THE IMPORTANCE OF THE COMMERCIAL FISHING INDUSTRY TO SELECTED REMOTE COASTAL COMMUNITIES OF BRITISH COLUMBIA

by

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Foreword

It is the recognised responsibility of the Fisheries Service, Pacific Region, to manage the west coast fishery resources on behalf of the Canadian people. Insofar as the fisheries resources is intricately related with the everyday lives of thousands of our Canadian population, resource managers have to be aware of a broad range of economic and social considerations which can be affected by their decisions. In this regard, numerous studies are conducted by the Fisheries Service, Pacific Region, each year to provide decision makers with information which will help them to assess the consequences of their decisions. In this study, Mr. Sinclair has examined in detail the relative contribution of the fishery to different types of communities in British Columbia, and the analysis that he has used here can be usefully extended to all other communities along the coast.

Blake A. Campbell,
Chief, Economics Branch,
Fisheries Service,
Pacific Region.

Preface

This study requires no extensive introduction. It is, as intended, nothing more than a straightforward assessment of the economic and social significance of the west coast commercial fishing industry to selected isolated coastal communities of British Columbia. It is my sincere wish that it will give all who read its contents a better understanding of fishing's special social and economic value to the people of British Columbia.

This study was carried out on a part-time basis over a twelve month period. For this reason it can be appreciated that I am indebted to many individuals for their help and co-operation. Many branch offices and individual officials provided data or information which will not be recognised from the list provided in Appendix Four. Unfortunately, space does not permit, here, an individual acknowledgement for all those who helped by providing information.

I am especially indebted to my immediate superior and tormentor Blake A. Campbell whose advice, consultation, and encouragement was invaluable. Much of the data presented in this study could not have been compiled if it were not for the information systems established by Mr. Campbell in the past.

Comments made by Professors Sam Sidneysmith and Parzival Copes

on earlier drafted portions of this paper were helpful and are reflected in this final version.

Special thanks is due the many research assistants and enumerators used throughout the construction of this paper. Help was received from Glen Moody, Wayne Kuypers, Charles McKenzie, Mark Budgen and Al Haldorson.

Those who helped correct grammar, shared the day-to-day frustrations of preparing this manuscript and typing its many drafts include Mary Harrison, Diane Pocetti, and Ann Kostyke.

Any errors or omissions remain my responsibility.

William F. Sinclair

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Table of Contents

List of Tables, Charts and Graphs

List of Tables, Charts and Graphs

List of Tables, Charts and Graphs

List of Tables, Charts and Graphs

List of Tables, Charts and Graphs

INTRODUCTION

In this paper the purpose is to provide fishery resource managers with some insight into the current economic status of the British Columbia tidal fishery resource as it relates to the economies of the coastal communities of the Province and their residents. To this end, a number of coastal communities have been chosen and employment and income data comparisons for each of their basic industries presented. With the exception of the more populated areas of British Columbia, the communities included in the study are distributed over the entire length of its shoreline. In this way, it is hoped that an indication of the west coast fishery's true importance to the development of the remote areas of the province is realized.

In the following chapters careful attention will be paid to general trends within the commercial fishing industry in order to provide some idea of what commercial fishing's relative contribution to the communities may be in the future. With a view to this objective, Chapter One together with Appendix One and Two will be used to paint a broad general picture of the fishing industry's (particularly salmon fishing's) changing role in the remote communities of the province. This is done in an admittedly over-

simplified fashion. It is felt however, that the nature of the trends as well as their application here, avoids the necessity of having to employ rigorous analysis.

In Chapter Two the mobilities of fishermen are discussed with the intention of providing an overall view of what fishing's role, as a source of employment, means to the residents of remote coastal communities.

Turning to the more specific aspects of the study, Chapter Three will introduce the communities included in the study and provide detailed information on the number of heads-of-households employed in the primary sector of the fishing industry and dependent upon fishing for a major portion of their income. Chapter Four introduces the criteria used in determining the importance of commercial fishing to the community and provides detailed data which will facilitate easy comparisons between fishing and other base industries.

In what follows particular emphasis will be placed on the salmon fishery. This is because of the dominant role that salmon fishing has played (both in the past and today) in the commercial fishing industry of British Columbia.[1] It should be noted however, that incomes and employment figures as well as the overall impact of fishing on communities, is presented in terms of the total commercial fishery and not just the commercial salmon fishery.

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1 For a brief overview outlining the importance of salmon relative to other commercial fish species, see Appendix One.

Chapter One

THE COMMERCIAL SALMON FISHERY AND THE ECONOMY OF BRITISH COLUMBIA

While the importance of salmon fishing to the Indian people and the early settlers of British Columbia has been fairly well attested to, the role of salmon fishing in determining the location and frequency of communities along the Canadian west coast has not been subject to the same scrutiny.[1] British Columbia's dependence on its resources has meant that its settlements have been located in the areas containing the natural resources;[2] its growth has therefore been more sporadic than in other, more industrially oriented, parts of North America.[3] The purpose of this chapter is to: (1) describe and compare the importance of logging, mining, and fishing in determining the location and number of communities along the British Columbia coast; (2) trace the general history of the movement of salmon canning and fishing operations, and (3) show the reasons why the relocation of canneries and fishing vessels which

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1 A number of excellent books have been written on the salmon industry in British Columbia. Among the more familiar are those by W. McKeivill and Cicely Lyons (see bibliography).

2 The role Natural Resource base industries play in British Columbia's economy is discussed in Appendix Two.

3 Edwin R. Black, "British Columbia: the Politics of Exploitation", Exploiting Our Economic Potential Public Policy and the British Columbia Economy, ed. by R.Shearer, Montreal, Holt Rinehart and Winston of Canada, pp. 24 - 25.

Walter B. Hardwick, Geography of the Forest Industry of Coastal British Columbia, Occasional papers in Geography No. 5, Vancouver Tanlatus Research Ltd., 1963.

have prevailed in the past are likely, all else being equal, to continue in the future.

British Columbia Resource Based Industries and the Community

For the purpose of this paper, it is necessary to differentiate between the interior of British Columbia and the coastal region. The predominant resources in the former are mining and agriculture with logging playing a comparatively minor role. In the latter, logging and fishing are of prime importance, while mining plays the minor role. In our concern with the coastal region it is essential to remember that fishing,in some areas, is the primary economic activity and that its position in the economy of the coastal region is appreciably more significant than in the province's economy, viewed in toto.

Particularly in the early days, logging and mining operations were of a limited value in helping to establish permanent communities. Until fairly recently, logging in British Columbia was done by many small firms, for the most part operating on a "cut and leave" policy which neglected to preserve the timber resource. Once all the timber in a particular area was exhausted, the entire camp would move to a new location. The employees of these operations spent the logging season in the forests and returned to Vancouver in the winter. Logging operations of this type contributed very little to the establishment of permanent communities. However today logging payrolls contribute greatly to local economies and logging operators engage in good conservation practices which are conducive to maintaining permanent settlements. Only with the passing of small logging operators and the gradual dominance of big

companies - which have shown a keen interest in preserving permanent settlements[4] - have communities solely dependent on logging become commonplace.[5]

The importance of mining in the early settlement of British Columbia is well documented in the many books about the 1860 gold rush. Yet, as with logging, mining did little towards establishing permanent settlements; the history of British Columbia contains many cases of short-lived mining towns or villages, which disappeared after the ore or vein ran out. With the advent of capital-intensive, open-pit operations, and the technology to work profitably from large deposits of low grade ore, much of the inherent instability of the mining industry has gone. Even today there are still some high grade, short-lived (five to eight years) mining installations in operation.[6] The recent closure (1968) of an iron mine (Falconbridge) at Zeballos on Vancouver Island has created a particular hardship for this village, which is slowly transforming from a mining to a logging oriented community.[7]

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4 Kathleen Dalzell, The Queen Charlotte Islands 1774 - 1966, C.M. Adam, Terrace, B.C., 1968, p. 305.

5 Gold River on Vancouver Island is an example of an "instant town" developed by the Tahsis Company to provide employees with a permanent community.

6 Throughout this discussion it is accepted that continued existence of a profitable mining operation means mining for ore which commands prices in the market which permit the possibility of a profitable operation.

7 If it was not for the fact that Tahsis Company has indicated that they intend to move a logging operation to Zeballos within the near future, and for the expectations that usually accompany a new road (opened September 18, 1970) connecting the community to the outside world, there is a good possibility that Zeballos, with no other economic incentive, would become a ghost town within the very near future.

Compared to logging or mining, the salmon fishing industry has existed quite stably within certain locations. Unlike timber or ore deposits, salmon is a flow resource which recurs at regular intervals in particular localities over short periods of time.[8] The salmon is, by nature, subject to cyclical and seasonal fluctuations, and the amount of salmon in a particular region is directly related to the quantity present in previous periods. Unless the endogenous salmon stock of a particular river or its system is severely depleted, salmon runs will occur in certain localities at regular intervals; this helps to give a stability of existence to those communities which are dependent on salmon fishing. This is not necessarily the case in those communities where the primary economic input is based on other resources.[9] Also to be noted, the salmon spawns in fresh water at periods unique to its life cycle, therefore, there is a better than average chance that communities dependent upon salmon fishing will be located near a fresh water supply in an area sheltered from weather. These are two characteristics generally deemed desirable when choosing a settlement location.[10]

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8 Ore deposits are referred to as stock resources. The total physical quantity of a stock resource does not increase significantly with time. Timber, on the other hand, is a renewable resource but only over long periods of time - the time it takes for a tree to grow to the stage where it is suitable for use as processed forest products.

9 The degree to which the population in some areas was dependent on fishing is dramatically shown in Chapter 46 of Kathleen E. Dalzell, Ibid., pp. 295 - 307.

Miss Dalzell stated "Money was short, but gardens grew the same fine produce, and fish and game were plentiful so no one went hungry - although diets could become monotonous during the winter months".

10 R.G. Large, The Skeena - River of Destiny, Mitchell Press Ltd., Vancouver, 1957, pp 150 - 161.

While the seasonal and cyclical nature of the salmon run provides certain economic stabilities within the community itself, the size and growth of the community is often limited by the uncertainty of income streams over time. Members of a village or community often are loath to make investments in an area where the only source of income for local residents is tied directly to the revenue gained from salmon fishing.

Especially in earlier times the salmon fishery played a very important role in helping to establish British Columbia's coastal communities.[11] Cannery operations were highly labour intensive and, because of this, they encouraged workers and their families to live in areas within easy reach of the processing plant. Moreover, the salmon resource was available (although the amount varied from year to year) on a regular basis and provided a stability of existence which was not always present when salmon was not available. In short, the salmon was a regular source of easily-preserved food protein which helped to distinguish one settlement site from another,[12] whereas it is only with the development of new

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11 R.G. Large, Prince Rupert - A Gateway to Alaska, Vancouver, Mitchell Press, 1960, p. 19.

12 The importance of the salmon to the community can be more fully appreciated by the following excerpt from "Four Years in British Columbia and Vancouver Island", By Commaner R.C. Mayne R.N. F.R.G.S. 1852. Recorded in Port Hardy and District: Historical Story of Northernmost Vancouver Island, Edited and illustrated by Harold and Irene Pym.

"Fort Rupert is the newest and best built station of the Hudson Bay Company I have seen, and the gardens are very nicely laid out. Of course, like all the rest, it is stockaded, and has its gallery and bastions. It stands almost in the middle of the Indian Village. Some idea of the number of salmon in these parts, and the prodigality of the Hudson Bay Company under the old regime may be gathered from the fact told to me by one of these officers, that before he took charge of the post, 3000 salmon were used annually as manure for the garden."

exploitation techniques and a change of production philosophy that mining and logging have become important in establishing permanent coastal communities.[13]

Salmon Fishing and its Influence on Communities Today

The diminishing importance of the salmon fishing industry in developing and maintaining remote coastal communities in more recent times can be attributed to two factors: (1) the relative decline in the importance of fishing in British Columbia's expanding economy; (2) the effect of technological advancements in fishing combined with the fact that successive generations tend to settle in large urban centers.[14]

The first of these factors is a secular trend evolving over a long period of time; a community which emerges out of the virgin forest in an isolated region will, given time, eventually develop something akin to a service sector, a general store, a sawmill and other services which start up and grow with the community. Once an infrastructure has developed, the economic base becomes more diversified so that more than one resource becomes important to the economy, and some semblance of a secondary industry, not purely dependent upon local consumption, may begin to emerge. The community's existence no longer depends on any single business or industry and, at this stage, its long-term existence is more or less assured. There are a number of examples of this type of progression on the Pacific Coast.[15] Port Hardy, in particular, is a community, originally

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13 Kathleen E. Dalzell, Ibid., p. 305.

14 Economic Council of Canada, Fourth Annual Review: The Canadian Economy from the 1960's to the 1970's, (Ottawa, Queens's Printer, 1967), pp.177-8.

15 Boyce Williams, "Port Hardy Confident of Happy Days Ahead, Vancouver Sun, September 1970, p. 13.

established for salmon fishing, which slowly became more oriented towards logging and service industries (an airport etc. serving a number of surrounding communities) and finally in 1968 became the location of one of the largest mining operations on the Pacific Coast.[16] This phenomenon obviously does not occur in every instance but, over the long-run, in a broad perspective, it has resulted in a diminuation of the role played by commercial fishing along the coast of British Columbia.

This trend can be seen in Table 1:1, which shows the total number of persons employed in the primary and secondary phases of the fishing industry of British Columbia between 1952 and 1968. According to the data provided in Table 1:1, the total labour force in British Columbia increased by 79% in the period 1952 to 1968 (from 446,000 to 797,000), and in the same period the number of people employed in the commercial fishing industry declined by 9 per cent (from 17,115 to 15,585). Furthermore, expressed as a percentage of British Columbia's labour force, fishing employment has declined from 3.84 per cent in 1952 to 1.95 per cent in 1968.[17]

The second of the two factors which have helped to dilute the importance of fishing to British Columbia's remote community life stems directly from the technological advances made both in the primary and secondary phases of the salmon fishing industry.

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16 An official of Utah mining estimated that by late 1970 or early 1971, the operation will employ 500 employees at an annual average payroll of $5,000,000.

17 It should be cautioned that the labour force is defined as all persons working and seeking employment. The percentage of persons employed in the salmon industry as a percentage of total persons employed in British Columbia would be a more accurate measure of the industry's importance to B.C. residents. Table 1:1 does however serve to indicate the declining role of the fishing in British Columbia's economy.

TABLE 1:1 EMPLOYMENT IN FISHING INDUSTRY AS PERCENTAGE OF BRITISH COLUMBIA'S TOTAL LABOUR FORCE 1952-1967.

	Number of persons employed in primary and secondary phases fishing industry	Total number of persons in B.C. labour force	Employment in fishing industry as % of total B.C. labour force
1952	17,115	446,000	3.84
1953	15,851	450,000	3.52
1954	16,984	461,000	3.68
1955	16,251	480,000	3.34
1956	15,269	503,000	3.04
1957	16,257	538,000	3.02
1958	18,323	552,000	3.32
1959	18,456	562,000	3.28
1960	17,714	573,000	3.09
1961	20,437	586,000	3.49
1962	20,130	599,000	3.36
1963	19,993	616,000	3.25
1964	16,748	639,000	2.62
1965	16,319	667,000	2.45
1966	15,390	710,000	2.17
1967	15,269	762,000	2.00
1968	15,585	797,000	1.95

Source: The Labour Force Statistics (monthly), Queen's Printers, Ottawa, Dominion Bureau of Statistics Publication.

Annual Statistical Review of Canadian Fisheries Volume 1,1953-68, Economic Intelligence and Statistics Division Fisheries Service, Department of Fisheries and Forestry, Queen's Printers, Ottawa, 1968.

Summary of Economic Activity in British Columbia 1967-1970.

The general tendency of Canadians to move to more populated areas has been helped to a considerable extent by some changes which have taken place within the fishing industry. In the primary sector, faster and better-equipped fishing vessels have permitted fishermen to transport unprocessed salmon over long distances.[18] As a result, fishermen have been able to move from small coastal communities, located close to main fishing locations, to the southern urban centers considerably removed from prime fishing areas. Chart 1:1 divides the British Columbia coast line into selected geographical regions. By comparing Tables 1:2 and 1:3 to Chart 1:1 a pattern of both fishermen and their vessels is plainly discernable.

Changes in the secondary phases of the industry have been even more dramatic and have had a greater influence on the coastal communities of British Columbia than those in the primary sector. On the one hand, improvements in technology have resulted in lower transportation costs for unprocessed salmon, and as a result, the processing operation has become more labour and market (instead of supply) oriented. On the other hand, these changes in technology have not only allowed a greater freedom in selecting plant locations, but have also permitted economies of scale previously unattainable.

Many factors have to be considered when deciding where to locate a processing plant. Industrial plants may be "power oriented" if highly

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18 Seventy-five thousand pieces of sockeye salmon were transferred 4,120 miles from Bristol Bay to Steveston for processing in July 1970 a feat heretofore impossible because of quality deterioration.
Bryce Williams, "B.C. Packer Brings First U.S. Sockey", Vancouver Sun, Vancouver, July 1970, p. 1

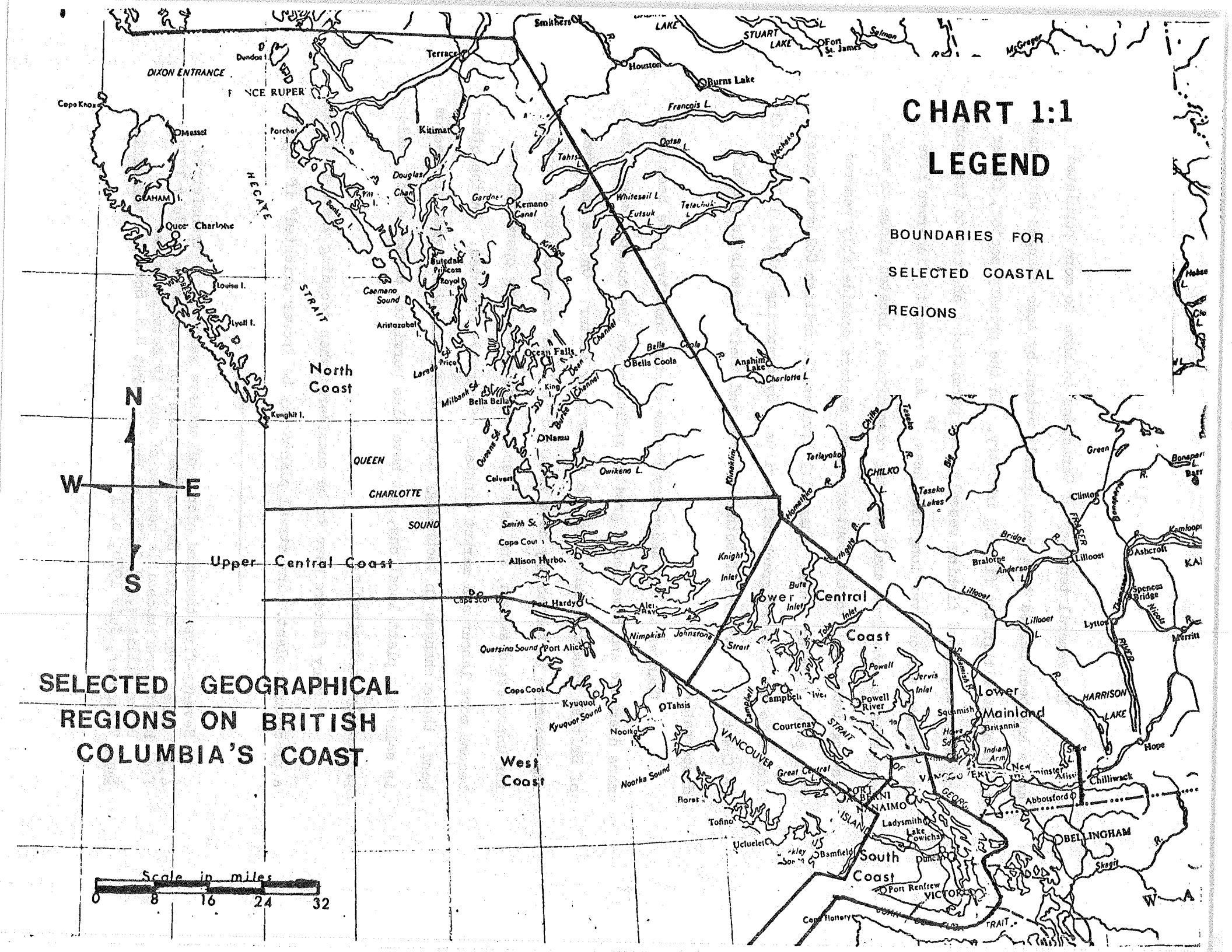
CHART 1:1
LEGEND
BOUNDARIES FOR SELECTED COASTAL REGIONS
SELECTED GEOGRAPHICAL REGIONS ON BRITISH COLUMBIA'S COAST
North Coast
Upper Central Coast
Lower Central Coast
West Coast
South Coast
Lower Mainland
N
S
E
W
Scale in miles
0 8 16 24 32
DIXON ENTRANCE
HECATE STRAIT
QUEEN CHARLOTTE SOUND
VANCOUVER ISLAND
GEORGIA STRAIT
Smithers
Terrace
Houston
Burns Lake
Francois L.
Ootsa L.
Whitesail L.
Eutsuk L.
Tatlayoko L.
CHILKO L.
Taseko Lakes
Anahim Lake
Charlotte L.
Bella Coola
Ocean Falls
Bella Bella
Namu
Owikeno L.
Allison Harbo.
Port Hardy
Port Alice
Kyuquot
Tahsis
Nootka
Tofino
Ucluelet
Campbell River
Powell River
Courtenay
Nanaimo
Ladysmith
Duncan
Victoria
Port Renfrew
Cape Flattery
Squamish
Britannia
Indian Arm
Vancouver
New Westminster
Chilliwack
Abbotsford
Bellingham
Hope
Lillooet
Lytton
Ashcroft
Clinton
Merritt
Bralorne
Anderson L.
Spences Bridge
Skagit

TABLE 1:2 - DISTRIBUTION OF FISHERMEN IN THE FISHING INDUSTRY BY REGION OF PERMANENT RESIDENCE ON B.C. COAST IN TEN YEAR PERIODS 1950 - 1970.

	1950		1960		1970	
	No.	%	No.	%	No.	%
North Coast	2310	19.0	2350	15.5	2013	17.6
Upper Central Coast	1021	8.4	682	4.5	658	5.8
Lower Central Coast	1605	13.2	2122	14.0	1982	17.3
South Coast	1836	15.1	2319	15.3	965	8.4
West Coast	766	6.3	939	6.2	795	6.9
Lower Mainland	4584	37.7	6700	44.2	5038	44.0
Total	12,122	100%	15,112	100%	11,451	100%

Source: These data are based on annual reports by the Department of Fisheries District Fishery Officers. Data is more useful in indicating trends rather than representing accurate totals.

The 1970 data were obtained from personal licence records Department of Fisheries.

TABLE 1:3 - DISTRIBUTION OF FISHING VESSELS IN THE FISHING INDUSTRY BY REGION OF HOME PORTS ON B.C. COAST IN TEN YEAR PERIODS 1950 - 1970.

