	<u>193</u>	<u>363</u>
<u>PAUQUACHIN</u>			
0-14	27	31	58
15-19	6	11	17
20-54	24	27	51
55-69	4	2	6
70-84	2	2	4
	<u>63</u>	<u>73</u>	<u>136</u>

INDIAN RESERVES WITHIN THE COWICHAN REGIONChemainus Band

Chemainus No. 13	2,692.00 acres	
Oyster Bay No. 12	18.70	
Say-la-quas No. 10	15.00	
Squaw-hay-one No. 11	<u>74.30</u>	2,800.00 acres

Cowichan Band

Cowichan No. 1	5,825.94 acres	
Cowichan No. 9	46.98	
Est-patrolas No. 4	67.07	
Kakalatza No. 6	19.20	
Kil-pah-las No. 3	37.00	
Skutz No. 7	18.00	
Skutz No. 8	34.20	
Theik No. 2	67.80	
Tzart-lam No. 5	<u>12.80</u>	6,128.99 acres

Cowichan Lake Band

Cowichan Lake No. 10		100.16 acres
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Halalt Band

Halalt No. 2	257.46 acres	
Willy Island No. 1	<u>140.00</u>	397.46 acres

Lyackson Band

Lyackson No. 3	1,756.00 acres	
Portier Pass No. 5	5.00	
Shingle Point No. 4	<u>79.00</u>	1,840.00 acres

Malahat Band

Malahat No. 11		565.93 acres
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Penelakut Band

Kuper Island No. 7	2,138.00 acres	
Tent Island No. 8	85.00	
Tsussie No. 6	<u>33.00</u>	2,256.00

Pauquachin Band

Hatch Point No. 12		<u>92.00</u> acres
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TOTAL

14,180.54 acres

DEVELOPMENT POTENTIALS

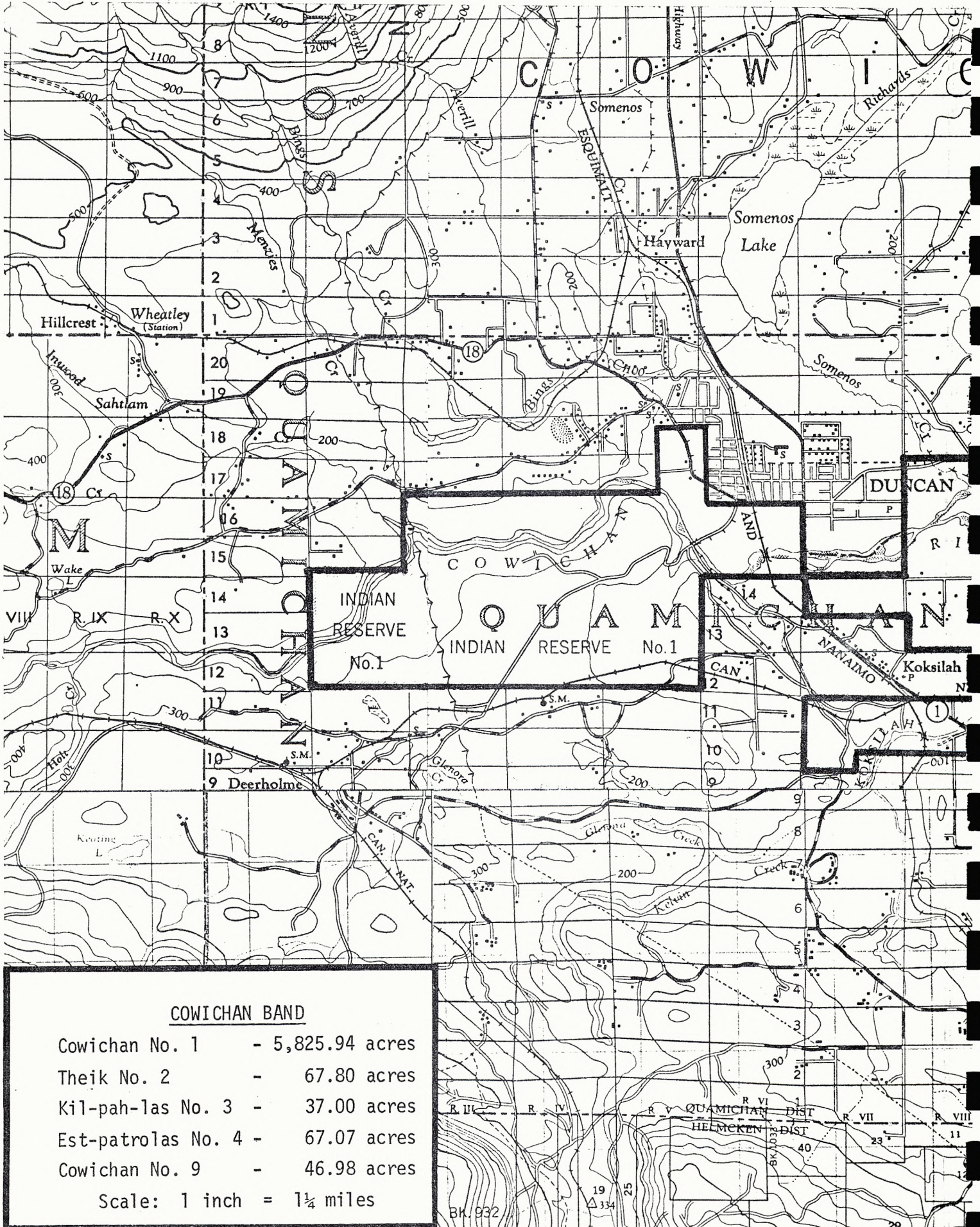
Part I of this report studies regional socio-economic conditions with an occasional reference to factors which affect the value and use of Indian Reserve lands. It is not the purpose of the report to recommend development projects and, therefore, individual reserves were not examined in detail. Those reserves which could be reached by road were examined casually in order to gain an impression of what land uses should be given special attention in the report. Time would not permit an examination of reserves within the Gulf Islands. Information on reserves which were not visited was supplied by officers of the Indian Affairs Branch at Nanaimo.

