# WEST COAST DATA INVENTORY AND APPRAISAL VOLUME 4



Dixon Entrance, Hecate Strait, Queen Charlotte Sound and Adjoining B.C. Coastal Waters: Biological Oceanography - Marine Mammals 1862 through 1991

L.M. Nichol<sup>1</sup>, P.F. Wainwright<sup>1</sup>, P.F. Olesiuk<sup>2</sup> and B.D. Smiley<sup>3</sup>

<sup>1</sup>LGL Environmental Research Associates Ltd., 9768 Second Street, Sidney, B.C.

<sup>2</sup>Pacific Biological Station, Department of Fisheries and Oceans, Nanaimo, B.C.

<sup>3</sup>Institute of Ocean Sciences, Department of Fisheries and Oceans, Sidney, B.C.



CANADIAN DATA REPORT OF HYDROGRAPHY AND OCEAN SCIENCES NO. 37



#### Canadian Data Report Of Hydrography and Ocean Sciences

Data reports provide a medium for the documentation and dissemination of data in a form directly useable by the scientific and engineering communities. Generally, the reports contain raw and/or analyzed data but will not contain interpretations of the data. Such compilations commonly will have been prepared in support of work related to the programs and interests of the Ocean Science and Surveys (OSS) sector of the Department of Fisheries and Oceans.

Data reports are not intended for general distribution and the contents must not be referred to in other publications without prior written authorization from the issuing establishment. The correct citation appears above the abstract of each report. Data reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and indexed in the Department's annual index to scientific and technical publications.

Data reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page. Out of stock reports will be supplied for a fee by commercial agents.

Regional and headquarters establishments of Ocean Science and Surveys ceased publication of their various report series as of December 1981. A complete listing of these publications is published in the *Canadian Journal of Fisheries and Aquatic Sciences*, Volume 39: Index to Publications 1982. The current series, which begins with report number 1, was initiated in January 1982.

### Rapport statistique canadien sur l'hydrographie et les sciences océaniques

Les rapports statistiques servent de véhicule pour la compilation et la diffusion des données sous une sorme directement utilisable par les scientifiques et les techniciens. En général, les rapports contiennent des données brutes ou analysées, mais ne fournissent pas d'interprétation des données. Ces compilations sont préparées le plus souvent à l'appui de travaux liés aux programmes et intérêts du service des Sciences et levés océaniques (SLO) du ministère des Pêches et des Océans.

Les rapports statistiques ne sont pas destinés à une vaste distribution et leur contenu ne doit pas être mentionné dans une publication sans une autorisation écrite préalable de l'établissement auteur. Le titre exact paraît au-dessus du résumé de chaque rapport. Les rapports statistiques sont résumés dans la revue Résumés des sciences halieutiques et aquatiques, et ils sont classés dans l'index annuel des publications scientifiques et techniques du Ministère.

Les rapports statistiques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés sont fournis contre rétribution par des agents commerciaux.

Les établissements des Sciences et levés océaniques dans les régions et à l'administration centrale ont cessé de publier leurs diverses séries de rapports en décembre 1981. Une liste complète de ces publications figure dans le volume 39, Index des publications 1982, du *Journal canadien des sciences halieutiques et aquatiques*. La série actuelle a commencé avec la publication du rapport numéro 1 en janvier 1982.

181087

#### CANADIAN DATA REPORT OF HYDROGRAPHY AND OCEAN SCIENCES NO. 37



1993

#### WEST COAST DATA INVENTORY AND APPRAISAL

#### **VOLUME 4**

### DIXON ENTRANCE, HECATE STRAIT, QUEEN CHARLOTTE SOUND AND ADJOINING B.C. COASTAL WATERS:

#### **BIOLOGICAL OCEANOGRAPHY - MARINE MAMMALS**

1862 through 1991

by

L.M. Nichol<sup>1</sup>, P.F. Wainwright<sup>1</sup>, P.F. Olesiuk<sup>2</sup> and B.D. Smiley<sup>3</sup>

<sup>1</sup>LGL Environmental Research Associates Ltd., 9768 Second Street, Sidney, B.C.

<sup>2</sup>Pacific Biological Station,
Department of Fisheries and Oceans,
Nanaimo, B.C.

<sup>3</sup>Institute of Ocean Sciences, Department of Fisheries and Oceans, Sidney, B.C.

Institute of Ocean Sciences,
Department of Fisheries and Oceans,
Sidney, B.C.,
V8L 4B2

#### PREFACE

To manage Canadian West Coast waters competently, there is a fundamental requirement to review the sufficiency and suitability of the available scientific data for many purposes - such as engineering design, regulation, assessment, planning, research and monitoring. We consider this review to consist of three phases: (i) the cataloguing, mapping and methods-appraisal of all existing data sets; (ii) the actual scrutiny of the data themselves and the judgement of their utility for answering management questions; and (iii) the analysis and interpretation of the best of these data.

This inventory, which indexes the biological marine mammal data of Dixon Entrance, Hecate Strait, Queen Charlotte Sound and adjoining waters, is considered a major contribution to phase (i). It has been produced by the Data Assessment Division (Institute of Ocean Sciences) and Marine Mammals Section (Pacific Biological Station), Department of Fisheries and Oceans, as part of the Data Inventory and Appraisal Program. Contract projects, supervised by government scientists and funded by numerous federal agencies, have examined all known marine data sets which contain marine mammal information obtained in the area in question. Evaluation of the data set quality has been carried out by careful examination of the documentation for methodologies used in sampling, storage and analysis.

It is our hope that this inventory will assist you, both in establishing the usefulness of existing data for whatever particular purpose contemplated, and in assessing the confidence to be place in the interpretations. In addition, it should aid in setting priorities for archiving large quantities of data into the Department's Marine Environmental Data Service (MEDS) in Ottawa.

B.D. Smiley Scientific Coordinator Canadian West Coast Inventory and Appraisal Series

> Copyright Minister of Supply and Services Canada - 1993 Cat. No. FS97-16/37 (Vol.4) ISSN 0711-6721

Correct citation for this publication is:

Nichol, L.M., P.F. Wainwright, P.F. Olesiuk and B.D. Smiley. 1993.

West Coast Data Inventory and Appraisal. Volume 4. Dixon Entrance, Hecate Strait, Queen Charlotte Sound and adjoining B.C. coastal waters: Biological Oceanography-Marine Manmals, 1862 through 1991. Can. Data Rep. Hydrogr. Ocean Sci. 37: (Vol.4) 321p.

#### TABLE OF CONTENTS

LIST	OF FIG	GURES	v
LIST	OF TA	BLES	v
ABST	RACT		vi
ACKI	NOWLE	EDGEMENTS	vii
VOL	JME A	BSTRACT	1
1.	INTR	ODUCTION	2
2.	STUD	Y AREA	2
3.	CATA	ALOGUING METHODOLOGY	4
4.	HISTO 4.1 4.2 4.3	ORY OF DATA COLLECTION  SPECIES COVERAGE  GEOGRAPHIC COVERAGE  TRENDS IN DATA COLLECTION	7
5.	GENE 5.1 5.2	DATA SETS  5.1.1 TABLES  SAMPLE USE OF THE CATALOGUE	14 14
6.	DATA 6.1 6.2 6.3 6.4		17 18 18 22 22 24 25
7.	DATA	A SET REFERENCES AND SOURCES	26
8.		A INVENTORY TABLE 1: CHRONOLOGICAL LISTING BY DATA SET BER	41

#### TABLE OF CONTENTS - Cont'd

9.	DATA INVENTORY TABLE 2: LISTING OF DATA BY DATA SET NUMBER, PARAMETER AND MEASUREMENT	
10.	DATA INVENTORY TABLE 3: LISTING OF SAMPLING STATIONS 1 10.1 ACCURACY OF LOCATIONS	
11.	TABLE 4: INDEX OF DATA SET REFERENCES BY DATA SET	0.0
	IDENTIFIER	
	11.1 PRESENTATION FORMAT 2	
	11.2 AVAILABILITY AND FORMAT OF DATA	02
12.	DATA SET MAPS	33
13.	INDICES	83
	13.1 SPECIES INDEX	83
	13.2 GEOGRAPHIC INDEX	86
	13.3 MEASUREMENT INDICES 2	90
	13.3.1 AGE MEASUREMENTS INDEX	90
	13.3.2 FOOD MEASUREMENTS INDEX	90
	13.3.3 IDENTIFICATION MEASUREMENTS INDEX	91
	13.3.4 MORPHOMETRIC MEASUREMENTS INDEX	91
	13.3.5 MOVEMENT MEASUREMENTS INDEX 2	
	13.3.6 NUMBERS MEASUREMENTS INDEX	92
	13.3.7 PARASITES INDEX	
	13.3.8 REPRODUCTION INDEX	
	13.3.9 BEHAVIOUR INDEX	
	13.3.10 PHYSIOLOGY INDEX	
	13.4 SURVEY TYPE INDEX	
A DDI	ENDIX A	97
AIII	List of Detailed External Body Measurements	
A DDE	ENDIX B	<b>.</b>
	Marine Mammals for which Data Exist in the Study Area	
A DDI	ENDIX C	<u>በ</u> 1
AFPI	References not Examined	
APPI	ENDIX D	15
	List of Individuals Contacted	

#### LIST OF FIGURES

Figure 1.	The study area boundaries and geographical place names mentioned in the text	3
Figure 2.	Frequency distribution of species represented among data sets	8
Figure 3.	Distribution of all sampling stations in the study area	8
Figure 4a.	Frequency distribution of general measurement parameters between 1862 and 1991	10
Figure 4b.	Frequency distribution of general measurement parameters between 1862 and 1991	10
Figure 4c.	Frequency distribution of general measurement parameters between 1862 and 1991	10
Figure 5.	Geographical locations of Steller sea lion rookeries and haulouts in the study area	12
Figure 6.	Data rating chart	19
	LIST OF TABLES	
Table I	Types of marine mammal measurements and observations collected in the study area	5
Table II	Rating questions not applicable to certain measurements	20

#### ABSTRACT

Nichol, L.M., P.F. Wainwright, P.F. Olesiuk and B.D. Smiley. 1993. West Coast Data Inventory and Appraisal. Volume 4. Dixon Entrance, Hecate Strait, Queen Charlotte Sound and adjoining B.C. coastal waters: Biological Oceanography-Marine Mammals, 1862 through 1991. Can. Data Rep. Hydrogr. Ocean Sci., 37: (Volume 4) 321 p.

This volume is one of a group of catalogues designed to compile and appraise marine data sets collected in waters off the west coast of Canada. For user convenience, the catalogues have been organized with the subject matter divided into three general disciplines: physics, chemistry and biology. The format throughout has been structured to facilitate comparison among subjects and regions. With such a large undertaking it is not possible to provide all biology catalogues at once. The present volume deals with marine mammals only.

Data collection is a continuing process and further updates of the catalogues are planned. Readers are requested to submit corrections and additions by writing the issuing establishment. Such corrections will be incorporated in on-line computerized data set listings and will be continuously available upon request.

Key words:

British Columbia, Dixon Entrance, Hecate Strait, Queen Charlotte Sound, data, inventory, whales, dolphins, porpoises, seals, sea lions, sea otters.

#### **SOMMAIRE**

Nichol, L.M., P.F. Wainwright, P.F. Olesiuk and B.D. Smiley. 1993. West Coast Data Inventory and Appraisal. Volume 4. Dixon Entrance, Hecate Strait, Queen Charlotte Sound and adjoining B.C. coastal waters: Biological Oceanography-Marine Mammals, 1862 through 1991. Can. Data Rep. Hydrogr. Ocean Sci., 37: (Volume 4) 321 p.

Le présent volume fait partie d'un groupe de catalogues destinés à faire l'inventoire de et à évaluer les séries de données marines sur la côte ouest du Canada. Pour plus de commodité la question traitée est structurée en trois grandes disciplines: physique, chimie et biologie. Les catalogues sont présentés de façon à faciliter la comparaison entre les sujets et les régions. Le domaine est si vaste qu'il est impossible de fournier tous les catalogues en une seule fois; le présent volume traite seulement la biologie.

La collecte des données est un processus permanent et il est prévu de mettre à jour ces inventoires par la suite. Les lecteurs son invités à soumettre par écrit les corrections et les additions à l'éstablissement auteur. Ces corrections seront traitées en direct sur ordinateur et incorporées aux listes qui pourront être obtenus sur demande.

Mots-clés:

Colombie-Britanique, Dixon Entrance, Hecate Strait, Queen Charlotte Sound, data, inventoire, baleine, dauphin, marsouin, phoque, otarie, loutre.

#### **ACKNOWLEDGEMENTS**

The authors wish to thank the many people who contributed to the preparation of this report. Robin Baird (Marine Mammal Research Group), Graeme Ellis (Pacific Biological Station), Dr. H.D. Fisher (Vancouver, B.C.), Dr. J.K.B. Ford (Vancouver Aquarium), Ken Morgan (Canadian Wildlife Service) and Deborah Murie (Pacific Biological Station) provided information about important unpublished data sets. Steve Johnson (LGL Ltd.) provided comments on the data quality rating scheme. Dianne Alessio (LGL Ltd.) assisted with data entry and Brenda Nass (LGL Ltd.) assisted with the literature review.

Funds for this work were provided by the Department of Fisheries and Oceans under the Panel on Energy Research and Development.

	·	

#### VOLUME ABSTRACT

This inventory contains descriptions of measurements and observations made on marine mammals in Dixon Entrance, Hecate Strait, Queen Charlotte Sound and the adjoining B.C. coastal waters between 1862 and 1991. It includes descriptions of data collected on 17 species of cetaceans, four species of pinnipeds and on sea otters. Data on Steller sea lions, harbour seals and killer whales are the most common among data sets. Enumerations of animals sighted or killed and identification of species are the most common measurements made in the study area, but the inventory also includes measurements concerning reproduction, morphometrics, food, behaviour, age and physiology. The data descriptions are organized by data sets, where a data set is a series of measurements or observations made by or compiled by one group of people or one organization. A total of 112 such data sets were inventoried. Detailed descriptions of these data including the dates and locations of sampling, details about the collection and analysis methodology are organized chronologically in three tables and a series of maps. A five level data rating system based on the methodology is described and has been applied to each measurement. The rating is intended to give the user a general indication of data quality. Data sets are indexed according to species, measurement type, geographical area, and survey type. The sources or the original data as well as associated secondary references are presented by data set identifier. Studies on captive animals, fishery impacts and chemical analyses of tissues and organs have been excluded from this catalogue.

Key words: British Columbia, Dixon Entrance, Hecate Strait, Queen Charlotte Sound, data, inventory, whales, dolphins, porpoises, seals, sea lions, sea otters.

#### 1. INTRODUCTION

This report is an inventory of marine mammal data collected in Dixon Entrance, Hecate Strait, Queen Charlotte Sound and the adjoining B.C. coastal waters. Biological data on cetaceans, pinnipeds and sea otters are included. The catalogue contains descriptions of all known marine mammal field surveys, sightings and studies as well as compilations of stranding information and descriptions of museum specimen collections. Measurements reported concern numbers, identification of species, food, age, reproduction, morphometrics, physiology and behaviour. In total 112 data sets were catalogued covering the period from 1862 through 1991. Information about these data are presented in a series of summary tables and maps.

Information has been compiled from a variety of sources including journal articles, published and unpublished data reports and graduate theses, and personal communications. Several unpublished data sets were obtained directly from researchers in the form of computer data files. Three types of data are excluded from this catalogue; data collected on captive animals, data on marine mammal impacts on fish and fishing gear and chemical toxicological data on marine mammals. Among studies which include analysis of tissues and organs for toxicological purposes only the measurements which are of a biological nature are fully described. The toxicological measurements are noted as concurrent measurements and a detailed description of these will appear in a future Chemical Oceanography catalogue in this series.

The objective of the inventory was to compile and catalogue all available data and documentation describing marine mammal observations and data collections made in the study area. The information is summarized and the data quality objectively appraised on the basis of the methodology used. The inventory is intended as a detailed directory to existing data on marine mammals in the study area and therefore it does not include actual data or statistical summaries of data.

It is intended that the inventory will assist researchers, environmental managers and others to locate existing data that may be of use to them. Information about new data sets or about omissions or errors in the catalogue should be addressed to the Data Assessment Division at the Institute of Ocean Sciences.

#### 2. STUDY AREA

The study area (Figure 1) generally conforms to the boundaries of the Department of Fisheries and Oceans Fishing Zone 3. It is bounded to the west by a line from Cape Muzon on Dall Island to Langara Point on Langara Island, a line from Rhodes Point to Cape Knox on Graham Island, a line north-south through Skidegate Channel at 132° 18.5' W, a line north-south from the eastern shore of Rose Inlet on Moresby Island to Kunghit Island at 131° 07' W, then following the western boundary of Fishing Zone 3 from Cape St. James to Triangle Island

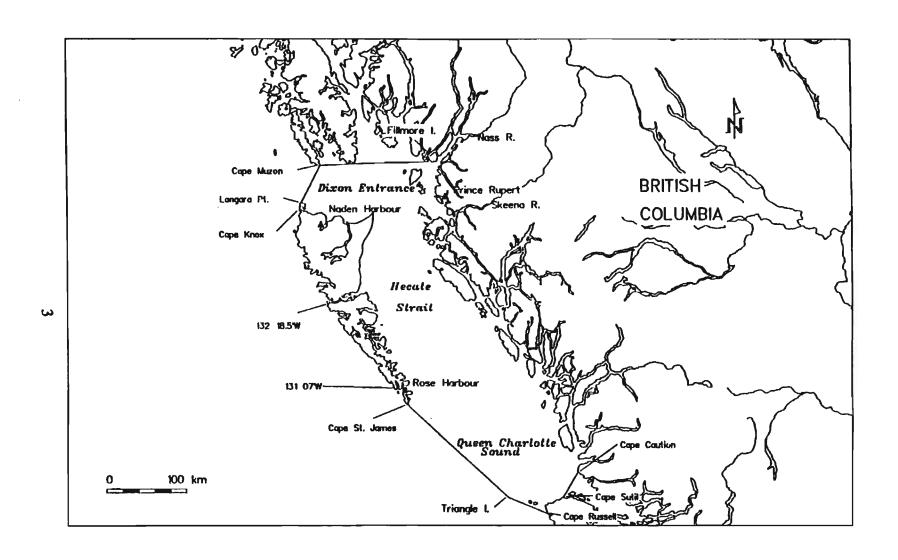


Figure 1. The study area boundaries and geographical place names mentioned in the text.

(Scott Islands) and then to Cape Russell on Vancouver Island. It is bounded to the south by a line from Cape Sutil on Vancouver Island to Cape Caution on the mainland. To the north, the study area is bounded by a line which follows the Canada-U.S.A. border from Cape Muzon east to Wales Island and then north through Tongass Passage, but departing from the international border at its northwestern extent in Tongass Passage thence to Fillmore Island and then following the northern shore of Pearse Canal through to Portland Canal.

The study area includes Dixon Entrance, Hecate Strait, Queen Charlotte Sound and the adjoining coastal waters of British Columbia. Thomson (1981) provides a good overview of the oceanography of the area. The majority of the area has oceanographic characteristics of a semi-exposed marine environment, but modified considerably by estuarine processes. The influence of freshwater discharge is most pronounced in Dixon Entrance in the spring and summer due to discharges of the Nass and Skeena Rivers. Fjords and inlets in the area are often characterized by sea bottom sills and estuarine circulation driven by freshwater input from runoff. Most of the area overlies the continental shelf and has water depths less than 200m although troughs, having depths greater than 300m, extend into Dixon Entrance and Queen Charlotte Sound.

#### 3. CATALOGUING METHODOLOGY

Data sets from the study area were identified from the literature and through contact with researchers (refer to Appendix D). An extensive review of the literature was made to identify existing published data sets and to locate secondary references that might lead to data sets. At the same time a list was made of researchers, consultants and other individuals who might have or know of data and these individuals were contacted. Thus data sets information was collected from both published and unpublished sources. The cut-off date for inclusion of a data set in this catalogue was June 1991.

Each data set that was identified for inclusion in the catalogue was examined for the following types of information: the dates and locations where the measurements or observations were made, who did the sampling, the species that were reported, the types of measurements or observations that were made and the methods that were used. Measurement types identified in this inventory are classified according to the ten standard parameter categories developed in the biological catalogues of the Arctic Data Compilation and Appraisal Program (ADCAP).

The measurement types identified in this inventory are given in Table I. With one exception, each measurement type listed represents one measurement type described among data sets. Many were common among data sets e.g. Identification of species and Numbers seen per location. The measurement type Detailed external measurements is, however, a category for such body measurements as projection of lower or upper jaw, or fluke insertion to notch. As there were so many different detailed measures and most were unique to a data set and many

Types of marine mammal measurements and observations type which have been collected in the study area. Table I:

Parameter	Measurement
Age	Age-sex class
	Fusion of epiphysis
	Number of annuli in teeth
Food	Identification of prey
	Identification of prey from scats
	Identification of stomach contents
	Stomach fullness
	Volume of stomach contents
	Weight of stomach contents
Identification	Identification of individual animals
	Identification of pods
	Identification of species
	Photo-identification of individual animals
Morphomertics	Body length
	Body weight
	Chestgirth
	Detailed external measurements *
	Foreflipper and hindflipper length
	Foreflipper and hindflipper width
	Number of baleen plates
	Width of flippers
	Width of flukes
Movements	Direction of travel
	Number of animals recovered with tags
Numbers	Number captured per location
	Number collected per location
	Number killed and lost per location
	Number killed per location
	Number of births
	Number of copulations
	Number seen per location
	Number tagged at site
	Number wounded and lost per location

Table I: Cont'd

Parameter Measurement

Parasites Identification of parasites

Reproduction Condition of ovaries

Diameter of follicles

Foetus length Foetus sex Foetus weight

Presence/absence of corpus luteum

Presence/absence of foetus Reproductive condition

Status of active and inactive horn

Thickness of gonads

Thickness of mammary glands

Weight of gonads Weight of ovary

Width and length of gonads Width and length of uterine horn

Behaviour Activity of cows

**Foraging** 

Identification of discrete calls

Surface behaviour

Territorial boundary displays

Physiology Blubber thickness

Lactating

Moult stage

Pathology of organs

<sup>\*</sup> A list of the specific measurements is given in Appendix A.

were poorly documented, there was little advantage to the user by treating each one separately. A list of the specific detailed external measurements is given in Appendix A.

Throughout the report, the terms measurement and observation are used almost interchangeably. An observation is defined here as a visual measurement made without the aid of a measuring device or other apparatus. Measurements of this type include counts, identification of species and behavioral observations. Measurements requiring some type of measuring device include morphometric, reproductive, food, age and physiological measurements.

#### 4. HISTORY OF DATA COLLECTION

#### 4.1 SPECIES COVERAGE

Seventeen species of cetaceans, four species of pinnipeds and sea otters are represented among the data sets. Their scientific names are given in Appendix B. Steller sea lions, harbour seals and killer whales are the species most commonly reported in data sets (Figure 2). However, the occurrence in a data set is only a crude measure of species representation because data sets vary enormously in size and completeness. For example, one data set may contain three years of reproductive, age and morphometric data but it has the same representation as a data sets containing one incidental sighting. For many of the species reported, data consist almost exclusively of incidental sightings or catch statistics. The only species that have actually been the subject of studies or surveys in the study area are Steller sea lions, harbour seals, killer whales, northern fur seals and sea otters (once).

Most studies on Steller sea lions and harbour seals have been made by the Department of Fisheries and Oceans (DFO). The Department of Fisheries and Oceans has been the main collecting agency of all data in the study area. Over half of the data sets (60 of 112 data sets) identified contained data collected or compiled by the Department of Fisheries and Oceans or its historical counterparts.

#### 4.2 GEOGRAPHIC COVERAGE

Sampling has occurred throughout the study area, but most studies and surveys have been made in coastal waters (Figure 3). This tends to reflect the coastal distribution of species, such as Steller sea lions, harbour seals and sea otters. In addition, the protected coastal waterways are the main routes used by vessels travelling on the B.C. coast; hence, there were generally more sightings made in coastal areas that in open water. Sampling stations in Hecate Strait, Dixon Entrance and Queen Charlotte Sound were largely commercial whaling catches, pelagic fur seal research and incidental sightings from Canadian and American fisheries vessels.

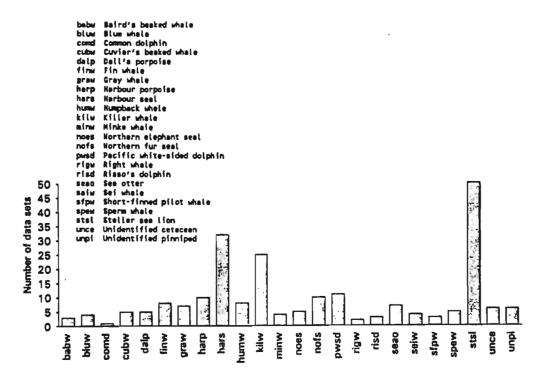


Figure 2. Frequency distribution of species reported in data sets.

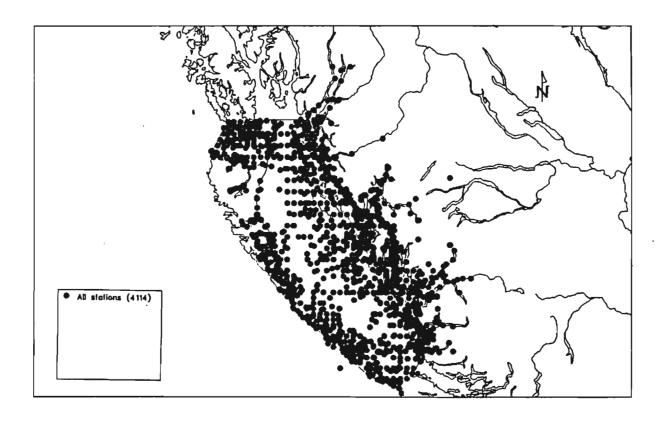


Figure 3. Distribution of all observation/measurement stations.

#### 4.3 TRENDS IN DATA COLLECTION

Historically, there has been little interest in the study of marine mammals for purely scientific or even management purposes. In particular, northern fur seals, large whales (blue, fin, humpback, sei and sperm whales), harbour seals and Steller sea lions were viewed as a resource to be harvested or as a threat to other resources in the study area. Very little data were collected before the 1940's and what was collected were mostly enumerations and identifications of species. The numbers measurements from this period are almost exclusively kill statistics of these species for commercial or management purposes (Figure 4a-4c).

The northern fur seals were hunted pelagically for their fur between 1886 and 1911. Most of the catch was taken west of the study area but a small proportion was taken in Queen Charlotte Sound near Cape St. James. Pelagic fur sealing was banned after 1911.

Blue, fin, humpback, sei and sperm whales were hunted commercially in the study area between 1910 and 1967. Whalers operated from two stations in the Queen Charlotte Islands; Rose Harbour (1910 to 1943) and Naden Harbour (1911 to 1942). Detailed catch records, however, which include the location of capture and sex and length of each animal are only available from 1924 to 1928. In 1948 the last B.C. whaling station opened at Coal Harbour on Vancouver Island. Whalers from Coal Harbour hunted in the study area until the station closed in 1967 and commercial whaling ceased on the west coast of Canada.

Harbour seals were hunted commercially for their fur during two periods: 1879 to 1917, and 1963 to 1968. Between 1948 and 1972 the Department of Fisheries controlled the harbour seal population through management hunts, on-going predator control programs and bounty hunting. The purpose of these activities was to reduce the seal's impact on salmon fisheries.

In 1913 the B.C. Fisheries Commission made the first sea lion census in B.C. The purpose was to assess the size of the population and its impact on salmon fisheries. As a result of the survey, a bounty was placed on the sea lion in 1915. In subsequent years the federal Department of Fisheries (now DFO) conducted management kills at rookeries and haulout sites. Commercial hunting did occur but generally met with little financial success because of poor markets for fur and meat.

Aside from kill statistics, data collected before the 1940's are few and are generally based on incidental sightings or strandings. Little was known about such species as elephant seals, killer whales and Pacific white-sided dolphins. There are several reports of these species that are based on sightings and strandings from this period.

5

<1880

1880-1889

1890-1899

1900-1909

1910-1919

1920-1929

1930-1939

1940-1949

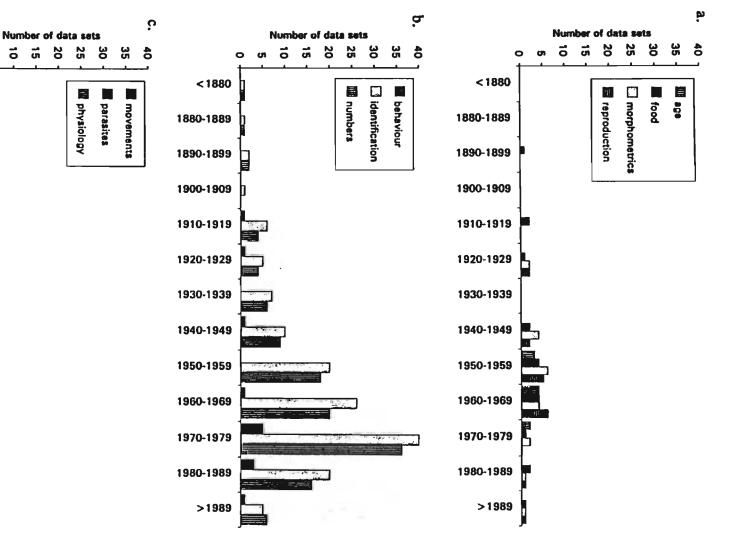
1950-1959

1960-1969

1970-1979

1980-1989

>1989



A study in 1945 and 1946 on the biology of the harbour seal on the Skeena River represents the first research for the purposes of management to be conducted in the region. The research was carried out by H.D. Fisher, then a graduate student at the University of British Columbia, and the work was supported by the Department of Fisheries. The study included a population census, a examination of stomach contents, morphometric measurements and a survey of local fishermen to determine damages and losses due to harbour seals (Fisher 1952).

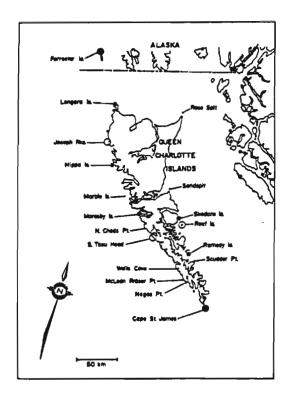
Fisher's study marks the beginning of this type of research by the Department of Fisheries. During the period 1940 to 1970 there was a notable increase in the collection of data on diet, reproduction, age and morphometrics by both government and non-government agencies (Figure 4a). Much of this work was done by the Department of Fisheries at the Pacific Biological Station (PBS) in Nanaimo, B.C.. Since the 1950's the Marine Mammal Unit at the Pacific Biological Station has been responsible for the majority of marine mammal studies and surveys carried out by the Department of Fisheries in B.C..

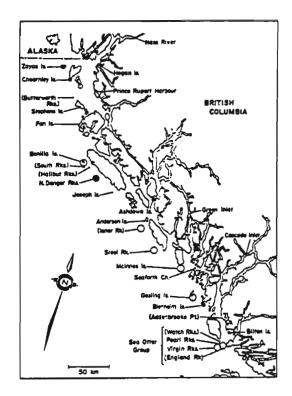
From 1948 until 1967, the Marine Mammal Unit coordinated the collection of biological data on whales processed at the Coal Harbour whaling station. As a member of the International Whaling Commission, Canada was required to collect basic biological information from every whale landed. The minimum data required were date and location of capture, species, sex, length, stomach contents, foetus length and foetus sex. As well as monitoring the collection of these basic data, Fisheries researchers conducted studies in several areas including the reproductive biology of fin whales and ageing techniques for baleen whales (Pike 1953; Pike 1963).

In the mid 1950's the Marine Mammal Unit began systematic aerial sea lion surveys using photography to record the number of animals at each rookery. Such surveys are still made routinely by the Department of Fisheries and Oceans. There were 22 such surveys made between 1955 and 1989. Figure 5 shows the rookeries and haulout sites used by Steller sea lions in the study area. Prior to this, sea lion surveys were made from boats by the Field Services Branch of the Department of Fisheries. Typically these early surveys were made in conjunction with management or commercial hunts.

During the 1950's and 60's, the Pacific Biological Station began studies of sea lion reproductive biology, growth rates and population movements. Animals were captured largely at rookeries, often in conjunction with hunting activity. Pups were captured live and tagged but little or no effort was made to recaptured or resight them and the data from these two efforts are not published.

During this same period the Marine Mammal Unit participated in an international research program as Canadian representatives at the North Pacific Fur Seal Commission. The purpose of the research was to gather background information on the distribution, feeding and relative abundance of the fur seal to aid in the management of the North Pacific stocks (Lander





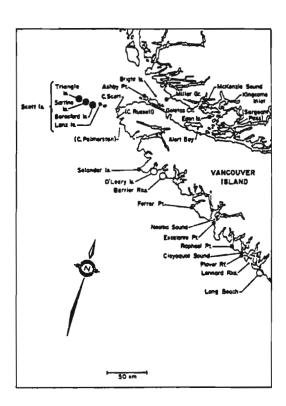


Figure 5. Geographical locations of rookeries (•), year-round haulouts (O), and major (•) and minor (•) winter sites of Steller sea lions on the north coast of British Columbia (from Bigg 1984).

1981). Data on fur seals collected within the study area by Canada form one data set in this catalogue. A second data set contains the data collected simultaneously by United States biologists. Combined the Canadian and U.S.A. fur seal pelagic data represents a large and comprehensive marine mammal data set.

In the early 1970's, both harbour seals and Steller sea lions received protection from hunting. This ended commercial and management hunts, and limited biological studies involving the killing of animals for study purposes. Since the 1970's, the Department of Fisheries has concentrated largely on aerial census work of harbour seals and Steller sea lions as well as observational surveys of killer whales and some survey work on sea otters. Recent studies of harbour seal diet, for example, rely on analysis of scats rather than stomach contents (Olesiuk et al. 1990c).

In the mid-1970's, the Department of Fisheries began investigating the abundance and distribution of killer whales in coastal B.C. Photo-identification techniques were devised to facilitate recognition of individual killer whales. This has allowed detailed long term studies of the social organization (Bigg et al. 1990) and population parameters (Olesiuk et al. 1990b) of the B.C. killer whale population. Interest in the study of killer whales has grown markedly among university and other non-government organizations since the 1970's. Although the majority of killer whale research has occurred on the south coast of British Columbia, there have been two surveys in the study area between 1989 and 1991, as well as the temporary establishment of two remote shore based acoustic monitoring stations to record killer whale vocalizations during the 1980's.

Since 1970, virtually all research both government and non-government has been of an observational nature. The marked increase in the number of data sets containing enumeration-type data and the decline in the number of data sets containing age, food, morphometric or reproductive type data is apparent in the decade 1970 to 1979 (Figure 4a,4b). During the 1970's two behavioral studies of Steller sea lions were made by graduate students from U.B.C. under the direction of Dr. H.D. Fisher.

Over the years there have been several independent efforts to compile incidental marine mammal sightings and stranding information. Several agencies have collected this type of data: the Department of Fisheries, U.S. National Marine Fisheries Service, the Stranded Whale and Dolphin Program of B.C., Canadian Wildlife Service, Vancouver Aquarium and the Royal British Columbia Museum. This has occurred in conjunction with increasing interest by the general public in marine mammals and hence an increasing willingness to record sighting and stranding information. With the exception of harbour seal diet studies using scats (Olesiuk et al. 1990c), most reproductive, physiological and diet data collected in the study area in the last decade have come from samples taken from incidentally stranded animals (Figure 4a). As there are little data available on most of the species known to occur in the study area, compilations of incidental sightings are, despite their limitations, often viewed as valuable data.

#### 5. GENERAL ORGANIZATION OF CATALOGUE

#### 5.1 DATA SETS

The catalogue is organized as a series of data sets beginning with the year 1862 and ending with the year 1991. The concept of a data set is, to some degree, a convenience of cataloguing. It allows a collection of data to be properly described and provides continuity among the three summary tables in the catalogue. In general terms a data set is a collection of results from field measurements or observations that have some unifying characteristic(s). The most common example is a series of results collected by a researcher during a study and reported in one publication. Whether a particular series of data are split into several data sets or grouped into one data set reflects a cataloguing choice and will not affect the users ability to locate specific data. The data sets described in this catalogue are of two types. The first type are data sets which contain data collected on one or a series of surveys made consecutively using essentially the same methodology. The second type of data sets are compilations of catch or kill statistics or incidental sightings, stranding information and/or museum collections. Data sets of this second type are defined by the agency, organization or individual that has compiled them. These data sets often spans many years and the data have been collected by a variety of individuals often using different methods. Typically there is little or no documentation about methods hence there is no benefit to the catalogue user from splitting such compilations into a series of data sets.

Each data set in the catalogue has been assigned a unique code number that identifies the data set throughout the catalogue. Data set numbers are of the form YYYYXXXX, where YYYY is the first year in which data were collected and XXXX is a unique identifier assigned by the Institute of Ocean Sciences. Where the sampling methodology or effort in one data set has been documented and it is clear that it has not been consistent among years, the program is considered to be a series of subsets each of which is assigned the same data set identifier but differentiated with a single letter suffix e.g. 19726001A.

#### 5.1.1 TABLES

The catalogue comprises four information tables followed by supporting map figures showing the locations where measurements in each data set were made. There are also a series of indices to aid the user in searches. Table 1 provides a an overview of each data set. It indicates the collecting agency, the period covered, the platform used, the general geographical areas where collection or observations occurred, the species reported, the biological parameters measured and any concurrent measurements that were made. Table 2 describes the types of measurement or observation that were made and the methods used. Each type of measurement on each species is also assigned a quality rating code based on an evaluation of the methodology. In some cases there are notes about the rating for clarification. Table 3 is a detailed list of the sampling dates, locations and survey types, including geographic place names and/or coordinate locations. Table 4 is a list of primary and secondary references and sources bibliography for each data set.

The locations of all sampling stations are plotted on maps of common scale. Each map shows the locations were measurements or observations from one or more data sets were made. In the case of large data sets spanning many years, there may be several maps used, one for each year or a group of years. Indices are provided in Section 13; the data sets have been indexed by: species, measurement type, geographic area and survey type to facilitate identification of data of a certain type or on a certain species.

#### 5.2 SAMPLE USE OF THE CATALOGUE

The user should make use of the species, measurement type geographic and survey type indices in Section 13. These are intended to aid in thorough and quick searches of the catalogue.

#### Example 1. Searching for data on a species: e.g. killer whales

- Step 1. Consult either the Species Index (Section 13) or Table 1 by scanning the column labelled "species". Note the data set identifiers for *killer whales*.
- Step 2. Consult Table 2 for each data set identifier selected to get additional information on the *killer whale* measurements, their collection and analysis methods and the data quality.
- Step 3. Refer to Table 3 for each data set identifier selected to determine the survey types used and the specific geographic locations where *killer whale* data were collected. In addition, consult the maps, using the data set identifiers selected, for a quick overview of the geographical area covered by each data set.
- Step 4. Consult the Table 4 by data set identifiers, to identify the reports, publications or sources where the data can be obtained.

#### Example 2. Search for specific measurement data: e.g. identification of stomach contents.

- Step 1. Consult the Food Measurements Index (Section 13) and note data sets corresponding to identification of stomach contents. Check the index to make sure that there are not other similar measurements that may be of interest (e.g. identification of prey from scats). Or consult Table 1 and scan the column marked "Parameter" for data sets with food data in them.
- Step 2. Consult Table 2 using the data set identifiers selected to provide additional details of the sampling procedures and the methodology. Also note the species examined and the data quality.
- Step 3. Consult Table 3 and/or the maps using the data set identifiers to determine the geographic locations where measurements were made.

Step 4. Continue as in Example 1.

#### Example 3. Search for data from a certain geographic area: e.g. Fitz Hugh Sound.

- Step 1. Consult the Geographic Index (Section 13) and note data sets from Fitz Hugh Sound. Data sets that are listed under very broad areas, (e.g. North Coast, or Central Coast), should also be included initially. Alternately consult Table 1 and scan the "areas" column for the area of interest again initially including broad areas that encompass Fitz Hugh Sound. If the location of interest is not listed in the geographic index then go directly to step 2.
- Step 2. Consult Table 3 and the maps using the data set identifiers selected to determine if station detail is sufficient for your use.
- Step 3. Consult Table 2 using the data set identifiers selected to get additional details of the measurement types, the corresponding methodology used, the species studied, and the data quality.
- Step 4. Continue as in Example 1.

#### Example 4. Search for a specific survey type: e.g. systematic aerial survey.

- Step 1. Consult the Survey Type Index (Section 13) and note data set identifiers corresponding to systematic aerial surveys.
- Step 2. Consult Table 1 using the data set identifiers selected to determine if the study may be of interest to you. Consult Table 2 using the data set identifiers selected to get information about the specific measurements and the data quality.
- Step 3. Consult Table 3 using the data set identifiers selected to determine whether the data set contains many or only a few data collected during an aerial survey. Consult the maps using the data set identifiers for a quick reference to the distribution of sampling stations.
- Step 4. Continue as in Example 1.

#### 6. DATA QUALITY RATING SYSTEM

#### 6.1 DATA QUALITY

The primary objective of the data quality rating system in the ADCAP/WESCAP series has been to classify data in such a manner that data of comparable quality can be readily identified. It is expected that users of this catalogue will be seeking data which they can use, for example, to test a hypothesis or for an environmental review process and it is likely that the intention will be to analyze the data for a different purpose than was intended by the original researcher. It is always necessary to know the precision and accuracy of measurements or observations, otherwise the power to test hypotheses may be limited and biases in data sets may lead to false conclusions.

Precision is defined as the random variation among repeated measurements of the same animal, organ, tissue, etc. The smaller the differences among repeated measures the better the precision. Accuracy is the measure of how close the measurement results are to the true value. It is possible for a measurement to have good precision but poor accuracy and vice versa. For example, if there is a sea lion census made with two observers, each counting simultaneously and their counts are always very close then the census measurements have a high degree of precision. Typically this would be expressed as a standard deviation. Low precision would occur where the two counts varied randomly, sometimes the same, sometimes one higher than the other. Poor accuracy would result, for example if both observers consistently reported low values.

Where accuracy of measurements is well defined, it is possible to correct for biases between measurements and then pool the data for some specific analysis. However, low precision cannot be remedied. Generally, it is better to exclude a low precision data set from an analysis rather than accept the loss of statistical power to formulate conclusions.

The biological data summarized in this catalogue have been appraised using a system that rates measurements or observations on the basis of the methodology. The rating system comprises 12 questions designed to review all aspects of methodology that influence the precision and accuracy of the measurements or observations. There are five possible quality ratings on a scale from 0 to 4. Section 6.2 defines the ratings, section 6.3 describes the manner in which they are assigned and section 6.4 discusses each of the 12 questions. The resulting ratings are presented along with a description of the methodology in Table 2 (Section 9).

The user should be aware that ratings are assigned independently of the representativeness of the measurements. Hence the user must still confirm that data are appropriate for the intended use or application. For example, teeth collected for ageing from ten harbour seals from the Skeena River may have received a 4 rating (the highest rating), however this does not mean that these data are sufficient to describe the age structure of the Skeena River harbour seal population.

#### 6.2 DEFINITION OF THE RATING SYSTEM

The five data ratings are similar to those used in all WESCAP and ADCAP inventories.

#### Rating Score Definition

- O Data are found (or judged) to be wrong or have been lost or discarded.
- Data are suspect and probably not internally consistent; trends or patterns within the data are likely not real.
- Insufficient information is available to assess the data; in some cases, information may exist but was not available to this study.
- Data are, or appear to be internally consistent; patterns or trends within the data are probably real, but comparison with other data sets may be difficult.
- Data are internally consistent and are sufficiently standardized or tied to a reference that comparison with other data at this score should be possible; or data are archived and available for reexamination and can potentially be standardized.

The scheme is not truly hierarchical because a rating of 2 is not necessarily better than a 0 or 1 rating. The scheme, however, is presented this way to maintain continuity with other catalogues in the series.

#### **6.3** SUMMARY OF RATING ASSIGNMENT METHODS

Fifty-nine (59) different measurement types were identified in this data compilation (Table 2). The data examined are from 112 data sets consisting of 666 measurements made on different species. To assign data quality ratings to each measurement 12 questions were asked about the methods (Figure 6). In some cases, however, discussion with the researchers or with colleagues of deceased researchers indicated that the methods used, although not well documented, were appropriate. Measurements rated in this manner are identified in Table 2 by a Note under *Comments*.

The questions used to rate measurements examine the factors that can affect data quality. Many of these factors were previously identified in rating systems developed and used in the ADCAP marine mammal catalogues (Norton et al. 1987; Harwood et al. 1986). Since not all questions in Figure 6 are relevant to all measurement types, a bypass system was used (Table II).

For each of the 12 questions in the rating system there are at least two possible answers (YES or NO) and often three or four answers (YES, N/S, N/A, and NO). The answer "YES"

Figure 6. Data Rating Chart.

Question 1.	Were the col	lection of	samples	and/or the	making	of field observations adequately documented?
		Yes	•		No (2)	
Question 2.	Was equipmen	t used to	make the	,	nt or obs	servation sufficiently documented?
		Yes	W/		No (2)	
Question 3.	Vere observe	tions or that dats	measureme collected	nts made	under s uitable	ppropriate conditions and if not, were deviations conditions can be discriminated from other data?
		Yes	H/A	N/S (2)	No (1)	
Question 4.	Were methods	of sampli	ng or obs	srvation a	pproprie	ite for the type of measurement and animal measured?
		Yes			No (0)	
Question 5.						fort made to quantify differences between observers training or prequelifications)?
		Yes		H/S (3)	No (3)	
Question 6.	Are some res	ults esti	nates whil	le others	ere cour	nts, and if so, was it clearly reported which were
		Yes	N/A	N/S (3)	No (3)	
Question 7.	Is there suff	ficient in	ormetion	evsilable	to asses	s the likelihood that the identification was correct?
		Yes	N/A	N/\$ (2)	No (2)	,
Question 8.	Vere storage	and handl	ing of se	mples adeq	postely d	locumented?
		Yes	N/A		No (2)	
Question 9.	Were samples	stored an	d handled	appropris	tely?	
		Yes	N/A		No (0)	
Question 10.	Were methods	of analys	is adequa	tely <del>des</del> cr	ibed?	
		Yes	N/A		No (2)	
Question 11.	Were methods	of analys	is approp	riste for	the type	of measurement made and the animal measured?
		Yes	N/A		No (0)	
Question 12,	Is information	on availab	la to ass	ess the ec	curacy e	and precision of the measurements?
		Yes (4)	H/A (4)	H/S (3)	No (3)	
N/A = not appli	cable, N/S = n	ot specifi	ed			

TABLE II: Questions Not Applicable to Certain Measurements

			QUESTIONS									
MEASUREMENT TYPE	#1	#2	#3	#4	#5	<b>#</b> 6	<b>#</b> 7	#8	#9	<b>#</b> 10	#11	#12
Activity of cows				_		N/A	N/A	N/A	N/A			
Age-sex class	_	_	_	_	_			N/A	N/A	_	_	_
Blubber thickness	_	_	N/A	_	N/A		N/A	N/A	N/A	_	_	_
Body length	_	_		_	N/A	N/A		N/A	N/A	_	_	_
Body weight	_	_	N/A	_	N/A	N/A		N/A	N/A	_	_	_
Chestgirth	_	-		_	N/A	N/A		N/A	N/A	_	_	_
Condition of ovaries	_	_	_	_		N/A				_	_	_
Detailed external measurements	_	_	_	_		N/A		N/A	N/A	_	_	_
Diameter of follicles	_	_	N/A	_	N/A	N/A		_	_	_	_	_
Direction of travel	_	N/A	_	_	N/A	N/A		N/A	N/A	_	_	_
Foetus length	_		_	_	N/A	N/A		N/A	N/A	_	_	_
Foetus sex	_	N/A	_	_		N/A		N/A	N/A	_	_	_
Foetus weight	_		_	_		N/A		N/A	N/A	_	_	_
Foraging	_	_	_	-	_	N/A		N/A	N/A	_	_	_
Fore and hindflipper width	_	_	N/A	_	N/A		N/A	N/A	N/A	_	_	_
Fore and hindflipper length	_	_	N/A	_		N/A		N/A	N/A	-	_	_
Fusion of epiphyses	_	-	N/A	_		N/A		_		_	_	_
Identification of discrete calls	_	_		-		N/A		_	_	_	_	_
Identification of individual animals	_	_	-	-	_′		N/A	N/A	N/A	_	_	_
Identification of parasites	_	_	N/A	_	N/A	N/A			_′	_	-	_
Identification of pods	_	_	_′	_		N/A		_	-	_	_	_
Identification of prey	_	-	N/A	-		N/A		N/A	N/A	_	-	-
Identification of prey from scats	_	_	_′	_		N/A		_′		_	-	_
Identification of species	_	N/A	-	-		N/A		N/A	N/A	-	-	_
Identification of stomach contents	_	_′	N/A	-	N/A		N/A	_′	_′	_	_	_
Lactating	_	-	N/A	-	N/A		N/A	N/A	N/A	_	-	_
Moult stage	_	-		_		N/A				-	-	_
Number captured per location	_	N/A	N/A	_			N/A	N/A	N/A	_	-	_
Number collected per location	_	N/A		_	-	_	N/A	N/A	N/A	_	_	_
Number killed & lost/location	_	N/A	N/A	_	_	_	N/A	N/A	N/A	-	-	_
Number killed per location	_	N/A	N/A	-	-	_	N/A	N/A	N/A	-	-	_
Number of animals recov. with tags	-		_′	_	N/A	N/A		N/A	N/A	-	-	_
Number of annuli in teeth	-	-	N/A	-	N/A	N/A	N/A		_′	_	-	_
Number of baleen plates	-	_	N/A	_	N/A	N/A		N/A	N/A	_	_	_
Number of births	-	-	_′	_		_′	N/A	N/A	N/A	-	-	_
Number of copulations	-	-	-	_	-	_	N/A	N/A		_	-	_
Number seen per location	-	-	_	_	_	_	N/A	N/A	N/A	_	_	_

Table II: Cont'd

	QUESTIONS											
MEASUREMENT TYPE	#1	#2	#3	<b>#4</b>	#5	#6	#7	#8	<b>#</b> 9	#10	#11	#12
Number tagged at site			N/A	_	N/A	N/A	N/A	N/A	N/A			
Number wounded & lost/ location	_	_		_	_		N/A	N/A		_	-	_
Pathology of organs	_	_	N/A	_	N/A	N/A			_	_	_	-
Photo-identification of individual animals	_	_	_′	_	N/A	N/A		N/A	N/A	_	_	_
Presence/absence of corpus luteum	_	_	N/A	_	N/A		N/A	_'	_′	-	-	_
Presence/absence of foetus	_	N/A	N/A		N/A			N/A	N/A	_	_	_
Reproductive condition	-		N/A			N/A				-	_	_
Status of uterine horns	-	-	N/A	_	N/A		N/A	_	_	-	_	_
Stomach fullness	-	-	_′	_		N/A	N/A	N/A	N/A	-	_	_
Territorial boundary displays	-	-	-	_	-	N/A	N/A	N/A	N/A	-	_	_
Thickness of gonads	-	-	N/A	-	N/A		N/A		_	-	-	_
Thickness of mammary glands	-	-	N/A	_	N/A	N/A	N/A	N/A	N/A	-	-	_
Surface behaviour	-	N/A		_	_		N/A	N/A		-	-	_
Volume of stomach contents	-	_	N/A	_	N/A		N/A	_		_	_	_
Weight of gonads	-	-	N/A		N/A		N/A	-	_	-	_	_
Width and length of gonads	-	-	N/A				N/A		_	-	-	_
Weight of ovary	_	-	N/A	_	N/A	N/A		-	_	-	_	_
Weight of stomach contents	-	-	N/A	_	N/A		N/A	_	-	-	_	_
Width of flipper	-	-		-	N/A		N/A		N/A	_	_	-
width of fluke	-	_	_	_	N/A		N/A		N/A	_	-	_
Width and length of uterine horns	_	_	N/A	-	n/A	N/A	N/A	_′	_′	_	_	_

to a question, means that the information relevant to this question is available and that the answer is affirmative. This is the best response to the question. The answer N/A means the question is not applicable or relevant to the particular measurement. The "NO" and "N/S" (not specified) answers are the worst or poorest responses to the question and measurement ratings are down-graded as shown in Figure 4. The final rating assigned is the lowest grade received at any of the questions.

If a measurement is not down-graded before the last question regarding precision and accuracy, then the answer to this question determines whether a 3 or 4 rating is assigned. The last question examines whether the methods used are capable of producing precise and accurate data, whether precision and accuracy of the data were investigated, and whether the data are internally consistent (precise) and either accurate or sufficiently standardized to enable comparison with another data set. If there is evidence that the data are internally consistent and are accurate, tied to a reference or can potentially be standardized then the measurement receives a rating of 4; otherwise a rating of 3 is assigned. This was the most subjective aspect of the rating system and relied on the authors' judgement. To allow the reader to identify the aspects of a measurement methodology that resulted in a down-graded rating, the ratings are presented in Table 2 (see Rating) along with the question numbers where the measurement failed (see Criteria Failed). For example, if a measurement receives a rating of 2 because it was down-graded at questions 2, 3 and 7, then a 2 appears under Rating and 2:2,3,7 appears under Criteria Failed.

#### **6.4 DATA RATING QUESTIONS**

The 12 questions about a measurement's methodology are described here. The questions are presented in three sections. Questions related to field methods and sample collection, questions related to storage and handling of samples and materials, and questions related to analysis.

### 6.4.1 FIELD METHODS AND SAMPLE COLLECTION - Questions 1, 2, 3, 4, 5, 6 and 7

Question 1: Were the collection of samples and/or the making of field observations adequately documented?

Measurement information is evaluated to determine if there is enough information to evaluate the field methods, by answering questions 2 through 7. Generally enough information is needed so that a qualified individual could duplicate the work. For example, when examining data from a Steller sea lion census it is important to know such basic information as whether the census was made from a plane or a boat and if the estimate was made visually or made later from photographs. This is important because the observer in a boat has a smaller field of view and would generally see fewer animals. Visual estimates of numbers of animals are estimates whereas numbers can be counted precisely from a photograph.

### Question 2: Was the equipment used to make the measurement or observation sufficiently documented?

For some types of measurements, it is important to have information about the type of equipment used. For example, the field of view varies among different types of aircraft such that animals may be easily observed from one aircraft, while from another, several passes may be required (potentially disturbing the animals) before all the animals are counted. Or for example, standard body length measurements taken using a rope with a knot to indicate the length are usually not comparable to measurements taken using a measuring tape, because ropes often stretch when wet. Behavioral observations made with the naked eye may be less detailed than those made using binoculars or a spotting scope.

The amount of detail necessary in documentation varies with the measurement type. For example, the equipment used to remove a whole stomach from a fur seal for subsequent diet analysis or the equipment used to kill harbour seals for commercial purposes are not as important to know as the frequency response and sensitivity of equipment used to record underwater vocalizations.

## Question 3: Were observations or measurements made under appropriate conditions and if not were deviations recorded so that data collected under unsuitable conditions can be discriminated from the rest of the data?

With some types of data it is important to know the conditions under which the collections were made. Adverse conditions can influence precision and accuracy of data, and such results should be clearly identified so they can be excluded from analyses where appropriate. For example, fog, rough seas or low light levels could adversely affect the quality of aerial census estimates of any population. Similarly, weights taken using a spring balance while working on a heaving ship are probably unreliable. Behavioral observations should be made from a position where the animals are not influenced by the presence of the observer.

### Question 4: Were the methods of sampling or observation appropriate for the type of measurement and animal measured?

In some cases, though the methods have been described it may be evident that they were not appropriate for collecting the desired data. For instance, body length estimates are unreliable if made using binoculars without consideration of depth of field and without a reference point. Similarly size estimates made from photographs are unreliable without consideration of depth of field and a reference point or without careful calibration.

### Question 5: If more than one observer was involved, was an effort made to quantify differences between observers and/or to standardize observations?

Wherever estimates or observations are made by multiple observers there will be variations in the data due to differences among the observers. It is important that such variation

be quantified. This question looks for evidence of pre-training of observers, calibration of observers, repeated estimates made until the results from all the observers agree, or quantification of the differences among observers (e.g. through replication of observations). Estimates of numbers of animals, identifications and behavioral observations of animals are the types of measurements where variation among observers should be quantified. If the precision and/or accuracy of different observers varies significantly then the data are not internally consistent and any trends or patterns may not be real.

### Question 6: Are some results estimates while others are counts, and if so, was it clearly reported which were estimates?

In most census work, the number of animals in small aggregations is actually counted while the number in large groupings is estimated. The error associated with each of these methods can be different and should be reported. Precision is usually greater for counts of small numbers of animals and this should be considered in statistical analyses.

### Question 7. Is there sufficient information available to assess the likelihood that the identification was correct?

Each identification measurement is rated using sources of information which indicate the likelihood that the species identification is correct. One or more of the following sources is used.

- 1) Where a detailed description of the animal(s) is provided, this is reviewed to determine if the level of detail is sufficient to unequivocally identify the species.
- 2) Where the observer is known, their experience and peer review of their work is examined to determine the likelihood of a correct identification.
- 3) Where the identification appears in a report by an individual other than the observer, then the author's experience is examined as it is assumed that they have appraised the sighting before publication.
- 4) The identification is reviewed to determine if a photograph was taken or a specimen collected which can potentially be re-examined.

### 6.4.2 STORAGE AND HANDLING OF SAMPLES AND MATERIALS - Questions 8, 9

Question 8: Were storage and handling of samples adequately documented?. Question 9: Were samples stored and handled appropriately?

Measurements that require storage and handling include all measurements on organ and tissue samples and audio-recordings of marine mammals. Where organs, tissues or whole

specimens were collected it is important to have proper documentation about how they were stored and fixed because inappropriate methodology can lead to biased results. For example, hard parts of invertebrates and vertebrae of fish are frequently used to identify stomach contents. Storing stomach contents in unbuffered formalin can result in misleading diet results because of decalcification of bones and shell. Similarly, inadequate fixative may lead to colour changes or decomposition. When audio recordings have been made it is important that the quality is preserved. Audio-recordings on magnetic media will degrade in quality after five to fifteen years unless steps are taken to "refresh" the recordings.

#### 6.4.3 ANALYSIS - Questions 10, 11, 12

Question 10: Were methods of analysis adequately documented?

Question 11: Were methods of analysis appropriate for the type of measurement made and the animal(s) measured?

Analytical methodology must be described sufficiently to allow assessment of appropriateness. For example, it is important to know the points on an animal's body between which morphometric measures were made and the resolution of the instrument used. Weights should be taken using instruments that are properly calibrated and with appropriate precision. Histological analyses should include a description of staining and mounting procedures and the specific procedures used to examine the mounted slides. Identification of stomach or scat contents should include information about how prey fragments were identified.

### Question 12: Is information available to assess the accuracy and precision of the measurements?

Few of the measurements or observations in this catalogue are of the type where precision and accuracy are readily determined, such as in the case of length or weight measurements where the precision and accuracy are determined by the instrument used. However, it is generally possible to examine and to document precision and accuracy of measurements by incorporation of replicates, by pre-qualification or training of observers, by collection of specimens and through use of "standards". Generally, however, there appears to have been little rigorous attention given to precision and accuracy among the marine mammal data sets catalogued.

Where no information is available and no reasonable assumptions can be made about the precision and accuracy of a measurement, a 3 rating is assigned. In brief, if there is no reason to believe that precision has been compromised, then the data set probably is internally consistent. However the data set can not be assumed to be accurate, and comparison with other data sets may be a problem.

Where information is available to address concerns about precision and accuracy, 4 ratings are assigned, typically this requires evidence of some form of replication. For counts or estimates of numbers, examples include photographs which can potentially be re-examined,

multiple observers who were making simultaneous counts, or simultaneous counts from two platforms (e.g. aerial and from the ground). For laboratory-type measurements such as identification of food items in stomachs or scats and aging from dental annuli, this involves blind replication of specimens or replicate analysis of specimens by more than one individual.

#### 6.5 SIGNIFICANCE OF THE DATA RATINGS TO THE USER

The data rating system is intended to assist the user in identifying useful data. By using the ratings, the user can converge on high quality and good quality measurements (rating of 4 and 3), and can avoid measurements that are wrong (rating of 0), are dubious and not internally consistent (rating of 1) or for which adequate documentation is lacking (rating of 2).

The intended use of the data will determine the importance of the ratings to the user. For example if the user is interested in the regional occurrence of a species, then data with a rating of 3 might be as useful as data with a 4 rating. However, if the user is interested in assessing the food preferences of Steller sea lions in a particular area, then only data with a 4 rating should be employed or alternatively a single 3 rated data set used. Additional 3 rated data should not be included because potential biases between data sets could lead to false conclusions. Data with a 2 rating may be important to a user when the type of data they are seeking is scarce. Again the user should proceed cautiously and use their judgement since some important information is probably missing about the data. For example, 2 rated body length measurements may not specify the nature of the length measurement. The length data may be a mixture involving measurements on prone and flexed animals, with various reference points. The user should be cautious in use of 2 rated data and should carefully review questions that resulted in the 2 rating.