	1950		1960		1970	
	No.	%	No.	%	No.	%
North Coast	2337	21.7	1546	18.2	1094	15.8
Upper Central Coast	808	7.5	459	5.4	200	2.9
Lower Central Coast	1540	14.3	1385	16.3	568	8.2
South Coast	1583	14.7	1197	14.1	962	13.9
West Coast	732	6.8	586	6.9	423	6.1
Lower Mainland	3726	34.6	3287	38.7	3667	53.0
Total	10,726	100%	8,460	100%	6,913	100%

Source: For the years prior to 1970, these data were obtained from reports made by district fishery officers. The 1970 data were developed from salmon fishing licences and can be assumed to be more accurate. Data prior to 1970, should be considered more useful in indicating trend rather than representing accurate absolute totals.

mechanized, "labour oriented" if there is a ready availability of labour, "transport oriented" if its products are costly to move, "supply oriented" when raw materials are costly to transport to production locations, and "market oriented" when any factor or combination of factors make it necessary. Sometimes, as is the case in the salmon processing sector of the industry, one factor may dominate over all others as the chief constraint in determining location. Prior to the improvement in technique for transporting raw salmon, the major constraint in the salmon processing industry was the need to obtain, locally, large quantities of good quality salmon for processing (i.e., the industry was "supply oriented"). However once this difficulty had been overcome with improved refrigeration techniques and faster boats, the individual canneries found it economically advantageous to operate more closely to the populated areas (where both labour and market outlets were more readily available) during the short fishing season. Table 1:4 shows the tendency of salmon canneries to concentrate in two main coastal areas, even though the decline in the number of canneries has disguised this trend to some extent.[19]

Besides permitting a greater freedom in selecting plant locations, technological advances also make it possible for fishing companies to gain economies of scale from operating in central locations. These can be divided into two categories: first, those economies which result from external factors ; second, those economies which result from internal

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19 While the economic analysis applied here is generally correct, the world of reality is an untidy place. It may be the case that individual plants find it to their advantage when competing with larger operations to locate in areas where competition is less keen. This would probably be true of the two processing operations located in Bella Bella and Hardy Bay during 1969 (Chart 1:3).

TABLE 1:4 NUMBER AND PERCENTAGE DISTRIBUTION OF CANNERIES ON B.C. COAST IN TEN YEAR PERIODS 1920 - 1970.

	1920		1930		1940		1950		1960		1970	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
North Coast	29	44.6	25	42.4	15	37.6	9	37.5	8	36.4	6	40.0
Upper Central Coast	16	24.6	16	27.1	8	20.0	1	4.2	1	4.5	2	13.3
Lower Central Coast	2	3.1	3	5.1	1	2.5	-	-	-	-	-	-
South Coast	3	4.6	1	1.7	1	2.5	1	4.2	1	4.5	1	6.7
West Coast	4	6.2	6	10.2	3	7.5	1	4.2	-	-	-	-
Lower Mainland	11	16.9	8	13.6	12	30.0	12	50.0	12	54.5	6	40.0
Total	65	100%	59	100%	40	100%	24	100%	22	100%	15	100%

SOURCE: Department of Fisheries and Forestry Production Sheets, Economics Branch, Vancouver, B.C.

factors.

The external economies are associated with close inter-industry relationships. In the case of salmon processing, the ability of different cannery companies to operate in close proximity to one another has allowed them to share several mutually beneficial services. Among the most important of these services are: the joint use of small boat harbours and wharfage, and the combined use of readily available casual labour. Isolated firms are more dependent on their own resources and less able to perform certain functions because of budget limitations.

The internal economies achieved by amalgamation are, in reality, cost savings from those economies of scale, which are realized from the benefits accruing when a number of small plants are amalgamated into a single, larger operation.

The net result of these two influences has been an amalgamation of many small companies into two or three large companies and a steady decline in the number of processing plants on the coast. Charts 1:2 and 1:3 show the declining geographical congregation of canneries from 1920 to 1969, while Graph 1:1 and Table 1:4 show the steady decline in the number of salmon canneries on the coast. Comparing the trend shown in Graph 1:1 to the constant trend of canned salmon pack output in Graph 1:2 and the declining number of salmon processing workers shown in Graph 1:3,[20] one can readily see the slow but constant tendency for output to be maintained by a smaller number of canneries using fewer employees. The overall result has been one of changing the entire structure of the industry, which,

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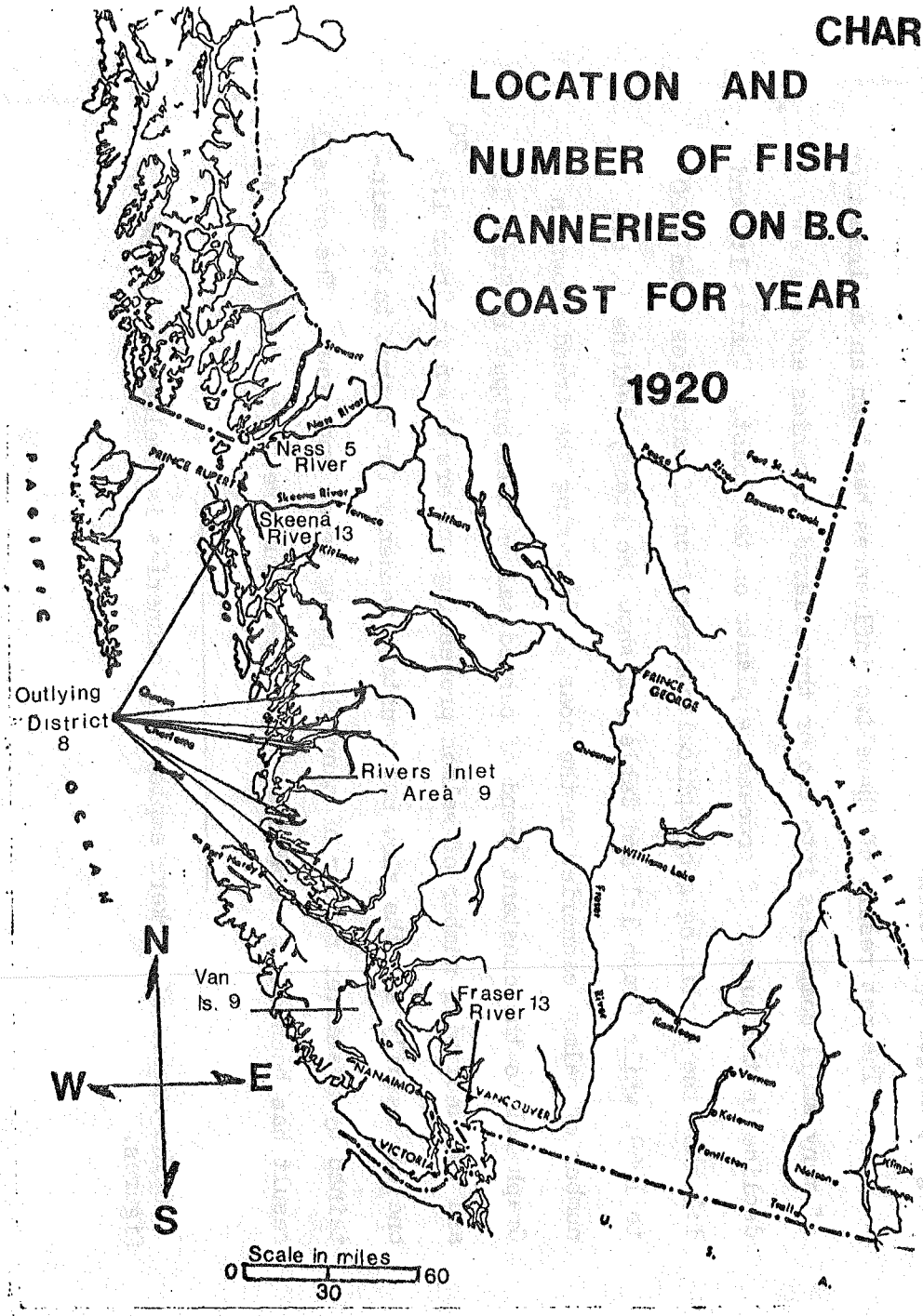
20 The number of workers employed in canneries is included in these figures.

CHART 1:2

LOCATION AND NUMBER OF FISH CANNERIES ON B.C. COAST FOR YEAR 1920



LOCATION AND NUMBER OF FISH CANNERIES ON B.C. COAST FOR YEAR 1940

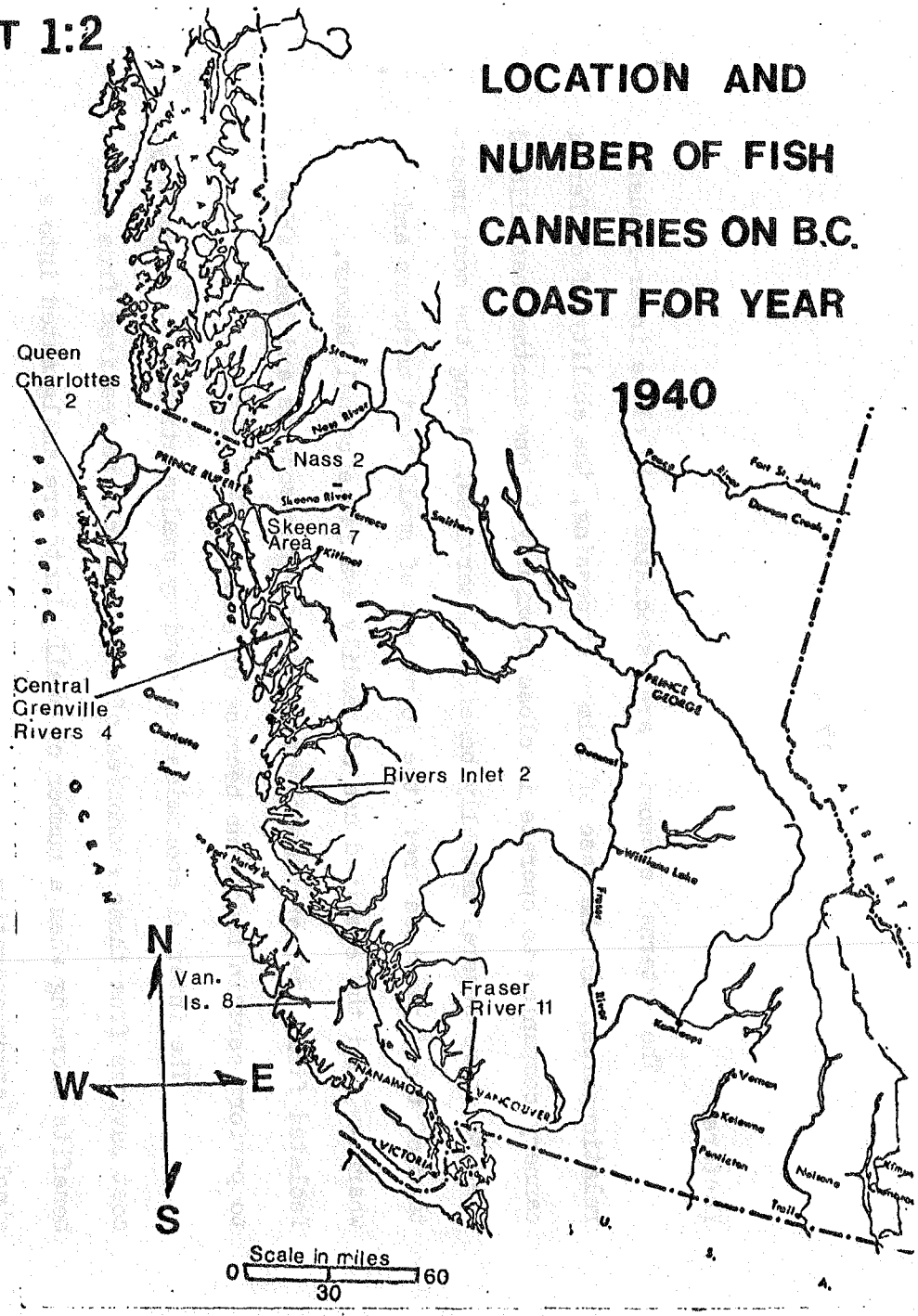
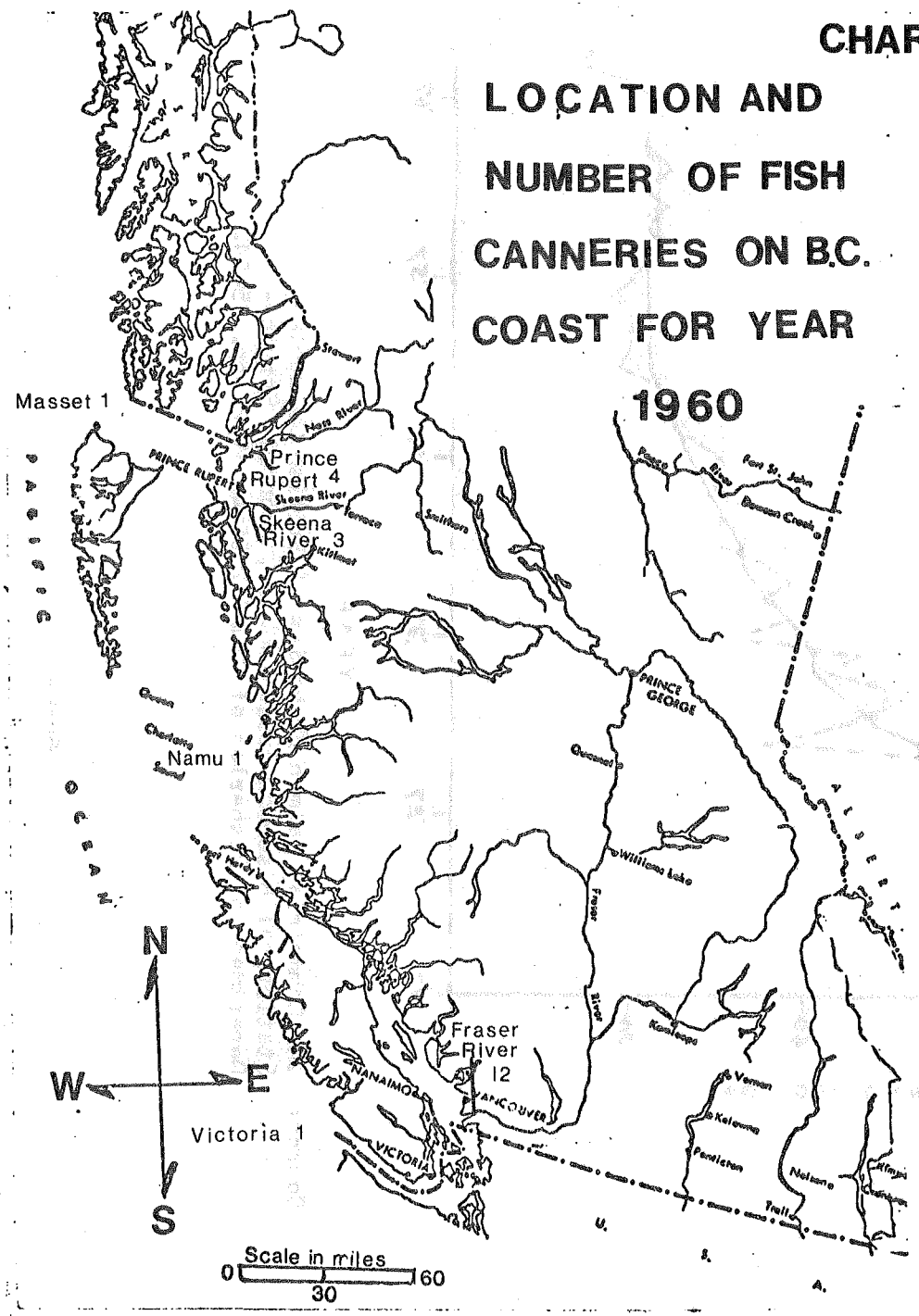
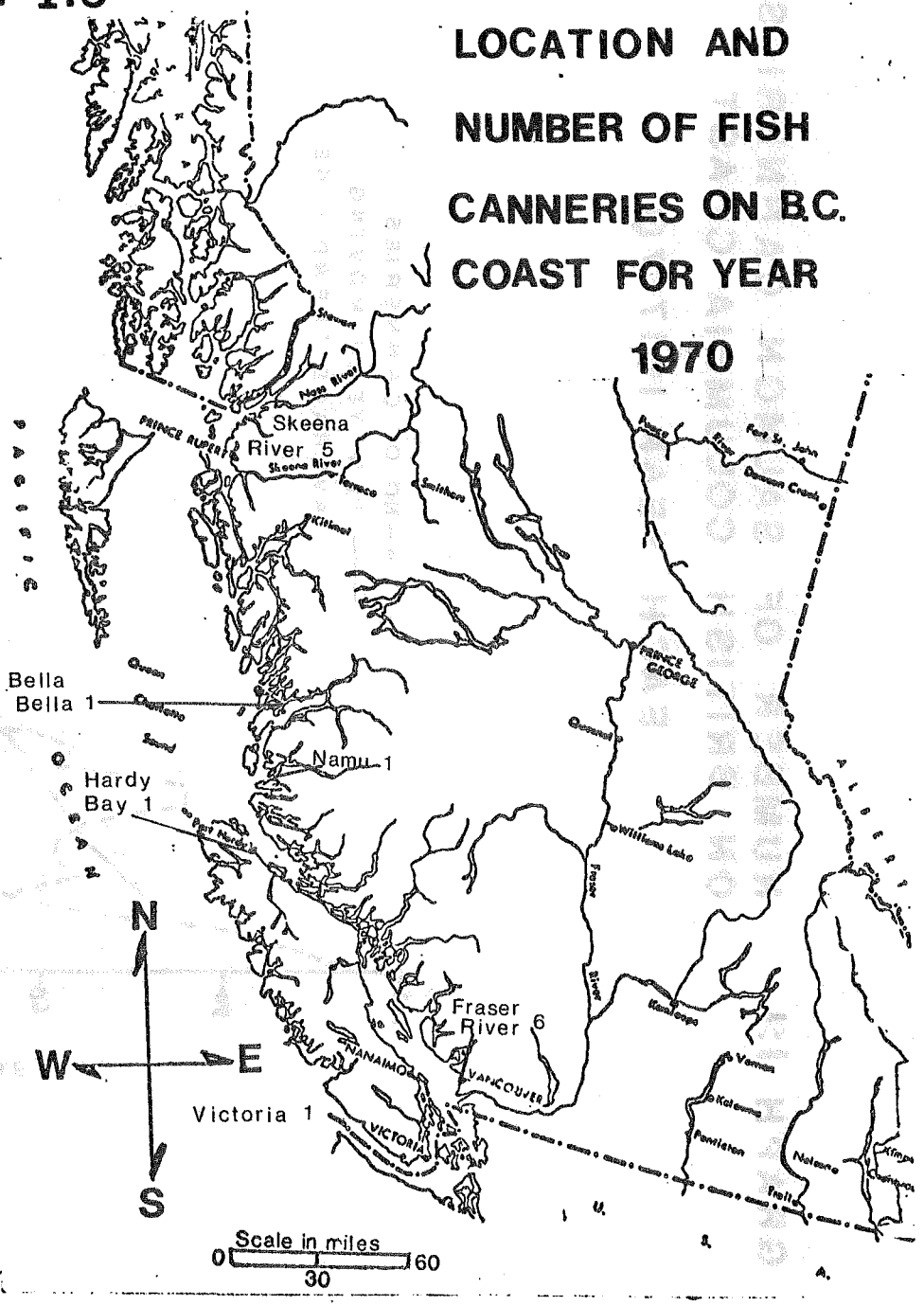