Part II of the report will offer a brief description of each reserve and relate its physical characteristics to socio-economic factors presented in Part I in order to identify development potentials if any. Some reserves have already been studied in detail as part of previous land use or development feasibility studies. It is not the purpose of this report to critically analyze existing development proposals, rather to suggest whether or not the present economic climate would support the development.

COWICHAN BAND

Cowichan Indian Reserve No. 1 containing 5,825.94 acres, possesses some interesting characteristics. The eastern portion contains over 6 miles of seashore fronting on such well known fishing areas as Sansum Narrows, Genoa Bay and Cowichan Bay. Separation Point, at the eastern extremity of the reserve, contains five miles of sea frontage and lies across Genoa Bay from a fishing resort. It is well positioned and capable of supporting development related to tourism. Skinner Bluff, also fronting on Cowichan Bay, contains some steep topography which would limit development but in the future a potential may develop for view homesites over a portion of the area.

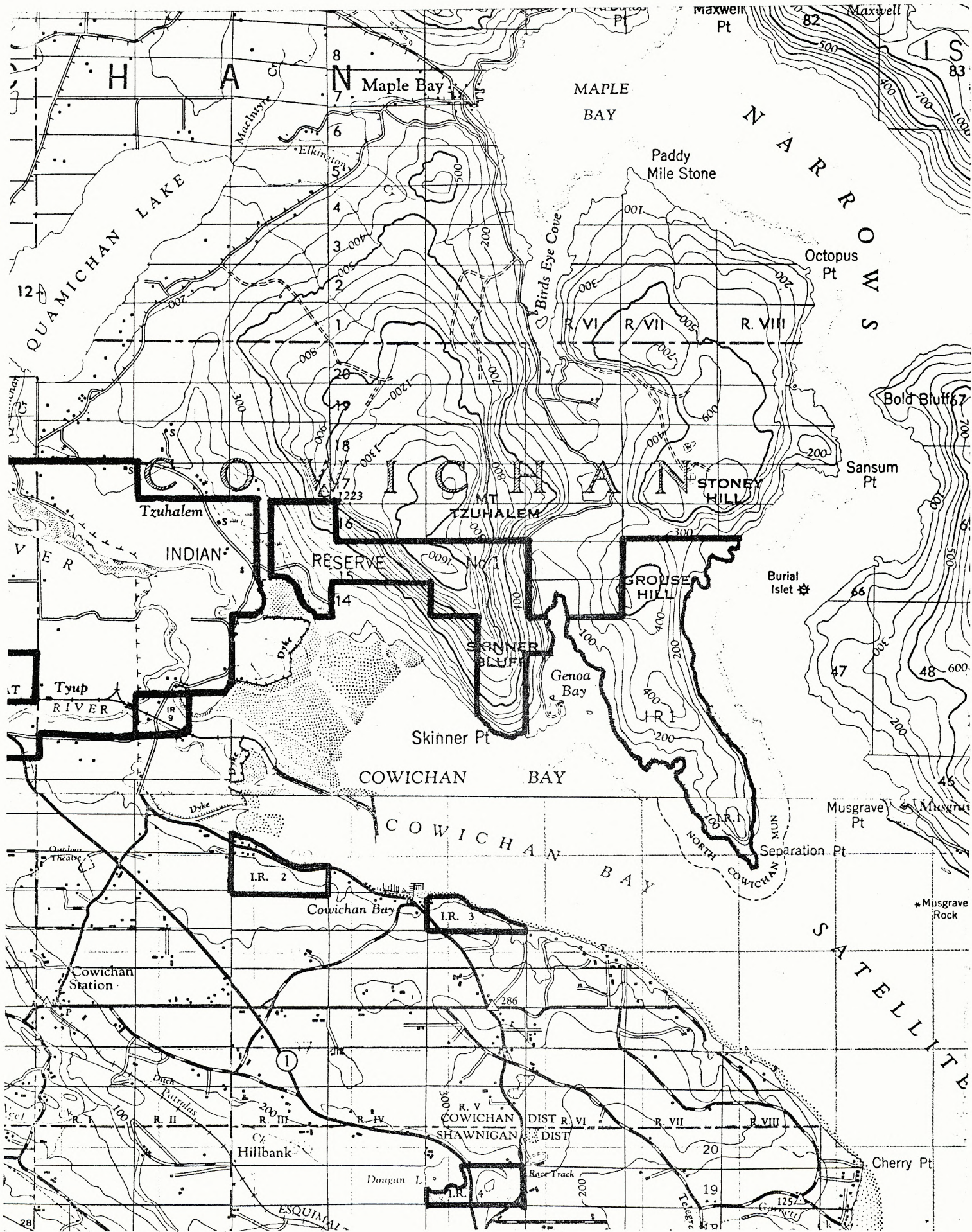
The central portion of the reserve contains the Cowichan River and fronts on Cowichan Bay. It also bounds the city of Duncan to the east, west and south. Most of the Indian residences are located in this area.