#### 7. DATA SET REFERENCES AND SOURCES

- Alaska Troller's Association Troll Logbook Program. This is a formal program initiated in 1976 by legislative grant to record fisheries, oceanographic and marine mammal data incidental to Alaskan troll fishing. (unpublished data). (19756003, 19766002)
- Anonymous. 1955-1967. Catch slips, whale catcher log books, plant tally books from Coal Harbour, B.C. Packers Ltd., Vancouver, B.C. (unpublished data). (19486003)
- Anonymous. 1954. Distribution and food habits of the fur seals of the North Pacific Ocean.

  A report of the co-operative investigation undertaken by the governments of Canada,
  Japan and the U.S., Feb.-July 1952. (unpublished manuscript) (19526001)
- Anonymous. 1948-59. Catch slips, tallybooks and navigational chart records from the Coal Harbour Whaling Station on file at the Pacific Biological Station. (unpublished data). (19486003)

- B.C. Ministry of Environment. 1970 1989. Sighting records collected by various staff of the Queen Charlotte City office between 1970 and 1989. Filed under "sea lions". Ministry of Environment, Queen Charlotte City, B.C. (unpublished data) (19706003)
- Baird, R.W., P.J. Stacey, and K.M. Langelier. 1991. Strandings and incidental mortality of cetaceans on the B.C. coast, 1990. Int. Whaling Comm. Doc. SC/43/O1, 6 pp. (19876003)
- Baird, R.W., P.J. Stacey, D.A. Duffus, and K.M. Langelier. 1990. An evaluation of gray whale (*Eschrichtius robustus*) mortality incidental to fishing operations in British Columbia, Canada. Int. Whaling Comm. Doc. SC/A90/G21. 19 pp. (19876003, 19886002)
- Baird, R.W., K.M. Langelier, and P.J. Stacey. 1988. Stranded whale and dolphin program of B.C. -1987 report. B.C. Veterinary Medical Assoc. Wildl. Veterin. Rep. 1:9-12. (19876003)
- Baird, R.W. 1987. The Stranded Whale and Dolphin Program of B.C. Computer information file on incidental marine mammal strandings in B.C. Robin W. Baird, Dept. Biology Sciences, Simon Fraser University, Burnaby, B.C. or Marine Mammal Research Group, Victoria, B.C. (19876003)
- Bell, L.M., and R.J. Kallman. 1976. The Kitimat River estuary: status of environmental knowledge to 1976. Environment Canada, Special Estuary Series No. 6. 296 pp. (19716004, 19746001)
- Bigg, M.A., P.F. Olesiuk, G.M. Ellis, J.K.B. Ford and K.C. Balcomb III. 1990. Social organization and genealogy of resident killer whales (*Orcinus Oca*) in the coastal waters of British Columbia and Washingon State. Rep. Int. Whal. Comm. (special issue 12) pg. 383-405.
- Bigg, M.A. 1988. Status of the Steller sea lion, *Eumetopias jubatus*, in Canada. Can. Field-Nat. 102(2):315-36. (18906001, 18926001, 18926002, 19136001, 19166001, 19386001, 19556001, 19566002, 19566003, 19566004, 19576001, 19586003, 19616001A, 19616001B, 19626001A, 19626001B, 19626001C, 19646001, 19716001A, 19716001B, 19736001, 19736002, 19766001, 19776001, 19776002, 19826001)
- Bigg, M.A., G.M. Ellis, J.K.B. Ford, and K.C. Balcomb. 1987. Killer Whales, A Study of Their Identification, Genealogy and Natural History in British Columbia and Washington State. Phantom Press, Nanaimo, B.C. 79 pp. (19656001)
- Bigg, M.A., and I. Fawcett. 1985. Two biases in diet determination of northern fur seals (*Callorhinus ursinus*). In: J.R. Beddington, R.J.H. Beverton, and D.M. Lavigne (eds.).

- Marine Mammals and Fisheries. George Allen and Unwin, London, pp. 284-91. (19586002, 19606002)
- Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp. (18906001, 18926001, 18926002, 19136001, 19166001, 19386001, 19556001, 19566002, 19566003, 19566004, 19576001, 19586003, 19616001A, 19616001B, 19626001A, 19626001B, 19626001C, 19646001, 19716001A, 19716001B, 19736001, 19736002, 19766001, 19776001, 19776002, 19826001, 19826002.)
- Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460. (18906001, 18926001, 18926002, 19136001, 19166001, 19386001, 19506001, 19556001, 19566002, 19566003, 19566004, 19576001, 19586001, 19586003, 19616001A, 19616001B, 19626001A, 19626001B, 19626001C, 19646001, 19706001, 19716001A, 19716001B, 19736001, 19736002, 19766001, 19776001, 19776002, 19826001, 19826002.)
- Bigg, M.A. 1982. Assessment of killer whale (Orcinus orca) stocks off Vancouver Island, British Columbia. Int. Whal. Comm. Rep. Paper SC/JN81/KW4, 32:655-66. (19656001)
- Bigg, M.A. 1982. Migration of northern fur seals in the eastern North Pacific and eastern Bering Sea: an analysis using effort and population composition data. Paper submitted to the 25th annual meeting of the Standing Scientific Committee of the North Pacific Fur Seal Commission, Ottawa, April 1982. (19586002, 19606002)
- Bigg, M.A., and I.B. MacAskie. 1978. Sea otters re-established in British Columbia. J. Mamm. 59:874-6. (19766003)
- Bigg, M.A., I.B. MacAskie, and G.M. Ellis. 1976. Abundance and movements of killer whales off eastern and southern Vancouver Island with comments on management. Preliminary Report. Arctic Biological Station, Ste. Ann de Bellevue, Quebec. 20 pp. (19656001)
- Bigg, M.A. 1969. The harbour seal in B.C. Fish. Res. Bd. Canada. Bull. No. 172, 32 pp. (19646003)
- Bigg, M.A. 1969. Clines in pupping season of the harbour seal, *Phoca vitulina*, J. Fish. Res. Bd. Canada. 26:449-55. (19646003)

- Bigg, M.A. 1966. Age determination, reproduction, growth and population analysis of the harbour seal, *Phoca vitulina* richardi gray. M.Sc. thesis, University of British Columbia, Vancouver, B.C. 121 pp. (19646003)
- Bigg, M.A. 1966. Control of annual reproduction in the female harbour seal, *Phoca vitulina*. (19646003)
- Braham, H.W., and M.E. Dahlheim. 1982. Killer whales in Alaska documented in the Platforms of Opportunity Program. Int. Whaling Comm. Rep. Paper SC/Jn81/KW2, 32:643-6. (19756003)
- British Columbia Provincial Archives, Victoria, accession number ADD MSA 16. Records of the Victoria Sealing Company, involving 585 individual log books covering 90 sealing vessels over the period 1889-1911. (unpublished manuscripts). (18866001)
- Cameron, W.M. 1941. Killer whales stranded near Masset. Fish. Res. Bd. Canada Pacific Prog. Rep. 49:16-7. (19416001)
- Christiansen, E.R. 1972. Annual narrative report, 1971, Kitimat District No. 7. Canada Dept. of the Environment, Fisheries and Marine Service, Pacific Region, Vancouver B.C. 20 pp. (19716004)
- Clarke, M.R., and N. MacLeod. 1980. Cephalopod remains from sperm whales caught off western Canada. Mar. Biol. 59;241-6. (19486003)
- Consolidated Whaling Inc. Unpublished data and catch records (1925-28) for Naden Harbour (1924-27), Rose Harbour (1924-28) and Kyuquot (1924-25) Whaling Stations. William Lagen Collection, Suzzallo Library, U. Washington, Seattle, Accession #2292-4. (19246001, 19256001)
- Cowan Vertebrate Museum. Marine mammal specimen collection of the Cowan Vertebrate Museum, Department of Zoology, University of British Columbia, Vancouver, B.C. (19456001)
- Darling, J.D. 1988-1991 unpublished data. Marine mammal sighting forms completed by biological observers employed by Archipelago Marine Research (Victoria) for the offshore hake fishery observers 1988 to April 1991. West Coast Whale Research Foundation, P.O. Box 49296, Four Bentall Centre, Vancouver, B.C., V7X 1L3. (19886001)
- Darling, J.D. 1977. Aspects of the behaviour and ecology of Vancouver Island gray whales, Eschrichtius glaucus Cape. M.Sc. Thesis. Univ. of Victoria, Victoria, B.C. 200 pp. (19756001)

- Department of Fisheries and Oceans. 1991. Sea otter census on the central coast of British Columbia. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19916001)
- Department of Fisheries and Oceans harbour seal diet data. 1982-1989. A computer file containing data on the volume and contents of harbour seal scats collected on British Columbia between December 1982 and March 1989. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19836001)
- Department of Fisheries and Oceans harbour seal census statistics. 1977-1987. A computer file containing the results of harbour seal censuses carried out in British Columbia between 1977 to 1987. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19776003A, 19776003B, 19776003C, 19866002)
- Department of Fisheries and Oceans killer whale census. 1973. Coast wide volunteer killer whale census results from 1971, 1972 and 1973. (19716005A, 19716005B, 19716005C)
- Department of Fisheries and Oceans Steller sea lion tagging study. 1966. Tagging and morphometric data on animals captured for tagging. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19666001)
- Department of Fisheries harbour seal commercial catch statistics. 1963-1968. Annual reports of the number of harbour seal pelts bought and the number of pelts rejected and their market value from British Columbia between 1963 and 1968. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19636001)
- Department of Fisheries and Oceans killer whale photograph log. 1962-1987. Computer file documenting photo-identification type photographs taken of killer whales on the B.C. coast by the Department of Fisheries and Oceans. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19656001)
- Department of Fisheries and Oceans Steller sea lion tagging study. 1958-1960. Tagging and morphometric data on animals captured for tagging. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19586004)
- Department of Fisheries and Oceans Steller sea lion biological data. 1956-1966. A computer file containing reproductive, morphometric, diet and age measurements made on collected specimens. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19566005)
- Department of Fisheries and Oceans incidental marine mammal sightings. 1952 1990. Sighting forms completed on various vessels and at various lighthouses for the Pacific Biological Station, Nanaimo, B.C. between 1952 and 1990. Marine Mammal Unit,

- Pacific Biological Station, Nanaimo, B.C. (Data from 1952 to 1960 have been computerized.) (19506001, 19586001)
- Department of Fisheries harbour seal management kill statistics. 1948-1972. Annual records and miscellaneous correspondence that give the annual numbers of harbour seals killed per district on the B.C. coast between 1948 and 1972. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19486002)
- Department of Fisheries harbour seal management kill statistics. 1948 1963. Annual reports of the number of harbour seals killed on the Nass river between 1948 and 1963. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19486001B)
- Department of Fisheries harbour seal management kill statistics. 1948-1962. Annual or biennial reports of the number of harbour seals killed on the Skeena River between 1948 and 1962. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19486001A)
- Department of Fisheries for seal sightings. 1934-37. Unpublished letters and memos regarding fur seal sightings on the coast of British Columbia. 17 pp. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19346001)
- Department of Fisheries harbour seal bounty hunt statistics. 1913-1964. Annual district reports and miscellaneous correspondence regarding harbour seal bounty kills between 1913 and 1964. Marine mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19136002)
- Department of Fisheries and Oceans. 1890 1989. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (18906001, 18926002, 19136001, 19166001, 19386001, 19556001, 19566002, 19566003, 19566004, 19576001, 19586003, 19616001A, 19616001B, 19626001A, 19626001B, 19626001C, 19646001, 19716001A, 19716001B, 19726001A, 19736001, 19736002, 19726001B, 19726001C, 19766001, 19776001, 19776002, 19826001, 19826002, 19876002, 19896001)
- Department of Fisheries harbour seal commercial catch statistics. 1879-1917. Annual reports of the number of harbour seal pelts sold and their dollar value between 1879 and 1917. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (18796001)
- Edie, A.G. 1977. Distribution and movements of Steller sea lion cows (*Eumetopias jubata*) on a pupping colony. M.Sc. Thesis, Univ. of B.C., Vancouver. 81 pp. (19726003B)
- Edie, A.G. 1973. Sea otter sighting at Cape St. James, British Columbia. Syesis 6:265. (19726003A)

- ESL Environmental Sciences Ltd. historical whaling database. 1987. A computer database containing all historical records on whale catches in B.C. waters between 1924 and 1967. Sidney, B.C. (19246001, 19256001, 19486003)
- F.F. Slaney and Co. Ltd. 1976. Termpol submission re: marine terminal at Kitimat, B.C. Vols. 1-8. Report prepared for Kitimat Pipe Line Ltd. (unpublished manuscript). (19766004)
- F.F. Slaney and Co. Ltd. 1976. Marine environmental assessment program, Kitimat tanker traffic and terminal. Prepared for Kitimat Pipe Line Ltd., Vancouver, B.C. (unpublished manuscript). (19766004)
- Federal Archives and Records Center, San Bruno, California, record group number 36, U.S. Bureau of Customs, San Francisco, CA, Section 8, Series 6.7, six log books from 6 sealing vessels over the period 1896-1898 (unpublished manuscripts). (18866001)
- Federal Archives and Records Center, Sand Point Way, Seattle, WA, accession number R10 U35 S13, thirty-four log books covering 18 sealing vessels over the period 1895 to 1897 (unpublished manuscripts). (18866001)
- Fiscus, C.H., H.W. Braham, and R.W. Mercer. 1976. Seasonal distribution and relative abundance of marine mammals in the Gulf of Alaska. Submitted as part of final report for BLM, OCSEAP Contract No. R7120806, pp. 19-264. (19756003)
- Fisher, H.D. 1981. Studies on the biology of sea lions in British Columbia. Natl. Geogr. Soc. Res. Rep. 13:215-9. (19736003)
- Fisher H.D. 1974. Records of the dates, locations and numbers where Steller sea lions were tagged in 1973 and 1974 by Dr. H.D. Fisher. Department of Zoology, University of British Columbia, Vancouver, B.C. Records held at the Marine Mammal Tagging Centre, Washington D.C. (19736003)
- Fisher, H.D. 1952. The status of the Harbour seal in B.C., with particular reference to the Skeena River. Fish. Res. Bd. Canada Bull. No. 93. 58 pp. (19136002, 19456002)
- Fisher, H.D. 1947. The harbour seals (*Phoca vitulina richardii*) on the Skeena River, B.C. Fish. Res. Bd. Canada. Pacific Prog. Rep. 72:36-8. (19456002)
- Fisher, H.D. 1947. The biology, economic status and control of the harbour seal (*Phoca vitulina richardii*) in British Columbia with particular reference to the Skeena River area. M.A. thesis, Univ. British Columbia, Vancouver, B.C., 102 pp. (19456002)
- Ford, J.K.B., G.M. Ellis and L.M. Nichol 1992. Killer whales of the Queen Charlotte Islands.

  A preliminary study of the abundance, distribution and population identity of Orcinus

- orca in the waters of Haida Gwaii. Prepared for: South Moresby/ Gwaii Haanas National Parks Reserve, Canadian Parks Service. 26pp +40pp of photographs. (19786001, 19886002, 19906001)
- Gessler, N. 1979. Gray whale strandings. 4 pp + prints. (unpublished manuscript). (19796001)
- Gjaltema, H. 1972. Annual narrative report 1971. Butedale sub-district. Canada Department of the Environment, Fisheries and Marine Services, Pacific Region, Vancouver, B.C., 17pp. (19716002)
- Guiguet, C.J. 1971. An apparent increase in California sea lion, Zalophus californianus and elephant seal, Mirounga angustirostris on the coast of B.C. Syesis: 4(1-2):263-4. (19706002)
- Harestad, A.S. 1977. Seasonal abundance of northern sea lions, *Eumetopias jubatus* (Schreber), at McInnes Island, B.C. Syesis 10:173-5. (19726004B)
- Harestad, A.S., and H.D. Fisher. 1975. Social behaviour in a non-pupping colony of Steller sea lions (Eumetopias jubata). Can. J. Zool. 53(11):1596-613. (19726004A)
  - Harestad, A.S. 1973. Social behaviour in a non-pupping colony of Steller sea lion (*Eumetopias jubata*). M.Sc. Thesis, U.B.C., Vancouver, B.C. (19726004A)
  - Hatler, D.F., and J.D. Darling. 1974. Recent observations of the gray whale in B.C. Can. Field-Nat. 88:449-60. (19726001B)
  - Hatter, I., and N.S. Trenholme. 1975. Burnaby Island wildlife inventory. draft report (unpublished manuscript). (19756002)
  - International Whaling Commission. 1948-1967 unpublished data. Whaling catch database with records pertaining to British Columbia (Coal Harbour Whaling Station). (19486003)
  - International Whaling Commission. 1947-1952 statistics. Committee for Whaling Statistics, Oslo Norway. Vols. 17-28. (19486003)
  - Landers, R.H. 1980. Summary of Northern Fur Seal Data and Collection Procedures. NOAA Technical Memorandum NMFS/NWC 4. Vol. 2: Eastern North Pacific Pelagic Data of the United States and Canada (excluding fur seal sightings). 541 pp. (19586002, 19606002)
  - Langelier, K.M., P.J. Stacey, and R.W. Baird. 1990. Stranded Whale and Dolphin Program of B.C. 1989 report. Wildl. Veterinary Rep. 3(1):10-1. (19876003)

- Langelier, K.N., P.J. Stacey, R.W. Baird, and R. Marchetti. 1988. 1987 Cetacean strandings in British Columbia. Proceedings Joint Conference of the American Assoc. of Zoo Veterinarians and American Assoc. of Wildlife Veterinarians Nov. 6-10, 1988. Sheraton Center, Toronto, Ontario. pp. 79-82. (19876003)
- Leatherwood, S., E. Krygier, J.D. Hall, and S. Ignell. 1984. Killer whales (*Orcinus orca*) in Southeast Alaska, Prince William Sound, and Shelikof Strait: a review of available information. Int. Whaling Comm. Rep. SC/35/SM7. (19766002)
- Lemmen, N.J. 1972. A report on the increasing seal population in the Bella Coola and Dean Channel gill-net areas. Unpublished manuscript by Bella Coola Fishery Officer, June 1972, 6 pp. (19726002)
- MacAskie, I.B. 1979. Methods of pelagic sampling by Canada, 1958-74. 45 pp. (unpublished manuscript). (19586002)
- MacDonald, J.A. 1976. Annual narrative report 1975, Butedale sub-district. Canada Department of the Environment, Fisheries and Marine Services, Pacific Region, Vancouver, B.C. 10pp. (19756004)
- Macdonald, J.A. 1975. Annual narrative report, 1974, Butedale Sub-District. Canada Department of the Environment, Fisheries and Marine Service, Pacific Region, Vancouver, B.C. 16 pp. (19746001)
- Manzer, J.L., and I. McTaggart-Cowan. 1956. Northern fur seal in the inside coastal waters of B.C. J. Mammal. 37:83-6. (19396001, 19456001)
- McNaughton, W., and D. McNaughton. 1972. Harbour seal census conducted by W. and D. McNaughton for the Department of Fisheries and Oceans in the Bella Coola and Dean Channel gillnet area. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19726002)
- McNaughton, W., and D. McNaughton. 1955 1960. Logbooks from bounty and commercial hunts carried out by W. and D. McNaughton between 1955 and 1960 in coastal British Columbia. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19556002)
- McTaggart-Cowan, I., and G.C. Carl. 1945. The northern elephant seal (Mirounga angustirostris) in B.C. waters and vicinity. Can. Field-Nat. 59(5):170-1. (19356001)
- Mitchell, E. 1980. Comments on sperm whale pregnancy rate, British Columbia, 1954-67, from data collected by G.C. Pike. Int. Whaling Comm. Special Issue 2, Annex L. pp. 130-2. (19486003)

- Mitchell, E. 1968. Northeast Pacific stranding distribution and seasonality of Cuvier's beaked whale, *Ziphius cavirostris*. Can. J. Zool. 6:265-79. (19456001)
- Moore, J.C. 1963. The goose-beaked whale: Where in the world? Chicago Nat. Hist. Mus. Bull. 34(2):2-3,8. (19456001)
- Moran, J. 1924. Killer whales at Green Island lighthouse. Can. Field-Nat. 38:84-5. (19196001)
- Morgan, K. 1981 1991. Sighting records collected incidental to Canadian Wildlife Service (IOS) pelagic bird surveys from 1981 to 1991. Ken Morgan, Institute of Ocean Sciences, Sidney, B.C. (unpublished data) (19816001)
- Murie, D.J. 1981. The migration of the northern fur seal, *Callorhinus ursinus*, Linnaeus 1758, in the eastern North Pacific and eastern Bering Sea: An analysis of pelagic sealing logs of the years 1886 to 1911. B.Sc. thesis, Univ. Victoria, Victoria, 111 pp. (18866001)
- National Marine Fisheries Service incidental marine mammal sightings. 1960-1990. Computer file containing incidental sightings of marine mammals made by US National Marine Fisheries personnel. National Marine Fisheries Service, National Marine Mammal Laboratory, Seattle, WA. (unpublished data) (19606001)
- Newcombe, C.F., W.H. Greenwood, and C.M. Fraser. 1918. Part 1. Preliminary report of the Commission on the sea lion question, 1915. Part 2. Report and conclusion of the sea lion investigation, 1916. Contrib. Canadian Biol. pp. 1-39. (19136001, 19166001)
- Newcombe, C.F., and W.A. Newcombe. 1914. Sea lions on the coast of British Columbia. Report of the Commissioner of Fisheries of British Columbia for the year ending December 31st, 1913. pp. R131-45. (19136001)
- Newcombe, C.F. unpublished papers. Private papers on sea lion abundance in British Columbia between 1892 and 1916 held at the Provincial Archives, Royal B.C. Museum, Victoria. (18926001, 19136001, 19166001)
- Nichol L. and K. Heise. 1992. The historical occurrence of large whales off the Queen Charlotte Islands. Prepared for: South Moresby/Gwaii Haanas National Parks Reserve, Canadian Parks Reserve. 68pp. (19246001, 19256001, 19486003)
- Nichol, L.M. 1990. Seasonal movements and foraging behaviour of resident killer whales (*Orcinus orca*) in relation to the inshore distribution of salmon (*Oncorhynchus* spp.) in British Columbia. M.Sc. thesis, University of British Columbia, 59pp. (19896002)

- Nichol, L.M. 1989. Sightings and audio recordings of killer whales and Pacific white-sided dolphins 1989. Made in May and June 1989 between Namu and Bella Coola. LGL Environmental Research Associates, Sidney, B.C. (19896002)
- Nichol, L.M, L. Michaluk, A. Peacock, and R. Gurney. 1987. B.C. historical whaling database report. Draft manuscript, ESL Environmental Sciences Ltd., Sidney, B.C., 109 pp. (unpublished manuscript). (19246001, 19256001, 19486003)
- North Pacific Fur Seal Commission pelagic fur seal data. 1958-1975. Computer files containing data collected on fur seals taken pelagically in the North Pacific by Canada and the United States for research and management purposes between 1958 and 1975. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. (19586002, 19606002)
- North Pacific Fur Seal Commission. 1962. North Pacific Fur Seal Commission report on investigations from 1958 to 1961. Presented by the Standing Scientific Committee. 183 pp. (unpublished manuscript). (19586002)
- Odlum, G.C. 1948. An instance of killer whales feeding on ducks. Can. Field-Nat. 62:42 (19466001)
- Olesiuk, P.F., M.A. Bigg, and G.M. Ellis. 1990a. Recent trends in the abundance of harbour seals, *Phoca vitulina*, in British Columbia. Can. J. Fish. Aquat. Sci. 47(5):992-1003. (19776003A, 19776003B, 19776003C, 19866002)
- Olesiuk, P.F., M.A. Bigg, and G.M. Ellis. 1990b. Life history and population dynamics of resident killer whales (*Orcinus orca*) in the coastal waters of British Columbia and Washington State. Rep. Int. Whal. Comm. (Special Issue 12) pg. 209-243.
- Olesiuk, P.F., M.A. Bigg, G.M. Ellis, S.J. Crockford, and R.J. Wigen. 1990c. An assessment of the feeding habits of harbour seals (*Phoca vitulina*) in the Strait of Georgia, British Columbia, based on scat analysis. Can. Tech. Rep. Fish. Aquat. Sci. No. 1730, 135 pp. (19836001)
- Osgood, W.H. 1901. Natural history of the Queen Charlotte Islands, British Columbia and natural history of the Cook Inlet region of Alaska. U.S.D.A. Div. of Biol. Survey. N. Amer. Fauna No. 21. Washington. (19006001)
- Perez, M.A., and M.A. Bigg. 1986. Diet of northern fur seals, *Callorhinus ursinus*, off western North America. Fish. Bull. 84:957-71. (19586002, 19606002)
- Pike, G.C., and I.B. MacAskie. 1969. Marine mammals of British Columbia. J. Fish. Res. Bd. Canada Bull. No. 171:5-23. (19006001, 19456001)

- Pike, G.C. 1968. Whaling in the North Pacific-the end of an era. Canadian Geographic Journal. pp. 128-37. (19486003)
- Pike, G.C. 1967. Whaling data tables (1948-1967) Coal Harbour, B.C. (unpublished manuscript). (19486003)
- Pike, G.C. 1966. North Pacific sperm whaling. Paper presented at the annual meeting of Pacific Fisheries Biologists. Richardson's Hot Springs, California. 4 pp. (unpublished manuscript). (19486003)
- Pike, G.C., and I.B. MacAskie. 1966. Report on Canadian pelagic fur seal research in 1966. Fish. Res. Bd. Can. MS Rep. Ser. No. 875. 5pp. +15pp of maps and tables. (19586002)
- Pike, G.C. 1966. The northern sea lion, (Eumetopias jubatus), on the coast of British Columbia. Pacific Biological Station, Nanaimo, 54 pp. (unpublished manuscript). (19566005)
- Pike, G.C., and L. Giovando. 1963. Whales and dolphins of the west coast of Canada. Fish. Res. Bd. Canada. Bull. No. 68, 31 pp. (19486003)
- Pike, G.C. 1963. Ovulation counts and their relation to age and stock assessment in female fin whales from British Columbia. Fish. Res. Bd. Can. MS Rep. Ser. (Biological) No. 752, 25 pp. (19486003)
- Pike, G.C., D.J. Spalding, I.B. MacAskie, and A. Craig. 1962. Report on Canadian pelagic fur seal research in 1962. Fish. Res. Bd. Can. MS Rep. Ser. No. 736. 35pp. (19586002)
- Pike, G.C. 1962. Migration and feeding of the grey whale (Eschrichtius gibbosus). J. Fish. Res. Bd. Canada 19(5):815-38. (19506001)
- Pike, G.C. 1962. Canadian whaling off British Columbia and progress of research, 1948 to 1959. Document C submitted to the June 1963 meeting of the International Whaling Commission's working group on North Pacific whale stocks. 41 pp. (unpublished manuscript). (19486003)
- Pike, G.C. 1961. Summary of results of Canadian pelagic research in 1961. 2 pp. (unpublished manuscript). (19586002)
- Pike, G.C., D.J. Spalding, I.B. MacAskie, and A. Craig. 1961. Report on Canadian pelagic fur seal research in 1961. Fish. Res. Bd. Can. MS Rep. Ser. No. 719. (19586002)

- Pike, G.C., D.J. Spalding, I.B. MacAskie, and A.M. Craig. 1960. Report on Canadian pelagic fur seal research in 1960. Fish. Res. Bd. Canada, Biol. MS Rept. No. 700. 100 pp. (19586002)
- Pike, G.C. 1960. Canada's share of the North Pacific fur seal resource. Department of Fisheries "Trade News" pp. 8-9. (19586002)
- Pike, G.C., D.J. Spalding, I.B. MacAskie, and A. Craig. 1959. Preliminary report on Canadian pelagic fur seal research in 1959. Fish. Res. Bd. Can. MS Rep. Biol. Stations No. 629, 51 pp. (19586002)
- Pike, G.C. 1959. Marine mammals. A brief manuscript that appears to describe marine mammal research conducted by the Department of Fisheries in B.C. in 1958. Potentially this is copied from a DFO annual report. pp. 175-7 (unpublished manuscript). (19486003, 19586002)
- Pike, G.C. 1958. Food of the Northern sea lion. Fish. Res. Bd. Canada. Pacific Prog. Rep. 112:18-20. (19566005)
- Pike, G.C., and B.E. Maxwell. 1958. The abundance and distribution of the northern sea lion (*Eumetopias jubata*) on the coast of British Columbia. J. Fish. Res. Bd. Canada 15(1):5-17. (18906001, 19386001, 19556001, 19566002, 19566003, 19576001)
- Pike, G.C. 1955. British Columbia whaling industry. Report for B.C. Natural Resources Atlas. 3 pp. (unpublished manuscript). (19486003)
- Pike, G.C. 1954. B.C. whale stocks studied. Fisherman 16(10):12. (19486003)
- Pike, G.C. 1954. Whaling on the coast of British Columbia. Norwegian Whaling Gazette. 3:117-27. (19486003)
- Pike, G.C. 1953. Colour pattern of humpback whales from the coast of British Columbia. J. Fish. Res. Bd. Canada. 10(6):320-5. (19486003)
- Pike, G.C. 1953. Preliminary report on the growth of finback whales from the coast of British Columbia. Norwegian Whaling Gazette. 1:11-5. (19486003)
- Pike, G.C. 1953. Whaling on the British Columbia Coast. Proceedings of the 7th Pacific Science Congress (1949). 4:370-2. (19486003)
- Pike, G.C. 1953. Two records of Baird's beaked whale. J. Mammal. 34(1): 98-104. (19486003)
- Pike, G.C. 1952. Whales and whaling. 8 pp. (unpublished manuscript). (19486003)

- Pike, G.C. 1952. Whaling in British Columbia. 5 pp. (unpublished manuscript). (19486003)
- Pike, G.C. 1951. Lamprey marks on whales. J. Fish. Res. Bd. Canada. 8(4):275-80. (19486003)
- Pike, G.C. 1950. Stomach contents of whales caught off the coast of British Columbia. Fish. Res. Bd. Canada. Pacific Prog. Rep. 83:27-8. (19486003)
- Pike, G.C. 1949. Whaling Investigation. Fish. Res. Bd. Canada. Pacific Prog. Rep. 79:30-1. (19486003)
- Pritchard, A.L., and H.D. Fisher. 1948. Skeena River salmon investigation, Interim report, Appendix No. 9: Mammalian and other predators of Skeena River salmon. Fish. Res. Bd. Can., Nanaimo, B.C., 10 pp. (19456002)
- Reimchen, T. 1980. Sightings of Risso's dolpins (*Grampus griseus*) off Queen Charlotte Islands, British Columbia. The Murrelet 61(1):44-5. (19786002)
- Rodway, M.S., and M.J.F. Lemon. 1991. British Columbia seabird colony inventory: Report # 7: northern mainland coast. Technical Report Series No. 121. Canadian Wildlife Service, Pacific and Yukon Region. British Columbia. 182 pp. (19836002A, 19836002B, 19836002C)
- Royal British Columbia Museum. Computer file containing data associated with marine mammal (and other mammals) specimens held at the Royal British Columbia Museum, Victoria, B.C. (19376001)
- Scheffer, V.B. 1950. Growth layers on the teeth of Pinnipedia as an indication of age. Science 112(2907):309-11. (19526001)
- Scheffer, V.B. 1949. The Dall's porpoise, *Phocoenoides dalli*, in Alaska. J. Mammal. 30:116-21. (19476001)
- Scheffer, V.B., and J.W. Slipp. 1944. The harbour seal in Washington State. Amer. Midland Naturalist 32:373-416. (18626001)
- Schutz, D.C. 1975. Rivers Inlet chinook sport fishery 1971-74. Tech. Rept. Ser. PAC/T-75-9. Northern operations branch, Pacific Region Fisheries and Marine Services, Environment Canada. 24 pp. (19716003)
- Smith, I.D. 1972. Sea lions wintering along the outer coast of Vancouver Island. J. Fish. Res. Bd. Canada 29(12):1764-6. (19706001)

- Spalding, D.J. 1964. Comparative feeding habits of the fur seal, sea lion and harbour seal on the British Columbia coast. Fish. Res. Bd. Can. Bull. No. 146. 52 pp. (19566005)
- Stacey, P.J., R.W. Baird, and D.A. Duffus. 1990. A preliminary evaluation of incidental mortality of small cetaceans, primarily Dall's porpoise (*Phocoennoides dalli*), harbour porpoise (*Phocoena phocoena*), and Pacific white-sided dolphins, (*Lagenorhynchus obliquidens*), in inshore fisheries in British Columbia, Canada. Int. Whaling Comm. Doc. SC/2/SM20. (19886002)
- Stacey, P.J., R.W. Baird, and K.M. Langelier. 1989. Stranded Whale and Dolphin Program 1988 report. Wildl. Veterinary Rep. 2(1):10-1. (19876003)
- Stutz, S.S. 1967. Moult in the pacific harbour seal *Phoca vitulina richardi*. J. Fish. Res. Bd. Canada 24(2):435-41. (19646002)
- Stutz, S.S. 1967. Pelage patterns and population distributions in the Pacific harbour seal (*Phocavitulina richardi*). J. Fish. Res. Bd. Canada. 24(2):451-5. (19646002)
- Stutz, S.S. 1966. Foetal and postpartum whitecoat pelage in *Phoca vitulina*. J. Fish. Res. Bd. Canada 23:607-9. (19646002)
- Stutz, S.S. 1963. Moult and pelage patterns in the Pacific harbour seal, *Phoca vitulina*. M.Sc. thesis, Univ. British Columbia, Vancouver, B.C. 74 pp. (19646002)
- Taylor, R.L., and B. Gough. 1977. New sighting of sea otter reported for Queen Charlotte Islands. Syesis 10:177. (19766005)
- Thomson, R.E. 1981. Oceanography of the British Columbia Coast. Can. Spec. Publ. Fish. Aquat. Sci. 56: 291pp.
- Townsend, C.H. 1899. Pelagic sealing with notes on the fur seals of Guadalupe, the Galapagos, and Lobos Islands. In: D.S. Jordan (ed.) The Fur Seals and Fur-Seal Islands of the North Pacific Ocean. U.S. Govt. Printing Office, Washington, D.C. Vol. 3, pp. 223-73. (18866001)
- Vancouver Aquarium, Vancouver, B.C. Audio recordings of killer whale and Pacific white-sided dolphin vocalizations. Recordings made from the Boat Bluff Lighthouse in 1987 and 1988. (19876001)
- Vancouver Aquarium, Vancouver, B.C. Audio recordings of killer whale vocalizations. Recordings made from the Addenbrooke Lighthouse. 1986. (19866001)
- Wilke, F., and K.W. Kenyon. 1954. Migration and food of the northern fur seal. In: J.B. Trefethen (ed.) Transactions of the 19th North American Wildlife Conference. pp. 430-40. (19526001)

# 8. DATA INVENTORY TABLE 1: CHRONOLOGICAL LISTING BY DATA SET NUMBER

A description of the organization of the catalogue and how to use it is given in Section 5.

#### TABLE 1 LEGEND

Data set I.D. - identifies a unique data collection and allows cross- referencing to other tables and indices in this catalogue.

Collecting

Period - lists the first and last date of measurements or observations in this

data set.

Collecting Agency - identifies the agency, organization or individuals responsible for

collecting and analyzing the data. Identifies the type of platform

used.

Sponsor - identifies the agency that sponsored the work if different than the

collecting agency.

Areas - lists general geographical areas where observations and

measurements were made. Areas are sufficiently general to be easily located on Canadian Hydrographic Chart 3000 (1:2 million

scale).

Species Reported - lists the species reported.

Parameters - lists the parameters reported, which are categories of measurement

types.

Concurrent - lists physical, chemical and biological measurement that were

made concurrently with the marine mammal measurements/observations. Concurrent measurements are listed

by medium sampled and measurement type.

Remarks - may briefly describe the objective of the study and indicates the

geographical scope if greater than the study area. If INCOMPLETE appears, this indicates that documentation

sufficient to describe the data set was lacking.

#### **CONCURRENT MEASUREMENT ABBREVIATIONS**

Water SCT - Salinity, conductivity, temperature

#### TABLE 1. SUMMARY LISTING OF DATA SETS

		AGENCY	TABLE 1. SUND	MAKI LISTING OF DATA SE	13		
Data Set I.D.	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	<u>Parameters</u>	Concurrent Measurements	Remarks
18626001	NS/NS/1862 NS/NS/1924	U.S. FISH AND WILDLIFE SERVICE Various vessels, aircraft and shore	Port Simpson Queen Charlotte Sound Rose Harbour	Harbour seal	Not Specified		This review article reports various personal communications and observations and examines museum specimens pertaining to harbour seals from the study area
							INCOMPLETE
18796001	NS/NS/1879 NS/NS/1917	DEPARTMENT OF FISHERIES Not specified	North Coast of B.C.	Harbour seal	Identification Numbers		Harbour seal commercial kill statistics for the B.C. coast.
18866001	NS/NS/1886 NS/NS/1911	VICTORIA SEALING COMPANY, VICTORIA Various sealing schooners	Queen Charlotte Sound Cape St. James	Northern fur seal	Identification Numbers		Sealing vessel log books containing catch records for the North Pacific.
18906001	NS/NS/1890 07/08/1967	DEPARTMENT OF FISHERIES Not Specified	North Coast of B.C.	Steller sea lion	Identification Numbers		Sea lion commercial and management kill statistics for the B.C. coast.
18926001	11/05/1892 12/05/1892	BRITISH COLUMBIA FISHERIES COMMISSION, VICTORIA Small craft	Cape Scott area Dundas Island Scott Islands Sea Otter Island Group	Steller sea lion	Food Identification Numbers		Sea lion census of the B.C. coast.
18926002	NS/NS/1892 NS/NS/1992	DEPARTMENT OF FISHERIES Shore, vessels and aircraft	North Coast of B.C.	Steller sea lion	Identification Numbers		Sea lion census and sighting data for the B.C. coast. Dataset is updated periodically with the addition of new sighting and census information.
19006001	13/06/1900 18/07/1900	U.S. DEPARTMENT OF AGRICULTURE, DIVISION OF BIOLOGICAL SURVEY Schooner	E. coast Queen Charlotte Islands Hecate Strait	Fin whale Harbour porpoise Harbour seal Pacific white-sided dolphin Short-finned pilot whale	ldentification	BIOLOGY Birds Identification Fish Identification Other Mammals Identification	Natural history survey of the Queen Charlotte Islands.

TABLE 1. SUMMARY LISTING OF DATA SETS (Continued)

		AGENCY	TABLE I. SOMETAKI L	dilling of Data sets (come	ilucu)		
Data Set 1.D.	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	<u>Parameters</u>	Concurrent Measurements	Remarks
19136001	NS/NS/1913 01/09/1913	BRITISH COLUMBIA FISHERIES COMMISSION, VICTORIA Small craft	West coast of Aristizabal Island Bonilla Island Caamano Sound Cape St. James North Danger Rocks Fitzhugh Sound Goose Island Group Hunter Island area McInnes Island Scott Islands Sea Otter Island Group Stephens Island West coast of Banks Island	Steller sea lion	Food Identification Numbers		Sea lion census of the B.C. coast.
19136002	NS/NS/1913 NS/NS/1964	DEPARTMENT OF FISHERIES Not specified	North Coast of B.C.	Harbour seal	Identification Numbers		Harbour seal bounty kill statistics for the B.C. coast.
19166001	25/06/1916 16/07/1916	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO, AND BRITISH COLUMBIA PROVINCIAL FISHERIES DEPARTMENT, VICTORIA MV Emoh	Cape St. James Scott Islands Sea Otter Island Group Stephens Island	Steller sea lion	Food Identification Numbers		Sea lion census of the B.C. coast.
19196001	NS/05/1919 23/08/1923	GREEN ISLAND LIGHTHOUSE Shore	Chatham Sound	Harbour scal Killer whale Unidentified sea lion	Identification Behaviour		Descriptive accounts of several killer whale sightings.
19246001	26/05/1924 06/10/1927	NADEN HARBOUR WHALING STATION, CONSOLIDATED WHALING INC. Whaling ships	Dixon Entrance	Blue whale Fin whale Humpback whale Sei whale Sperm whale	Identification Morphometrics Numbers Reproduction		Whaling catch statistics for the north coast of B.C
19256001	13/05/1925 17/09/1928	ROSE HARBOUR WHALING STATION, CONSOLIDATED WHALING INC. Whaling ships	Queen Charlotte Sound	Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	Food Identification Morphometrics Numbers Reproduction		Whaling catch statistics for the north coast of B.C

		AGENCY	TABLE 1. BOWENIAN DI	of the of billing being count			
Data Set <u>J.D.</u>	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	Parameters .	Concurrent Measurements	Remarks
19346001	NS/NS/1935 12/03/1937	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO CGS Givenchy and Malaspina	Bonilla Island Dixon Entrance Goose Island Group Hecate Strait Rose Spit Scott Islands	Northern fur seal	Identification Numbers		A Collection of correspondence dealing with fur seal-fishery interactions and incidental sightings.
19356001	25/04/1934 22/09/1944	U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER, AND ROYAL B.C. MUSEUM, VICTORIA Vessel	Queen Charlotte Sound Queen Charlotte Strait	Northern elephant seal	Identification Numbers		This publication presents incidental sightings of northern elephant seals.
19376001	NS/07/1937 26/03/1988	ROYAL B.C. MUSEUM, VICTORIA Not specfied	Bella Coola Cape Scott area Cape St. James Goose Island Group Laredo Channel Masset Ramsay Island Sandspit Scott Islands Skidegate Inlet Skincuttle Inlet	Baird's beaked whale Cuvier's beaked whale Dall's porpoise Harbour porpoise Harbour seal Minke whale Northern fur seal Risso's dolphin Sea otter Steller sea lion	Identification Morphometrics		Specimen collection of the Royal B.C. Museum.
19386001	6/08/1938  9/08/1938	DEPARTMENT OF FISHERIES Vessel	North coast (Bonilla I., Stephens I. area, Cape St. James, North Danger Rocks, Banks I., Aristizabal I., Langara I., McInnes I., Scott Islands, Sea Otter Islands)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19396001	NS/07/1939 NS/03/1954	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO, AND U.B.C. DEPARTMENT OF ZOOLOGY, VANCOUVER Not specified	Bella Bella Fitzhugh Sound Grenville Channel Princess Royal Channel Prince Rupert Queens Sound	Northern fur seal	Identification Morphometrics		Review of sighting and stranding records from various sources.
19416001	27/01/1941 27/01/1941	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Shore	Masset Inlet	Killer whale	Identification Morphometrics Numbers		Report of a mass stranding.

TABLE 1. SUMMARY LISTING OF DATA SETS (Continued)

-		AGENCY	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Data Set <u>I.D.</u>	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	Parameters .	Concurrent Measurements	Remarks
19456001	14/07/1945 NS/07/1965	U.B.C. DEPARTMENT OF ZOOLOGY Various/ursknown	Bella Bella Prince Rupert Queen Charlotte Islands Scott Islands Skeena River	Cuvier's beaked whale Harbour porpoise Harbour seal Northern fur seal Steller sea lion Unidentified beaked whale	Identification Morphometrics		Specimen collection of the Cowan Vertebrate Museum, Department of Zoology, University of British Columbia.
19456002	18/05/1945 06/09/1946	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO AND U.B.C. DEPARTMENT OF ZOOLOGY, VANCOUVER Small craft and shore	Skeena River	Harbour seal	Food Identification Morphometrics Numbers Reproduction		Graduate studies on the harbour seal carried out by H.D. Fisher.
19466001	NS/01/1946 NS/01/1946	TRIPLE ISLAND LIGHTHOUSE Shore	Prince Rupert	Killer whale	Food Identification Behaviour		Descriptive account of a killer whale sighting.
19476001	NS/NS/1947 NS/NS/1948	U.S. FISH AND WILDLIFE SERVICE RV Black Douglas	Not Specified	Unidentified marine mammal	Not Specified		INCOMPLETE
19486001A	NS/NS/1948 NS/NS/1962	DEPARTMENT OF FISHERIES Not applicable	Skeena River	Harbour seal	Identification Numbers		Harbour seal management kill statistics.
19486001B	NS/NS/1948 NS/NS/1963	DEPARTMENT OF FISHERIES Not applicable	Nass River	Harbour seal	Identification Numbers		Harbour seal management kill statistics.
19486002	NS/NS/1948 NS/NS/1972	DEPARTMENT OF FISHERIES Not applicable	North Coast of B.C.	Harbour seal	Identification Numbers		Harbour seal predator control kill statistics for the B.C. coast.
19486003	23/06/1948 30/08/1967	COAL HARBOUR WHALING STATION, WESTERN WHALING CORP. & B.C. PACKERS LTD. Whaling ships	Caamano Sound Hecate Strait Milbanke Sound Queen Charlotte Sound	Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	Age Food Identification Morphometrics Numbers Parasites Reproduction	PHYSICS Water SCT	B.C. whaling catch statistics.

		AGENCY		011110 01 1111110111101111	,		
Data Set 1,D,	Period dd/mm/yy	Platform (Sponsor)	Areas	Species .	<u>Parameters</u>	Concurrent Measurements	Remarks
19506001	31/10/1950 20/12/1960	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Various vessels, lighthouses, aircraft and shore	Burke Channel Caamano Sound Chatham Sound Dean Channel Dixon Entrance E. coast Queen Charlotte Islands Fitzhugh Sound Grenville Channel Hecate Strait Langara Island Laredo Sound Masset Inlet Milbanke Sound Principe Channel Pearse Canal Portland Canal Portland Canal Portland Inlet Rivers Inlet Scott Islands Skidegate Inlet Whale Channel	Dall's porpoise Fin whale Gray whale Harbour porpoise Harbour seal Humpback whale Killer whale Northern elephant seal Northern fir seal Pacific white-sided dolphin Right whale Sei whale Short-finned pilot whale Sperm whale Unidentified dolphin Unidentified porpoise Unidentified seal Unidentified seal Unidentified seal Unidentified whale	Identification Numbers		A large Collection of marine mammal sighting logbooks completed by various individuals upon the request of the Pacific Biological Station.
19526001	NS/02/1952 NS/07/1952	GOVERNMENTS OF CANADA, JAPAN AND UNITED STATES COOPERATIVE STUDY 6 Japanese tsukimbo-sen (marine mammal harpoon ships) and 4 American purse seiners	Not Specified	Northern fur seal	Not Specified	PHYSICS Water SCT	The primary reference for this data set is unpublished and could not be obtained. INCOMPLETE
19556001	09/08/1955 12/09/1955	DEPARTMENT OF FISHERIES Vessel	North coast (Bella Coola, Hunter I. area, Bonilla I., Stephens I. area, Caper St. James, North Danger Rocks, Banks I., Aristizabal I., Langara I., McInnes I., Nass River, Burnaby I., Sea Otter Islands)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19556002	NS/NS/1955 NS/NS/1960	DEPARTMENT OF FISHERIES Not applicable	North Coast of B.C.	Harbour seal	Identification Numbers Reproduction		Logbooks of harbour seal bounty hunters B. and D. McNaughton.

TABLE 1. SUMMARY LISTING OF DATA SETS (Continued)

		AGENCY	TABLE I. SUMMARY LI	STING OF DATA SETS (Conti	nued)		
Data Set I.D.	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	<u>Parameters</u>	Concurrent Measurements	Remarks
19566001	16/06/1956 09/09/1962	DEPARTMENT OF FISHERIES, ROYAL B.C. MUSEUM, VICTORIA, U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER, AND OTHERS Several lighthouses and vessels including MV G.B. Reed, MV Pacific Ocean, MV T.W. Islander, FPL Falcon Rock, FPL Brama, FPC Arrow Post	Caamano Sound Fitzhugh Sound Grenville Channel Hecate Strait Laredo Inlet Langara Island McIntyre Bay Principe Channel Princess Royal Channel Prince Rupert Queen Charlotte Sound Queen Charlotte Strait Scott Islands Squally Channel Tolmie Channel	Cuvier's beaked whale Harbour porpoise Killer whale Northern elephant scal Pacific white-sided dolphin Unidentified beaked whale	Food Identification Morphometrics Numbers		This review publication includes sighting and specimen accounts not published elsewhere.
19566002	15/08/1956 17/08/1956	DEPARTMENT OF FISHERIES Vessel and fixed-wing aircraft	North coast (Bella Coola, Hunter I. area, Stephens I. area, Cape St. James, Goose Islands, Banks I., Aristizabal I., McInnes I., Scott Islands, Sea Otter Islands, Dundas I. area)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19566003	25/05/1956 01/08/1956	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Vessel	North coast (Sea Otter Islands, Cape St. James, North Danger Rocks, Banks I., Langara I., McInnes I., Louise I., Bonilla I.)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19566004	16/08/1956 17/08/1956	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Cessna 180	Scott Islands Banks Island	Steller sea lion	Identification Numbers		Sea lion census of Vancouver Island.
19566005	09/06/1956 15/06/1966	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Shore	West coast of Aristizabal Island Bonilla Island Cape St. James North Danger Rocks East coast of Louise Island Goose Island Group Langara Island McInnes Island Scott Islands Sea Otter Island Group West coast of Lyell Island	Steller sea lion	Age Food Identification Morphometrics Numbers Reproduction Physiology		Specimen collection to study the biology of steller sea lions.

		AGENCY		ibility of billia belo (con-			
Data Set <u>I.D.</u>	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	<u>Parameters</u>	Concurrent  Measurements	Remarks
19576001	17/07/1957 19/07/1957	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	North coast (Bonilla I., Stephens I. area, Cape St. James, North Danger Rocks, Aristizabal I., Langara I., Louise I.)	Steller sea lion	Identification Numbers	·	Sea lion census of the B.C. coast.
19586001	07/06/1958 28/12/1960	ADDENBROKE LIGHTHOUSE Shore	Addenbroke Lighthouse	Fin whale Gray whale Harbour porpoise Harbour seal Humpback whale Killer whale Northern fur seal Pacific white-sided dolphin Right whale Short-finned pilot whale Sperm whale Unidentified dolphin Unidentified porpoise Unidentified seal Unidentified seal Unidentified whale	Identification Numbers		A large Collection of marine mammal sighting logbooks completed by the lighthouse keeper upon the request of the Pacific Biological Station.
19586002	02/04/1958 23/05/1968	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO MV Pacific Ocean, MV A.P.Knight, MV Pacific Ocean, MV Belina (North Pacific Fur Seal Commission)	Dixon Entrance Hecate Strait	Northern fur seal	Age Food Identification Morphometrics Movements Numbers Reproduction	PHYSICS Water SCT	This dataset is part of a research program on northern fur seals by the North Pacific Fur Seal Commission.
19586003	25/02/1958 25/02/1958	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO RCAF Lancaster	Scott Islands	Steller sea lion	Identification Numbers		Sea lion census of Vancouver Island.
19586004	10/07/1958 14/06/1960	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Shore	Scott Islands	Steller sea lion	Identification Morphometrics Numbers		Sea lion tagging project. Little effort was made to resight or recapture tagged animals.

TABLE 1. SUMMARY LISTING OF DATA SETS (Continued)

		ACENCY	TABLE 1. SUMMARY LI	STING OF DATA SETS (Conti	med)		
Data Set I.D.	Period dd/mm/yy	AGENCY Platform (Sponsor)	Areas	Species	Parameters	Concurrent Measurements	Remarks
19606001	21/04/1960 06/11/1990	NATIONAL OCEANIC AND ATMOSPHERIC AGENCY, SEATTLE Various agency vessels	Dixon Entrance Hecate Strait	Common dolphin Cuvier's beaked whale Dall'a porpoise Fin whale Harbour porpoise Harbour seal Humpback whale Killer whale Minke whale Northern elephant seal Northern fur seal Pacific white-sided dolphin Sea otter Steller sea lion Unidentified pinniped Unidentified porpoise Unidentified seal Unidentified seal Unidentified seal Unidentified whale	Identification Movements Numbers Behaviour		Compilation of incidental marine mammal sightings. The database is updated periodically with the addition of new sightings.
19606002	21/04/1960 18/05/1968	NATIONAL MARINE FISHERIES SERVICE, MARINE MAMMAL LABORATORY, SEATTLE MV Tacoma, MV Harmony, MV New St. Joseph (North Pacific Fur Seal Commission)	Dixon Entrance Hecate Strait	Northern fur seal	Age Food Identification Morphometrics Movements Numbers Reproduction	PHYSICS Water SCT	This dataset is part of a research program on the northern fur seal by the North Pacific Fur Seal Commission.
19616001A	24/01/1961 24/01/1961	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO 2-scater Piper Cub	Scott Islands	Steller sea lion	Identification Numbers		Sea lion census of Vancouver Island.
19616001B	21/06/1961 23/06/1961	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	North coast (Banks I., Bonilla I., Stephons I. area, Dundas I. area, Cape St. James, North Danger Rocks, Aristizabal I., Langara I., McInnes I., Milbanke Sound, Louise I., Scott Islands, Goose Islands, Sea Otter Islands)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19626001A	03/04/1962 07/04/1962	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Cessna 172	Cape St. James East coast of Louise Island Langara Island	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.

		AGENCY		-DILIG OF DATA OFFICE	<b></b>		
Data Set 1.D.	Period dd/mm/yy	Platform (Sponsor)	Areas	<u>Species</u>	Parameters	Concurrent Measurements	Remarks
19626001B	19/04/1962 19/04/1962	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Cessna 180	Scott Islands	Steller sea lion	Identification Numbers		Sea lion census of Vancouver Island.
19626001C	12/04/1962 12/04/1962	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Cessna 172	Scott Islands	Steller sea lion	Identification Numbers		Seal lion census of Vancouver Island.
19636001	NS/NS/1963 NS/NS/1968	DEPARTMENT OF FISHERIES Not specified	North Coast of B.C.	Harbour seal	Identification Numbers		Harbour seal commercial kill statistics for the B.C. coast.
1964600I	09/06/1964 10/06/1964	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Bell CF-JSK helicopter	North coast (Bonilla I., Stephen I. area, Burnaby I., Cape St. James, North Danger Rocks, Goose Islands, Aristizabal I., Langara I., McInnes I., Milbanke Sound, Scott Islands, Sea Otter Islands, Louise I., Hunter I. area)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19646002	05/05/1964 30/06/1965	ZOOLOGY DEPARTMENT, U.B.C., VANCOUVER Not applicable	Kitimat Arm Prince Rupert Queen Charlotte Islands Rivers Inlet	Harbour seal	Identification Physiology		Graduate research of pelage patterns in B.C. harbour seals by S.S. Stutz.
19646003	NS/NS/1964 NS/NS/1968	U.B.C. DEPARTMENT OF ZOOLOGY, VANCOUVER Not applicable	Kitimat Arm Skeena River	Harbour seal	Age Identification Reproduction		Graduate research on the life history of the harbour seal in B.C. by M.A. Bigg.
19656001	NS/06/1965 31/10/1987	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Various vessels	Central Coast E. coast Queen Charlotte I. North Coast of B.C.	Killer whale	Identification		Killer whale photo- identifications and sightings from the B.C. coast.
19666001	06/06/1966 15/06/1966	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO Shore	Cape St. James Scott Islands	Steller sea lion	Identification Numbers		Sea lion tagging project. Little effort was made to resight or recapture tagged animals.

		AGENCY	TABLE 1. SUMMARY LI	STING OF DATA SETS (Conti	nued)		
Data Set <u>I.D.</u>	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	Parameters 1	Concurrent Measurements	Remarks
19706001	27/11/1970 31/03/1971	B.C. DEPARTMENT OF RECREATION AND CONSERVATION, FISH AND WILDLIFE BRANCH, NANAIMO Fixed-wing aircraft	Scott Islands	Steller sea lion	Identification Numbers		Sea lion census of Vancouver Island.
19706002	NS/07/1970 NS/07/1970	ROYAL B.C. MUSEUM, VICTORIA Shore	Langara Island	Northern elephant seal	Identification Numbers		Incidental sighting compiled from secondary source. Access to the Royal B.C. Museum records was prohibited at the time of cataloguing due to renovations.
19706003	NS/05/1970 13/10/1988	B.C. MINISTRY OF ENVIRONMENT, QUEEN CHARLOTTE CITY Various vessels, aircraft and shore	Cape St. James East coast of Louise Island Langara Island	Unidentified sea lion	Identification		Incidental sea lion sightings.
19716001A	28/06/1971 01/07/1971	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	North coast (Banks I., Bonilla I., Stephens I. area, Burnaby I., Cape St. James, North Danger Rocks, Goose Islands, Aristzabal I., Langara I., McInnes I., Milbanke Sound, Rose Spit, Sandspit, Scott Islands, Sea Otter Islands, Louise I.)	Steller sea lion	Identification Numbers		Sca lion census of the B.C. coast.
19716001B	07/12/1971 12/12/1971	DEPARTMENT OF FISHERIES, PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	North coast (Caamano Sound, Banks I., Bonilla I., Burnaby I., Cape St. James, North Danger Rocks, Goose Islands, Langara I., McInnes I., Scott Islands, Sea Otter Islands, Louise I., Aristizabal I.)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19716002	NS/NS/1971 NS/NS/1971	DEPARTMENT OF FISHERIES AND FORESTRY, BUTEDALE SUB-DISTRICT, KITIMAT Not specified	Butedale Subdistrict	Harbour seal Killer whale Steller sea lion	Identification Numbers		Observations appear in a fisheries annual narrative report.
19716003	NS/07/1971 NS/08/1974	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA) Not Specified	Rivers Inlet	Killer whale	Identification	BIOLOGY Fish Identification Numbers	Data were presented in a graph in a secondary reference.

		AGENCY	IABLE I. SUMMARI L	ISTING OF DATA SETS (COMM	aueu)		
Data Set <u>I.D.</u>	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	Parameters .	Concurrent Measurements	Remarks
19716004	NS/NS/1971 NS/NS/1971	DEPARTMENT OF FISHERIES, KITIMAT SUBDISTRICT, KITIMAT Not Specified	Kitimat District (Kitimat River Bella Coola River)	Harbour seal Killer whale Steller sea lion	Identification Numbers		Observations appear in a fisheries annual narrative report.
19716005A	26/07/1971 26/07/1971	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), PACIFIC BIOLOGICAL STATION, NANAIMO Not specified	Central Coast Dixon Entrance E. coast Queen Charlotte I. Hecate Strait Queen Charlotte Sound	Killer whale	Identification Numbers		Compilation of B.C. coast killer whale sightings made by volunteer observers on specified census dates.
19716005B	01/08/1972 03/08/1972	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), PACIFIC BIOLOGICAL STATION, NANAIMO Not specified	Central Coast Dixon Entrance E. coast Queen Charlotte I. Hecate Strait Queen Charlotte Sound	Killer whale	Identification Numbers		Compilation of B.C. coast killer whale sightings made by volunteer observers on specified census dates.
19716005C	01/08/1973 02/08/1973	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), PACIFIC BIOLOGICAL STATION, NANAIMO Not specified	Central Coast Dixon Entrance E. coast Queen Charlotte I. Hecate Strait Queen Charlotte Sound	Killer whale	Identification Numbers		Compilation of B.C. coast killer whale sightings made by volunteer observers on specified census dates.
19726001A	08/09/1972 10/09/1972	U.B.C., DEPARMENT OF ZOOLOGY, VANCOUVER Fixed-wing aircraft (National Geographic Society)	North coast (Stephens I. area, Bonilla I., Hunter I. area, Cape St. James, North Danger Rocks, Lyell Island, Goose Islands, Aristizabal I., Banks I., Langara I., McInnes I., Louise I., Scott Islands, Sea Otter Islands)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19726001B	11/04/1973 12/04/1973	U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER Fixed-wing aircraft (National Geographic Society)	North coast (Stephens I. area, Bonilla I., Hunter I. area, Cape St. James, North Danger Rocks, Lyell I., Goose Islands, McInnes I., Louise I., Scott Islands, Sea Otter Islands, Aristizabal I.)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19726001C	11/ <b>10</b> /1973 13/10/1 <b>97</b> 3	U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER Fixed-wing aircraft (National Geographic Society)	North coast (Sea Otter Islands, Cape St. James, North Danger Rocks, Goose Islands, Aristizabal I., Scott Islands, Bonilla I., Louise I.)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.

	TABLE 1. SUMMARY LISTING OF DATA SETS (Continued)							
Data Set <u>I.D.</u>	Period dd/mm/yy	AGENCY Platform (Sponsor)	Areas	Species	Parameters .	Concurrent Measurements	Remarks	
19726002	15/05/1972 14/06/1972	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), D. AND W. MCNAUGHTON, PENDER ISLAND Small craft (MV Nighthawk)	Burke Channel Dean Channel	Harbour seal	Identification Numbers		Harbour seal survey.	
19726003A	25/07/1972 28/07/1972	U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER Shore	Cape St. James	Sea otter	Food Identification Numbers Behaviour		Descriptive accounts of two incidental sea otter sightings.	
19726003B	19/05/1972 06/07/1973	U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER Shore	Cape St. James	Steller sea lion	Age Identification Numbers Behaviour	PHYSICS Water SCT Waves	Graduate research on the behaviour of steller sea lions at a breeding rookery by A.G. Edie.	
19726 <del>0</del> 04A	09/05/1972 09/07/1972	U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER Shore (Canada Ministry of Transport, National Research Council, Fisheries Research Board of Canada, National Geographic Society)	McInnes Island	Steller sea lion	Age Identification Behaviour		Graduate research on the behaviour of steller sea lions at a nonbreeding rookery by A.S. Harestad.	
19726004B	09/05/1972 31/05/1973	U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER Shore (Canada Ministry of Transport, National Research Council, Fisheries Research Board of Canada, National Geographic Society)	McInnes Island	Steller sea lion	Identification Numbers		Sea lion census.	
19736001	25/01/1973 25/01/1973	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), PACIFIC BIOLOGICAL STATION, NANAIMO Cessna 180	Cape Scott area	Steller sea lion	Identification Numbers		Sea lion census of Vancouver Island.	
19736002	29/06/1973 03/07/1973	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), PACIFIC BIOLOGICAL STATION, NANAIMO Helicopter and DHC Beaver	North coast (Bonilla I., Stephens I. area, Burnaby I., Cape St. James, Forrester I., Scott Islands, Sea Otter Islands, Dundas I. area)		Identification Numbers		Sea lion census of the B.C. coast.	