CHART 1:3

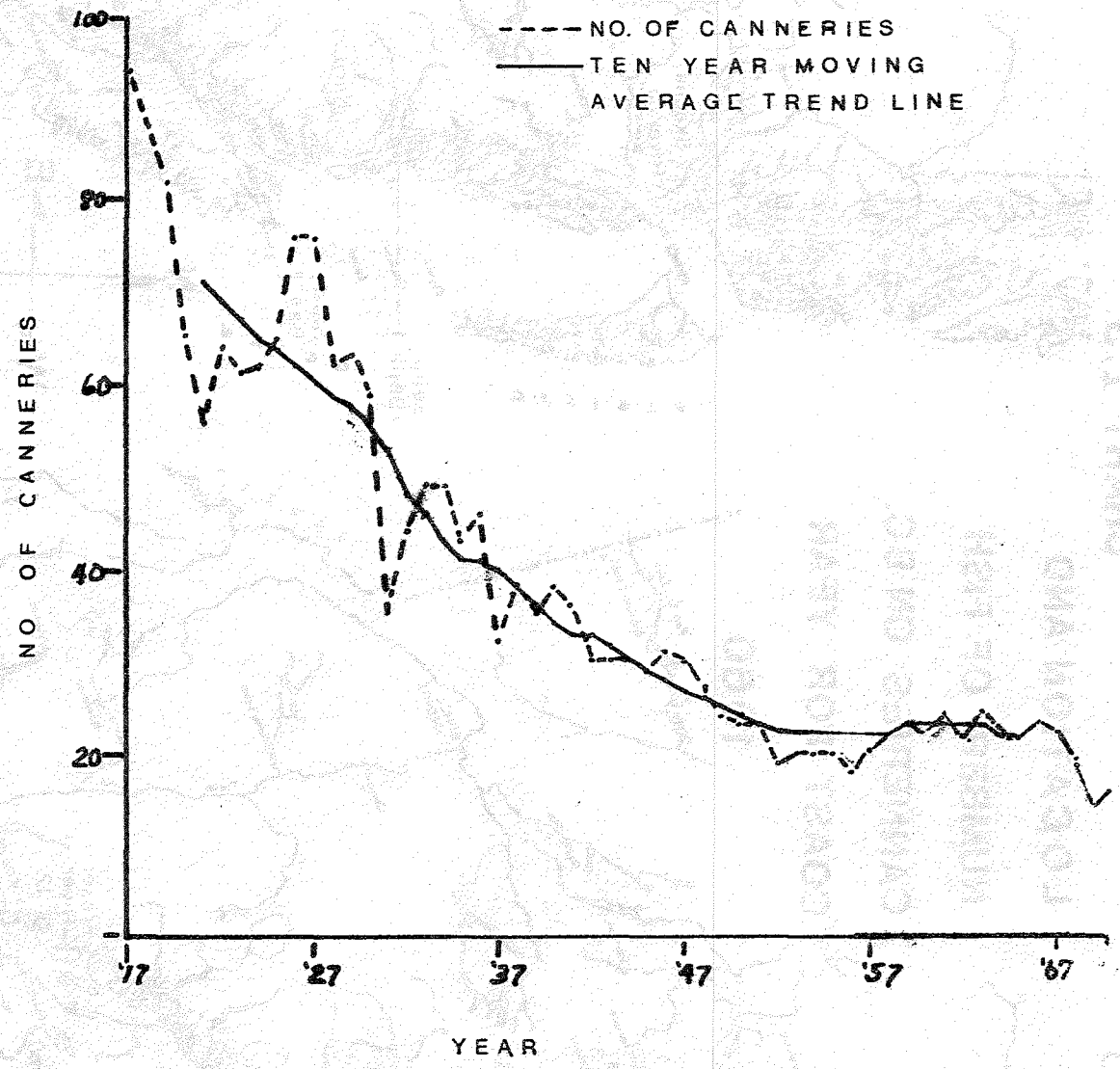
LOCATION AND NUMBER OF FISH CANNERIES ON B.C. COAST FOR YEAR 1960



LOCATION AND NUMBER OF FISH CANNERIES ON B.C. COAST FOR YEAR 1970

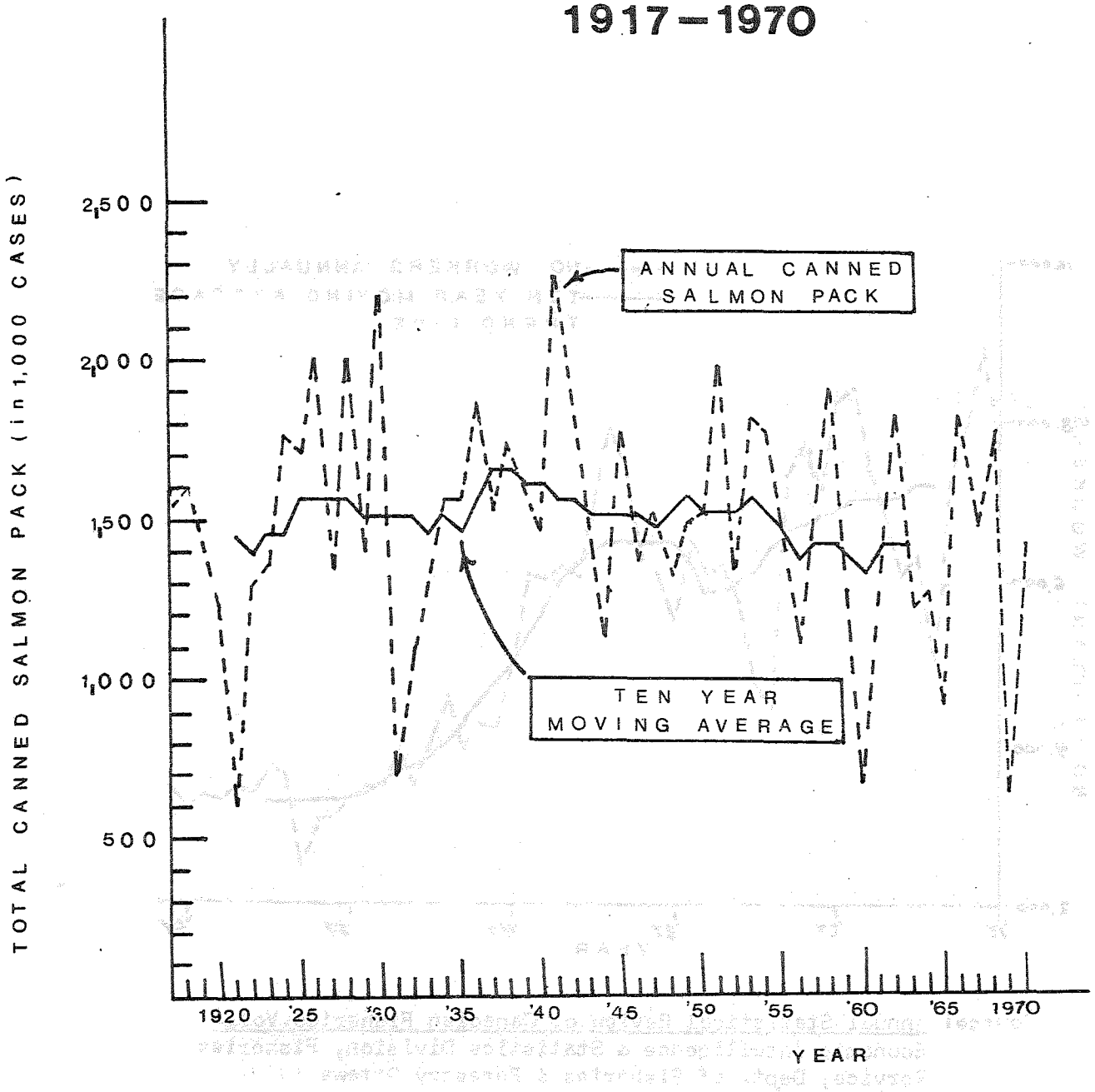


GRAPH I:I NUMBER OF SALMON CANNERIES ON BRITISH COLUMBIA COAST EACH YEAR 1917-70



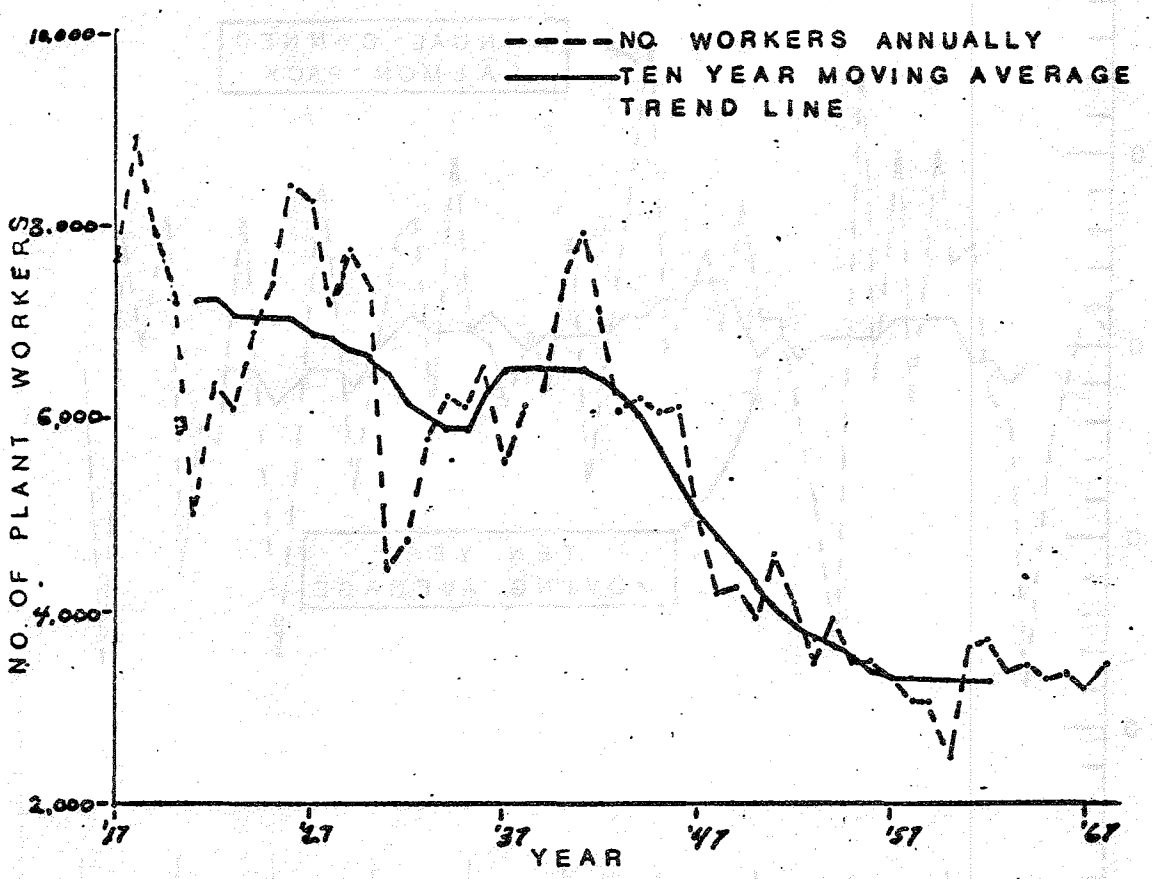
Source: The Commercial Salmon Fisheries of British Columbia Statistical Basebook Series No. 3., Economic Service-Department of Fisheries of Canada, Ottawa 1958. pp. 45-54.

GRAPH 1:2 TOTAL CANNED SALMON PACK IN CASES 1917–1970



Source: The Commercial Salmon Fisheries of B.C. Statistical Basebook Series No. 3, Economic Service, Dept. of Fisheries of Canada Ottawa, 1958
Annual Statistical Review of Canadian Fisheries Vol. 1 1953 - 1968, Economic Intelligence & Statistical Division Fisheries Service Department of Fisheries & Forestry, Ottawa, 1969, p. 34.
Fisheries Statistics of British Columbia, 1970, Preliminary Economics Branch, Pacific Region, Department of Fisheries and Forestry, Vancouver, B.C., 1971, p. 3.

GRAPH 1:3 NUMBER OF WORKERS EMPLOYED IN FISH PROCESSING INDUSTRY 1917-1968



Source: Annual Statistical Review of Canadian Fisheries, Vol. 2
Economic Intelligence & Statistics Division, Fisheries Service, Dept. of Fisheries & Forestry Ottawa 1970, 1954-68, pg. 46.

The Commercial Salmon Fisheries of B. C.
Economics Services - Dept. of Fisheries of Canada, Ottawa I958- Statistics Basebook Series No. 3, p.I.

in turn, has had (in many cases) an adverse effect on those communities relying on the industry for their existence. B.C. Packers, Nelson Brothers, and Canadian Fish account for most of the canned salmon pack produced in British Columbia.[21] Moreover, the number of canneries now operating on the British Columbia Coast has declined from a widely dispersed coastal operation of ninety-four canneries in 1917 to the point now where there are only canneries operating from two main locations (see Table 1:4).

The factors which have stimulated this concentration and amalgamation continue to be present in the industry today. Improvements in transportation techniques continue to take place, thereby acting to stimulate even further, a shift from the location of the resource to labour and market areas.[22] Sixty per cent of the salmon produced on the Canadian west coast is exported,[23] but as a percentage of total world supply, Canadian exports of salmon are relatively small when compared to countries such as Japan, the United States, and the U.S.S.R.[24] This small contribution of our exports coupled with the highly elastic demand for salmon in the domestic market[25] suggests that Canadian West Coast

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21 Gerry Kidd "Interview: A Conversation With the Man at the Top", Western Fish, February 1969, p. 13.

22 Bryce Williams, Op.Cit., p. 1.

23 A Summary Review of Information Related to the Problems of Wage and Price Disputes in the British Columbia Fishing Industry, prepared by the Committee on Wage and Price Disputes in British Columbia Fishing Industry, November 1964, p. 14.

24 F.O.A. Yearbook of Fishing Statistics 1967, Vol. 24, F.O.A. pp. c-9 and c-10.

25 The highly elastic nature of the domestic demand curve is based on an article by: W.D. MacKenzie, "The Demand Outlook for the Canadian Fisheries", Resources For Tomorrow, V.1.11, Queens Printer, 1961, pp. 759-774.

processors will continue to seek more efficient production techniques in the future.[26]

Conclusion

The fishing industry, particularly the salmon fishing industry, has played a very important role relative to other resource based industries, in helping to establish remote communities on the British Columbia coast. The role of the commercial fishing industry - so far as coastal communities are concerned - has declined in recent years, and this is a trend which is likely to continue in the future. In this sense a shift by the industry to central geographical locations, with the resulting decline in influence on remote coastal community life, will likely occur regardless of any action taken by the Federal Government to conserve Canada's pacific fishing resources.

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26 The domestic market is protected by tariff regulations.

Chapter Two

THE FISHERMAN AND HIS ROLE IN BRITISH COLUMBIA'S REMOTE COMMUNITIES.

In the previous chapter it was indicated that improved methods of transporting the perishable raw salmon have made it unnecessary for fish processing operations to be near the fisheries. The resulting advantages of being centrally situated allow the fish processors and canneries to reap both external and internal economies. Hence in the primary and secondary phases of the industry there are economic incentives which help determine commercial fishing's role in the community. However, on the basis of the previous chapter, there appears to be no economic reason why fishermen choose to live in one locality and not another. Nor is there any indication as to how important fishing income and fishing as a way of life is to persons living in remote coastal communities. Yet, both in terms of measuring the fishing industry's contribution to individual communities and predicting the inevitable results of particular management decisions, an understanding of the social and economic factors which determine a fisherman's dependence on the fishery is important.

This chapter is divided into three parts: (1) an examination of the fisherman's ability to compete for jobs throughout the province, (2) an examination of the fisherman's ability to compete for jobs within the coastal communities, and (3) an appraisal of the effect of these mobilities in determining the degree to which the average fisherman is dependent on fishing for employment and income.

In terms of determining fishing's total effect on British Columbia's more isolated coastal communities there are two types of mobilities to consider. These are the "external mobilities" which establish the fisherman's ability to find employment other than fishing in a non-remote or urban community, and his "internal mobility" which represents his ability to find alternative employment within his present rural setting.

External Mobilities: Some Empirical Evidence

Before giving a statistical examination of British Columbia fishermen, I must clarify two possible areas of confusion which may arise concerning the data on fishermen used in this chapter. First, it is impractical, if not impossible, to separate statistical information according to types of fishing engaged in. The data used in this Chapter pertains to all of British Columbia's commercial fishing vessel owners. In as much as the vast majority of British Columbia's commercial fishermen are salmon fishermen - or at least participate in the salmon industry for part of the year - it is felt the characteristics of all commercial fishermen will adequately reflect those of salmon fishermen.

Secondly, the sample survey conducted by the Economics Branch, Department of Fisheries and Forestry (Pacific Region) is a survey of all licenced fishermen but in many cases information on fishing vessel owners is used only.[1] It is felt that information derived from vessel owners is more practicable than a survey of

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1 Details of the survey are given in Appendix Three. Whenever data gathered in the survey is used the appropriate reference is made.

individual fishermen working as crew members. The reasons for this are:

(1) Results obtained from vessel owners are more meaningful, in terms of establishing long-term behavioural patterns, than information gathered from those engaged in the fishery only on a casual or part-time basis.

(2) The fisherman and his boat are in fact a production unit, which provide the only reasonable indication of the number of fishermen committed to participate in the fishing industry during specific years.

(3) The regulations adopted by government fishery managers to conserve fishing resources are usually directed at the fishing vessel and not the individual fisherman.

The ability of individuals to find employment in a competitive labour market situation depends to a considerable degree on how some of their personal characteristics compare with other members of the labour force. At an aggregate level, the two main characteristics normally associated with those considered most employable include: an age level not appreciably greater than that of others seeking employment in the region, and a level of education or formal training commensurate with that of others available for similar work.

Table 2:1 compares the age distribution of Canadian Pacific commercial fishermen in 1970 to all male members of British

TABLE 2:1 COMPARISON OF AGE DISTRIBUTION OF WEST COAST COMMERCIAL FISHERMEN OF 1970 WITH TOTAL B.C. AND CANADIAN MALE LABOUR FORCE IN 1965.

Age Group	Fishermen 1970		Male B.C. Labour Force 1965		Canada's Male Labour Force 1965	
	#	%	#	%	#	%
19 and under	859	7.4	55,000	12.0	332,000	6.8
20 - 24	1,439	12.4	41,000	8.9	568,000	11.6
25 - 44	4,765	41.1	210,000	45.8	2,278,000	46.6
45 and over	4,538	39.1	152,000	33.2	1,708,000	34.9
Total	11,601*	100.0%	458,000	100.0%	4,886,000	100.0%

* This total includes licenced fishermen resident to B.C. only.

SOURCES: Department of Fisheries and Forestry, Survey of Fishermen, Economics Branch 1970.

Dominion Bureau of Statistics, Educational Attainment of the Canadian Population and Labour Force, 1960-1965, Special Labour Force Studies I, 71-505, (Ottawa: Queen's Printer, 1966).
Hereafter EACPLF, 1960-1965.

Columbia's and Canada's labour force in 1965 (the latest figures available)[2]. According to Table 2:1, the average age of west coast fishermen is, to some degree, higher than that of other male members of British Columbia's labour force. The slightly higher percentage of fishermen aged 45 and over may be due to the lack of compulsory retirement in the primary fishery. In many other job categories individuals are forced to retire when reaching the age of 65.

Table 2:2 gives a comparable breakdown of the educational attainment of Canadian west coast fishermen in 1970 and other male members of British Columbia's and Canada's labour force in 1965. Considerable difficulty was experienced in providing a breakdown fine enough for a truly meaningful comparison. It would be useful to distinguish between those who have completed high school and those who have not. Nonetheless, on the basis of Table 2:2, it would appear that the average level of education attained by British Columbia fishermen is, in many cases, substantially less than the level achieved by other members of British Columbia's and

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2 The comparisons provided on education and age contrasts the 1965 age and education data for the general population with the same information for fishermen in 1970. These comparisons should give an adequate picture of the current status of fishermen relative to other workers, because age and education are normally assumed to change only very slowly through time.

TABLE 2:2 EDUCATIONAL COMPARISON OF BRITISH COLUMBIA FISHERMEN 1970 WITH ALL MALE MEMBERS OF BRITISH COLUMBIAN AND CANADIAN LABOUR FORCE 1965.

Education	Fishermen 1970		Male Members of B.C. Labour Force 1965 (in 000's)		Male Members of Canadian Labour Force 1965. (in 000's)	
	#	%	#	%	#	%
Grade 8 or less	5,475	47.2	126	27.5	2,080	42.6
Grades 9 - 12	5 255	45.3	265	57.9	2,289	46.9
Post Secondary	871	7.5	67	14.6	509	10.4
Total	11,601	100.0%	458	100.0%	4,878	100.0%

* This total includes licences fishermen resident to B.C. only.

SOURCES: EACPLF, 1960-1965.

Survey of Fishermen, Economics Branch, Department of Fisheries and Forestry, Vancouver, 1970 (unpublished).

Canada's labour force. Especially in the case of British Columbia, the percentage of fishermen with less than grade nine education in 1970 is substantially greater than the percentage for the male labour force as a whole. The percentage of fishermen with post secondary education is almost half the percentage of those with similar training in all of the Province's male labour force. In terms of formal education, it would appear that Canada's west coast fishing boat captains are at a competitive disadvantage when seeking employment in occupations outside of the fishing industry.

There are a number of limitations which are present when making direct comparisons solely on the basis of age and education. On the one hand, the age distribution of fishermen is interrelated with education in a complex manner. If it is accepted that each new generation is better educated than the former, then it may be the case that the younger fisherman is also the better educated. To the extent that this is so, a direct comparison overstates the effect of mobility for one segment of fishermen while it understates mobility for others.

The possibility of this sort of bias is strongly implied by a comparison between the education of fishermen in 1941 and 1965-1970. When it is noted that more than half of the commercial fishermen on the west coast are currently under the age of forty,[3]

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3 Department of Fisheries and Forestry data indicate that in 1969, 58.4% of fishermen are under forty-five years of age.

it is not difficult to surmise from Tables 2:3 and 2:4 that many of these in the middle to older age categories have their mobility hindered because of both their age and lack of education.

On the other hand, age and education alone do not determine the degree of external mobility among British Columbia's commercial fishermen. There are other unique factors infinitely more difficult to quantify which are inhibiting the external mobility of Canada's west coast fishermen. These can be classified under the following headings:

(a) fishing as a reservoir for unskilled workers,

(b) fishing as a way of life, and

(c) asymmetry of entry and exit.

Fishing as a Reservoir for Unskilled Workers.

One of the main advantages to British Columbia workers accruing from the west coast commercial fishery results from its traditional role as a reservoir for workers who are ill-suited to other occupations. Neither formal education nor the ability to work under the direction of others are necessary prerequisites for fishermen. It has often been the case that workers, who are geographically or otherwise isolated from the mainstream of British Columbia's work force, have found that they could compete with other workers as commercial fishermen. To some degree this is reflected in the general characteristics of those who work as commercial fishermen and the composition of the industry.

TABLE 2:3 EDUCATION OF COMMERCIAL FISHERMEN AND TOTAL LABOUR FORCE 1941 COMPARED WITH EDUCATION OF FISHERMEN IN 1970 AND TOTAL LABOUR FORCE 1965.

	Fishermen 1941		Total Workers of B.C. 1941		Fishermen 1970		Total Workers of B.C. 1965.	
	#	%	# (in 000's)	%	#	%	# (in 000's)	%
Grade 7 or less	6,292	78.8	138	53.7	5,475	47.2	147	24.2
9 - 12 years	1,526	19.1	101	39.3	5,255	45.3	368	60.7
Post Secondary	114	1.4	18	7.0	871	7.5	91	15.0
Not Known	52	.7	-	-	-	-	-	-
Total	7,984	100.0%	257	100.0%	11,601*	100.0%	606	100.0%

* This total includes licenced fishermen resident to B.C. only.

SOURCES: Census Survey of Fishermen, Economics Branch, Department of Fisheries and Forestry, Vancouver, 1970.
The difference between fishing boat captains and all commercial fishermen would not be substantially different when compared over a long period of time. The vast majority of fishermen in 1941 were captains of their own vessels.

Blake A. Campbell, "The Role of the Fisherman in the Economy of British Columbia", paper presented to Natural Resources Conference, Victoria, B.C. March 3, 1961 (unpublished).

TABLE 2:4 PERCENTAGE AND NUMERICAL DISTRIBUTION OF BRITISH COLUMBIA'S LABOUR FORCE BY AGE AND EDUCATION - 1965.

(in 000's)

Education	(Age Category) 20 - 24 #	%	25 - 44 #	%	45 and over #	%
Completed elementary school education or less	6	8.3	62	21.5	87	37.5
Some high school	28	38.9	103	35.8	66	28.4
High school or more	38	52.8	123	42.7	79	34.0
Total	72	100.0%	288	100.0%	232	100.0%

SOURCE: EACPLF, 1960 - 1965.

Fishing as a Way of Life

Fishermen are, by nature, independent men who usually manage their own boats in a one-man or family operation. They perform their work in physical isolation from the rest of the economy and as a consequence they are not firmly integrated with other segments of society. The uniqueness of their position is likely to attract those people who prize independence.

The individual fisherman wants to be his own boss and yet be able to participate in a group with those whose likes and dislikes he shares; this is likely to bring a degree of social benefit to both the individual and the group, which will not be readily apparent to those outside the fishing community.[4] The individual who gains utility from these social benefits may well be willing to forego the opportunity for higher income just to remain a fisherman.

Asymmetry of Entry and Exit

The mobility of fishermen is often curtailed simply because it is easier to enter the industry than to leave. Potential fishermen are usually attracted into the industry by the independent nature of fishing as a way of life, and the high incomes during bonanza years when fishing is good. Their initial entry normally involves commitments of both time and money which are not easily withdrawn. Insofar as they have accepted the fisherman's life

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4 Clive Southey "Studies in Fisheries Economics", (unpublished Ph.D. dissertation, University of British Columbia, 1969), p. 65.

of being geographically and socially isolated, they do not have access to adequate information on other job possibilities; nor do they have the opportunity to remain abreast of labour demand and technological changes which occur in a healthy economy. This coupled with the specialized nature of their capital investments in boats and fishing gear, leads to a situation, whereby individuals are forced to remain in the industry because of economic and social circumstances and not because of decisions based on personal choice.

Special provision is made for commercial fishermen under the Unemployment Insurance Act of Canada, which gives them what are commonly referred to as "seasonal benefits". These are available to fishermen each year from the first of December to May 15. Under the terms of this special provision, commercial fishermen are not considered employers of other persons and are permitted to collect "seasonal benefits" out of the Unemployment Insurance fund. Persons with more than fifteen weeks fishing contributions may collect five weeks worth of payments for every six weeks of payments. The overall effect of Unemployment Insurance benefits, in influencing external mobilities, is difficult to determine. However, it can be appreciated that such payments, made on the basis of short periods of annual employment to fishermen located anywhere in the province, insulate the fishermen from some of the economic considerations which would normally

influence an individual's choice of location.

The Performance of Fishermen in Remote and Non-Remote Areas

Many of British Columbia's fishermen live in communities which are located in isolated regions considerably removed from the larger centres where the bulk of other commercial activity takes place. They are, in effect, frontier regions where manpower requirements only vaguely resemble the needs of the urban areas. An individual not suited to the work-force needs of the metropolitan areas is not necessarily ill-suited to the manpower requirements of the remote areas. For this reason, fishing's true importance to communities located in remote locations cannot be appreciated without looking at the fisherman's ability to become gainfully employed within the smaller communities.