COWICHAN BAND

- Cowichan No. 1 - 5,825.94 acres
- Theik No. 2 - 67.80 acres
- Kil-pah-las No. 3 - 37.00 acres
- Est-patrolas No. 4 - 67.07 acres
- Cowichan No. 9 - 46.98 acres

Scale: 1 inch = 1¼ miles



An agricultural potential is evident while the area close to Duncan and lying adjacent to the island highway is already being leased for commercial purposes. The elaborate motel, restaurant, beer parlour complex shown on the following photographs is located within this portion of the reserve.



The city of Duncan is unable to expand its boundaries freely with the reserve bounding it on three sides. Portions of the reserve near the city are incapable of supporting residential development because of the high water table and the threat of floods from the Cowichan River. An opportunity exists for the city, the Regional District and the Indian Band to work together for the benefit of all.

The western block of the reserve contains over 800 acres of attractive forest land possessing some residential potential and a recreational potential on land lying adjacent to the Cowichan River.

Evidently the overall development of the reserve is hindered by a network of individual possession rights. However, a cooperative berry farm is being developed taking advantage of the agricultural potential.

Finally, it is evident that industrial, commercial and residential development on the reserve should proceed in cooperation with the city of Duncan and the Regional District. It may be premature to propose immediate development of the recreational potentials but a general land use