	TABLE 1. SUMMARY LISTING OF DATA SETS (Continued) AGENCY						
Data Set 1.D.	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	Parameters .	Concurrent Measurements	Remarks
19736003	30/06/1973 04/07/1974	U.B.C., DEPARTMENT OF ZOOLOGY, VANCOUVER Shore (National Geographic Society)	Cape St. James	Steller sea lion	Identification Numbers		Sea lion tagging study. Only two animals were ever resighted.
19746001	NS/NS/1974 NS/NS/1974	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), BUTEDALE SUBDISTRICT, BUTEDALE Not Specified	Butedale Subdistrict	Harbour seal Killer whale Steller sea lion	Identification Numbers		Observations appear in a fisheries annual narrative report.
19756001	10/09/1975 11/09/1975	CAPE SCOTT LIGHTHOUSE Shore	Cape Scott area	Gray whale	Identification Numbers		Incidental sightings.
19756002	18/07/1975 07/08/1975	I. HATTER AND N.S. TRENHOLME Shore	Skincuttle Inlet	Harbour seal	Identification Numbers	BIOLOGY Birds Identification Numbers  Other Mammals Identification Numbers	Observations were made incidental to a terrestrial bird and mammal survey.
19756003	NS/10/1975 30/06/1991	PLATFORMS OF OPPORTUNITY PROGRAM, ALASKA OUTER CONTINENTAL SHELF ENVIRONMENTAL ASSESSMENT PROGRAM, N.O.A.A. Various vessels and aircraft	Dixon Entrance	Dall's porpoise False killer whale Harbour porpoise Harbour seal Killer whale Minke whale Northern fur seal Pacific white-sided dolphin Steller sea lion	Not Specified		Incidental sightings by Alaska trollers. Data set was compiled from secondary sources and it is unclear if sightings were actually made in the study area. INCOMPLETE
19756004	NS/NS/1975 NS/NS/1975	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), BUTEDALE SUB-DISTRICT, KITIMAT Not specified	Butedale Subdistrict	Harbour seal Killer whale Steller sea lion	Identification Numbers		Observations appear in a lisheries annual narrative report.

		TABLE 1. SUMMARY LISTING OF DATA SETS (Continued) AGENCY					
Data Set	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	<u>Parameters</u>	Concurrent Measurements	Remarks
19766001	13/12/1976 17/12/1976	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA) PACIFIC BIOLOGICAL STATION, NANAIMO AND B.C. FISH AND WILDLIFE BRANCH, VICTORIA Otter sircraft	North coast (Stephens I. area, Caamano Snd., Banks I., Hunter I. area, Fitzhugh Snd., Bonilla I., Burnaby I., Scott Islands, Dundas I. area, Cape St. James, North Danger Rocks, Aristizabal I., Langara I., Milbanke Snd., Rose Spit, Sea Ot		Identification Numbers		Sea lion census of the B.C. coast.
19766002	NS/NS/1976 30/06/1991	6 ALASKA TROLLER'S ASSOCIATION (ATA) TROLL LOGBOOK PROGRAM Various vessels	Dixon Entrance	Killer whale	Not Specified	BIOLOGY Figh Identification Numbers PHYSICS Water	Incidental sightings by Alaska trollers. Data set was identified from secondary sources and it is unclear if sightings were actually made in the study area.
						ser	INCOMPLETE
19766003	20/06/1976 23/06/1976	ROYAL B.C. MUSEUM, VICTORIA Not specified	Goose Island Group Harvey Islands	Sea otter	Identification		Incidental sightings compiled from secondary source. Access to the Royal B.C. Museum records was prohibited at the time of cataloguing due to renovations.
19766004	31/08/1976 27/09/1976	F.F. SLANEY AND COMPANY, VANCOUVER DHC Beaver, vessel and shore (Kitimat Pipe Line Ltd.)	Chatham Sound Douglas Channel Kitimat Arm Langara Island Principe Channel Rose Spit	Harbour porpoise Harbour seal Steller sea lion	Identification Numbers		Kitimat Tanker Traffic and Terminal studies
19766005	30/08/1976 30/08/1976	U.B.C., CENTRE FOR CONTINUING EDUCATION, VANCOUVER Vessel	Cape St. James	Sea otter	Identification Numbers		Incidental sighting.
19776001	11/05/1977 11/05/1977	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	Cape Scott area	Steller sea lion	Identification Numbers		Sea lion census of Cape Scott area.

		AGENCY	TABLE I. SOUNTAIN DISTING OF DATA SETS (Common)							
Data Set 1.D.	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	<u>Parameters</u>	Concurrent Measurements	Remarks			
19776002	27/06/1977 30/06/1977	DEPARTMNET OF FISHERIES (ENVIRONMENT CANADA), PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	North coast (Sea Otter Islands, Banks I., Hunter I. area, Bonilla I., Burnaby I., Cape Scott area, Cape St. James, North Danger Rocks, Goose Islands, Aristizabal I., Langara I., Milbanke Snd., Scott Islands, Fitzhugh Snd., Louise I.)		Identification Numbers	·	Sea lion census of the B.C. coast.			
19776003A	15/06/1977 16/06/1977	DEPARTMENT OF FISHERIES (ENVIRONMENT CANADA), PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	Skeena River	Harbour seal	Identification Numbers		Harbour seal census.			
19776003B	13/06/1983 14/06/1983	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NANAIMO Cessna 180	Skeena River	Harbour scal	Identification Numbers		Harbour seal census.			
19776003C	14/06/1987 15/06/1987	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NANAIMO Cessna 180	Skeena River	Harbour seal	Identification Numbers		Harbour seal census.			
19786001	04/06/1978 10/11/1991	VANCOUVER AQUARIUM, VANCOUVER Various vessels and shore	Cape St. James E. coast Queen Charlotte I. Langara Island	Killer whale	Identification Numbers Behaviour		Compilation of incidental sightings. The database is updated periodically with the addition of new sightings.			
19786002	27/03/1978 27/03/1978	UNIVERSITY OF ALBERTA, DEPARTMENT OF ZOOLOGY, CALGARY Shore	Langara Island	Risso's dolphin	Identification Morphometrics Numbers		Incidental sighting.			
19796001	19/06/1979 26/06/1979	QUEEN CHARLOTTE ISLANDS MUSEUM, SKIDEGATE Shore	Rose Spit	Gray whale	Identification Morphometrics		Stranding.			

TABLE 1. SUMMARY LISTING OF DATA SETS (Continued)							
Data Set 1.D.	Period dd/mm/yy	AGENCY Platform (Sponsor)	Areas	Species	Parameters A	Concurrent leasurements	Remarks
19816001	01/01/1981 31/12/1990	CANADIAN WILDLIFE SERVICE (ENVIRONMENT CANADA), INSTITUTE OF OCEAN SCIENCES, SIDNEY Various research vessels	Dixon Entrance Hecate Strait Juan Perez Sound Laredo Channel Langara Island Laredo Sound Queen Charlotte Sound	Blue whale Dall's porpoise Gray whale Humpback whale Killer whale Northern fur seal Pacific white-sided dolphin	Identification Numbers	BIOLOGY Birds Identification Numbers	Incidental sightings from Candian Wildlife Service Pelagic Bird Surveys.
19826001	1/01/1982  1/01/1982	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NANAIMO VU33 Squadron	Cape Scott area Scott Islands	Steller sea lion	Identification Numbers		Sea lion census of Vancouver Island.
19826002	28/06/1982 01/07/1982	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	North coast (Stephens I. area, Banks I., Hunter I. area, Bonilla I., Fitzhugh Snd., Burnaby I., Cape Scott, Dundas I. area, Cape St. James, North Danger Rocks, Goose Islands, Aristizabal I., Langara I., Milbanke Snd., Scott Islands	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19836001	23/04/1983 30/06/1983	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NANAIMO Small craft and shore	Masset inlet	Harbour seal	Food .		Field collection of harbour seal scats for diet study.
19836002 A	27/07/1983 27/07/1983	CANADIAN WILDLIFE SERVICE (ENVIRONMENT CANADA), DELTA Small craft and shore	Chatham Sound	Harbour seal	Identification Numbers	BIOLOGY Birds Identification Numbers Other Mammals Identification Numbers	Incidental sightings from Canadian Wildlife Service seabird colony aurvey.
19836002B	12/05/1987 29/05/1987	CANADIAN WILDLIFE SERVICE (ENVIRONMENT CANADA), DELTA Small craft and shore	Chathem Sound	Dall's porpoise Harbour seal Steller sea lion Unidentified sea lion	Identification Numbers	BIOLOGY Birds Identification Numbers Other Mammals Identification Numbers	Incidental sightings from Canadian Wildlife Service seabird colony survey.

	TABLE 1. SUMMARY LISTING OF DATA SETS (Continued) AGENCY						
Data Set 1.D.	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	<u>Parameters</u>	Concurrent Measurements	Remarks
19836002C	17/05/1988 03/07/1988	CANADIAN WILDLIFE SERVICE (ENVIRONMENT CANADA), DELTA Small craft and shore	Chatham Sound Estevan Island Group Goose Island Group Harvey Islands Moore Island Group Queens Sound Sea Otter Island Group	Gray whale Harbour seal Killer whale Minke whale Pacific white-sided dolphin Sea otter Steller sea lion	Identification Numbers	BIOLOGY Birds Identification Numbers Other Mammals Identification Numbers	Incidental sightings from Canadian Wildlife Service seabird colony survey.
19866001	28/05/1986 30/05/1986	ADDENBROOKE LIGHTHOUSE Shore	Fitzhugh Sound	Killer whale	Identification		Opportunistic killer whale audio-recordings.
19866002	22/07/1986 24/07/1986	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	North & E. coast Queen Charlotte I.	Harbour seal	Identification Numbers		Harbour seal census.
19876001	09/02/1987 27/04/1988	BOAT BLUFF LIGHTHOUSE Shore	Laredo Sound Milbanke Sound	Killer whale Pacific white-sided dolphin	Identification		Opportunistic killer whale audio-recordings.
19876002	29/06/1987 03/07/1987	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NANAIMO DHC Beaver	North coast (Bonilla I., Aristizabal I., Burnaby I., Cape St. James, North Danger Rocks, Goose Islands, Camaano Snd., Banks I., Langara I., McInnes I., Scott Islands, Louise I.)	Steller sea lion	Identification Numbers		Sea lion census of the B.C. coast.
19876003	01/01/1987 31/12/1990	STRANDED WHALE AND DOLPHIN PROGRAM OF B.C., VICTORIA Shore and various vessels	Cumshewa Inlet Fitzhugh Sound Goose Island Group Hecate Strait Kunghit Island Laredo Sound Ogden Channel Petrel Channel Queena Sound Rose Spit Skidegate Inlet Smith Inlet Whale Channel	Cuvier's beaked whale Fin whale Gray whale Harbour porpoise Humpback whale Killer whale Minke whale Northern elephant seal Pacific white-sided dolphin Sei whale Unidentified porpoise Unidentified whale	Food Identification Morphometrics Numbers Parasites Reproduction Physiology	CHEMISTRY Biota Metals Organochlorines Synthetic Organics	Compilation of incidental sightings and strandings. This database is updated periodically with the addition of new sighting and stranding data.

TABLE 1. SUMMARY LISTING OF DATA SETS (Continued) AGENCY							
Data Set 1.D.	Period dd/mm/yy	Platform (Sponsor)	Areas	Species	<u>Parameters</u>	Concurrent Measurements	Remarks
19886001	NS/04/1988 NS/NS/1991	ARCHIPELAGO MARINE RESEARCH LTD., VICTORIA Various vessels (Pacific Biological Station and West Coast Whale Foundation)	Not Specified	Unidentified dolphin Unidentified whale	Not Specified		Biological observer program on foreign hake fishing vessels. Primary source not obtained. INCOMPLETE
19886002	06/03/1988 24/09/1991	SIMON FRASER UNIVERSITY, DEPARTMENT OF BIOLOGICAL SCIENCES, BURNABY Various vessels	Cumshewa Inlet E. coast Queen Charlotte Islands Juan Perez Sound Langara Island Masset Inlet Rose Spit Skidegate Inlet	Killer whale Pacific white-sided dolphin Risso's dolphin	Identification Numbers		Compilation of incidental sightings. This database is updated periodically with the addition of new sightings.
19896001	20/07/1989 20/07/1989	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NAMAIMO DHC Beaver	Scott Islands	Steller sea lion	Identification Numbers		Sea lion census of Vancouver Island.
198 <del>96</del> 002	23/04/1989 11/06/1989	UNIVERSITY OF BRITISH COULMBIA, VANCOUVER, UNIVERSITY OF CALIFORNIA, SANTA CRUZ Small craft (Marine World Foundation, University of California, Santa Cruz, University of British Columbia, Vancouver)	Burke Channel Dean Channel Fisher Channel Fitzhugh Sound Laredo Channel North Bentinck Arm	Dall's porpoise Harbour porpoise Killer whale Pacific white-sided dolphin	Identification		Killer whale survey.
19906001	16/06/1990 21/08/1991	VANCOUVER AQUARIUM, VANCOUVER 5m zodiac and 6m alluminium boat (Canadian Parks Service, Vancouver Aquarium, Department of Fisheries and Oceans, Pacific Biological Station)	Juan Perez Sound Langara Island Skincuttle Inlet	Killer whale	Identification Numbers Behaviour		Killer whale survey.
19916001	NS/05/1991 NS/06/1991	DEPARTMENT OF FISHERIES AND OCEANS, PACIFIC BIOLOGICAL STATION, NANAIMO AND VANCOUVER AQUARIUM, VANCOUVER Vessel	Hunter Island area	Sea otter	Identification Numbers		Sea otter survey.

# 9. DATA INVENTORY TABLE 2: LISTING OF DATA BY DATA SET NUMBER, PARAMETER AND MEASUREMENT

A description of the organization of the catalogue and its use is given in Section 5.

This table is organized by data set identifier, parameter and measurement type. For each measurement there is a brief description of methodology followed by a list of the species studied, the number of samples and stations and a data quality rating assigned each measurement on each species.

#### **TABLE 2 LEGEND**

Data set I.D. - identifies a unique data collection and allows cross-referencing to other tables and indices in this catalogue.

Parameters - lists the biological parameter which is a class of measurement types

Measurement/ - lists the specific measurement type.

Observation

Sampling/Storage/

Methods - describes the sampling/field observation and storage methodology.

Analysis Methods - describes the analysis methodology.

Precision/Accuracy - provides general information on the precision and accuracy of the

measurement.

No. of Samples - lists the number of samples taken on this species.

No. of Stations - lists the number of stations at which this species was reported.

Each station represents a unique date and location, such that two

visits on two dates to one site constitute 2 stations.

Rating - gives the data quality rating as described in Section 6.

Criteria Failed - lists the rating assigned before the (colon) and the rating questions

where the methodology was down-graded after the (colon).

Comments - may provide comments about a specific rating.

# NOTES APPLICABLE TO DATA QUALITY RATINGS

The following is a description of Note 1 which appears under Comments for some measurement with 3 ratings.

Note 1 Some important information about the sampling and analysis methodology was lacking. However, after discussion with a peer of the deceased researcher it was concluded that the data were worthy of a 3 rating.

#### TABLE 2. DATA SET METIIODOLOGY DESCRIPTIONS

Data set 1D# 18796001	Parameter Identification	Measurement/Observation Identification of species  Species Harbour seal	Sampling/Storage Methods These are records of harbour seal pelts sold annually in British Columbia.  No, of Samples N/S N/S 3 3 3:12  Analysis Methods   Precision/Accuracy   It can be assumed that persons involved in the purchasing of harbour seal pelts were capable of accurately identifying the species.
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods These are the records of the number of harbour seal pelts sold annually in British Columbia.  Analysis Methods It is assumed that direct counts were made of the number of pelts.  Storage Methods  Most of the records are for the entire province while a few are broken down by district. The reported number of pelts sold is crude as they are usually rounded numbers.
		<u>Species</u> Harbour seal	No. of Samples No. of Stations Rating Criteria Failed Comments  N/S N/S 2 2:10
• • • • • •	• • • • • • • • •	•••••	• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 18866001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by commercial sealers hunting from cances or dories dispatched from the sealing schooners.  Analysis Methods Identification was made visually. Identification was made visually. Identification was made visually. It can be assumed that persons involved in the commercial harvest of fur seals were experienced at identifying the species.
		<u>Species</u> Northern fur seal	No. of Samples No. of Stations Rating Criteria Failed Comments 4218 N/S 4
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Seals were approached in canoes or dories dispatched from the sealing achooner. Seals were killed by spear, rifle or shotgun.  Analysis Methods Counts were made directly of the number of animals killed and recovered and these were recorded in the ships log.  Precision/Accuracy The number of carcasses recovered and recorded in the ships log.
		<u>Species</u> Northern fur seal	No. of Samples No. of Stations Rating Criteria Failed Comments 4218 N/S 4
• • • • • •		• • • • • • • • • • • • • • • • • • • •	
Data set ID# 18906001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made either on site or from a vessel by persons involved in either commercial or management hunts.  Analysis Methods Identification was made visually. Identification was made visually. Identification was made visually. It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of Stations Rating Criteria Failed Comments  278  A Criteria Failed Comments

Data set ID# 18906001 (cont'd.)	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Animals were killed for management and commercial purposes. Animals were shot at either on the site or from a vessel near the site.	Analysis Methods Estimates of the number of pups killed were made by direct count of carcasses at the rookery. Estimates of the number of adults killed were made either by a count of the number of bullets used and an estimate of the proportion of animals likely to have been killed or in the case of commercial hunts by direct count of the carcasses.	Precision/Accuracy Pup kill estimates and commercial kill figures are reasonably accurate. Estimates of the number of adults killed for management purposes, however, are likely inflated (see Bigg 1984;1985).
		Species Steller sea lion	No. of Semples No. of 278	Stations Rating Criteria Faile 278 3 3:5,6,12	d Comments
• • • • • • •			• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • • •
Data set ID# 18926001	<u>Parameter</u> Food	Measurement/Observation Identification of stomach contents	Sampling/Storage Methods Stomachs were collected from recently shot sea lions. Contents were examined in the field by British Columbia Fisheries Commissioners.	Analysis Methods Identification was made by direct examination of stomachs in the field.	Precision/Accuracy The observations were of a general nature.
		Species Steller sea lion	No. of Samples No. of N/S	Stations Rating Criteria Faile 2 2:2,10	d Comments
	Parameter identification	Measurement/Observation Identification of species	Sampling/Storage Methods Identification was made by direct observation from a boat by the British Columbia Commissioners of Fisheries.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Faile	d Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a boat by the British Columbia Fisheries Commissioners.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Fails 3:5,6,12	d Comments
• • • • • •	• • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • •	
Data set ID# 18926002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made primarily from boats or from shore but in some cases from aircraft. This dataset is a compilation of observations were made by Fisheries Research personnel,	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 18926002	Parameter (cont'd)	Measurement/Observation (cont'd)	Samplins/Storage Methods (cont'd) Field Services personnel, Lighthouse keepers, British Columbia Provincial Museum personnel and various individua	Analysis (cont'd)	<u>fethods</u>		Precision/Accuracy (cont d)
		Species Steller sea lion	No. of Samples 487	No. of Stations 487	Rating 4	Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made primar from boats or from shore and in some cases from aircraft. This dataset is a compilation of observations made by Fisheries Research personnel, Field Servi personnel, Lighthouse keepers, British Columbia Provincial Museum personnel and various individuals.	observatio	were made	by direct	Precision/Accuracy Bigg (1985) discusses these data in his report and describes the various factors that can affect precision and accuracy such as disturbance, inflation of estimates, tendency to count only when animals were present etc.
		Species Steller sea lion	No. of Samples 487	No. of Stations 487	Rating 2	Criteria Failed 2:3	Comments
		• • • • • • • • • • • • • • • • • • • •					
Data set 1D# 19006001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a schooner.	Analysis I Idemificat observatio	on was ma	de by direct	Precision/Accuracy There is no information regarding the knowledge or experience of the observers and a number of their identifications seem suspect as the behaviour they describe do not fit the species they report.
Data set 1D# 19006001		Identification of species  Species Fin whale			n.  Rating	Criteria Failed	There is no information regarding the knowledge or experience of the observers and a number of their identifications seem suspect as the behaviour they describe do not fit
Data set 1D# 19004001		Identification of species  Species	No. of Samples  I 1 N/S	observatio	ion was ma n.	Criteria Failed	There is no information regarding the knowledge or experience of the observers and a number of their identifications seem suspect as the behaviour they describe do not fit the species they report.
Data set 1D# 19006001		Identification of species  Species Fin whale Harbour porpoise Harbour seal Pacific white-sided dolphin	No. of Samples  I I N/S	No. of Stations  I N/S I	Rating 2 2 2 2 2	Criteria Failed 2:7 2:7 2:7 2:7 2:7	There is no information regarding the knowledge or experience of the observers and a number of their identifications seem suspect as the behaviour they describe do not fit the species they report.
Data set 1D# 19006001 Data set 1D# 19136001		Identification of species  Species Fin whale Harbour porpoise Harbour seal Pacific white-sided dolphin	No. of Samples  I I N/S	No. of Stations  I I N/S I N/S I L L L L L L L L L L L L L L L L L L	Rating 2 2 2 2 2 Vethods	Criteria Failed 2:7 2:7 2:7 2:7 2:7 2:7 2:7	There is no information regarding the knowledge or experience of the observers and a number of their identifications seem suspect as the behaviour they describe do not fit the species they report.

Data set ID# 19136001 (cout'd.)	Parameter identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a boat by British Columbia Fisheries Commissioners.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 21 4 Criteria Failed	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a boat by British Columbia Fisheries Commissioners.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 3:5,6,12	Comments
• • • • • •	-				
<u>Data set 1D</u> 19136002	Parameter identification	Measurement/Observation Identification of species	Sampling/Storage Methods These are the annual records of harbour seals killed by district and in most cases by statistical area in British Columbia.	Analysis Methods Identification was made upon examination of noses brought as proof of each kill.	Precision/Accuracy It can be assumed that persons involved in paying bounties were generally capable of accurately identifying a harbour seal nose. However, it is known that there were some fraudulent submissions of re-formed sea lion noses.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	Stations   Rating   Criteria Failed   N/S   2   2:7	Comments
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods These are the annual records of the number of harbour seals killed by district and in most cases by statistical area.	Analysis Methods Counts were made of the number of noses brought as proof of each kill.	Precision/Accuracy It can be assumed that persons involved in paying bounties were generally capable of accurately identifying a harbour seal nose. However, it is known that there were some freudulent submissions of re-formed sea lion noses.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	f Stations Rating Criteria Failed N/S 2 2:3	Comments
• • • • • •	• • • • • • • •	• • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19166001	<u>Parameter</u> Food	Measurement/Observation Identification of stomach contents	Sampline/Storage Methods Stomachs were collected from recently shot sea lions. Contents were examined in the field by British Columbia Fisheries Commissioners.	Analysis Methods Identification was made by direct examination of stomachs in the field.	Precision/Accuracy The observations were of a general nature.
		<u>Species</u> Steller sea lion	No. of Samples No. of	f Stations Rating Criteria Failed 2 2:2,10	<u>Comments</u>

<u>Data set ID#</u> 19166001 (cont'd.)	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a boat by British Columbia Fisheries Commissioners.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 10 4	<u>Comments</u>
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a boat by British Columbia Fisheries Commissioners.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 10 3 3:5,6,12	Comments
• • • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19196001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from shore by the Green Island Lighthouse keeper and his family. The account is recorded descriptively.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy The knowledge and training of the observer is unknown, however, the descriptions are sufficiently detailed to confirm the identification.
		<u>Species</u> Harbour seal Killer whale	No. of Samples No. of	Stations         Rating         Criteria Failed           2         3         3:12           7         3         3:12	<u>Comments</u>
		Unidentified sea lion	1	3 3:12	
	<u>Parameter</u> Behaviour		Sampling/Storage Methods Observations were made by the Green Island Lighthouse keeper and his family. The account is recorded descriptively.	Analysis Methods Direct visual observations.	Precision/Accuracy The knowledge and training of the observer is unknown, however, the descriptions are sufficiently detailed to confirm the identification.
	<u>Parameter</u> Behaviour	Unidentified sea lion  Measurement/Observation	Observations were made by the Green Island Lighthouse keeper and his family. The account is recorded descriptively.	Analysis Methods	The knowledge and training of the observer is unknown, however, the descriptions are sufficiently detailed to confirm the
	Parameter Behaviour Parameter Behaviour	Unidentified sea lion  Measurement/Observation Foraging  Species	Observations were made by the Green Island Lighthouse keeper and his family. The account is recorded descriptively.	Analysis Methods Direct visual observations.	The knowledge and training of the observer is unknown, however, the descriptions are sufficiently detailed to confirm the identification.

Data set ID# 19246001	Parameter identification	Measurement/Observation Identification of species	Sempling/Storage Methods Whales were killed by commercial whalers.	Analysis Methods identification was man recovery of the dead of confirmed upon exam carcass.	whale and	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples No. of 5 110 7 2 15	Stations         Rating           5         4           87         4           7         4           2         4           10         4	Criteria Failed	Comments
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Whales were killed by commercial whalers and the carcasses examined at the whaling station.	Analysis Methods The points between w length was measured known.	are not	Precision/Accuracy There are no further details.
		Species Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples No. of 3 110 7 2 15	Stations         Rating           5         2           87         2           7         2           2         2           10         2	Criteria Failed 2:1,2,3 2:1,2,3 2:1,2,3 2:1,2,3 2:1,2,3	Comments
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Whales were killed by commercial whalers.	Analysis Methods Courts were made dinumber of carcasses at the station. Each animexamined visually to the sex.	returned to	Precision/Accuracy Counts of the number of carcasses do not include whales killed but lost at sea.
		Species Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples No. of 5 110 7 2 15	Stations         Rating           5         4           87         4           7         4           2         4           10         4	Criteria Failed	Comments
	Parameter Reproduction	Measurement/Observation Foetus length	Sampling/Storage Methods Whales were killed by commercial whalers and the carcassea examined at the whaling station.	Analysis Methods The points between wilength was measured known.		Precision/Accuracy There are no further details.
		Species Blue whale Fin whale Humpback whale Sei whale	No. of Samples No. of 3 38 3 2	Stations         Rating           3         2           36         2           3         2           2         2	Criteria Failed 2:1,2,3 2:1,2,3 2:1,2,3 2:1,2,3	Comments

Data set ID# 19246001 (cont'd.)	Parameter Reproduction	Measurement/Observation Presence/absence of foetus	Sampling/Storage Methods Whales were killed by commercial whalers and the carcasses examined at the whaling station.	Analysis Methods Carcasses were examined visually at the station.	Precision/Accuracy The completeness of the examinations are not known and it is possible that small foctuses were missed.
		Species Blue whale Fin whale Humpback whale Sei whale	No. of Samples No. of 3 38 3 2	Stations         Rating         Criteria Failed           3         2         2:1,2           36         2         2:1,2           3         2         2:1,2           2         2:1,2         2:1,2	Comments
Data set ID# 19256001	Parameter Food	Measurement/Observation Identification of stomach contents	Sampling/Storage Methods Whales were killed by commercial whalers. At the whaling station, stomach contents were collected. Prey specimens were photographed, measured and stored in formalin for later identification.	Analysis Methods Prey species were identified by comparison of photographs, measurements and preserved specimens with descriptions found in standard text books and through consultation with Dr. Ian McTaggart Cowan of the British Columbia Provincial Museum.	Precision/Accuracy Photographs of the collected specimens have been published.
		<u>Species</u> Sperm whale		<u>Stations</u> <u>Rating</u> <u>Criteria Failed</u> N/S 4	<u>Comments</u>
	Parameter Identification	Measurement/Observation Identification of species	Sampline/Storage Methods Whales were killed by commercial whalers.	Analysis Methods Identification was made upon recovery of the dead whale and confirmed upon examination of the carcass.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples No. of 1 6 55 26 2 15	Stations         Rating         Criteria Failed           1         4           6         4           47         4           18         4           2         4           6         4	Comments
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Whales were killed by commercial whalers and the carcauses examined at the whaling station.	Analysis Methods The points between which body length was measured are not known.	Precision/Accuracy There are no further details.
		Species Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples No. of 1 6 55 26 2 15	Stations         Rating         Criteria Failed           1         2         2:1,2,3           6         2         2:1,2,3           47         2         2:1,2,3           18         2         2:1,2,3           2         2:1,2,3           6         2         2:1,2,3           6         2         2:1,2,3	<u>Comments</u>

Data set ID# 19256001 (cont'd.)	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Whales were killed by commercial whalers.	Analysis Methods Counts were made directly of the number of carcasses returned to the station. Each animal was examined visually to determine the sex.	Precision/Accuracy Counts of the number of carcasses do not include whales killed but lost at sea.
		Species Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples No. of 1 6 55 26 2 15	Stations   Rating   Criteria Failed     4	Comments
	Parameter Reproduction	Measurement/Observation Foctus length	Sampling/Storage: Methods Whales were killed by commercial whalers and the carcasses examined at the whaling station.	Analysis Methods The points between which body length was measured are not known.	Precision/Accuracy There are no further details.
		Species Baird's beaked whale Blue whale Fin whale Humpback whale	No. of Samples No. of 1 5 21 14	Stations         Rating         Criteria Falled           1         2         2:1,2,3           5         2         2:1,2,3           18         2         2:1,2,3           11         2         2:1,2,3	Comments
	Parameter Reproduction	Measurement/Observation Presence/absence of foetus	Samplins/Storage Methods Whales were killed by commercial whalers and the carcasses examined at the whaling station.	Analysis Methods Carcasses were examined visually at the station.	Precision/Accuracy The completeness of the examinations are not known and it is possible that small foetuses were missed.
		Species Baird's beaked whale Blue whale Fin whale Humpback whale	No. of Samples No. of 1 5 21 14	Stations         Rating         Criteria Failed           1         2         2:1,2           5         2         2:1,2           18         2         2:1,2           11         2         2:1,2	Comments
Data set 1D# 19346001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by Fisheries personnel from Fisheries patrol vessels.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		Species Northern fur scal	No. of Samples No. of 26	Stations Rating Criteria Failed 26 2 2:7	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by Fisheries personnel from Fisheries patrol vessels.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		Species Northern fur seal	No. of Samples No. o	Stations Rating Criteria Failer 26 2 2:1,2,3	Comments

Data set ID# 19356001	Parameter identification	Measurement/Observation Identification of species  Species Northern elephant seal	Sampling/Storage Methods Observations were made incidentally by various indiviuals and their accounts were collected by the authors.  No. of Samples No. of	Analysis Methods Identification was made by direct observation and recorded in sufficient detail to allow later identification.  Stations Rating Criteria Fail 3 3:12	Precision/Accuracy It is assumed that the authors appraised the sightings and included only those in which they were confident.  cd Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made incidentally by various indiviuals and their accounts were collected by the authors.	Analysis Methods Estimates of the number seen (typically one) were made by direct observation.	Precision/Accuracy It is assumed that the authors appraised the sightings and included only those in which they were confident.
		<u>Species</u> Northern elephant seal	No. of Samples No. o	Stations Rating Criteria Fail 3 3:12	ed <u>Comments</u>
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19376001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Specimens were examined in the field by various individuals each of whom is identified in the database. Skulls and in some cases partial or complete skeletons were collected.	Analysis Methods Identification was made upon examination of the specimens in the field and upon examination of skeletal remains. Sex was determined by visual observation of the specimens and the relative age of some animals (adult vs immature) was also assessed by examining the specimen and/or skeletal remains.	Precision/Accuracy Skulls and akeletons are available for re-examination.
		Species Baird's beaked whale Cuvier's beaked whale Dall's porpoise Harbour porpoise Harbour seal Minke whale Northern fur seal Risso's dolphin Sea otter Steller sea lion	No. of Samples No. o	Stations   Rating   Criteria Fail	ied <u>Comments</u>
	Parameter Morphometrics	<u>Measurement/Observation</u> Body length	Sampling/Storage Methods There is no information regarding how the measurements were made.	Analysis Methods There are no details about the measurements.	<u>Precision/Accuracy</u> There are no further details.
		Species Baird's beaked whale Steller sea lion	No. of Samples No. o	f Stations         Rating         Criteria Fail           1         2         2:1,2,10           1         2         2:1,2,10	ed <u>Comments</u>

Data set ID# 19376001 (comt'd.)	<u>Parameter</u> Morphometrics	Measurement/Observation Detailed external measurements	Sampling/Storage Methods There is no information regarding how the measurements were made.	Analysis Methods There are no details about the kind of tail vertebrae measurement made or about the hindfoot measurements made.	<u>Precision/Accuracy</u> There are no further details.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 2 2:1,2,10	Comments
		•••••			• • • • • • • • • • • • • • • • • • • •
Data set 1D# 19386001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a boat by fisheries officers.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	Stations Rating Criteria Failed 3 3:12	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Estimates made by direct observation from a boat by fisheries officers.	Analysis Methods Direct visual count. Details of location not always given.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	f Stations Rating Criteria Failed 11 3 3:5,6,12	Comments
			• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	
Data set 1D# 19396001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by a former pelagic fur sealer, a Department of Fisheries biologist, two fishermen and a game warden each identified by name by the author.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy The authors have appraised the sightings and included only those believe to be reliable and made by experienced observers.
		<u>Species</u> Northern fur seal	No. of Samples No. o	Stations Rating Criteria Failed	Comments
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Specimen was captured live and subsequently examined by the authors.	Analysis Methods Body length was measured from the tip of the snout to the tip of the tail with the seal carcass lying outstretched belly up.	Precision/Accuracy Length was measured to the nearest half contimetre.
		Species Northern fur seal	No. of Samples No. o	f Stations Rating Criteria Failed  1 4	Comments

Data set 1D# 19396001 (cout'd.)	Parameter Morphometrics	Measurement/Observation Body weight  Species Northern for seal	Sampling/Storage Methods Specimen was captured live and subsequently examined by the authors.  No. of Samples No. of	Analysis Methods Body weight was taken while the animal was alive.  Stations Rating Criteria Failed	Precision/Accuracy Weight was recorded to the nearest half pound and then converted to the nearest one tenth of a kilogram. Comments
	Parameter Morphometrics	Measurement/Observation Detailed external measurements	Sampling/Storage Methods The dead specimen was examined by the authors. The following measurements were made: hindflipper length, condylobasal length and mastoid width.	Analysis Methods Hindflipper length was measured from the centre of the curvature of the anterior angle of the flipper to the tip of the first digit. Condylobasal length was measured from a transverse line touching most posterior points on the occipital condyles to a transverse line touching most anterior points on the premaxillary bones. Mastoid width was measured at the greatest transverse dimension of the cranium across, or near, the mastoid processes, outside of one to the outside of the other.	Precision/Accuracy Measurements were recorded to the nearest millimetre.
		Species Northern fur seal	No. of Samples No. o	Stations Rating Criteria Failed	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
<u>Data set 1D#</u> 19416001	Parameter Identification	Measurement/Observation Identification of species	Sampline/Storage Methods Observations were made visually by a Fisheries Officer upon examination of the carasses. Photographs were also taken.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy The photographs are a visual record confirming the accuracy of the measurements.
		<u>Species</u> Killer whale	• .	Stations Rating Criteria Failed  1 4	Comments
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Body length was measured by a Fisheries Officer.	Analysis Methods The points between which body length was measured are not known.	Precision/Accuracy There are no further details.
		<u>Species</u> Killer whale	No. of Samples No. o	Stations Rating Criteria Failed 2 2:1,2,3	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by a Fisheries Officer at the site of the stranding.	Analysis Methods The number of animals stranded were counted directly.	Precision/Accuracy Precision/Acc
		Species Killer whale	No. of Samples No. o	<u> Statious Rating Criteria Failed</u> I 4	<u>Comments</u>

Data set ID# 19456001	Parameter identification	Measurement/Observation Identification of species	Sampling/Storage Methods Skulls, skeletons and skins were collected by various individuals and forwarded to the Cowan Vertebrate Museum.	Analysis Methods Identification was confirmed upon examination of the specimen.	Precision/Accuracy Specimens are still in the collection and can be re-examined to confirm past identifications.
		Cuvier's beaked whale Harbour peopoise Harbour seal Northern fur seal Steller sea lion Unidentified beaked whale	3 3 19 2 14	Stations         Rating         Criteria Failed           3         4           19         4           2         4           14         4           1         4	<u>Comments</u>
	Parameter Morphometrics	Measurement/Observation Foreflipper and hindflipper width	Sampling/Storage Methods There are no details regarding how the specimen was collected or how the measurements were made.	Analysis Methods There are no details about the measurements.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 2 2:1,2	Comments
• • • • • •	• • • • • • • • •	•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set 1D# 19456002	Parameter Food	Measurement/Observation Identification of stomach contents	Sampling/Storage Methods Scals were collected with a 30.05 rifle fitted with a telescopic sight and soft-nosed bullets. Pups were collected using a 12 gauge shot-gun and BB shot. Stomachs were removed whole and stored in formalin in kegs and returned to the University of British Columbia for analysis.	Analysis Methods Stomach contents were sorted and examined on a tray with a dissecting lens.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Harbour scal	No. of Samples No. of	Stations Rating Criteria Failed N/S 3 3:12	Comments
	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Scals were collected with a 30.05 rifle fitted with a telescopic sight and soft-nosed bullets. Pups were collected using a 12 gauge shotgun and BB shot.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	Parameter Morphometrics	Measurement/Observation Blubber thickness	Sampling/Storage Methods Measurements were made in the field.	Analysis Methods Blubber thickness was measured on the belly. There are no further details.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19456002	Parameter (cont'd)	Measurement/Observation (cont d) Species Harbour seal	Sampling/Storage Methods (cont'd)  No. of Samples  28	Analysis Methods (cont'd) of Stations Rating 8	Criteria Failed 3:12	Precision/Accuracy (cont d) Comments
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Measurements were made in the field.	Analysis Methods Body length was meas the tip of the snout to tail.		Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples No.	of Stations Rating	Criteria Failed 3:12	Comments
	<u>Parameter</u> Morphometrics	Measurement/Observation Body weight	Sampling/Storage Methods Body weights of collected seals were measured in the field.	Analysis Methods There are no further d	ctails.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour scal	No. of Samples No. 28	of Stations Rating	Criteria Failed 3:12	Comments
	<u>Parameter</u> Morphometrics	Measurement/Observation Detailed external measurements	Sampling/Storage Methods Measurements were made in the field.	Analysis Methods The following detailed measurement were me Circumference behind tip of nose to insertion foreflippers, centre of fault, centre of anus centre of anus to centre of navel to tip distance between manuline between manual income to entre of eye to ear, penis opening to navel, penis opening to navel, penis opening to navel, penis opening to longest supranasal villongest brow vibrissa.	nde. I foreflippers, o of navel to tip to tip of tail, re of tail, of lower jaw, namee, from to centre of o centre of	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples No. 28	of Stations Rating	Criteria Failed 3:12	Comments
	<u>Parameter</u> Morphometrics	Measurement/Observation Foreflipper and hindflipper width	Sampline/Storage Methods Measurements were made in the field.	Analysis Methods The points between w measurements were m given.		Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour scal	No. of Samples No. 28	o of Stations Rating 2	Criteria Failed 2:2,3	Comments

Data set 1D# 19456002 (cont'd.)	Parameter Morphometrics	Measurement/Observation Forelipper and hindflipper length	Sampling/Storage Methods Measurements were made in the field.	Analysis Methods The points between which the measurements were made are not given.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Harbour seal	No. of Samules No. of	Stations Ratine Criteria Failed 3 3:12	Comments
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Seals were collected with a 30.05 rifle fitted with a telescopic sight and soft-nosed bullets. Pups were collected using a 12 gauge shotgun and BB shot.	Analysis Methods Pups were distinguished from adults on the basis of their size and by the presence of the umbilicus, and the presence of milk in their stomachs.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Harbour seal	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Sterare Methods  Observations were made from a boat. Estimates were made by direct observation.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour scal	No. of Samples No. of	Stations Rating Criteria Failes 9 3:6,12	Comments
	Parameter Reproduction	Measurement/Observation Thickness of gonads	Sampling/Storage Methods Gonads were removed from collected seals in the field. There are no details given about the storage of these organs.	Analysis Methods The points between which the measurement was made are not given.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Harbour seal		Stations Rating Criteria Failed N/S 3:12	Comments
	Parameter Reproduction	Measurement/Observation Width and length of gonads	Sempline/Storage Methods Gonads were removed from collected seals in the field. There are no details given about the storage of these organs.	Analysis Methods The points between which the measurement was made are not given.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples No. of	Stations Rating Criteria Failer N/S 3 3:12	Comments
• • • • • •	• • • • • • • • • •			• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19466001	<u>Parameter</u> Food	Measurement/Observation Identification of prey	Sampling/Storage Methods Observations were made by the Lighthouse keeper from the shore.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Killer whale	No. of Samples No. of	Stations Rating Criteria Failed	Costiments

Data set ID# 19466001 (cont'd.)	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by the Lighthouse keeper from the shore.	Analysis Methods Identification was made visually.	Precision/Accuracy The knowledge and training of the observer is unknown, however, the descriptions are sufficiently detailed to confirm the identification.
		Species Killer whale	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	Parameter Behaviour	Measurement/Observation Foraging	Sempling/Storage Methods Observations were made from shore by the Lighthouse keeper.	Analysis Methods Identification was made visually.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Killer whale	No. of Samples No. of	Stations Rating Criteria Failes 1 2 2:2,3	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19486001A	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made visually and upon recovery of carcasses by professional hunters hired by the Department of Fisheries.	Analysis Methods Identification was made by direct observation and upon recovery of carcasses.	Precision/Accuracy Hunters would most likely have the ability to accurately identify the species.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	Stations Rating Criteria Failed N/S 4	<u>Comments</u>
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Counts were made of the number of harbour seals killed by professional hunters hired by the Department of Fisheries.	Analysis Methods Estimates of the number of adults and pups killed were made by direct observation and by recovery of carcasses.	Precision/Accuracy Estimates would be based upon a count of the number of carcasses recovered and an estimated of the number lost and wounded.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	Stations   Rating   Criteria Failed   N/S   3   3:5,6,12	<u>Comments</u>
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	•••••	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19486001B	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made visually and upon recovery of carcasses by professional hunters hired by the Department of Fisheries.	Analysis Methods Identification was made by direct observation and upon recovery of carcasses.	Precision/Accuracy Hunters would most likely have the sbility to accurately identify the species.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	f Stations Rating Criteria Failer N/S 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Counts were made of the number of harbour seals killed by professional hunters hired by the	Analysis Methods Estimates of the number of adults and pups killed were made by direct observation and by recovery	Precision/Accuracy Estimates would be based upon a count of the number of carcasses recovered and an estimated of the

Data set 1D# 19486001B	Parameter (cont'd)	Measurement/Observation (cons'd)  Species Harbour seal	Sampline/Storage Methods (cont d) Department of Fisheries. No. of Samples No. of	Analysis Methods (cont'd) of carcasses. Stations Rating Criteria Faller N/S 3 3:5,6,12	Precision/Accuracy (cont d) number lost and wounded. Comments
Data set ID# 19486002	Parameter Identification	Measurement/Observation identification of species	Samuling/Storage Methods These are annual reports of harbour seals killed by fisheries officers for predator control. Reporting is by district.	Analysis Methods Identification would have been made upon examination of the careass.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	N/S  Sampling/Storage Methods These are the annual reports of the number of harbour seals killed by fisheries officers for predator control.	Analysis Methods Counts were made of the number of carcasses recovered with an estimate made of the number lost and wounded.	Precision/Accuracy The district in which the animals were killed are given in all cases, however in some cases exact locations are also included.
Data set 1D# 19486003	Parameter Age	Measurement/Observation Fusion of epiphyses	No. of Samples No. of N/S  Sampling/Storage Methods The whale was killed by commercial whalers and examined at the whaling station by Fisheries Research personnel.	Analysis Methods An examination was made of the degree of fusion of the epiphysis of the thoracic vertebra with the centra.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
	<u>Parameter</u> Food	Species Baird's beaked whale  Measurement/Observation Identification of stomach contents	•	Stations Rating Criteria Failed 1 3:12  Analysis Methods There are no details about how stomach contents were identified.	
		Species Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	Mo. of Samples No. of 1 1 3 197 49 5 47	Stations         Rating         Criteria Failed           1         2         2:1,2,8,10           3         2         2:1,2,8,10           52         2         2:1,2,8,10           42         2         2:1,2,8,10           5         2         2:1,2,8,10           40         2         2:1,2,8,10	<u>Comments</u>

Data set ID/ 19486003 (cosst'd.)	<u>Parameter</u> Food	Measurement/Observation Stomach fullness	Sampling/Storage Methods Whales were killed by commerci whales and the carcasses were examined at the whaling station by either Fisheries Research personnel or by personnel from t whaling station with sufficient experience to collect basic measurements.	stomach fullness was measured.		Precision/Accuracy The method of reporting fullness was not consistent. Sometimes it was reported in fractions of gallons while other times it was reported in fractions of fullness (1/2 full) or as "present" or "trace".	
		Species Blue whale Fin whale Sei whale Sperm whale	No. of Samples 3 197 5 47	No. of Stations 3 52 5 40	Rating 2 2 2 2 2 2	Criteria Failed 2:1,2,8,10 2:1,2,8,10 2:1,2,8,10 2:1,2,8,10	Comments
	Parameter identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by the crews of the whaling boats durin hunting activity.		<u>Methods</u> ion was mad	e visually.	Precision/Accuracy Carcasses could be examined at the whaling station to confirm the identification. In the case of sightings it is likely that whalers were qualified to accurately identify species as this was part of their job.
		Species Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples 1 4 568 74 15 57	No. of Stations 1 4 242 60 10 46	Rating 4 4 4 4 4 4	Criteria Failed	Comments
	Parameter Morphometrics	Measurement/Observation Blubber thickness	Sampling/Storage Methods Whales were killed by commerci whalers and the carcasses were examined at the whaling station by either Fisheries Research personnel or by personnel from whaling station with sufficient experience to collect basic measurements	in centime between t ridge.	hickness was etres at a poi		Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples 1 1 86 8 1 1 4	No. of Stations 1 1 64 7 1 3	Rating 3 3 3 3 3 3 3 3	Criteria Failed 3:12 3:12 3:12 3:12 3:12 3:12	Comments

<u>Data set ID#</u> 19486003 (cout'd.)	Parameter Morphometrics	Measurement/Observation Body length	Semating/Storage Methods Whales were killed by commercial whalers and the carcasses were examined at the whaling station by either Fisheries Research personnel or by personnel from the whaling station with sufficient experience to collect basic measurements	Analysis Methods Length was measured from the tip of the snout to the notch in the flukes, according to International Whating Commission regulations.		Procision/Accuracy Length was measured to the nearest foot. For example, whales measuring between 35ft 6in and 36ft 6in were recorded as 36ft.
		Species Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Security No. of 215 57 9 47	Stations         Ration           3         4           169         4           49         4           7         4           39         4	Criteria Failed	Comments
	Parameter Morphometrics	Measurement/Observation Detailed external measurements	Sampling/Storage Methods The whale was killed by commercial whalers and examined at the station by Fisheries Research personnel. Detailed body measurements were made according to the British Discovery Committee.	Analysis Methods The following mea made. Tip of smout of flukes, projection beyond tip of snout to blow-hole, tip of snout tip of anout to tip of hindmargin of flukes emargination of dor margin of flukes to margin of flukes to margin of flukes to centre of gential slit amus, height of dors base of dorsal fin, a flipper, tip of anteri border of flipper, le curve of lower bord flipper, length of se from condyle to tip, flipper from head c tip, depth of body a total spread of fluke blowhole, tip of sac groove, breadth of (including flippers), body at blowhole.	o hind margin of lower jaw tip of snout to out to angle of centre of eye, flipper, s to posterior sal fin, hind ambilicus, to centre of al fin, length of centre of lower ngth slong er to tip of cered head length of cered head length of core and of lower standard core and of lower standard core and of lower standard core and of core and core an	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Baird's beaked whale	No. of Samples No. of	Stations Rating	Criteria Failed	<u>Compresso</u>
	Parameter Morphometrics	Measurement/Observation Width of flippers	Sampling/Storage Methods The whale was killed by commercial whalers and examined at the whaling station by Fisheries Research personnel.	Analysis Methods Flipper width was a widest point accord methods of the Briti Committee.	ng to the	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19486003	Parameter (cont'd)	Measurement/Observation (cont'd) Species Baird's beaked whale	Sampling/Storage Methods (cont'd)  No. of Samples No. of Stations Rating Criteria Failed Comments
	<u>Parameter</u> Morphometrics	Measurement/Observation Width of flukes	Sampling/Storage Methods The whale was killed by Commercial whalers and examined at the whaling station by Fisheries Research personnel.  Analysis Methods Fluke width was measured at the commercial whalers and examined at the whaling station by Fisheries methods of the British Discovery Committee.  Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Baird's beaked whale	No. of Samples No. of Stations Rating Criteria Failed Comments
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Whales were killed by commercial whalers.  Analysis Methods Counts were made directly of the number of carcasses returned to the station. Each animal was examined visually to determine the sex.  Precision/Accuracy Counts of the number of carcasses do not include whales killed but lost at sea.
		Species Baird's beaked whale Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples         No. of Stations         Rating         Criteria Failed         Comments           1         3         4           215         169         4           57         49         4           9         7         4           49         42         4
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by the crews of the whaling boats during hunting activity.  Estimates were made visually.  Estimates were made visually.  Estimates were made visually.  It is possible that the whalers inflated their estimates in response to concerns about dwindling whale stocks and eventual closure of the whaling industry.
		Species Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples         No. of Stations         Rating         Criteria Failed         Comments           1         1         3         3:5,6           353         73         3         3:5,6           17         11         3         3:5,6           6         3         3         3:5,6           8         4         3         3:5,6
	<u>Parameter</u> Parasites	Measurement/Observation Identification of parasites	Sampling/Storage Methods The whale was killed by commercial whalers and examined at the whaling station by Fisheries Research personnel.  Analysis Methods Parasites were removed from the carcass at the whaling station. The methods of identification are not known.  Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Baird's beaked whale	No. of Samples No. of Stations Rating Criteria Failed Comments

<u>Data set   D#</u> 19486003 (comt'd.)	Parameter Reproduction	Measurement/Observation Condition of ovaries  Species Baird's beaked whale	Samplins/Storage Methods The whale was killed by commercial whalers and examined at the whaling station by Fisheries Research personnel.  No. of Samples No. of	Analysis Methods The ovaries were removed and examined for the presence of corpora lutea and for the degree of maturation of the follicles.  Stations Rating Criteria Faller  3:12	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.  Comments
	Parameter Reproduction	Measurement/Observation Foetus length	Sampling/Storage Methods Whales were killed by commercial whales and the carcasses were examined at the whaling station by either Fisheries Research personnel or by personnel from the whaling station with sufficient experience to collect basic measurements	Analysis Methods Length was measured from the tip of the anout to the notch in the flukes.	Precision/Accuracy Longth was measured to the nearest inch.
		Species Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples No. of 3 92 23 1	Stations         Rating         Criteria Failer           3         4           79         4           20         4           1         4           1         4	Consuments
	Parameter Reproduction	Measurement/Observation Presence/absence of foctus	Sampling/Storage Methods Whales were killed by commercial whalers and the carcases were examined at the whaling station by either Fisheries Research personnel or by personnel from the whaling station with sufficient experience to collect basic measurements.	Analysis Methods Carcasses were examined visually at the station.	Procision/Accuracy The completeness of the examinations are not known and it is possible that small foetuses were missed.
		Species Blue whale Fin whale Humpback whale Sei whale Sperm whale	No. of Samples No. of 3 92 23 I	Stations         Rating         Criteria Failer           3         3:12           79         3:12           20         3:12           1         3:12           1         3:12           1         3:12	Consuments
	Parameter Reproduction	Measurement/Observation Thickness of mammary glands	Sampling/Storage Methods Whales were killed by commercial whalers and the carcasses were examined at the whaling station by either Fisheries Research personnel or by personnel from the whaling station with sufficient experience to collect basic measurements	Analysis Methods The thickness of the mammary gland was measured at the widest point.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19486003	Parameter (cont'd)	Measurement/Observation (cont'd) Species Blue whale Fin whale Humpback whale	Sampling/Storage Methods (cont'd) No. of Samples 1 35 3	Analysis N (com'd) No. of Stations 1 31 3	Rating 3 3 3	Criteria Failed 3:12 3:12 3:12	Precision/Accuracy (cont'd) Comments Note 1
	Parameter Reproduction	Measurement/Observation Weight of ovary	Sampling/Storage Methods The whale was killed by commercial whalers and exami at the whaling station by Fisher Research personnel.	ned weighed.	Methods es were rema	oved and	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Baird's beaked whale	<u>No. of Samples</u> I	No. of Stations	Rating 3	Criteria Failed 3:12	Comments Note 1
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • •	• • • • •	• • • • • • •	
Data set ID# 19506001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from Fisheries ships by Fisheries personnel incidental to other activities.	Analysis !! Identificati observatio	ion was mad	le by direct	Precision/Accuracy The knowledge and experience of the observers is not known.
		Species Dall's porpoise	No. of Samples 20	No. of Stations	Rating	Criteria Failed 2:3,7	Comments
		Fin whale	96	96	2	2:3,7	
		Gray whale	8	8	2	2:3,7	
		Harbour porpoise	35	35	2	2:3,7	
		Harbour seal	186	186	2	2:3,7	
		Humpback whale Killer whale	27 70	27 70	2 2	2:3,7 2:3,7	
		Northern elephant seal	6	6	2	2:3,7	
		Northern fur scal	149	149	2	2:3,7	
		Pacific white-sided dolphin		2	2	2:3,7	
		Right whale	2	2	2	2:3.7	
		Sei whale	24	24	2 2	2:3,7	
		Short-finned pilot whale	2 6	2	2	2:3,7	
		Sperm whale	6	6	2	2:3,7	
		Unidentified dolphin Unidentified porpoise	2 234	2 234	2 2	2:3,7 2:3,7	
		Unidentified seal	72	72	2	2:3,7	
		Unidentified sea lion	149	149	2	2:3,7	
		Unidentified whale	65	65	2	2:3,7	
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from Fisheries ships by Fisheries personnel incidental to other activities.	observatio	were made		Precision/Accuracy The ability of the observers to accurately estimate numbers of animals is unknown.
		<u>Species</u> Dall's porpoise Fin whale	No. of Samples 20 96	No. of Stations 20 96	Rating 2 2	Criteria Failed 2:2,3 2:2,3	Comments

Data set ID# 19506001	Parameter (cont'd)	Measurement/Observation (cont'd) Gray whale Harbour perpoise Harbour seal Humpback whale Killer whale Northern elephant seal Pacific white-sided dolphin Right whale Sei whale Short-finned pilot whale Sperm whale Unidentified dolphin Unidentified propoise Unidentified seal Unidentified seal Unidentified whale	Sampling/Storage Methods (cont'd)  8 35 186 27 70 6 149 2 2 2 24 2 6 2 24 2 6 2 234 72 149 71	Analysis Methods (cont'd) 8 2 35 2 186 2 27 2 70 2 6 2 149 2 2 2 2 2 2 4 2 2 2 2 4 2 2 2 2 4 2 2 2 2	2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3	Precision/Accuracy (cont'd)
<u>Data set ID#</u> 19556001	Parameter Identification	Measurement/Observation Identification of species  Species Steller sea lion	Sampling/Storage Methods Identification was made by direct observation from a boat by Field Services personnel.  No. of Samples  No. 1	Analysis Methods Identification was m observation.  of Stations Rating	ade by direct  Criteria Failed	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.  Comments
	Parameter Number	Measurement/Observation Number seen per location  Species Steller sea lion	Sampling/Storage Methods Observations were made from a boat by Field Services personnel.  No. of Samples  No. 13	Analysis Methods Estimates were made observation.  of Stations Rating 13		Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.  Comments
Data set 1D# 19556002	Parameter Identification	Measurement/Observation Identification of species  Species Harbour seal	Sampling/Storage Methods These are logbook entries of daily kills of harbour seals during commercial and bounty hunts by B. and D. McNaughton.  No. of Samples No.	Analysis Methods Identification was m  of Stations Rating N/S 4	ade visually. <u>Criteria Failed</u>	Precision/Accuracy The hunters involved were highly experienced and could be relied upon to accurately identify the species.  Comments

Data set 1D# 19556002 (comt'd.)	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods These are daily logbook entries of the number of harbour seals shot and recovered during commercial and boundy hunts by B. and D. McNaughton.	Analysis Methods Counts were made of the number of carcasses recovered and estimates were made of the number lost and wounded.		Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	Stations Rating N/S 3	Criteria Failed 3:5,6,12	<u>Communents</u>
	Parameter Reproduction	Measurement/Observation Reproductive condition	Sampling/Storage Methods Female harbour seals that were recovered were examined in the field to determine if they were pregnant or recently post-partum. Data were recorded anecdotally in a logbook on a daily basis by B. and D. McNaughton.	Analysis Methods Reproductive tracts we examined in the field.	ere	Precision/Accuracy There is no information regarding how specifically the observers ascertained the condition of the femalea, nor of their ability to do so.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	Stations Rating N/S 2	Criteria Failed 2:2	Comments
• • • • • •	• • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • •	• • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19566001	<u>Parameter</u> Food	Measurement/Observation Identification of stomach contents	Sampling/Storage Methods The specimen was accidentally caught in a gillnet and subsequently shot. The careass was sent to the Pacific Biological Station.	Analysis Methods The carcass was exam Pike of the Pacific Bio Station but there is no regarding how stomac were identified.	ological information	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour porpoise	No. of Samples No. of	Stations Rating	Criteria Failed 3:12	Comments Note 1
	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations of live free swimming animals was made by the personnel of fisheries vessels. Observations of dead specimens was made by qualified individuals upon examination of carcasses and or photographs and by comparing these with published accounts.	Analysis Methods Identification was mad	ie visually.	Precision/Accuracy The authors have appraised the sightings and included only those for which they are confident. In the case of specimens which were collected, skeletal remains and/or photographs still exist.
		Species Cuvier's beaked whale Harbour porpoise Killer whale Northern elephant seal Pacific white-aided dolphin Unidentified beaked whale	2 1 4 23 8	Stations   Rating   2	Criteria Failed	Comments

Data set ID# 19566001 (cont'd.)	Parameter Morphometrics	Measurement/Observation Blubber thickness				Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.		
		<u>Species</u> Harbour porpoise	No. of Samples	No. of	Stations .	Rating 3	Criteria Failed 3:12	Comments Note 1
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Specimens were found either stranded and dead or were accidentally captured and shot. Meaurements were taken by Fisheries Research personnel, Fisheries Officers and members the Department of Zoology, University of British Columbia.	of	Analysis M The points were measu Lengths are nearest cent	between wi red are not recorded t		Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Cuvier's beaked whale Harbour porpoise Unidentified beaked whale	No. of Samples 2 1 1	No. of	Stations	Rating 3 3 3	Criteria Failed 3:12 3:12 3:12	<u>Comments</u> Note 1
	Parameter Morphometrics	Measurement/Observation Detailed external measurements	Sampling/Storage Methods Specimens were either found stranded and dead or were shot. Measurements were made by Fisheries Officers, Fisheries Research personnel or members the Department of Zoology, University of British Columbia.	of	tip of snout anus, heigh base, sprea- blowhole, i length of grear, centre of extente of	nt were man l to hind m to eye, tip it of fin, ler d of flukes, ip of upper spe, tip of eye to angle ye to blowhole trion of fire to fin, tip of the transversum, 206c; th of flipper tip and len Measurem	argin of fin, of snout to agth of fin , width of jaw to eye, upper jaw to entre of ear, of gape, ole, tip of , tip of upper pers, tip of jaw to r jaw to r jaw to f upper jaw se at axilla, m from rs from gth of	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Cuvier's beaked whale Harbour porpoise Unidentified beaked whale	No. of Samples 2 1 1	No. of	Stations 2 1 1	Rating 4 4 4	Criteria Failed	Comments

Data set ID# 19566001 (cont'd.)	Parameter Morphometrics	Measurement/Observation Width of flukes  Species	Sampling/Storage Methods The specimens were found dead and collected by Fisheries Research personnel.  No. of Samples		Analysis Med Fluke width v tip to tip. Me made to the r	vas measu asurement	s were	Precision/Accuracy h is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.  Comments
		Harbour porpoise Unidentified beaked whale	1	1		4		
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods All observations, photographs ar skeletal remains were collected b Fisheries personnel.		Analysis Me With regard of swimming an information a the observers of animals.	to observationals, the about the a	re is no bility of	Precision/Accuracy The ability of the observers to estimates numbers of free- swimming animals is not known.
	••••	Species Cuvier's beaked whale Harbour porpoise Killer whale Northern elephant seal Pacific white-sided dolphin Unidentified beaked whale	2 1 4 23	No. of	<u>Stations</u> 2 1 4 23 8 1	Rating 3 3 2 2 2 2	Criteria Failed 3:12 3:12 2:3 2:3 2:3 2:3 2:3	Comments
Data set ID# 19566002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a boat by fisheries officers.		Analysis Me Identification observation.		e by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples	No. of	Stations 14	Rating 4	Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Estimates were made by direct count by Fisheries Officers.		Analysis Me Estimates we observation.		y direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples	No. of	Stations 14	Rating 3	Criteria Failed 3:12	Comments
Data and IDA			S	• • •			• • • • • • •	
<u>Data set ID#</u> 19566003	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a boat with the aid of binoculars b Fisheries Research Branch personnel.		Analysis Me Identification observation.	1 was made	e by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples 25	No. of	Stations 25	Rating 4	Criteria Failed	Comments

Data set ID# 19566003 (cont'd.)	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a boat by Fisheries Research Branch personnel. Two independent counts were made simultaneously by two observers each using a 'hand-tally counters'. Counts were made from shore where possible and from the boat with binoculars when it was not possible to land. At sites with small groups of animals, estimates were made from counts of all individuals. At sites with large groups, estimates were made using a small reference group.	Analysis Methods Final estimates were made by a compromise between the two independent counts. For small groups the variance between the two observers was 5 %. For large groups the variance was about 10%.	Precision/Accuracy Estimates believed to be within 10% error.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failer 25 3 3:6,12	Comments
Data set ID# 19566004	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a Cesana 180 by Fisheries Research Branch personnel. Aerial photographs were taken.	Analysis Methods Identification was made from the photographs.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Falles 4 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a Cessna 180 by Fisheries Research Branch personnel. Aerial Photographs were taken.	Analysis Methods Estimates were made directly from the photographs. The number of adults were estimated but pups were only noted as present.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failes 3 3:5,6,12	Comments
Data set ID# 19566005	Parameter Age	Measurement/Observation Number of annuli in teeth	Sampling/Storage Methods Teeth were collected from specimens in the field by Fisheries research Branch personnel.	Analysis Methods Teeth were sectioned longitudinally along the midline and polished. Prior to reading, teeth were soaked overnight in 50% solution of Loffler's methylene blue. There is no information about the preparation of teeth for cementum reading. Age was read by counting the number of dentine or cementum rings under a binocular microscope at 5X magnification.	Precision/Accuracy Dentine readings and cementum readings were considered comparable, although in older teeth (no age range given), the cementum method counts were i to 2 years greater than the dentine readings.