For the most part, labour mobility is a well documented area of economics. Many economists have dealt with the problems encountered when attempting to assess mobility amongst fishermen and workers in general.[5] Therefore, the conditions and characteristics which indicate poor mobility are generally agreed upon by most of those familiar with this area of the literature. But, this is not the case in the areas described as "frontier" above. Therefore, it is necessary for our purposes to assess the internal mobility of fishermen in terms of actual performance in their present setting.

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5 J.A. Crutchfield, A. Scott, Clive Southey and B.A. Campbell, have dealt specifically with the mobility of Canada's west coast commercial fisherman (see bibliography).

In an effort to distinguish between fishermen living in remote areas (frontier regions) and those living in urban centres, the British Columbia coast has been divided into two sections. The non-remote areas included are: the Lower Mainland area which includes Vancouver, Steveston, New Westminster and Howe Sound, the Lower Central coast area bordered by Johnston Strait in the north and going west to an imaginary line running north and south down the centre of Vancouver Island; the South Coast which includes the southernmost end of Vancouver Island, Lake Cowichan, and Saanich Inlet; and greater Prince Rupert including Sunnyside and Port Edward. The remainder of British Columbia's coastal regions were considered remote areas (the distinction is shown in Chart 2:1).[6]

Table 2:5 provides a breakdown of the number of fishing boat owners engaged in other employment activities according to area of remoteness in 1970. The percentage of owners engaged in other employment activities in remote areas slightly exceeds that of the non-remote areas.

Table 2:6 gives a breakdown of the different types of occupations engaged in by fishing boat captains according to area of remoteness. As can be seen by Table 2:6 over twenty six per cent

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6 It will be noted that according to Chart 2:1, Prince Rupert is included as a non-remote location. It is felt that its unique position as the main centre for north coast fishing activity required, that for the purpose of testing the success of fishermen according to area of residence, Prince Rupert could not be suitably designated a remote community. This distinction is only made in Chapter Two. Throughout the remainder of this paper Prince Rupert is taken as it rightfully is - an isolated or remote community.

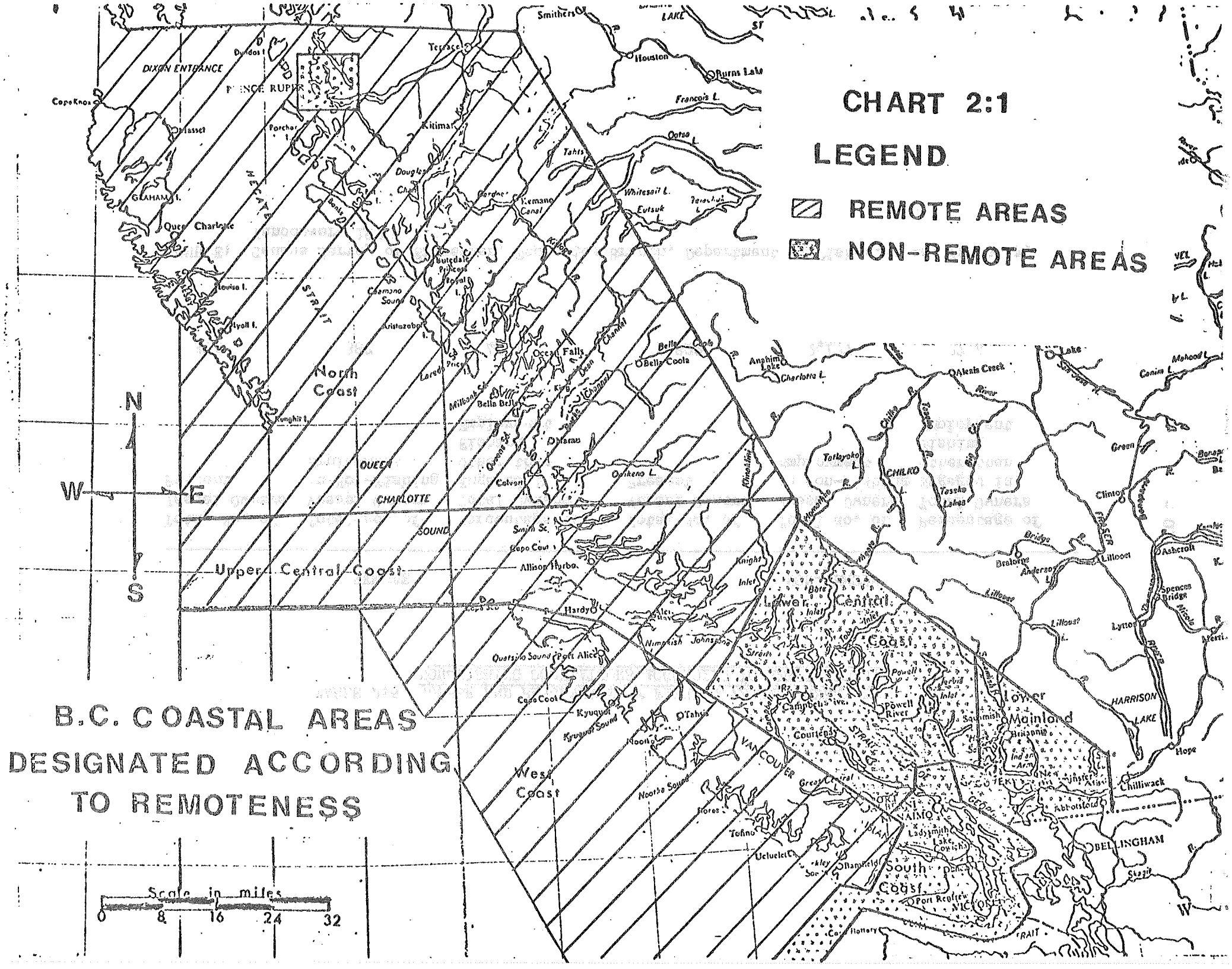
CHART 2:1
LEGEND
REMOTE AREAS
NON-REMOTE AREAS
B.C. COASTAL AREAS
DESIGNATED ACCORDING
TO REMOTENESS
N
W
E
S
Scale in miles
0 8 16 24 32
North Coast
Upper Central Coast
Lower Central Coast
West Coast
South Coast
Lower Mainland
DIXON ENTRANCE
HECATE STRAIT
QUEEN CHARLOTTE SOUND
GEORGIA STRAIT
Prince Rupert
Terrace
Smithers
Houston
Burns Lake
Kitimat
Ocean Falls
Bella Coola
Alkali Lake
Williams Lake
Clinton
Lillooet
Ashcroft
Spences Bridge
Lytton
Hope
Chilliwack
Abbotsford
Vancouver
Victoria
Nanaimo
Courtenay
Campbell River
Powell River
Port Alberni
Port Alice
Tofino
Ucluelet
Port Renfrew
Bellingham

TABLE 2:5 NUMBER AND PERCENTAGE OF FISHING VESSEL OWNERS IN NON-FISHING OCCUPATIONS ACCORDING TO REGION 1970.

REMOTE			NON-REMOTE		
Total No. of Vessel Owners Present	Total No. of Vessel Owners in Non-Fishing Employment	Percentage of Total Owners Engaged in Other than Fishing Employment	Total No. of Vessel Owners Present	Total No. of Vessel Owners in Non-Fishing Employment	Percentage of Total Owners Engaged in Other than Fishing Employment
878	387	44.1	5,822	2,177	37.4

SOURCE: Census Survey of Fishermen, Economics Branch, Department of Fisheries and Forestry, Vancouver, 1970.

TABLE 2:6 NON-FISHING EMPLOYMENT OF COMMERCIAL FISHING VESSEL OWNERS ACCORDING TO REMOTE AND NON-REMOTE AREAS 1970.

	REMOTE		NON-REMOTE	
	#	%	#	%
Fish processing	17	4.3	122	5.6
Agriculture	4	1.1	28	1.3
Logging and mill work	104	26.9	409	18.8
Mining and manufacturing	4	1.1	55	2.5
Construction	50	12.9	346	15.9
Clerical sales	9	2.2	78	3.6
Professional technical	17	4.3	146	6.7
Other	183	47.3	993	45.6
Total	387	100.0%	2,177	100.0%

SOURCE: Census Survey of Fishermen, Economics Branch, Department of Fisheries and Forestry, Vancouver, 1970.

of fishermen living in remote areas and over eighteen per cent living in non-remote areas were employed as loggers or mill workers in 1970. Logging appears to be the main alternate occupation for most of British Columbia's fishing vessel owners.

According to Table 2:7 non-remote vessel owners on the average in 1970 earned $888 ($8,010 - $5,931) more in non-fishing employment and $1,191 ($3,585 - $2,685) more in fishing employment than their counterparts in remote areas.[7] Table 2:7 shows that, despite nearly the same amount of weeks worked annually, when the two sources of income are taken together, fishing vessel owners living in non-remote locations earned an average annual net income of $2,079 ($8,010 - $5,931) more than vessel owners living in remote areas. Moreover insofar as the average earnings of those living in urban areas exceeds the average earnings of the non-urban population by as much as $2,840 in 1967,[8] it would appear that the fisherman living in remote areas might be relatively better off financially than the fisherman living in non-remote areas.

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7 The use of net income figures avoids the necessity of having to make adjustment in fixed and variable costs so that the earnings of fishing vessel owners in the two areas are comparable.

8 In British Columbia the average non-farm earnings (non-Indian) for those living in rural communities with less than 30,000 persons was $3,825, for communities with 15,000 to 29,000, $4,573, and for communities with 30,000 persons or more, $6,125. Source: Dominion Bureau of Statistics, Survey of Consumer Economics, 15-534, (Ottawa: Queen's Printer, to be published). It should be noted that D.B.S.'s definition of rural communities does not necessarily coincide with the definition of remoteness used here, however, the comparison is useful in that it gives some indication as to the financial earnings of the two segments (remote and non-remote) of B.C.'s population.

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Page 42 Paragraph 2

According to Table 2:7, non-remote vessel owners on the average in 1970 earned $888 ($8,010 -$5,931) more in non-fishing employment and $1,101 ($3,585 - $2,685) more in fishing employment than their counterparts in remote areas.[7]

should read:

According to Table 2:7, non-remote vessel owners on the average in 1970 earned $888 ($3,585 - $2,697) more in non-fishing employment and $1,191 ($4,425 - $3,234) more in fishing employment than their counterparts in remote areas.[7]

TABLE 2:7 SURVEYED VESSEL OWNERS: A COMPARISON BETWEEN NET FISHING INCOME NET NON-FISHING EARNED INCOME, AND WEEKS WORKED 1970.

	REMOTE	NON-REMOTE
Average Weeks Worked Fishing	15	15
Average Annual Net Fishing Income	$3,234	$4,425
Average Weeks Worked Non-Fishing Employment	10	12
Average Annual Net Non-Fishing Income	2,697	3,585
Total Earned Income*	5,931	8,010

* Does not include transfer payments or other non-earned income.

SOURCE: Census Survey of Fishermen, Economics Branch, Department of Fisheries and Forestry, Vancouver, 1970.

Mobilities and their Meaning to the Community

A community's stability of existence or a region's ability to grow is often directly dependent upon its attractiveness as a place to live. A substantial base population not only provides advantages to the community or region by way of public services (e.g. hospitals, schools, sewage disposal) and the ability to pay for them, but also serves as a marketplace for local business enterprises. These factors are particularly important in the remote communities on the British Columbia coast. To the degree that any single industry affects the people in a Community, that industry must be considered important. Nonetheless, population numbers are in themselves only one aspect to be considered when attempting to determine the importance of an industry to the maintenance and growth of a community. Much will depend on the characteristics of those entering or leaving and on the skill requirements of the community involved. In a general way, it could be argued that an influx of younger, more energetic, persons is more likely to increase the productivity of a frontier area, than would an increase in professional or highly specialized persons. By the same token, younger unskilled individuals are likely to make only a very small addition to output in an industrially sophisticated city. These two factors, together with the overall effects on potential investors or the spirit of those residing in the area, are complexly inter-related,

and there are probably both gains and losses in any area, whenever population shifts take place.

Conclusion

In this chapter we have examined the characteristics of the fisherman and found that, for the most part, his external mobility is hindered. Further it would appear, on the basis of performance, that there is no difference in the external mobilities of fishermen living in remote locations vis-a-vis the non-remote locations. Even though the data used in this chapter combined mill workers and loggers together, previous surveys coupled with the data used here appears to suggest that logging is particularly important as an alternative source of income for many of British Columbia's commercial fishermen.[9]

The income of residents in remote areas is considerably below the income of those living in non-remote locations. However, in terms of fishing's effect on the community, it is not the difference in average incomes which is important, so much as what income the individual fisherman feels he can expect to enjoy by remaining in the community. On this basis, it would appear that the average vessel owner living in remote areas is more dependent on non-fishing income than the non-remote vessel owners.

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9 The many strikes and forest closures which interrupt logging incomes during given years, suggests that fishing would serve as a very important alternate source of income during the summer months when most fishing takes place.

Chapter Three

GENERAL CHARACTERISTICS OF THE COMMUNITIES AND THEIR GROWTH POTENTIAL

The purpose of this chapter is to outline the criteria used for selecting the communities, descriptively introduce, categorize, and bound them according to economic function, and project, on the basis of both past and existing trends within the community, their probable dependency on commercial fishing in the future.

Basic Criteria for Selecting the Communities

Most of British Columbia's 2,144,000 residents (1970) live within easy access of the Pacific Ocean in literally hundreds of settlements of all sizes and descriptions. The vast majority of these coastal settlements have resident commercial fishermen who are either partially or totally dependent on the west coast fishery for employment. In some cases, the income earned in the commercial fishery is the major impetus to economic activity in the community, while in others, commercial fishing makes only a small contribution compared to other industries in the area. In an effort to obtain meaningful results it was decided that the communities included in the study would be selected according to the following criteria:

(1) That at least some residents in each community earn income from the commercial fishery.

(2) That the communities should cover as wide a spectrum of British Columbia's coastal communities as possible.

By taking this approach, it was hoped that variations arising from being located next to both superior and inferior fishing areas would be captured.

(3) That to the extent that certain areas are suitable for particular types of fishing, and to the degree that various types of fishing operations affect the income of individual fishermen, each region containing fishermen partial to a certain selection of gear (type of fishing) had to be included.

There were however a number of problems encountered when attempting to meet the above criteria:

(1) The types of fishing gear used and the timing of fish runs vary without visible pattern, from one location to another along the coast.

(2) The length of the British Columbia coast and the large number of communities with commercial fishermen living in them, made it impossible to include every community which might be dependent upon salmon and other fishing income.

(3) Even though British Columbia coastal communities share many common characteristics, they are heterogenous in nature; each is unique and no single community can be considered typical of another.[1] This did therefore,

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1 The economic structure, the ethnic background of their residents, and the degree of isolation varied greatly from one community to another.

preclude any possibility of obtaining a sample representative of all pertinent communities.

In an effort to overcome the foregoing problems and still meet the criteria noted as desirable above, it was decided that a fairly substantial number of communities located at regular intervals along the coast should be included. It was hoped that by taking this approach, the communities selected would capture many of the subtle variations among different communities[2] and coastal regions. In addition, it was considered desirable to include a number of communities with fairly simple economic structures rather than a few communities with comparatively complex economies. This rules out the possibility of including the more populated regions along the inside of Georgia Strait, while still meeting the objective of including communities located adjacent to both good and bad quality fishing areas.

The location and distribution of the selected communities is shown in Chart 3:1.

A Descriptive Introduction, Classification, and Bounding of Selected Communities

Even though the degree of economic complexity was limited to a considerable extent during the selection process, there still remain considerable differences in size and structure of the communities. The variations in size, population, and economic activities of the communities necessitate that some consideration be given to the most appropriate method of determining the importance of fishing on an individual basis. Small communities with only one base industry and no service sector do not require the

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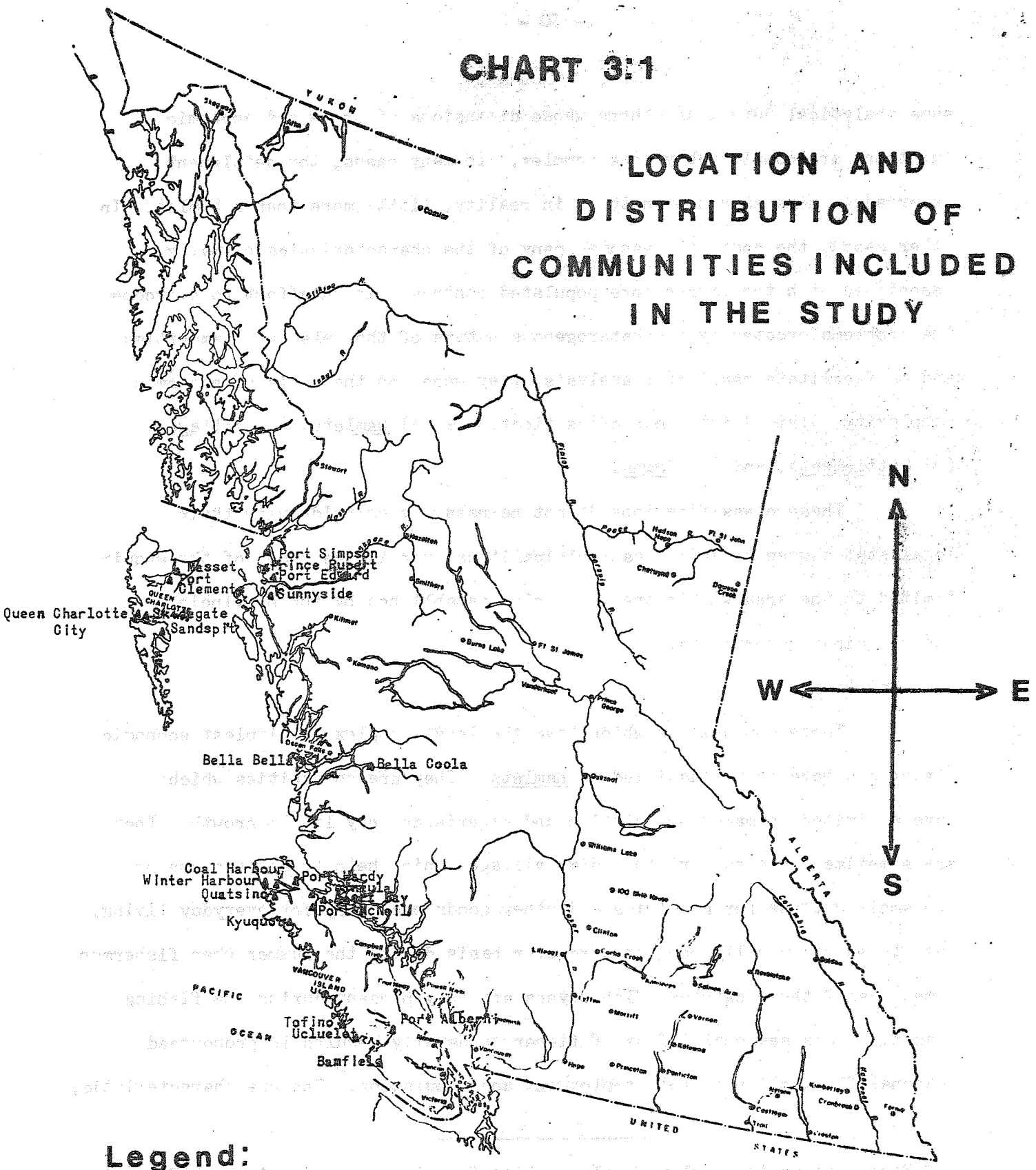
2 Included in the subtle variations referred to here, are the difference amongst the communities and coastal regions with respect to, ethnic and racial origin of the population, types of fishing gear used, and economic structure.

CHART 3:1

LOCATION AND DISTRIBUTION OF COMMUNITIES INCLUDED IN THE STUDY



Legend:

Scale In Miles

0 8 16 24 32

▲ COMMUNITIES INCLUDED

same analytical detail as others whose dimensions of trade and economic functions are considerably more complex. In many cases, the settlement referred to here as a community is in reality, little more than a hamlet. In other cases, the community assumes many of the characteristics normally associated with the larger more populated centres. In an effort to overcome the problems created by the heterogenous nature of the selected communities and to facilitate meaningful analysis, they were, on the basis of economic complexity, divided into four classifications: (a) Hamlets, (b) Villages, (c) Settlements, and (d) Towns.

These classifications do not necessarily coincide with their legal status when organized as municipalities, nor is the scope of the enquiry limited to the area within the boundaries established by the provincial and municipal governments.

(a) Hamlets:

Those communities which have the least complex or simplest economic structures have been classified as hamlets. They are communities which have a limited permanent population and experience very little growth. They are sometimes located next to Indian villages which help to sustain one or two small outlets for groceries and other goods necessary for everyday living. The stores are usually open on a regular basis during the summer when fishermen come to sell their catches (fish buyers are only present during the fishing season). This seasonal influx of fishermen usually results in pronounced seasonal fluctuation in both employment and population.[3] The one characteristic,

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3 Fluctuations in population also result from logging operations shifting in and out of the surrounding district.

which most clearly sets a hamlet apart from the other communities included in this study, is their lack of a year-round service sector of any proportion. They usually do not have a hotel, barber shop, bank nor other facilities normally deemed necessary to sustain a sizeable population.

(b) Villages:

Communities which have been categorized as villages usually have a substantial base population which changes slowly over time. Only very seldom do communities in this category experience any inward or outward shift of people. The slow growth in population normally experienced by these communities usually comes as a result of natural birth. The population of a village is usually dominated by a single racial or ethnic group.[4] Villages have a small service sector commensurate with the size of their population, and usually only one base industry. They can be distinguished from other community classifications by their ability to maintain a population, or even grow, despite having only limited economic opportunity in the area. A village has a distinctive and historical tradition which stems from the ethnic and racial background of its people. It is mainly the social factors and not the economic considerations which make them attractive as places to live.

(c) Settlements:

Communities which are defined as settlements, usually have a substantial permanent population which is tied to the economic activity of the area. These communities have fairly well developed service sectors which serve the sparsely populated surrounding areas. Because these com-

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4 With the exception of Sointula, all the communities included in this category are Indian Villages. Sointula is a community with a population of predominately Finnish origin.

munities normally have more than one industry contributing to their economic base, they usually have good growth potential. Furthermore, their growth potential is enhanced, to some extent, by the existence of tertiary industries.[5]

Settlements may be distinguished from the other communities by their service sector which is less sophisticated than those communities classified as towns.

(d) Towns:

Those communities which have comparatively large populations, and which have a relatively large tertiary industry are classified as towns. These communities are in fact trade centres, and have complexes of shops, offices, worksites, residents, and all the movements associated with them. They are usually situated on transportation routes (water, air, and overland) and act as distribution centres for a small hinterland.

A list of the communities classified according to structural complexity is provided in Table 3:1.

TABLE 3:1

LIST AND CLASSIFICATION OF COMMUNITIES INCLUDED IN THE STUDY ACCORDING TO ECONOMIC FUNCTION

Hamlets	Villages	Settlements	Towns
Bamfield	Sointula	Alert Bay	Port Alberni
Coal Harbour	Bella Bella	Port McNeill	Port Hardy
Winter Harbour	Bella Coola	Tofino	Prince Rupert
Port Clements	Port Simpson	Ucluelet	Sunnyside*
Quatsino	Skidegate	Masset	Port Edward*
Kyuquot		Queen Charlotte City	
		Sandspit	

* These communities are included as part of a larger economic analysis for the purpose of the study.