COWICHAN BAND

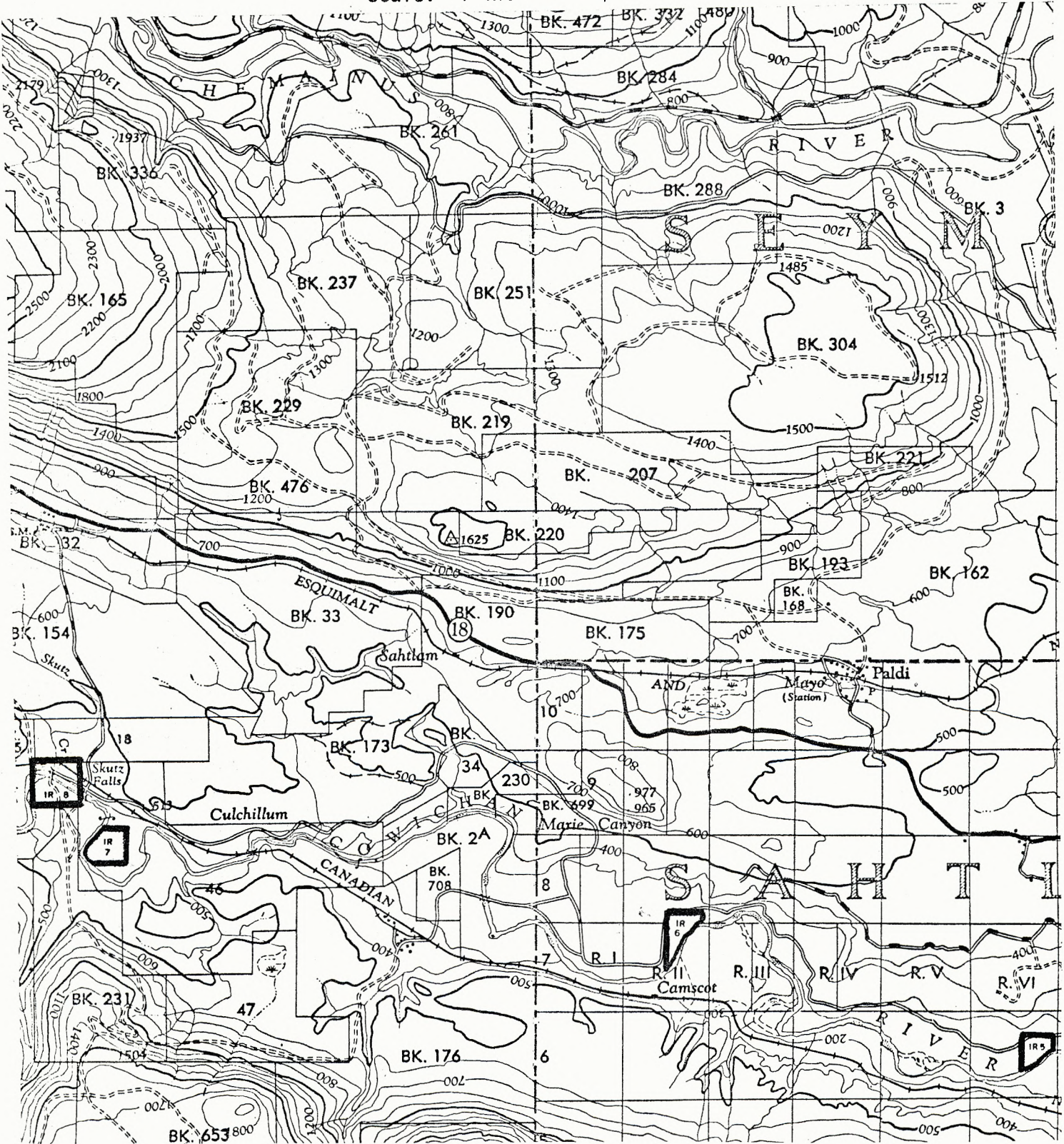
Tzart-lam No. 5 - 12.80 acres

Kakalatzta No. 6 - 19.20 acres

Skutz No. 7 - 18.00 acres

Skutz No. 8 - 34.20 acres

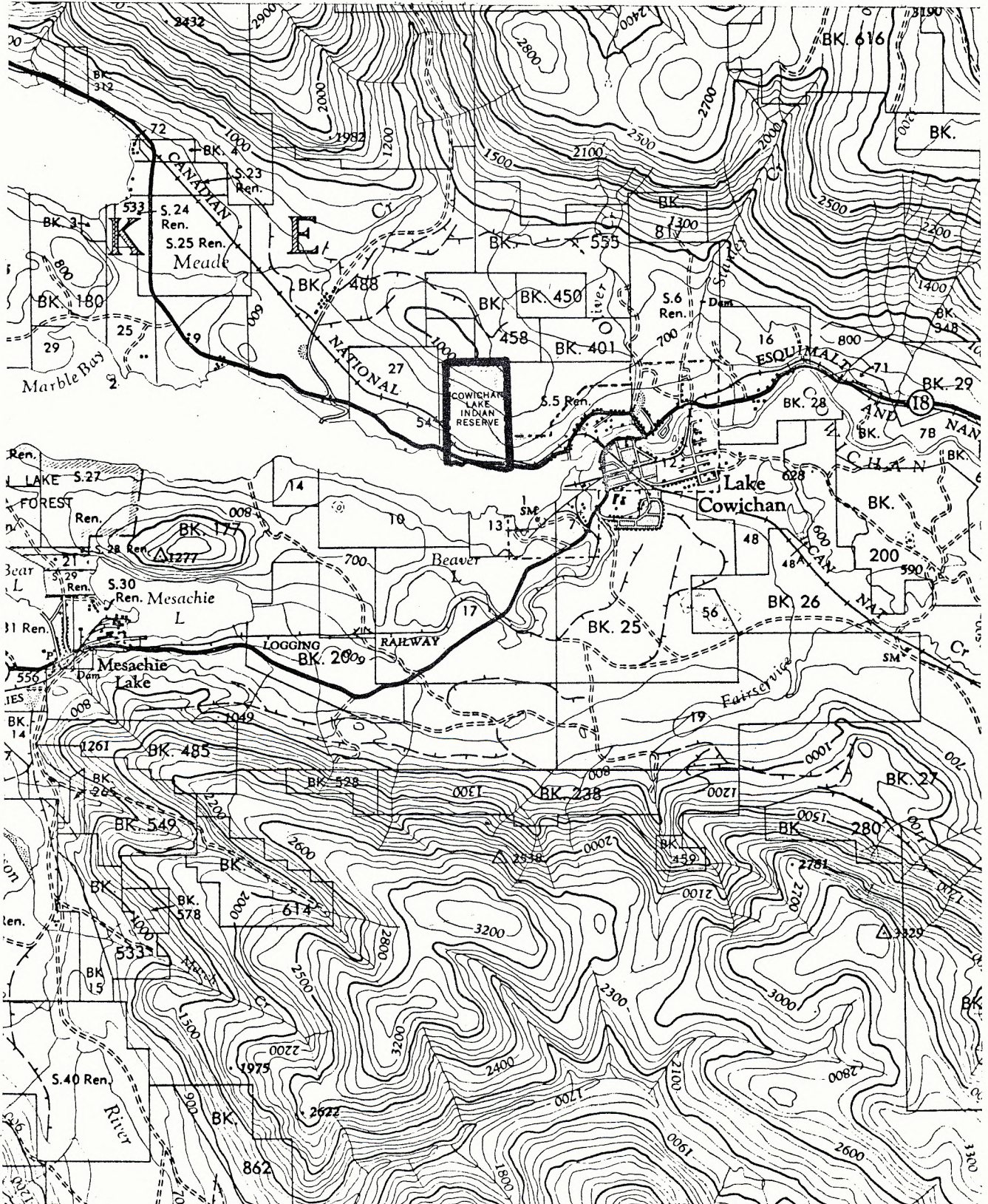
Scale: 1 inch = 1 1/4 miles



COWICHAN LAKE INDIAN RESERVE

100.16 ACRES

Scale: 1 inch = 1 1/4 miles



plan for the entire reserve would prepare the Band for the time, in the not too distant future, when these potentials could materialize. The plan should include an assessment of development potentials for Theik No. 2, Kil-pah-las No. 3 and Cowichan No. 9 since these three reserves also front on Cowichan Bay and their development should not compete with development proposed for Indian Reserve No. 1.

Tzart-lam No. 5, Kakalatza No. 6, Skutz No. 7 and Skutz No. 8 all front on the Cowichan River. Part I of the report pointed out that the river contains an exciting potential for recreational development oriented towards fishing, camping and "tubing". Conceivably, these four reserves might be developed as part of the larger recreational complex exploiting the potentials of the river.

The Cowichan Lake Indian Reserve is held by a single family Band. It fronts on the lake and is traversed by the highway and the Canadian National Railway. Its potentials will become apparent as this section of the region grows.