Data set ID# 19566005	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd)	Analysis Methods (cont'd)		Precision/Accuracy (cont'd)
		<u>Species</u> Steller sea lion	No. of Samples No.	of Stations Rating	Criteria Failed 3:12	Comments Note 1
	<u>Parameter</u> Food	Measurement/Observation Identification of stomach contents	Sampling/Storage Methods Sea lions were collected at both breeding rookeries and non- breeding haul outs. Stomachs were removed and injected with 10% formalin and sea water and stored in barrels containing 10% formalin and sea water.	Analysis Methods In the laboratory, store contents were weighed volume determined by displacement. Prey re- identified, separated as	and the	Precision/Accuracy There are no further details.
		<u>Species</u> Steller sea lion	No. of Semples No.	of Stations Rating 70	Criteria Failed 3:12	Comments
	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by Fisheries Research Branch personnel.	Analysis Methods Identification was mad observation.	e by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No.	of Stations Rating 82 4	Criteria Failed	Comments
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Sea lions were collected by Fisheries Research personnel.	Analysis Methods Body length was meas the tip of the snout to tail as the animal hung from a boom aboard ti measurement was mad steel ruler calibrated in centimetres.	the tip of the suspended he ship. The lo with a	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	<u>No. of Samples</u> <u>No.</u> 462	of Stations Rating 70 4	Criteria Failed	Comments
	<u>Parameter</u> Morphometrics	Measurement/Observation Body weight	Sampling/Storage Methods Weights of collected animals were made by Fisheries Research Branch personnel.	Analysis Methods Measurements were m field.	ade in the	<u>Precision/Accuracy</u> There are no further details about the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No.	of Stations Rating 29 2	Criteria Failed 2:1,2,3,10	Comments
	Parameter Morphometrics	Measurement/Observation Chestgirth	Sampling/Storage Methods Sea lions were collected by Fisheries Research personnel.	Analysis Methods Chest girth was measu the carcass was susper boom onboard the shi was measured around beneath the axillar of	nded from a p. Chest girth the body	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19566005	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd)		Analysis Methods (cont'd) forelipper. The measurement was made using a steel ruler calibrated in centimetres.		Precision/Accuracy (cont'd)	
		Species Steller sea lion	No. of Samples 310	No. of	Stations 45	Rating 4	Criteria Failed	Coursests
	Parameter Morphometrics	Measurement/Observation Forelipper and hindflipper length	Sampling/Storage Methods Sea lions were collected by Fisheries Research personnel.		Analysis M Measureme field.		ade in the	Precision/Accuracy There are no further details.
		Species Steller sea lion	No. of Samples 356	No. of	Stations 57	Rating 2	Criteria Failed 2:1,2,8,10	Comments
-	Parameter Number	Measurement/Observation Number killed per location	Sempling/Storage Methods Sea lions were collected by Fisheries Research personnel.		Analysis M A count wa number of a Each anima determine to	s made din nimals kill I was exan	ed for study.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observors that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples 551	No. of	Stations 82	Rating 4	Criteria Failed	Comments
	Parameter Reproduction	Measurement/Observation Condition of ovary	Sampling/Storage Methods Reproductive tracts were collect by Fisheries Research personner rookeries and haulout sites.		Analysis M There are n the analysis	o details re	garding how d out.	Precision/Accuracy There are no further details.
		<u>Species</u> Steller sea lion	No. of Samples	No. of	Stations 44	Rating 2	Criteria Failed 2:1,2,8,10	Comments
	Parameter Reproduction	Measurement/Observation Diameter of follicles	Sampling/Storage Methods Reproductive tracta were collect by Fisheries Research personner rookeries and haulout sites.		Analysis M There are n the analysis	o details re	garding how d out.	<u>Precision/Accuracy</u> There are no further details.
		Species Steller sea lion	No. of Samples 231	No. of	Stations 42	Rating 2	Criteria Failed 2:1,2,8,10	Comments
	Parameter Reproduction	Measurement/Observation Reproductive condition	Sampling/Storage Methods  Research personner  rookeries and haulout sites.		Analysis M There are n the analysis	o details re	garding how d out.	Precision/Accuracy There are no further details.
		<u>Species</u> Steller sea lion	No. of Samples 243	No. of	Stations 71	Rating 2	Criteria Failed 2:1,2,8,10	Comments
	Parameter Reproduction	Measurement/Observation Status of active and inactive uterine horn	Sampling/Storage Methods Reproductive tracts were collect by Fisheries Research personner cookeries and haulout sites.		Analysis M There are n the analysis	o details re	garding how d out.	Precision/Accuracy There are no further details.

Data set ID# 19566005	Parameter (cont'd)	Measurement/Observation (cont'd) Species Steller sea lion	Sampling/Storage Methods (cont'd)  No. of Samples 474  Analysis Methods (cont'd)  Cont'd)  Reting Criteria Failed Comments  2:1,2,8,10
	Parameter Reproduction	Measurement/Observation Weight of ovary	Sampline/Storage Methods Reproductive tracts were collected by Fisheries Research personnel at rookeries and haulout sites.  Analysis Methods There are no details regarding how the analysis was carried out.
		Species Steller sea lion	No. of Samples No. of Stations Rating Criteria Failed Comments 514 48 2 2:1,2,8,10
	Parameter Reproduction	Measurement/Observation Width and length of uterine horn	Sampling/Storage Methods Analysis Methods By Fisheries Research personnel at rookeries and haulout sites.  Analysis Methods There are no further details.  There are no further details.
		<u>Species</u> Steller sea lion	No. of Samples No. of Stations Rating Criteria Failed Comments  354 37 2 2:1,2,8,10
	<u>Parameter</u> Physiology	Measurement/Observation Lactating	Sampling/Storage Methods Observations were made and samples were collected by Fisheries Research Branch personnel.  Analysis Methods There is no information regarding there are no further details.  Precision/Accuracy There are no further details.
		Species Steller sea lion	No. of Samples No. of Stations Rating Criteria Failed Comments 320 54 2 2:1,2,10
Data set ID# 19576001	Parameter Identification	Measurement/Observation Identification of species	Sampline/Storage Methods Observations were made from a Identification was made by direct DHC Beaver by Fisheries observation and confirmed upon examination of the photographs. Were taken at an altitude of approximately 150m.  Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of Stations Rating Criteria Failed Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Photographs were taken at each colony at an altitude of approximately 150m.  Analysis Methods Estimatea were made visually in a few cases and later compared with counts made from the photographs. In most cases, however, counts were made directly from the photographs.  Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of Stations Rating Criteria Failed Comments

Data set ID# 19586001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from shore by the Addenbrooke Lighthouse keeper.	observation.		Precision/Accuracy The knowledge and experience of the observers is not known.	
		Species	No. of Samples	No. of Stations	Rating	Criteria Failed	Comments
		Fin whale	3	5	2	Criteria Failed 2:3,7	
		Gray whale	5	5	2	2:3,7	
		Harbour porpoise	5	5	2	2:3,7	
		Harbour seal	14	14	2	2:3,7	
		Humpback whale	46	46	2	2:3,7	
		Killer whale	48	48	2 2	2:3,7	
		Northern fur seal Pacific white-sided dolphin	. 1	ļ	2	2:3,7 2:3,7	
		Right whale	1 2	2	2	2:3,7	
		Short-finned pilot whale	ĩ	ī	2	2:3,7	
		Sperm whale	i	i	2	2:3,7	
		Unidentified dolphin	ž	2	2	2:3,7	
		Unidentified porpoise	23	23	2	2:3,7	
		Unidentified seal	23	23	2	2:3,7	
		Unidentified sea lion	107	107	2	2:3,7	
		Unidentified whale	31	31	2	2:3,7	
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from shore by the Addenbrooke Lighthouse keeper.	Analysis Estimates observation	were made		Precision/Accuracy The ability of the observers to accurately estimate numbers of animals is unknown.
		Species	No. of Samples	No. of Stations	Rating	Criteria Failed 2:2,3	Comments
		Fin whale	5	5	2	2:2,3	
		Gray whale	2	5 5	2	2:2,3	
		Harbour porpoise Harbour seal	14	14	2 2	2:2,3 2:2,3	
		Humpback whale	46	46	2	2:2,3	
		Killer whale	48	48	ž	2:2,3	
		Northern fur seal	ĩ	ĩ	2	2:2,3	
		Pacific white-sided dolphin	1	1	2	2:2,3	
		Right whale	2	2	2	2:2,3	
		Short-finned pilot whale	1	1	2	2:2,3	
		Sperm whale	1	1	2	2:2,3	
		Unidentified dolphin	2	2	2	2:2,3	
		Unidentified porpoise Unidentified seal	23 23	23 23	2	2:2,3	
		Unidentified seal	107	107	2 2	2:2,3 2:2,3	
						2.2,3	
		Omounties where	<b>5.</b>	٠.	-	2.2,0	
• • • • • •	• • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • •	• • • • • • • •	• • • • •	• • • • • • •	• • • • • • • • • • • • • • • • •
•••••		Unidentified whale	31	31		2:2,3	

<u>Parameter</u> Age

Measurement/Observation Number of annuli in teeth

Sampling/Storage Methods
Seals were shot. The upper jaws of
each animal were severed behind
both canine teeth and preserved in coarse salt.

Analysis Methods
Teeth were removed from the jaw.
Young seals to age 6 yrs. were
aged by counting the number of
external ridges in the upper canine
teeth. For older animals, age was

Precision/Accuracy
Each tooth was read independently
by two people and teeth which
received differing age results were
re-examined. A sample of teeth
was also sent to the United States

Data set ID# 19586002	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd)	Analysis Methods (cont'd) determined from longitudinal half sections on which angual growth in the dentine was identified by counting the alternate clear and opaque layers under transmitted light. Teeth were sectioned longitudinally, ground to the midline and polished. Counting was done with the aid of a magnifying lens, high intensity lamps and a dissecting microscope.	Precision/Accuracy (cont'd) fur seal laboratory in Seattle in 1960 for age determination. The American results were typically one year more than the Canadian readings of the same teeth.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 81 4	Comments
	<u>Parameter</u> Food	Measurement/Observation Identification of stomach contents	Sampling/Storage Methods Seals were shot. The stomach was removed from each animal and tied off at the cardiac sphincter and below the pyloric sphincter. The stomach was then injected with 10% formalin and seawater and stored in a barrel containing 10% formalin and seawater.	Analysis Methods Stomachs were cut open along the entire length. Contents were identified by comparing them to known skeletal materials or to preserved whole specimens in the laboratory collection and by the use of appropriate keys for fish and cephalopod identification.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 41 4	Comments
	<u>Parameter</u> Food	Measurement/Observation Volume of stomach contents	Sampling/Storage Methods Seals were shot. The stomach was removed from each animal and tied off at the cardiac sphincter and below the pyloric sphincter. The stomach was then injected with 10% formalin and seawater and stored in a barrel containing 10% formalin and seawater.	Analysis Methods Excess fluid was drained off and the wet contents volumetrically measured. Stomach contents weighing 100g or less were not measured but were assumed to have the same density as water. For larger samples volume was measured by water displacement in large graduated beakers capable of holding 2000cc.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur scal	No. of Samples No. of	Stations Rating Criteria Failed 41 4	Comments
	<u>Parameter</u> Food	Measurement/Observation Weight of stomach contents	Samplins/Storage Methods Seals were shot. The stomach was removed from each animal and tied off at the cardiac sphincter and below the pyloric sphincter. The stomach was then injected with 10% formalin and seawater and stored in a barrel containing	Analysis Methods Stomachs were opened along their entire length. Whole specimens were placed directly into the weighing pan. Partially digested contents were placed in a sieve pot to drain off excess liquid before transferring to the weighing pan.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19586002	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd) 10% formalin and seawater.	Analysis Methods (cont'd)	Precision/Accuracy (cont'd)
		Northern fur scal	No. of Samples No. of	Stations Rating Criteria Falled	Comments
	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Seals were located from the foredeck of either an 83ft seiner or a 72ft seiner/halibut boat.	Analysis Methods Identification was made by direct visual observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern für seal	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Seals were shot and retrieved from the water using either a line and barbed spear or a gaff pole.	Analysis Methods Body length was measured from the tip of the smout to the tip of the tail.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed	Cocuments
	Parameter Morphometrics	Measurement/Observation Body weight	Sampling/Storage Methods Seals were shot and retrieved from the water using either a line and barbed spear or a gaff pole.	Analysis Methods Body weight was measured using a beam balance.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 81 4	Comments
	Parameter Movements	Measurement/Observation Number of animals recovered with tags	Sempline/Storage Methods Scals were shot and retrieved from the water using either a line and barbed spear or a gaff pole.	Analysis Methods Carcasses were examined on board for the presence of tags.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Semples No. of	f Stations Rating Criteria Failed 6 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number collected per location	Sampling/Storage Methods Seals were located and shot from the foredeck of either a seiner or a seiner/halibut boat. Seals were shot with either a 12 gauge shotgun loaded with S.S.G. ammunition or with a 30-06 or a 303 rifle. Carcasses were retrieved from the water using either a line and barbed spear or a gaff pole.	Analysis Methods A count was made directly of the number of carcasses recovered.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19586002	Parameter (cont'd)	Measurement/Observation (cont'd) Species Northern fur seal	Sampling/Storage Methods (cont'd) No. of Samples 162  Analysis Methods (cont'd) No. of Stations Rating Crit	Precision/Accuracy (cont'd) iteria Failed Comments
	<u>Parameter</u> Number	Measurement/Observation Number killed and lost per location	Samuling/Storage Methods Seals were shot from the foredeck of either an 83ft seiner or 72ft seiner/halibut ship. Seals were shot with either a 12 gauge shotgun loaded with S.S.G. ammunition of with a 30-06 or a 303 rifle.	
		Species Northern fur scal	No. of Samples No. of Stations Rating Cri	iteria Failed Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Seals were located from the foredeck of either an 83ft seiner or a 72ft seiner/halibut boat.  Analysis Methods Counts of the number seen made by direct visual observables.	
		<u>Species</u> Northern fur seal	No. of Samples No. of Stations Rating Cr	iteria Failed Comments
	<u>Parameter</u> Number	Measurement/Observation Number wounded and lost per location	Sampling/Storage Methods Scals were shot from the foredeck of either an 83ft seiner or 72ft seiner/halibut ship. Scals were shot with either a 12 gauge shotgun loaded with S.S.G. ammunition of with a 30-06 or a 303 rifle.	ved to experience and/or training of the
		<u>Species</u> Northern fur seal	No. of Samples No. of Stations Rating Cr	iteria Failed Comments
	Parameter Reproduction	Measurement/Observation Foetus length	Sampling/Storage Methods Scals were shot. The abdominal cavity of each female was opened and the uterus checked for the presence of a foetus.  Analysis Methods Foetus length was measure field from the tip of the same the tip of the tail. Embryos preserved along with the reproductive tracts in 10% formalin and seawater and crown-rump measure was the laboratory.	out to experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern fur seal	No. of Samples No. of Stations Rating Cr 78 4	riteria Failed Comments

Data set ID# 19586002 (cont'd.)	Parameter Reproduction	Measurement/Observation Foetus sex	Sampling/Storage Methods Scals were shot. The abdominal cavity of each female was opened and the uterus examined for the presence of a foctus.	Analysis Methods identification of sex was made by visual examination aboard the ship.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 26 4	Comments
	Parameter Reproduction	Measurement/Observation Foctus weight	Sampling/Storage Methods Seals were shot. The abdominal cavity of each female was opened and the uterus examined for the presence of a foctus.	Analysis Methods Body weight was measured using a Chatillon scale maximum weight 30 lbs.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
	• •	<u>Species</u> Northern fur scal	No. of Samples No. of	Stations Rating Criteria Failed 26 4	Comments
	Parameter Reproduction	Measurement/Observation Presence/absence of foctus	Sampling/Storage Methods Seals were shot. The abdominal cavity of each female was opened. The uterus was examined for the presence of a foctus before being stored whole in 10% formalin and seawater for snalysis in the laboratory.	Analysis Methods Uteri were examined visually aboard the vessel for the presence of a foctus. They were subsequently examined again in the laboratory for small foctuses and embryos.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur scal	No. of Samples No. of	Statious Rating Criteria Failed 26 4	Comments
	Parameter Reproduction	Measurement/Observation Reproductive condition	Sampling/Storage Methods Seals were shot. The reproductive tract of each female was removed and stored in 10% formalin and seawater for later analysis in the Isboratory.	Analysis Methods Sections of uterine horn were embedded in a gelatin cornmeal matrix. Cubes were sectioned at 2mm and then stored in 10% formalin. Structures were examined macroscopically and histologically.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern fur scal	No. of Samples No. of	Stations Rating Criteria Falled	<u>Comments</u>
• • • • • •		•••••••			
Data set ID/ 19586003	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a RCAF Lancaster by Fisheries Research personnel.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 3 4	Comments

Data set ID# 19586003 (comt'd.)	Parameter Number	Measurement/Observation Number seen per location  Species Steller sea lion	Sampling/Storage Methods Observations were made from a RCAF Lancaster by Fisheries Research personnel.  No. of Samples No. of	Analysis Met Estimates wer observation.  Stations	hods e made by direct  Rating Criteria Failed 3:5,6,12	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.  Comments
		• • • • • • • • • • • • • • • • • • • •		• • • • • •		
Data set ID# 19586004	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Pups were captured for tagging and examined in the field by Fisheries Research personnel.	Analysis Met Identification observation.	<u>hods</u> was made by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	Stations 1	Rating Criteria Failed	Comments
	Parameter Morphometrics	Measurement/Observation Body weight	Sampling/Storage Methods Pups captured for tagging were weighed in the field by Fisheries Research personnel.	Analysis Met Weights were field.	hods measured in the	Precision/Accuracy There are no further details.
		Species Steller sea lion		Stations !	Rating Criteria Failed 2:1,2,10	Comments
	<u>Parameter</u> Number	Measurement/Observation Number captured per location	Sampling/Storage Methods Pups were captured for tagging and examined in the field by Fisheries Research personnel.	pups were dis	bods mined visually and stinguished from the presence of the	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	f Stations	Rating Criteria Failed 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number tagged per location	Sampling/Storage Methods Pups were captured for tagging by Fisheries Research personnel. In 1958 cattle ear tags were attached to the webbing near the axilla on the hind margin of the right forefipper. In 1959 larger tags were used designed specifically for tagging sea lion pups. In 1960 tags were attached to the left foreflipper and 27 animals were tagged on both foreflippers.		thods als were recognized of their flipper tag.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	f Stations S	Rating Criteria Failed 4	Comments

Data set 1D# 19606001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by personnel with the National Oceanic and Atmospheric Agen while on various vessel surveys		Analysis Methods Identification was made by direct visual observation.		e by direct	Precision/Accuracy Each observation in the database has already been rated on it's reliability.
		Species	No. of Samples	No. of	Mations	Rating	Criteria Failed	Comments
		Common dolphin Cuvier's beaked whale Dall's porpoise Fin whale Harbour porpoise Harbour seal Humpback whale Killer whale Minke whale Northern elephant seal Pacific white-sided dolphin Sea otter Steller sea lion Unidentified pinniped Unidentified perpoise Unidentified sea lion Unidentified whale	1 7 162 1 22 22 22 14 30 6 6 5 55 2 11 2 21 2	1 2: 2:	2 2 4 4 0 6	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		
	<u>Parameter</u> Movements	Measurement/Observation Direction of travel	Sampling/Storage Methods Observations were made by personnel with the National Oceanic and Atmospheric Agen while on various vessel surveys		by observa	of travel was	determined mimal for an ime.	Precision/Accuracy Each observation in the database has already been rated on it's reliability.
		Species Cuvier's beaked whale Dall's porpoise Humpback whale Killer whale Minke whale Pacific white-sided dolphin Steller sea lion Unidentified porpoise Unidentified whale	No. of Samples 1 34 2 6 1	No. of S 1 3 2 6 1 9 1 1 6	4	Rating 3 3 3 3 3 3 3 3 3 3 3	Criteria Failed 3:12 3:12 3:12 3:12 3:12 3:12 3:12 3:12	Contras cuts
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by personnel with the National Oceanic and Atmospheric Agen while on various vessel surveys	cy		are distinguints by the in-		Precision/Accuracy Each estimate in the database has a confidence interval.
		Species  Common dolphin  Cuvier's beaked whale	No. of Samples 1 1 7	No. of S		Rating 4 4 4	Criteria Failed	Comments

Data set ID# 19606001	Parameter (cont'd)	Measurement/Observation (cont d) Dall's porpoise Fin whale Harbour porpoise Harbour seal Humpback whale Killer whale Minke whale Northern elephant seal Northern fur seal Pacific white-sided dolphin Sea otter Steller sea lion Unidentified pinniped Unidentified seal Unidentified seal Unidentified whale	Samphins/Storage Methods (cont d)  162 1 22 22 14 30 6 6 5 55 2 11 2 21 2 25	Analysis (cont d) 162 1 22 22 24 14 30 6 6 5 5 5 2 11 2 21 2	Methods  4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Precision/Accuracy (cont'd)
	<u>Parameter</u> Behaviour	Measurement/Observation Surface behaviour	Sampling/Storage Methods Observations were made by personnel with the National Oceanic and Atmospheric Agency while on various vessel surveys.	rooster-ta	Methods ehaviours observ iling, slow-rollin nd riding stern w	g,	Precision/Accuracy There is no information regarding the ability of the observers to accurately identify behaviour. Furthermore the distance between the observer and the animal is not always given.
		<u>Species</u>	No. of Samples N	io. of Stations	Rating C	riteria Failed 3	Comments
		Dall's porpoise	48	48	2 2:	3	
		Fin whale	i	i	2 2	3	
		Killer whale	ż	3	2 2:	3	
		Minke whale	I	1	2 2:	3	
		Pacific white-sided dolphin	6	6	2 2: 2 2: 2 2: 2 2: 2 2: 2 2:	3	
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • •	• • • • • • •	• • • • •	• • • • • • • • • • • • • • • • • • • •

<u>Parameter</u>

Measurement/Observation
Number of annuli in teeth

Sampling/Storage Methods
Seals were shot. The upper and
lower jaws of each animal were
removed taking care not to
damage the roots of the canine
teeth. The removed jaws were preserved in coarse salt.

Analysis Methods
Teeth were removed from the jaw Teeth were removed from the jaw by boiling with trisodium phosphate or potassium hydroxide. Young seals to age 6 yrs. were aged by counting the number of external ridges in the upper canine teeth. For older animals, age was determined from longitudinal half sections on which annual growth in the destrine was identified by sections on which annual growth in the dentine was identified by counting the alternate clear and opaque layers under transmitted light. Teeth were sectioned longitudinally ground to the mid line and polished. Counting was

Precision/Accuracy
All teeth were examined by two to
three scientists and repeated
examinations and conferences were sometimes necessary to reach decisions.

• •

Data set ID# 19606002	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd)	Analysis Methods (cont d) done with the aid of a magnifying lens, high intensity lamps and a dissecting microscope.	Precision/Accuracy (cont'd)
		Species Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	Parameter Food	Measurement/Observation Identification of stomach contents	Sampline/Storage Methods Seals were shot. The stomach was removed from each carcass and tied off above the cardiac sphincter and below the pyloric sphincter. The stomach was then injected with 10% formalin seawater and stored in a barrel containing 10% formalin and seawater.	Analysis Methods Stomachs were cut open along the entire length. Contents were identified by comparing them to known skeletal materials or to preserved whole specimens in the laboratory collection and by the use of appropriate keys for fish and cephalopod identification.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	Parameter Food	Measurement/Observation Volume of stomach contents	Sampling/Storage Methods Seals were shot. The stomach was removed from each carcass and tied off above the cardiac sphincter and below the pyloric sphincter. The stomach was then injected with 10% formalin seawater and stored in a barrel containing 10% formalin and seawater.	Analysis Methods Excess fluid was drained off and the wet contents volumetrically measured. Stomach contents weighing 100g or less were not measured but were assumed to have the same density as water. For larger samples volume was measured by water displacement in large graduated beakers capable of holding 2000cc.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	<u>Parameter</u> Food	Measurement/Observation Weight of stomach contents	Sampling/Storage Methods Seals were shot. The stomach was removed from each carcass and tied off above the cardiac sphincter and below the pyloric sphincter. The stomach was then injected with 10% formalin seawater and stored in a barrel containing 10% formalin and seawater.	Analysis Methods Stomachs were opened along their entire length. Whole specimens were placed directly into the weighing pan. Partially digested contents were placed in a sieve pot to drain off excess liquid before transferring to the weighing pan.	Precision/Accuracy Stomach contents weighing less than 10g were recorded as trace. If these were whole pieces, however, or whole specimens then they were weighed.
		<u>Species</u> Northern für seal	No. of Samples No. of	Stations Rating Criteria Failed	Comments

Data set 1D# 19606002 (cont'd.)	Parameter Identification	Measurement/Observation Identification of species	Scanning/Storage Methods Scals were located visually from the foredeck of a purse-seine type vessel with the aid of binoculars, or from a small dory dispatched from the mother ship.	Analysis Methods Identification was made by direct visual observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern fur seal	No. of Samples No. of 350	Stations Rating Criteria Fa	iled Comments
	Parameter Morphometrics	Measurement/Observation Body length	Seantime/Storage Methods Seals were shot and retrieved from the water using a gaff. Once on board, the carcasses were examined	Analysis Methods Body length was measured by dropping the carcass onto a measuring board, back down and head towards the zero inches mark. Length was measured from the tip of the snout to the tip of the tail.	Precision/Accuracy The neck of the animal was not stretched to reach the zero mark.
		<u>Species</u> Northern fur seal	No. of Samples No. of	<u>Stations Rating Criteria Fa</u> 59 4	iled Comments
	<u>Parameter</u> Morphometrics	Measurement/Observation Body weight  Species	Sempline/Storage Methods Seals were shot and retreived from the water using a gaff pole.  No. of Samples  No. of	Analysis Methods Body weight was measured using a spring, torsion or platform scale.  Stations Rating Criteria Fa	Precision/Accuracy Body weight was measured to the nearest 0.5 kg.  Comments
		Northern fur seal	84	39 4	
	<u>Parameter</u> Movements	Measurement/Observation Number of animals recovered with tags	Sampling/Storage Methods Seals were shot and retrieved from the water with a gaff pole. Once onboard, the carcass was examined.	Analysis Methods Carcasses were examined on board for the presence of tags.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern für seal	No. of Semples No. of	Stations Rating Criteria Fa	iled Comments
	<u>Parameter</u> Number	Measurement/Observation Number collected per location	Sampling/Storage Methods Seals were located visually from the foredeck of a purse seine type vessel or from a dory dispatched from the mother ship. Animals were shot using a 12 gauge shotgun and 00 buckshot, and retrieved from the water with a gaff.	Analysis Methods A count was made directly of the number of carcasses recovered.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern fur seal	No. of Samules No. of	Stations Rating Criteria Fa	iled Comments

Data set 1D# 19606002 (cont'd.)	Parameter Number	Measurement/Observation Number killed and lost per location	Sampling/Storage Methods Seals were located visually from the foredeck of a purse-seine type vessel or from a dory dispatched from the mother ship. Animals were shot using a 12 gauge shotgun and 00 buckshot.	Analysis Methods A count was made directly of the number of carcasses that were observed to sink.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern fur seal	_	Stations Rating Criteria Failed 4 Criteria Failed	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Seals were observed from the foredeck of a purse-seine type vessel.	Analysis Methods Counts of the number seen were made by direct visual observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 286 4	
	<u>Parameter</u> Number	Measurement/Observation Number wounded and lost per location	Sampling/Storage Methods Seals were located visually from the foredeck of a purse-seine type vessel or from a dory dispatched from the mother ship. Animals were shot using a 12 gauge shotgun and 00 buckshot.	Analysis Methods A count was made of the number of scals which were observed to have been hit but which escaped.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	Parameter Reproduction	Measurement/Observation Condition of ovaries	Sampling/Storage Methods Scale were shot. The abdominal cavity of each female was opened and the ovaries examined superfically for ruptured follicles.	Analysis Methods Ovaries were sliced (1 to 2mm) and examined for graafian follicles, corpora luteum and corpora albicantia.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 47 4	Comments
	Parameter Reproduction	Measurement/Observation Foctus length	Sampling/Storage Methods Scals were shot. The abdominal cavity of each female was opened and the uterus examined for the presence of a foctus. Foctus length was measured in the field, embryo length was measured in the laboratory.	Analysis Methods Foetus length was measured by placing the carcass on the measuring board with the nose on the zero inches mark. Total length was measured at the tip of the tail. Small embryos were preserved with the reproductive tracts and a crown-rump length measure was made in the laboratory.	Precision/Accuracy Embryo length was measured to the nearest millimetre.
		Species Northern fur scal	No. of Samples No. of	Stations Rating Criteria Failed	Comments

Data set ID# 19606002 (comt'd.)	Parameter Reproduction	Measurement/Observation Foctus weight	Sampling/Storage Methods  Seals were shot. The abdominal cavity of each female was opened and the uterus examined for the presence of a foctus. Foctus weight was measured in the field. Embryo weight was measured in the laboratory.	Analysis Methods Foetus weight was measured on board the ship using a spring, torsion or platform scale. Embryos were preserved with the reproductive tract and weighed in the laboratory.	Precision/Accuracy Foctus weight was measured to the nearest 50g.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 29	Comments
	Parameter Reproduction	Measurement/Observation Presence/absence of foetus	Sampling/Storage Methods Scals were shot. The abdominal cavity of each female was opened and the uterus examined for the presence or absence of a foctus.	Analysis Methods Uterine horns were examined for past and current pregancies. The horn was cut longitudinally to exposed the rugue which line the uterus lumen. These were checked for evidence of placentation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 47 4	Comprents
	Parameter Reproduction	Measurement/Observation Reproductive condition	Sampling/Storage Methods Scals were shot. The abdominal cavity of each female was opened and reproductive condition (milliparous, primiparous and multiparous) was deteremined from field examination of the uterine horns.	Analysis Methods Reproductive condition was determined by superficial examination of the uteri and ovaries in the field.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Northern fur seal	No. of Samples No. of	Stations Rating Criteria Failed 47	Comments
• • • • • •	• • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19616001A	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a 2- seater Piper Cub by Fisheries Research personnel.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods  Servations were made from a 2 seater Piper Cub by Fisheries  Research personnel.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Speries</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 3 3:5,6,12	Comments

Data set ID# 19616001B	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	f Stations Rating Criteria Failed 21	
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	f Stations Rating Criteria Failed 21 3:5,6,12	Comments
• • • • • • •	• • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	•••••	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19626001A	Parameter Identification	Measurement/Observation Identification of species	Sampline/Storage Methods Observation were made from a Cessna 180 by Fisheries Research Branch personnel.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observors that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. o	f Stations Rating Criteria Failed	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampline/Storage Methods Observations were made from a Cessna 180 by Fisheries Research Branch personnel.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	Ne. of Semples No. o	Stations Rating Criteria Failed 3 3:5,6,12	
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19626001B	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a Cessna 172 by Fisheries Research Branch personnel.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea tion	No. of Samples No. o	f Stations Rating Criteria Failed	
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a Cessna 172 by Fisheries Research Branch personnel.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19626001B	Parameter (cont'd)	Measurement/Observation (cont'd) Species Steller sea lion	Sampling/Storage Methods (cont'd) No. of Samples  No. of	Analysis Methods (cont'd) Stations Rating Criteria Failed 3 3:5,6,12	Precision/Accuracy (cont'd) Comments
Data set ID# 19626001C	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a Cessna 172 by Fisheries Research Branch personnel.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 3 4	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a Cessna 172 by Fisheries Research Branch personnel.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 3 3:5,6,12	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19636001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods These are annual and semi-annual reports submitted by fur buyers of the number of harbour seal pelts bought and the number of pelts rejected in B.C	Analysis Methods Identification was made upon examination of the pelts.	Precision/Accuracy It can be assumed that persons involved in the purchasing of harbour seal pelts were capable of accurately identifying the species.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	Stations Rating Criteria Failed N/S 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number killed per location	Sampling/Storage Methods These are annual and semi-annual reports submitted by fur buyers of the number of harbour seal pelts bought and the number of pelts rejected in B.C	Analysis Methods Counts were made directly from the pelts.	Precision/Accuracy Locations very from very general (eg. British Columbia) to fairly specific (eg. Skoena River).
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	Stations Ratios Criteria Failed N/S 3 3:5,6,12	Comments
					B. 11. (A)
Data set ID# 19646001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Sterage Methods Observations were made from a helicopter by Fisheries Research personnel. Acrial photographs were taken with a SLR camera.	Analysis Methods Identification was made upon examination of the aerial photographs and by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19646001	Parameter (cont'd)	Measurement/Observation (cont'd) Species Steller sea lion	Sampling/Storage Methods (cont'd)  No. of Samples 21	Analysis Methods (cont d)  Stations  Rating  Criteria Failes  21	Precision/Accuracy (cont d) Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a helicopter by Fisheries Research personnel. Aerial photographs were taken with a SLR camera.	Analysis Methods Counts were made directly at sites with only a few animals. At sites with large numbers of animals counts were made from the aerial photographs.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	F Stations Rating Criteria Faller 21 3 3:6,12	Comments
Data set ID/ 19646002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Specimens were collected from a fur buyer.	Analysis Methods Identification was made from pelts purchased by fur buyers.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples No. of	<u> Stations</u> <u>Rating Criteria Failes</u> 23 4	Comments
	Parameter Physiology	Measurement/Observation Moult stage	Sampling/Storage Methods Skins were collected from a commercial fur buyer. Skin samples were removed from hides for which the approximate geographical origin and date of collection was known. Two samples from each skin were taken. One from the ventral midline between the pectoral flippers and a second from the dorsal midline at the anterior end of the pelt.	Analysis Methods Samples were fixed in formalin, then rinsed and dehydrated and embedded in parawax. Following this they were sectioned at 8 microns, mounted in serial sections and stained. To reveal hair bulb development and regression, samples were sectioned parallel to the hair follicle. Additional samples were sectioned horizontally for study of follicle groups and measurement of individual hair diameter. Measurements were made using an ocular micrometer.	Precision/Accuracy Ocular micrometer was calibrated with a stage micrometer before readings were made in final form.
		<u>Species</u> Harbour seal	No. of Samples No. o	f Stations Rating Criteria Faller 23 3:12	Comments
Data set ID# 19646003	<u>Parameter</u> Age	Measurement/Observation Number of annuli in teeth	Sampline/Storage Methods Harbour seals were killed by commercial hunters and the pelts sold to a fur buyer in Vancouver, B.C. Hunters willing to collected	Analysis Methods Jaws were boiled in water to aid tooth extraction. Teeth were then embedded and several longitudinal sections 50 - 150 microns thick	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set 1D# 19646003	Parameter (cont'd)	Measurement/Observation (cont d)	Sempline/Storage Methods (cont'd) specimens were paid for each set of jaws they collected.	of	tooth. The under a 15 dissecting light. In so immersed	om the cents sections wer power binor microscope i ame cases tee and cleaned r xylene for	re examined cular in reflected oth were	Precision/Accuraty (cont'd)
		<u>Species</u> Harbour seal	No. of Samples N		<u>Stations</u> N/S	Rating 4	Criteria Failed	Comments
	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Harbour seals were collected by commercial hunters and the peks sold to a fur buyer in Vancouver, B.C			dethods on was made n of the pelt		Precision/Accuracy It can be assumed that persons involved in the purchasing of harbour seal pelts were capable of accurately identifying the species.
		<u>Species</u> Harbour seal	No. of Samples N/S		Stations N/S	Rating 4	Criteria Failed	Comments
	Parameter Reproduction	Measurement/Observation Reproductive condition	Samplias/Storage Methods Harbour seals were killed by commercial hunters and the pelts sold to a fur buyer in Vancouver. Hunters willing to collect specimens for study were given wooden kegs containing 10% buffered formalin as well as sample bags and labels. Hunters were then paid for each reproductive tract they collected.		thick slices presence a and corpus examined conditions and epidid was exami	Methods vere sectione s and inspect nd size of co s albicantia. for presence of embryos. ymis from e ned histolog sermatogenes	ted for the orpus lutes Uteri were and One testes ach male ically for	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples N/S		<u>Stations</u> N/S	Rating 4	Criteria Failed	Comments
Data set ID# 19656001	Parameter Identification	Measurement/Observation Photo-identification of individuals	Sampling/Storage Methods Observations were made from boats and black and white photographs were taken of the dorsal fin and saddle patch of individual animals.		under a di Identificat basis of un	stives were of secting mic ion was mad	roscope. e on the es nicks and	Precision/Accuracy Identifications have been re- examined by researchers and only photographs of unequivocally identified individuals are included.
		Species Killer whale	No. of Samples N/S	io. of	Stations 75	Rating 4	Criteria Failed	Comments

Data set 1D# 19666001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made in the field of live captured animals by Fisheries Research personnel.	Analysis Methods Identification was made by field examination of live captured animals.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number captured per location	Sampling/Storage Methods  Observations were made in the field of live captured animals by Fisheries Research personnel.	Analysis Methods A direct count was made of the number of animals captured. Animals were examined visually to determine their sex.	Precision/Accuracy it is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations <u>Rating Criteria Failer</u> 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number tagged per location	Sampling/Storage Methods Pups were captured for tagging by Fisheries Research personnel. Pups were tatooed using an Apaulding Fieldmaster Electric Tatoo Marker. A series of 1 to 4 dots were tatooed in red ink onto the forward margin of the right forefipper within 6 inches of the tip. The number of dots served to identified the location where the pup had been marked.	Analysis Methods Marked animals were recognized by the series of dots on their flippers.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failer	Comments
• • • • • •	• • • • • • • • •			••••••	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19706001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a fixed-wing aircraft by British Columbia Fisheries and Wildlife personnel. Aerial photographs were taken at an altitude of approximately 150m or less using a 35mm SLR camera and colour alide film.	Analysis Methods Identification was confirmed upon examination of the colour slides.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failer 3	<u>Comments</u>
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a fixed-wing aircraft by British Columbia Fisheries and Wildlife	Analysis Methods Estimates were made by examining the colour slides taken from the air above the sites.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable

<u>Data set ID#</u> 19706001	Parameter (cont d)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd) personnel. Aerial photographs were taken at an altitude of approximately 150m or less using a 35mm SLR camera and colour film.	Analysis Methods (cont'd)		Precision/Accuracy (cost d) of collecting the measurements.
		Species Steller sea lion		o, of Stations Rating	Criteria Failed	Comments
• • • • • •	• • • • • • • • •	•••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • •	• • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19706002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made incidentally by an unidentified observer.	Analysis Methods Identification was ma	de visually.	Precision/Accuracy It is assumed that the Royal B.C. Museum appraises the sightings which they receive and keep only those they believe to be reliable.
		<u>Species</u> Northern elephant scal	No. of Samples No	o. of Stations Rating	Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made incidentally by an unidentified observer.	Analysis Methods Only one specimen wencountered.	<b>725</b>	Precision/Accuracy It is assumed that the Royal B.C. Museum appraises the sightings which they receive and keep only those they believe to be reliable.
		<u>Species</u> Northern elephant scal	No. of Samples No	o. of Stations Rating	Criteria Failed	Comments
• • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • •	• • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19706003	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by Ministry of the Environment personnel.	Analysis Methods Identification was ma	•	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Unidentified sea lion	No. of Samples No. 13	o. of Stations Rating	Criteria Failed 2:3,7	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • •	• • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID/ 19716001A	<u>Parameter</u> Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Acrial photographs were taken at an altitude of approximately 150m using a hand held 35mm SLR camera with a 135mm or 200mm telephoto lens and Ektachrome (ISO 200-400) colour alide film.	Analysis Methods Identification was many observation at sites we few animals. At sites numbers of animals, was confirmed upon of the colour slides.	vith only a with large identification	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19716001A	Parameter (cont'd)	Measurement/Observation (cont'd) Species Steller sea lion	Sampling/Storage Methods (cont'd)  No. of Samples 24  Analysis Methods (cont'd)  (cont'd)  Rating Criteria Failed Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storace Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 135mm or a 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.  Analysis Methods Estimates were made by direct observations at sites with only a few animals where the observers were confident of their counts. At sites with large numbers of using a hand held SLR camera directly from colour slides. Pups were distinguished from nonpups (ISO 200-400) colour slide film.
		<u>Species</u> Steller sea lion	No. of Samples No. of Stations Rating Criteria Failed Comments 24 4 Criteria Failed Comments
Data set ID# 19716001B	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries observation at sites with only a Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held 35mm SLR camera with a 135mm or 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.  Analysis Methods Identification was made by direct observation at sites with only a few animals. At sites with only a experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of Stations Ration Criteria Failed Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 135mm or a 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.  Analysis Methods Estimates were made by direct observers use with only a few animals where the observers with only a sites with large numbers of animals counts were made directly from the colour slides.  Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Semples No. of Stations Rating Criteria Failed Comments 23 4 Criteria Failed Comments

Data set 1D# 19716002	Parameter Identification	Measurement/Observation Identification of species  Species Harbour seal	Sampling/Storage Methods Observations were made by fisheries officers.  No. of Samples N/S	Analysis Methods Identification was made visually.  No. of Stations Rating Criteria Failer  N/S 2 2:3,7,10	Precision/Accuracy The ability of the observers to make these measurements is not known.  Comments
	Parameter	Killer whale Steller sea lion  Measurement/Observation	N/S 3 Sampling/Storage Methods	N/S 2 2:3,7,10 3 2 2:3,7,10 Analysis Methods	Precision/Accuracy
	Parameter Number	Number killed per location	Animals were shot by Native Indians and later observed by fisheries officers.	Estimates were made by direct observation.	The ability of the observers to make these measurements is not known.
		Species Harbour seal Steller sea lion	No. of Samples N/S 3	No. of Stations Rating Criteria Faller N/S 2 2:2 3 2 2:2	Comments
Data set ID# 19716003	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods It is not stated who made the observations or how they were made.	Analysis Methods There is no information regarding how the identification was made.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		Species Killer whale	No. of Samples	No. of Stations Rating Criteria Failed 15 2 2:3,7	Continents
Data set ID# 19716004	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by fisheries officers.	Analysis Methods Identification was made visually.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		Species Harbour seal Killer whale Steller sea lion	No. of Samples N/S N/S N/S N/S	No. of Stations   Rating   Criteria Falles     N/S   2   2:3     N/S   2   2:3     N/S   2   2:3	Comments
	Parameter Number	Measurement/Observation Number killed per location	Sampling/Storage Methods Animals were shot by Native Indians and later observed by fisheries officers.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		Species Steller sea lion	No. of Samples	No. of Stations Rating Criteria Failer  2 2:2	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by fisheries officers.	Analysis Methods Estimates were made visually.	Precision/Accuracy The ability of the observers to make these measurements is not known.

Data set ID# 19716004	Parameter (cont'd)	Measurement/Observation (cont'd) Species Killer whale	Sampling/Storage Methods (cont'd) No. of Samples N/S		nalysis Methods out d) ions Rating 2	Criteria Failed 2:2,3,10	Precision/Accuracy (cont'd) Comments
Data set ID# 19716005A	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made on pre- determined census dates by volunteer observers throughout coastal British Columbia. They recorded their sightings on sighting forms prepared specifically for the survey and submitted these to the Pacific Biological Station.	. Ide	aalysis Methods entification was made servation.	o by direct	Precision/Accuracy The experience and abilities of the observers to accurately make the measurements no doubt varied considerably. However, it can be assumed that the researchers involved appraised the return sightings and have included only those in which they are confident.
		<u>Species</u> Killer whale	No. of Samples	No. of Stat		Criteria Failed 3:5,6,12	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made on pre- determined census dates by volunteer observers throughout coastal British Columbia. Sightings were recorded in sighting forms designed specifically for the census. Thes were returned to the Pacific Biological Stations.	- Es ob	astrais Methods timates were made b servation.	y direct	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Killer whale	No. of Samples	No. of Stat N/S	ions Rating	Criteria Failed 2:2,3	Comments
• • • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • •	• • • • • • • •		• • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19716005B	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made on predetermined census dates by volunteer observers throughout coastal British Columbia. They recorded their sightings on sighting forms prepared specifically for the survey and submitted these to the Pacific Biological Station.	· Ide	nalvsis Methods entification was made servation.	e by direct	Precision/Accuracy The experience and abilities of the observers to accurately make the measurements no doubt varied considerably. However, it can be assumed that the researchers involved appraised the return sightings and have included only those in which they are confident.
		<u>Species</u> Killer whale	No. of Samples	No. of Stat	tions Rating	Criteria Failed 3:5,6,12	Comments

Data set ID# 19716005B( cont'd.)	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made on pre- determined census dates by volunteer observers throughout coastal British Columbia. Sightings were recorded in sighting forms designed specifically for the census. These were returned to the Pacific Biological Stations.	1	Analysis M Estimates w observation	ere made b	•	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Killer whale	No. of Samples 12	No. of S	itations I/S	Rating 2	Criteria Failed 2:2,3	Comments
Data set ID# 1971600SC	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made on prodetermined census dates by volunteer observers throughout coastal British Columbia. They recorded their sightings on sighting forms prepared specifically for the survey and submitted these to the Pacific Biological Station.		Analysis M Identification observation	n was mad	o by direct	Precision/Accuracy The experience and abilities of the observers to accurately make the measurements no doubt varied considerably. However, it can be assumed that the researchers involved appraised the return sightings and have included only those in which they are confident.
		<u>Species</u> Killer whale	No. of Samples	No. of S	<u>Stations</u> N/S	Rating 3	Criteria Failed 3:5,6,12	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made on pre- determined census dates by volunteer observers throughout coastal British Columbia. Sightings were recorded in sighting forms designed specifically for the census. These were returned to the Pacific Biological Stations.		Analysis M Estimates w observation	ere made b	y direct	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Killer whale	No. of Samples 20	No. of S	<u>Mations</u> N/S	Rating 2	Criteria Failed 2:2,3	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • •	• • • • •	• • • • •	• • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19726001A	Parameter Identification	Measurement/Observation Identification of species	Samplins/Storage Methods Observations were made from a fixed-wing aircraft by members of the Department of Zoology, University of British Columbia. Photographs were taken using a 3 mm SLR camera. Photographs were taken at an altitude of about	35	Analysis M Identification observations few animals numbers of was confirm of the colour	m was mad at sites wit animals, id animals, id ned upon e	h only a vith large lentification	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19726001A	Perameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd) 150m.	Analysis Methods (cont'd)	Precision/Accuracy (cont'd)
		Species Steller sea lion	No. of Samples No. o	Stations Rating Criteria Failed 20 4	<u>Comments</u>
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a fixed-wing aircraft by members of the Department of Zoology, University of British Columbia. Aerial photographs were taken using a 35mm SLR camera at an altitude of about 150m.	Analysis Methods Estimates were made by direct observation at sites with only a few animals where the observers were confident of their counts. At sites with large numbers of animals counts were made directly from the colour slides.	Precision/Accuracy There are no further details.
		Species Steller sea lion	No. of Samples No. o	f Stations Rating Criteria Failer 20 3:5,6,12	Consuments
Data set ID# 19726001B	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a fixed-wing aircraft by members of the Department of Zoology, University of British Columbia. Photographs were taken using a 35 mm SLR camera. Photographs were taken at an altitude of about 150m.	Analysis Methods Identification was made by direct observation at sites with only a few animals. At sites with large numbers of animals, identification was confirmed upon examination of the colour slides.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	f Stations Rating Criteria Failer 16 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a fixed-wing aircraft by members of the Department of Zoology, University of British Columbia. Aerial photographs were taken using a 35mm SLR camera at an attitude of about 150m.	Analysis Methods Estimates were made by direct observation at sites with only a few animals where the observers were confident of their counts. At sites with large numbers of animals counts were made directly from the colour slides.	Precision/Accuracy There are no further details.
		<u>Species</u> Steller sea lion	No. of Samples No. of 16	ef Stations Rating Criteria Failed 16 3 3:5,6,12	Comments
Data set 174	Bosometer	Management(Observed)	Samulian/Starran Mathods	Anghuda Madhada	Baratan/A assumen
Data set 1D4 19726001C	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a fixed-wing aircraft by members of the Department of Zoology, University of British Columbia. Photographs were taken using a 35	Analysis Methods Identification was made by direct observation at sites with only a few animals. At sites with large numbers of animals, identification was confirmed upon examination	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set 1D# 19726001C	Parameter (cont'd)	Measurement/Observation (cont'd)  Species Steller sea lion	Sampling/Storage Methods (cont'd) mm SLR camera. Photographs were taken at an altitude of about 150m.  No. of Samples No. of	Analysis Methods (cont'd) of the colour slides.  Stations Rating Criteria Failed	Precision/Accuracy (cont'd)  Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a fixed-wing aircraft by members of the Department of Zoology, University of British Columbia. Aerial photographs were taken using a 35mm SLR camera at an altitude of about 150m.	Analysis Methods Estimates were made by direct observation at sites with only a few animals where the observers were confident of their counts. At sites with large numbers of animals counts were made directly from the colour slides.	Precision/Accuracy There are no further details.
		Species Steller sea lion		Stations Rating Criteria Failed 3 3:5,6,12	Comments
Data set ID# 19726002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a small boat by two commercial seal hunters.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Harbour seal	No. of Samples No. of	Stations Rating Criteria Failed 12 4	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a small boat by two commercial seal hunters.	Analysis Methods An estimate of the number of seals in the area was made from actual counts with the addition of a factor to account for submerged individuals.	Precision/Accuracy It is assumed that the observers had sufficient experience to count harbour seals but their ability to make an accurate population estimate is unknown.
		<u>Species</u> Harbour seal	No. of Samples No. of N/S	Stations Rating Criteria Failed 12 3:5,6,12	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •			
Data set 1D/ 19726003A	Parameter Food	Measurement/Observation Identification of prey	Sampling/Storage Methods Observations were made from a blind using binoculars.	Analysis Methods Identification of prey being consumed was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Sea otter	No. of Samples No. of	Stations Rating Criteria Failed 3 3:12	Comments

Data set ID# 19726003A( cont'd.)	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a blind and photographs were taken.	Analysis Methods Identification was confirmed upon examination of the photograph.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Sea otter	No. of Samples No. o	Stations Rating Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a blind using binoculars.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Sea otter	No. of Samples No. o	f Stations Rating Criteria Failed 2 4	Comments
	<u>Parameter</u> Behaviour	Measurement/Observation Foraging	Sampling/Storage Methods Observations were made from a blind with the use of binoculars.	Analysis Methods Observations were made visually.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Sea otter	No. of Samples No. o	f Statious Rating Criteria Failed 1 3 3:12	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19726003B	Parameter Age	Measurement/Observation Age-sex class	Sampling/Storage Methods Observations were made from a blind with the aid of binoculars.	Analysis Methods Animals were assigned to age-sex classes based on size and sex. Sizes observed were compared with an age-growth curve presented by G.C. Pike (1966).	Precision/Accuracy The age-sex classes defined are broad and sufficiently described to allow replication.
		<u>Species</u> Steller sea lion	No. of Samples No. o	of Stations Rating Criteria Failed N/S 3 3:5,12	Comments
	<u>Parameter</u> Identification	Measurement/Observation Identification of individual animals	Sampling/Storage Methods Observations were made from a blind with the aid of binoculars.	Analysis Methods Cows were identified on the basis of scars and circular patches of bare skin from two to 15cm in diameter. Sketches were made of each individual indicating these identifying features.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. o	of Stations Rating Criteria Failed 32 3 3:12	Comments
	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a blind with the aid of binoculars.	Analysis Methods Identification was made visually.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable

Data set ID# 19726003B	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd)	Analysis Methods (cont'd)	Precision/Accuracy (cont'd) of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 128 4 Criteria Failed	Consuments
	<u>Parameter</u> Number	Measurement/Observation Number of births	Sampling/Storage Methods Observations were made from a blind using binoculars.	Analysis Methods Births were recorded as they occurred or upon observation of a newborn pup.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	<u>f Stations</u> <u>Rating</u> <u>Criteria Failed</u> 93 3:5,12	Comments
	<u>Parameter</u> Number	Measurement/Observation Number of copulations	Sampling/Storage Methods Observations were made from a blind using binoculars.	Analysis Methods Copulations were recorded as they occurred.	Precision/Accuracy it is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. o	f Stations Rating Criteria Failed 93 3:5,12	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Daily counts were made from a blind at 4 hour intervals between 8:00 and 20:00.	Analysis Methods Counts were made of each age and sex class and the four daily counts were combined resulting in a mean for each day.	Precision/Accuracy The observer/author states that he is experienced at identifying different age classes. Given the proximity of the observers to the rookery, the census can be assumed to be accurate.
		<u>Species</u> Steller sea lion	No. of Samples No. or 512	f Stations Rating Criteria Failed 128 3 3:5,6,12	Comments
	<u>Parameter</u> Behaviour	Measurement/Observation Activity of cows	Sampling/Storage Methods Observations were made from a blind with the aid of binoculars. Previously identified cows were observed for as long as possible between 8:00 and 20:00. A record was made of their location and their activity.	Analysis Methods Activities identified were landing, moving through colony, stationary with head raised, stationary and prone, exhibiting periestrous behaviour, copulation, giving birth and nursing. The presence of a pup or juvenile with the cow was also recorded.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. o	F Stations Rating Criteria Failed N/S 3 3:5,12	Comments
	<u>Parameter</u> Behaviour	Measurement/Observation Territorial boundary displays	Sampling/Storage Methods Observations of male display behaviour were made from a blind with the aid of binoculars.	Analysis Methods Locations where male display behaviour occurred were plotted to identify territorial boundaries.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable

Data set ID# 19726003B	Parameter (cont'd)	Measurement/Observation (cont'd)	Sempling/Storage Methods (cont'd)	Analysis Methods (cont'd)	Precision/Accuracy (cont'd) of collecting the measurements.
		Species Steller sea lion	No. of Samples N/S	No. of Stations Rating Criteria N/S 3 3:5,12	
• • • • • •	• • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • •	
Data set 1D# 19726004A	Parameter Age	Measurement/Observation Age-sex class	Sempling/Storage Methods Observations were made from 3 blinds erected 50 to 250 m from the colony using binoculars and spotting scope.	relative size (and other physical	experience and/or training of the observers that they were capable
		Species Steller sea lion	No. of Samples N/S	No. of Stations Rating Criteria 3:5,12	Falled Comments
	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from 3 blinds erected 50 to 250 m from the colony using binoculars and spotting scope.	1	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples N/S	No. of Stations Rating Criteria N/S 4	Failed Comments
	Parameter Behaviour	Measurement/Observation Freq. and Dur. of specific behaviour patterns	Sampling/Storage Methods Observations were made from 3 blinds erected 50 to 250m away from the colony. Observations were made using binoculars and with a spotting scope.	focal animal sampling.	Precision/Accuracy by it is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples N/S	No. of Stations Rating Criteria N/S 3 3:12	Failed Comments
Data set ID# 19726004B	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made using binoculars from the lighthouse located 200 m from the colony. Occasional observations were made from aircraft and boats.	Analysis Methods Identification was made by visus observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Semples N/S	No. of Stations Rating Criteria N/S 4	Failed Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampline/Storage Methods Counts were made using binoculars from the lighthouse located 200m from the colony.	Analysis Methods Daily mean numbers of sea lion were calculated on a bimonthly basis.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable

Data set ID# 19726004B	Parameter (com'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd) Occasaional counts were made from aircraft and boats. Censuses were made on 5 days in August 1972 and on about half the days in May, July and September of 1972. During the remaining months censuses were made daily except where prohibited by fog. Censuses were conducted near noon when the maximum number of sea lions were hauled out.	Analysis Methods (cont'd)	Precision/Accuracy (cont'd) of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of N/S	Stations Rating Criteria Failed N/S 3 3:6,12	Comments
Data set ID# 19736001	Parameter identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a Cessna 180 by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held 35mm SLR camera with a 135mm or 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.	Analysis Methods Identification was made by direct observation at sites with only a few animals. At sites with large numbers of animals, identification was confirmed upon examination of the colour slides.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a Cessna 180 by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 135mm or a 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.	Analysis Methods Estimates were made by direct observation at sites with only a few animals where the observers were confident of their counts. At sites with large numbers of animals counts were made directly from the colour slides.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 3	Comments

Data set ID# 19736002	Parameter Identification	Measurement/Observation identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver and from a helicopter by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held 35mm SLR camera with a 135mm or 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.	Analysis Methods Identification was made by direct observation at sites with only a few animals. At sites with large numbers of animals, identification was confirmed upon examination of the colour alides.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver and from a helicopter by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 135mm or a 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.	Analysis Methods Estimates were made by direct observations at sites with only a few animals where the observers were confident of their counts. At sites with large numbers of animals, counts were made directly from colour slides. Pups were distinguished from nonpups on the basis of size and colour.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Falles 13 4	Comments
Data set 1D# 19736003	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Identification of captured animals was made by direct observation by University of British Columbia Department of Zoology personnel.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number captured per location	Sampling/Storage Methods  Purp were captured for tagging by members of the Department of Zoology, University of British Columbia.	Analysis Methods The number of pups captured was counted directly. Each animal was examined visually to determine the sex.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failer 4 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number tagged per location	Samplins/Storage Methods Pups were captured and tags were attached to the flippers or ears and subsequently released. Tagging	Analysis Methods As only two animals were resighted no effort was made to analyse the data to study	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable

Data set 1D# 19736003	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cost'd) was carried out by University of British Columbia Department of Zoology personnel.	Analysis N (cont'd) movement	<del></del>		Precision/Accuracy (cont d) of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples N	o. of Stations	Rating 4	Criteria Falled	Comments
Data set ID# 19746001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by fisheries officers.	Analysis N Identificati	dethods on was mad	de visually.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		Species Harbour seal Killer whale Steller sea lion	No. of Samples 1 N/S N/S N/S N/S	io. of Stations N/S N/S N/S	Rating 2 2 2 2	Criteria Falled 2:3,7 2:3,7 2:3,7	<u>Comments</u>
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by fisheries officers.	Analysis N Estimates	<u>vietbods</u> were made	visually.	Precision/Accuracy There is no means to assess the accuracy of the estimate.
		<u>Species</u> Harbour seal	No. of Samples N/S	N/S	Rating 2	Criteria Failed 2:1,2,3,10	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • •		• • • • • • •	• • • • •	• • • • • • •	• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19756001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Identification was made by direct observation from shore.	<u>Analysis N</u> Identificati	dethods ion was mad	de visually.	Precision/Accuracy It is assumed that when the authors appraised the visual sightings that they included only those estimates with which they were confident.
		Species Gray whale	No. of Samples	io. of Stations 2	Rating 4	Criteria Failed	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Estimates were made by direct observation from shore.	Analysis R Identificati	Methods ion was ma	do visually.	Precision/Accuracy The ability of the observers to accurately estimate numbers is not known.
		<u>Species</u> Gray whale	No. of Samples	io. of Stations 2	Rating 3	Criteria Failed 3:5,6,12	Comments
Data set ID# 19756002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made a boat.	Analysis N Identificati observation	ion was ma	de by direct	Precision/Accuracy The ability of the observers to make these measurements is not known.