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5 Tertiary industries includes all those activities not covered by primary activities (agriculture, mining, etc.) and secondary activities (manufacturing activities); it includes personal and professional services, administration activities, transport and communications, etc.

Even though the communities included in the study have now been identified and categorized according to economic activity, a conceptual understanding of the physical size of the communities in question is necessary before meaningful economic analysis may be applied.

There are several problems normally encountered when attempting to delimit a region into some meaningful economic unit which is suitable for analysis.[6] In small regions there is practically always a dearth of data,[7] while in larger regions the analysis becomes more complicated, the results are less meaningful and more difficult to apply to specific situations.[8] Each community and its hinterland is interrelated with other communities and their hinterlands, and through these to other cities, towns, and localities, in the same economy. The hinterland of different communities will vary in size with the number and variety of functions performed in the region. Therefore, any delimitation will be somewhat arbitrary and will not depict a complete economic system. These shortcomings do not however, appear to unduly hamper the analysis required in this study. With but a few exceptions the communities included in this study are physically

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6 Rutledge Vining "Delimitation of Economic Areas: Statistical Concepts in the Study of Spatial Structure of an Economic System" Journal of American Statistical Association, March 1953, pp. 44 - 64.

7 Census data which is available for national accounts is often not available for small areas because of disclosure regulations established in the statistics act. The Dominion Bureau of Statistics is not allowed to disclose information on single firms or individuals which can be identified. It was necessary in this study to conduct field surveys in order to gain information on individual communities.

8 It is difficult and often impossible to provide detailed analysis on specified communities using massive amounts of data gathered and presented on a provincial or nation-wide basis.

separated from other population centres.[9] Furthermore, the communities are in themselves relatively simple economic units, which contain only those functions basic to the needs of a low density population area. The geographic bounding of the communities, therefore, will include the trade area and also the region it serves. In order to facilitate a conceptual understanding of the community areas being analyzed, it is necessary to conceive sparsely populated settlement locations which are isolated from the larger complex production centres.

For the purpose of this study, the following relationships are to apply: Prince Rupert is taken to include the City of Prince Rupert, Port Edward, Sunnyside and all the areas in between. Port Hardy includes the District of Port Hardy, Fort Rupert, Port Hardy Airport and all the areas in between. Alert Bay is to include the village of Alert Bay, the Alert Bay Indian Reserve and that portion of Alert Bay which is unorganized. The Village of Tofino and the Long Beach area is considered one community and hereafter referred to as Tofino. Greater Port Alberni is a higher-order trade centre which serves a substantial resident population. It is however, isolated from other settlements and need not, for analytical purposes, be taken to include other than the population core and those people living on the periphery of the organized area. Bella Bella includes that area known as Shearwater, the non-reserve area, and the Indian reserve itself. Bella Coola is taken to include Hazeltown, the Indian Reserve, and the non-reserve area.

Future Growth Potential: Dependency on Commercial Fishing

When the mainstay of a community's economy is its natural resources,

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9 It is felt that the isolated nature of the communities considered in this study along with the assumptions (described below) which are necessary for a result oriented analysis, makes the geographical delineation less arbitrary than it might otherwise be.

its future growth potential is usually dominated by two main constraints:(1) the economic exhaustion of its resources,[10] or (2) the deterioration of world demand for the goods these resources are used to produce. This in turn may be broken down into possibilities which can be used as a standard for assessing an economy's future growth. Some of these possibilities are:

(1) The degree of reliance on a single industry or resource.

(2) The current infrastructure of the region and its adaptability to new economic opportunities.

(3) The number of foreseeable economic functions suitable to the physical endowments (fresh water, fertile soil, or water ways, etc.) of the immediate area.

(4) The probability of change in the availability of co-operation factors in future (i.e. transportation facilities, investment capital, labour, etc.)

(5) The aspirations of the people resident to the community, the vision of its leaders, and the presence of motivational stimuli conducive to economic expansion.

(6) The probability of discoveries or inventions suitable as substitutes for the community's exports.

(7) Other institutional factors.

The obvious physical limitations of explicitly analyzing each of the communities included in this study coupled with the subjective nature of possibilities 5 and 6 above, necessitate that some arbitrary limitations be established on both the depth and scope of these enquiries. In view of

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10 The economic exhaustion of resources does not necessarily mean that the resource will be completely eliminated in a physical sense. A resource is economically exhausted when it can no longer be economically exploited for commercial purposes.

this, projections will be made on the basis of simple extrapolation of past and current trends; these projections will be made with special regard to the future dependency of a community's population on commercial fishing; and the scope of the enquiry will be limited to past and existing trends within the community.[11] Space does not permit explicit reference to each of the variables which are used to predict a community's growth. Only the highlights will be specifically referred to and the occupational trends of the head-of-household presented. The findings will be developed with implicit reference to growth possibilities 1, 2, 3, and 4 above. Insofar as growth is a reversible process and growth possibilities may work in both directions, a community's future will be assessed with a view to both depressive and progressive growth properties.

In addition to information gathered from newspapers and magazines, which referred specifically to the growth potential of certain areas, the knowledge gained during enumeration of the communities is also used.[12]

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11 Although suitable for the purposes of this enquiry there are two basic weaknesses to this type of forecasting: (1) This method relies on past trends to predict future ratios without regard to crucial dynamic considerations, and (2) the community is part of British Columbia's, Canada's and the world economy, therefore accurate forecasting must take all three of these external markets into consideration.

12 The enumeration procedure is outlined in Appendix Four.

The occupation breakdown of the head-of-household is used as an indicator for determining the degree of dependency on commercial fishing income within the community.[13] It should be noted, that the information on occupation of the head-of-household does not reflect the number of persons employed in commercial fishing in each community.[14]

In many situations there are a considerable number of persons employed as fishermen or as fish processors, however, only one or two heads-of-households will be employed in these occupations. This apparent paradox comes as a result of the large number of part-time and casual workers employed in both the primary and secondary phases of the commercial fishing industry.[15] The term head-of-household[16] refers to the "breadwinner" of the housekeeping unit; it may contain one member, six members or even more depending on the number of persons which may be considered part of this unit.[17] It is felt that in most cases, the occupation of the head-of-household will accurately reflect the major source of income for the family involved.

Once again, each community will be viewed with explicit regard to historical occupational trends and with implicit regard to the growth criteria noted above. Each community category will be dealt with in the order: Hamlets, Villages, Settlements, and Towns.

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13 Because data are destroyed on a regular basis, only occupation breakdowns for 1950, 1960, and 1970 were available in a form suitable for comparing trends.

14 This will become obvious from the employment and income data presented in Chapter Four.

15 It may also reflect the year-round complement of fishing with other occupations available in these areas (discussed in Chapter Two).

16 The term "head-of-household" is consistent with the definition used by the Post Office Department.

17 Two or more unrelated single persons living together would normally be considered to contain as many head-of-households as persons involved. Two related persons such as man and wife, mother or daughter would be construed as having only one head-of-household.

The traditional dependency on commercial fishing of those persons living in communities which have been included in the hamlet category is demonstrated in Table 3:2. Table 3:2 provides a breakdown of the occupations of the head-of-household for each family resident to a hamlet, in the years 1950, 1960, and 1970. According to these dates, the residents of Bamfield, Coal Harbour, Winter Harbour, Port Clements, Quatsino, and Kyuquot, appear to have been significantly dependent upon commercial fishing in the past. Of the six hamlets, only the residents of Coal Harbour, Winter Harbour and Port Clements have shown a decline in their dependency on commercial fishing in recent years. The residents of Winter Harbour and Port Clements have shown considerable increases in participation in other commercial activities. It is this increase in other commercial activities, rather than a decrease in fishing activities, which has led to a decline in the percentage of head-of-households employed in fishing. In the case of Coal Harbour, a decline in fishing activity combined with an increase in other commercial activities has led to a noticeable diminuation in the importance of fishing's income to its economy.

Quatsino is the only hamlet, on the basis of its current performance, which can be said to show a distinct trend towards total extinction. Quatsino has declined in population because of two factors: First, the growth which has been prevalent in other communities on northern Vancouver Island has increased the opportunities available in areas surrounding it. This has encouraged many of Quatsino's citizens to move to other localities where better economic opportunities are available. Second, the Department of Indian Affairs has been following a program to

TABLE 3:2 HAMLETS, NUMBER AND PERCENTAGES OF HEAD-OF-HOUSEHOLDS, CLASSIFIED ACCORDING TO OCCUPATION CATEGORIES - 1950, 1960, 1970.

Occupation Category	BAMFIELD						COAL HARBOUR						WINTER HARBOUR					
	1950		1960		1970		1950		1960		1970		1950		1960		1970	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture	2	2.0	-	-	-	-	1	2.0	4	9.5	1	1.2	1	4.5	-	-	-	-
Fishing	56	50.5	68	53.5	70	48.6	9	17.6	5	11.9	7	8.1	14	63.6	9	34.6	13	37.1
Logging	3	2.7	5	3.9	4	2.8	10	19.6	8	19.1	33	38.4	1	4.5	8	30.8	16	45.7
Agents	-	-	1	.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Professional	9	8.1	5	3.9	5	3.5	8	15.7	2	4.8	5	5.8	2	9.0	1	3.9	1	2.9
No occupation	4	3.6	-	-	3	2.1	5	9.8	1	2.4	2	2.3	-	-	-	-	-	-
Merchants	-	-	2	1.6	3	2.1	1	2.0	3	7.1	-	-	-	-	3	11.5	1	2.9
Gov't	2	2.0	8	6.3	3	2.1	-	-	1	2.4	-	-	3	13.6	1	3.9	2	5.7
Mining	-	-	-	-	19	13.2	-	-	-	-	1	1.2	-	-	-	-	-	-
Industry & Factory	-		-	-	3	2.1	-	-	1	2.4	6	7.0	-	-	1	3.9	2	5.7
Fish Processing	1	.9	3	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commun.& Trans.	12	10.8	10	7.9	6	4.2	2	3.9	3	7.1	3	3.5	-	-	1	3.9	-	-
Retired	4	3.6	13	10.2	14	9.7	-	-	7	16.7	1	1.2	-	-	-	-	-	-
Clerygmen	-	-	1	.8	2	1.4	1	2.0	-	-	1	1.2	-	-	-	-	-	-
Artist & Musicians	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clerical & Sales	2	2.0	1	.8	2	1.4	1	2.0	2	4.8	1	1.2	1	4.5	1	3.9	-	-
Community Serv.	1	.9	1	.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tertiary Serv.	-	-	1	.8	-	-	2	3.9	2	4.8	2	2.3	-	-	-	-	-	-
Tradesmen	8	7.2	4	3.2	3	2.1	2	3.9	1	2.4	14	16.3	-	-	-	-	-	-
Labourer	7	6.3	4	3.2	4	2.8	8	15.7	2	4.8	4	4.7	-	-	1	3.9	-	-
Boat Building	-	-	-	-	3	2.1	1	2.0	-	-	5	5.8	-	-	-	-	-	-
Total No. of Household Units	111	100	127	100	144	100	51	100	42	100	86	100	22	100	26	100	35	100

SOURCE: Household Directories, 1950, 1960, and 1970, Post Office Department.

TABLE 3:2 CONT'D HAMLETS, NUMBER AND PERCENTAGES OF HEAD-OF-HOUSEHOLDS, CLASSIFIED ACCORDING TO OCCUPATION CATEGORIES - 1950, 1960, 1970.

Occupation Category	PORT CLEMENTS						QUATSINO						KYUQUOT					
	1950		1960		1970		1950		1960		1970		1950		1960		1970	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture	11	23.4	2	4.3	3	2.7	8	11.8	-	-	1	2.9	-	-	-	-	-	-
Fishing	5	10.6	2	4.3	3	2.7	15	22.1	24	37.5	14	40.0	33	46.6	42	53.2	50	62.5
Logging	2	4.3	8	17.0	43	38.4	10	14.7	3	4.7	1	2.9	6	8.5	11	13.9	2	2.5
Agents	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Professional	3	6.4	2	4.3	5	4.5	7	10.3	2	3.1	-	-	4	5.6	3	3.8	4	5.0
No occupation	2	4.3	-	-	2	1.8	4	5.9	-	-	2	5.7	-	-	2	2.5	7	8.8
Merchants	3	6.4	2	4.3	2	1.8	3	4.4	3	4.7	-	-	2	2.8	1	1.3	2	2.5
Gov't	1	2.1	2	4.3	1	.9	4	5.9	6	9.4	1	2.9	1	1.4	2	2.5	-	-
Mining	-	-	-	-	1	.9	-	-	-	-	-	-	3	4.2	2	2.5	1	1.3
Industry & Factory	-	-	6	12.8	3	2.7	-	-	1	1.6	4	11.4	-	-	1	1.3	-	-
Fish Processing	-	-	-	-	-	-	1	1.5	-	-	-	-	-	-	-	-	3	3.8
Commun. & Trans.	1	2.1	1	2.1	18	16.1	3	4.4	2	3.1	1	2.9	10	14.1	8	10.1	-	-
Retired	10	21.3	8	17.0	5	4.5	9	13.2	14	21.9	8	22.9	4	5.6	3	3.8	8	10.0
Clergymen	-	-	1	2.1	-	-	-	-	-	-	-	-	1	1.4	1	1.3	1	1.3
Artist & Musicians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clerical & Sales	-	-	-	-	-	-	-	-	-	-	-	-	2	2.8	-	-	-	-
Community Serv.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tertiary Serv.	-	-	3	6.4	2	1.8	1	1.5	-	-	-	-	-	-	-	-	2	2.5
Tradesmen	1	2.1	7	14.9	20	17.9	-	-	3	4.7	-	-	5	7.0	2	2.5	-	-
Labourer	8	17.0	3	6.4	4	3.6	3	4.4	5	7.8	2	5.7	-	-	1	1.3	-	-
Boat Building	-	-	-	-	-	-	-	-	1	1.6	1	2.9	-	-	-	-	-	-
Total No. of Household Units.	47	100	47	100	112	100	68	100	64	100	35	100	71	100	79	100	80	100

SOURCE: Household Directories, 1950, 1960, and 1970, Post Office Department.

relocate the Quatsino Indians in other areas. These two factors appear to be the main reasons why Quatsino is slowly dissolving.

In all other cases, the current performance of these hamlets suggests they will remain relatively stagnant areas. All will remain, within the foreseeable future, considerably dependent upon commercial fishing. This will be especially true of Kyuquot and Bamfield where their positions, as supply centres for many of British Columbia's west coast salmon trollers does not appear to be changing.

Table 3:3 gives a numerical and percentage breakdown of occupation for the head-of-households living in villages for the years 1950, 1960, and 1970. It appears from Table 3:3 that each of the villages shows considerable historical dependency on commercial fishing. Of the five villages included, only Skidegate has shown a significant decline in the numbers of head-of-households with fishing as their main occupation in recent years. With 33 households living in Skidegate in 1950, 51.5 per cent had fishing listed as their main employment. In 1960, 52.9 per cent of the 85 households present were directly dependent on fishing income, while in 1970 only 26.8 per cent of the total 82 households present were dependent on fishing for their main source of income. In each of the years, 1960, and 1970, Skidegate shows growth over the previous years and less direct dependency on fishing.

Sointula, Bella Bella, and Bella Coola all show a considerable resident dependency on commercial fishing over the three years looked at. It would appear that because of their lack of alternative employment opportunities, and the apparent lack of labour mobility among their

TABLE 3:3 VILLAGES, NUMBER AND PERCENTAGES OF HEAD-OF-HOUSEHOLDS, CLASSIFIED ACCORDING TO OCCUPATION CATEGORIES - 1950, 1960, 1970.

Occupation Category	SOINTULA						BELLA BELLA						BELLA COOLA					
	1950		1960		1970		1950		1960		1970		1950		1960		1970	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture	6	3.1	4	1.7	3	1.4	2	2.9	-	-	-	-	1	1.2	27	9.0	5	1.8
Fishing	117	59.6	103	42.7	97	43.9	19	27.1	58	54.2	61	61.0	46	54.1	78	26.1	89	32.3
Logging	16	8.2	54	22.4	26	11.8	10	14.3	4	3.7	-	-	2	2.4	72	24.1	41	14.9
Agents	-	-	2	.8	-	-	-	-	-	-	-	-	-	-	2	.7	-	-
Professional	5	2.6	8	3.3	5	2.3	7	10.0	13	12.2	4	4.0	5	6.0	18	6.0	13	4.7
No occupation	6	3.1	3	1.2	15	6.8	1	1.4	-	-	-	-	2	2.4	-	-	10	3.6
Merchants	1	.5	3	1.2	3	1.4	6	8.6	1	.9	-	-	6	7.2	9	3.0	10	3.6
Gov't	2	1.0	3	1.2	6	2.7	2	2.9	4	3.7	6	6.0	1	1.2	7	2.3	19	6.9
Mining	-	-	-	-	1	.5	-	-	-	-	-	-	-	-	-	-	-	-
Industry & Factory	1	.5	8	3.3	4	1.8	-	-	2	1.9	-	-	-	-	5	1.7	13	4.7
Fish Processing	2	1.0	3	1.2	1	.5	-	-	1	.9	4	4.0	3	3.6	-	-	-	-
Commun. & Trans.	1	.5	2	.8	4	1.8	3	4.3	3	2.8	3	3.0	3	3.6	4	1.3	11	4.0
Retired	16	8.2	28	11.6	29	13.9	10	14.3	5	4.7	1	1.0	1	1.2	21	7.0	25	9.1
Clergymen	-	-	1	.4	-	-	-	-	2	1.9	1	1.0	-	-	3	1.0	3	1.1
Artist & Musicians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clerical & Sales	3	2.6	3	1.2	3	1.4	1	1.4	3	2.8	2	2.0	2	2.4	5	1.7	5	1.8
Community Serv.	-	-	-	-	-	-	1	1.4	1	.9	1	1.0	1	1.2	4	1.3	2	.8
Tertiary Serv.	1	.5	-	-	4	1.8	-	-	-	-	1	1.0	2	2.4	4	1.3	5	1.8
Tradesmen	7	3.6	10	4.2	8	3.6	6	8.6	2	1.9	8	8.0	1	1.2	14	4.7	10	3.6
Labourer	7	3.6	6	2.5	7	3.2	1	1.4	8	7.5	3	3.0	8	9.4	24	8.0	9	3.3
Boat Building	5	2.6	-	-	3	1.4	1	1.4	-	-	5	5.0	1	1.2	2	.7	-	-
Total No. of Household Units	196	100	241	100	219	100	70	100	107	100	100	100	85	100	299	100	276	100

SOURCE: Household Directories, 1950, 1960, and 1970, Post Office Department.

TABLE 3:3 CONT'D VILLAGES, NUMBER AND PERCENTAGES OF HEAD-OF-HOUSEHOLDS, CLASSIFIED ACCORDING TO OCCUPATION CATEGORIES - 1950, 1960, 1970.

Occupation Category	PORT SIMPSON						SKIDEGATE					
	1950		1960		1970		1950		1960		1970	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture	-	-	1	1.0	-	-	8	24.2	-	-	-	-
Fishing	92	80.7	73	70.2	110	68.8	9	27.3	45	52.9	22	26.8
Logging	-	-	-	-	-	-	1	3.0	17	20.0	31	37.8
Agents	-	-	-	-	-	-	1	3.0	1	1.2	-	-
Professional	5	4.4	1	1.0	-	-	1	3.0	1	1.2	1	1.2
No Occupation	-	-	-	-	-	-	-	-	-	-	-	-
Merchants	-	-	3	2.9	4	2.5	1	3.0	3	3.5	2	2.4
Gov't	-	-	2	1.9	2	1.3	1	3.0	1	1.2	-	-
Mining	-	-	-	-	-	-	-	-	-	-	-	-
Industry & Factory	-	-	2	1.9	1	.6	1	3.0	-	-	-	-
Fish Processing	1	.9	-	-	-	-	-	-	-	-	-	-
Commun. & Transp.	-	-	-	-	1	.6	2	6.1	5	5.9	6	7.3
Retired	13	11.4	22	21.2	32	20.	3	9.1	8	9.4	13	15.9
Clergymen	1	.9	-	-	-	-	-	-	1	1.2	-	-
Artist & Musicians	-	-	-	-	-	-	-	-	-	-	1	1.2
Clerical & Sales	-	-	-	-	-	-	-	-	1	1.2	2	2.4
Community Serv.	-	-	-	-	-	-	-	-	-	-	-	-
Tertiary Serv.	-	-	-	-	-	-	-	-	1	1.2	2	2.4
Tradesmen	1	.9	-	-	2	1.3	4	12.2	1	1.2	2	2.4
Labourer	1	.9	-	-	8	5.0	-	-	-	-	-	-
Boat Building	-	-	-	-	-	-	1	3.0	-	-	-	-
Total No. of Household units.	114	100	104	100	160	100	33	100	85	100	82	100

SOURCE: Household Directories, 1950, 1960, and 1970, Post Office Department.

residents, these three villages and Port Simpson are among the most heavily dependent-on-fishing communities in British Columbia.

Table 3:4 provides a breakdown of occupations of the head-of-households living in settlements. According to Table 3:4, the families living in settlements appear to be somewhat less dependent on fishing than those living in hamlets or villages. This is especially true in the case of Port McNeill and Sandspit where fishing income appears to be unimportant. Alert Bay, Tofino, Ucluelet, and Masset had approximately 20 per cent of their heads-of-households employed mainly in fishing during 1970, while Queen Charlotte City had only 3 per cent of its head-of-households employed in commercial fishing during the same year. Neither Port McNeill nor Sandspit, on the basis of the three years shown, appear to have been communities which received anything but comparatively meager amounts of commercial fishing income. Moreover, it would appear that with but a few exceptions, most families resident to settlements were less dependent on commercial fishing in 1970 than in 1950.[18] Especially in the cases of Queen Charlotte City, Masset, and to a lesser degree Ucluelet, the decline in fishing's importance has been considerable. Despite a fairly stable population between 1950 and 1960, the number of head-of-households with fishing as their main occupation declined over 50 per cent.

The one visible exception to this trend appears to be Alert Bay. Alert Bay shows a sharp increase in families living in the settlement between 1950 and 1960, but also a sharp decline in the number of head-of

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18 This is consistent with the discussion pursued in Chapter Two when it was maintained that commercial fishing was of diminishing importance in maintaining remote coastal communities.

TABLE 3:4 SETTLEMENTS, NUMBER AND PERCENTAGES OF HEAD-OF-HOUSEHOLDS, CLASSIFIED ACCORDING TO OCCUPATION CATEGORIES - 1950, 1960, 1970.