CHEMAINUS BAND

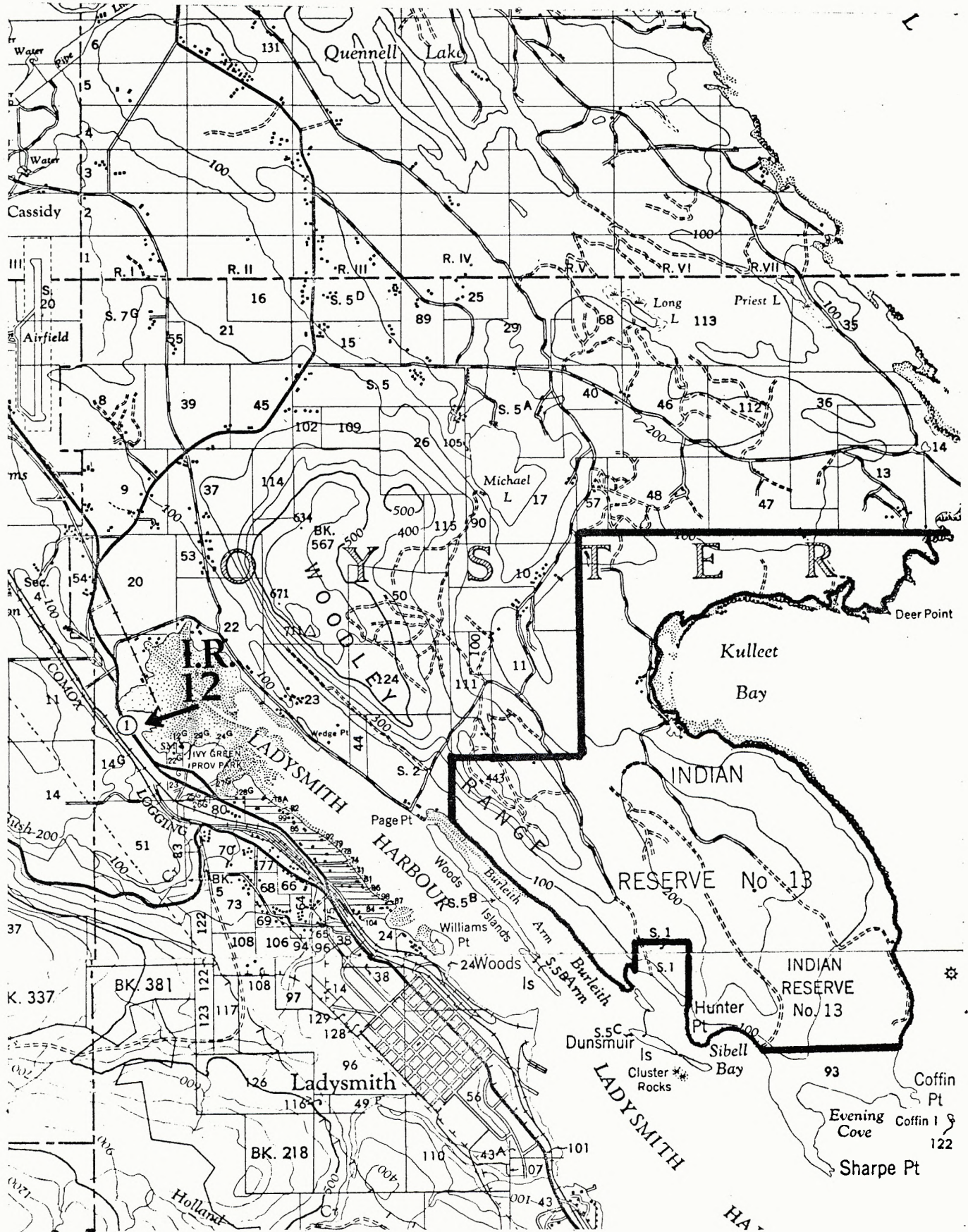
Say-la-quas No. 10, Squaw-hay-one No. 11, Oyster Bay No. 12 and Chemainus No. 13 have all been studied by P. S. Ross and Partners. The development plan recommended includes the following uses: sustained yield forestry, log booming, agriculture, oyster farming, marinas, golf course, riding stable and trail development, cottage and residential development, mobile homes, resort, motel, travel trailer park and campsites. Most recreational development is proposed for No. 13 with its attractive sea frontage and extensive acreage of upland. This reserve lies at the north boundary of the Cowichan region and adjacent to the Nanaimo region where recreational development is proceeding more briskly. It lies more within the economic influence of the Nanaimo region. Further it lies within a neighbourhood which has been more specifically defined as a recreational neighbourhood. Its potential for immediate development according to a cautiously staged plan is good.

Oyster Bay No. 12 supports a number of Band residences and the P. S. Ross report suggests that this use could be expanded. The report further states that there is no potential for marina development because of the extensive areas of tidal mud flats. However, it may possess a potential