Data set 1D# 19756002	Parameter (cont'd)	Measurement/Observation (cont'd) Species Harbour scal	Sampling/Storage Methods (cont'd)  No. of Samples	Analysis M (cont'd) No. of Stations	Rating 2	Criteria Failed 2:7	Precision/Accuracy (cont'd) Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made a boat.	Analysis M Estimates w observation	vere made b	y direct	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Harbour seal	No. of Samples	No. of Stations	Rating 2	Criteria Failed 2:3	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • •	• • • • • • • • • • • • • • •	• • • • • • • • •	• • • • •	• • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set 1D# 19756004	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by fisheries officers.	Analysis M Identification	<u>lethods</u> on Was mad	e visually.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Harbour seal Killer whale Steller sea lion	No. of Samples N/S N/S N/S	No. of Stations N/S N/S N/S N/S	Rating 2 2 2 2	Criteria Failed 2:3,7 2:3,7 2:3,7	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by fisheries officers.	Analysis M Observation fisheries of	ns were mad	de by	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Harbour seal	No. of Samples	No. of Stations	Rating 2	Criteria Failed	Comments
Data set ID# 19766001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver and an Otter aircra by Fisheries Research personnel Aerial photographs were taken a an altitude of approximately 150 using a hand held 35mm SLR camera with a 135mm or 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.	aft observation  I. few animal  at numbers of  Om was confirm  of the color  m	on was mad n at sites wit s. At sites v f animals, id med upon e	th only a with large lentification	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Semples	No. of Stations 33	Rating 4	Criteria Failed	Comments

Data set ID# 19766001 (cont'd.)	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver and an Otter aircraft by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 135mm or a 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.	Analysis Methods Estimates were made by direct observation at sites with only a few animals where the observera were confident of their counts. At sites with large numbers of animals counts were made directly from the colour slides.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 33 4	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19766003	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methody Incidental observations were made by W. Campbell of the Royal B.C. Museum.	Analysis Methods Identification was made visually.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Sea otter	No. of Samples No. of	Stations Rating Criteria Failer	Comments
		Sea ouer	<b>2</b>	7	
• • • • • •	• • • • • • • • •			• • • • • • • • • • • • • • • • • • • •	
<u>Data set 1D#</u> 19766004	<u>Parameter</u> Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Marine mammals were identified visually by an unknown number of observers from a DHC Beaver aircraft at an altitude of 500ft.	Analysis Methods Identification was made by direct visual observation.	Precision/Accuracy The ability of the observers to accurately estimate numbers of animals is unknown.
		Species Harbour porpoise	No. of Samples No. of	Stations Rating Criteria Failer 3 3:12	Comments
		Harbour seal	5	5 3 3:12	
		Steller sea lion	3	3 3:12	
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Samplins/Storage Methods Marine mammals were located and numbers present estimated visually by unknown observers flying at 500ft in a DHC Beaver aircraft.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy The ability of the observers to accurately estimate numbers of animals is unknown.
		<u>Species</u> Harbour porpoise Harbour seal Steller sea lion	No. of Samples No. of 1 5 3	Stations   Rating   Criteria Falles   2:2,3,10   5   2:2,3,10   3   2:2,3,10	Comments
	• • • • • • • • •		••••••		• • • • • • • • • • • • • • • • • •

<u>Data set ID#</u> 19766005	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a boat.	Analysis M. Identificatio Later the obtheir observe photographs	n was mad beervers co- ations with a of sea otto	mpared ers.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		Sea otter	No. of Semples No.	of Stations	Rating 3	Criteria Failed 3:12	<u>Comments</u>
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a boat.	Analysis M The observe		direct count.	Precision/Accuracy The ability of the observers is not known, however as only one animal was observed their count is most likely correct.
		<u>Species</u> Sea otter	No. of Samples No.	of Stations	Rating 2	Criteria Failed 2:2,3	Comments
	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		• • • • • • •	• • • • •	• • • • • • •	
Data set ID# 19776001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel.	Analysis M Identification observation	n was mad	le by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No.	of Stations	Rating 4	Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel.	Analysis M Estimates w observation	ere made l	by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No.	of Stations	Rating 4	Criteria Failed 4	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • •	• • • • •	• • • • • • •	• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19776002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held 35mm SLR camera with a 135mm or 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.	was confirm of the colou	on was mad at sites wi s. At sites w animals, id ned upon s ar slides.	th only a with large dentification xamination	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. 28	of Stations 28	Rating 4	Criteria Failed	Comments

Data set ID# 19776002 (cont'd.)	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 135mm or a 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.	Analysis Methods Estimates were made by direct observations at sites with only a few animals where the observers were confident of their counts. At sites with large numbers of animals, counts were made directly from colour slides. Pups were distinguished from nonpups on the basis of size and colour.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of 28	Stations Rating Criteria Failed 28 4	Comments
Data set ID# 19776003A	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made at an altitude of approximately 125m and at an airspeed of 125km/h. Observers scanned with the aid of binoculars (8 X 40) for animals swimming and for haulout sites. Visual observations were made of swimming groups and amall groups of less than 10 animals hauled out. Larger groups were photographed using a hand held SLR 35mm camers equipped with a motor drive and a 135mm or a 200mm lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour slide film.	Analysis Methods Identification was made upon examination of the aerial photographs and by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples No. of	Stations Rating Criteria Failed 2	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made at an altitude of approximately 125m and at an airspeed of 125km/h. Shorelines were followed and all islands circumavigated at a distance of 100mm. Observers scanned with the aid of binoculars for animals swimming and for haulout sites. Vietual counts were made of swimming groups and small groups of less than 10 animals hauled out. Larger groups were photographed using a hand held SLR 35mm camers equipped with a motor drive and a 135mm	Analysis Methods The census was conducted twice on consecutive days. Counts were made from the projected slide photographs and the duplicate estimates were compared. In cases where animals were counted directly during the flight, final counts were arrived at by concensus.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

<u>Data set ID#</u> 19776003A	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont d) or a 200mm lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour slide film.	Analysis Methods (cont d)	Precision/Accuracy (cont'd)
		Species Harbour seal	No. of Samples No. of	Stations Rating Criteria Faile 2 4	d Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19776003B	Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made at an altitude of approximately 125m and at an airspeed of 125km/h. Observers scanned with the aid of binoculars (8 X 40) for animals swimming and for haulout sites. Visual observations were made of swimming groups and small groups of less than 10 animals hauled out. Larger groups were photographed using a hand held SLR 35mm camera equipped with a motor drive and a 135mm or a 200mm lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour slide film.	Analysis Methods Identification was made upon examination of the aerial photographs and by direct observation.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples No. of	Stations Rating Criteria Faile	d <u>Comments</u>
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made at an altitude of approximately 125m and at an airspeed of 125km/h. Shorelines were followed and all islands circumnavigated at a distance of 100mm. Observers scanned with the aid of binoculars for animals swimming and for haulout sites. Visual counts were made of swimming groups and small groups of less than 10 animals hauled out. Larger groups were photographed using a hand held SLR 35mm camera equipped with a motor drive and a 135mm or a 200mm lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour slide film.	Analysis Methods The census was conducted twice on consecutive days. Counts were made from the projected slide photographs and the duplicate estimates were compared. In cases where animals were counted directly during the flight, final counts were arrived at by concensus.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set ID# 19776003B	Parameter (cont'd)	Measurement/Observation (cont'd) Species Harbour scal	Sampling/Storage Methods (cont'd)  No. of Samples N	Analysis A (cont'd) (o, of Stations	lethods  Rating Criteria Faile  4	Precision/Accuracy (cont'd) d Comments
Data set ID# 19776003C	<u>Parameter</u> Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made at an altitude of approximately 125m and at an airspeed of 125km/h. Observers scanned with the aid of binoculars (8 X 40) for animals swimming and for haulout sites. Visual observations were made of swimming groups and small groups of less than 10 animals hauled out. Larger groups were photographed using a hand held SLR 35mm camera equipped with a motor drive and a 135mm or a 200mm lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200 colour slide film.	examinatic photograpi observatio	on was made upon on of the aerial as and by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Harbour seal	No. of Samples N	io, of Stations 2	Rating Criteria Faile	d Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made at an altitude of approximately 125m and at an airspeed of 125km/h. Shorelines were followed and all islands circumnavigated at a distance of 100mm. Observers scanned with the aid of binoculars for animals swimming and for haulout sites. Visual counts were made of swimming groups and small groups of less than 10 animals hauled out. Larger groups were photographed using a hand held SLR 35mm camera equipped with a motor drive and a 135mm or a 200mm lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200-door slide film.	consecutive made from photograph estimates where and directly du counts we concensus	s was conducted twice on e days. Counts were in the projected alide his and the duplicate were compared. In cases mals were counted uring the flight, final re arrived at by	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Harbour seal	No. of Samples N	io, of Stations 2	Rating Criteria Faile 4	<u>Comments</u>

Data set ID# 19786001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by various individuals.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy The knowledge and ability of many of the observers is unknown. It can be assumed, however, that the researchers involved have appraised the sightings and included only those of which they are confident.
		<u>Species</u> Killer whale	No. of Samples No. of	Stations Rating Criteria Failed 90 3 3:12	Comments
	Parameter Identification	Measurement/Observation Photo-identification of individuals	Sampling/Storage Methods Observations were made by various individuals. Photographs usually were taken with SLR cameras.	Analyzis Methods Photographs were analyzed by G. Ellis of the Pacific Biological Station. Where suitable black and white negatives were available these were examined with a dissecting microscope. Both prints and negatives were compared with photographs of previously identified individuals to determine if these were resightings or sightings of new individuals.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Killer whale	No. of Samples No. of N/S	Stations Rating Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by various individuals.	Analysis Methods Estimates were made by direct observation.	Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Killer whale	No. of Samples No. of 418	7 Stations Rating Criteria Failed 2:2,3	Comments
	Parameter Behaviour	Measurement/Observation Identification of discrete calls	Sampling/Storage Methods The audio recordings were made from a 68ft sailboat. The recording was made in air from a speaker connected to a hydrophone.	Analysis Methods Identification of discrete calls was made aurally and with a Kay DSP spectrum analyser model 5000 by J. Ford of the Vancouver Aquarium.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Killer whale	No. of Samples No. of	f Stations Rating Criteria Failed 4	Comments
Data set ID# 19786002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from shore using a 20-45 power spotting scope. Photographs of the dorsal fins were taken for identification	Analysis Methods Positive identification was made from the photographs by I.B. MacAskie and S. Leatherwood.	Precision/Accuracy The photographa confirm the accuracy of the identification.

purposes.

Data set 1D# 19786002	Parameter (cont'd)	Measurement/Observation (cont'd) Species Risso's dolphin	Sam pling/Storage Methods (cont'd) Precision/Accuracy (cont'd)  No. of Samples No. of Stations Rating Criteria Failed Comments
	Parameter Morphometrics	Measurement/Observation Body length  Species Risso's dolphin	Sempline/Storage Methods Observations were made from shore using a spotting scope.  No. of Samples 14  Analysis Methods Body length was estimated the method used to estimate length was not appropriate.  Precision/Accuracy The method used to estimate length was not appropriate.  Comments  Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made using a Estimates were made visually.  spotting scope.  Precision/Accuracy The ability of the observers to make these measurements is not known.
		<u>Species</u> Risso's dolphin	No. of Samples No. of Stations Rating Criteria Failed Comments  1 2 2:3
Data set ID# 19796001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by Queen Charlotte Island Museum personnel upon arrival at the location where the whales were stranded. Colour photographs were taken of each animal.  Analysis Methods Identification was made visually and from the photographs.  Precision/Accuracy The photographs confirm the accuracy of the identification.
		<u>Species</u> Gray whale	No. of Samples No. of Stations Rating Criteria Failed Comments
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Measurements were made by Queen Charlotte Island Musuem personnel upon arrival at the location where the whales were stranded.  Analysis Methods There are no further details. There are no further details.
		<u>Species</u> Gray whale	No. of Samples No. of Stations Rating Criteria Failed Comments 2 2 2 2:1,2,3
	Parameter Morphometrics	Measurement/Observation Number of baleen plates	Sampling/Storage Methods Measurements were made by Queen Charlotte Island Musuem personnel upon arrival at the location where the whales were stranded.
		<u>Species</u> Gray whale	No. of Samples No. of Stations Rating Criteria Failed Comments 2 2 2 2 2:1,2,3

Data set ID# 19796001 (cont'd.)	Parameter Morphometrics	Measurement/Observation Width of flippers	Sampling/Storage Methods Measurements were made by Queen Charlotte Island Musuem personnel upon arrival at the location where the whales were stranded.		<u>fethods</u> no further detaila.	Precision/Accuracy There are no further details.
		<u>Species</u> Gray whale	No. of Semples	No. of Stations	Rating Criteria Fail 2:1,2,3	ed <u>Compoents</u>
	Parameter Morphometrics	Measurement/Observation Width of flukes	Sampling/Storage Methods Measurements were made by Queen Charlotte Island Musuem personnel upon arrival at the location where the whales were stranded.	1	<u>fetbods</u> no further details.	Precision/Accuracy There are no further details.
		<u>Species</u> Gray whale	No. of Samples 2	No. of Stations 2	Rating Criteria Fail 2:1,2,3	ed Comments
Data set ID# 19816001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a ship by various individuals involved in scabird surveys for Canadian Wildlife Service.	observatio the Positions v and later p	Acthods on was made by direct n along fixed transects. were recorded in Loran C lotted to the nearest d longitude.	Procision/Acturacy The ability of the observers to make the measurement are not known. However, K. Morgan, the senior observer appraised the records and included only those in which he was confident.
		Species Blue whale Blue whale Dall'a porpoise Gray whale Humpback whale Killer whale Northern fur seal Pacific white-sided dolphin	No. of Samples 1 11 7 1 6 5	No. of Stations 1 11 7 1 6 5	Rating Criteria Fai 3 3:12 3 3:12 3 3:12 3 3:12 3 3:12 3 3:12 3 3:12 3 3:12	ed <u>Comments</u>
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a ship by various individuals involved in seabird surveys for Canadian Wildlife Service.	observatio the Postions w and later p	Methods re made by direct visual n along fixed transects. ere recorded in Loran C lotted to the nearest d longitude.	Precision/Accuracy The ability of the observers to estimate numbrs is not known.
		Species Blue whale Ball's porpoise Gray whale Humpback whale Killer whale Northern für seal Pacific white-sided dolphir	No. of Samples 1 11 7 1 6 5	No. of Stations 1 11 7 7 1 6 5	Rating         Criteria Fac           2         2:3           2         2:3           2         2:3           2         2:3           2         2:3           2         2:3           2         2:3           2         2:3	ed <u>Comments</u>

<u>Data set ID#</u> 19826001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a VU33 squadron tracker by Fisheries Research presonnel.		Analysis M Identification observation	n was mad	e by direc1	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples	No. of	Stations 8	Rating 4	Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a VU33 Squadron tracker by Fisheries Research personnel.		Analysis M Estimates w observation	ere made t	oy direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples	No. of	Stations 8	Rating 4	Criteria Failed	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • •	• • • • •	• • • •	• • • • • • • •	• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19826002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held 35mm SLR camera with a 135mm or 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.		was confirm of the color	n was mad at sites wis. At sites visanimals, ic ned upon e	th only a with large fentification	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples	No. of	Stations 31	Rating 4	Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 135mm or a 200mm telephoto lens and Ektachrome (ISO 200-400) colour slide film.		Analysis M Estimates w observation few animals were confice sites with leanimals, co- directly fro- were disting on the basis	vere made to a site was where the lent of their rege number unts were a medical colour streamed from the lent of the lent were and colour streamed from the lent were a medical colour streamed from the lent were a medical colour streamed from the lent were a medical colour streamed from the lent was a stream	ith only a observers r counts. At rs of made ides. Pups m nonpups	Precision/Accuracy it is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples	No. of	Stations 31	Rating 4	Criteria Failed	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		• • •	• • • • •	• • • • •	• • • • • • •	
Data set ID# 19836001	Parameter Food	Measurement/Observation Identification of prey from scats	Sampling/Storage Methods Scat samples were collected from seal haulouts. From each sample the undigested remains were		Analysis M Prey repres were identi skeletal fra	ented in ea	paring	Precision/Accuracy Prey identification was conservative. A blind test was conducted to determine the

Data set ID/ 19836001	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont d) separated from the faecal matter with an elutriator. Once separated, the undigested remains were rinsed with hot water over a 320 micrometer sieve and dried in paper towels under heat lamps.		ce material. Each lentified and keyed	Precision/Accuracy (cont d) accuracy of the identification.
		Species Harbour scal	No. of Samples N	o. of Stations Ra	ating <u>Criteria Failed</u>	Comments
Data set ID# 19836002A	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from shore and from a small boat by Canadian Wildlife Service personnel while conducting a seabird colony survey.	Analysis Metholdentification woobservation.	pcks as made by direct	Precision/Accuracy Only sightings in which the observers were confident were recorded.
		<u>Species</u> Harbour seal	No. of Samples N	io, of Stations R	3 3:12	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from shore and from a small boat by Canadian Wildlife Service personnel while conducting a scabird colony survey.	Analysis Methe Estimates were observation.	ods made by direct	Precision/Accuracy Only sightings in which the observers were confident were recorded.
		<u>Species</u> Harbour seal	No. of Samples N	lo, of Stations R	3 3:5,6,12	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • •	• • • • • • • • • •	
Data set ID# 19836002B	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from shore and from a small boat by Canadian Wildlife Service personnel while conducting a seabird colony survey.	Analysis Metholdentification woobservation.	<u>ods</u> as made by direct	Precision/Accuracy Only sightings in which the observers were confident were recorded.
		Species Dall's porpoise Harbour seal Steller sea lion Unidentified sea lion	No. of Samples N 1 8 1 1	io. of Stations R. 1 8 1 1	ating Criteria Failed 3 3:12 3 3:12 3 3:12 3 3:12	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from shore and from a small boat by Canadian Wildlife Service personnel while conducting a	Analysis Methe Estimates were observation.		Precision/Accuracy Only sightings in which the observers were confident were recorded.

Data set ID# 19836002B	Parameter (cont'd)	Measurement/Observation (cont'd)	Samplies/Storage Methods (cont'd) scabird colony survey.	Analysis Me (cont'd)	ethods		Precision/Accuracy (cont'd)
•••••		Species Dall's porpoise Harbour seal Steller sea lion Unidentified sea lion	No. of Samples 1 8 1 1	No. of Stations i 8 1 i	Rating 3 3 3 3 3	Criteria Failed 3:5,6,12 3:5,6,12 3:5,6,12 3:5,6,12	Comments
Data set ID# 19836002C	Parameter Identification	Measurement/Observation Identification of species	Sempling/Storage Methods Observations were made from shore and from a small boat by Canadian Wildlife Service personnel while conducting a scabird colony survey.	Analysis M. Identification observation.	n was mad	e by direct	Precision/Accuracy Only sightings in which the observers were confident were recorded.
		Species Gray whale Harbour scal Killer whale Minke whale Pacific white-sided dolphin Sea otter Steller sca lion	No. of Samples 1 14 2 1 1 1 6	No. of Stations 1 14 2 1 1 1 6	Rating 3 3 3 3 3 3 3 3	Criteria Failed 3:12 3:12 3:12 3:12 3:12 3:12 3:12	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampline/Storage Methods Observations were made from shore and from a small boat by Canadian Wildlife Service personnel while conducting a seabird colony survey.	Analysis M Estimates w observation.	ere made b	y direct	Precision/Accuracy Only sightings in which the observers were confident were recorded.
••••		Species Gray whale Harbour seal Killer whale Minke whale Pacific white-sided dolphin Sea otter Steller sea lion	No. of Samples 1 14 2 1 1 1 6	No, of Stations 1 14 2 1 1 1 6	Rating 3 3 3 3 3 3 3 3 3	Criteria Failed 3:5,6,12 3:5,6,12 3:5,6,12 3:5,6,12 3:5,6,12 3:5,6,12 3:5,6,12	Comments
Data set 1D# 19866001	Parameter Identification	Measurement/Observation Identification of pods	Sampling/Storage Methods Vocalizations were recorded opportunistically using a shore based sonabuoy hydrophone sonsitive to 20khz. The type of tape recorder used is not known	n. calls on a sa	is made by ver Aquario of the reco	um by aural orded calls identified	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Killer whale	No. of Samples	No. of Stations 2	Rating 4	Criteria Failed	Comments

<u>Data set ID#</u> 19866002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made at an altitude of approximately 125m and at an airspeed of 125km/h. Observers scanned with the aid of binoculars (8 X 40) for animals swimming and for haulout sites. Visual observations were made of swimming groups and small groups of less than 10 animals hauled out. Larger groups were photographed using a hand held SLR 35mm camera equipped with a motor drive and a 135mm or a 200mm lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour slide film.	Analysis Methods Identification was made visually and from the photographs.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Harbour scal	No. of Samples No. of	Stations Rating Criteria Failer	Comments
	Parameter Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made at an altitude of approximately 125m and at an airspeed of 125km/h. Shorelines were followed and all islands circumnavigated at a distance of 100mm. Observers scanned with the aid of binoculars for animals swimming and for haulout sites. Visual counts were made of swimming groups and small groups of less than 10 animals hauled out. Larger groups were photographed using a hand held SLR 35mm camera equipped with a motor drive and a 135mm or a 200mm lens and Ektachrome (ISO 2000-400) or Kodachrome (ISO 200) colour slide film.	Analysis Methods Counts were made from the projected slides. In cases where animals were counted directly during the flight, the final counts were arrived at by concensus.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Harbour seal	No. of Samples No. of	Stations Rating Criteria Faile	d <u>Comments</u>
Data set ID# 19876001	Parameter Identification	Measurement/Observation Identification of pods	Sampling/Storage Methods Vocalizations were recorded opportunistically using a shore based sonabuoy hydrophone sensitive to 20Khz. The type of tape recorder used is not known.	Analysis Methods Analysis was made by J. Ford of the Vancouver Aquarium by aural comparison of the recorded calls with pre-recorded and identified calls on a sample tape.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

				•	
Data set 1D# 19876001	Parameter (cont'd)	Measurement/Observation (cont'd) Species Killer whale	Sampling/Storage Methods (cont.d) No. of Samples 8	Analysis Methods (cont'd) Stations Rating Criteria Failed 8	Precision/Accuracy (cont d) Comments
	Parameter identification	Measurement/Observation Identification of species	Sampling/Storage Methods Vocalizations were recorded opportunistically using a shore based sonabuoy hydrophone sensitive to 20Khz. The type of tape recorder used is not known.	Analysis Methods Analysis was made by J. Ford of the Vancouver Aquarium by aural examination of the audio recordings and comparison of these with previously identified sample recordings.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Pacific white-sided dolphin	No. of Samples No. of	Stations Rating Criteria Failed	Comments
• • • • • •	• • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
<u>Data set ID#</u> 19876002	Parameter identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held 35mm SLR camera with a 300mm zoom lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour slide film.	Analysis Methods Identification was made by direct observation at sites with only a few animals. At sites with large numbers of animals, identification was confirmed upon examination of the colour alides.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Steller sea lion	No. of Samples No. of	Stations Rating Criteria Failed 22 4	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 300mm zoom lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour slide film.	Analysis Methods Estimates were made by direct observations at sites with only a few animals where the observers were confident of their counts. At sites with large numbers of animals, counts were made directly from colour slides. Pups were distinguished from nonpups on the basis of size and colour.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. of 22	Stations Rating Criteria Failed 22 4	Comments

	TABLE 1. DATA SET METHODOLOGY DESCRIPTIONS (Commune)						
Data set 1D# 19876003	<u>Parameter</u> Food	Measurement/Observation Identification of stomach contents	Sampling/Storage Methods Observations were made in the field by various individuals. Stomachs were removed. Typically the contents were decanted into a bucket and the hard parts collected. These were then rinsed to remove associated tissues and stored in water. Where the stomach contents contained few if any hard parts, they were frozen.	Analysis Methods Identification of prey is done by identifying hard parts (akeletal structures, otoliths, squid beaks etc.). Where hard parts are lacking no analysis has been made.	Precision/Accuracy Identification was made by persons with relevant expertise.		
		Species Cuvier's beaked whale Harbour porpoise Killer whale Pacific white-sided dolphin	1 1	of Stations Rating Criteria Failed  1 4 1 4 1 4	Comments		
	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made incidentally by various individuals and each is identified in the database. Observations were made primarily from boats although some were also made from land and from the air.	Analysis Methods Identification was made by direct observation.	Precision/Accuracy Each identification has been rated in the database according to whether the observer was certain of the identification. Doubts are rated as "probable", "possible" and "uncertain".		
		Species Cuvier's beaked whale Fin whale Gray whale Harbour porpoise Humpback whale Killer whale Minke whale Northern elephant seal Pacific white-sided dolphin Sei whale Unidentified porpoise Unidentified whale	1 3 7 35 13 2 2 18	Stations   Rating   Criteria Failed	Comments		
	Parameter Morphometrics	Measurement/Observation Body length	Sampling/Storage Methods Observations were made in the field by various individuals. Body length was measured in a straight line between the tip of the snout and the notch of the flukes.	Analysis Methods Observations were made visually in the field. The measuring instruments were not documented.	Precision/Accuracy The ability of the observers is not known, however, observers were provided with a data form which illustrated the points between which measurements were to be made. The data form also indicated whether the measurement was to be made as a straight line between points or whether the measurement was curvilinear.		

#### TABLE 2 BATA SET METHODOLOGY DESCRIPTIONS (Cartingal)

	TABLE 2. DATA SET METHODOLOGY DESCRIPTIONS (Continued)								
Data set ID# 19876003	Parameter (cont'd)	Measurement/Observation (cont'd)	Sempling/Storage Methods (cont'd)		nalysis Methods ont'd)		Precision/Accuracy (cont'd)		
		Śpecies	No. of Samples	No. of Sta		Criteria Failed 2:2,3	Comments		
		Cuvier's beaked whale Gray whale	1	1	2	2:2,3 2:2,3			
		Harbour porpoise	2	7	2	2:2,3			
		Humpback whale	ĭ	ĭ	2	2:2,3			
		Killer whale	i	ī	ž	2:2,3			
		Pacific white-sided dolphin	1	1	2	2:2,3			
	<u>Parameter</u>	Measurement/Observation	Sampling/Storage Methods	Δı	nalysis Methods		Precision/Accuracy		
	Morphometrics	Body weight		Ы	lentification of prey l	being			
						y direct			
		St				Caleada Pattad			
		Harbour nomoise	No. of Samples	NO. OF SER	mons Kamp	C.13125718 F 82100	Comments		
		manoon porpose	•		L	2.2,3			
	Parameter	Management/Observation	Compliant (Stormers Marthads		makuda Mathada		Burgleton / Annual va		
		Detailed external	Measurements were made in th			lowing			
		measurements							
					out to: apex of melo		provided with a data form which		
					lowhole, centre of ey		illustrated the points between		
	Parameter Morphometrics  Parameter Morphometrics	Measurement/Observation Body weight  Species Harbour porpoise  Measurement/Observation Detailed external		No. of Star  No. of Star  A  a  a  b  m  c  a  a	lentification of prey to consumed was made between the consumed was made between the consumer of the consumer	2:2,3  being by direct  Criteria Failed 2:2,3  lowing ken. From an, centre of re, angle of atral grooves, centre of anterior	There is no information about the ability of the observers or about the type of instrument used.  Comments  Precision/Accuracy The ability of the observers is not known, however, observers were provided with a data form which		

notch to: centre of anus, centre of

Ginba at: eye, poat. insertion of dorsal fin, anus, midway from anus to fluke notch, height of peduncle, thickness of peduncle. Head: projection of L/U jaw, rostral width at apex of melon, length of eye, centre of eye to ear, centre of eye to angle of mouth, centre of right eye to blowhole edge, blowhole width, blowhole length, dia. of right ear, dia. of left ear, dia. of head between centre of eyes, length of throat grooves. Other: flipper width at insertion, flipper length ant., flipper length post., dorsal fin height, length of dorsal fin base, length of dorsal fin from ant. insertion to point bissected by tip, length of right and left mamary slits, number of

mamary slits, number of mammary slits, genital slit length, anal slit length, fluke insertion to

genital slit, centre of dorsal fin. Girths at: eye, post insertion of flipper, max. ant. insertion of points or whether the measurement was curvilinear.

Data set ID# 19876003	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd)	Analysis Methods (cont'd) notch, fluke insertio of fluke notch.	a to tip, depth	Precision/Accuracy (cont d)
		Species Cuvier's beaked whale Gray whale Harbour porpoise Killer whale Pacific white-sided dolphin	1 1 2 1	0, of Stations   Rating   2   2   2   2   2   2   2   2   2	Criteria Failed 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3	Comments
	Parameter Morphometrics	Measurement/Observation Width of flippers	Samplins/Storage Methods Observations were made by various individuals in the field. Flipper width was measured at the point of insertion. Fluke width was measured in a straight line from tip to tip.		esuring	Precision/Accuracy The ability of the observers is not known, however, observers were provided with a data form which illustrated the points between which measurements were to be made. The data form also indicated whether the measurement was to be made as a straight line between points or whether the measurement.
		Species Cuvier's beaked whale Gray whale Harbour porpoise Humpback whale Killer whale Pacific white-aided dolphin	1 4 3 1 1	0. of Stations   Rating   2   4   2   3   2   1   2   2	Criteria Failed 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3	Comments
	Parameter Morphometrics	Measurement/Observation Width of flukes	Sampling/Storage Methods Observations were made by various individuals in the field. Flipper width was measured at the point of insertion. Fluke width was measured in a straight line from tip to tip.		esuring	Precision/Accuracy The ability of the observers is not known, however, observers were provided with a data form which illustrated the points between which measurements were to be made. The data form also indicated whether the measurement was to be made as a straight line between points or whether the measurement.
		Species Cuvier's beaked whale Gray whale Harbour porpoise Humpback whale Killer whale Pacific white-sided dolphin	1 4 3 1	o, of Stations Ratins 1 3 4 2 3 2 1 2 1 2 1 2	Criteria Failed 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3 2:2,3	Comments

Data set ID# 19876003 (comt'd.)	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made incidentally by various individuals and each is identified in the database. Observations were made primarily from boats although some were also made from land and from the air.			Precision/Accuracy With each sighting the observers were asked to record the minimum and the maximum size of the group of animals observed. The range indicates the accuracy of the estimate.
		Species Cuvier's beaked whale Fin whale Gray whale Harbour porpoise Humpback whale Killer whale Minke whale Northern elephant seal Pacific white-sided dolphin Sei whale Unidentified porpoise Unidentified whale	1 3 7 35 13 2 2 18	Stations         Rating           1         4           3         4           7         4           35         4           13         4           2         4           18         4           3         4           11         4           4         4	Criteria Failed	Comments
	<u>Parameter</u> Parasites	Measurement/Observation Identification of parasites	Samplins/Storage Methods Observations were made in the field by various individuals. samples of the following organs were collected: esophagus, stomach, liver, lung, kidney, heart, skin and blubber.	Analysis Methods Identification was made comparison of specime the collected organs wi previously identified ap	ns found in th	Precision/Accuracy Identification was made by persons with relevant expertise.
		Species Cuvier's beaked whale Harbour porpoise Pacific white-sided dolphin	1 1	Stations         Rating           1         4           1         4           1         4	Criteria Failed	Comments
	Parameter Reproduction	Measurement/Observation Foctus length	Sampling/Storage Methods Observations were made in the field by various individuals. Body length was measured in a straight line between the tip of the snout and the notch of the flukes.	Analysis Methods Observations were mad in the field. The measu instruments were not de	ring	Precision/Accuracy The ability of the observers is not known, however, observers were provided with a data form which illustrated the points between which measurements were to be made. The data form also indicated whether the measurement was to be made as a straight line between points or whether the measurement was curvilinear.
		Species Pacific white-sided dolphin	No. of Samples No. of	Stations Rating	Criteria Failed 3:12	Comments

Data set 1D# 19876003 (comt'd.)	Parameter Reproduction	Measurement/Observation Foctus weight	Sampling/Storage Methods Observations were made in the field by various individuals. There are no further details.		Analysis Me There are no			Precision/Accuracy There is no information about the ability of the observers or about the type of instrument used.
		<u>Species</u> Pacific white-sided dolphin	No. of Samples	No. of S	itations l	Rating 2	Criteria Failed 2:2,3	Comments
	Parameter Reproduction	Measurement/Observation Presence/absence of foetus	Sampline/Storage Methods Observations were made in the field by various individuals. Observations were made by examining the uterus.		Analysis M Measuremer direct obser	nts were co	llected by	Precision/Accuracy The ability of the observers is not always known.
		Species Cuvier's beaked whale Killer whale Pacific white-sided dolphin	No. of Samples 1 1 1	No. of S	Stations 1 1 1	Rating 3 3 3 3	Criteria Failed 3:12 3:12 3:12	Comments
	Parameter Reproduction	Measurement/Observation Weight of gonads	Sampline/Storage Methods Observations were made in the field by various individuals. The are no further details.				Precision/Accuracy There is no information about the ability of the observers or about the type of instrument used.	
		Species Harbour porpoise Pacific white-sided dolphin	No. of Samples	No. of S	Stations 1 l	Rating 2 2	Criteria Failed 2:2,3 2:2,3	Comments
	Parameter Reproduction	Measurement/Observation Width and length of gonads	Sampling/Storage Methods Observations were made in the field by various individuals. The are no further details.	ste	Analysis Methods There are no details.		Precision/Accuracy There is no information about the ability of the observers or about the type of instrument used.	
		Species Pacific white-sided dolphin	No. of Samples	No. of	<u>Stations</u> i	Rating 2	Criteria Failed 2:2,3	Comments
	<u>Parameter</u> Physiology	Measurement/Observation Lactating	Sampling/Storage Methods Observations were made in the field J. Ford of the Vancouver Aquarium.	Analysis Methods  Mammary glands were examined visually in the field for the presence of milk.			Precision/Accuracy The observer was qualified to make the measurement.	
		Species Cuvier's beaked whale	No. of Samples	No. of	<u>Stations</u> 1	Rating 4	Criteria Failed	Comments
	<u>Parameter</u> Physiology	Measurement/Observation Pathology of organs	Sampling/Storage Methods Observations and collection wer made by various individuals. Samples of liver, heart, kidney, lungs, gonads, skin and pleura were stored in formalin for examination of pathogens.		Analysis M Histological diseased or was made b Agriculture personnel.	l analysis to degenerativ y Ministry	re tissue of	Precision/Accuracy The observer was qualified to make the measurement.
		Species Pacific white-sided dolphir	No. of Samples	No. of	Stations 1	Rating 4	Criteria Failed	Comments

<u>Data set ID#</u> 19886002	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made by various individuals incidental to other activities. The sightings were recorded on standardized sighting forms provided.		Analysis Methods Identification was made visually.		: visually.	Precision/Accuracy The knowledge and ability of many of the observers is unknown. It can be assumed, however, that the researchers involved have appraised the sightings and included only those of which they are confident.
		<u>Species</u> Killer whale Pacific white-sided dolphin Risso's dolphin	23	o. of St	lations 3 I 1	Rating 3 3 3	Criteria Failed 3:12 3:12 3:12	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made by various individuals incidental to other activities. The sightings were recorded on standardized sighting forms provided.		Anglysis M. Estimates w observation.	ere made b	y direct	Trecision/Accuracy The knowledge and ability of many of the observers is unknown. It can be assumed, however, that the researchers involved have appraised the sightings and included only those of which they are confident.
		Species Killer whale Pacific white-sided dolphin Risso's dolphin		o. of Se 2	tations 13 1	Rating 2 2 2 2	Criteria Failed 2:3 2:3 2:3	Comments
Data set ID# 19896001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held 35mm SLR camera with a 300mm zoom lens and Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour slide film.	1	Analypis M Identificatio examination	n was conf		Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Steller sea lion	No. of Samples No. 3	o. of S	tations 3	Rating 4	Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Observations were made from a DHC Beaver by Fisheries Research personnel. Aerial photographs were taken at an altitude of approximately 150m using a hand held SLR camera with a 300mm zoom lens and	1	Analysis M Estimates w observations few animals were confid sites with la animals, con directly from	ere made be at sites with where the ent of their rge number ants were n	th only a observers counts. At a of nade	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.

Data set 1D# 19896001	Parameter (cont'd)	Measurement/Observation (cont'd)	Sampling/Storage Methods (cont'd) Ektachrome (ISO 200-400) or Kodachrome (ISO 200) colour s film.	Analysis Methods (coat d) were distinguished from nonpups on the basis of size and colour.			Precision/Accuracy (cont'd)	
		<u>Species</u> Steller sea lion	No. of Samples	No. of	Stations 3	Rating 4	Criteria Failed	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • •		• • • •	• • • • •	• • • • •	• • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Data set ID# 19896002	Parameter Identification	Measurement/Observation Identification of individual animals	Sampling/Storage Methods Observations were made from a boat with the aid of binoculars.		Analysis M Identification by direct continuals observable photograph individuals	on was mad omparison of served with a of identif	of the	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species Killer whale	No. of Samples 349	No. of	Stations 29	Rating 4	Criteria Failed	Comments
	Parameter Identification	Measurement/Observation Identification of pods	Sampling/Storage Methods Audio-recordings were made fro a boat using a sonabuoy hydrophone and a Pioneer Aliweather Walkman.	om	Analysis M Identification audio-recon Bain by au- recordings.	on of pods dings was ral examina	made by D.	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Killer whale	No. of Samples	No. of	Stations 3	Rating 4	Criteria Failed	Comments
	Parameter Identification	Measurement/Observation Identification of species	Sempling/Storage Methods Observations were made from a boat with the aid of binoculars.	ı	Analysis M Identification	on was mad	de by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		Species	No. of Samples	No. of	Stations	Rating	Criteria Failed	Comments
		Dall's porpoise Harbour porpoise	i 4		1	4		
		Killer whale	29		29	4		
		Pacific white-sided dolphin Pacific white-sided dolphin			ī	4		
				• • • •			• • • • • • •	
Data set 1D/ 19906001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Surveys were made from a 3m zodiac or a 6m open boat. Wha were located visually with binoculars and acoustically with hydrophone.		observation	on was mad	de by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Killer whale	No. of Samples 121	No. of	Stations 10	Rating 4	Criteria Failed	Comments

Data set ID# 19906001 (cont'd.)	Parameter Identification	Measurement/Observation Photo-identification of individuals	Sampling/Storage Methods Surveys were made from a 5m zodiac or a 6m open boat. Whales were located visually using binoculars and acoustically using a hydrophone. Photographs were taken of the left aide of each animals dorsal fin and saddle patch. A 35mm SLR camera with a 300mm telephoto lens was used. Black and white photographs were taken using liford HP5 film exposed at an ISO rating of 1600 and shot at 1/1000 of a second.	Photo-negatives were examined		Trecision/Accuracy h is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Killer whale	No. of Samples No. of N/S	Stations Rating 9	Criteria Failed	Comments
	<u>Parameter</u> Number	Measurement/Observation Number seen per location	Sampling/Storage Methods Surveys were made from a 5m zodiac or a 6m open boat. Whales were located visually with binoculars and acoustically with a hydrophone.	Analysis Methods Estimates were made by observation.	direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u>	No. of Samples No. of	Stations Rating 9	Criteria Failed	Comments
	Parameter Behaviour	Measurement/Observation identification of discrete calls	Sampling/Storage Methods Surveys were made from a 5m zodiac or from a 6m open boat. Whales were located visually with binoculars and acoustically using a hydrophone. Audio-recordings were made using an Offshore Acoustic Hydrophone and a Sony TC-D5M cassette recorder.	Analysis Methods Vocalizations were analy aurally and with a Kay I spectrum analyser mode J. Ford of the Vancouve Aquarium.	DSP 1 5000 by	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Killer whale	No. of Samples No. of	Stations Rating 9	Criteria Failed	Comments
• • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • •	
Data set ID# 19916001	Parameter Identification	Measurement/Observation Identification of species	Sampling/Storage Methods Observations were made from a 15ft inflatable boat by Department of Fisheries and Oceans and Vancouver Aquarium personnel with the aid of binoculars.	Analysis Methods Identification was made observation.	by direct	Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.
		<u>Species</u> Sea otter	No. of Samples No. of	Stations Rating 9	Criteria Failed	Comments

ata set ID# 9916001 out'd.)	<u>Parameter</u> Number	Measurement/Observation Number seen per location	by Department of Fisheries and Oceans and Vancouver Aquarium		Analysis Methods The number present was determined by a direct count of the number of heads visible in the water. Pups were distinguished from nonpupa on the basis of size.			Precision/Accuracy It is assumed, based upon the experience and/or training of the observers that they were capable of collecting the measurements.	
		Species Sea otter	No. of Samples	No. of	Stations 3	Rating 4	Criteria Failed	Comments	
								. <b></b>	_

### 10. DATA INVENTORY TABLE 3: LISTING OF SAMPLING STATIONS

A description of the organization of the catalogue and its use is given in Section 5.

### TABLE 3 LEGEND

This table is organized by data set identifier and start date. It lists the dates and locations where of measurements/observations were made.

Data set I.D. identifies a unique data collection and allows cross-referencing to other tables and indices in this catalogue. Survey Method lists the survey type used. Many data sets involve several types of surveys. gives the dates when the measurements/observations were made. Start Date gives the last date that measurements/observations were made over Stop Date a continuous period. Latitude gives the latitude of the station. Longitude gives the longitude of the station. Location Name gives the geographical place name of the station where applicable.

### LIST OF ABBREVIATIONS USED IN TABLE 3

#### **SURVEY METHODS**

Abbreviation	Description
AS	Aerial survey, type not specified
ВН	Bounty hunt
СН	Commercial hunt
FC	Field collection of specimens for study
FS	Field study of animals at a site

GK Government kill for management purposes Incidental aerial sighting IAS IS Incidental sighting, platform not specified ISS Incidental sighting made from shore **IVS** Incidental vessel sighting NS Not specified Reconnaissance vessel survey RVS SAS Systematic aerial survey SVS Systematic vessel survey VS Vessel survey, type not specified

## 10.1 ACCURACY OF LOCATIONS

Locations were converted to latitude and longitude coordinates where possible. In many data sets, locations were given as geographical place names for which coordinates were taken from the Gazetteer of Canada. Generally, coordinates of stations originally given as place names are less accurate in terms of the exact location of sampling than those reported in coordinates. Such stations were often fairly general locations, e.g. Langara Island.

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS

Data set IDf	Survey <u>Method</u>	Start Date	Stop Date	Latitude	<u>Longitude</u>	Location Name
18796001	СН	NS/NS/1879	NS/NS/1917	0. 0. 0.	0. 0. 0.	DISTRICT 2
18866001	СН	NS/NS/1886	NS/NS/1911	0. 0. 0.	0. 0. 0.	CAPE ST. JAMES
18906001	CH FC	NS/NS/1890 NS/NS/1913		51°22' 0° 50°47' 0°	128° 0' 0" 128°46' 0"	PEARL ROCKS BERESFORD ISLAND
	GK	NS/NS/1913		51°22' 0"	128° 0' 0"	PEARL ROCKS
	GK	NS/06/1913		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK	28/08/1913		51°16' 0°	128°12' 0"	VIRGIN ROCKS
	GK GK	NS/05/1914 NS/NS/1915		51°16' 0° 54° 1' 0°	128°12' 0" 132° 6' 0"	VIRGIN ROCKS MASSET
	GK	NS/NS/1915		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK	NS/NS/1915		53 *30' 0"	130°37' 0°	BONILLA ISLAND
	GK	NS/NS/1915		54°15'0"	130°51' 0"	TREE KNOB GROUP
	GK	NS/NS/1915		51°16' 0°	128*12' 0*	VIRGIN ROCKS
	GK	NS/NS/1915		54°14' 0° 54°10' 0°	130°59' 0" 130°46' 0"	BUTTERWORTH ROCKS STEPHENS ISLAND
	GK GK	NS/NS/1915 NS/NS/1915		51 *20 0	128* 8' 0"	SEA OTTER GROUP
	GK	NS/NS/1915		51 -32 . 0 -	128 0 0 0	CALVERT ISLAND
	GK	NS/NS/1915		51°19' 0"	127°25' 0"	SMITH INLET
	GK	NS/NS/1915		52°16' 0"	128°40' 0"	DAY POINT
	GK	NS/NS/1915		52"38' 0"	129° 5' 0"	ARISTAZABAL I.
	GK GK	NS/NS/1915 NS/NS/1915		54°21' 0" 53"25' 0"	130°28' 0" 130°10' 0"	DUNCAN BAY BANKS ISLAND
	GK	13/07/1922		51°22' 0"	128° 0' 0"	PEARL ROCKS
	GK	NS/NS/1923		51-16-0-	128°12' 0"	VIRGIN ROCKS
	GK	NS/NS/1923		51°22' 0"	128° 0' 0"	PEARL ROCKS
	GK	05/06/1924		21°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK	05/06/1924		51°22' 0° 51°16' 0°	128° 0' 0" 128°12' 0"	PEARL ROCKS VIRGIN ROCKS
	GK GK	15/06/1925 15/06/1925		51 *22 ' 0*	158 0.0.	PEARL ROCKS
	GK	14/06/1926		51°16' 0"	128°12'0"	VIRGIN ROCKS
	GK	14/06/1926		51°22' 0"	128 0' 0"	PEARL ROCKS
	GK	15/06/1927		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK GK	15/06/1927 13/06/1928		51°22' 0" 51°16' 0"	128° 0' 0" 128°12' 0"	PEARL ROCKS VIRGIN ROCKS
	GK	13/06/1928		51°22' 0"	128 0' 0"	PEARL ROCKS
	GK	16/06/1929		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK	16/06/1929		51°22' 0"	128° 0' 0"	PEARL ROCKS
	GK GK	17/06/1930 17/06/1930		51°16' 0" 51°22' 0"	128°12'0" 128° 0' 0"	VIRGIN ROCKS PEARL ROCKS
	GK	12/06/1931		51.16, 0.	128 • 12 · 0 •	VIRGIN ROCKS
	GK	12/06/1931		51*22' 0"	128° 0' 0"	PEARL ROCKS
	GK	19/06/1932		51°20' 0"	128° 8' 0"	SEA OTTER GROUP
	GK GK	16/06/1933 16/06/1933		51°16' 0" 51°22' 0"	128°12' 0" 128° 0' 0"	VIRGIN ROCKS PEARL ROCKS
	GK	09/06/1934		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK	09/06/1934		51°22' 0"	128° 0' 0"	PEARL ROCKS
	GK	11/06/1935		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK GK	11/06/1935 NS/06/1936		51°22' 0" 50°47' 0"	128° 0' 0" 128°46' 0"	PEARL ROCKS BERESFORD ISLAND
	GK GK	09/06/1936		21.19.0.	128°12' 0"	VIRGIN ROCKS
	GK	09/06/1936		51.55.0.	128° 0' 0"	PEARL ROCKS
	GK	17/06/1937		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK	17/06/1937		51°22' 0"	128° 0' 0"	PEARL ROCKS
	GK	21/06/1937		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK GK	04/04/1938 02/05/1938		54°14' 0" 53°15' 0"	133° 2' 0" 130°21' 0"	LANGARA ISLAND NORTH DANGER ROCKS
	GK	05/05/1938		23.30. 0.	130°37' 0"	BONILLA ISLAND
	CH	NS/06/1938		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK	11/06/1938		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK GK	12/06/1938 12/06/1938		51°16' 0"	128°12' 0" 128° 0' 0"	VIRGIN ROCKS PEARL ROCKS
	CH	13/06/1938		50°49' 0"	128°54' 0"	SARTINE ISLAND
	GK	16/06/1938		51°47' 0°	128°15' 0"	BLENHEIM ISLAND
	GK	05/08/1938		54°14' 0"	130°59' 0"	BUTTERWORTH ROCKS
	GK GK	NS/NS/1939 NS/NS/1939		51°16' 0" 51°22' 0"	128°12' 0" 128° 0' 0"	VIRGIN ROCKS PEARL ROCKS
	GK	NS/NS/1939		52°44' 0"	129°32' 0"	ISNOR ROCK
	GK	NS/NS/1939		51°39' 0"	128° 5' 0"	KWAKSHUA CHANNEL
	GK	14/06/1939		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK	NS/NS/1940		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	GK GK	NS/NS/1940 NS/NS/1940		53°30' 0"	131°10' 0" 130°37' 0"	HECATE STRAIT BONILLA ISLAND
	GK	NS/NS/1940		54°14' 0"	130°59' 0"	BUTTERWORTH ROCKS
	GK	NS/NS/1945		51°16' 0"	128°12' 0"	VIRGIN ROCKS

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
18906091	GK	NS/NS/1945		0. 0. 0.	0. 0. 0.	MAINLAND
	GK	NS/NS/1946		52°44' 0" 51°56' 0"	129°32' 0"	ISNOR ROCK CAPE ST. JAMES
	GK GK	NS/NS/1947 NS/NS/1947		52°44' 0"	129*32' 0*	ISNOR ROCK
	GK	NS/NS/1947		54*14' 0"	130*59' 0"	<b>BUTTERWORTH ROCKS</b>
	GK	NS/NS/1947		52°16' 0"	128°40' 0°	DAY POINT
	GK GK	NS/NS/1948 NS/NS/1949		53° 3' 0" 51°56' 0"	131°47' 0" 131° 1' 0"	CUMSHEWA INLET CAPE ST. JAMES
	GK	19/02/1949		51*47' 0"	128°15' 0"	BLENHEIM ISLAND
	GK	28/04/1949		52°44' 0"	129*32' 0"	ISNOR ROCK BERESFORD ISLAND
	GK GK	29/05/1949 08/08/1949		50°47' 0" 50°52' 0"	128°46' 0" 129° 5' 0"	TRIANGLE ISLAND
	GK	08/08/1949		50°49' 0"	128*54' 0"	SARTINE ISLAND
	GK	08/08/1949		50°47' 0" 50°48' 0"	128°46' 0" 128°50' 0"	MAGGOT ISLAND SCOTT ISLAND
	GK GK	NS/NS/1950 NS/NS/1950		0. 0. 0.	0* 0' 0"	MAINLAND
	GK	NS/NS/1951		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	GK GK	NS/NS/1951 NS/NS/1952		0° 0' 0" 52°19' 0"	0° 0' 0" 127°31' 0"	MAINLAND DEAN CHANNEL
	GK	NS/NS/1952		52*29' 0"	128*53. 0*	LAREDO SOUND
	CH	NS/06/1952		51°56' 0"	131. 1. 0.	CAPE ST. JAMES
	GK GK	NS/NS/1953 18/03/1953		0° 0' 0" 52°22' 0"	0° 0' 0°	MAINLAND BURNABY STRAIT
	GK	27/03/1953		52°21' 0"	131*22' 0"	BAG HARBOUR
	GK	02/04/1953		52*20' 0"	131°13' 0"	SKINCUTTLE INLET TRIANGLE ISLAND
	CH GK	21/06/1953 13/03/1954		50°52' 0" 52° 5' 0"	129° 5° 0°	COPPER I ARISTAZABAL
	GK	09/04/1954		52*20' 0"	131°13' 0"	SKINCUTTLE INLET
	GK GK	12/04/1954 15/05/1954		52°22' 0" 54°14' 0"	131°21' 0" 130°59' 0"	BURNABY STRAIT BUTTERWORTH ROCKS
	CH	30/05/1954		50.25. 0.	129° 5' 0"	TRIANGLE ISLAND
	GK	30/05/1954		51°16' 0"	128-12. 0.	VIRGIN ROCKS
	GK GK	06/06/1954 06/06/1954		51°56' 0" 53°15' 0"	131° 1° 0" 130°21' 0"	CAPE ST. JAMES NORTH DANGER ROCKS
	CH	14/06/1954		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	CH	14/06/1954		50°49' 0" 53°15' 0"	128°54' 0" 130°21' 0"	SARTINE ISLAND NORTH DANGER ROCKS
	GK GK	31/07/1954 NS/08/1954		52°25' 0°	127°54' 0"	ROSCOE INLET
	GK	NE/NS/1955		0. 0. 0.	0. 0. 0.	MAINLAND
	GK CH	NS/NS/1955 NS/05/1955		0° 0' 0" 51°56' 0"	0° 0' 0"	E. QUEEN CHARLOTTE I. CAPE ST. JAMES
	GK	NS/NS/1956		50°49' 0"	128*41' 0"	LANZ ISLAND
	GK GK	NS/NS/1956 04/04/1956		0° 0' 0" 50°48' 0"	0° 0' 0" 128°50' 0"	MAINLAND SCOTT ISLAND
	CH	04/05/1956		50*48' 0"	128.20. 0.	SCOTT ISLAND
	СН	NS/07/1956		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	CH CH	NS/07/1956 NS/07/1956		50°52' 0" 50°48' 0"	129° 5' 0" 128°50' 0"	TRIANGLE ISLAND SCOTT ISLAND
	GK	NS/NS/1957		52°24' 0"	127*14' 0"	LABOUCHERE CHANNEL
	GK GK	NS/NS/1957 NS/NS/1957		52° 9' 0" 54°59' 0"	128° 7' 0" 129°52' 0"	BELLA BELLA NASS RIVER
	GK	NS/02/1957		52°32' 0"	128°45' 0"	KITASU BAY
	GK	15/03/1957		54*59' 0"	129°52' 0"	NASS RIVER
	GK GK	18/04/1957 29/04/1957		53°34' 0" 54°14' 0"	127°57' 0" 133° 2' 0"	KEMANO LANGARA ISLAND
	GK	17/06/1957		51°47' 0°	128°15' 0"	BLENHEIM ISLAND
	GK	12/07/1957		54°14' 0"	133° 2' 0"	LANGARA ISLAND
	GK GK	29/07/1957 16/12/1957		51°16' 0" 53°11' 0"	128°12' 0"	VIRGIN ROCKS WHALE CHANNEL
	GK	NS/NS/1958		52°52' 0"	131°31' 0"	REEF ISLAND
	GK	NS/NS/1958		54*14' 0"	133 ° 2 ° 0 ° 129 ° 52 ° 0 °	LANGARA ISLAND NASS RIVER
	GK GK	NS/NS/1958 12/03/1958		54*59' 0" 54*59' 0"	129°52' 0"	NASS RIVER
	GK	20/03/1958		53*15' 0"	130°21' 0"	NORTH DANGER ROCKS
	GK GK	27/03/1958 29/03/1958		54°59' 0" 53° 8' 0"	129°52' 0" 129°22' 0"	NASS RIVER SOUALLY CHANNEL
	GK	29/04/1958		50*52' 0"	129° 5' 0"	TRIANGLE ISLAND
	GK	NS/06/1958		54*14' 0"	133° 2' 0"	LANGARA ISLAND
	FC FC	NS/06/1958 NS/06/1958		53°15' 0" 52°16' 0"	130°21' 0" 128°43' 0"	NORTH DANGER ROCKS MCINNES ISLAND
	FC	NS/06/1958		53°30' 0"	130°37' 0"	BONILLA ISLAND
	GK	05/06/1958		50°52' 0"	129 * 5 * 0 *	TRIANGLE ISLAND BUTTERWORTH ROCKS
	FC GK	15/06/1958 NS/07/1958		54°14' 0" 50°52' 0"	130°59' 0" 129° 5' 0"	TRIANGLE ISLAND
	FC	NS/07/1958		50°48' 0"	128*50' 0"	SCOTT ISLAND
	GK GK	03/07/1958 22/07/1958		54°14' 0° 51°27' 0°	133° 2' 0" 127°30' 0"	LANGARA ISLAND DRANEY INLET
	GK.	22/V//1730		31 27 0	12, 30 0	PROUDLE HILL

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey <u>Method</u>	Start Date	Stop Date	Latitude	Longitude	Location Name
18906001	FC	NS/08/1958		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	FC	03/08/1958		52°52' 0"	131°31' 0"	REEF ISLAND
	GK GK	07/08/1958 22/09/1958		51°31' 0"	127°43' 0° 129°22' 0"	DARBY CHANNEL SOUALLY CHANNEL
	FC	NS/12/1958		53°15' 0"	130*21' 0"	NORTH DANGER ROCKS
	GK	12/12/1958		53° 6' 0"	128°29' 0"	KHUTZE INLET
	GK	NS/NS/1959		51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	GK GK	NS/NS/1959 NS/NS/1959		50°48' 0"	128°50' 0" 0° 0' 0"	SCOTT ISLAND MAINLAND
	GK	18/04/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK	15/05/1959		54°59' 0"	129*52' 0" 131* 1' 0"	NASS RIVER
	FC FC	NS/06/1959 NS/06/1959		51°56' 0" 53°15' 0"	130°21' 0"	CAPE ST. JAMES NORTH DANGER ROCKS
	FC	NS/06/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	CH	03/06/1959		50°47' 0"	128°46' 0" 129° 5' 0"	BERESFORD ISLAND
	CH CH	03/06/1959 03/06/1959		50°49' 0"	128°54' 0"	TRIANGLE ISLAND SARTINE ISLAND
	GK	07/06/1959		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK	09/06/1959		50°52' 0"	129° 5' 0" 129° 5' 0"	TRIANGLE ISLAND
	GK GK	10/06/1959 10/06/1959		50°52' 0"	128*12' 0"	TRIANGLE ISLAND VIRGIN ROCKS
	GK	11/06/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK	12/06/1959		50°47' 0"	128°46' 0" 129° 5' 0"	BERESFORD ISLAND
	GK GK	13/06/1959 15/06/1959		50°52' 0" 50°47' 0"	129°3 0	TRIANGLE ISLAND BERESFORD ISLAND
	GK	15/06/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	GK	17/06/1959		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK GK	18/06/1959 18/06/1959		51°56' 0" 50°52' 0"	131° 1' 0" 129° 5' 0"	CAPE ST. JAMES TRIANGLE ISLAND
	GK	21/06/1959		54°14' 0"	133° 2' 0"	LANGARA ISLAND
	GK	25/06/1959		53°15' 0"	130°21' 0°	NORTH DANGER ROCKS
	GK GK	26/06/1959 26/06/1959		53°15' 0" 52°16' 0"	130*21' 0" 128*43' 0"	NORTH DANGER ROCKS MCINNES ISLAND
	GK	27/06/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	FC	NS/07/1959		52°52' 0°	131°31' 0"	REEF ISLAND
	FC FC	NS/07/1959 NS/07/1959		51°56' 0" 54°14' 0"	131° 1' 0"	CAPE ST. JAMES LANGARA ISLAND
	FC	NS/07/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	FC	05/07/1959		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	FC GK	05/07/1959 12/07/1959		52°16' 0° 51°19' 0°	128°43' 0° 127°25' 0°	MCINNES ISLAND SMITH INLET
	GK	30/09/1959		50°47' 0"	128°26' 0"	CAPE SCOTT
	CH	NS/NS/1960		0. 0. 0.	0. 0. 0.	FORRESTER ISLAND
	GK GK	NS/NS/1960 NS/03/1960		0° 0' 0" 54°59' 0"	0° 0' 0"	E. QUEEN CHARLOTTE I. NASS RIVER
	GK	NS/04/1960		51°22' 0"	128° 0' 0-	PEARL ROCKS
	CH	29/05/1960		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	CH CH	29/05/1960 29/05/1960		50°52' 0" 50°47' 0"	129° 5' 0" 128°46' 0"	TRIANGLE ISLAND MAGGOT ISLAND
	FC	06/06/1960		52°52' 0"	131°31' 0"	REEF ISLAND
	FC	06/06/1960		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	CH GK	24/06/1960 10/07/1960		51°56′0" 53°15′0"	131° 1' 0" 130°21' 0"	CAPE ST. JAMES NORTH DANGER ROCKS
	FC	25/09/1960		50°49' 0"	128°54' 0"	SARTINE ISLAND
	FC	26/09/1960		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	FC GK	26/09/1960 28/09/1960		50°49' 0" 52°16' 0"	128°54' 0" 128°43' 0"	SARTINE ISLAND MCINNES ISLAND
	FC	28/09/1960		52°44' 0°	129°32' 0"	ISNOR ROCK
	FC	29/09/1960		52°44' 0"	[29°32' 0"	ISNOR ROCK
	FC FC	30/09/1960 03/10/1960		51°56' 0" 52°44' 0"	131° 1' 0" 131°48' 0"	CAPE ST. JAMES CRESCENT POINT
	GK	NS/NS/1961		50°49' 0"	128°54' 0°	SARTINE ISLAND
	GK	NS/NS/1961		0. 0. 0.	0, 0, 0,	MAINLAND
	GK GK	20/04/1961 30/04/1961		54°59' 0" 51°22' 0"	129°52' 0" 128° 0' 0"	NASS RIVER PEARL ROCKS
	CH	09/06/1961		51°56' 0-	131. 1. 0.	CAPE ST. JAMES
	СН	01/07/1961		51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	GK GK	19/07/1961 24/08/1961		51°16' 0" 54°14' 0"	128°12' 0" 133° 2' 0"	VIRGIN ROCKS LANGARA ISLAND
	FC	21/09/1961		50°49' 0"	128°54' 0"	SARTINE ISLAND
	FC	23/09/1961		52°57' 0"	131°34' 0"	SKEDANS ISLAND
	FC FC	24/09/1961 26/09/1961		52°57' 0" 52°57' 0"	131°34' 0" 131°34' 0"	SKEDANS ISLAND SKEDANS ISLAND
	GK	NS/NS/1962		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	FC	NS/NS/1962		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	FC GK	NS/NS/1962 NS/NS/1962		0. 0. 0. 0. 0. 0.	0° 0' 0"	MAINLAND MAINLAND
	JR	110/110/1702		0 0 0	V U U	MUNITALIA