Occupation Category	ALERT BAY						PORT MCNEILL					
	1950		1960		1970		1950		1960		1970	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture	6	3.5	3	1.3	1	.5	1	1.4	-	-	1	.3
Fishing	29	17.3	54	23.0	44	23.5	-	-	-	-	-	-
Logging	8	4.7	20	8.5	6	3.2	19	25.7	43	39.1	76	21.6
Agents	6	3.5	3	1.3	1	.5	-	-	-	-	-	-
Professional	23	13.5	33	14.0	14	7.5	25	33.8	11	10.0	51	14.5
No occupation	3	1.8	6	2.6	3	1.6	-	-	-	-	2	.6
Merchants	10	6.0	16	6.8	19	10.2	-	-	2	1.8	7	2.0
Gov't.	5	3.0	7	3.0	15	8.0	-	-	1	.9	7	2.0
Mining	-	-	-	-	-	-	-	-	1	.9	38	10.8
Industry & Factory	1	1.0	12	5.1	6	3.2	-	-	12	10.9	31	8.8
Fish Processing	-	-	1	.4	-	-	-	-	-	-	-	-
Commun. & Trans.	13	7.7	14	6.0	23	12.3	1	1.4	-	-	12	3.4
Retired	4	2.5	4	1.7	-	-	-	-	-	-	1	.3
Clergymen	3	1.8	3	1.3	3	1.6	-	-	-	-	1	.3
Artists & Musicians			-	-	-	-	-	-	-	-	-	-
Clerical & Sales	6	3.5	11	4.7	-	-	1	1.4	3	2.7	6	1.7
Community Serv.	4	2.5	5	2.1	5	2.7	-	-	-	-	-	-
Tertiary Serv.	12	7.0	10	4.3	11	5.9	-	-	2	1.8	13	3.7
Tradesmen	16	9.5	13	5.5	14	7.5	13	17.6	22	20.0	96	27.3
Labourer	14	8.3	17	7.2	21	11.2	14	18.9	13	11.8	10	2.8
Boat Building	6	3.5	3	1.3	1	.5	-	-	-	-	-	-
Total No. of Household Units	169	100	235	100	187	100	74	100	110	100	352	100

Occupation Category	TOFINO						ULCUELET					
	1950		1960		1970		1950		1960		1970	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture	-	-	-	-	-	-	3	1.9	2	.7	-	-
Fishing	16	17.9	50	27.5	48	23.8	56	35.4	77	28.0	87	20.7
Logging	5	5.6	25	13.7	41	20.3	52	32.9	89	32.4	136	32.4
Agents	-	-	4	2.2	1	.5	2	1.3	1	.4	1	.3
Professional	7	7.8	10	5.5	9	4.5	7	4.4	20	7.3	21	5.0
No occupation	6	6.7	1	.6	6	3.0	4	2.5	1	.4	26	6.2
Merchants	5	5.6	4	2.2	7	3.5	2	1.3	3	1.1	10	2.5
Gov't.	1	1.1	5	2.8	18	8.9	5	3.2	9	3.3	14	3.3
Mining	4	4.4	2	1.1	1	.5	-	-	2	.7	7	1.7
Industry & Factory	-	-	6	3.3	5	2.5	1	.6	3	1.1	13	3.3
Fish Processing	-	-	1	.6	2	1.0	-	-	3	1.1	-	-
Commun. & Trans.	1	1.1	13	7.1	9	4.5	2	1.3	10	3.6	11	2.7
Retired	5	5.6	19	10.4	14	6.9	1	.6	14	5.1	18	4.3
Clergymen	1	1.1	4	2.2	2	1.0	-	-	3	1.1	2	.5
Artists & Musicians	-	-	-	-	-	-	-	-	-	-	2	.5
Clerical & Sales	5	5.6	1	.6	-	-	2	1.3	4	1.5	7	1.7
Community Serv.	-	-	5	2.8	1	.5	1	.6	-	-	3	.7
Tertiary Serv.	3	3.3	8	4.4	11	5.5	3	1.9	12	4.4	22	5.2
Tradesmen	26	29.2	14	7.7	15	7.4	12	7.6	9	3.3	24	5.7
Labourer	4	4.4	10	5.5	11	5.5	5	3.2	13	4.7	14	3.3
Boat Building	-	-	-	-	1	.5	-	-	-	-	2	.5
Total No. of Household Units	89	100	182	100	202	100	158	100	275	100	420	100

SOURCE: Household Directories, 1950, 1960, and 1970, Post Office Department.

TABLE 3:4 CONT'D SETTLEMENTS, NUMBER AND PERCENTAGES OF HEAD-OF-HOUSEHOLDS, CLASSIFIED ACCORDING TO OCCUPATION CATEGORIES - 1950, 1960, 1970.

Occupation Category	MASSET						QUEEN CHARLOTTE						SANDSPIT					
	1950		1960		1970		1950		1960		1970		1950		1960		1970	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture	10	7.1	2	1.5	2	.7	5	5.6	3	2.9	1	.5	2	3.4	3	3.1	1	.9
Fishing	60	42.9	29	22.3	60	19.7	30	33.2	15	14.3	6	3.0	2	3.4	-	-	-	-
Logging	-	-	3	2.3	17	5.6	10	11.2	19	18.1	48	24.5	15	25.4	43	44.8	51	44.7
Agents	-	-	-	-	-	-	-	-	-	-	1	.5	-	-	2	2.1	-	-
Professional	9	6.4	14	10.7	36	11.8	8	8.9	11	10.5	20	10.2	6	10.2	6	6.3	5	4.4
No Occupation	13	9.3	3	2.3	2	.7	2	2.2	-	-	35	17.9	1	1.7	-	-	2	1.8
Merchant	3	2.1	5	3.8	11	3.6	9	10.1	3	2.9	6	3.1	2	3.4	-	-	1	.9
Gov't	6	4.3	3	2.3	35	11.5	-	-	3	2.9	2	1.0	-	-	2	2.1	-	-
Mining	-	-	-	-	-	-	3	3.4	1	1.0	-	-	-	-	-	-	-	-
Industry & Factory	2	1.4	4	3.0	34	11.2	-	-	5	4.8	11	5.6	-	-	-	-	3	2.6
Fish Processing	1	.7	-	-	2	.7	-	-	-	-	-	-	-	-	-	-	-	-
Commun. & Trans.	1	.7	20	15.3	13	4.3	-	-	5	4.8	12	6.1	10	17.0	12	12.5	21	18.4
Retired	4	2.8	-	-	29	9.5	-	-	12	11.4	14	7.1	-	-	-	-	3	2.6
Clergymen	1	.7	-	-	4	1.4	2	2.2	-	-	-	-	-	-	1	1.0	1	.9
Artists & Musicians	-		-	-	-	-	-	-	-	-	-	-	-	-	4	4.2	-	-
Clerical & Sales	1	.7	8	6.1	6	2.0	3	3.4	3	2.9	2	1.0	1	1.7	-	-	3	2.6
Community Serv.	-	-	1	.7	1	.4	1	1.1	4	3.8	2	1.0	-	-	-	-	1	.9
Tertiary Serv.	4	2.8	5	3.8	14	4.6	1	1.1	8	7.6	5	2.5	-	-	1	1.0	5	4.4
Tradesmen	8	5.7	4	3.0	16	5.2	12	13.4	8	7.6	22	11.2	19	32.2	18	18.8	15	13.2
Labourer	16	11.4	28	21.5	23	7.5	3	3.4	4	3.8	8	4.1	1	1.7	4	4.2	2	1.8
Boat Building	1	.7	1	.7	-	-	-	-	1	1.0	1	.5	-	-	-	-	-	-
Total No. of Household Units	140	100	130	100	305	100	89	100	105	100	196	100	59	100	96	100	114	100

SOURCE: Household Directories 1950, 1960, and 1970, Post Office Department.

households directly employed in commercial fishing. However, between 1960 and 1970 the percentage of household units dependent on fishing income increased from 12.3 to 23.5 per cent. Alert Bay, unlike the other communities in the settlement category, shows little potential for future growth. The Indian Affairs Department and the Nimpkish Band Council are actively discouraging Indians from settling in the area.[19] Moreover, the isolated nature of the community (surrounded by water) together with the growth of the Port Hardy area will likely lead to an exodus of people in the future.[20] Port Hardy, with its new job opportunities will likely attract some of Alert Bay's population away.[21] Residents of Alert Bay will remain, within the foreseeable future, strongly dependent upon commercial fishing for a substantial portion of their jobs and income.

Unlike Alert Bay, the remainder of the settlement show substantial growth potential. Tofino and Ucluelet both have new highways which connect them with the outside world. This, together with the new Long Beach Park, will attract many tourists - with the tourist dollar - to the area. Sandspit, is the main transportation link with the mainland and has a large airport which will grow as the Queen Charlottes grow as a whole. This also appears to be the situation in Queen Charlotte City. Masset has a new Naval Station which will bring a couple of hundred new

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19 The active encouragement of Indians to move into the Alert Bay area by Indian Affairs people was one of the main reasons why Alert Bay experienced an increase in population during the late 1950's and early 1960's.

20 Alert Bay has the only hospital in the Mount Waddington Regional District. The Mount Waddington Regional District included Alert Bay, Port Hardy, Port McNeill and Port Alice. This hospital attracts many outside visitors from other areas. Population increases soon will necessitate another regional hospital which will detract some visitors - and outside money - away from Alert Bay.

21 Utah Mining's new operation and the general growth of Port Hardy has led to many new job opportunities in this community.

residents to the community. Port McNeill will be located on the new proposed highway which will link Campbell River to Port Hardy in the future. In each case, the importance of fishing income to the population of these communities is likely to decline as new sources of income develop.

Table 3:5 provides a breakdown of head-of-household employment according to occupation category.[22] The slight relative decline in fishing's importance is reflected in the decline in the number of heads-of-households directly employed in fishing from 8.8 per cent in 1950 to 6.3 and 4.4 per cent in 1960 and 1970 respectively.

Port Hardy is one of the most rapidly growing areas of British Columbia. With a $70 million open pit copper mining site going into operation in the summer of 1971,[23] a new hotel, an airport which is on the main air route to the coastal regions of northern British Columbia, and a new highway which will connect it with Campbell River, Port Hardy is likely to triple its population in the next ten years.[24]

Data on the number of heads-of-households employed in Prince Rupert and Port Alberni are not available. The size and present structure of these towns reveal a number of interesting observations on future growth and the dependency of their residents on commercial fishing.[25]

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22 Heads-of-households data are not available for Prince Rupert or Port Alberni, the other two communities classified as towns.

23 Utah mining, which is the owner of this mining operation, plans to train Indian workers living in the area. This is one more reason why Indians now living in Alert Bay might be attracted to areas like Port Hardy or Holberg where another mine is being developed.

24 Bryce Williams "Port Hardy Confident of Happy Days Ahead", Vancouver Sun, Pacific Press, Vancouver, September 18, 1970, p. 13.

25 Data such as value of housing starts, value of business loans, and number of business starts were used for developing these projections. These data are not shown here because of space limitations and disclosure regulations.

TABLE 3:5 TOWNS, NUMBER AND PERCENTAGES OF HEAD-OF-HOUSEHOLDS, CLASSIFIED ACCORDING TO OCCUPATION CATEGORIES - 1950, 1960, 1970.

	PORT HARDY					
Occupation Category	1950		1960		1970	
	No.	%	No.	%	No.	%
Agriculture	4	2.5	-	-	1	.2
Fishing	14	8.8	11	6.3	30	4.4
Logging	20	12.5	44	25.3	231	33.9
Agents	3	1.9	1	.6	3	.4
Professional	15	9.4	20	11.5	24	3.5
No occupation	3	1.9	2	1.2	2	.3
Merchants	3	1.9	5	2.9	12	1.8
Gov't	6	3.8	7	4.0	55	8.1
Mining	-	-	-	-	66	9.7
Industry & Factory	-	-	6	3.5	17	2.5
Fish Processing	-	-	-	-	5	.7
Commun. & Trans.	42	26.3	4	2.3	70	10.3
Retired	4	2.5	5	2.9	18	2.6
Clergymen	1	.6	3	1.7	9	1.3
Artists & Musicians	-		-	-	-	-
Clerical & Sales	-	-	5	2.9	9	1.3
Community Serv.	2	1.2	-	-	5	.7
Tertiary Serv.	4	2.4	5	2.9	25	3.7
Tradesmen	15	9.4	13	7.5	60	8.8
Labourer	24	15.0	42	24.1	41	6.0
Boat Building	-	-	1	.6	-	-
Total No. of Household Units	160	100	174	100	683	100

SOURCE: Household Directories, 1950, 1960, and 1970, Post Office Department.

Port Alberni is situated at the head of Alberni Canal, where it is in an ideal setting for a west coast seaport of substantial size. Port Alberni is situated on the main highway linking Tofino, Ucluelet, and Bamfield.[26] The considerable tourist potential of the Long Beach-Tofino area[27] means that Port Alberni will enjoy new revenue from tourists visiting the outer coastal regions in the future. Nonetheless Port Alberni is vulnerable to world market declines in wood products because of its heavy dependence on this one industry. Moreover, its future as a home port for many of British Columbia's west coast trollers is by no means certain. When travel between Port Alberni and Tofino-Ucluelet becomes easier in the summer of 1971, many fish boats are likely to locate in these smaller communities where they will be located closer to coastal fishing grounds. In any case, only a small percentage of Port Alberni's labour force are employed in commercial fishing.

There has been much speculation on the future of Prince Rupert.[28] The general concensus appears to be that Prince Rupert has a great future and will likely be a big city one day, but no one is quite sure when. Most advocates of this theory claim that its location, between the mineral deposits in northern Alberta and the far eastern markets of the Orient, almost guarantee growth. Nonetheless, it is felt by others

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26 The Tofino-Ucluelet highway is currently being rebuilt into a modern thoroughfare able to handle a great deal more traffic than it can at present. The road to Bamfield is a logging road open only during certain periods each week.

27 Long Beach was established as a National Park in 1970.

28 Donald Stainsby, "B.C. Has It, Japan Wants It and Prince Rupert Dreams of Shipping It", Vancouver Sun, Pacific Press, August 1, 1970, p. 22.

that there are other better seaports, such as Kitimat, which are more suitable for transporting raw materials to these markets. The slow growth rate of Prince Rupert suggests that the optimism may be misplaced. Nevertheless, this does not belie the fact, that Prince Rupert is situated at a location, and has a basic infrastructure, which is well suited to future growth. It could grow because of trade east and west or because of greater flows of trade between north and south. Prince Rupert is the most northernly sizeable community situated this side of the Alaska-British Columbia border. Furthermore, Prince Rupert with its long historical background as a home port for many of Canada's west coast fishing fleet and its many fish processing operations, is likely to remain one of the main commercial fishing centres on the west coast for many years to come.

Conclusion

Most of British Columbia's major commercial fishing ports located in remote northern areas are included in this study. The number and diversified structure of these communities necessitated that they be divided into distinct categories, based on economic structure, in order to facilitate clear analysis. If the head-of-household can be assumed the main "breadwinner" for each family, then the degree of dependency on fishing income among residents of communities varies widely. Consistent with what was suggested in previous chapters, the degree of dependency varies not only with respect to the size and

structure of the community, but also the mobility of its labour force. With but a few exceptions, it was found that those communities with the best growth potential are also those communities least dependent on fishing. It would appear from the foregoing discussion that commercial fishing will continue in future to be important to residents of many of the communities included in this study.

Chapter Four

BASE ANALYSIS AND ITS APPLICATION IN THIS STUDY

This chapter will be devoted to: (1) briefly introducing the rudiments of an economic base analysis, (2) discussing its application in this study, (3) presenting employment and income data for each community in the study, and (4) discussing the various factors which might lead to a misunderstanding of these census data. It is the intention here to provide industry by industry payroll and employment breakdowns for each community in an effort to facilitate easy comparisons between the various income sources. Such breakdowns will be somewhat limited because of disclosure rules established by the Dominion Bureau of Statistics.[1]

The Rudiments of Economic Base Analysis and Its Application in this Study

The community base analysis divides the economic activities of a community into two groups: the basic or exporting activities and the non-basic or service activities. The basic or exporting activities are the "city building" activities. Essentially, economic base theory holds that exports are basic to the growth of a community and that increases or decreases in population or economic activity will result from similar behaviour in the base sector. Base analysis is particularly suited to studying small isolated or semi-isolated

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1 The disclosure rules established by the Dominion Bureau of Statistics forbid the disclosure of information on firms or businesses, which might lead to information on an enterprise's employment, sales, payroll, et cetera. This disclosure principle will be adhered to throughout this study.

communities with simple economic structures.[2]

Aside from the base study's suitability for analyzing communities somewhat separated from outside economic functions, the relatively simple data requirements make it ideally suited to a study such as the one undertaken here.

There are essentially two factors to be considered when applying an economic base study. These are (1) the unit of measurement to be used when applying or comparing the relative economic contribution of a particular base industry to a given area, and (2) the scope, depth or degree of sophistication to which the base analysis is used. We will now consider each of these two factors in turn.

One of the major technical problems associated with applying a meaningful base analysis, concerns the selection of a unit of measurement. Until fairly recently, employment (number of jobs) was the most widely used unit. The popularity of using employment data likely stems from the relative ease with which employment figures may be obtained. It is true that for reasons of planning and policy making, employment breakdowns by occupation and industry are valuable information. For this reason this information is presented here. However, when the purpose is to determine the contribution made by a certain industry - as it is in this study for the commercial

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2 Charles M. Tiebout, The Community Economic Base Study, Supplementary Paper No. 16, Committee for Economic Development, New York, p. 14.

fishing industry - the use of employment as a unit of measurement is inappropriate by itself.[3] The number of jobs does not catch the significance of expansions or contractions in specific wage levels or individual industries, nor is it satisfactory for assessing the true contribution made by seasonal or part-time employment opportunities. In this regard the only satisfactory unit of measurement is the payroll of the firms, and the incomes of those individuals employed in the region.[4]

When applied at a community level, the assumptions implicit to base analysis are as follows:

(1) The residents of the community will spend the same portion of their income at each different income level.

(2) The residents of the community will spend the same portion of their income on non-locally produced goods and services at each different income level.

(3) Local investment depends on forces outside the community such as interest rates, general economic conditions and other non-local factors.

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3 For a comprehensive discussion on the problems associated with closing a unit of measurement see Walter Isard, Methods of Regional Analysis, John Watey and Sons, Massachusetts, 1960, Chapter 6. Also C.L. Leven, "An Appropriate Unit for Measuring the Economic Base", Land Economics, Vol. 31, (Nov. 2, 1956).

4 Walter Isard has stated that: "The use of payrolls as a sole unit of measure, however, is limited by the fact that payrolls give no direct evidence of the actual number of job-holders in any given industry, and that changes in the general price level may vitiate any period-by-period comparison".

(4) The community's exports are only a small part of the total world market and therefore local production does not affect this market.

(5) Although the community's exports does not affect world markets, the reverse is not true. The community's exports are directly dependent upon external market demands.

Among other things, these assumptions either singularly or combined imply that a community's consumption will remain constant at each incremental change in income and that as a community's size increases there is no change in the ratio of imported and exported goods. Neither of these assumptions are considered necessarily true[5], and it is for this, as well as other reasons which arise from these assumptions, that the validity of the base analysis is subject to considerable criticism.[6]

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5 Empirical data have shown that on an individual basis, a person's consumption does not remain constant with incremental changes in income and over time consumers usually save greater portions of their income (consume less) as their income increases. Moreover - with regard to the ratio of imports and exports - it would seem reasonable to believe that as a community's size increases, its population is able to support larger firms and businesses capable of producing goods and services which could only be imported previously.

6 For a comprehensive discussion on the implications of using the average propensity to consume (APC) in place of the marginal propensity to consume (MPC) see K.J. Allen, "The Regional Multiplier: Some Problems in Estimation", Chapter Four in Sarah C. Orr and J.R. Cullingworth, Regional and Urban Studies, Sage Publications, Beverly Hills, 1969, pp. 80-96.

Hugh O. Nourse, Regional Economics, McGraw-Hill Inc., New York, 1968, p. 168.

Ralph W. Pfouts, Erle T. Curtis, "Limitation of Economic Base Analysis", Journal of American Institute of Planners, Vol. 23, No. 2, 1957, pp. 303-310.

Ralph W. Pfouts, "An Empirical Testing of Economic Base Theory", Journal of American Institute of Planners, Vol. 23, No. 2, 1957, pp. 64-69.

When summarizing the base analysis and its application in this study, it is essential to note that the theoretical foundation and assumptions upon which the economic base study is dependent, clearly establishes it as a short-run analysis. The longer the period over which the analysis or its findings must be extended, the less realistic are the assumptions (the greater the possibility for changes in the variables) and the less credence may be given any results.[7] The short-run limitations of the model need not be unduly restrictive, when used to determine the importance of a particular industry to a given community over a given period of time.[8]

Community, Demographic, and Economic Census Data[9]

Beginning with those communities classified as hamlets and considering each category in turn, the contribution made by fishing relative to other base industries, is presented for each community in the study.

Table 4:1 provides a breakdown between basic and non-basic

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7 It is also true that the more isolated the community is from outside activity, the longer the period over which the variables used in the base analysis are likely to hold constant, and the more extended the period over which the analysis will hold true.

8 The term short-run is defined as period of time short enough so that some of the input factors (such as plant and equipment) cannot be varied. The long-run refers to a period of time over which all the input factors can be varied.

9 A detailed explanation of the data and how it was collected is presented in Appendix Four.

TABLE 4:1 POPULATION, LABOUR FORCE, EMPLOYMENT, AND INCOME COMPARISONS FOR HAMLETS ACCORDING TO BASIC AND NON-BASIC ACTIVITIES***1970.

NAME OF HAMLET	POPULATION		ESTIMATED LABOUR FORCE.	EMPLOYMENT		INCOME* (nearest $'000)	
	INDIAN RESERVE	TOTAL POPULATION		NO. BASIC	NO. NON-BASIC	$ BASIC**	$ NON-BASIC
Bamfield	179	572	163	83	51	379,000	921,000
Coal Harbour		237	183	59	124	499,000	279,000
Kyuquot	185	381	184	74	69	629,000	93,000
Port Clements		308	234	73	161	664,000	348,000
Quatsino	25	121	78	13	61	127,000	188,000
Winter Harbour		96	74	57	17	622,000	57,000

* Income data are developed on basis of 1969 payroll and earning figures (for a detailed definition of income see Appendix Six)

** Basic income figures include government transfer payments accruing to the community's residents.

*** Basic and non-basic employment and income as defined on page 73.

employment, and between basic and non-basic income for each hamlet.

Table 4:2 compares fishing employment and income with other basic employment and income by individual hamlet. According to this table, fishing as a percentage of all basic income ranges between 2.2 per cent in Port Clements and 68.8 per cent in Bamfield.

Virtually all commercial fishing boats resident to communities on the west coast of Vancouver Island are part of the west coast commercial salmon trolling fleet. The unsettled nature of the weather off the west coast, together with the large number of out-of-area boats which fish west coast waters, creates a situation whereby west coast communities (all hamlets are west coast communuties) are important ports for refuge and service of the west coast fishing fleet. Thus, from the discussion on out-of-area boats (Appendix Four), the contribution to basic income made by commercial fishing would be, in many cases, substantially underestimated. This is undoubtedly true in Kyuquot and Bamfield where the number of people present during the fishing season nearly doubles their permanent population.

Table 4:3 provides population, labour force, employment, income, and basic and non-basic comparisons for villages.

Table 4:4 compares the employment and income contribution made by fishing to total basic employment and income. With 94.1 per cent of its employment and 79 per cent of its income stemming

TABLE 4:2 FISHING EMPLOYMENT AND INCOME RELATED TO TOTAL BASIC EMPLOYMENT AND INCOME FOR HAMLETS - 1970

NAME OF HAMLETS	EMPLOYMENT			INCOME* (nearest $'000)		
	No. Employed** In Fishing	Total Employed All Basic	% Fishing to Total Basic	$ Fishing	$ All Basic***	% Fishing to Total Basic
Bamfield	74	83	89.2	261,000	379,000	68.8
Coal Harbour	11	59	18.6	39,000	500,000	7.8
Kyuquot	30	74	40.5	125,000	629,000	19.9
Port Clements	11	73	15.1	14,000	664,000	2.2
Quatsino	11	13	84.6	24,000	127,000	19.0
Winter Harbour	17	57	29.8	74,000	622,000	12.0

* Income data are developed on basis of 1969 payroll and earning figures.