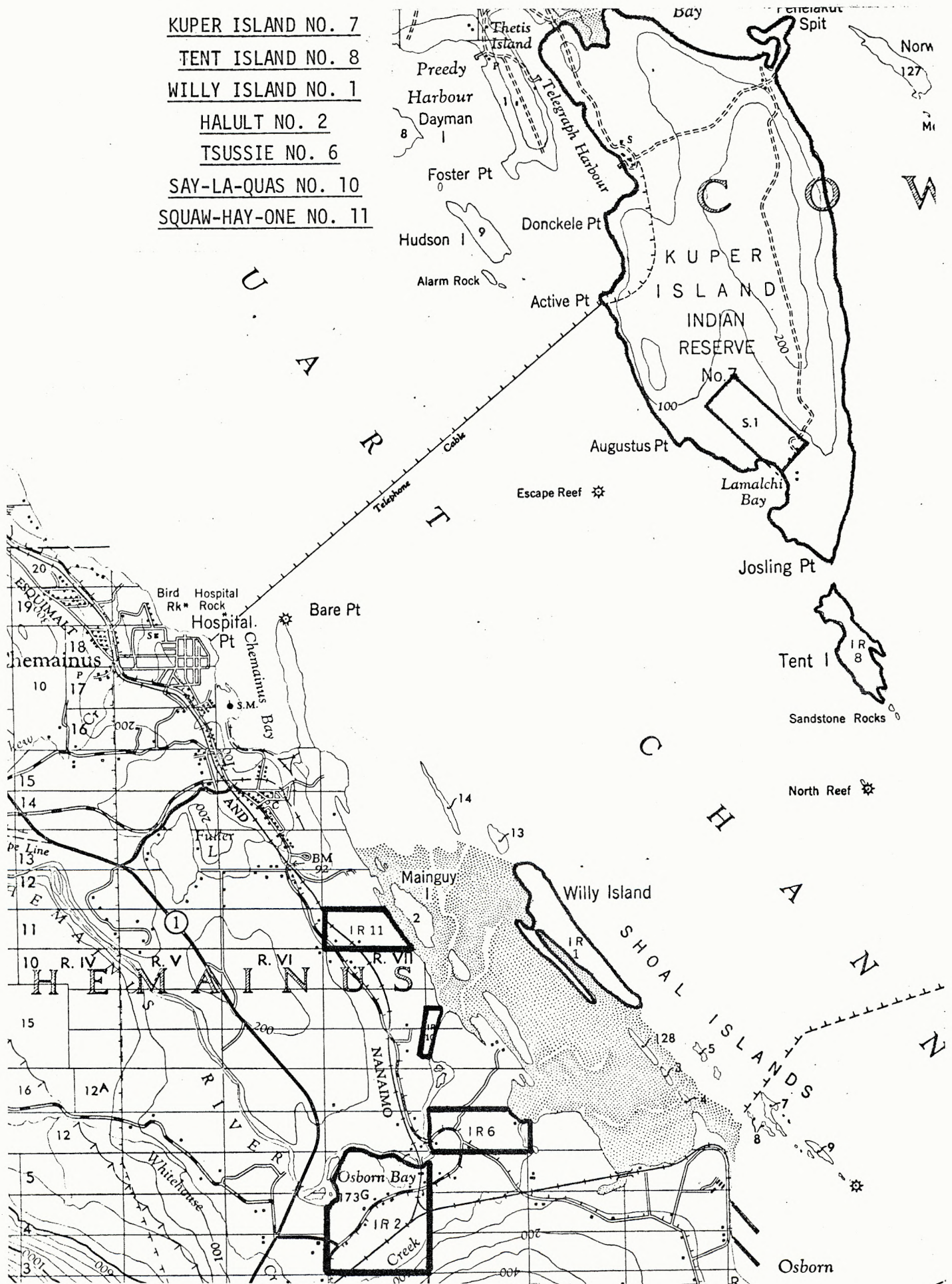
CHEMAINUS BAND

CHEMAINUS NO. 13, OYSTER BAY NO. 12

Scale: 1 inch = 1 1/4 miles



- KUPER ISLAND NO. 7
- TENT ISLAND NO. 8
- WILLY ISLAND NO. 1
- HALULT NO. 2
- TSUSSIE NO. 6
- SAY-LA-QUAS NO. 10
- SQUAW-HAY-ONE NO. 11



as a motel site or a campground. the report describes the presence of Ivy Green Provincial campsite situated close by as a threat to the success of a campsite operation. However, trends throughout the province have shown that private campsites located adjacent to Provincial Government campsites are strategically located to capture the overflow from the Government development. The use of the Ivy Green campsite for overnight camping has increased 30% since 1968. 22,040 camper nights were recorded during 1970.

Say-la-quas No. 10 lies approximately 1,000 feet from the existing public road and a water supply. The P. S. Ross report identified a potential for residential development but recommends that such a development would not be economic until road and water are brought to the reserve boundary.

Squaw-hay-one No. 11 contains Band residences. The P.S. Ross report recommends residential development over 45 acres of the reserve. The success of such a development would be dependent upon the availability of comparable homesites within the immediate neighbourhood.

HALALT BAND

Willy Island No. 1 is the largest of a group of islands known as the Shoal Islands lying in Stewart Channel south of Chemainus and less than a mile off shore. The physical characteristics of the mud flats lying between the island and the mainland may limit the development potential. Halalt No. 2 contains Band residences and a potential for agricultural development. That portion fronting on the Chemainus River could possess recreational value. The reserve is surrounded by a loose density residential neighbourhood with small farm holdings scattered throughout. Agriculture may be a good interim use until higher uses become evident. An assessment of clearing costs and soil characteristics would be necessary to more accurately define the potential for agricultural development.