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID	Survey Method	Start Date Stop Date	te <u>Latitude</u>	Longitude	Location Name
18906001	GK	NS/05/1962	51*16' 0"	128*12' 0*	VIRGIN ROCKS
-07000-	GK	NS/05/1962	51°22' 0"	128° 0' 0"	PEARL ROCKS
	GK	26/05/1962 26/05/1962	52°16' 0°	128°43' 0" 128°27' 0"	MCINNES ISLAND GOSLING ROCKS
	GK CH	09/06/1962	50*52. 0.	129 5 0	TRIANGLE ISLAND
	СH	10/06/1962	51°56' 0"	131 * 1' 0"	CAPE ST. JAMES
	СН	23/06/1962	50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK GK	03/07/1962 03/07/1962	52°16' 0" 51°16' 0"	128°43' 0" 128°12' 0"	MCINNES ISLAND VIRGIN ROCKS
	GK	03/07/1962	51°52' 0"	128*27' 0*	GOSLING ROCKS
	GK	09/07/1962	54°14' 0"	133° 2' 0"	LANGARA ISLAND
	GK GK	10/07/1962 13/08/1962	54°14' 0" 54°14' 0"	133° 2' 0"	LANGARA ISLAND LANGARA ISLAND
	GK	13/08/1962	54°59' 0"	129*52' 0"	NASS RIVER
	CH	NS/NS/1963	51°56' 0"	131 • 1' 0"	CAPE ST. JAMES
	GK GK	NS/NS/1963 05/03/1963	23° 3' 0" 0° 0' 0"	0° 0' 0" 131°47' 0"	MAINLAND CUMSHEWA INLET
	GK	20/03/1963	54°59' 0"	129°52' 0°	NASS RIVER
	GK	10/05/1963	51°22' 0"	128° 0' 0"	PEARL ROCKS
	GK GK	11/05/1963 12/05/1963	51°16' 0"	128°12' 0" 128°43' 0"	VIRGIN ROCKS MCINNES ISLAND
	GK	12/05/1963	51.2.0.	128°27' 0"	GOSLING ROCKS
	GK	14/05/1963	53° 4' 0"	129 • 13 ' 0 •	ASHDOWN ISLAND
	GK GK	16/05/1963 16/05/1963	52°52' 0"	131°31' 0° 130°21' 0°	REEF ISLAND NORTH DANGER ROCKS
	GK	17/05/1963	52°52' 0"	131.31.0.	REEF ISLAND
	GK	20/05/1963	54°14' 0"	133° 2' 0°	LANGARA ISLAND
	GK	21/05/1963	53°15' 0" 53°30' 0"	130°21' 0" 130°37' 0"	NORTH DANGER ROCKS BONILLA ISLAND
	GK GK	21/05/1963 23/05/1963	52°44' 0"	129*32' 0"	ISNOR ROCK
	GK	26/05/1963	51°16′ 0"	128°12' 0"	VIRGIN ROCKS
	GK	28/05/1963	51*16' 0"	128°12' 0"	VIRGIN ROCKS
	GK GK	NS/06/1963 08/09/1963	50°48' 0" 53° 4' 0"	128°50' 0" 129°13' 0"	SCOTT ISLAND ASHDOWN ISLAND
	GK	30/09/1963	54*14' 0"	133* 2' 0"	LANGARA ISLAND
	CH	NS/06/1964	51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	CH CH	NS/06/1964 NS/06/1964	50°47' 0° 50°49' 0°	128°46' 0" 128°54' 0"	BERESFORD ISLAND SARTINE ISLAND
	СН	NS/06/1964	50°47' 0"	128°46' 0"	MAGGOT ISLAND
	GK	15/06/1964	50°47' 0"	128°46' 0"	BERESFORD ISLAND
	GK GK	29/06/1964 02/07/1964	50°48' 0° 50°52' 0°	128°50' 0" 1 <b>29</b> ° 5' 0"	SCOTT ISLAND TRIANGLE ISLAND
	GK	12/09/1964	54°14' 0"	133° 2' 0"	LANGARA ISLAND
	FC	NS/NS/1965	51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	CH CH	NS/NS/1965 NS/06/1965	50°48' 0° 51°56' 0°	128°50' 0" 131° 1' 0"	SCOTT ISLAND CAPE ST. JAMES
	GK	NS/NS/1966	51°30' 0"	128°30' 0"	QUEEN CHARLOTTE SND.
	CH	NS/06/1966	51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	CH CH	NS/06/1966 NS/06/1966	50°52' 0" 50°49' 0"	129° 5' 0" 128°54' 0"	TRIANGLE ISLAND SARTINE ISLAND
	GK	NS/NS/1967	53°34' 0"	127°57' 0"	KEMANO
	GK	07/08/1967	53°15' 0"	130°21' 0°	NORTH DANGER ROCKS
			500 1 <b>5</b> 1 01		
18926001	VS VS	11/05/1892 11/05/1892	50°47' 0" 50°52' 0"	128°46' 0" 129° 5' 0"	BERESFORD ISLAND TRIANGLE ISLAND
	vs	11/05/1892	50°49' 0"	128°54' 0"	SARTINE ISLAND
	VS	12/05/1892	51°16' 0"	128°12' 0"	VIRGIN ROCKS
	VS VS	12/05/1892	51°22' 0"	128° 0' 0" 128° 6' 0"	PEARL ROCKS WATCH ROCK
	VS	12/05/1892	31-23 0	128 0 0	WAICH ROCK
18926002	NS	NS/NS/1913	50°47' 0"	128°26' 0"	CAPE SCOTT
	NS	30/05/1913	54°36′ 0″	131° 4' 0"	ZAYAS ISLAND
	NS NS	12/06/1913 13/07/1916	51°56' 0"	131° 1' 0"	CAPE ST. JAMES CAPE ST. JAMES
	NS NS	NS/NS/1925	23. 8. 0.	130° 2' 0"	JOSEPH ISLAND
	NS	NS/NS/1929	0. 0. 0.	0. 0. 0.	FORRESTER ISLAND
	NS	NS/NS/1937	54*14' 0"	133° 2' 0" 128°12' 0"	LANGARA ISLAND
	NS NS	05/06/1937 04/04/1938	51°16' 0° 54°14' 0°	133° 2' 0"	VIRGIN ROCKS LANGARA ISLAND
	NS	02/05/1938	53*15' 0"	130°21' 0"	NORTH DANGER ROCKS
	NS	05/05/1938	53°30' 0"	130°37' 0"	BONILLA ISLAND
	NS NS	06/07/1938 31/07/1938	50°36' 0"	128°18' 0" 129° 5' 0"	CAPE PALMERSTON TRIANGLE ISLAND
	NS	09/08/1938	50°36' 0"	128°18' 0"	CAPE PALMERSTON
	NS	09/08/1938	50°41' 0"	128°22' 0"	CAPE RUSSELL
	NS	22/08/1938	50°41' 0"	128°22' 0"	CAPE RUSSELL

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set IDf	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
18926002	NS	25/08/1938		50°36' 0"	128*18' 0*	CAPE PALMERSTON
2070000	NS	25/08/1938		53 • 3' 0"	129*40' 0"	WEST ESTEVAN GROUP
	NS NS	01/09/1938 01/09/1938		50°36' 0° 50°41' 0°	128°18' 0" 128°22' 0"	CAPE PALMERSTON CAPE RUSSELL
	NS NS	09/09/1938		52*44' 0*	129 22. 0.	ISNOR ROCK
	NS	11/09/1938		51°56' 0"	131 • 1' 0 •	CAPE ST. JAMES
	NS	12/09/1938 13/09/1938		53°30' 0" 54°14' 0"	130°37' 0" 130°59' 0"	BONILLA ISLAND BUTTERWORTH ROCKS
	NS NS	14/09/1938		20.39. 0.	128 • 18 . 0 .	CAPE PALMERSTON
	NS	14/09/1938		50°41' 0"	128 • 22 ' 0 •	CAPE RUSSELL
	NS NS	15/09/1938 21/09/1938		54°14' 0° 51°47' 0°	133° 2' 0" 128°15' 0"	LANGARA ISLAND BLENHEIM ISLAND
	NS NS	30/09/1938		53 *24' 0"	130*27' 0"	HALIBUT ROCKS
	NS	30/09/1938		53 *24' 0"	130°35' 0°	SOUTH ROCKS
	NS NS	01/10/1938 03/10/1938	02/10/1938	52°16' 0" 53°15' 0"	128°40' 0° 130°21' 0°	DAY POINT NORTH DANGER ROCKS
	NS	15/10/1938		52*44' 0*	129•35. 0.	ISNOR ROCK
	NS	06/05/1939		52°44' 0"	129*32' 0"	ISNOR ROCK
	NS NS	08/06/1939 08/06/1939		51°16' 0"	128°12'0"	VIRGIN ROCKS PEARL ROCKS
	NS NS	09/06/1939		51.47.0	128°15' 0"	BLENHEIM ISLAND
	NS	12/06/1939		50*47' 0"	128°46' 0"	BERESFORD ISLAND
	NS NS	NS/NS/1940 NS/NS/1940		54° 1' 0" 51°47' 0"	130° 7' 0" 128°15' 0"	SKEENA RIVER BLENHEIM ISLAND
	NS	NS/NS/1940		54 9 0"	132 • 39 . 0 •	SHAG ROCK
	NS	NS/08/1945		0. 0. 0.	0. 0. 0.	FORRESTER ISLAND
	NS NS	NS/NS/1947 NS/03/1947		54°14' 0" 54°59' 0"	130°59' 0" 129°52' 0"	BUTTERWORTH ROCKS NASS RIVER
	NS	29/05/1949		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	NS	NS/06/1949		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	NS NS	18/06/1950 19/06/1950		50°47' 0° 51°16' 0°	128°46' 0" 128°12' 0"	BERESFORD ISLAND VIRGIN ROCKS
	NS	19/06/1950		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS	20/06/1950		50°49' 0"	128°54' 0"	SARTINE ISLAND
	NS NS	NS/NS/1954 14/08/1956		50°41' 0" 50°48' 0"	128°22' 0" 128°36' 0"	CAPE RUSSELL COX ISLAND
	AS	NS/NS/1957		0. 0. 0.	0. 0. 0.	FORRESTER ISLAND
	NS NS	05/03/1958 04/04/1958		51°52' 0"	128°27' 0" 128°12' 0"	GOSLING ROCKS VIRGIN ROCKS
	NS	08/04/1958		52*27' 0*	131 • 14 · 0 •	SCUDDER POINT
	NS	10/04/1958		53°41' 0°	130° 7' 0" 131°34' 0"	PETREL CHANNEL
	NS NS	01/05/1958 01/05/1958		52°57' 0" 52°54' 0"	129° 9' 0"	SKEDANS ISLAND SAGER ISLAND
	NS	30/05/1958		53°15' 0"	130°21' 0°	NORTH DANGER ROCKS
	NS NS	12/06/1958 15/06/1958		54°14' 0" 53°30' 0"	133° 2' 0" 130°37' 0"	LANGARA ISLAND BONILLA ISLAND
	NS	15/06/1958		54*14' 0"	130°59' 0"	BUTTERWORTH ROCKS
	NS	16/06/1958		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	NS NS	17/06/1958 20/06/1958		53° 9' 0" 54° 14' 0"	130° 2' 0"	JOSEPH ISLAND LANGARA ISLAND
	NS	07/07/1958		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	NS	07/07/1958		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	NS NS	24/07/1958 07/08/1958		50°52' 0" 50°49' 0"	129° 5' 0" 128°54' 0"	TRIANGLE ISLAND SARTINE ISLAND
	NS	11/08/1958		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	NS	11/08/1958		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS NS	12/08/1958 14/08/1958		52°16' 0" 52°44' 0"	128°43' 0" 129°32' 0"	MCINNES ISLAND ISNOR ROCK
	NS	15/08/1958		53°15' 0°	130°21' 0"	NORTH DANGER ROCKS
	NS	16/08/1958		52°52' 0"	131°31' 0"	REEF ISLAND
	NS NS	21/08/1958 24/08/1958		54°14' 0" 52°52' 0"	133° 2' 0° 131°31' 0°	LANGARA ISLAND REEF ISLAND
	NS	24/08/1958		51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	NS NS	26/08/1958 NS/09/1958		52°16' 0° 51°32' 0°	128°43' 0" 127°47' 0"	MCINNES ISLAND ADDENBROKE POINT
	NS	23/09/1958		52°16' 0"	128*43' 0"	MCINNES ISLAND
	NS	NS/10/1958		51°32' 0"	127*47' 0"	ADDENBROKE POINT
	NS NS	NS/11/1958 05/12/1958		51°32' 0"	127°47' 0" 130°21' 0"	ADDENBROKE POINT NORTH DANGER ROCKS
	NS	NS/01/1959		51°32' 0"	127°47' 0"	ADDENBROKE POINT
	NS	22/01/1959		52° 8' 0°	128°24' 0"	THOMPSON BAY
	NS NS	NS/03/1959 NS/03/1959		54°14' 0" 51°32' 0"	133° 2' 0" 127°47' 0"	LANGARA ISLAND ADDENBROKE POINT
	NS	02/03/1959		51°18' 0"	127°37' 0"	TAKUSH HARBOUR
	NS	09/03/1959		51°31' 0"	127°43' 0"	DARBY CHANNEL
	NS NS	10/03/1959 23/03/1959		51°27' 0" 52°27' 0"	127°30' 0" 131°14' 0"	DRANEY INLET SCUDDER POINT
				J_ 2. V		-34

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set IDf	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
18926002	NS	25/03/1959		51*51. 0*	128° 7' 0"	BREMNER BAY
10/2000	NS	25/03/1959		51°57' 0"	128 * 6' 0"	KILDIT LAGOON
	NS	30/03/1959		52°15' 0"	128° 4' 0"	TROUPE PASSAGE
	NS NS	NS/04/1959		51 *32 ' 0" 52 * 52 ' 0"	127°47' 0° 131°31' 0°	ADDENBROKE POINT REEF ISLAND
	NS NS	09/04/1959 09/04/1959		23,50, 0,	129°14' 0°	WRIGHT SOUND
	NS	16/04/1959		51°28' 0"	127°35' 0"	RIVERS INLET
	NS	17/04/1959		52°19' 0"	127°44' 0"	COUSINS INLET
	NS	18/04/1959		51°16' 0"	128*12' 0"	VIRGIN ROCKS
	NS NS	18/04/1959 27/04/1959		51°19' 0"	127°25' 0" 131°31' 0"	SMITH INLET REEF ISLAND
	NS	27/04/1959	19/06/1959	52°52' 0"	131.31.0.	REEF ISLAND
	NS	28/04/1959		54°14' 0"	130°59' 0"	<b>BUTTERWORTH ROCKS</b>
	NS	NS/05/1959		50°49' 0°	128°54' 0"	SARTINE ISLAND
	NS NS	NS/05/1959 01/05/1959		51°32' 0" 54°14' 0"	127°47' 0" 133° 2' 0"	ADDENBROKE POINT LANGARA ISLAND
	NS NS	01/05/1959		54°14' 0"	130°59' 0"	BUTTERWORTH ROCKS
	NS	01/05/1959		53°54' 0"	130°45' 0"	FAN ISLAND
	NS	01/05/1959		54° 6' 0"	130°44' 0"	SKIAKL ROCKS
	NS NS	03/05/1959		54°14' 0"	133° 2' 0" 132°15' 0"	LANGARA ISLAND STRIAE ISLAND
	NS NS	21/05/1959 22/05/1959		54° 5' 0" 50°47' 0"	128°46' 0"	BERESFORD ISLAND
	NS	22/05/1959		52°11' 0°	131. 8. 0.	ROSE INLET
	NS	23/05/1959		50°49' 0"	128°54' 0"	SARTINE ISLAND
	NS	24/05/1959		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	NS NS	26/05/1959 29/05/1959		50°47' 0° 51°56' 0°	128°46' 0" 131° 1' 0"	BERESFORD ISLAND CAPE ST. JAMES
	NS NS	29/05/1959		52°16' 0"	128°43' 0"	MCINNES ISLAND
	NS	29/05/1959		50°49' 0"	128°54' 0"	SARTINE ISLAND
	NS	29/05/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	NS	29/05/1959		51°22' 0"	128* 0' 0"	PEARL ROCKS BERESFORD ISLAND
	NS NS	30/05/1959 30/05/1959		50°47' 0" 50°52' 0"	128°46' 0" 129° 5' 0"	TRIANGLE ISLAND
	NS	30/05/1959		50°49' 0"	128*54' 0"	SARTINE ISLAND
	NS	NS/06/1959		51°32' 0"	127°47' 0"	ADDENBROKE POINT
	NS	09/06/1959		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	NS NS	09/06/1959 09/06/1959		50°52' 0" 50°49' 0"	129° 5' 0" 128°54' 0"	TRIANGLE ISLAND SARTINE ISLAND
	NS NS	09/06/1959		21.19. 0.	128°12' 0"	VIRGIN ROCKS
	NS	09/06/1959		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS	10/06/1959		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS	11/06/1959		50°47' 0° 51°22' 0°	128°46' 0" 128° 0' 0"	BERESFORD ISLAND PEARL ROCKS
	NS NS	11/06/1959 12/06/1959		50°47' 0"	128 *46 ' 0"	BERESFORD ISLAND
	NS	12/06/1959		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	NS	15/06/1959		51"22' 0"	128° 0' 0"	PEARL ROCKS
	NS	17/06/1959		54° 9' 0" 50°49' 0"	132°39' 0" 128°54' 0"	SHAG ROCK SARTINE ISLAND
	NS NS	19/06/1959 20/06/1959		53*15' 0"	130°21' 0"	NORTH DANGER ROCKS
	NS	20/06/1959		54°14'0"	130°59' 0"	BUTTERWORTH ROCKS
	NS	21/06/1959		54°14' 0"	133° 2' 0"	LANGARA ISLAND
	NS	21/06/1959		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	NS	25/06/1959		53°15' 0"	130°21' 0" 128°43' 0"	NORTH DANGER ROCKS MCINNES ISLAND
	AS NS	26/06/1959 27/06/1959		21.19, 0.	128°12' 0"	VIRGIN ROCKS
	NS	NS/07/1959		51°32' 0°	127°47' 0"	ADDENBROKE POINT
	NS	02/07/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	NS	02/07/1959		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS NS	04/07/1959 06/07/1959		52°16' 0" 52°44' 0"	128°43' 0" 129°32' 0"	MCINNES ISLAND ISNOR ROCK
	NS	08/07/1959		53°15' 0"	130.51.0.	NORTH DANGER ROCKS
	NS	11/07/1959		53°30' 0"	130°37' 0"	BONILLA ISLAND
	NS	12/07/1959		52°52' 0"	131°31' 0"	REEF ISLAND
	NS	18/07/1959		54°14' 0"	133° 2' 0" 130°59' 0"	LANGARA ISLAND BUTTERWORTH ROCKS
	NS NS	18/07/1959 27/07/1959		54°14' 0" 52°52' 0"	131°31' 0"	REEF ISLAND
	NS	27/07/1959		53*33' 0"	129°35' 0"	LOWE INLET
	NS	NS/08/1959		51°32' 0"	127°47' 0"	ADDENBROKE POINT
	NS	06/08/1959		52°38' 0"	128°28' 0"	FINLAYSON CHANNEL
	NS NS	08/08/1959 21/08/1959		51°19' 0° 52°57' 0°	127°25' 0" 131°34' 0"	SMITH INLET SKEDANS ISLAND
	NS NS	24/08/1959		51°56' 0"	131.34.0	CAPE ST. JAMES
	NS	24/08/1959		53°11' 0"	129° 8' 0"	WHALE CHANNEL
	NS	NS/09/1959		51°32' 0"	127°47' 0"	ADDENBROKE POINT
	NS NS	02/09/1959 02/09/1959		53° 5' 0" 53°41' 0"	129° 7' 0" 129°46' 0"	BARNARD HARBOUR
	NS NS	15/09/1959		52°19' 0"	129*46 0	MORNING REEF MILBANKE SOUND
		10.0711707		J= 17 U	1-0 55 0	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
18926002	NS	22/09/1959		54* 7' 0"	132*19' 0"	WIAH POINT
10720002	NS	NS/10/1959		51"32' 0"	127*47' 0"	ADDENBROKE POINT
	NS	06/10/1959		53°29' 0"	129*59' 0"	PRINCIPE CHANNEL
	NS	25/11/1959		53° 6' 0"	128°29' 0" 128°40' 0"	KHUTZE INLET KLEKANE INLET
	NS NS	09/12/1959 11/12/1959		53 12 0	128°47' 0"	FRASER REACH
	NS	NS/01/1960		51 • 32 · 0 *	127°47' 0"	ADDENBROKE POINT
	NS	01/02/1960		54*17' 0"	130°10' 0"	DENISE INLET
	NS NS	03/02/1960 11/02/1960		54°15' 0" 54°14' 0"	130°12' 0° 133° 2' 0°	KLOIYA BAY LANGARA ISLAND
	NS NS	11/02/1960		52°35' 0"	128°31' 0"	KLEMTU PASSAGE
	NS	17/02/1960		52°10' 0"	127*58' 0"	<b>GUNBOAT PASSAGE</b>
	NS	19/02/1960		52°30' 0"	127°30' 0"	CASCADE INLET
	NS NS	22/02/1960 22/02/1960		54°14' 0" 54°59' 0"	133 ° 2' 0" 129 ° 52' 0"	LANGARA ISLAND NASS RIVER
	NS	29/02/1960		54°28' 0"	130-13-0-	WORK CHANNEL
	NS	04/03/1960		53.12.0.	130°21' 0"	NORTH DANGER ROCKS
	NS	06/03/1960		54°14' 0" 51°16' 0"	133° 2' 0" 128°12' 0"	LANGARA ISLAND VIRGIN ROCKS
	NS NS	10/03/1960 10/03/1960		52°44' 0°	131°48' 0"	CRESCENT POINT
	NS	18/03/1960		51.31.0-	127°43' 0"	DARBY CHANNEL
	NS	23/03/1960		53°55' 0"	128°42' 0"	KITIMAT ARM
	NS	23/03/1960 24/03/1960		54°59' 0" 53°54' 0"	129°52' 0" 128°41' 0"	NASS RIVER CLIO BAY
	NS NS	25/03/1960		51°31' 0"	127*43' 0"	DARBY CHANNEL
	NS	25/03/1960		·52°35' 0"	128°31' 0"	KLEMTU PASSAGE
	NS	26/03/1960		51°27' 0"	127°30' 0"	DRANEY INLET
	NS NS	06/04/1960 06/04/1960		51°19' 0" 54° 7' 0"	127°25' 0" 132°34' 0"	SMITH INLET CAPE NADEN
	NS NS	09/04/1960		53° 6' 0"	128 * 29 ' 0 "	KHUTZE INLET
	NS	10/04/1960		53°14' 0"	128*47' 0"	FRASER REACH
	NS	11/04/1960		52°32' 0" 52°27' 0"	128°23' 0" 131°14' 0"	JACKSON PASSAGE SCUDDER POINT
	NS NS	23/04/1960 26/04/1960		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	NS	28/04/1960		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS	30/04/1960		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS NS	NS/05/1960 02/05/1960		51°32' 0" 50°47' 0"	127°47' 0" 128°46' 0"	ADDENBROKE POINT BERESFORD ISLAND
	NS NS	02/05/1960		52°48' 0"	128°23' 0"	TOLMIE CHANNEL
	NS	08/05/1960		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	NS	08/05/1960 08/05/1960		50°52' 0" 50°49' 0"	129° 5' 0" 128°54' 0"	TRIANGLE ISLAND SARTINE ISLAND
	NS NS	13/05/1960		52°12' 0"	128° 6' 0"	SEAFORTH CHANNEL
	NS	16/05/1960		53°14' 0"	128°47' 0"	FRASER REACH
	NS	17/05/1960		52°48' 0"	128°23' 0"	TOLMIE CHANNEL
	NS NS	18/05/1960 21/05/1960		52°51' 0" 51°27' 0"	128°19' 0" 127°30' 0"	HIEKISH NARROWS DRANEY INLET
	NS	25/05/1960		54° 9' 0"	132°39' 0"	SHAG ROCK
	NS	29/05/1960		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	NS NS	31/05/1960 04/06/1960		51°56' 0" 50°49' 0"	131° 1' 0" 128°54' 0"	CAPE ST. JAMES SARTINE ISLAND
	NS NS	06/06/1960		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	NS	07/06/1960		52°48' 0"	128°23' 0"	TOLMIE CHANNEL
	NS	13/06/1960		51°27' 0"	127°30' 0"	DRANEY INLET
	NS NS	14/06/1960 16/06/1960		50°49' 0" 54° 7' 0"	128°54' 0" 132°19' 0"	SARTINE ISLAND WIAH POINT
	NS NS	23/06/1960		53°15'0"	127°54' 0"	KITLOPE ANCHORAGE
	NS	26/06/1960		50°52' 0"	129° 5' 0°	TRIANGLE ISLAND
	NS	26/06/1960		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	NS NS	26/06/1960 01/07/1960		51°22' 0" 53° 4' 0"	128° 0' 0" 129°13' 0"	PEARL ROCKS ASHDOWN ISLAND
	NS	10/07/1960		53°15' 0"	130°21. 0°	NORTH DANGER ROCKS
	NS	17/07/1960		54° 7' 0"	132°34' 0"	CAPE NADEN
	NS NS	24/07/1960 26/07/1960		52°52' 0"	131°31' 0" 129° 8' 0"	REEF ISLAND WHALE CHANNEL
	NS NS	28/07/1960		54° 7' 0"	132°34' 0"	CAPE NADEN
	NS	NS/08/1960		51°32' 0°	127°47' 0"	ADDENBROKE POINT
	NS	01/08/1960		52°27' 0" 53°15' 0"	131°14' 0" 127°54' 0"	SCUDDER POINT KITLOPE ANCHORAGE
	NS NS	20/08/1960 20/08/1960		53°15' 0"	127°34°0"	SKIDEGATE
	NS	23/08/1960		51°40' 0"	127°50' 0"	FITZHUGH SOUND
	NS	NS/09/1960		51°32' 0"	127°47' 0"	ADDENBROKE POINT
	NS NS	02/09/1960 06/09/1960		54°14' 0" 52°29' 0"	133° 2' 0" 131 <b>°</b> 24' 0"	LANGARA ISLAND ALL ALONE STONE
	NS NS	06/09/1960		53°14' 0"	128°47' 0"	FRASER REACH
	NS	06/09/1960		52°18' 0"	131°13' 0"	HARRIET HARBOUR
	NS	06/09/1960		54°25' 0"	132° 0' 0"	DIXON ENTRANCE

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	<u>Latitude</u>	<u>Loositude</u>	Location Name
18926002	NS	07/09/1960		52°35' 0"	128°31' 0"	KLEMTU PASSAGE
10/2001	NS	22/09/1960		54* 7' 0"	132*34' 0"	CAPE NADEN
	NS	25/09/1960		52*57' 0"	131°34' 0"	SKEDANS ISLAND
	NS NS	25/09/1960 25/09/1960		50°47' 0" 50°52' 0"	128°46' 0" 129° 5' 0"	BERESFORD ISLAND TRIANGLE ISLAND
	NS	25/09/1960		50°49' 0"	128*54' 0"	SARTINE ISLAND
	NS	28/09/1960		52*16' 0"	128*43' 0"	MCINNES ISLAND
	NS	28/09/1960		52*44' 0"	129°32' 0"	ISNOR ROCK
	NS NS	28/09/1960 29/09/1960		54° 7' 0" 52°12' 0"	132°19' 0" 128° 6' 0"	WIAH POINT SEAFORTH CHANNEL
	NS	30/09/1960		52.2.0.	131.31.0.	REEF ISLAND
	NS	30/09/1960		51 <b>°56</b> ' 0"	131° 1' 0"	CAPE ST. JAMES
	NS	NS/10/1960		51°32' 0"	127°47' 0" 131°31' 0"	ADDENBROKE POINT
	NS NS	01/10/1960 01/10/1960		52°52' 0" 52°34' 0"	131*24' 0"	REEF ISLAND RAMSAY ISLAND
	NS	03/10/1960		52*48' 0*	128*23' 0"	TOLMIE CHANNEL
	NS	14/10/1960		53° 4′ 0"	128°34' 0"	GRAHAM REACH
	NS NS	15/10/1960		53°37' 0" 53°37' 0"	129°12' 0" 129°43' 0"	DOUGLAS CHANNEL GRENVILLE CHANNEL
	NS NS	31/10/1960 NS/12/1960		51°32' 0"	127*47 0*	ADDENBROKE POINT
	NS	06/12/1960		54°17' 0"	130°10' 0"	DENISE INLET
	NS	19/12/1960		54*14' 0"	133 • 2 · 0 •	LANGARA ISLAND
	NS NS	17/01/1961 24/01/1961		52°49° 0° 53°14' 0°	128°23' 0" 128°47' 0"	CARTER BAY FRASER REACH
	NS	25/01/1961		52°47' 0°	128*16' 0"	SHEEP PASSAGE
	NS	27/01/1961		54*20' 0"	130°18' 0"	PRINCE RUPERT HRB.
	NS	29/01/1961		53° 6' 0"	128*29' 0"	KHUTZE INLET
	NS NS	09/02/1961 10/02/1961		54°20' 0" 54°20' 0"	130°18' 0" 130°18' 0"	PRINCE RUPERT HRB. PRINCE RUPERT HRB.
	NS NS	13/02/1961		51 • 27 • 0 •	127°30' 0"	DRANEY INLET
	NS	13/02/1961		52*19' 0"	127*44' 0"	COUSINS INLET
	NS	19/02/1961		51°52' 0"	128°27' 0" 128°23' 0"	GOSLING ROCKS JACKSON PASSAGE
	NS NS	23/02/1961 23/02/1961		52°36' 0"	128°38' 0"	MEYERS PASSAGE
	NS	27/02/1961		54°20' 0"	130°18' 0"	PRINCE RUPERT HRB.
	NS	NS/03/1961		54°20' 0"	130°18' 0"	PRINCE RUPERT HRB.
	NS NS	03/03/1961 07/03/1961		52°21' 0" 54°20' 0"	128°11' 0" 130°18' 0"	SPILLER CHANNEL PRINCE RUPERT HRB.
	NS NS	10/03/1961		53°14' 0"	128°47' 0"	FRASER REACH
	NS	14/03/1961		52°23' 0"	126°45' 0"	BELLA COOLA AREA
	NS	14/03/1961		51°16' 0"	127°36' 0" 128°42' 0"	FLY BASIN KITIMAT ARM
	NS NS	18/03/1961 19/03/1961		53°55' 0° 53°55' 0°	129°43' 0"	GRENVILLE CHANNEL
	NS	19/03/1961		52*47' 0"	128*16' 0"	SHEEP PASSAGE
	NS	23/03/1961		52*53' 0"	128*30' 0"	SARAH HEAD
	NS	23/03/1961		54°36' 0" 54°45' 0"	130°27' 0" 130°39' 0"	RUSHBROOK PASSAGE TONGASS PASSAGE
	NS NS	23/03/1961 26/03/1961		23°15' 0"	132* 1' 0"	SKIDEGATE
	NS	26/03/1961		52*25' 0*	131*22' 0"	SECTION COVE
	NS	30/03/1961		23° 6' 0"	128°29' 0"	KHUTZE INLET
	NS NS	30/03/1961 30/03/1961		51 °50' 0" 54 °30' 0"	128° 8' 0" 130°27' 0"	WATT BAY PEARL HARBOUR
	NS NS	31/03/1961		52°55' 0"	128°26' 0"	GREEN INLET
	NS	02/04/1961		51°27' 0"	127*30' 0"	DRANEY INLET
	NS	03/04/1961		52°48' 0"	128°23' 0"	TOLMIE CHANNEL BELLA COOLA AREA
	NS NS	07/04/1961 11/04/1961		52° 5' 0"	126°45' 0" 128° 7' 0"	LAMA PASSAGE
	NS NS	12/04/1961		25° 8. 0.	127°53' 0"	FISHER CHANNEL
	NS	14/04/1961		51*27' 0"	127°30' 0"	DRANEY INLET
	NS	14/04/1961		52°42' 0"	131°46′ 0"	ECHO POINT
	NS NS	18/04/1961 19/04/1961		53°14' 0" 52°38' 0"	128°47' 0" 128°11' 0"	FRASER REACH MATHIESON CHANNEL
	NS	25/04/1961		52°19' 0"	128*33' 0"	MILBANKE SOUND
	NS	26/04/1961		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	NS NS	26/04/1961 26/04/1961		52°55' 0"	128°26' 0" 129°49' 0"	GREEN INLET OBSERVATORY INLET
	NS NS	27/04/1961		52*44' 0"	129*32. 0.	ISNOR ROCK
	NS	28/04/1961		53*15' 0"	130°21' 0"	NORTH DANGER ROCKS
	NS	28/04/1961		52°16' 0"	128°43' 0"	MCINNES ISLAND
	NS NS	28/04/1961		53° 4' 0"	129°13′0" 130°37′0"	ASHDOWN ISLAND BONILLA ISLAND
	NS NS	28/04/1961 28/04/1961		51°22' 0"	130-37-0-	PEARL ROCKS
	NS	01/05/1961		21.22.0.	127°23' 0"	BURKE CHANNEL
	NS	02/05/1961		51°52' 0"	128*27' 0*	GOSLING ROCKS
	NS NS	05/05/1961 06/05/1961		51°22' 0" 54°28' 0"	128° 0' 0" 130 <b>°</b> 53' 0"	PEARL ROCKS HUDSON BAY PASSAGE
	NS NS	07/05/1961		50°47' 0"	128°46' 0"	BERESFORD ISLAND

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set 1D/	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
18926002	NS	09/05/1961		52*57' 0"	131°34' 0"	SKEDANS ISLAND
10/20002	NS	11/05/1961		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	NS	14/05/1961		53°37' 0"	129°43' 0" 129°32' 0"	GRENVILLE CHANNEL
	NS NS	25/05/1961 26/05/1961		52°44' 0" 53° 4' 0"	128*34' 0"	ISNOR ROCK GRAHAM REACH
	NS	27/05/1961		53° 6' 0"	128*29' 0*	KHUTZE INLET
	NS	12/06/1961		51*16' 0"	128*12' 0"	VIRGIN ROCKS
	AS NS	22/06/1961 10/07/1961		51°52' 0"	128°27' 0" 128°12' 0"	GOSLING ROCKS VIRGIN ROCKS
	NS	16/08/1961		51*28' 0"	127°35' 0"	RIVERS INLET
	NS	29/08/1961		51°21' 0"	127°48' 0"	SPUR ROCKS
	NS NS	13/09/1961 20/09/1961		51°27' 0" 50°47' 0"	127°30' 0" 128°46' 0"	DRANEY INLET BERESFORD ISLAND
	NS NS	21/09/1961		50°49' 0"	128°54' 0"	SARTINE ISLAND
	NS	22/09/1961		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	NS	23/09/1961 09/10/1961		52°57' 0" 51°28' 0"	131°34' 0° 127°35' 0°	SKEDANS ISLAND RIVERS INLET
	NS NS	13/10/1961		52°31' 0"	128°17' 0"	RESCUE BAY
	NS	23/10/1961		51°28' 0"	127°35' 0"	RIVERS INLET
	NS	23/10/1961		51°19' 0" 54° 6' 0"	127°25' 0"	SMITH INLET CAPE EDENSAW
	NS NS	23/10/1961 01/11/1961		54°26' 0"	130°29' 0"	TREE BLUFF BUOY
	NS	03/11/1961		53° 1' 0"	128°31' 0"	SWANSON BAY
	NS	04/12/1961		53°37' 0" 52°19' 0"	129°43' 0" 127°44' 0"	GRENVILLE CHANNEL COUSINS INLET
	NS NS	05/12/1961 06/12/1961		52°48' 0"	128°23' 0"	TOLMIE CHANNEL
	NS	11/01/1962		25.10.0.	127°58' 0"	GUNBOAT PASSAGE
	NS	19/01/1962		52°36' 0"	128*38' 0"	MEYERS PASSAGE NALAU PASSAGE
	NS NS	23/01/1962 23/01/1962		51°47' 0° 52°38' 0°	128° 4' 0" 128°28' 0"	FINLAYSON CHANNEL
	NS	02/02/1962		54°20' 0°	130°18' 0"	PRINCE RUPERT HRB.
	NS	02/02/1962		53° 6' 0"	128°29' 0" 128°40' 0"	KHUTZE INLET KLEKANE INLET
	NS NS	02/02/1962 05/02/1962		53°12'0"	128°29' 0"	KHUTZE INLET
	NS	10/02/1962		54°14' 0"	130°59' 0"	BUTTERWORTH ROCKS
	NS	13/02/1962		54°14' 0"	133° 2' 0°	LANGARA ISLAND
	NS NS	17/02/1962 19/02/1962		51°28' 0° 51°27' 0°	127°35' 0" 127°30' 0"	RIVERS INLET DRANEY INLET
	NS	26/02/1962		52°52' 0"	131°31' 0"	REEF ISLAND
	NS	27/02/1962		54°19' 0" 51°37' 0"	130°16' 0" 127°45' 0"	FERN PASSAGE FISHEGG INLET
	NS NS	28/02/1962 05/03/1962		54°19' 0"	130°16' 0"	FERN PASSAGE
	NS	07/03/1962		54°20' 0"	130°18' 0"	PRINCE RUPERT HRB.
	NS	16/03/1962 23/03/1962		53° 6' 0"	128°29' 0" 127°43' 0"	KHUTZE INLET DARBY CHANNEL
	NS NS	24/03/1962		54°30' 0"	130°27' 0"	PEARL HARBOUR
	AS	29/03/1962		50°47' 0"	128°26' 0°	CAPE SCOTT
	NS	04/04/1962		53°55' 0" 52°28' 0"	130°36' 0" 128°41' 0"	KITKALTA INLET HIGGINS PASSAGE
	NS AS	09/04/1962 10/04/1962		54°14' 0"	133° 2' 0"	LANGARA ISLAND
	NS	11/04/1962		53°39' 0"	130° 2' 0°	HEVENOR INLET
	AS	12/04/1962		50°47' 0°	128°46' 0"	BERESFORD ISLAND
	NS AS	12/04/1962 12/04/1962		53°37' 0" 50°52' 0"	129° 5' 0"	DOUGLAS CHANNEL TRIANGLE ISLAND
	NS	12/04/1962		50°49' 0"	128°54' 0"	SARTINE ISLAND
	AS	12/04/1962		50°47' 0°	128°46' 0"	MAGGOT ISLAND
	NS NS	13/04/1962 03/05/1962		53°27' 0° 52°52' 0°	128°25' 0"	GARDNER CANAL REEF ISLAND
	NS	08/05/1962		51°52' 0"	128°27' 0"	GOSLING ROCKS
	NS	14/05/1962		53°15' 0"	130°21' 0°	NORTH DANGER ROCKS
	NS NS	16/05/1962 20/05/1962		54°40' 0" 54°59' 0"	130°23' 0° 129°52' 0°	EMMA PASSAGE NASS RIVER
	NS	24/05/1962		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS	25/05/1962		52°16' 0"	128°43' 0"	MCINNES ISLAND
	NS NS	25/05/1962 26/05/1962		51°52' 0"	128°27' 0" 128°12' 0"	GOSLING ROCKS VIRGIN ROCKS
	NS	26/05/1962		52°44' 0"	129°32' 0"	ISNOR ROCK
	NS	27/05/1962		54°28' 0"	130°13' 0°	WORK CHANNEL
	NS NS	28/05/1962 31/05/1962		51°16' 0"	128°12' 0"	VIRGIN ROCKS CAPE ST. JAMES
	NS	NS/06/1962		54°14' 0"	133° 2' 0"	LANGARA ISLAND
	NS	NS/06/1962		52°16' 0"	128°43' 0"	MCINNES ISLAND
	NS NS	09/06/1962 16/06/1962		53°29' 0"	129°59' 0" 131°38' 0"	PRINCIPE CHANNEL ROSE SPIT
	NS	23/06/1962		54°52' 0"	130° 6' 0"	NASOGA GULF
	NS	03/07/1962		52°16' 0°	128°43' 0"	MCINNES ISLAND
	NS	03/07/1962		51°16' 0°	128°12' 0"	VIRGIN ROCKS

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	<u>Latitude</u>	<u>Longitude</u>	Location Name
18926002	NS	03/07/1962		51°22' 0"	128° 0' 0"	PEARL ROCKS
	NS	03/07/1962		51*52' 0"	128*27' 0"	GOSLING ROCKS
	NS	05/07/1962		54°14' 0" 54°14' 0"	130°59' 0" 133° 2' 0"	BUTTERWORTH ROCKS LANGARA ISLAND
	NS NS	09/07/1962 10/07/1962		54°14' 0"	133 ° 2 · 0 -	LANGARA ISLAND
	NS	12/07/1962		53°15' 0"	130*21' 0"	NORTH DANGER ROCKS
	NS	13/08/1962		54°14' 0"	133 • 2 · 0 •	LANGARA ISLAND
	NS NS	10/05/1963 11/05/1963		51°22' 0" 51°16' 0"	128° 0' 0"	PEARL ROCKS VIRGIN ROCKS
	NS NS	12/05/1963		52°16' 0"	128*43' 0"	MCINNES ISLAND
	NS	12/05/1963		53° 4' 0"	129°13' 0"	ASHDOWN ISLAND
	NS	12/05/1963		51°52' 0" 52°44' 0"	128*27' 0" 129*32' 0"	GOSLING ROCKS
	NS NS	15/05/1963 16/05/1963		52°52' 0"	131°31' 0"	ISNOR ROCK REEF ISLAND
	NS	16/05/1963		53°15' 0"	130*21' 0"	NORTH DANGER ROCKS
	NS	18/05/1963		54°14' 0"	130°59' 0"	BUTTERWORTH ROCKS
	NS NS	21/05/1963		53°15' 0" 53°30' 0"	130°21' 0" 130°37' 0"	NORTH DANGER ROCKS BONILLA ISLAND
	NS NS	21/05/1963 22/05/1963		53° 4' 0"	129*13' 0"	ASHDOWN ISLAND
	NS	23/05/1963		52°44' 0"	129°32' 0"	ISNOR ROCK
	NS	25/05/1963		52°16' 0°	128°43' 0"	MCINNES ISLAND
	NS NS	26/05/1963 NS/06/1963		51°22' 0" 51°56' 0"	131° 1' 0"	PEARL ROCKS CAPE ST. JAMES
	NS	NS/10/1963		52°16' 0"	128*43' 0*	MCINNES ISLAND
	NS	NS/11/1963		52°16' 0"	128°43' 0"	MCINNES ISLAND
	NS	NS/12/1963		52°16' 0" 52°16' 0"	128°43' 0" 128°43' 0"	MCINNES ISLAND MCINNES ISLAND
	NS NS	NS/01/1964 NS/02/1964		52°16' 0"	128°43' 0"	MCINNES ISLAND
	NS	NS/03/1964		52°16' 0"	128°43' 0"	MCINNES ISLAND
	NS	NS/04/1964		52°16′ 0"	128°43' 0"	MCINNES ISLAND
	NS NS	NS/05/1964 NS/06/1964		52°16' 0"	128°43' 0" 128°43' 0"	MCINNES ISLAND MCINNES ISLAND
	NS NS	NS/07/1964		52°16' 0"	128°43' 0"	MCINNES ISLAND
	NS	02/06/1966		50°48' 0"	128°50' 0"	SCOTT ISLAND
	NS	03/06/1966		51°56' 0"	131° 1' 0" 128°54' 0"	CAPE ST. JAMES
	NS NS	07/06/1966 08/06/1966		50°49' 0" 50°47' 0"	128*46' 0"	SARTINE ISLAND MAGGOT ISLAND
	NS	10/06/1966		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	NS	14/06/1966		50°49' 0"	128°54' 0"	SARTINE ISLAND
	NS NS	15/06/1966 NS/NS/1970		50°47' 0° 50°47' 0°	128°46' 0" 128°26' 0"	MAGGOT ISLAND CAPE SCOTT
	AS	NS/NS/1972		54°36' 0"	131. 4. 0.	ZAYAS ISLAND
	NS	NS/NS/1973		0. 0. 0.	0. 0. 0.	FORRESTER ISLAND
	AS	03/07/1973 NS/NS/1974		53°15' 0" 51°56' 0"	130°21' 0" 131° 1' 0"	NORTH DANGER ROCKS CAPE ST. JAMES
	NS NS	23/04/1975		54° 1' 0"	128*38' 0"	MINETTE BAY
	NS	01/05/1975		54° 1' 0"	128°38' 0"	MINETTE BAY
	NS	23/08/1975		54° 1' 0"	128*38' 0"	MINETTE BAY
	NS NS	NS/NS/1976 NS/NS/1976		54°12' 0" 52°30' 0"	131°38' 0" 127°30' 0"	ROSE SPIT CASCADE INLET
	NS	20/06/1976		51°52' 0"	128*27' 0"	GOSLING ROCKS
	NS	26/06/1976		52°44' 0"	129°32' 0"	ISNOR ROCK
	NS NS	27/06/1976 NS/NS/1977		52°28' 0" 51°27' 0"	129°22' 0° 127°40' 0°	STEELE ROCK BILTON ISLAND
	NS NS	NS/NS/1977		52°50' 0"	128°46' 0"	BAY OF PLENTY
	NS	NS/NS/1977		54°39' 0"	130°25' 0"	N. HOGAN ISLAND
	NS	NS/04/1977		52°55' 0"	128°26' 0"	GREEN INLET
	NS AS	NS/05/1977 16/06/1977		52°55' 0" 54° <b>2</b> 6' 0"	128°26' 0" 130°59' 0"	GREEN INLET CHEARNLEY ISLAND
	AS AS	16/06/1977		54*36* 0*	131 • 4 · 0 ·	ZAYAS ISLAND
	AS	16/06/1977		54°39' 0"	130°25' 0"	N. HOGAN ISLAND
	NS	05/08/1977		50°49' 0"	128°41' 0"	LANZ ISLAND
	NS AS	NS/NS/1978 15/05/1978		52°55' 0"	128°26' 0"	GREEN INLET TRIANGLE ISLAND
	NS	20/05/1978		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	NS	22/03/1980		51 *54' 0"	128°13' 0"	CULTUS SOUND
	NS NC	23/03/1980		52° 7' 0"	128°26' 0"	HOUGHTON ISLAND
	NS NS	24/03/1980 27/03/1980		53° 4' 0"	129° 1' 0" 131°51' 0"	WEETEEAM BAY CONGLOMERATE PT.
	NS	29/03/1980		52°57' 0"	131°54' 0"	LOUISE NARROWS
	NS	04/04/1980		54*39' 0"	130°25' 0"	N. HOGAN ISLAND
	NS NS	05/08/1980 05/09/1981		51°47' 0° 52°57' 0°	128°15' 0" 131°34' 0"	BLENHEIM ISLAND SKEDANS ISLAND
	NS	NS/NS/1981		54°10' 0"	130.20. 0.	ROLAND ROCKS
	NS	NS/NS/1982		53*54' 0"	130°45' 0"	FAN ISLAND
	NS AS	10/06/1982		52°12' 0"	128° 6' 0"	SEAFORTH CHANNEL
	AS	30/06/1982		54°26' 0"	130°59' 0"	CHEARNLEY ISLAND

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	<u>Longitude</u>	Location Name
18926002	NS NS	14/08/1982 05/09/1982		54°20' 0" 54°26' 0"	130°59' 0°	PRINCE RUPERT HRB. CHEARNLEY ISLAND
19006001	RVS RVS RVS	NS/NS/1900 02/07/1900 07/07/1900		53°30' 0" 53°30' 0"	131°10' 0" 131°10' 0" 131°10' 0"	HECATE STRAIT HECATE STRAIT HECATE STRAIT
19136001	VS V	NS/NS/1913 NS/NS/1913 NS/NS/1913 NS/NS/1913 NS/NS/1913 11/05/1913 11/05/1913 11/05/1913 11/05/1913 12/06/1913 12/06/1913 22/06/1913 22/06/1913 16/07/1913 16/07/1913 17/08/1913 17/08/1913 17/08/1913 17/08/1913	15/06/1913 15/06/1913 15/06/1913 15/06/1913	53°30' 0" 54°14' 0" 54°26' 0" 51°32' 0" 53°15' 0" 52°44' 0" 53° 9' 0" 52°45' 0" 51°56' 0" 51°47' 0" 51°22' 0" 51°22' 0" 50°49' 0" 51°57' 0" 50°47' 0" 51°22' 0"	130*37' 0" 130*59' 0" 130*59' 0" 127*47' 0" 131* 4' 0" 130*21' 0" 129*32' 0" 130*59' 0" 131* 1' 0" 128*43' 0" 128*0' 0" 128*0' 0" 128*54' 0" 128*27' 0" 128*27' 0" 128*6' 0" 128*27' 0"	BONILLA ISLAND BUTTERWORTH ROCKS CHEARNLEY ISLAND ADDENBROKE POINT ZAYAS ISLAND NORTH DANGER ROCKS ISNOR ROCK JOSEPH ISLAND ANDERSON ISLAND BUTTERWORTH ROCKS CAPE ST. JAMES MCINNES ISLAND BLENHEIM ISLAND PEARL ROCKS WATCH ROCK TRIANGLE ISLAND SARTINE ISLAND GOOSE ISLANDS BERESFORD ISLAND VIRGIN ROCKS PEARL ROCKS
19136002	вн	NS/NS/1913	NS/NS/1964	0° 0' 0"	0. 0. 0.	STAT AREAS 1 - 11
19166001	VS VS VS VS VS VS VS VS VS	08/06/1916 25/06/1916 25/06/1916 25/06/1916 25/06/1916 25/06/1916 26/06/1916 13/07/1916 16/07/1916	28/06/1916	50°41' 0" 51°16' 0" 51°22' 0" 51°23' 0" 54°14' 0" 50°47' 0" 50°49' 0" 51°56' 0" 50°52' 0"	128°22' 0" 128°12' 0" 128° 0' 0" 128° 6' 0" 130°59' 0" 127°57' 0" 128°54' 0" 131° 1' 0" 129° 5' 0"	CAPE RUSSELL VIRGIN ROCKS PEARL ROCKS WATCH ROCK BUTTERWORTH ROCKS ENGLAND ROCK BERESFORD ISLAND SARTINE ISLAND CAPE ST. JAMES TRIANGLE ISLAND
19196001	ISS ISS ISS ISS ISS ISS	NS/NS/1919 NS/05/1919 NS/08/1921 NS/06/1922 11/05/1923 NS/08/1923 23/08/1923		54°34' 0° 54°34' 0° 54°34' 0° 54°35' 0° 54°35' 0° 54°25' 0° 54°34' 0°	130°42' 0" 130°42' 0" 130°42' 0" 130°42' 0" 131° 0' 0" 131° 0' 0"	GREEN ISLAND GREEN ISLAND GREEN ISLAND GREEN ISLAND GREY ISLAND S. OF DUNDAS ISLAND GREEN ISLAND
19246001	CH C	01/06/1924 29/06/1924 19/07/1924 21/07/1924 24/07/1924 04/08/1924 11/08/1924 12/08/1924 12/08/1924 12/08/1924 12/08/1924 13/08/1924 15/08/1924 15/08/1924 18/08/1924 24/08/1924 24/08/1924 24/08/1924 24/08/1924 21/09/1924 01/09/1924 01/09/1924 01/09/1924		54*18' 0* 54*32' 0* 54*35' 0* 54*35' 0* 54*25' 0* 54*40' 0* 54*40' 0* 54*40' 0* 54*40' 0* 54*40' 0* 54*40' 0* 54*38' 0* 54*38' 0* 54*38' 0* 54*38' 0* 54*38' 0* 54*38' 0* 54*30' 0* 54*30' 0* 54*30' 0* 54*25' 0*	132°45' 0" 132°20' 0" 132°40' 0" 132°50' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°55' 0" 131°52' 0" 131°55' 0" 131°52' 0" 131°52' 0" 131°52' 0" 131°52' 0" 131°52' 0" 131°52' 0" 131°55' 0" 131°50' 0" 131°50' 0" 131°50' 0" 131°50' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	<u>Longitude</u>	Location Name
19246091	СН	23/05/1925		54° 0' 0"	132*38' 0"	
	СН	24/05/1925		54° 0' 0"	132°38' 0"	
	CH CH	05/06/1925 06/06/1925		54°30' 0" 54°30' 0"	132°38' 0" 132°38' 0"	
	CH	10/06/1925		54° 0' 0"	132°38' 0"	
	CH	21/06/1925		54° 0' 0"	132*38' 0"	
	CH	24/06/1925		54°25' 0° 54° 0' 0°	132*38' 0* 132*38' 0*	
	CH CH	30/06/1925 03/07/1925		54° 0' 0"	132 38 0	
	CH	05/07/1925		54° 0' 0"	132°38' 0"	
	CH	07/07/1925		54° 0' 0"	132°38' 0" 132°38' 0"	
	CH CH	16/07/1925 17/07/1925		54° 0' 0" 54° 0' 0"	132°38' 0"	
	CH	18/07/1925		54° 0' 0°	132*38' 0*	
	CH	19/07/1925		54° 0' 0°	132°38' 0"	
	CH CH	27/07/1925 30/07/1925		54°32' 0" 54°27' 0"	132°16′0" 132° 4′0"	
	CH	31/07/1925		54°18' 0"	132*12' 0"	
	CH	01/08/1925		54° 0' 0°	132°38' 0"	
	CH CH	11/08/1925 12/08/1925		54*22' 0" 54*22' 0"	132° 0' 0" 132° 0' 0"	
	CH	22/08/1925		54°30' 0"	131°47' 0"	
	CH	23/08/1925		54°30' 0"	131°47' 0"	
	CH CH	25/08/1925 27/08/1925		54°30' 0" 54°30' 0"	131°47' 0° 131°47' 0°	
	CH	15/07/1926		54°35' 0°	132°32' 0"	
	CH	26/07/1926		53°42' 0"	131°22' 0" 132° 1' 0"	
	CH CH	27/07/1926 10/08/1926		54°26′ 0" 54° 4′ 0"	132°30' 0"	
	СН	11/08/1926		54°41' 0"	131°41' 0"	
	CH	11/08/1926		54° 4' 0"	132°30' 0"	
	CH CH	13/08/1926 14/08/1926		54° 4' 0" 54°41' 0"	132°30' 0° 131°51' 0°	
	СH	14/08/1926		54° 4' 0"	132°30' 0"	
	СН	14/08/1926		54° 4' 0"	132°30' 0"	
	CH CH	16/08/1926 19/08/1926		54°11' 0" 54° 4' 0"	132°25' 0"	
	CH	22/08/1926		54°23' 0"	132°47' 0"	
	CH	29/08/1926		54° 4' 0"	132°30' 0"	
	CH CH	14/06/1927 17/06/1927		54°21' 0" 54°30' 0"	131°40' 0° 132°30' 0°	
	СH	18/06/1927		54°35' 0"	132°40' 0"	
	СН	18/06/1927		54°25' 0"	131°35' 0"	
	CH CH	20/06/1927 21/06/1927		54°25' 0" 54°35' 0"	131°35' 0" 132°25' 0"	
	СН	22/06/1927		54°35' 0"	132°45' 0"	
	СН	05/07/1927		54°30' 0"	132°40' 0"	
	CH CH	07/07/1927 09/07/1927		54°20' 0" 54°30' 0"	132°40' 0" 132°40' 0"	
	СН	10/07/1927		54°30' 0"	132° 0' 0"	
	СН	12/07/1927		54°30' 0"	132°40' 0"	
	CH CH	15/07/1927 16/07/1927		54°25' 0" 54°25' 0"	131°40' 0" 132°10' 0"	
	СH	17/07/1927		54°25' 0"	132°35' 0"	
	CH	17/07/1927		54°25' 0"	132°10' 0"	
	CH CH	18/07/1927 20/07/1927		54°25' 0" 54°25' 0"	132°10' 0"	
	CH	20/07/1927		54°20' 0"	132°25' 0"	
	CH	20/07/1927		54°30' 0"	132°30' 0"	
	CH CH	21/07/1927 22/07/1927		54°30' 0" 54°30' 0"	132°30' 0" 132°30' 0"	
	CH	22/07/1927		54°23' 0"	132°35' 0"	
	CH	23/07/1927		54°30' 0"	132°40' 0"	
	CH	25/07/1927		54°30' 0" 54°30' 0"	132°45' 0" 132°45' 0"	
	CH CH	29/07/1927 31/07/1927		54°35' 0"	132°15' 0"	
	CH	03/08/1927		54°30' 0"	132°15' 0"	
	CH	04/08/1927		54°30' 0°	132° 5' 0"	
	CH CH	04/08/1927 05/08/1927		54°30' 0" 54°30' 0"	132°10' 0"	
	CH	07/08/1927		54°30' 0"	132°10' 0"	
	CH	09/08/1927		54°30' 0"	132°10' 0"	
	CH CH	10/08/1927 29/08/1927		54*30' 0" 54*30' 0"	132°10' 0" 132°20' 0"	
	CH	30/08/1927		54°25' 0"	132°20' 0"	
	CH	31/08/1927		54°25' 0"	132°20' 0"	
	СН	01/09/1927		54°30' 0"	132°40' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
	<b></b>	01.00/1007		54*30' 0"	132*30' 0*	
19246001	CH CH	01/09/1927 01/09/1927		54*20' 0*	132 30 0	
	СН	02/09/1927		54*20' 0"	132°30' 0"	
	CH	03/09/1927		54°20' 0"	132*30' 0*	
	CH	09/09/1927		54°25' 0" 54°25' 0"	132°40' 0" 132°40' 0"	
	CH CH	13/09/1927 18/09/1927		54*20' 0"	132.30, 0.	
19256001	СН	25/07/1925		51 * 8' 0"	129*20' 0"	
17230001	СН	28/07/1925		51 • 10' 0	129 • 10 · 0 •	
	CH	03/08/1925		52°30' 0"	131 *20 ' 0 "	
	CH CH	07/08/1925 15/08/1925		51°38' 0" 51°45' 0"	130°17' 0" 129°52' 0"	
	CH	01/09/1925		51°40' 0"	130•30, 0.	
	CH	23/09/1925		52°30' 0"	131°30' 0°	
	CH	26/09/1925		52°25' 0" 52°40' 0"	131°20' 0" 131°50' 0"	
	CH CH	27/09/1925 23/05/1926		21°38' 0"	130 17' 0"	
	СН	24/05/1926		52°16' 0"	130°25' 0"	
	CH	02/07/1926		52° 0' 0"	130°15' 0"	
	CH CH	17/07/1926 13/08/1926		50°55' 0° 52°45' 0°	129° 5' 0" 131°30' 0"	
	СН	15/08/1926		52° 5' 0"	130°30' 0"	
	СН	15/08/1926		51.55, 0.	130°30' 0"	
	CH CH	16/08/1926 18/08/1926		52° 5' 0" 52°50' 0"	130°30' 0"	
	CH CH	19/08/1926		52°30° 0"	130°25' 0"	
	СН	22/08/1926		51°50' 0"	130°30' 0"	
	СН	22/08/1926		51°40' 0"	130°25' 0°	
	CH CH	29/08/1926 27/09/1926		51°50' 0" 51°40' 0"	130° 0' 0" 130°30' 0"	
	CH	13/05/1927		51°50' 0"	130°30' 0"	
	CH	25/05/1927		52°40' 0"	130°10' 0"	
	CH CH	28/05/1927 31/05/1927		52°50' 0" 52°50' 0"	129°50' 0"	
	CH	05/06/1927		52°45' 0°	129°25' 0"	
	CH	07/06/1927		52°30' 0"	129°30' 0"	
	CH CH	07/06/1927 07/06/1927		52°50' 0" 52°15' 0"	129°55' 0"	
	CH	07/06/1927		25. 0. 0.	130,30, 0,	
	CH	07/06/1927		52°10' 0"	130° 0' 0"	
	CH	14/06/1927		53° 0' 0°	130° 0' 0" 129°45' 0"	
	CH CH	17/06/1927 17/06/1927		52°30' 0" 53° 0' 0"	130.32. 0.	
	CH	19/06/1927		52°30' 0°	129°40' 0"	
	CH	19/06/1927		52°40' 0"	130°15' 0"	
	CH CH	22/06/1927 25/06/1927		51°20' 0"	129° 0' 0" 129°20' 0"	
	СH	26/06/1927		51°25' 0°	129°10' 0"	
	СН	27/06/1927		52°25' 0"	130° 0' 0"	
	CH CH	29/06/1927 29/06/1927		52°30' 0" 52°40' 0"	130°15' 0"	
	СН	03/07/1927		23° 2. 0.	131.12.0.	
	CH	04/07/1927		52°10' 0"	129°15′ 0"	
	CH	05/07/1927		53°10' 0"	131° 0' 0"	
	CH CH	06/07/1927 07/07/1927		52°45' 0" 52°35' 0"	130°20' 0" 129°40' 0"	
	CH	07/07/1927		52°10' 0"	129 • 35 ' 0"	
	СН	09/07/1927		51°45' 0°	130°10' 0"	
	CH CH	10/07/1927 14/07/1927		52°25' 0° 51°15' 0°	129°45' 0" 129°40' 0"	
	CH	14/07/1927		51 *45 0 0	130° 0' 0"	
	CH	17/07/1927		51°35' 0"	129°30' 0"	
	CH CH	17/07/1927 17:07/1927		51°25' 0" 51°20' 0"	129°15' 0° 129°15' 0°	
	CH	19/07/1927		51° 5' 0"	129°20' 0"	
	СН	21/07/1927		51°30' 0"	129°40' 0"	
	CH	21/07/1927 22/07/1927		51° 0' 0" 51°25' 0"	129° 5' 0" 129°35' 0"	
	CH CH	22/07/1927 22/07/1927		51°10' 0"	129°10' 0"	
	СН	29/07/1927		52°15' 0"	129°40' 0"	
	CH	21/05/1928		51°56' 0"	130°41' 0"	
	CH CH	21/05/1928 30/05/1928		51°56' 0" 52°39' 0"	130°36' 0" 131°22' 0"	
	CH	19/06/1928		52°32' 0"	131 °39. 0"	
	СН	25/06/1928		51°42' 0"	130°36' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
19256001	CH CH CH CH CH CH CH	08/07/1928 19/07/1928 21/07/1928 09/08/1928 10/08/1928 12/08/1928 28/08/1928 30/08/1928		51°54' 0° 51°48' 0° 52°22' 0° 51°45' 0° 51°28' 0° 51°28' 0° 51°51' 0°	130°18' 0" 130°32' 0" 129°40' 0" 130°39' 0" 130°11' 0" 130°11' 0" 130°50' 0"	
19346001	IVS	NS/NS/1935 NS/NS/1935 24/02/1935 24/02/1935 29/04/1935 29/04/1935 29/04/1935 04/05/1935 04/05/1935 08/05/1935 10/05/1935 10/05/1935 10/05/1935 21/05/1935 09/03/1936 15/03/1936 03/04/1936 04/04/1936 14/05/1936 19/05/1936	23/05/1936	53°30' 0" 54°22' 0" 53°30' 0" 54°10' 0" 54°18' 0" 53°25' 0" 53°21' 0" 53°15' 0" 53°15' 0" 53°16' 0" 51°49' 0" 53°16' 0" 51°49' 0" 53°30' 0" 50°48' 0" 50°48' 0" 50°55' 0" 54°10' 0" 51°30' 0" 51°30' 0" 51°30' 0" 51°30' 0"	130°37' 0" 130°35' 0" 130°43' 0" 129°50' 0" 131°40' 0" 131°34' 0" 130°50' 0" 131° 3' 0" 130°10' 0" 130°25' 0" 130°53' 0"	BONILLA ISLAND CHATHAM SOUND 5 MI W OF BONILLA I. 30 MI NW TRIANGLE I. 5 MI NEN OF WIAH PT. 2 MI NNW ROSE SPIT 6 MI NE ROSE SPIT 7.5 MI SSW BONILLA I. 14 MI SWS BONILLA I. 18.5 MI NEE SCUDDER PT. 2 MI OFF DANGER ROCKS 5 MI OFF IKEDA HEAD 16 M. W. ESTEVAN I. IKEDA HD - CAAMANO SD OFF VIRGIN ROCKS 12 MI SW GOOSE ISLAND TRIPLE ISLAND RAMSAY ISLAND BONILLA ISLAND COX ISLAND HOPE ISLAND W. OF MILBANKE SND. COPPER I ARISTAZABAL NORTHERN HECATE STR. QUEEN CHARLOTTE SND. TRIANGLE I C. ST. JAME
19356001	NS NS NS	25/04/1934 NS/05/1934 14/05/1934		52°60' 0" 51°30' 0" 0° 0' 0"	129°40' 0" 128°30' 0" 0° 0' 0"	QUEEN CHARLOTTE SND. 40-50 MI SWS GANDER I.
19376001	NS NS NS NS NS NS NS NS NS NS	NS/07/1937 NS/09/1937 NS/NS/1939 08/07/1939 28/08/1939 29/08/1939 27/07/1950 09/08/1951 NS/NS/1968 04/07/1971 NS/NS/1972 NS/06/1972 20/08/1981 15/11/1987 26/03/1988		54° 1' 0" 52°23' 0" 50°47' 0" 51°57' 0" 52°43' 0" 50°47' 0" 51°56' 0" 0° 0' 0" 52°20' 0" 50°52' 0" 50°52' 0" 52°34' 0" 53°15' 0" 53°14' 0"	132° 6' 0" 126°33' 0" 128°26' 0" 128°27' 0" 129° 0' 0" 129° 0' 0" 131° 1' 0" 0° 0' 0" 131° 18' 0" 129° 5' 0" 129° 5' 0" 131°24' 0" 131°49' 0" 132° 4' 0"	MASSET HAGENSBORG CAPE SCOTT GOOSE ISLANDS KENT INLET KENT INLET CAPE SCOTT CAPE ST. JAMES JESSE HRB., BANKS I. SWAN BAY TRIANGLE ISLAND TRIANGLE ISLAND RAMSAY ISLAND SANDSPIT BEARSKIN BAY
19386001	SAS SAS SAS SAS SAS SAS SVS SAS SAS SAS	16/08/1938 17/08/1938 17/08/1938 17/08/1938 17/08/1938 18/08/1938 19/08/1938 19/08/1938 19/08/1938 19/08/1938		51°56' 0° 53°15' 0° 52°44' 0° 54°14' 0° 53°24' 0° 50°47' 0° 50°52' 0° 50°49' 0° 51°16' 0° 51°22' 0°	131° 1' 0" 130°21' 0" 129°32' 0" 130°59' 0" 130°27' 0" 128°43' 0" 128°46' 0" 129° 5' 0" 128°54' 0" 128°12' 0" 128° 0' 0"	CAPE ST. JAMES NORTH DANGER ROCKS ISNOR ROCK BUTTERWORTH ROCKS HALIBUT ROCKS MCINNES ISLAND BERESFORD ISLAND TRIANGLE ISLAND SARTINE ISLAND VIRGIN ROCKS PEARL ROCKS
19396001	NS NS NS NS NS	NS/07/1939 NS/01/1954 NS/01/1954 NS/01/1954 NS/02/1954 NS/02/1954		51°57' 0" 54°25' 0" 54°17' 0" 53°37' 0" 51°40' 0" 52° 9' 0"	128°27' 0" 130°18' 0" 130°22' 0" 129°43' 0" 127°50' 0"	GOOSE ISLANDS TUCK INLET PRINCE RUPERT HRB. PITT POINT FITZHUGH SOUND BELLA BELLA