** The figure indicating the number employed in fishing includes all primary fishermen, fish buyers, and those persons employed in fish processing. The number of primary fishermen is based on the assumption that there is only one man working each boat.

*** Base income figures include government transfer payments.

TABLE 4:3 POPULATION, LABOUR FORCE, EMPLOYMENT, AND INCOME COMPARISONS FOR VILLAGES ACCORDING TO BASIC AND NON-BASIC ACTIVITIES

NAME OF VILLAGE	POPULATION		Estimated Labour Force	EMPLOYMENT		INCOME* (nearest $'000)	
	Indians on Reserve	Total Population		Basic	Non-Basic	$ Basic **	$ Non-Basic
Bella Bella	882	1,157	412	135	206	830,000	317,000
Bella Coola	505	1,264	671	139	488	821,000	1,672,000
Port Simpson	773	1,213	363	55	262	173,000	1,272,000
Skidegate	265	491	190	41	130	351,000	391,000
Sointula		970	659	165	494	1,162,000	1,621,000

* Income data are developed on the basis of 1969 payroll and earning figures.

** Base income figures include government transfer payments accruing to their residents.

TABLE 4:4 FISHING EMPLOYMENT AND INCOME RELATED TO TOTAL BASIC EMPLOYMENT AND INCOME FOR VILLAGES - 1970

NAME OF VILLAGE	EMPLOYMENT			INCOME * (nearest $'000)		
	No. Employed in Fishing **	Total Employed All Basic	% Fishing to Total Basic	$ Fishing	$ All Basic***	% Fishing to Total Basic
Bella Bella	127	135	94.1	656,000	830,000	79.0
Bella Coola	80	139	57.6	192,000	821,000	23.4
Port Simpson	55	55	100.0	90,000	173,000	51.9
Skidegate	10	41	24.4	29,000	351,000	8.3
Sointula	138	165	83.6	620,000	1,162,000	53.4

* Income data are developed on basis of 1969 payroll and earning figures

** The figure indication the number employed in fishing includes all primary fishermen, fish buyers, and those persons employed in fish processing. The number of primary fishermen is based on the assumption there is only one man working each boat.

*** Base income figures include government transfer payments

directly from commercial fishing, Bella Bella appears to be the village most critically dependent on fishing for its existence. Skidegate with 24.4 per cent of its total employment engaged in commercial fishing and 8.3 per cent of its total income earned in the fishing industry, appears to be the village least dependent upon fishing.

Table 4:5 provides a population, labour force, employment and income breakdown for settlements according to basic and non-basic activities.

Table 4:6 provides a numerical and percentage comparison for base employment occupations by settlement. According to Table 4:6, total commercial fishing employment, as a percentage of total base employment, varies from 70.6 per cent in Alert Bay to 0.7 per cent in Port McNeill.

Table 4:7 gives a numerical and percentage income comparison for basic and non-basic industries by settlement.

Table 4:8 shows the numerical status of the individual town's population, employment, and income, with respect to basic and non-basic activities.

Table 4:9 provides a numerical and percentage employment breakdown for the base industries of towns. It also indicates the percentage of fishing employment to total employment in each town. According to Table 4:9, Prince Rupert is the town with the greatest portion of its population earning fishing income.

TABLE 4:5 POPULATION, LABOUR FORCE, EMPLOYMENT, AND INCOME COMPARISONS FOR SETTLEMENTS ACCORDING TO BASIC AND NON-BASIC ACTIVITIES - 1970.

	POPULATION			EMPLOYMENT		INCOME* (nearest $'000)		
NAME OF SETTLEMENTS	Indians on Reserve	Total Population	Estimated Labour Force	No. Base	No. Non-Base	$ Base	$ Non-Base	$ Total Incomes
Alert Bay	515	2,000	708	183	443	1,351,000	1,333,000	2,684,000
Masset	716	1,394	719	144	502	1,352,000	1,412,000	2,765,000
Port McNeill		968	769	459	306	1,519,000	2,456,000	3,975,000
Queen Charlotte City		539	409	79	330	619,000	1,152,000	1,771,000
Sandspit		314	242	72	170	620,000	431,000	1,051,000
Tofino	479	962	444	86	287	669,000	1,158,000	1,826,000
Ucluelet	179	1,334	928	317	572	3,068,000	1,834,000	4,902,000

* Income data are developed on basis of 1969 payroll and earning figures.

TABLE 4:6 BASIC AND NON-BASIC PERCENTAGE BREAKDOWN OF EMPLOYMENT COMPARISONS AND FOR DIFFERENT OCCUPATION CATEGORIES BY SETTLEMENT - 1970

Base Employment	Alert Bay No.	Alert Bay % of Base	Masset No.	Masset % of Base	Port McNeill No.	Port McNeill % of Base	Queen Charlotte City No.	Queen Charlotte City % of Base	Sandspit No.	Sandspit % of Base	Tofino No.	Tofino % of Base	Ucluelet No.	Ucluelet % of Base
Fishing	127	70.6	*81	56.3	3	0.7	31	39.3	6	8.3	60	69.8	131	41.3
Mining & Logging			10	6.9	456	99.3	46	58.2	45	62.5	10	11.6	181	57.1
Hospital	49	27.2					2	2.5			2	2.3		
Commun. & Trans.	4	2.2	53	36.8					21	29.2	14	16.3	5	1.6
TOTAL BASIC EMPLOYMENT	180		144		459		79		72		86		317	
TOTAL NON-BASIC EMPLOYMENT	446		502		306		330		170		287		572	
% OF FISHING TO TOTAL EMPLOYMENT		20.3		12.5		0.4		7.6		2.5		16.1		14.7

* Includes Employment in Commercial Shell Fishery

TABLE 4:7 BASE AND NON-BASE INCOME*COMPARISONS, PERCENTAGE BREAKDOWN FOR DIFFERENT OCCUPATION CATEGORIES BY SETTLEMENT - 1970

(nearest $'000)

Base Income	Alert Bay $	% of Base	Masset $	% of Base	Port McNeill $	% of Base	Queen Charlotte City $	% of Base	Sandspit $	% of Base	Tofino $	% of Base	Ucluelet $	% of Base
Fishing	794,000	58.8	771,000**	57.0	12,000	0.8	87,000	14.1	6,000	1.0	313,000	46.8	1,000,000	35.7
Mining & Logging			99,000	7.3	1,446,000	95.2	456,000	73.7	407,000	65.7	115,000	17.2	2,000,000	56.3
Hospital	302,000	22.3					6,000	1.0			10,000	1.5		
Commun. & Trans.	28,000	2.1	301,000	22.3					152,000	24.5	101,000	15.1	35,000	1.1
Transfer Payments	227,000	16.8	181,000	13.3	61,000	4.0	69,000	11.2	55,000	8.9	130,000	19.5	209,000	17.9
Others														
TOTAL BASE INCOME	1,351,000		1,352,000		1,519,000		618,000		620,000		669,000		3,244,000	
TOTAL NON-BASE INCOME	1,333,000		1,412,000		2,456,000		1,152,000		431,000		1,158,000		1,834,000	

* Income data developed in 1969 payroll and earning figures.
** Includes income earned in shell fishing.

TABLE 4:8 POPULATION LABOUR FORCE, EMPLOYMENT, AND INCOME COMPARISONS FOR TOWNS ACCORDING TO BASIC AND NON-BASIC ACTIVITIES - 1970

NAME OF TOWN	POPULATION			EMPLOYMENT		INCOME* (nearest '000)		
	Indians on Reserve	Total Pop.	Estimated Labour Force	No. Base	No. Non-Base	$ Base	$ Non-Base	Total Income
Port Alberni	261	22,347	9,854	6,196	3,620	46,077,000	26,475,000	72,553,000
Port Hardy	715	2,928	1,861	722	1,103	5,846,000	2,125,000	7,971,000
** Prince Rupert	1,772	18,850	8,126	2,971	4,932	27,969,000	27,959,000	55,927,000

* Income data are developed on basis of 1969 payroll and earning figures.
** Included Gross Income and Employment statistics of Port Edwards and Sunnyside.

TABLE 4:9 BASIC AND NON-BASIC PERCENTAGE BREAKDOWN OF EMPLOYMENT COMPARISONS AND FOR DIFFERENT OCCUPATION CATEGORIES BY TOWNS - 1970.

	PORT ALBERNI		PORT HARDY		*PRINCE RUPERT	
BASE EMPLOYMENT	No.	% of Base	No.	% of Base	No.	% of Base
Fishing	138	2.2	105	14 7	1,518	57.2
Mining & Logging	6,001	96.7	559	78.2	1,211	45.6
Hospital	57	0.9			25	0.9
Commun & Trans.	7	0.1	51	7.1		
** Other					217	8.2
TOTAL BASIC EMPLOYMENT	6,203		715		2,654	
TOTAL NON-BASIC EMPLOYMENT	3,613		1,110		4,883	
% OF FISHING TOTAL EMPLOYMENT		1.4		5.8	***	23.6

* Includes Port Edward and Sunnyside
** Employment in Halibut Fishery
*** Includes Employment statistics in "Other" category.

Table 4:10 gives a numerical and percentage breakdown of base industry occupation by town; it also provides a basic income to total income ratio, for each town.

Interpretation of the Data:[10]

A careful comparison of Tables 4:1 to 4:10 reveals a number of interesting points which are necessary to the understanding of these data. It is obvious from the employment and income information given in the Tables, that the percentage of employment provided to a community by a particular base industry does not reflect - even roughly - the income contribution of the industry to the community. In many cases, the percentage of basic employment provided by the commercial fishing industry is more than double the percentage of basic income accruing from it. In mining and logging, the percentage of basic employment is frequently less than the percentage of base income it provides. Different levels of employment are associated with different levels of income depending upon the industry and community involved. This apparent incongruity results from the different wage levels paid by different industries. It also reflects the variations in earnings and productivity experienced by fishermen living in different locations.[11]

When interpreting the significance of different levels of income in each community, the more crucial considerations are: how

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10 For a detailed discussion on the reason for the difference in results arising from basic income changes of the same magnitude see: K.J. Allen, Ibid., pp. 86-87.

11 It also shows the limitations of using employment data instead of income data when dealing with industries which employ a large number of part-time or casual workers.

TABLE 4:10 BASE AND NON-BASE INCOME* COMPARISONS, PERCENTAGE BREAKDOWNS FOR DIFFERENT OCCUPATION CATEGORIES BY TOWNS - 1970
(nearest $'000)

BASE INCOME	PORT ALBERNI $	PORT ALBERNI % of Base	PORT HARDY $	PORT HARDY % of Base	PRINCE RUPERT** $	PRINCE RUPERT** % of Base
Fishing	649,000	1.4	250,000	4.3	10,069,000	36.0
Mining & Logging	41,297,000	89.5	5,288,000	90.4	11,709,000	41.9
Hospital	444,000	1.0			147,000	0.5
Commun. & Trans.	56,000	0.1	157,000	2.7	128,000	0.5
Transfer Payments	3,687,000	8.0	151,000	2.6	3,484,000	12 5
*** Other					2,431,000	8.7
TOTAL BASE INCOME	46,133,000		5,846,000		27,969,000	
TOTAL NON-BASE INCOME	26,419,000		2,125,000		27,959,000	
RATIO: TOTAL BASE INCOME / TOTAL INCOME		.64		.73		.50

* Income data are developed on basis of 1969 payroll and earning figures.
** Includes Port Edwards and Sunnyside.
*** Income generated from Halibut fishing.

the income enters the community and who receives it. If the data given in Table 4:1 to 4:10 are considered without careful interpretations, it could be construed that a dollar of welfare is as valuable to the community and its residents as a dollar earned in fishing or logging. Yet, it is normally taken as axiomatic that persons who depend on transfer payments are not as well-off, socially or economically, as those who receive their income because of gainful employment. By extending this reasoning to the community level, it could be said that a community which receives all of its basic income in the form of transfer payments cannot be considered as socially or economically well-to-do as one which receives the same amount of basic income because of commercial exporting activity. From a purely economic point-of-view, the per capita income of residents of a community whose income is derived solely through government transfer payments is likely lower than the per capita income of residents living in a community where transfer payments are non-existent.[12] However, not all of the implications, stemming from a community with most of its income being generated by government transfer payments, can be understood in purely economic terms. The vast majority of government transfer

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12 Conceivably, low wages and large numbers of unemployed workers in a given community might attract industry or capital investment in sufficient volume to push-up the per capita income of the community. However, as noted earlier in Chapter Three, industry does not select industrial locations purely on the basis of the cost of labour.

payments are paid to persons who for one reason or another are in need of financial assistance.[13] When large amounts of money enter a community as transfer payments, it usually implies that much unemployment, or even poverty, are present. Since there is little doubt that unemployment affects the basic fabric of a community by undermining the self-esteem and aspirations of its residents, the motivational forces which have already been noted as important (Chapter Three) to growth and expansion are likely to be absent.[14] The qualitative aspects of what happens to the spirit of a community under the influence of stagnation or retardation is difficult to evaluate. However the total effect of what different sources of basic income mean to a community cannot be appreciated unless considered along with the economic considerations.[15]

Another equally important consideration, when attempting to ascertain the precise meaning of what the absolute size of a given level of income is to a community, is who receives the income.

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13 The one readily obvious exception to this is family allowance payments. At present, all families with children under sixteen years of age are entitled to family allowance regardless of economic circumstance.

14 For an appreciation of how unemployment and poverty can affect a community or region, see the Economic Council of Canada's Sixth Annual Review.

Economic Council of Canada, Prospective 1975, Sixth Annual Review, Queen's Printer, Ottawa, Sept. 1969, pp. 107-122.

15 Harvey S. Perloff, Edgar S. Dunn Jr., Eric E. Lampard, Richard F. Muth, Regions, Resources and Economic Growth, Bison Press, Baltimore, 1960, p. 590.

The highest level of income per capita means very little when a community's total income is earned by only a small percentage of the total population. Therefore necessary to an understanding of just what a large aggregate community income means to its residents, is basic knowledge on how the income is distributed among the community's population.

Conclusion:

Economic base theory is postulated on the preposition that all a community's income or employment, either directly or indirectly, is dependent upon the basic income or employment of the community. If a particular industry is responsible for 50 per cent of a community's basic income and employment then elimination of the industry will lead to a 50 per cent decline in the total number of jobs available in the community and a 50 per cent decrease in the total income of the community. In many cases the population and business core of the communities studied here are so small there is a danger, that even a thirty per cent decline in either income or employment, might lead to a community's elimination. Recognising this it can be seen from those data presented in Tables 4:1 to 4:10 that commercial fishing is, with but a few exceptions, an extremely important source of income and employment for most of the community's included in this study. Of the four community categories we have established, it would appear that fishing employment and income is most crucially important to hamlets and villages. However, it is also extremely important in most settlements and at least the one

town, Prince Rupert. Moreover, it should be remembered that the true importance of fishing as well as other basic income is probably not reflected in Tables 4:1 to 4:10. The large amount of transfer payments entering many of the communities tends to underestimate the social significance of income earned from productive employment.

Concluding Remarks

In terms of British Columbia's total annual production of goods and services, Canada's west coast commercial fishing industry makes only a modest and declining contribution to the economy of British Columbia. As the province's industrial base expands and becomes more complex, commercial fishing's importance can be expected to decline even further. This is true at the community level as well as the provincial level. As was seen in Chapter Three, a community which has good growth potential and is experiencing advances in its economic base, appears to be less dependent on commercial fishing for employment and income. However, in the case of both the province's and community's economies, commercial fishing's diminishing importance comes as the result of relative, rather than absolute, decreases in total output.

Continuing technological advances in the transportation and processing of raw fish, are likely to contribute to a decrease in the number of fish related employment opportunities in the remote regions of the province in future. This does not however, necessarily imply that the total number of fishery related job opportunities will decrease in the province as a whole, but rather, that there will continue to be a redistribution of these jobs throughout

the province. It is likely that the more populated areas of the province will continue to gain a greater portion of the fishing industry's secondary jobs, as the industry's productive and transporting capabilities continue to advance.

In many of the smaller communities, which were designated as hamlets and villages here, fishing is of crucial importance to the continued existence of the community and the economic well-being of its residents. Undoubtedly, this does partially reflect the unquestionable importance of commercial fishing to the coastal Indian people of British Columbia. The true significance of commercial fishing to the Indian population is not shown in the data provided in Chapter Four, because the on reservation population (the figures provided), in most instances, only represents a small portion of the actual number of Indians living in a given community. A careful examination of the tables presented in Chapter Four indicates that fishing is of premium importance in communities where the Indian population is most prevalent. From this it can be easily deduced that the west coast commercial fishery does help to maintain the coastal Indian's economic independence, and the survival of their traditional way of life.

In Chapter Two it was suggested that the independence and skills normally found characteristic of fishermen complements the manpower requirements of the remote regions of the province. The age distribution of the fishermen together with other unique

features (such as the ease with which individuals can obtain work as members of fishing vessel crews) make commercial fishing an ideal employment opportunity for those living in remote regions and who are otherwise unable (or do not want) to obtain full time employment. Moreover, when considering the number of individuals employed in logging in the remote regions of the province, it would appear that commercial fishing would be a very important economic stabilizer when forest closures or pulp mill labour disputes occur. In this sense, commercial fishing and logging could be considered the two most important sources of employment available in the remote coastal regions of British Columbia.

According to the income and employment figures presented in Chapter Four on Port McNeill and Sandspit, fishing income even appears to enter those communities which are not - and never have been - dependent on fishing to any extent. This would seem to give credence to the belief that commercial fishing contributes to the total spectrum of jobs available in all of the remote regions of the province and not just in areas where fishing has been of historical importance.

In this paper we have shown that commercial fishing's importance is not limited to one geographical area on the coast; nor is its importance limited to only communities of a certain size or complexity. Fishing provides significant amounts of income and employment in communities on the west coast of

Vancouver Island, just as it does for communities on the north coast and the Queen Charlotte Islands. It provides a considerable number of jobs in communities as large as Prince Rupert and as small as Quatsino. Fishing employment and income is particularly important to residents of areas where alternative sources of income are not available. Moreover, it would appear that commercial fishing will continue to be, for many years to come, a valuable source of income and employment for those persons, who for either cultural or personal reasons, prefer to live in the remote coastal regions of British Columbia.

In closing it should be cautioned that the purpose of this study has not been to measure the value of Canada's west coast commercial fishing, nor has it been to trace or estimate the total income and employment created by commercial fishing, but more modestly, to illustrate the importance of commercial fishing to some of the more remote communities on the British Columbia coast. In both depth and scope, this paper has touched only on a small portion of the total number of factors which should be considered when assessing the value of the fishing resource to the people of Canada. For thousands of Canadians, the fishery represents a way of life, a source of income, a cultural heritage (for the coastal Indians), but for thousands of others it represents recreational enjoyment and even spiritual enhancement. From a

quality of life point-of-view, perhaps its most valuable attribute is that fishing, whether commercial or recreational, may be conducted in harmony with nature. The act of fishing does not detract from the beauty of the landscape nor the quality of the environment. If a meaningful value is to be placed on Canada's west coast fishery, careful assessment of all these factors has to be included.

APPENDIX ONE

THE RELATIVE CONTRIBUTION OF DIFFERENT SPECIES TO BRITISH COLUMBIA'S FISHING INDUSTRY

In 1969, salmon accounted for 66 per cent of the total market value of all commercial fish caught by British Columbia fishermen. The next most valuable species was halibut at 19 per cent followed by tuna at 3 per cent of the total market value. Table 1:A provides a comparison of landed values for all major varieties of commercial fish in British Columbia, between 1960 and 1969.

Because of the recent decline in herring stocks the true contribution made by herring in the past is not reflected in Table 1:A. The value of the herring catch becomes more readily appreciated when it is noted that average landings of approximately 250,000 tons in 1963, 1964, and 1965 dropped to 133,000 tons in 1966. Salmon and halibut together with herring have in the past usually represented 90 per cent of the total fish landed by British Columbia fishermen,[1] but the salmon remains today, as it has done throughout the history of British Columbia, the single

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1 Federal-Provincial Committee on Wage and Price Disputes in the British Columbia Fishing Industry, A Summary Review of Information Related to the Problems of Wage and Price Disputes in the British Columbia Fishing Industry (Ottawa: Queen's Printer, 1964), p. 73.

TABLE 1A TOTAL LANDED VALUES FOR MAIN VARIETIES OF FISH CAUGHT COMMERCIALLY IN BRITISH COLUMBIA WATERS 1960 - 1969

($',000)

	1960		1961		1962		1963		1964	
	$	%	$	%	$	%	$	%	$	%
Salmon	18,401	63.19	26,152	65.37	30,559	61.10	22,790	55.21	30,244	61.05
Herring	2,178	7.48	4,589	11.46	4,752	9.49	6,477	15.69	6,167	12.45
Halibut	5,399	18.55	6,204	15.54	10,912	21.80	8,249	19.98	8,309	16.76
Soles	407	1.40	356	.89	395	.80	359	.87	409	.83
Red & Rock Cod	22	.01	29	.01	60	.01	38	.09	43	.09
Ling Cod	402	1.38	424	1.06	469	.94	379	.92	384	.78
Grey Cod	260	.89	170	.42	254	.51	414	1.00	722	1.46
Black Cod	170	.58	118	.29	109	.22	104	.25	187	.38
Flounder	7	.02	11	.03	9	.02	8	.02	7	.01
Skate	5	.02	5	.01	6	.01	5	.01	4	.01
Eulachons	16	.05	43	.11	35	.07	29	.07	25	.05
Sturgeon	8	.03	9	.02	7	.01	7	.02	8	.02
Perch	17	.06	7	.02	25	.05	31	.08	37	.07
Tuna	62	.21	46	.11	57	.11	36	.09	62	.13
Octopus	-	-	-	-	-	-	-	-	9	.02
Smelt	8	.03	15	.04	12	.02	8	.02	15	.03
Shrimp	299	1.03	194	.48	268	.54	284	.69	161	.33
Clams & Abalone	133	.46	76	.19	139	.28	103	.25	59	.12
Crabs	515	1.77	470	1.17	302	.60	405	.98	699	1.41
Oysters	339	1.16	369	.92	466	.95	635	1.54	588	1.19
Fur Seal Skins	-	-	-	-	-	-	40	.10	140	.28
Nes Products	489	1.68	744	1.86	1229	2.47	877	2.12	1254	2.53
TOTAL	29,127	100	40,031	100	50,065	100	41,278	100	49,533	100

TABLE 1A (Cont'd) TOTAL LANDED VALUES FOR MAIN VARIETIES OF FISH CAUGHT COMMERCIALLY IN BRITISH COLUMBIA WATERS
1960 - 1969

($',000)

	1965		1966		1967		1968		1969	
	$	%	$	%	$	%	$	%	$	%
Salmon	25,958	53.33	38,654	63.06	36,001	72.08	44,887	70.79	57,982	66.08
Herring	6,232	12.80	5,107	8.33	1,828	3.66	231	.36	559	.64
Halibut	11,112	22.83	11,471	18.71	6,631	13.28	11,536	18.19	16,636	18.95
Soles	418	.86	676	1.10	583	1.17	623	.98	1,352	1.57
Red & Rock Cod	40	.08	38	.62	36	.72	37	.06	135	.15
Ling Cod	457	.94	603	.98	462	.92	629	.99	920	1.04
Grey Cod	1,142	2.35	1,436	2.34	776	1.55	778	1.23	937	1.06
Black Cod	203	.42	304	.48	171	.34	204	.29	275	.31
Flounder	7	.01	6	.01	11	.02	7	.01	18	.02
Skate	5	.01	4	.01	5	.01	6	.01	16	.02
Eulachons	18	.04	18	.03	15	.03	7	.01	13	.01
Sturgeon	6	.01	6	.01	5	.01	5	.01	15	.02
Perch	98	.20	225	.37	41	.08	113	.14	198	.23
Tuna	99	.20	104	.17	183	.36	1,262	1.99	3,161	3.60
Octopus	6	.01	5	.01	17	.03	11	.02	30	.03
Smelt	10	.02	14	.02	2	.00	8	.01	5	.01
Shrimp	281	.58	300	.49	332	.66	320	.50	902	1.03
Clams & Abalone	106	.22	125	.20	180	.36	98	.15	227	.26
Crabs	552	1.13	588	.96	797	1.60	787	1.24	1,558	1.77
Oysters	612	1.26	802	1.31	733	1.47	726	1.14	856	.97
Fur Seal Skins	53	.11	34	.06	-	-	-	-	8	.01
Nes Products	1,258	2.58	1,367	2.23	1,137	2.28	1,140	1.80	1,339	1.52
TOTAL	48,673	100	61,299	100	49,946	100	63,415	100	87,852	100

Source: Fisheries Statistics of British Columbia 1970
Economics Branch Dept. of Fisheries, 1969-1970.

most important species in the Province's commercial fishing industry.