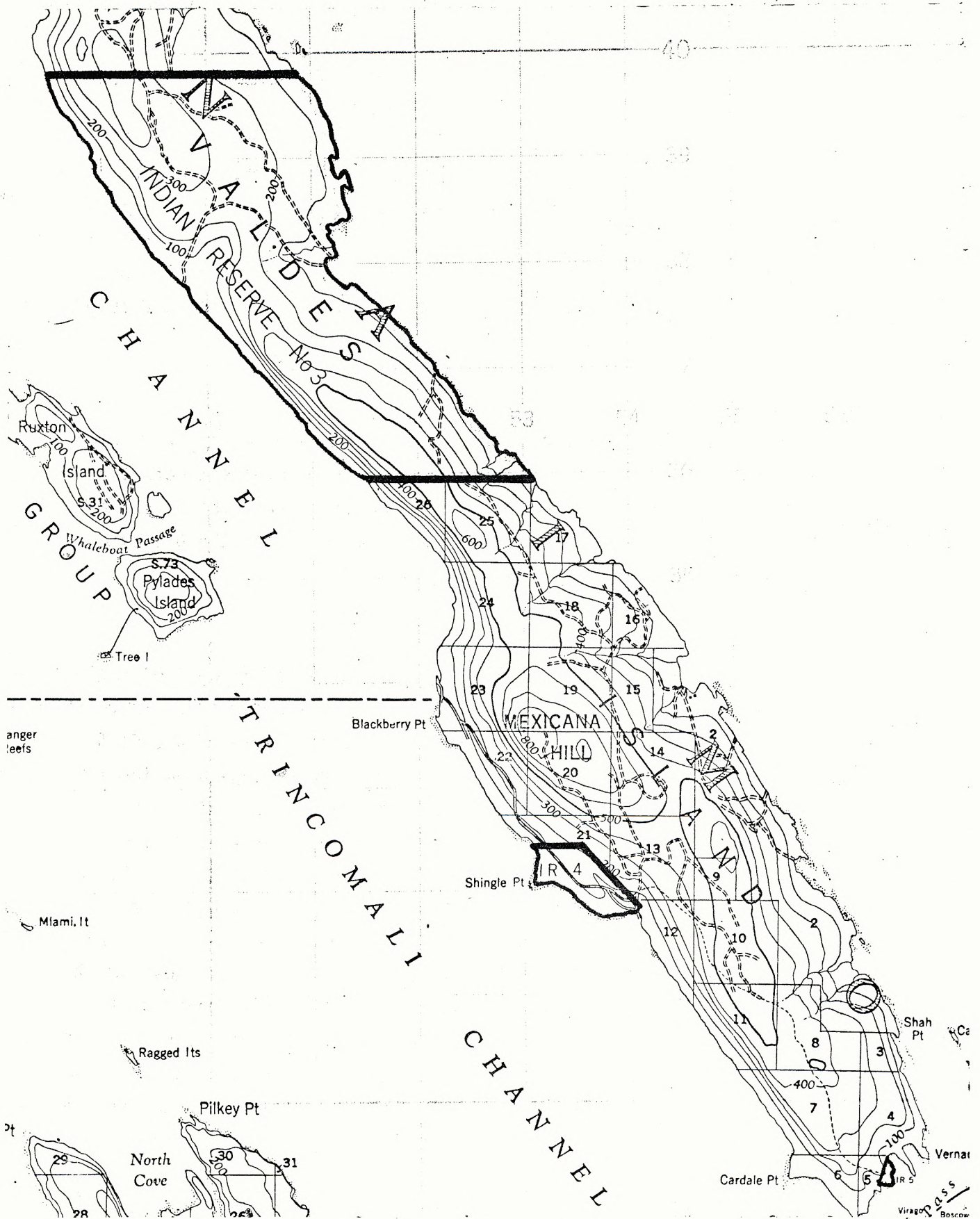
LYACKSON BAND

Lyackson No. 3, Shingle Point No. 4 and Portier Pass No. 5 are all situated on Valdes Island. The island, 10 miles long and approximately one mile wide stretches between Gabriola Island and Galiano Island and

72.
LYACKSON BAND

LYACKSON NO. 3, PORTIER PASS NO. 5, SHINGLE POINT NO. 4

Scale: 1 inch = 1¼ miles



faces the open channel between Vancouver Island and the mainland. Lyackson No. 3 contains 1,756 acres and several timber sales. All three reserves undoubtedly have a potential for recreational development which is dependent upon access. The island is relatively uninhabited and, therefore, it has no scheduled ferry service or Government maintained roads. It is difficult to judge whether or not the market would be receptive to a subdivision with water access only. It would be interesting to test the market with a modest subdivision of this nature. In the meantime, the forest management potential for Lyackson No. 3 could be explored. It lies only 2 miles by water from the sawmills and pulp mill at Nanaimo.

PAUQUACHIN BAND

The 20 year gravel lease within Hatch Point Reserve No. 12 is presently contributing to Band revenue. The future development potential of this reserve should be examined closely in order that the lessee can be directed to restore the site in such a condition that the ultimate potential use will not be destroyed.