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Survey <u>Method</u>	Start Date	Stop Date	Latitude	Longitude	Location Name
NS NS	NS/02/1954 NS/03/1954		54°20' 0" 0° 0' 0"	0. 0. 0. 130.18. 0.	PRINCE RUPERT HRB. BUTEDALE AREA
ISS	27/01/1941		54° 2' 0"	132°14' 0°	STURGESS BAY
NS N	14/07/1945 24/05/1946 06/06/1946 08/06/1946 15/06/1946 21/06/1946 21/06/1946 07/07/1946 07/07/1946 07/08/1946 08/08/1946 08/08/1946 08/08/1946 08/08/1946 08/08/1946 08/08/1946 11/01/1954 114/01/1954 114/01/1954 114/01/1954 114/01/1954 114/06/1956 117/06/1958 118/06/1957 117/06/1958 118/06/1960 23/06/1960 23/06/1960		54° 2' 0"  54° 10' 0"  54° 10' 0"  54° 10' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  53° 15' 0"  54° 25' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 4' 0' 0"  54° 1' 0"  54° 4' 0' 0"  54° 1' 0"  54° 4' 0' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"  54° 1' 0"	132°14' 0"  129°57' 0" 133° 2' 0" 129°57' 0" 139°57' 0" 130° 7' 0" 130° 7' 0" 131°22' 0" 130° 7' 0" 131°36' 0" 129°57' 0" 130° 7' 0" 132°36' 0" 128°36' 0" 128°46' 0" 130°18' 0" 128°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 132°46' 0" 133°2' 0" 132°0' 0"	ECSTALL RIVER LANGARA ISLAND ECSTALL RIVER ECSTALL RIVER DE HORSEY ISLAND SKEENA RIVER BAG HARBOUR SKEENA RIVER QUEEN CHARLOTTE CIT LIMESTONE ISLAND ECSTALL RIVER NADEN HARBOUR BELLA BELLA QUEEN CHARLOTTE CIT TUCK INLET BERESFORD ISLAND BERESFORD ISLAND MASSET NORTH DANGER ROCKS BERESFORD ISLAND LANGARA ISLAND N. END GRAHAM ISLAND SANDSPIT
VS VS VS VS VS VS VS VS	NS/07/1965 18/05/1946 19/05/1946 21/05/1946 01/06/1946 04/06/1946 08/06/1946 11/06/1946 06/09/1946		51°28' 0" 54° 8' 0" 54° 8' 0" 54° 8' 0" 54° 8' 0" 54° 8' 0" 54° 10' 0" 54° 10' 0" 54° 26' 0"	127°35' 0"  130° 8' 0" 129°33' 0" 130° 8' 0" 130° 8' 0" 130° 8' 0" 129°57' 0" 129°33' 0" 128°47' 0"	RIVERS INLET  DE HORSEY ISLAND KWINISTA DE HORSEY ISLAND DE HORSEY ISLAND DE HORSEY ISLAND ECSTALL RIVER KWINISTA LAKELSE RIVER
ISS	NS/01/1946		54°18' 0"	130°53' 0°	TRIPLE ISLAND
GK	NS/NS/1948	NS/NS/1962	54° I' 0°	130° 7' 0"	SKEENA RIVER
GK	NS/NS/1948	NS/NS/1963	54°59' 0"	129*52' 0"	NASS RIVER
GK  CH C	NS/NS/1948 24/06/1948 25/06/1948 26/06/1948 28/06/1948 02/07/1948 09/07/1948 09/07/1948 21/07/1948 21/07/1948 21/07/1948 22/07/1948 24/07/1948 23/06/1952 28/06/1952 12/07/1952 12/07/1952 13/07/1952 13/07/1952 13/07/1952 13/07/1952 19/07/1952	NS/NS/1972	0° 0' 0°  50°45' 0° 50°45' 0° 50°45' 0° 50°45' 0° 50°45' 0° 50°45' 0° 50°45' 0° 50°46' 0° 50°48' 0° 50°48' 0° 51°22' 0° 51°55' 0° 51°15' 0°	0* 0' 0"  128*30' 0" 128*30' 0" 128*30' 0" 128*30' 0" 128*30' 0" 128*30' 0" 128*30' 0" 128*30' 0" 128*21' 0" 128*21' 0" 128*21' 0" 129*21' 0" 129*21' 0" 129*31' 0" 129*35' 0" 129*35' 0" 129*35' 0" 129*46' 0" 129*49' 0" 129*49' 0" 129*49' 0" 129*29' 0" 129*25' 0"	STAT AREAS 1 - I1
	Method  NS IS NS SS NS SS SS SS NS SS SS NS N	Method         Start Date           NS         NS/02/1954           NS         NS/03/1954           ISS         27/01/1941           NS         14/07/1945           NS         24/05/1946           NS         24/05/1946           NS         06/06/1946           NS         08/06/1946           NS         15/06/1946           NS         21/06/1946           NS         20/06/1946           NS         20/06/1946           NS         20/06/1946           NS         20/06/1946           NS         04/08/1946           NS         04/08/1946           NS         04/08/1946           NS         05/08/1946           NS         05/08/1946           NS         05/08/1946           NS         08/08/1946           NS         08/08/1946           NS         14/06/1956           NS         14/06/1957           NS         14/06/1957           NS         14/06/1957           NS         17/06/1958           NS         NS/06/1960           NS         NS/06/1960           NS	NS NS/02/1954 NS NS/03/1954 NS NS/03/1954  ISS 27/01/1941  NS 14/07/1945 NS 24/05/1946 NS 06:06/1946 NS 08:06/1946 NS 15/06/1946 NS 20/06/1946 NS 09/07/1946 NS 09/07/1946 NS 09/07/1946 NS 05/08/1946 NS 05/08/1946 NS 05/08/1946 NS 05/08/1946 NS 05/08/1946 NS 08/08/1946 NS 22/06/1947 NS 18/07/1954 NS 14/06/1957 NS 14/06/1957 NS 14/06/1957 NS 17/06/1958 NS NS/07/1966 NS NS/06/1960 NS 23/06/1960 NS 23/06/1960 NS 23/06/1960 NS 23/06/1946 VS 01/06/1946 VS 01/06/1946 VS 01/06/1946 VS 01/06/1946 VS 08/06/1946 VS 08/06/1946 VS 08/06/1946 VS 08/06/1946 VS 08/06/1948 CH 25/06/1948 CH 25/06/1948 CH 26/06/1948 CH 26/06/1948 CH 26/06/1948 CH 27/06/1948 CH 26/06/1948 CH 27/06/1948 CH 28/06/1948 CH 21/07/1948 CH 21/07/1952 CH 13/07/1952	NS	Method   Start Date   Stop Date   Latitude   Longitude

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
19486003	СН	20/07/1952		51°13' 0"	129°18' 0"	
27 100000	CH	21/07/1952		51°17' 0"	129°15' 0"	
	СН	22/07/1952		51°11′0° 51°11′0°	129°18' 0"	
	CH CH	24/07/1952 24/07/1952		51°13' 0"	129°32' 0"	
	CH	25/07/1952		51*16' 0*	129°37' 0"	
	CH	25/07/1952		21°19' 0"	129°26' 0"	
	СН	25/07/1952 26/07/1952		51°28' 0" 51°38' 0"	129°55' 0"	
	CH CH	27/07/1952		51°17' 0°	129°25' 0"	
	CH	27/07/1952		51°18' 0"	129°42' 0"	
	CH	27/07/1952		51°27' 0"	129°14′ 0°	
	CH	27/07/1952		51°32' 0"	129*28' 0"	
	CH CH	28/07/1952 28/07/1952		51°11' 0"	129°15' 0" 129°18' 0"	
	CH	01/08/1952		21.22.0.	127°55' 0"	
	CH	08/08/1952		52°15' 0"	127°55' 0"	
	CH	08/08/1952		52°15' 0"	127°56' 0"	
	CH CH	09/08/1952 12/08/1952		52°21' 0" 52°15' 0"	128°36' 0" 127°55' 0"	
	CH	13/08/1952		52°15' 0"	127°55' 0"	
	CH	26/08/1952		52° 5' 0"	128°35' 0"	
	СН	27/08/1952		51°54' 0"	128°41' 0"	
	CH CH	29/08/1952 29/08/1952		51°54' 0" 52° 5' 0"	128°41' 0" 128°35' 0"	
	CH	31/08/1952		52°18' 0"	127°55' 0"	
	CH	01/09/1952		52°18' 0"	127°55' 0"	
	CH	08/09/1952		51°56' 0"	128°35' 0" 128°35' 0"	
	CH CH	09/09/1952 12/09/1952		52°16′ 0°	128°55' 0"	
	CH	14/09/1952		51°34' 0"	127°38' 0"	
	СН	22/09/1952		50°57' 0"	129° 6' 0"	
	СН	09/05/1953		51°13' 0" 51°23' 0"	129°27' 0" 129°19' 0"	
	CH CH	09/05/1953 10/07/1953		51°20' 0"	127°53' 0"	
	СH	11/07/1953		51°50' 0"	128°12' 0"	
	CH	12/07/1953		51°50′ 0°	128°10' 0"	
	СН	13/07/1953 15/07/1953		52°29' 0" 51°25' 0"	128°21' 0" 129° 4' 0"	
	CH CH	17/07/1953		51°32' 0"	130°12' 0"	
	CH	17/07/1953		51°35' 0"	130° 5' 0"	
	СН	19/07/1953		51°36' 0"	130° 7' 0"	
	CH CH	19/07/1953 19/07/1953		51°37′ 0″ 51°37′ 0″	130°10' 0" 130°26' 0"	
	CH	19/07/1953		51°38' 0"	130° 0' 0"	
	CH	19/07/1953		51°53' 0"	130°54' 0"	
	CH	23/07/1953		51°45' 0"	130°36' 0"	
	CH CH	24/07/1953 29/07/1953		51°45′0″ 51°47′0″	130°36' 0" 130°46' 0"	
	CH	29/07/1953		51°47' 0"	130°46' 0"	
	СН	03/08/1953		52°12' 0"	127°55' 0"	
	CH	13/08/1953		51°38' 0"	128°11' 0" 128°12' 0"	
	CH CH	13/08/1953 01/09/1953		51°45' 0" 51°18' 0"	128°12 0	
	CH	05/09/1953		50°57' 0"	128°34' 0"	
	СН	17'03/1954		51°10' 0"	128°59' 0"	
	СН	29/03/1954		50°59' 0"	128°55' 0"	
	CH CH	30/03/1954 25/05/1954		51°40' 0" 51°21' 0"	128°35' 0" 129°32' 0"	
	CH	26/05/1954		21 ° 10 · 0 •	129°30' 0"	
	CH	27/05/1954		51°12' 0"	129°31' 0"	
	CH	03/06/1954		51°16' 0"	129°42' 0"	
	CH CH	06/06/1954 08/06/1954		51°16' 0" 51°27' 0"	129°42' 0" 130° 5' 0"	
	CH	06/07/1954		51°10' 0"	129°31' 0"	
	CH	17/07/1954		51°19' 0"	129°22' 0"	
	CH	19/07/1954		51°23' 0"	128° 49' 0"	
	CH CH	19/07/1954 20/07/1954		51°26' 0" 51°15' 0"	129°30' 0" 128°40' 0"	
	CH	20/07/1954		51°26' 0"	128°50' 0"	
	CH	21/07/1954		51°13' 0"	128°44' 0"	
	CH	24/07/1954		51°23' 0"	128°44' 0"	
	CH CH	27/07/1954 27/07/1954		51°15' 0"	128°52' 0" 128°54' 0"	
	CH	27/07/1934		51°16' 0"	128°53' 0"	
	CH	27/07/1954		51°17' 0"	128°41' 0"	
	СН	27/07/1954		51°30' 0"	130° 0' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey <u>Method</u>	Start Date	Ston Date	Latitude	Longitude	Location Name
19486003	CH	29/07/1954		51°12' 0"	129*19: 0*	
	CH	29/07/1954		21.19.0.	129*18. 0-	
	CH CH	29/07/1954 30/07/1954		51°17' 0" 51°38' 0"	129°10' 0" 130°22' 0"	
	CH	36.07/1954		51*49' 0"	129*53' 0"	
	CH	31/07/1954 02/08/1954		51°40' 0° 52°49' 0°	127°40' 0° 129°20' 0°	
	CH CH	02/08/1954		52°49' 0"	129°20' 0"	
	CH	17/08/1954		51°25' 0"	129°50' 0"	
	CH CH	01/09/1954 01/09/1954		51°20' 0" 53° 3' 0"	127°55' 0" 129° 6' 0"	
	CH	02/09/1954		53° 3' 0°	129° 1' 0"	
	CH	03/04/1955		51°43' 0" 51° 0' 0"	130°26' 0"	
	CH CH	04/04/1955 18/04/1955		51*45' 0"	128°20' 0" 130°19' 0"	
	CH	18/04/1955		51°46' 0"	130°20' 0"	
	CH CH	18/04/1955 20/04/1955		51°47' 0° 51°11' 0°	130°21' 0" 129°17' 0"	
	CH	12/05/1955		51°42' 0"	130-15. 0-	
	CH	14/05/1955		51°12' 0"	129°40' 0"	
	CH CH	20/06/1955 15/07/1955		51° 0' 0" 52°40' 0"	129° 0' 0" 129°30' 0"	
	CH	18/07/1955		52°10' 0"	128°30' 0"	
	СН	18/07/1955		52°10' 0"	129°30' 0"	
	CH CH	24/07/1955 24/07/1955		53° 0' 0"	129° 4' 0" 129° 7' 0"	
	CH	25/07/1955		53° 0' 0"	129° 4' 0°	
	СН	30/07/1955		50°55' 0"	129° 7' 0"	
	CH CH	30/07/1955 31/07/1955		50°55' 0° 52°39' 0°	129° 7' 0" 129°28' 0"	
	CH	31/07/1955		52°40' 0"	129°30' 0"	
	CH	09/08/1955		52°40' 0"	129°30' 0" 131° 1' 0"	
	CH CH	10/08/1955 10/08/1955		51°56′ 0° 51°56′ 0°	131° 1' 0"	
	CH	18/08/1955		52°40' 0"	129°30' 0"	
	CH CH	24/08/1955 26/08/1955		51°15' 0° 52°40' 0°	129°45' 0" 129°30' 0"	
	CH	22/09/1955		50°47' 0"	128°38' 0"	
	CH	22/09/1955 01/05/1956		50°47' 0° 50°47' 0°	128°38' 0" 128°38' 0"	
	CH CH	01/05/1956		50°47' 0"	128 -38 . 0 .	
	CH	26/05/1956		51°35' 0"	130°15' 0"	
	CH CH	08/06/1956 08/06/1956		50°48' 0" 50°48' 0"	128°26' 0" 128°26' 0"	
	CH	11/06/1956		51°37' 0"	130°12' 0"	
	СН	15/06/1956 07/07/1956		51°48' 0° 50°47' 0°	130°30' 0" 128°38' 0"	
	CH CH	07/07/1956		50°47' 0"	128°38' 0"	
	CH	09/07/1956		51°22' 0"	128°41' 0"	
	CH CH	10/07/1956 16/07/1956		51°40' 0" 51°16' 0"	130° 0' 0" 128°35' 0"	
	CH	16/07/1956		51°16' 0"	128 • 35 · 0 •	
	СН	13/08/1956		53° 3' 0"	129°17' 0"	
	CH CH	13/08/1956 14/08/1956		53°12' 0"	129°10' 0"	
	CH	26/08/1956		52°48' 0"	129°45' 0"	
	CH	26/08/1956		52°48' 0"	129°45' 0"	
	CH CH	27/08/1956 16/05/1957		52°48' 0" 51° 1' 0"	129°45' 0" 128°22' 0"	
	CH	15/06/1957		51°15' 0"	129°45' 0"	
	CH CH	15/06/1957 12/08/1957		51°25' 0" 52°15' 0"	129°43' 0" 128°47' 0"	
	CH	12/08/1957		52°16' 0"	128°49' 0"	
	CH	12/08/1957		52°17' 0"	128°36' 0"	
	CH CH	12/08/1957 12/08/1957		52°19' 0"	128°40' 0" 128°35' 0"	
	CH	21/08/1957		52°54' 0°	129°20' 0"	
	CH	28/08/1957		52°55' 0" 53° 0' 0"	129°25' 0"	
	CH CH	28/08/1957 29/08/1957		53° 5' 0"	129°15' 0°	
	CH	30/08/1957		53° 4' 0"	129°15' 0"	
	CH CH	02/09/1957 08/04/1958		51°42' 0" 51° 6' 0"	127°58' 0" 129°27' 0"	
	CH	08/04/1958		51° 6' 0"	129°27' 0"	
	CH	09/04/1958		50°59' 0"	128°39' 0"	
	CH CH	09/04/1958 09/04/1958		51° 5' 0"	128°56' 0" 128°39' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Nan
19486003	СН	09/04/1958		51° 5' 0"	128°56' 0"	
	CH	17/05/1958		51° 4' 0"	129° 7' 0"	
	CH	17/05/1958 01/07/1958		50°56' 0"	128°11' 0"	
	CH	01/07/1958		50°56' 0"	128°11' 0"	
	CH	29/07/1958		51°28' 0"	128° 2' 0"	
	CH	29/07/1958		52°20' 0"	128°25' 0"	
	CH	29/07/1958 29/07/1958		52°20' 0"	128°32' 0"	
	CH	06/09/1958		53°20' 0"	129°16' 0"	
	CH	08/09/1958		52°31' 0"	128°52' 0"	
	CH	08/09/1958		53° 6' 0"	129° 8' 0"	
	CH	08/09/1958 08/04/1959		51° 5' 0"	129° 6' 0" 128°55' 0"	
	CH	01/06/1959		51° 6' 0"	129°32' 0"	
	CH	09/06/1959		51°26' 0"	130" 0' 0"	
	CH	26/08/1959		52°30' 0"	129 40' 0"	
	CH	26/08/1959		53° 2' 0"	129°12' 0"	
	CH	27/08/1959 26/04/1962		53°20' 0"	129°10' 0" 129°42' 0"	
	CH	13/05/1962		51°53' 0"	130°54' 0"	
	CH	28/05/1962		51°50' 0"	130°30' 0"	
	CH	24/08/1962		51'30' 0"	130°10' 0"	
	CH	26/08/1962		51°43' 0"	130°25' 0"	
	CH	25/05/1963 07/06/1963		51°28' 0"	130° 8' 0"	
	CH	23/07/1963		52°15' 0"	128°50' 0"	
	CH	25/07/1963		53° 0' 0"	129"20" 0"	
	CH	25/07/1963		52°53' 0"	129°18' 0"	
	CH	26/07/1963 26/07/1963		52°10' 0"	128°42' 0" 129°25' 0"	
	CH	26/07/1963		52°12' 0"	128°38' 0"	
	CH	27/07/1963		52°11' 0"	128°36' 0"	
	CH	28/07/1963		52°52' 0"	129" 5' 0"	
	CH	28/07/1963		52°36' 0"	129°43' 0"	
	CH	28/07/1963 29/07/1963		52°53' 0"	129 29 0	
	CH	30/07/1963		52°53' 0"	129°18' 0"	
	CH	01/08/1963		52°33' 0"	129°54' 0"	
	CH	01/08/1963		52°43' 0"	130°13' 0"	
	CH	01/08/1963		52*56' 0" 53*14' 0"	130°22' 0°	
	CH	06/08/1963		52°55° 0"	130° 0' 0"	
	CH	06/08/1963		52°55' 0"	1300 5' 0"	
	CH	06/08/1963		52°53′0"	129°18' 0"	
	CH	08/08/1963		53° 7' 0" 52°17' 0"	130°24' 0"	
	CH	08/08/1963 08/08/1963		52°40' 0"	130"20" 0"	
	CH	08/08/1963		52°17' 0"	130°24' 0"	
	CH	08/08/1963		52°40' 0"	130°20' 0"	
	CH	09/08/1963		52°47" 0"	129°59' 0"	
	CH	09/08/1963		52°45' 0"	130, 6, 0,	
	CH	10/08/1963		52.51. 0.	129 20 0	
	CH	11/08/1963		52°57' 0"	130°20' 0"	
	CH	11/08/1963		52°21' 0"	129 29 0	
	CH	12/08/1963		53. 0. 0.	130,555. 0.	
	CH	12/08/1963		52°50' 0"	130,10,0	
	CH CH	12/08/1963 23/08/1963		52°30' 0"	129 38' 0"	
	CH	23/08/1963		52°55' 0"	129°20' 0"	
	CH	24/08/1963		52°40' 0"	129°40' 9"	
	CH	24/08/1963		52°55' 0"	129 40 0	
	CH	25/08/1963		52°53' 0"	129 40' 0"	
	CH	25/08/1963 26/08/1963		52°37' 0"	129°18' 0" 129°38' 0"	
	CH	26/08/1963		52'40' 0"	129°34' 0"	
	CH	03/09/1963		52*55' 0"	129 "18. 0-	
	CH	04/09/1963		52°52" 0"	120,18, 0,	
	CH	16/09/1963 16/09/1963		52°52' 0"	129°18' 0"	
	CH	09/06/19/54		52°54' 0"	129 23 0	
	CH	07/09/1964		52°56' 0"	139'28' 0-	
	CH	07/09/1964		53 0 3' 0"	129 15 0"	
	CH	18/09/1964		52°55' 0"	129°12'0"	
	CH	19/09/1964		53° 0' 0"	129 15 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Logsitude	Location Name
19486003	СН	18/08/1965		52*23. 0*	129*30' 0"	
	СН	18/08/1965		52*54' 0"	129*20' 0"	
	CH	19/08/1965 23/08/1965		52°54' 0" 52°54' 0"	129*25' 0" 129*20' 0"	
	CH CH	26/08/1965		52*38' 0"	129 *45 : 0-	
	CH	02/09/1965		52*54' 0"	129°16' 0"	
	CH	03/09/1965		52*59' 0"	129°14' 0"	
	CH CH	05/09/1965 06/09/1965		52°51' 0" 53°15' 0"	129°24' 0" 129°25' 0"	
	СH	15/09/1965		52*54' 0"	129 • 15 · 0 •	
	CH	15/09/1965		52°16' 0"	128*47' 0"	
	CH	16/09/1965		51°20' 0"	128° 5' 0° 129°15' 0°	
	CH CH	18/09/1965 20/09/1965		52*53' 0"	128*30' 0"	
	СH	21/09/1965		52°15' 0"	128*34' 0"	
	СН	21/09/1965		52°15' 0"	128°36' 0"	
	CH CH	23/09/1965 23/09/1965		52°13' 0" 52° 9' 0"	129°18' 0" 129°20' 0"	
	CH	23/09/1965		52*16' 0"	129° 2' 0"	
	CH	24/09/1965		52°15′0°	129°10' 0"	
	CH	27/09/1965		51°32' 0"	129°52' 0"	
	CH CH	27/09/1965 09/06/1966		52°56' 0" 52°10' 0"	129°16' 0" 128°54' 0"	
	CH	06/08/1966		51.18, 0.	128*25' 0"	
	CH	06/08/1966		51°20' 0"	128°30' 0"	
	CH	15/08/1966		53° 0' 0"	130° 0' 0"	
	CH CH	19/08/1966 22/08/1966		52°57' 0° 52°53' 0°	129*55' 0" 129*30' 0"	
	CH	27/08/1966		52*53' 0"	129°30' 0"	
	CH	29/08/1966		52°55' 0"	129°20' 0"	
	CH	29/08/1966		52°50' 0"	130° 0' 0"	
	CH CH	30/08/1966 31/08/1966		23°12'0"	129°25' 0"	
	CH	04/09/1966		52*35' 0"	129°46' 0"	
	СН	18/06/1967		52°55' 0"	130° 0' 0"	
19506001	īVS	20/06/1952		52°24' 0"	129°13' 0"	10 M. E.S.E. OF CONROY I.
	IVS	25/07/1952		53° 2' 0"	131°29' 0"	4 M. OFF CUMSHEWA HD.
	IVS IVS	26/07/1952 27/07/1952		52°51' 0" 53°30' 0"	131°13' 0"	12 M. E. OF REEF ISLAND HECATE STRAIT
	īvs	28/07/1952		52°25' 0"	131 • 10' 0-	4 M. N. OFF COPPER I.
	IVS	27/08/1952		54°11' 0"	132°30' 0"	4 M. NORTH CAPE NADEN
	IVS	24/09/1952		51°32' 0"	127°47' 0"	ADDENBROKE POINT
	IVS IVS	03/10/1952 06/10/1952		53°10' 0" 52°27' 0"	131° 1' 0" 128°25' 0"	25 MILES E.N.E. OF REEF I OSCAR PASSAGE
	īvs	06/10/1952		52°51' 0"	128*19' 0"	HIEKISH NARROWS
	IVS	06/10/1952		53° 4' 0"	128°34' 0"	GRAHAM REACH
	IVS IVS	10/05/1953 13/05/1953		53° 5' 0" 52°10' 0"	129°32' 0"	ESTEVAN SOUND RAYMOND PASSAGE
	IVS	13/05/1953		51°55' 0"	128°26' 0"	GOSLING ISLAND
	IVS	13/05/1953		51°57' 0"	128°27' 0"	GOOSE ISLANDS
	IVS	13/05/1953		51°49' 0"	128°28' 0"	2 M. S. OF GOSLING I.
	IVS IVS	13/05/1953 14/05/1953		52°10' 0" 51°40' 0"	128°16' 0" 127°50' 0"	RAYMOND PASSAGE FITZHUGH SOUND
	īvs	28/07/1953		51.18.0.	127°38' 0"	BROWNING CHANNEL
	īVS	29/07/1953		51°55' 0"	128°26' 0"	GOSLING ISLAND
	īvs	29/07/1953		51°51' 0"	128°23' 0"	3 MILES E. OF GOSLING R
	IVS IVS	04/08/1953 05/08/1953		51°55' 0" 52° 9' 0"	131° 3' 0"	I M. OFF KEROUARD I. HOUSTON STEWART CH.
	IVS	05/08/1953		52° 3' 0"	131 • 3 · 0 •	LUXANA POINT
	IVS	05/08/1953		52° 9' 0"	131° 3' 0"	HOUSTON STEWART CH.
	IVS	27/11/1953		53° 4' 0"	128°34' 0"	GRAHAM REACH
	IVS IVS	29/06/1954 30/06/1954		53°13' 0" 54°14' 0"	129°45' 0" 131°34' 0"	DEER POINT 3 MILES OFF ROSE SPIT
	īvs	30/07/1954		51°51' 0"	128°27' 0"	CURRIE ISLET
	<b>IVS</b>	12/08/1955		52°17' 0"	131° 8' 0"	COLLISON BAY
	IVS	11/05/1957		51°14' 0"	129°40' 0"	DIVON ENTRANCE
	IVS IVS	23/08/1957 29/11/1957		54°19' 0" 51° 0' 0"	131°59' 0" 129°10' 0"	DIXON ENTRANCE
	IVS	15/12/1957		21.00.0.	127°50' 0"	2 M. OFF CAPE CAUTION
	IVS	05/01/1958		51°16' 0"	127°48' 0"	TABLE ISLAND
	IVS	07/01/1958		51°55' 0"	127°23' 0"	BURKE CHANNEL
	IVS IVS	14/01/1958 21/01/1958		53°30' 0"	131°10' 0" 131°47' 0"	HECATE STRAIT TOW HILL
	IVS	21/01/1958		54° 3' 0"	131 •43 0 0	ARGONAUT HILL
	īvs	28/01/1958		52°17' 0"	131° 8' 0"	COLLISON BAY

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19506001	īvs	28/01/1958		52°14' 0"	128°17' 0°	IDOL POINT
	IVS	29/01/1958		53°37' 0"	129°43' 0"	GRENVILLE CHANNEL
	IVS	08/02/1958		52°19' 0" 52°40' 0"	127°44' 0" 131°42' 0"	COUSINS INLET SHUTTLE ISLAND
	IVS IVS	15/02/1958 17/02/1958		52°30' 0"	131°25' 0"	JUAN PEREZ SOUND
	īvs	19/02/1958		52°29' 0"	131°24' 0"	ALL ALONE STONE
	IVS	22/02/1958		53° 2 0"	131°36' 0°	CUMSHEWA ISLAND
	IVS IVS	26/02/1958 26/02/1958		51°55' 0" 51°58' 0"	127°53' 0" 127°55' 0"	ENTRANCE BURKE CH. FOG ROCKS
	IVS	15/03/1958		50°23' 0"	128°24' 0"	FOG ROCKS
	IVS	15/03/1958		50°55' 0"	128°50' 0°	
	IVS	16/03/1958		51° 0' 0"	128°55' 0"	
	IVS IVS	08/04/1958 08/04/1958		52°15' 0" 52°27' 0"	128°19' 0" 131°14' 0"	SEAFORTH CHANNEL SCUDDER POINT
	IVS	10/04/1958		53°34' 0"	130° 3' 0"	PETREL CHANNEL
	IVS	13/04/1958		54°13' 0"	131°39' 0"	N. OF ROSE SPIT
	IVS	15/04/1958		51°55' 0"	127°23' 0"	BURKE CHANNEL
	IVS IVS	17/04/1958 21/04/1958		53° 9' 0"	132°10' 0"	W OF HOPE ISLAND
	IVS	22/04/1958		52°16' 0"	128°43' 0"	MCINNES ISLAND
	IVS	22/04/1958		52°23' 0"	128°58' 0"	NAB ROCK
	IVS	23/04/1958		52°53' 0"	127° 4′ 0"	KIMSQUIT RIVER
	IVS	23/04/1958		53°42' 0" 53° 8' 0"	131°50' 0" 128°31' 0"	EAST CAPE BALL AALTANHASH INLET
	IVS IVS	24/04/1958 28/04/1958		51°52' 0"	128°27' 0"	GOSLING ROCKS
	īvs	29/04/1958		52° 7' 0"	131° 1' 0"	1 M. NE OF HEATER HRB.
	IVS	30/04/1958		51°50' 0"	128°57' 0"	20 MILES S.W. OF GOOSE I
	IVS	30/04/1958		51°52' 0"	128°27' 0" 128°20' 0"	GOSLING ROCKS 10 M. OFF HAKAI PASS
	IVS IVS	30/04/1958 01/05/1958		51°43' 0" 52°54' 0"	129° 9' 0"	SAGER ISLTS
	īvs	01/05/1958		52°51' 0"	129° 1' 0"	RACEY INLET
	IVS	02/05/1958		52°36' 0"	131°22' 0"	N. OF RAMSAY ISLAND
	IVS	02/05/1958		52°57' 0"	131°34' 0"	SKEDANS ISLAND SOUTH GOOSE ISLANDS
	IVS IVS	02/05/1958		51°55' 0" 52°57' 0"	128°27' 0" 131°34' 0"	SKEDANS ISLAND
	īvs	03/05/1958		50°51' 0"	128°48' 0"	SCOTT ISLANDS
	IVS	06/05/1958		52°21' 0"	127°43' 0"	COUSINS INLET
	IVS IVS	06/05/1958 06/05/1958		51°58' 0" 53° 1' 0"	127°55' 0" 128°31' 0"	FOG ROCKS SWANSON BAY
	IVS	07/05/1958		54°44' 0"	130°24' 0°	PORTLAND INLET
	IVS	08/05/1958		53°50' 0"	128°47' 0"	KILDALA ARM
	IVS	08/05/1958		53°50' 0"	128°45' 0"	COSTE ISLAND
	IVS IVS	08/05/1958 09/05/1958		55°27' 0" 54°44' 0"	130° 2' 0" 130°24' 0"	PORTLAND CANAL PORTLAND INLET
	īvs	10/05/1958		53°47' 0"	128°49' 0"	MAITLAND ISLAND
	IVS	10/05/1958		52°14' 0"	128°17' 0"	IDOL POINT
	IVS IVS	12/05/1958 12/05/1958		52°15' 0" 52°10' 0"	128°17' 0" 128° 3' 0"	OFF IDOL POINT OFF CYPRESS IS.
	IVS	12/05/1958		54°28' 0"	130°13' 0"	WORK CHANNEL
	IVS	15/05/1958		53°30' 0"	128°44' 0"	TRIUMPH BAY
	IVS	15/05/1958		50°27' 0"	132°11' 0"	ATTENDED TO A SID
	IVS IVS	15/05/1958 15/05/1958		54°10' 0" 50°12' 0"	130°46' 0" 132°44' 0"	STEPHENS ISLAND
	īvs	16/05/1958		53°32' 0"	129°47' 0"	RIX IS.
	IVS	16/05/1958		53°39' 0"	128°51' 0"	DOROTHY IS.
	IVS	20/05/1958		53°37' 0"	129°15′ 0"	KITKATLA INLET
	IVS IVS	20/05/1958 21/05/1958		53°38' 0" 54°58' 0"	128°53' 0" 130° 9' 0"	BISHOP BAY PORTLAND POINT
	IVS	23/05/1958		52°49' 0"	128°32' 0"	TOLMIE CHANNEL
	IVS	23/05/1958		52°36' 0"	128°28' 0"	FINLAYSON CHANNEL
	IVS	23/05/1958		52°21' 0°	128°30' 0"	VANCOUVER ROCK
	IVS	24/05/1958		52°21' 0" 54°59' 0"	127°42' 0" 130° 3' 0"	OCEAN FALLS RAMSDEN POINT
	IVS IVS	06/06/1958 07/06/1958		53°10' 0"	128°40' 0"	WORK ISLAND
	IVS	11/06/1958		53°34' 0"	129°39' 0"	ORMISTON POINT
	IVS	13/06/1958		52°42' 0"	129° 3' 0"	RAMSBOTHAM I.
	IVS	14/06/1958		53°34' 0" 52°42' 0"	129°39' 0"	ORMISTON POINT
	IVS IVS	17/06/1958 21/06/1958		53°18' 0"	128°33' 0" 128°54' 0"	TENAS ISLAND KINGCOME POINT
	īVS	26/06/1958		54°42' 0"	130°18' 0"	STEAMER PASSAGE
	IVS	26/06/1958		53°14' 0"	128°47' 0"	FRASER REACH
	IVS	27/06/1958		54°54' 0"	130°23' 0"	IN PEARSE CANAL
	IVS IVS	30/06/1958 02/07/1958		53°12' 0"	129° 9' 0"	SHRUB POINT TRIVETT POINT
	īvs	08/07/1958		54°50' 0"	130°30' 0"	WHALE PASS. AT PEARSE
	<b>IVS</b>	16/07/1958		54°37' 0"	130°45' 0"	HOLLIDAY ISLAND
	IVS	19/07/1958		52°41' 0"	128°24' 0"	WATSON BAY

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	<u>Longitude</u>	Location Name
19506001	<b>IVS</b>	19/07/1958		52*41' 0"	128*24' 0*	WATSON BAY
	IVS	20/07/1958		51°32' 0"	127°47' 0° 129° 5' 0°	ADDENBROKE LIGHT TRIANGLE ISLAND
	IVS IVS	21/07/1958 21/07/1958		54 <b>°44</b> ' 0"	130*24. 0*	PORTLAND INLET
	īvs	22/07/1958		54°38' 0"	130*28' 0"	PARKIN ISLETS
	IVS	22/07/1958		54*44' 0"	130°24' 0°	PORTLAND INLET
	IVS IVS	23/07/1958 23/07/1958		55°27' 0° 54°54' 0°	130°23' 0°	PORTLAND CANAL PEARSE CANAL
	IVS	24/07/1958		54°28' 0"	130.23. 0.	HUDSON BAY PASSAGE
	IVS	24/07/1958		54°28' 0"	130°13' 0"	WORK CHANNEL
	IVS	24/07/1958		54°44' 0" 54°26' 0"	130°24' 0" 130°29' 0"	PORTLAND INLET TREE BLUFF BUOY
	IVS IVS	25/07/1958 25/07/1958		51°31' 0"	127°43' 0"	DARBY CHANNEL
	īvs	28/07/1958		52°38' 0"	128*31' 0"	JANE ISLAND
	īvs	29/07/1958		52°36' 0"	128°56' 0"	TILDESLEY POINT
	IVS IVS	30/07/1958 30/07/1958		54°40' 0" 53°16' 0"	130°23' 0"	EMMA PASSAGE HOME BAY
	īvs	31/07/1958		53 • 4 • 0 •	129°11' 0"	CASANAVE PASSAGE
	IVS	01/08/1958		53°19' 0"	129° 0' 0"	MCKAY REACH
	IVS IVS	02/08/1958 03/08/1958		51°40' 0" 54° 0' 0"	127°50' 0" 130°12' 0"	FITZHUGH SOUND
	IVS IVS	06/08/1958		51°28' 0"	127°35' 0°	RIVERS INLET
	IVS	06/08/1958		51°31' 0"	127°30' 0"	WADHAMS
	IVS	07/08/1958		51°27' 0° 51°29' 0°	127°30' 0" 127°49' 0"	DRANEY INLET 3 M. S. OF ADDENBROKE
	IVS IVS	09/08/1958 09/08/1958		51°32' 0"	127*47 0	ADDENBROKE POINT
	īvs	11/08/1958		51°28' 0"	127°35' 0"	RIVERS INLET
	IVS	11/08/1958		51°22' 0"	127°48' 0"	DUGOUT ROCKS
	IVS IVS	11/08/1958 12/08/1958		54°35' 0"	130°25' 0" 132°55' 0"	PORT SIMPSON 3 MILES OFF PILLAR BAY
	IVS	17/08/1958		54. 0. 0.	131 • 2 · 0 •	SEAL ROCKS
	IVS	17/08/1958		53°14' 0"	132° 5' 0"	Q. CHARLOTTE CITY
	IVS	18/08/1958		50°49' 0"	128°49' 0"	HANIEDI BOCE
	IVS IVS	20/08/1958 20/08/1958		53°42' 0° 52°40' 0°	130°25' 0" 131°26' 0"	HANKIN ROCK
	īvs	21/08/1958		52°18' 0"	128 • 30 · 0 •	
	IVS	21/08/1958		53°18' 0"	129° 8' 0"	
	IVS IVS	21/08/1958 23/08/1958		52°57' 0" 50°52' 0"	131°34' 0° 129° 5' 0°	SKEDANS ISLAND TRIANGLE ISLAND
	īvs	25/08/1958		54°18' 0"	130°34' 0°	IKINIOLE BENID
	IVS	25/08/1958		52°52' 0"	131 ° 30' 0"	
	IVS IVS	25./08/1958 26/08/1958		52°57' 0° 52°45' 0°	131°33' 0"	
	IVS	26/08/1958		52°57' 0"	131 °30' 0"	SKEDANS ISLAND
	IVS	26/08/1958		51°40' 0"	127°50' 0"	FITZHUGH SOUND
	IVS PVS	27/08/1958		53° 8' 0"	129°22' 0" 128°34' 0"	SQUALLY CHANNEL
	IVS IVS	27/08/1958 29/08/1958		53°43' 0"	129°49' 0"	GRAHAM REACH
	īvs	01/09/1958		23° 8' 0-	129°22' 0"	SQUALLY CHANNEL
	īvs	23/09/1958		54° 0' 0"	132°36' 0"	NADEN HARBOUR
	IVS IVS	24/09/1958 06/10/1958		53°11' 0"	129° 8' 0" 128°34' 0"	WHALE CHANNEL KILDALE ARM MOUTH
	īvs	11/10/1958		51°58' 0"	127°55' 0"	FOG ROCKS
	IVS	25/10/1958		52°45' 0"	128°32' 0"	
	IVS	18/01/1959		52° 9' 0"	128°19' 0" 128°24' 0"	BODDY PASSAGE THOMPSON BAY
	IVS IVS	19/01/1959 20/01/1959		52° 7' 0"	128°24' 0"	I HOMPSON BAT
	īvs	22/01/1959		52° 8' 0"	128°24' 0"	THOMPSON BAY
	IVS	22/01/1959		52° 8' 0"	128°24' 0"	THOMPSON BAY
	IVS IVS	30/01/1959 31/01/1959		53°37' 0" 52°26' 0"	129°43' 0° 127°12' 0°	GRENVILLE CHANNEL
	īvs	04/02/1959		53° 4' 0"	128°34' 0"	GRAHAM REACH
	IVS	01/03/1959		54°14' 0"	130°59' 0"	BUTTERWORTH ROCKS
	IVS IVS	02/03/1959 03/03/1959		51°17' 0" 53° 0' 0"	127°38' 0" 130°45' 0"	TAKUSH HARBOUR MID HECATE STRAIT
	IVS IVS	03/03/1939		23 ° 0' 0-	130°45' 0°	MID HECATE STRAIT
	īvs	04/03/1959		52°42' 0"	129° 3' 0"	LAREDO CHANNEL
	IVS	04/03/1959		53°29' 0"	129°59' 0"	PRINCIPE CHANNEL
	IVS IVS	05/03/1959 05/03/1959		53°30' 0" 52°29' 0"	131°10' 0" 131°24' 0"	HECATE STRAIT ALL ALONE STONE
	īvs	06/03/1959		54° 2' 0"	130° 6' 0"	TELEGRAPH PASSAGE
	IVS	09/03/1959		51°32' 0"	127°35' 0"	DARBY CHANNEL
	IVS IVS	10/03/1959		51°28' 0" 52°40' 0"	127°33' 0° 131°43' 0°	DRANEY INLET DARWIN SOUND
	IVS IVS	11/03/1959 12/03/1959		52°10' 0"	128°16' 0"	RAYMOND PASSAGE
	IVS	13/03/1959		51°53' 0"	127°57' 0"	FISHER CHANNEL
	IVS	13/03/1959		51°15' 0°	128°20' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
19506001	īvs	14/03/1959		54°30' 0"	130°40' 0"	
	īvs	15/03/1959		52*54' 0"	129*22: 0*	CAAMANO SOUND
	IVS IVS	15/03/1959 19/03/1959		52°54' 0" 53°39' 0"	129°22' 0° 130°30' 0°	CAAMANO SOUND BANKS ISLAND
	IVS	20/03/1959		51*40' 0"	127*50' 0"	FITZHUGH SOUND
	IVS	20/03/1959		51*40' 0"	127*50' 0*	FITZHUGH SOUND
	IVS	22/03/1959		52°21' 0" 51°39' 0"	131 <b>°</b> 21' 0° 12 <b>7°</b> 0' 0°	RIVER'S INLET
	IVS IVS	23/03/1959 23/03/1959		52*25' 0"	131 *22 0"	RIVER S LIVE!
	īvs	23/03/1959		52°18' 0"	131*17' 0"	
	IVS	24/03/1959		51*19' 0"	127*47' 0*	OFF FALSE EGG ISLAND
	IVS IVS	24/03/1959 24/03/1959		51°17' 0° 52°28' 0°	127°38' 0" 131°28' 0"	OFF TAKUSH HARBOUR
	īvs	24/03/1959		52°42' 0"	131 • 24 · 0 •	
	IVS	25/03/1959		52°44' 0°	131°46' 0"	
	IVS	25/03/1959		52°50' 0"	131°51' 0"	OFF TAVIEL HARBOUR
	IVS IVS	25/03/1959 25/03/1959		51°18' 0" 51°53' 0"	127°37' 0" 1 <b>28°</b> 7' 0"	OFF TAKUSH HARBOUR KILDIT NARROWS
	īvs	25/03/1959		51°57' 0"	128° 6' 0"	KILDIT LAGOON
	IVS	25/03/1959		51°51' 0"	128 • 7' 0"	BREMNER BAY
	IVS	26/03/1959 26/03/1959		51°18′0° 51°40′0°	127°38' 0" 127°50' 0"	BROWNING CHANNEL FITZHUGH SOUND
	IVS IVS	29/03/1959		51*34' 0"	127*34' 0"	DAWSONS LANDING
	īvs	30/03/1959		52°15' 0"	128° 4' 0"	TROUPE PASSAGE
	IVS	30/03/1959		52*15' 0*	128° 4' 0"	TROUPE PASSAGE
	IVS IVS	01/04/1959 04/04/1959		52° 8' 0" 52°44' 0"	128°24' 0" 131 <b>°46</b> ' 0"	THOMPSON BAY
	īvs	05/04/1959		52.52. 0.	131 •55 0 0	
	IVS	05/04/1959		52*51' 0"	131°44' 0"	
	IVS	05/04/1959 06/04/1959		52°52' 0" 53°27' 0"	131°41′0° 128°25′0°	GARDNER CANAL
	IVS IVS	06/04/1959		53*37. 0*	129°12' 0"	DOUGLAS CHANNEL
	īvs	07/04/1959		51°27' 0"	127°30' 0"	DRANEY INLET
	IVS	07/04/1959		53°27' 0"	128°25' 0"	GARDNER CANAL
	IVS IVS	07/04/1959 08/04/1959		53°29' 0°	128° 7' 0" 127°28' 0"	KEMANO BAY
	īVS	08/04/1959		51°18' 0"	127°40' 0"	SMITH INLET
	IVS	09/04/1959		51°16' 0"	127° 0' 0"	
	IVS	09/04/1959		51°29' 0" 52°52' 0"	127°41' 0" 131°28' 0"	REEF ISLAND
	IVS IVS	09/04/1959 09/04/1959		52°35' 0"	128°31' 0"	KLEMTU PASSAGE
	IVS	10/04/1959		53°20' 0"	129°14' 0"	WRIGHT SOUND
	īvs	10/04/1959		54" 1' 0"	130°14' 0" 129° 3' 0"	HERBERT REEFS LAREDO CHANNEL
	IVS IVS	10/04/1959 12/04/1959		52°42' 0" 52°11' 0"	131°15' 0"	LAKEDO CHANNEL
	īvs	12/04/1959		51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	IVS	14/04/1959		52°16' 0"	127°47' 0"	CREMON I E CHANNEL
	IVS IVS	14/04/1959 15/04/1959		53°37' 0" 54°42' 0"	129°43' 0" 130°18' 0"	GRENVILLE CHANNEL STEAMER PASSAGE
	īvs	15/04/1959		52°20' 0"	129*25. 0*	
	IVS	16/04/1959		54°44' 0"	130°24' 0"	PORTLAND INLET
	IVS	16/04/1959		51°28' 0"	127°35' 0" 128°30' 0"	RIVERS INLET W. SIDE GOOSE ISLANDS
	IVS IVS	16/04/1959 16/04/1959		51°57' 0" 52°12' 0"	128° 6' 0"	SEAFORTH CHANNEL
	īvs	17/04/1959		52°16' 0"	127°47' 0"	COUSINS INLET
	IVS	17/04/1959		51°57' 0"	128°27' 0"	GOOSE ISLANDS
	īvs	18/04/1959		54°22' 0" 51°25' 0"	130°35' 0" 127°54' 0"	CHATHAM SOUND CAPE CALVERT
	IVS IVS	18/04/1959 18/04/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	īvs	18/04/1959		51°15′ 0°	127°21' 0"	WYCLES LAGOON
	<b>IVS</b>	20/04/1959		50°57' 0"	128°56' 0"	10 MILES N.W. SCOTT I.
	IVS IVS	20/04/1959 21/04/1959		52°14' 0" 54° 8' 0"	128° 3' 0" 130° 7' 0"	2 MILES N. OF LANG I. CLARA SHOAL
	īVS	21/04/1959		54* 9' 0"	129°58' 0"	PORT ESSINGTON
	īvs	21/04/1959		54°35' 0"	130°25' 0"	PORT SIMPSON
	IVS	24/04/1959		52°45' 0"	128°33' 0"	CARE RALL
	IVS IVS	26/04/1959 27/04/1959		53°41' 0" 51°15' 0"	131°53' 0" 127°50' 0"	CAPE BALL EGG ISLAND
	īvs	27/04/1959		51°57' 0"	128°27' 0"	GOOSE ISLANDS
	īvs	27/04/1959		52°23' 0"	130°59' 0"	10 MILES E. SCUDDER PT.
	IVS	27/04/1959		52°34' 0"	131°24' 0"	RAMSAY ISLAND
	IVS IVS	27/04/1959 27/04/1959		52°52' 0" 53° 4' 0"	131°31' 0" 128°34' 0"	REEF ISLAND GRAHAM REACH
	īvs	27/04/1959		53° 6' 0"	128°29' 0"	KHUTZE INLET
	īvs	27/04/1959		52°55' 0"	128*26' 0"	GREEN INLET
	IVS IVS	28/04/1959 28/04/1959		52°46' 0" 54°42' 0"	131°36′ 0° 130°18′ 0°	STEAMER PASSAGE
	IVS	28/04/1959		34 42 U	130,19 0.	31 EMMER PASSAGE