APPENDIX TWO

THE IMPORTANCE OF NATURAL RESOURCES TO BRITISH COLUMBIA'S ECONOMY

British Columbia in comparison to other areas of North America has only been settled by Europeans quite recently.[1] Before 1858, the region's economy was based on fur trading, and the total European population numbered only 1,000. But, in that year, the prospect of gold brought a large influx of people up the Fraser River and into the interior. Rapidly, other industries developed to take care of the needs of the expanding population; in particular, fishing and agriculture for food, and logging for building. With the advent of rail links to the rest of Canada and the opening of the Panama Canal for easier access to the Atlantic States and Europe, British Columbia's economy became more outward-looking and has continued to develop along these lines. With the increasing importance of Japan as a trading partner and improved methods of bulk shipping, British Columbia's future economic well-being would seem to be assured.

The contribution of mining, logging, and fishing to the economy of the province from these early days to the present has been paramount. One of the first European settlements was

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1 See R.E. Goswell, A History of British Columbia, and M. Omisby, British Columbia: A History (Vancouver, MacMillan, 1958).

John Meares' trading post, at Nootka, on Vancouver Island (founded in the 1780's)[2], and generally speaking, the initial settlement pattern followed that of the trading posts for the next seventy years. With the opening of the frontier to fortune-seekers in the late 1850's communities sprang up wherever the resources were being exploited. Some have survived, but the majority vanished when the vein of mineral ore ran out or the trees were all cut down or the fish population became depleted. Those that have survived and flourished have developed secondary and tertiary industries based on the resources and the needs of the resident population.

Today, the importance of these resource-based industries to the provincial economy is still considerable. Table 2:A compares British Columbia's Estimated Gross Domestic Product in 1961 to that of the rest of Canada in such a way that we can readily see the relative importance of various industries to each. Thus, agriculture and manufacturing contribute less (as a percentage of total G.D.P.) to British Columbia's economy than to that of the rest of Canada, but the extractive and service industries make a larger contribution, comparatively speaking. Indeed, according to R.A. Shearer,[3] 60 per cent of the output value in "manufacturing" in British Columbia was in four industrial

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2 Cicely Lyons, Salmon Our Heritage, (Vancouver, Mitchell Press Ltd., 1969), p. 11.

3 R.A. Shearer, "The Development of the British Columbia Economy: The Record and the Issues" in Exploiting our Economic Potential: Public Policy and the British Columbia Economy, ed. R.A. Shearer, p. 10.

TABLE 2:A THE RELATIVE CONTRIBUTION OF BASIC INDUSTRIES TO BRITISH COLUMBIA AND CANADA'S GROSS DOMESTIC PRODUCT 1961.*

	British Columbia %	Other Provinces %
Farming	2.5	5.0
Mining	8.5	5.5
Manufacturing	20.5	26.0
Building and Construction	6.5	5.5
Service Industries	62.0	58.0
TOTAL	100.0%	100.0%

* T. Ohki, An Estimate of the Provincial Gross Domestic Product at Factor Cost by Industry of Origin for British Columbia, 1961 (unpublished M.A. Thesis, Library, University of British Columbia, Vancouver, 1966); Canada, Dominion Bureau of Statistics, National Accounts, Income and Expenditure, 1964 (Ottawa, 1966).

SOURCE: R.A. Shearer Exploiting Our Economic Potential: Public Policy and the British Columbia Economy, Holt, Rinehart, and Winston, 1968, p 9.

TABLE 2:B ESTIMATED CONTRIBUTIONS OF THE BASIC INDUSTRIES TO BRITISH COLUMBIA'S GROSS DOMESTIC PRODUCT - 1961.*

	Millions	% of G.D.P.
Forestry, Wood, and Paper Products	$468	14.0%
Mining and Primary Metals	$171	4.5
Fishing	74	2.0
Agriculture	88	2.5
TOTAL	$801	23.0%

* Estimated G.D.P. of British Columbia (1961) - $3.3 billion.

SOURCE: T. Ohki, An Estimate of the Provincial Gross Domestic Product at Factor Cost by Industry of Origin for British Columbia, 1961. (Unpublished M.A. Thesis, Library, University of British Columbia, Vancouver, 1966); DBS, Manufacturing Industries of Canada: British Columbia, Yukon, and Northwest Territories, 1961 (Ottawa, 1964).

groups - fish packing, wood products, paper products, and primary metals - in 1961. These four industrial groups make up less than 25 per cent of the total manufacturing production in the rest of Canada. From this, it can be understood that the dependence of British Columbia on its three primary resources was crucial to its economic development in 1961 (1961 figures are the latest available).

Page 107 Paragraph 2
As a further comparative indication of the role these primary resources play in the economic structure of the province, it is worth looking at sme other figures derived from T. Ohki[4] in Table 2:B.

should read:

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4 T.Ohki, An Estimate of the Provincial Gross Domestic Product at Factor Cost by Industry of Origin for British Columbia, 1961. (Unpublished M.A. Thesis, University of British Columbia, 1966.)

APPENDIX THREE

SAMPLE SURVEY OF COMMERCIAL FISHERMEN 1970

The data used in Chapter Two is developed from information gathered during a survey of all west coast fishermen, which was conducted by the Economics Branch of the Department of Fisheries and Forestry in 1970. The survey sample was randomly drawn from a list of personal fishing licences issued in 1970. All persons engaged, or planning to engage in primary commercial fishing, are required to obtain a licence except those taking clams and oysters. The information on fishermen is based on 2,371 (approximatively) usable replies.[1]

In Chapter Two the information on vessel owners was separated from that of renters or paid crew members in order to facilitate a meaningful analysis of other non-fishing employment activities. This information was in turn, divided into the following categories: (1) those fishing vessel owners living in remote areas, and (2) those fishing vessel owners living in non-remote areas. Table 3:A shows the sample size and actual number of vessel owners resident to remote vis-a-vis non-remote

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1 A detailed description of the survey with some of the preliminary results is provided in the report Some Economic Aspects of Commercial Fishing in British Columbia, (Fisheries Service - Pacific Region), June 1971.

areas. Chart 2:1 indicates the geographical breakdown of the remote and non-remote areas as used in the chapter.

TABLE 3:A USABLE RETURNS OF FISHING VESSEL OWNERS USED IN CHAPTER TWO - 1970 CENSUS SURVEY

Area	No. Resident Vessel Owners*	Usable Returns From Vessel Owners	Usable Sample % Return
Remote	878	211	24.0
Non-Remote	5,822	1,195	20.5
Total	6,700 **	1,406 ***	

* Residence established according to home port of licenced fishing vessels.

** This total does not include non-B.C. residents.

*** This total does not include vessel owners making over $1,055 worth of net fishing income per week.

Page 109 Paragraph 2

The term "net income", as used in Chapter Two, includes all earnings after deducting expenses (capital depreciation expenses) and before personal income tax.

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APPENDIX FOUR

SOURCES USED, COOPERATION EXTENDED AND DEVELOPMENT OF DATA

One of the major obstacles to overcome in any economic analysis encompassing a certain geographic area with a limited population, is the lack of meaningful data available which may be applied to the localities being studied. It is usually the case, that published data are only available on a national or provincial basis. Even those data which are collected by the various public and private agencies are not always available for public use, nor is it in a form suitable for analyzing the economic affairs of a region.

The data used in this study were obtained from three basic sources. First, the various Provincial and Federal government agencies which have access to information on the employment, income, population size, and economic activities of specific communities. Second, information on income, employment, and expenditure patterns were gathered from officials in the community. Sources of information often utilized in this regard include municipal clerks, local postmasters, owners of the general store, and on occasion the chief of the Indian tribe or

the tribe's agent. Third, all base industry payroll data were collected directly from the firms and industries of concern. It was often necessary for the firm to provide information on their employees permanent place of residence in order to trace the ultimate destination of their payrolls.[1]

The following is a list of agencies and firms which provided information for this study.

Government and Government Agencies
(Federal, Provincial, Municipal Governments and Hospitals)

Federal Government

Canadian National Telecommunications

Canadian Postal Service

Dept. of Fisheries and Forestry

Dept. of Indian Affairs and Northern Development

Dept. of Industry, Trade and Commerce (Statistics & Economics Division)

Dept. of Manpower and Immigration

Dept. of National Defence

Dept. of National Health and Welfare

Dept. of National Revenue (Income tax data census div.)

Dept. of Transport (Trans Canada Telephone System)

Dominion Bureau of Statistic Section (Labour force Survey Division; Economic Characteristics Section; Manufacturing Census Division; Consumer Finance, Research Staff; Sampling & Survey Research Staff)

R.C.M.P.

Unemployment Insurance Commission

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1 Private firms were most co-operative in supplying information on the home residence of their employees. This information was essential for determining the proportion of a firm's payroll which should be allocated as base income.

Provincial Government

B.C. Hospital Insurance Service

B.C. Hydro and Power Authority

Dept. of Highways

Dept. of Industrial Development, Trade & Commerce, Economics and Statistics Branch

Dept. of Lands & Forest

Dept. of Recreation & Conservation (Office of Public Administration)

Dept. of Rehabilitation and Social Improvement

Liquor Control Board

Workmen's Compensation Board

Municipal Government see "Companies" page 117.

~~Alert Bay Credit Union~~

Associated Chambers of Commerce of Northern Vancouver Island

Corporation of the Village of Alert Bay

Island Communications Service

Village of Alert Bay

Village of Masset

Mount Waddington Regional District

City of Port Alberni

Port Hardy District

Village of Port McNeill

City of Prince Rupert

Village of Tofino

Municipal Government

Village of Ucluelet

The Vancouver Island North School District Authority

Hospitals

Alberni Hospital

Bella Coola Hospital

Esperanza Hospital

Kitimat Hospital

Prince Rupert Regional Hospital

Queen Charlotte Islands General Hospital

Red Cross Outpost (Masset)

R.W. Large Memorial (Bella Coola)

St. George's Hospital (Alert Bay)

Tofino Hospital

Fishing Companies and Fish Buyers

Babcock Fisheries Ltd.

Blaine Myers Fisheries Ltd.

Booth Fisheries Ltd.

B.C. Packers (Rupert Cold Storage, Sunnyside)

Canadian Fish (Atlin Fisheries, Oceanside, Northern Fisherman)

Cassiar Packing Co.

Fishing Companies and Fish Buyers

Clarence Fry (Fish Buyer)

Fish Co. Incorp.

Inverness Cannery (closed down)

MacCallum Sales Ltd.

McMillian (Independent)

Masset Canners

Millbanke Industries

Nelson Bros.

Nohr G. Fish Buyer

North Pacific (Canfisco)

Port Edward (Nelson Bros.)

Prince Rupert Fisherman's Co-Op.

Quatsino Canning Incorp.

Queen Charlotte Canneries Ltd.

Royal Fisheries Ltd.

Rupert Fish Co. Incorp.

Sea Food Products

Store Fish Buyer

Tofino Fishing and Trading Co. Ltd.

Tofino Packing

Ucluelet Fishing Co. Independent

Vancouver Shell Fish (Buyers)

Logging

Alberni Pulp and Paper

Allison Logging

Ami Inlet Logging Co. Ltd.

Arden J.W. Logging Co. Ltd. (Port Alberni)

Bill Moore Logging Operation

B.C. Forest Products Ltd.

Carlen Prescott Logging Ltd.

Crown Zellerback Co. Ltd.

Columbia Cellulose Co. Ltd.

Denision Logging Camp

Donaldson Logging Ltd.

Eurocan Pulp and Paper

Fair Harbour Logging

Greenwood Contractors

Lenine Logging (Kyuquot)

Lowry Logging (not in operation)

MacMillan Bloedell Ltd.

McMillians Co. Ltd.

Mahutta River Logging Camp

Mars Contracting

Millstream Timber Ltd.

Mt. Montwanish Sawmill

New Way Logging

Northrop Logging

Logging

O'Conners Logging Ltd.

Pioneer Timber Co. Ltd. (Port McNeill)

Plenski Logging (Kyuquot)

Post Logging Ltd.

Prince Rupert Forest Products

Rayonier Canada (B.C.) Ltd.

Seymores Narrows Logging Operations

Sing F. Ltd. (Port Alberni)

Skeena Timber Co.

Tahsis Company Ltd.

Turner Logging Co. Ltd.

Yellow Creek Logging Co.

Yokokoski Contractors

Zeballos Logging Camp

Mining

Alcan Co. of Canada

Benson Lake Mine

Cominco Ltd.

Haida Industries Argillite

Orezennlly Mining

Utah Mining

Airlines

Air West Airlines Ltd.

Alert Bay Air Services Ltd.

B.C. Airlines Ltd.

C.P. Air

North Coast Airlines

Okanagan Helicopters Ltd.

Pacific Western Airlines

Tofino Airport

Trans-Provincial Airlines

Vancouver Island Helicopter Services

Wilderness Airlines

Bank

Bank of Montreal

Bank of Nova Scotia

Canadian Imperial Bank of Commerce

Companies

Page 112 Municipal Government
Alert Bay Credit Union should be listed under "Companies", page 117.

B.C. Telephone Co.

Clelland A.G. Ltd.

Finnerty Construction

Companies

Fisheries Association of B.C.

Gaskell and Campbell Construction Co. Ltd.

Gulf Oil (Canada) Ltd.

Imperial Oil

Kinross Loans

Masset Contracting Ltd.

Millbank Boatyards

Mt. Waddington Retail Lumber

Quatsino Boat Yards

Sanford Evans Publishing Ltd.

Seagate Hotel

Shearwater Boatyards

Standard Oil Co. of B.C.

Stevenson Construction

Tahsis Inlet Contractors

Utah Construction

Sanford Evans Publishing Ltd. (Trade & Commerce Magazine)

The pattern used to collect information on particular communities varied according to the size and complexity of the area. However, it was always found necessary to visit the base industries in the community, the local postmaster, the largest retail outlet in the area and the municipal clerk. In fairly small isolated communities, it was found useful to obtain a list from the community

telephone book then go through the list with the postmaster (or mistress) to obtain the number of employees engaged by each firm. On occasion it was found that even the employees role within the firm could be obtained.

In many cases the general knowledge gained while conducting the survey helped the enumerator to determine whether the accuracy of the data being supplied was suitable for the needs of the study. For instance, logging operations located in the same general vicinity and having approximately the same number of employees are expected to have similar sized payrolls. Only on two or three occasions was it felt that there was a possibility that the information supplied might be wrong. In each case, the data were subjected to confirmation from additional sources. Only in the one situation was it found that the information given was completely inaccurate. In all other cases, the data were accurate or satisfactory explanations were found to explain apparent discrepancies.

With the exception of income earned in the fishing industry, where some provisions had to be made for year-to-year fluctuations,[2] employment, payroll and income data are based on

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2 1969 was an extremely poor fishing year for the Canadian west coast commercial fishing industry.

the 1969 calendar year.[3] All earnings were developed according to the gross income[4] earned by residents of the community. The income and payroll figures used are essentially, the pecuniary income[5] paid by the employer plus the normal payroll deductions (i.e., personal income tax, union dues, the employer's pension payments, et cetera). Farm incomes, the rents earned in running a privately owned business not located in the community under study, and dividend payments[6] are not included in the income data used here.

Cyclical and seasonal fluctuations of salmon runs has influenced, to a considerable extent, the selection of the time

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3 It should be noted, that while the employment, income, and payroll data are based on 1969 earnings, the data were analyzed on the basis of the community's structure in 1970. Therefore, with the appropriate adjustments, and the tendency for very slow changes over time in these isolated areas, the basic information developed here may prove accurate over a considerable period of time.

4 Just because a firm was located in a particular community, the firm's total payroll was not necessarily considered part of the income earned by residents of that community. The firm's payroll might be divided up between two or three communities (even communities not considered in this study) depending on where their employees lived.

5 Pecuniary income does not include the indirect benefits (or salary) paid by the employer to the employee such as sick benefits, the employer's share of the employee's superannuation, the employer's share of unemployment insurance, pension, etc.

6 A significant drawback of payroll and employment as units of measurement for determining the importance of an industry usually results from a lack of information on government transfer payments and private investments. Information on transfer payments from both senior levels of government have been developed for this study. Moreover it is felt that private investment will be in most cases, insignificant or non-existent.

span and the income data used in this analysis. On the one hand, the uneven flow of the salmon fishing income throughout the year, meant that in order to make reasonable comparisons between commercial salmon fishing income and other types of income, it would have to be done on an annual basis.[7] On the other hand, the wide variations in total salmon fishing earnings between one year and the next made it necessary to eliminate the peaks and troughs for the purpose of making comparisons.[8] All salmon fishing income was averaged over the four years 1966, 1967, 1968 and 1969. In the situation where an owner changes his fishing vessel or home port, the vessel owner's gross income, averaged over four years, is added to the base income of the vessel's home port as of 1970. The rationale here is, that presumably this is the income which the fisherman could reasonably be expected to earn and the community to realize as base income, in any single year because of the vessel's presence in the commercial fishing industry.

In all cases, the vessel's home port, according to the records of the Department of Fisheries and Forestry in Vancouver, was taken to be the owner's permanent place of residence. Several checks were made on the accuracy of this assumption throughout the period of enumeration. Only with a few exceptions - all of them

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7 It was also found that annual payroll or income figures were easier to obtain.

8 In at least the one salmon processing operation (Bella Bella), the plant is only operated every second year in accord with the two year cycle of the pink salmon.

in the more populated centres which are not of concern in this study - was it found that a boat's home port was not in fact the owner's permanent place of residence.[9]

The term transfer payments which is one source of base salary in each community includes: Old Age Security, Supplementary Social Assistance Allowance, Day Care Provisions, Social Assistance and Rehabilitation Services, Unemployment Insurance, and Family Allowance Payments.

That portion of the hospital's payroll which can be attributed to patients coming from outside the community was considered part of the community's base income. If ten per cent of a hospital's business was based on patients living in other locations, then ten per cent of the hospital's total payroll was considered basic income. As can be seen by Chapter Four, the income accruing to the community in this method represented a considerable portion of total base salary.

Four final comments on the development of the income data used in what follows should also be made. The income and employment figures which were developed for each community are based on the community as it existed in 1970. A number of fish

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9 It is felt that the accuracy of the data is enhanced by the relative remoteness of the communities included. For instance, in Steveston it was found that owners might live in any one of a number of centres. These centres might be located either in British Columbia or other provinces. This was not found to be the case in remote communities. It was found in remote areas, that the boat, its owner, and its crew were likely to reside in the community which was indicated as the boat's home port.

processing operations closed down or did not operate in 1970 even though they had been in operation for many years previously. These plants were not included in the study, because it is felt that there is only a small chance of them recommencing operations at some future date. If a fish processing plant operates only periodically, when salmon runs are good, the income is based on an average taken between the non-operating and the operating years. No adjustments were made to take account of the time value of money.

In the vast majority of cases, the non-salmon fishing income earned by residents of the communities included in this study is negligible. For this reason it was not considered necessary to distinguish between salmon and non-salmon income. Fishermen's income, regardless of whether it was primary or secondary, was lumped into one figure under the term fishing. Of the communities being studied here, there are two regions where other, non-salmon fishing, incomes are important. In the Masset area on the Queen Charlotte Islands, the main fishing income is derived from the shell fishery.

Also fishermen, in what has been defined here as Prince Rupert, earn a substantial portion of their total fishing income in the halibut fishery. Disclosure limitations made it impossible to separate the non-salmon from the salmon income in Masset. In Prince Rupert, halibut income is shown separately from salmon income.

Reasonably good quality data, together with the isolated nature of the communities, has made it possible to avoid many of the problems normally encountered in an economic base study. There still remains, however, one basic information problem. It was found impossible to develop reasonably acceptable information on the contribution made to basic income by non-resident visitors to the communities. It is undoubtedly the case, that in some areas (e.g. Tofino), tourism is an important source of basic income.[10] It is also true, that in other areas the incomes earned by local residents servicing out-of-area fishing fleets directly or indirectly provides a substantial portion of a community's income (this is particularily true in those communities, designated Hamlets, on the west coast of Vancouver Island). Therefore, even though it is impossible to quantify these discrepancies, it should be noted that these discrepancies do detract from the accuracy of the data.

While the contribution by out-of-area vessels from

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10 There is one potential source of basic income subsumed within the payroll of hotels. The distinction between basic and non-basic income is not clear in this case. If all patrons of the hotel could be considered vacationers, then it would seen appropriate to earmark all the money earned by those employed to maintain the rooms, as basic income. However, not all persons who stay in hotels are tourists, nor are they necessarily non-residents of the community. Therefore, not all hotel payroll can be designated basic income. Many employees of a hotel are engaged in the restaurant, the beverage room, etc. These activities normally service the local population and cannot be considered export services. Because of these complications, all hotel income was considered non-basic rather than basic income.

non-remote areas has to be considered important, this is not necessarily true for out-of-area vessels whose home ports are located in other remote locations. Enumeration indicated that vessels originating from remote locations purchased their supplies in their home port, while vessels originating from non-remote centres purchased their supplies from remote locations within easy access of the fishing grounds. It would appear from this, that because of the pattern adopted by fishermen when resupplying their vessels, the contribution to basic income (using gross income figures) by commercial fishing is underestimated in remote locations.

Also it should be noted that the basic income data presented here was developed by personally visiting and interviewing each firm or business basic to the existence of a community. Most of the non-basic income is developed on the basis of published data and information provided by local authorities and other government agencies. For this reason, basic income information can be assumed more accurate than the information provided on non-basic income.

All employment data are developed on the basis of where the individual was employed in 1969. Some individuals would be employed as fishermen only on a part-time or casual basis; as near as was possible these persons were not counted as being employed as fishermen. If on the other hand, an individual was

employed as a logger but owned a fishing vessel and could be expected to fish when the season opened, he was assumed to be a fisherman. In the secondary phases of the fishing industry, employment was developed and presented on a man year basis. For example, three individuals employed in a cannery for four months is presented as one individual employed in fishing for a single year. Therefore, even though the secondary fishing industry may be employing three different individuals during the period of a single year, this was assumed equivalent to one man working full-time for one year.

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