MALAHAT BAND

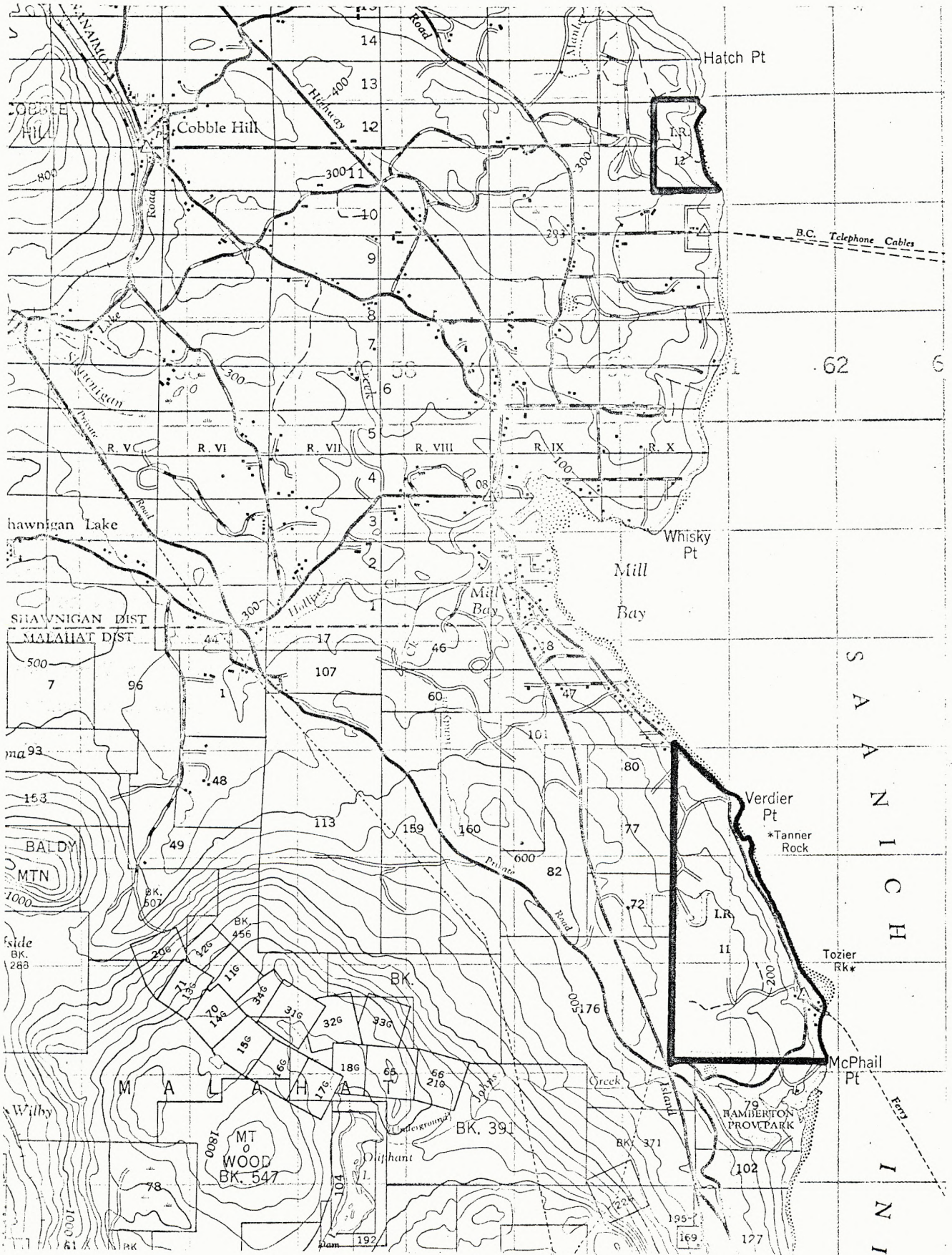
The development potentials of Malahat Reserve No. 11 were explored by P. S. Ross and Partners in their report dated December 1968. Several use potentials were considered by the final recommendation discounted all uses except the development of residential and cottage building sites.

The reserve lies near the southern boundary of the Cowichan region and adjacent to the Capital region. It might, therefore, be more exposed to the economic influences of the Capital region. Further it lies adjacent to the Provincial Government campsite development at Bamberton. The P. S. Ross report concluded that a campsite development would not likely succeed because of the competition offered by the Provincial Government campsite and other commercial campsites within the area. In view of the content of an economic report recently completed within the Capital region (Land Use Services, December 1971) a comment in retrospect concerning campsites is offered. There is a shortage of campsites within the Capital region and the number of potential users increases at approximate-

HATCH POINT NO. 12

MALAHAT NO. 11

Scale: 1 inch = 1 1/4 miles



ly 10% annually. Further, trends throughout the province have shown that private campsites located adjacent to Provincial Government campsites are in a good position to capture the overflow from the Government development. The overnight use of the Bamberton campsite has increased 25% since 1968 and it contains only 50 camping units. 18,442 "camper nights" were registered in 1970. In view of these recent trends it is suggested that the potential for campsite development deserves a second look. Further, in view of the modest pace of urban development within the neighbourhood it is evident that a residential development should be phased cautiously and slowly. A campsite development might be considered as an interim use until the potential for residential development becomes more imminent. With 565.93 acres involved it should be possible to plan the two developments without conflict.

PENELAKUT BAND

Tsussie No. 6 is presently being farmed by the Band member in residence. Kuper Island No. 7 includes all of Kuper Island (2,138 acres) with the exception of one parcel. Although there is no ferry service to Kuper Island, a bridge connects Kuper Island to Thetis Island. There is regular ferry service between Thetis Island and Chemainus on Vancouver Island. A good potential exists for a recreational development on Kuper Island, including summer homesites. The island is relatively large and, therefore, care should be taken to select the area for development in accordance with an overall development plan for the entire island. The possibility of developing Tent Island No. 8 as a Provincial Marine Park is being considered. Tent Island is an 85 acre island lying immediately south of Kuper Island.

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