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19506001	IVS	28/04/1959		51°57' 0"	128°27' 0"	GOOSE ISLANDS
17300001	īvs	28/04/1959		54°14' 0"	130*59' 0"	BUTTERWORTH ROCKS
	IVS	29/04/1959		52°46' 0"	131°36' 0"	7 43 4 4 B 400 4 CF
	IVS IVS	29/04/1959 30/04/1959		52° 5' 0°	128° 7' 0" 127°55' 0"	LAMA PASSAGE
	IVS	30/04/1959		53°29' 0"	129*59' 0"	PRINCIPE CHANNEL
	īvs	30/04/1959		54*28' 0"	131°30' 0"	
	IVS	30/04/1959		53*21' 0"	131 • 7' 0"	
	IVS IVS	30/04/1959 30/04/1959		51°40' 0° 51°57' 0°	127°50' 0" 128°27' 0"	FITZHUGH SOUND GOOSE ISLANDS
	īvs	30/04/1959		54° 4' 0"	131*47' 0"	TOW HILL
	īvs	30/04/1959		54°12' 0"	131 *38' 0"	ROSE SPIT
	IVS	30/04/1959		54° 0' 0" 53° 2' 0"	131°13' 0" 131°36' 0"	N. HECATE STRAIT CUMSHEWA HEAD
	IVS IVS	01/05/1959 01/05/1959		54°13′0"	130*50' 0*	BELL PASSAGE
	īvs	01/05/1959		54°14' 0"	130*59' 0"	BUTTERWORTH ROCKS
	IVS	01/05/1959		54* 6' 0"	130°44' 0"	SKIAKL ROCKS
	IVS IVS	01/05/1959 01/05/1959		53°54' 0" 51°43' 0"	130°45' 0" 128° 4' 0"	FAN ISLAND, COAL BAY HAKAI PASS
	IVS	01/05/1959		51°40' 0"	127°50' 0"	FITZHUGH SOUND
	IVS	01/05/1959		51.22.0.	127°23' 0"	BURKE CHANNEL
	īvs	01/05/1959		52°42' 0"	129° 3' 0"	LAREDO CHANNEL BURKE CHANNEL
	IVS IVS	02/05/1959 02/05/1959		51°55' 0" 54° 5' 0"	127°23' 0" 132°30' 0"	VIRAGO SOUND
	īvs	03/05/1959		51°57' 0"	128*27' 0"	GOOSE ISLANDS
	IVS	04/05/1959		54° 3' 0"	132°13' 0"	MASSETT HARBOUR
	IVS IVS	04/05/1959 04/05/1959		54°12' 0" 51°52' 0"	131°38' 0" 127°53' 0"	ROSE SPIT KIWASH
	IVS	06/05/1959		53 *30 ' 0 "	131 • 10' 0"	HECATE STRAIT
	IVS	06/05/1959		53°33' 0"	129° 1' 0"	FISH TRAP BAY
	IVS	07/05/1959		53°58' 0"	130°50' 0"	HUDSON BAY PASSAGE
	IVS IVS	07/05/1959 07/05/1959		54°28' 0" 53°37' 0"	130°53' 0" 129°12' 0"	DOUGLAS CHANNEL
	īvs	08/05/1959		53°26' 0"	131°55' 0"	LAWN POINT
	IVS	08/05/1959		53°37' 0"	129°43' 0"	GRENVILLE CHANNEL
	IVS IVS	12/05/1959 13/05/1959		51°52' 0" 51°31' 0"	127°51' 0" 127°41' 0"	
	īvs	14/05/1959		52° 3' 0"	128°19' 0"	
	IVS	14/05/1959		51°14′ 0°	127°53' 0"	2 M. S.W. EGG ISLAND
	IVS IVS	14/05/1959 15/05/1959		52°11' 0" 51°42' 0"	127°52' 0" 127°53' 0"	SUNNY ISLAND KWAKUME POINT
	IVS	16/05/1959		53*14' 0"	128°47' 0"	FRASER REACH
	IVS	17/05/1959		52°15' 0"	127°37' 0"	JENNEY INLET
	IVS IVS	20/05/1959 21/05/1959		54°44' 0" 52° 7' 0"	130°24' 0" 127°53' 0"	PORTLAND INLET PORT JOHN
	IVS	21/05/1959		54° 5' 0"	132°15' 0"	STRIAE ISLAND
	īvs	21/05/1959		54°28' 0"	130°53' 0"	<b>HUDSON BAY PASSAGE</b>
	IVS	21/05/1959		54°45' 0"	130°39' 0"	TONGASS PASSAGE
	IVS IVS	22/05/1959 25/05/1959		52° 5' 0" 54°44' 0"	128° 7' 0" 130°24' 0"	LAMA PASSAGE PORTLAND INLET
	īvs	26/05/1959		54*18' 0"	130*53' 0"	TRIPLE ISLAND
	IVS	26/05/1959		54°11' 0"	130°11' 0"	INVERNESS PASSAGE
	IVS IVS	26/05/1959 27/05/1959		54°10' 0" 53°29' 0"	1 <b>30°</b> 0' 0"	HAYSPORT PRINCIPE CHANNEL
	īvs	27/05/1959		53°45' 0"	132°16' 0"	SLOOP ISLET
	IVS	27/05/1959		54° 3' 0"	130°37' 0°	EDYE PASSAGE
	IVS	28/05/1959		54* 9' 0"	129*58' 0"	PORT ESSINGTON
	IVS IVS	28/05/1959 29/05/1959		53° 9' 0"	128°42' 0" 128°28' 0"	BUTEDALE SWINDLE POINT
	īvs	29/05/1959		52°16' 0"	128 • 43 ' 0 •	MCINNES ISLAND
	IVS	29/05/1959		52*15' 0"	128°46' 0"	S.W. OF MCINNIS I.
	IVS IVS	29/05/1959 30/05/1959		54°22' 0" 50°57' 0"	130°35' 0" 128°26' 0"	CHATHAM SOUND
	īvs	30/05/1959		51° 6' 0"	128*20' 0"	
	IVS	30/05/1959		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	IVS	30/05/1959		51°22' 0" 50°52' 0"	128° 0' 0" 129° 5' 0"	PEARL ROCKS
	IVS IVS	30/05/1959 30/05/1959		50°49' 0"	129°54' 0"	TRIANGLE ISLAND SARTINE ISLAND
	IVS	30/05/1959		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	IVS	31/05/1959		52°29' 0"	127°16' 0"	NASCALL BAY
	IVS IVS	02/06/1959 02/06/1959		52° 7' 0" 54°14' 0"	127°24' 0" 130°18' 0"	KWATNA BAY PORPOISE HARBOUR
	īvs	03/06/1959		52°19' 0"	127°44' 0"	COUSINS INLET
	īvs	03/06/1959		52°15' 0"	127°37' 0"	JENNEY INLET
	IVS IVS	03/06/1959 03/06/1959		52°30' 0" 52°29' 0"	127°30' 0" 127°16' 0"	CASCADE INLET NASCALL BAY
	IVS	05/06/1959		54°11' 0"	130°11' 0"	INVERNESS PASSAGE
	- · <del>-</del>				-	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19506001	IVS	07/06/1959		51 <b>°56</b> ' 0 <b>"</b>	127°55' 0"	
2,00000	IVS	08/06/1959		51°55' 0"	127°23' 0"	BURKE CHANNEL
	IVS	08/06/1959		50°53' 0"	1 <b>29°</b> 1' 0° 130°16' 0°	N.E. OF TRIANGLE I. FERN PASSAGE
	IVS IVS	09/06/1959 09/06/1959		54°19' 0° 54°12' 0°	130*33' 0"	RACHAEL ISLANDS
	īvs	10/06/1959		52. 8. 0.	127°53' 0°	FISHER CHANNEL
	īvs	10/06/1959		50*52' 0"	129° 5' 0"	TRIANGLE ISLAND
	IVS	10/06/1959		54° 9' 0"	129*58' 0"	PORT ESSINGTON
	IVS IVS	10/06/1959 10/06/1959		53° 3' 0" 53°33' 0"	129°40' 0" 129°35' 0"	WEST ESTEVAN GROUP LOWE INLET
	īvs	11/06/1959		54° 2' 0"	130° 6' 0"	TELEGRAPH PASSAGE
	īVS	11/06/1959		52*48' 0"	128*23' 0"	TOLMIE CHANNEL
	IVS	11/06/1959		51.19.0.	128*12' 0*	VIRGIN ROCKS
	IVS IVS	11/06/1959		51°22' 0" 51°16' 0"	128° 0' 0" 128°12' 0"	PEARL ROCKS VIRGIN ROCKS
	IVS	11/06/1959 11/06/1959		54° 1' 0"	130° 7' 0"	SKEENA RIVER
	īVS	12/06/1959		52*33' 0"	128*29' 0"	SOUTH OF KLEMTU
	IVS	12/06/1959		50°47' 0°	128°46' 0"	BERESFORD ISLAND
	IVS	12/06/1959		52°35' 0" 50°47' 0"	128°31' 0" 128°46' 0"	KLEMTU PASSAGE
	IVS IVS	13/06/1959 13/06/1959		50*52' 0"	129° 5' 0"	BERESFORD ISLAND TRIANGLE ISLAND
	īvs	14/06/1959		53°20' 0"	129*14' 0"	WRIGHT SOUND
	<b>IVS</b>	15/06/1959		52°28' 0"	128°24' 0"	JACKSON PASSAGE
	īvs	15/06/1959		51°22' 0"	127°46' 0"	CRANSTOWN POINT
	IVS IVS	15/06/1959 15/06/1959		53°45' 0" 51°22' 0"	132°16' 0" 128° 0' 0"	SLOOP ISLET PEARL ROCKS
	IVS	15/06/1959		51-16.0-	128°12' 0"	VIRGIN ROCKS
	īvs	15/06/1959		50°47' 0"	128°26' 0"	CAPE SCOTT
	IVS	15/06/1959		51°31' 0"	127°43' 0"	DARBY CHANNEL
	IVS	15/06/1959		51°22' 0"	128° 0' 0" 128°12' 0"	PEARL ROCKS VIRGIN ROCKS
	IVS IVS	15/06/1959 15/06/1959		51°16' 0" 50°47' 0"	128°26' 0"	CAPE SCOTT
	īvs	17/06/1959		54 9 0	132°39' 0"	SHAG ROCK
	IVS	18/06/1959		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	īvs	18/06/1959		51°15' 0	127°50' 0"	EGG ISLAND
	IVS IVS	18/06/1959 19/06/1959		53°14' 0" 53°14' 0"	128°47' 0" 132°18' 0"	FRASER REACH
	īvs	19/06/1959		21.26.0.	131. 1. 0.	CAPE ST. JAMES
	īvs	19/06/1959		52°13′ 0°	130°58' 0"	N GARCIN ROCKS
	IVS	19/06/1959		52*52' 0"	131°31' 0"	REEF ISLAND
	IVS	20/06/1959	•	53°15' 0" 54°13' 0"	130°21' 0" 132°55' 0"	NORTH DANGER ROCKS 2 MILES E. OF COHOE PT.
	IVS IVS	21/06/1959 22/06/1959		54° 8' 0"	132°19' 0"	1 M. OFF WIAH POINT
	īvs	22/06/1959		54°44' 0"	130°24' 0°	PORTLAND INLET
	IVS	23/06/1959		53*33' 0"	129°36' 0"	ENTRANCE LOWE INLET
	IVS	23/06/1959		53°37'0"	129°43' 0" 130°15' 0"	GRENVILLE CHANNEL
	IVS IVS	24/06/1959 24/06/1959		53° 0' 0"	130.23. 0.	
	īvs	25/06/1959		52°10'0"	128° 3' 0"	GULL CHUCK
	<b>IVS</b>	25/06/1959		51°52' 0"	127°53' 0"	KIWASH ISLAND
	IVS	25/06/1959		54°44' 0"	130°24' 0° 127°54' 0°	PORTLAND INLET KISAMETE INLET
	IVS IVS	26/06/1959 26/06/1959		51°58' 0" 53° 9' 0"	127 34 0 128°42' 0"	BUTEDALE
	īvs	26/06/1959		51°30'0"	127°44' 0"	FINN BAY
	<b>IVS</b>	26/06/1959		54°42' 0"	130°50' 0°	
	IVS	26/06/1959		54°47' 0"	130°38' 0"	DODGE AND DU DE
	IVS IVS	26/06/1959 27/06/1959		54°44' 0" 53°49' 0"	130°24' 0" 128°52' 0"	PORTLAND INLET HILTON POINT
	IVS	27/06/1939		53*37' 0"	128 32 0 129°43' 0"	GRENVILLE CHANNEL
	īvs	28/06/1959		51° 0. 0.	129*50' 0"	
	<b>IVS</b>	29.'06/1959		54° 2' 0"	128°40' 0"	KITIMAT
	īvs	30/06/1959		52° 3' 0"	0° 0' 0"	CODVILLE LAGOON KISAMETE BAY
	IVS IVS	30/06/1959 30/06/1959		51°58' 0° 54°22' 0°	127°53' 0" 130°35' 0"	CHATHAM SOUND
	IVS	30/06/1959		54*20' 0"	130.18.0.	PRINCE RUPERT HRB.
	<b>IVS</b>	01/07/1959		54° 8' 0"	132°19' 0"	I M. OFF WIAH POINT
	<b>IV</b> S	01/07/1959		54°44' 0"	130°24' 0"	PORTLAND INLET
	IVS	02/07/1959		52°16' 0" 53°11' 0"	127°46' 0"	COUSINS INLET
	IVS IVS	03/07/1959 03/07/1959		52°19' 0"	132°16' 0" 127°31' 0"	DEAN CHANNEL
	IVS	03/07/1959		54°44' 0"	130°24' 0°	PORTLAND INLET
	īvs	05/07/1959		53°11' 0"	129° 8' 0"	WHALE CHANNEL
	IVS	05/07/1959		52°19' 0"	128°33' 0"	MILBANKE SOUND
	IVS IVS	06/07/1959		52°52' 0" 54° 6' 0"	131°39' 0" 132°26' 0"	CAPE EDENSAW
	IVS IVS	06/07/1959 06/07/1959		53*11' 0"	129 * 8' 0"	WHALE CHANNEL
	īvs	08/07/1959		23-11.0-	129 8 0-	WHALE CHANNEL
		_				

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey <u>Method</u>	Start Date	Stop Date	<u>Latitude</u>	<u>Longitude</u>	Location Name
19506001	IVS	09/07/1959		54°44' 0"	130°24' 0°	PORTLAND INLET
	IVS	09/07/1959		53*37' 0*	129*43' 0*	GRENVILLE CHANNEL
	IVS IVS	09/07/1959 10/07/1959		53°11' 0" 53°37' 0"	129°12' 0"	WHALE CHANNEL DOUGLAS CHANNEL
	IVS	12/07/1959		23.53.0	129-12-0-	PROMISE ISLAND
	īvs	13/07/1959		53*15' 0"	131*57' 0*	
	IVS	14/07/1959		53*11'0"	129 8 0	WHALE CHANNEL
	IVS	15/07/1959		53°11' 0"	129° 2' 0"	TRIVETT POINT WHALE CHANNEL
	IVS IVS	15/07/1959 15/07/1959		23.11.0.	129 8 0	WHALE CHANNEL
	īvs	15/07/1959		53*32' 0"	129* 4' 0"	VERNEY PASSAGE
	IVS	16/07/1959		51*29' 0"	127°46' 0"	ROUSE REEF
	IVS	16/07/1959		54°44' 0" 53°11' 0"	130°24' 0" 129° 8' 0"	PORTLAND INLET WHALE CHANNEL
	IVS IVS	16/07/1959 16/07/1959		53*37' 0*	129 *43 ' 0*	GRENVILLE CHANNEL
	īvs	17/07/1959		53° 2' 0"	131 •35 ' 0 •	
	IVS	17/07/1959		23.11.0.	129 8 9 0"	WHALE CHANNEL
	īvs	20/07/1959		53° 6' 0"	129°12' 0°	TAYLOR BIGHT
	IVS IVS	21/07/1959 21/07/1959		54°44′ 0° 53°13′ 0°	130°24' 0" 129° 4' 0"	PORTLAND INLET RIVER BIGHT
	īvs	21/07/1959		23.33. 0.	129 1 0	FISH TRAP BAY
	IVS	21/07/1959		53°23' 0"	129°10' 0"	MONEY POINT
	īvs	22/07/1959		53° 2' 0°	131°55' 0"	al n college.
	IVS IVS	22/07/1959 23/07/1959		53° 2' 0" 51°58' 0"	131°41' 0" 127°55' 0"	CUMSHEWA KISAMETE BAY
	IVS IVS	23/07/1959		54°17' 0"	131°34' 0"	6 MILES N ROSE SPIT
	īvs	24/07/1959		52°50' 0"	131 • 39 . 0 •	HEMING HEAD
	IVS	24/07/1959		51°31' 0"	127°37' 0"	WALBRAN ISLAND
	IVS IVS	24/07/1959 25/07/1959		54° 2' 0" 52°34' 0"	128°40' 0" 131°26' 0"	KITIMAT
	IVS	26/07/1959		51°58' 0"	127*55 0"	KISAMETE BAY
	īvs	26/07/1959		52°57' 0"	131 •34 • 0 •	SKEDANS ISLAND
	IVS	28/07/1959		51°35' 0"	127°35' 0°	DAWSONS LANDING
	IVS	28/07/1959 30/07/1959		54*44' 0" 52*35' 0"	130°24' 0" 128°31' 0"	PORTLAND INLET KLEMTU PASSAGE
	IVS IVS	01/08/1959		53°20°0"	131 • 54 · 0 •	KLEMI U PASSAGE
	īvs	01/08/1959		53°20' 0°	131°54' 0°	
	IVS	01/08/1959		53*52' 0"	130.18. 0.	OGDEN CHANNEL
	IVS IVS	02/08/1959 03/08/1959		53°30' 0" 54°20' 0"	131°10' 0° 130°18' 0°	HECATE STRAIT PRINCE RUPERT HRB.
	IVS	04/08/1959		51°54' 0"	127*52' 0*	EDMUND POINT
	IVS	04/08/1959		54*44' 0"	130°24' 0°	PORTLAND INLET
	IVS	06/08/1959		52°37' 0°	128°26' 0°	MARY COVE
	IVS IVS	06/08/1959 06/08/1959		55°15' 0" 53°37' 0"	129°49' 0" 129°43' 0"	OBSERVATORY INLET GRENVILLE CHANNEL
	IVS	07/08/1959		53°40' 0"	129°46' 0"	KLEWNUGGET LT.
	īvs	07/08/1959		54°44' 0"	130°24' 0°	PORTLAND INLET
	īvs	07/08/1959		53°37' 0"	129°12' 0"	DOUGLAS CHANNEL
	IVS IVS	08/08/1959 08/08/1959		23.56. 0.	128°37' 0" 129°59' 0"	RED CLIFF BLUFF PRINCIPE CHANNEL
	IVS	08/08/1959		54°18' 0"	130°52' 0"	PRINCIPE CHANNEL
	īvs	08/08/1959		54°18' 0"	130°52' 0"	
	IVS	08/08/1959		53° 5' 0"	129° 7' 0"	BARNARD HARBOUR
	IVS	09/08/1959		53°23' 0"	129°10' 0"	MONEY POINT
	IVS IVS	09/08/1959 09/08/1959		54° 2' 0" 52°47' 0"	131°34' 0" 128°16' 0"	SHEEP PASSAGE
	īvs	10/08/1959		51°51' 0°	127°56' 0"	KIWASH ISLT.
	IVS	10/08/1959		54°16' 0"	131°37' 0°	
	IVS	10/08/1959		54°16' 0"	131°37' 0"	ECC IOI AND
	IVS IVS	10/08/1959 10/08/1959		51°15' 0" 53° 4' 0"	127°50' 0" 129°11' 0"	EGG ISLAND CASANAVE PASSAGE
	īvs	10/08/1959		52*47' 0*	128.19. 0.	SHEEP PASSAGE
	IVS	11/08/1959		52*48' 0"	128°23' 0"	TOLMIE CHANNEL
	IVS	11/08/1959 12/08/1959		53°33' 0" 54° 0' 0"	129° 1' 0" 130°47' 0"	FISH TRAP BAY SEAL ROCKS
	IVS IVS	12/08/1959		54°44' 0"	130°24' 0"	PORTLAND INLET
	īvs	12/08/1959		23 ° 8. 0.	128.31.0-	AALTANHASH INLET
	IVS	13/08/1959		53° 4' 0°	129°11' 0"	CASANAVE PASSAGE
	IVS	13/08/1959		53° 8' 0"	128°31' 0"	AALTANHASH INLET
	IVS IVS	13/08/1959 14/08/1959		53°14' 0" 53° 8' 0"	128°47' 0" 128°31' 0"	FRASER REACH AALTANHASH INLET
	IVS	14/08/1959		53°14' 0"	128°47' 0"	FRASER REACH
	IVS	16/08/1959		53°54' 0"	128°41' 0"	CLIO BAY
	īvs	17/08/1959		52°22' 0"	131*21' 0"	NOMEY AND THE THE
	IVS IVS	17/08/1959 17/08/1959		54°44' 0" 54° 2' 0"	130°24' 0" 128°40' 0"	PORTLAND INLET KITIMAT
	IVS	18/08/1959		52°20' 0°	126°59' 0"	GREEN BAY
		10,00/1757		J_ 20 V	.20 57 0	3144011 0141

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey <u>Method</u>	Start Date	Stop Date	Latitude	Longitude	Location Name
19506001	īvs	18/08/1959		54*44' 0"	130°24' 0"	PORTLAND INLET
	IVS	19/08/1959		52*47' 0"	131*44' 0*	LOGAN INLET
	IVS IVS	19/08/1959 19/08/1959		52 <b>°48</b> ' 0" 54 <b>°44</b> ' 0"	131°45' 0" 130°24' 0"	DANA INLET PORTLAND INLET
	IVS	20/08/1959		52 6 0	127°30' 0"	KWATNA INLET
	IVS	20/08/1959		52*36' 0"	127*10' 0"	SKOWQUILTZ BAY
	īvs	20/08/1959		53° 2' 0"	131 *36' 0"	CUMSHEWA HEAD WHALE CHANNEL
	IVS IVS	20/08/1959 21/08/1959		53°11' 0" 52°36' 0"	129° 8' 0" 127°37' 0"	CASCADE INLET
	IVS	21/08/1959		52°28' 0"	128*41' 0"	HIGGINS PASSAGE
	īvs	22.08/1959		52 <b>°</b> 24' 0" 52 <b>°</b> 37' 0"	127°32' 0"	ELCHO HARBOUR
	IVS IVS	22/08/1959 23/08/1959		53*43' 0"	128°26' 0" 132°26' 0"	MARY COVE GRAY ISLAND
	īvs	23/08/1959		54*22. 0*	130.32. 0.	CHATHAM SOUND
	IVS	24/08/1959		51*56' 0"	127*58' 0"	DE COSMOS LAGOON
	IVS	24/08/1959		52°22' 0"	131°21' 0" 129°16' 0"	BURNABY STRAIT TURTLE POINT
	IVS IVS	24/08/1959 25/08/1959		53 • 29 · 0 •	129*59*0*	PRINCIPE CHANNEL
	īvs	26/08/1959		51*58' 0"	127*53. 0*	KISAMETE BAY
	IVS	26/08/1959		52°52' 0"	131 • 46 * 0 *	SELWYN INLET
	IVS IVS	28/08/1959 28/08/1959		54°44' 0° 53°37' 0°	130°24' 0" 129°43' 0"	PORTLAND INLET GRENVILLE CHANNEL
	īvs	29/08/1959		52° 6' 0"	127*24' 0"	KWATNA INLET
	<b>IVS</b>	29/08/1959		52°21' 0"	127°43' 0"	COOLIDGE POINT
	īvs	29/08/1959		52*19' 0"	127°33' 0"	FRENCHMAN CREEK
	IVS IVS	29/08/1959 30/08/1959		51°42' 0" 52° 6' 0"	127°53' 0" 127°24' 0"	KWAKUME POINT KWATNA INLET
	īvs	30/08/1959		51°42' 0"	127*53' 0"	KWAKUME POINT
	<b>IVS</b>	30/08/1959		53°55' 0"	130°36' 0°	KITKALTA INLET
	IVS	31/08/1959		53°33' 0" 52°55' 0"	129*35' 0"	LOWE INLET GREEN INLET
	IVS IVS	31/08/1959 31/08/1959		54 <b>°44'</b> 0"	128°26' 0" 130°24' 0"	PORTLAND INLET
	īvs	01/09/1959		52*26' 0"	127°16' 0"	EDWARD POINT
	<b>IVS</b>	01/09/1959		53*55' 0"	130*36' 0"	KITKALTA INLET
	IVS TVS	02/09/1959 02/09/1959		52°47' 0" 53°41' 0"	131°44' 0" 130° 7' 0"	LOGAN INLET PETREL CHANNEL
	IVS IVS	02/09/1939		53°55' 0"	130-10. 0-	WATSON ROCK
	IVS	02/09/1959		53° 5' 0"	129 7 0	BARNARD HARBOUR
	īvs	03/09/1959		52*56' 0"	131°34' 0"	BODET AND INI PT
	IVS IVS	03/09/1959 04/09/1959		54°44' 0" 52°21' 0"	130°24' 0" 127°42' 0"	PORTLAND INLET OCEAN FALLS
	IVS	04/09/1959		53 • 2 · 0 •	132* 2' 0"	
	IVS	05/09/1959		52*36' 0"	127°37' 0"	HD. OF CASCADE INLET
	IVS	05/09/1959 06/09/1959		54° 2' 0" 52°24' 0"	128°40' 0" 127°32' 0"	KITIMAT ELCHO HARBOUR
	IVS IVS	06/09/1959		54° 8' 0"	130 • 7 · 0 •	SKEENA RIVER
	īvs	07/09/1959		52*58' 0"	127*53' 0"	KISAMETE BAY
	īvs	07/09/1959		53°29' 0"	129°59' 0"	PRINCIPE CHANNEL PORTLAND INLET
	IVS IVS	07/09/1959 08/09/1959		54°44' 0" 53°22' 0"	130°24' 0" 129°20' 0"	S. END GRENVILLE CH.
	īvs	08/09/1959		53 • 16 · 0 •	129.18. 0.	LEWIS PASSAGE
	IVS	09/09/1959		52°10' 0"	127°32' 0"	KWATNA INLET
	IVS	09/09/1959		53°55' 0" 53°55' 0"	130°36' 0" 129°14' 0"	KITKALTA INLET WRIGHT SOUND
	IVS IVS	09/09/1959 09/09/1959		53*37' 0*	129°43' 0"	GRENVILLE CHANNEL
	īvs	10/09/1959		51*18' 0"	127°40' 0"	SMITH INLET
	<b>IVS</b>	11/09/1959		52°26' 0"	127°16' 0"	EDWARD POINT
	IVS	11/09/1959		52°30' 0" 54°22' 0"	131°34' 0" 130°35' 0"	CHATHAM SOUND
	IVS IVS	11/09/1959 11/09/1959		53° 6' 0"	128°29' 0"	KHUTZE INLET
	īvs	12/09/1959		52°30' 0°	127°30' 0"	CASCADE INLET
	IVS	13/09/1959		53°55' 0"	130°36′ 0°	KITKALTA INLET
	IVS IVS	14/09/1959 14/09/1959		52° 4' 0"	127°38' 0" 127°38' 0"	BURKE CHANNEL BURKE CHANNEL
	IVS	14/09/1959		52*29. 0"	127°16' 0"	NASCALL BAY
	IVS	14/09/1959		53*29' 0*	129°59' 0"	PRINCIPE CHANNEL
	IVS	15/09/1959		53°10' 0"	131°40' 0"	LABOUGUERE CHANNEL
	IVS IVS	15/09/1959 15/09/1959		52 <b>°24'</b> 0 <b>"</b> 52 <b>°2</b> 6' 0 <b>"</b>	127°14' 0" 127°16' 0"	LABOUCHERE CHANNEL EDWARD POINT
	īvs	15/09/1959		52°16' 0"	127°46' 0"	BARBA POINT
	IVS	15/09/1959		53*37' 0"	129°43' 0"	GRENVILLE CHANNEL
	IVS	15/09/1959		52°16' 0"	128°43' 0"	MCINNES ISLAND .5 M. OFF CAPE EDENSHA
	IVS IVS	17/09/1959 18/09/1959		54° 7' 0" 52°21' 0"	132 <b>°</b> 26' 0" 12 <b>7°4</b> 2' 0"	COUSINS INLET
	īvs	18/09/1959		23.21.0.	128°34' 0"	KILDALE ARM MOUTH
	rvs	19/09/1959		52°19' 0"	127°31' 0"	DEAN CHANNEL
	<b>IVS</b>	19/09/1959		53°45' 0"	132°16' 0°	SLOOP ISLET

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19506001	īVS	20/09/1959		53°52' 0"	127° 5' 0"	KIMSQUIT RIVER
	IVS	20/09/1959		52°23' 0"	128°58' 0"	NAB ROCK
	IVS	21/09/1959		52°24' 0° 52°16' 0°	127°25' 0" 127°46' 0"	CAPE MCKAY BARBA POINT
	IVS IVS	21/09/1959 21/09/1959		52-11.0-	131*14' 0"	LUSCOMBE INLET
	īvs	21/09/1959		52.53. 0.	130-28. 0-	N.E. OF SKINCUTTLE IN.
	IVS	22/09/1959		53° 3' 0"	131 • 49 ' 0 •	
	IVS	22/09/1959		52°19'0"	127°31' 0" 132°19' 0"	DEAN CHANNEL WIAH POINT
	IVS IVS	22/09/1959 22/09/1959		54° 7' 0" 52°40' 0"	131*43' 0"	DARWIN SOUND
	īvs	22/09/1959		52°11' 0"	131 9' 0"	ROSE INLET
	īvs	22/09/1959		23,33, 0,	129*19' 0"	KISKOSH INLET
	IVS IVS	23/09/1959 24/09/1959		51°46' 0" 52° 3' 0"	127°25' 0" 127°36' 0"	NELSON NARROWS KWATLENA RIVER
	IVS	24/09/1959		52°19' 0"	127*31' 0*	DEAN CHANNEL
	IVS	24/09/1959		53°42' 0"	128°55' 0"	IN SUE CHANNEL
	IVS	24/09/1959		53°29' 0"	129°59' 0" 129° 7' 0"	PRINCIPE CHANNEL POINT CUMMING
	IVS IVS	24/09/1959 24/09/1959		53°19' 0" 53°37' 0"	129 • 12 ' 0 =	DOUGLAS CHANNEL
	īvs	25/09/1959		51°35' 0"	127*35' 0"	DAWSONS LANDING
	IVS	25/09/1959		52°53' 0"	128°30' 0"	SARAH HEAD
	IVS IVS	25/09/1959 25/09/1959		54°44' 0° 53°35' 0°	130°24' 0" 128°58' 0"	PORTLAND INLET DANUBE BAY
	IVS	26/09/1959		53°27' 0"	128 24 0	EUROPA REACH
	IVS	27/09/1959		52° 6' 0"	127*45' 0"	EVANS ARM
	īvs	27/09/1959		53°34' 0"	127°57' 0"	KEMANO
	IVS IVS	28/09/1959 30/09/1959		53°29' 0" 52°27' 0"	128° 7' 0" 127°19' 0"	KEMANO BAY EUCOTT BAY
	īvs	01/10/1959		53°21' 0"	128° 5' 0"	CHIEF MATTHEWS BAY
	īVS	02/10/1959		51°40' 0"	127°50' 0"	FITZHUGH SOUND
	IVS	03/10/1959		52°52' 0" 52°42' 0"	131°52' 0" 131°52' 0"	
	IVS IVS	03/10/1959 03/10/1959		52°30' 0°	131°36' 0"	
	īvs	03/10/1959		53°21' 0"	129°13' 0"	CAPE FAREWELL
	IVS	04/10/1959		52°28' 0"	131°27' 0"	
	IVS IVS	04/10/1959 04/10/1959		52°23' 0° 51°35' 0°	131°26' 0" 127°35' 0"	DAWSONS LANDING
	IVS	05/10/1959		52°36' 0"	131.38.0.	DAWSONS EANDING
	IVS	05/10/1959		52°42' 0"	131°42' 0"	
	IVS	06/10/1959		52°11' 0"	131° 0' 0"	CHATHAM SOUND
	IVS IVS	06/10/1959 06/10/1959		54°22' 0" 52°25' 0"	127°54' 0"	ROSCOE INLET
	īvs	07/10/1959		53°18' 0"	128°54' 0"	KINGCOME POINT
	īVS	09/10/1959		51°42' 0"	127°53′ 0"	KWAKUME POINT
	IVS IVS	09/10/1959 09/10/1959		54°11' 0" 51°26' 0"	130°19' 0" 127°45' 0"	KITSON ISLAND RIVERS INLET
	īvs	11/10/1959		51*24' 0*	127° 6' 0"	NEKITE RIVER
	IVS	12/10/1959		53°21' 0"	128°52' 0"	GOAT HARBOUR
	IVS IVS	13/10/1959 15/10/1959		53°14' 0" 53°18' 0"	132° 3' 0" 131°55' 0"	
	IVS	18/10/1959		51°27' 0"	127°30' 0"	DRANEY INLET
	īvs	20/10/1959		54°20' 0"	130°18' 0"	PRINCE RUPERT HRB.
	IVS	21/10/1959		53°37' 0"	129°43' 0"	GRENVILLE CHANNEL
	IVS IVS	22/10/1959 22/10/1959		53°37' 0" 53°22' 0"	129°43' 0"	GRENVILLE CHANNEL UNION PASSAGE
	IVS	22/10/1959		53°16' 0"	129°18' 0"	LEWIS PASSAGE
	IVS	22/10/1959		53*16' 0"	129°18' 0"	LEWIS PASSAGE
	IVS	26/10/1959		52°18' 0"	127°45' 0"	WEARING POINT
	IVS IVS	26/10/1959 26/10/1959		52°20' 0" 52°36' 0"	127°10' 0" 128°38' 0"	MESACHIE NOSE MEYERS PASSAGE
	īvs	26/10/1959		52°11' 0"	127°52' 0"	JOHNSON CHANNEL
	IVS	27/10/1959		53°33' 0"	129°35' 0"	LOWE INLET
	IVS	28/10/1959 01/11/1959		51°55' 0" 51°35' 0"	127°55' 0" 127°36' 0"	WALKER POINT DAWSONS LANDING
	IVS IVS	02/11/1959		54° 2' 0"	130°15' 0"	ARTHUR PASSAGE
	<b>IVS</b>	03/11/1959		51°24' 0"	127° 6' 0"	NEKITE RIVER
	IVS	03/11/1959		51°46' 0"	127°25' 0"	MOSES INLET ADDENBROKE POINT
	IVS IVS	04/11/1959 04/11/1959		51°32' 0" 53°41' 0"	127°47' 0" 130° 7' 0"	PETREL CHANNEL
	īVS	04/11/1959		51 <b>°30</b> ' 0°	127°44' 0"	FINN BAY
	IVS	05/11/1959		53° 8' 0"	128°31' 0"	AALTANHASH INLET
	IVS IVS	05/11/1959 07/11/1959		53°41' 0" 51°40' 0"	130° 7' 0" 127°15' 0"	PETREL CHANNEL WANNOCK RIVER
	IVS	09/11/1959		52°55' 0"	128°26' 0"	GREEN INLET
	IVS	10/11/1959		51°43' 0"	127°27' 0"	
	IV\$	10/11/1959		51°46' 0" 51°27' 0"	127°25' 0" 127°30' 0"	MOSES INLET DRANEY INLET
	IVS	10/11/1959		31 21 U	127 30 0	PRANEI INCEI

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19506001	īvs	17/11/1959		53°29' 0"	128°58' 0"	EGERTON POINT
17500001	īvs	18/11/1959		51°47' 0"	127°24' 0"	MOSES INLET
	IVS	18/11/1959		53°28' 0"	128°53' 0"	BISHOP BAY
	IVS	19/11/1959		53°29' 0"	128°58' 0" 129° 0' 0"	EGERTON POINT MCKAY REACH
	IVS IVS	19/11/1959 19/11/1959		53°19' 0" 52°48' 0"	128°23' 0"	TOLMIE CHANNEL
	īvs	19/11/1959		52°41' 0"	128°33' 0"	SPLIT HEAD
	IVS	20/11/1959		53°41' 0"	129° 4' 0"	S. END SUE CHANNEL
	IVS IVS	21/11/1959 23/11/1959		53°15' 0" 52°48' 0"	128°50' 0" 128°23' 0"	TOLMIE CHANNEL
	īvs	24/11/1959		53°14' 0"	128°47' 0"	FRASER REACH
	<b>IVS</b>	24/11/1959		53*19' 0"	129° 0' 0"	MCKAY REACH
	IVS	24/11/1959		53*21' 0"	128°52' 0"	GOAT HARBOUR
	IVS IVS	24/11/1959 25/11/1959		53°28' 0" 51°31' 0"	128°53' 0" 127°43' 0"	BISHOP BAY
	īvs	25/11/1959		53° 6' 0"	128°29' 0"	KHUTZE INLET
	<b>IVS</b>	25/11/1959		52*35' 0"	128*31' 0"	KLEMTU PASSAGE
	IVS IVS	26/11/1959 26/11/1959		52°39' 0" 52°48' 0"	128°32' 0" 128°23' 0"	BOAT BLUFF TOLMIE CHANNEL
	īvs	27/11/1959		53°19' 0"	129 0 0	MCKAY REACH
	<b>IVS</b>	27/11/1959		53°20' 0"	129°14' 0"	WRIGHT SOUND
	IVS	27/11/1959		53°37' 0" 53°41' 0"	129°43' 0" 129°46' 0"	GRENVILLE CHANNEL MORNING REEF
	IVS IVS	29/11/1959 30/11/1959		23.33. 0.	129°35' 0"	LOWE INLET
	īvs	01/12/1959		53*37' 0"	129°43' 0"	GRENVILLE CHANNEL
	īvs	01/12/1959		53°20' 0"	129°14' 0"	WRIGHT SOUND
	IVS IVS	01/12/1959 03/12/1959		53°19' 0"	128°19' 0" 128°19' 0"	MCKAY REACH HIEKISH NARROWS
	īvs	03/12/1959		53°37' 0"	129°43' 0"	GRENVILLE CHANNEL
	<b>IVS</b>	06/12/1959		52°48' 0"	128°23' 0"	TOLMIE CHANNEL
	IVS	07/12/1959		52°48' 0" 53° 4' 0"	128°23' 0" 128°34' 0"	TOLMIE CHANNEL GRAHAM REACH
	IVS IVS	07/12/1959 07/12/1959		54° 1' 0"	130° 7' 0"	SKEENA RIVER
	<b>IVS</b>	08/12/1959		53°11' 0"	128°40' 0"	MALCOLM PASSAGE
	īvs	08/12/1959		53°12' 0"	128°40' 0"	KLEKANE INLET
	IVS IVS	09/12/1959 09/12/1959		53°12' 0" 53°12' 0"	128°40' 0" 128°40' 0"	KLEKANE INLET KLEKANE INLET
	īvs	10/12/1959		53°14' 0"	128°47' 0"	FRASER REACH
	īvs	11/12/1959		53°14' 0"	128°47' 0"	FRASER REACH
	IVS IVS	12/12/1959 12/12/1959		53°24' 0"	128°55' 0" 128°40' 0"	URSULA CHANNEL KLEKANE INLET
	īvs	12/12/1959		53° 4' 0"	128°34' 0"	GRAHAM REACH
	IVS	13/12/1959		53°19' 0"	129° 0' 0"	MCKAY REACH
	IVS IVS	14/12/1959 15/12/1959		53°10'0"	128°40' 0" 128°31' 0"	BUTEDALE PASSAGE AALTANHASH INLET
	īvs	15/12/1959		53° 4' 0"	128°34' 0"	GRAHAM REACH
	IVS	15/12/1959		53° 4' 0"	128°34' 0"	GRAHAM REACH
	IVS	16/12/1959 04/01/1960		53°20' 0" 54°22' 0"	129°14' 0" 130°35' 0"	WRIGHT SOUND CHATHAM SOUND
	IVS IVS	05/01/1960		53.33. 0.	129°35' 0"	LOWE INLET
	<b>IVS</b>	07/01/1960		53°18' 0"	129° 2' 0"	TRIVETT POINT
	IVS	11/01/1960		54°20' 0" 54°39' 0"	130°18' 0" 130° 4' 0"	PRINCE RUPERT HRB. KHUTZEYMATEEN IN.
	IVS IVS	11/01/1960 12/01/1960		54°39' 0"	130° 4' 0"	KHUTZEYMATEEN IN.
	īvs	18/01/1960		54°36' 0"	130°27' 0"	RUSHBROOK PASSAGE
	īvs	18/01/1960		54°39' 0"	130° 4′ 0"	KHUTZEYMATEEN IN.
	IVS IVS	19/01/1960 21/01/1960		53° 7' 0" 54°15' 0"	128°35' 0" 130°12' 0"	KLOIYA BAY
	IVS	22/01/1960		50°31' 0°	127°39' 0"	PAMPHLET COVE
	IVS	26/01/1960		54°15' 0"	130°12' 0"	KLOIYA BAY
	IVS	26/01/1960		54°17' 0" 54°17' 0"	130°10' 0"	DENISE INLET
	IVS IVS	27/01/1960 29/01/1960		54°17' 0"	130°15' 0"	MORSE BASIN MORSE BASIN
	īvs	29/01/1960		54°17' 0"	130.10. 0.	DENISE INLET
	IVS	01/02/1960		54°17' 0"	130°10' 0"	DENISE INLET
	IVS IVS	01/02/1960 03/02/1960		54°17' 0" 54°15' 0"	130°10' 0" 130°12' 0"	DENISE INLET KLOIYA BAY
	IVS	03/02/1960		52*52' 0"	128°39' 0"	NEOLIU BUI
	<b>IVS</b>	04/02/1960		52°16' 0"	128°24' 0"	
	IVS	04/02/1960		53°20' 0"	129°14' 0" 128°23' 0"	WRIGHT SOUND TOLMIE CHANNEL
	IVS IVS	05/02/1960 05/02/1960		52°48' 0" 54°17' 0"	130°15' 0"	MORSE BASIN
	<b>IVS</b>	06/02/1960		52°50' 0"	128*28' 0"	
	IVS	06/02/1960		53°23' 0"	129°28' 0"	MODEL BACK!
	IVS IVS	08/02/1960 09/02/1960		54°17' 0" 54°17' 0"	130°15' 0"	MORSE BASIN MORSE BASIN
	īvs	10/02/1960		54°44' 0"	130°24' 0"	PORTLAND INLET

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19506001	rvs	11/02/1960		52*19' 0"	128*33' 0"	MILBANKE SOUND
1750001	IVS	12/02/1960		55°27' 0"	130° 2' 0"	PORTLAND CANAL
	īvs	12/02/1960		54*44' 0"	130°24' 0"	PORTLAND INLET
	IVS IVS	12/02/1960 16/02/1960		54°36' 0" 53° 1' 0"	130°27' 0" 128°31' 0"	RUSHBROOK PASSAGE SWANSON BAY
	IVS	17/02/1960		54° 2' 0"	130°14' 0°	· · · · · · · · · · · · · · · · · · ·
	īvs	17/02/1960		53°10' 0"	128*40' 0"	WORK ISLAND
	IVS IVS	17/02/1960 18/02/1960		52°38' 0° 53° 1' 0°	128°30' 0" 128°31' 0"	PERING POINT
	īvs	18/02/1960		52.25.0	128°28' 0"	
	īvs	18/02/1960		52° 4' 0"	128*22' 0"	TUFT ISLANDS
	IVS IVS	18/02/1960 23/02/1960		51°26' 0" 50°29' 0"	127°53' 0" 127°46' 0"	CLARK POINT BROCKTON ISLAND
	īvs	27/02/1960		53°37' 0"	129*12' 0"	DOUGLAS CHANNEL
	<b>IVS</b>	28/02/1960		53°20' 0"	129°14' 0"	WRIGHT SOUND
	IVS IVS	28/02/1960 29/02/1960		52° 8' 0" 52°42' 0"	128°24' 0" 129° 3' 0"	THOMPSON BAY LAREDO CHANNEL
	IVS	01/03/1960		51°41' 0"	127°54' 0"	LAKEDO CHANNEL
	īvs	03/03/1960		51°42' 0"	127°53' 0"	KWAKUME POINT
	īvs	04/03/1960		51°44' 0"	127°55' 0" 127°21' 0"	VII DELLA DAV
	IVS IVS	13/03/1960 13/03/1960		51°42' 0" 51°28' 0"	127°35' 0"	KILBELLA BAY RIVERS INLET
	īvs	18/03/1960		51°31' 0"	127°43' 0"	DARBY CHANNEL
	īvs	21/03/1960		51°37' 0"	127°30' 0"	STONE POINT
	IVS IVS	24/03/1960 25/03/1960		52°48' 0" 51°31' 0"	128°23' 0" 127°43' 0"	TOLMIE CHANNEL DARBY CHANNEL
	IVS	25/03/1960		52°35' 0"	128*31' 0"	KLEMTU PASSAGE
	īvs	26/03/1960		51°27' 0°	127°30' 0"	DRANEY INLET
	īvs	05/04/1960		52°19' 0"	128°33' 0"	MILBANKE SOUND
	IVS IVS	05/04/1960 06/04/1960		52°36' 0"	128°45' 0" 127°40' 0"	W. END MEYERS PASS SMITH INLET
	īvs	06/04/1960		52°48' 0"	128°44' 0"	LAREDO INLET
	īvs	06/04/1960		52°50' 0"	128°46' 0"	BAY OF PLENTY
	IVS IVS	07/04/1960 07/04/1960		52°48' 0" 52°36' 0"	128°44' 0" 128°38' 0"	LAREDO INLET MEYERS PASSAGE
	īvs	08/04/1960		53°12' 0"	128°40' 0"	KLEKANE INLET
	īvs	09/04/1960		53° 6' 0"	128°29' 0"	KHUTZE INLET
	IVS IVS	10/04/1960 10/04/1960		53°14' 0" 53°14' 0"	128°47' 0" 128°47' 0"	FRASER REACH FRASER REACH
	IVS	13/04/1960		54°20' 0"	130°30' 0"	PRASER REACH
	īvs	13/04/1960		51°15' 0°	127°50' 0"	EGG ISLAND
	IVS IVS	13/04/1960		52°38' 0" 54°52' 0"	128°28' 0"	FINLAYSON CHANNEL NASOGA GULF
	IVS	14/04/1960 23/04/1960		52°10' 0"	127°58' 0"	GUNBOAT PASSAGE
	īvs	28,04/1960		50°49' 0"	128*41' 0"	LANZ ISLAND
	īvs	29/04/1960		54°25' 0"	132° 0' 0" 128°27' 0"	DIXON ENTRANCE
	IVS IVS	29/04/1960 29/04/1960		51°57′ 0° 53°55′ 0°	130*36' 0"	GOOSE ISLANDS KITKALTA INLET
	īvs	30/04/1960		50°48' 0"	128°50' 0"	SCOTT ISLAND
	īvs	30/04/1960		51°57' 0"	128°27' 0"	GOOSE ISLANDS
	IVS IVS	30/04/1960 01/05/1960		53°11' 0° 54°25' 0°	129° 8' 0"	WHALE CHANNEL DIXON ENTRANCE
	īvs	01/05/1960		54°25' 0"	132 ° 0' 0"	DIXON ENTRANCE
	īvs	01/05/1960		51°51' 0"	128°27' 0"	CURRIE ISLET
	IVS IVS	02/05/1960 02/05/1960		53°40' 0" 53°40' 0"	1 <b>3</b> 0°31' 0" 130°31' 0"	BROWNING ENTRANCE BROWNING ENTRANCE
	IVS	02/05/1960		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	īVS	02/05/1960		53°49' 0"	129°54' 0"	BAKER INLET
	īvs	03/05/1960		54°39' 0"	130°25' 0"	MAN BOILE
	IVS IVS	03/05/1960 03/05/1960		50°29′0° 53°52′0°	127°51' 0" 129°59' 0"	MAY POINT KUMELEON
	īvs	04/05/1960		54°58' 0°	129°54' 0"	NASS BAY
	īvs	04/05/1960		53°30' 0"	130°37' 0"	BONILLA ISLAND
	IVS IVS	04/05/1960 05/05/1960		52°16' 0" 51°57' 0"	128°43' 0" 128°32' 0"	MCINNES ISLAND WEST OF GOOSE ISLAND
	īvs	05/05/1960		51°57' 0"	128°27' 0"	GOOSE ISLANDS
	īvs	08/05/1960		50°49' 0"	128°54' 0"	SARTINE ISLAND
	IVS IVS	08/05/1960 08/05/1960		50°47' 0° 50°47' 0°	128°46' 0" 128°26' 0"	BERESFORD ISLAND CAPE SCOTT
	IVS	08/05/1960		50-52. 0-	129° 5' 0"	TRIANGLE ISLAND
	īvs	10/05/1960		54°44' 0"	130°24' 0"	PORTLAND INLET
	IVS IVS	16/05/1960		54°44' 0" 53°14' 0"	130°24' 0" 128°47' 0"	PORTLAND INLET FRASER REACH
	IVS IVS	16/05/1960 17/05/1960		54°44' 0"	130°24' 0"	PORTLAND INLET
	īvs	17/05/1960		52°48' 0"	128°23' 0"	TOLMIE CHANNEL
	īvs	18/05/1960		52°38' 0"	128°28' 0"	FINLAYSON CHANNEL
	īvs	18/05/1960		52°51' 0"	128°19' 0"	HIEKISH NARROWS

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	<u>Latitude</u>	<u>Longitude</u>	Location Name
19506001	īvs	18/05/1960		53° 9' 0"	131°43' 0°	DOGFISH BAY
1750001	īvs	19/05/1960		54°44' 0"	130°22' 0"	TRURO ISLAND CH.
	IVS	19/05/1960		54°59' 0"	130° 0' 0"	ARRANDALE
	IVS IVS	21/05/1960 22/05/1960		51°27' 0° 51°27' 0°	127°30′ 0° 127°30′ 0°	DRANEY INLET DRANEY INLET
	IVS	25/05/1960		51 • 15 · 0 •	127*21' 0"	WYCLEES LAGOON
	<b>IVS</b>	25/05/1960		53°52' 0"	130°43' 0"	W.S.W. CAPE GEORGE
	IVS IVS	25/05/1960		54°13' 0"	131° 0' 0"	BUTTERWORTH ROCKS
	IVS IVS	27/05/1960 27/05/1960		50°52' 0° 50°47' 0°	129° 3° 0"	TRIANGLE ISLAND BERESFORD ISLAND
	IVS	28/05/1960		53°19' 0°	129° 0' 0"	MCKAY REACH
	IVS IVS	29/05/1960 29/05/1960		50°48' 0"	128°36' 0"	COX ISLAND
	IVS	31/05/1960		50°47' 0° 51°56' 0°	128°46' 0" 131° 1' 0"	BERESFORD ISLAND CAPE ST. JAMES
	<b>IVS</b>	31/05/1960		53 °30' 0"	130°37' 0°	BONILLA ISLAND
	IVS	03/06/1960		53°41' 0"	129°47' 0"	KLEWNUGGIT LT.
	IVS IVS	04/06/1960 07/06/1960		52°23' 0" 51°43' 0"	126°45' 0" 127°21' 0"	BELLA COOLA AREA KILBELLA RIVER
	īvs	08/06/1960		23.18. 0.	128°54' 0"	KINGCOME POINT
	IVS	09/06/1960		53°14' 0°	128°47' 0"	FRASER REACH
	IVS IVS	09/06/1960 11/06/1960		53°24' 0" 53°19' 0"	128°55' 0" 128°54' 0"	URSULA CHANNEL
	īvs	12/06/1960		53°14' 0"	128°47' 0"	URSULA CHANNEL FRASER REACH
	īvs	13/06/1960		51°27' 0"	127°30' 0"	DRANEY INLET
	IVS	13/06/1960		53°37' 0°	129°12' 0"	DOUGLAS CHANNEL
	IVS IVS	15/06/1960 15/06/1960		51°42' 0° 53°18' 0°	127°21' 0" 128°54' 0"	KILBELLA BAY KINGCOME POINT
	īvs	18/06/1960		52°26' 0"	128°30' 0"	JORKINS POINT
	īvs	21/06/1960		53° 9' 0"	128°42' 0"	BUTEDALE
	IVS IVS	24/06/1960 26/06/1960		54°42' 0" 55°17' 0"	130°18' 0" 129°58' 0"	STEAMER PASSAGE HATTIE ISLAND
	īvs	27/06/1960		55°27' 0"	129°35' 0"	ALICE ARM
	IVS	28/06/1960		51°55′ 0°	128°26' 0"	GOSLING ISLAND
	IVS IVS	29/06/1960 30/06/1960		54°44' 0° 52°14' 0°	130°17' 0" 128°17' 0"	SOMERVILLE ISLAND IDOL POINT
	īvs	30/06/1960		54°44' 0"	130°17' 0"	SOMERVILLE ISLAND
	IVS	01/07/1960		50°28' 0"	127°48' 0"	MAHATTA RIVER
	IVS IVS	02/07/1960 03/07/1960		54° 2' 0" 53°54' 0"	128°40' 0" 128°41' 0"	KITIMAT CLIO BAY
	īvs	07/07/1960		53°49' 0"	130°26' 0"	1 M. OFF SAND ISLAND
	IVS	07/07/1960		53° 9' 0"	128°42' 0"	BUTEDALE
	IVS IVS	09/07/1960 10/07/1960		53°20' 0" 53°14' 0"	129°14' 0" 128°47' 0"	WRIGHT SOUND FRASER REACH
	īvs	10/07/1960		53°11' 0"	129° 8' 0"	WHALE CHANNEL
	IVS	13/07/1960		52°38' 0"	128°28' 0"	FINLAYSON CHANNEL
	IVS IVS	13/07/1960 14/07/1960		54°39' 0" 52°38' 0"	130° 4' 0" 128°11' 0"	KHUTZEYMATEEN IN. MATHIESON CHANNEL
	īvs	18/07/1960		52°32' 0"	128°23' 0"	JACKSON PASSAGE
	IVS	24/07/1960		53°11' 0"	129° 8' 0"	WHALE CHANNEL
	IVS	25/07/1960		53°11' 0"	129° 8' 0"	WHALE CHANNEL
	IVS IVS	26/07/1960 27/07/1960		53°11' 0" 53°11' 0"	129° 8' 0" 129° 8' 0"	WHALE CHANNEL WHALE CHANNEL
	īvs	01/08/1960		54°39' 0"	130° 4' 0"	KHUTZEYMATEEN IN.
	īvs	02/08/1960		54°42' 0"	130°30' 0"	TRACEY ISLAND
	IVS IVS	03/08/1960 04/08/1960		52°24′ 0° 53°37′ 0°	128°28' 0" 129°43' 0"	KEITH POINT GRENVILLE CHANNEL
	īvs	07/08/1960		54°20' 0"	130°30' 0"	TUGWELL ISLAND
	<b>IVS</b>	09/08/1960		52°56' 0"	129° 8' 0"	CHAPPLE INLET
	IVS IVS	09/08/1960		54°28' 0"	130°13' 0"	WORK CHANNEL
	IVS	10/08/1960 10/08/1960		51°15' 0" 53°55' 0"	127°21' 0" 130°36' 0"	WYCLEES LAGOON KITKALTA INLET
	īvs	11/08/1960		23°19' 0"	129° 0' 0"	MCKAY REACH
	IVS	12/08/1960		52°54' 0"	129°29' 0"	CAAMANO SOUND
	IVS IVS	15/08/1960 16/08/1960		52°56' 0° 51°37' 0°	129° 8' 0" 127°53' 0"	CHAPPLE INLET
	īvs	16/08/1960		54°59' 0"	130° 0' 0"	ARRANDALE
	IVS	16/08/1960		51°58' 0°	127°55' 0"	FOG ROCKS
	IVS IVS	17/08/1960 17/08/1960		53°11' 0" 54°58' 0"	129° 8' 0" 129°54' 0"	WHALE CHANNEL NASS BAY
	IVS IVS	18/08/1960		53°11' 0"	129° 8' 0"	NASS BAY WHALE CHANNEL
	<b>IVS</b>	19/08/1960		51°39' 0"	127°53' 0"	
	IVS IVS	21/08/1960		54° 0' 0"	132°36' 0"	NADEN HARBOUR
	IVS IVS	21/08/1960 22/08/1960		54°42' 0" 54° 0' 0"	130°18' 0" 132°36' 0"	STEAMER PASSAGE NADEN HARBOUR
	īvs	23/08/1960		54° 9' 0"	132°39' 0"	SHAG ROCK
	IVS	23/08/1960		54° 9' 0"	132°40' 0"	KLASHWUN POINT
	IVS	23/08/1960		54° 5' 0"	132°30' 0"	VIRAGO SOUND

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Sarvey <u>Method</u>	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
19506001	īvs	23/08/1960		54* 5' 0*	132° 0' 0"	MCINTYRE BAY
2700002	IVS	24/08/1960		52°56' 0"	129* 8' 0"	CHAPPLE INLET
	IVS	24/08/1960		54°39′ 0" 54°58′ 0"	130° 4' 0° 130° 9' 0°	KHUTZEYMATEEN IN. PORTLAND POINT
	IVS IVS	25/08/1960 25/08/1960		54*58.0*	130° 9' 0"	PORTLAND POINT
	īvs	25/08/1960		52*27' 0"	131*14' 0*	SCUDDER POINT
	īvs	25/08/1960		52*34' 0"	131*24' 0"	RAMSAY ISLAND
	IVS IVS	25/08/1960 25/08/1960		52°30' 0" 51°46' 0"	131°25' 0" 127°25' 0"	JUAN PEREZ SOUND MOSES INLET
	īvs	29/08/1960		52°52' 0"	131°46' 0"	SELWYN INLET
	IVS	29/08/1960		52*49' 0"	131*35' 0"	LASKEEK BAY
	IVS	29/08/1960		53°52' 0"	130°18' 0" 131°13' 0"	OGDEN CHANNEL SKINCUTTLE INLET
	IVS IVS	30/08/1960 30/08/1960		52°14' 0"	131.0.0.	LANGTRY ISLAND
	īvs	30/08/1960		52°20' 0"	131°13' 0°	SKINCUTTLE INLET
	IVS	30/08/1960		52* 3' 0"	131 • 3' 0"	LUXANA POINT
	IVS IVS	30/08/1960 36/08/1960		52°40' 0" 51°27' 0"	131°42' 0" 127°30' 0"	SHUTTLE ISLAND DRANEY INLET
	īvs	30/08/1960		53*37. 0*	129°12' 0"	DOUGLAS CHANNEL
	īvs	31/08/1960		52°40' 0"	131°42' 0"	SHUTTLE ISLAND
	IVS	31/08/1960		54°42' 0" 54° 2' 0"	130°18' 0" 128°40' 0"	STEAMER PASSAGE KITIMAT
	IVS IVS	01/09/1960 01/09/1960		54°54' 0°	130°23' 0"	PEARSE CANAL
	īvs	02/09/1960		53°37' 0"	129°12' 0"	DOUGLAS CHANNEL
	IVS	04/09/1960		23. 3. 0.	131°47' 0"	CUMSHEWA INLET
	IVS IVS	05/09/1960 06/09/1960		52°38' 0" 51°16' 0"	131°34' 0" 127°32' 0"	SEDGWICK BAY BROAD REACH
	īvs	06/09/1960		52°29' 0"	131 °24' 0"	ALL ALONE STONE
	IVS	06/09/1960		52°20' 0"	131.13, 0.	SKINCUTTLE INLET
	IVS IVS	06/09/1960		52°18' 0" 53°14' 0"	131°13' 0" 128°47' 0"	HARRIET HARBOUR FRASER REACH
	IVS	06/09/1960 07/09/1960		52°50' 0"	131 • 44 ' 0 •	THURSTON HARBOUR
	IVS	07/09/1960		52°35' 0"	128°31' 0"	KLEMTU PASSAGE
	IVS	08/09/1960		53°33' 0"	129°35' 0" 130°18' 0"	LOWE INLET PORPOISE HARBOUR
	IVS IVS	08/09/1960 10/09/1960		54°14' 0" 51°16' 0"	127°32' 0°	BROAD REACH
	īvs	11/09/1960		51*18' 0"	127°40' 0"	SMITH INLET
	ivs	13/09/1960		53°11' 0"	129° 8' 0"	WHALE CHANNEL
	IVS IVS	13/09/1960 14/09/1960		51°55' 0" 52°56' 0"	128°26' 0" 129° 8' 0"	GOSLING ISLAND CHAPPLE INLET
	īvs	14/09/1960		55°27' 0"	130° 2' 0"	PORTLAND CANAL
	īvs	15/09/1960		53°16' 0"	129° 5' 0"	HOME BAY
	IVS IVS	15/09/1960 18/09/1960		54°44' 0" 50°46' 0"	130°24' 0° 128°21' 0°	PORTLAND INLET HANSEN LAGOON
	īvs	18/09/1960		53°40' 0"	128°50' 0"	DEVASTATION CH.
	IVS	19/09/1960		51°16' 0"	127°32' 0"	BROAD REACH
	IVS IVS	19/09/1960 20/09/1960		53°24' 0" 53° 4' 0"	128°55' 0" 128°34' 0"	URSULA CHANNEL GRAHAM REACH
	IVS	20/09/1960		52*51' 0*	128°19' 0"	HIEKISH NARROWS
	IVS	20/09/1960		53° 9' 0"	131°43' 0"	DOGFISH BAY
	ivs	24/09/1960		51°32' 0"	127°45' 0"	PIERCE BAY
	IVS IVS	25/09/1960 25/09/1960		52°58' 0" 52°57' 0"	131°37' 0" 131°34' 0"	SKEDANS SKEDANS ISLAND
	ivs	26/09/1960		51°18' 0"	127°40' 0"	SMITH SOUND
	īvs	27/09/1960		51*17' 0*	127°30' 0"	AHCLAKERHO CHANNEL
	IVS IVS	28/09/1960 28/09/1960		53°33' 0" 53°37' 0"	129°35' 0° 129°43' 0°	LOWE INLET GRENVILLE CHANNEL
	ivs	29/09/1960		52°12' 0°	128° 6' 0"	SEAFORTH CHANNEL
	ivs	29/09/1960		52°35' 0"	128°31' 0"	KLEMTU PASSAGE
	IVS IVS	29/09/1960 29/09/1960		53°19' 0" 54°39' 0"	129° 0' 0" 130° 4' 0"	MCKAY REACH KHUTZEYMATEEN IN.
	ivs	30/09/1960		53°19' 0"	129° 0' 0"	MCKAY REACH
	ivs	03/10/1960		53°11' 0"	129° 8' 0"	WHALE CHANNEL
	IVS	04/10/1960		51°28' 0" 53°37' 0"	127°35' 0° 129°12' 0°	RIVERS INLET DOUGLAS CHANNEL
	IVS IVS	04/10/1960 05/10/1960		53°37' 0°	129°43' 0"	GRENVILLE CHANNEL
	IVS	05/10/1960		55°24' 0"	129°49' 0"	GRANBY BAY
	IVS	.06/10/1960		54°35' 0"	130°25' 0"	PORT SIMPSON
	IVS IVS	06/10/1960 15/10/1960		54°59' 0" 52" 8' 0"	130° 0' 0" 127°53' 0"	ARRANDALE FISHER CHANNEL
	ivs	15/10/1960		53°37' 0"	129°12' 0"	DOUGLAS CHANNEL
	IVS	16/10/1960		51°16' 0"	127°35' 0"	BROAD REACH
	IVS IVS	26/10/1960 01/11/1960		54°22' 0" 51°31' 0"	130°35' 0" 127°43' 0"	CHATHAM SOUND DARBY CHANNEL
	IVS	01/11/1960		54°36' 0"	130°28' 0"	BIRNIE ISLAND
	IVS	06/11/1960		54°35' 0"	130°25' 0"	PORT SIMPSON
	IVS	07/11/1960		54°58' 0"	129°54' 0"	NASS BAY

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
19506001	īVS	08/11/1960		51°24' 0"	127*38' 0"	DUNCANBY LANDING
2,00000	IVS	09/11/1960		52*35' 0"	128*31' 0"	KLEMTU PASSAGE
	IVS	16/11/1960		51°32' 0"	127°47' 0°	SWAN ROCK
	IVS IVS	16/11/1960 29/11/1960		51°31' 0°	127°43' 0° 127°40' 0°	DARBY CHANNEL FLEMING POINT
	IVS	30/11/1960		51*31' 0*	127 43 0	DARBY CHANNEL
	īvs	15/12/1960		51°43' 0°	128*56' 0"	
	IVS	20/12/1960		53*55' 0"	130° 9' 0"	GRENVILLE CHANNEL
19556001	VS	09/08/1955		54*14' 0"	133° 2' 0"	LANGARA ISLAND
	VS VS	14/08/1955 14/08/1955		53°15' 0" 53°30' 0"	130°21' 0" 130°37' 0"	NORTH DANGER ROCKS BONILLA ISLAND
	VS VS	14/08/1955		53 ° 9' 0"	130° 2' 0°	JOSEPH ISLAND
	VS	14/08/1955		52°23' 0"	126°45' 0"	BELLA COOLA AREA
	VS	14/08/1955		53°24' 0"	130°27' 0"	HALIBUT ROCKS
	VS VS	15/08/1955 16/08/1955		52°44' 0" 54°14' 0"	129°32' 0"	ISNOR ROCK BUTTERWORTH ROCKS
	VS VS	19/08/1955		52°16' 0"	128°43' 0"	MCINNES ISLAND
	vs	19/08/1955		51°47' 0"	128°15' 0"	BLENHEIM ISLAND
	VS	23/08/1955		51°20' 0"	128° 8' 0"	SEA OTTER GROUP
	VS	05/09/1955		52°27' 0"	131°14' 0"	SCUDDER POINT
	VS	12/09/1955		51°56' 0"	131° 1' 0"	CAPE ST. JAMES
19556002	NS	NS/NS/1955	NS/NS/1960	0. 0. 0.	0, 0, 0,	STAT. AREAS 1-8
19566001	IVS	09/04/1958		53°30' 0"	131°10' 0"	HECATE STRAIT
2,00000	IVS	01/09/1958		53° 8' 0"	129°22' 0"	SQUALLY CHANNEL
	IVS	12/03/1959		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	IVS IVS	27/04/1959 30/04/1959		53° 4' 0" 53°29' 0"	128°34' 0" 129°59' 0"	GRAHAM REACH PRINCIPE CHANNEL
	IVS	09/05/1959		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	īvs	08/09/1959		53°16' 0"	129°18' 0"	LEWIS PASSAGE
	IVS	08/01/1960		51°40' 0"	127°50' 0"	FITZHUGH SOUND
	IVS	03/03/1960		53°30' 0"	131°10' 0"	HECATE STRAIT
	IVS IVS	10/03/1960 17/04/1960		51°40' 0" 53°37' 0"	127°50' 0" 129°43' 0"	FITZHUGH SOUND GRENVILLE CHANNEL
	IVS	21/06/1960		51°40' 0"	127°50' 0"	FTTZHUGH SOUND
	īvs	20/07/1960		51°48' 0"	130°39' 0"	
	IVS	23/07/1960		53°30' 0"	131°10' 0"	HECATE STRAIT
	IVS	25/07/1960		53°30' 0" 54°14' 0"	131°10' 0" 133° 2' 0"	HECATE STRAIT LANGARA LIGHT
	IVS IVS	20/08/1960 04/09/1960		54°14' 0"	133° 2' 0"	LANGARA LIGHT
	īvs	10/09/1960		54°14' 0"	133 • 2 · 0 •	LANGARA LIGHT
	IVS	12/12/1960		51°40' 0"	127°50' 0"	FITZHUGH SOUND
	IVS	07/05/1961		53°20' 0"	129°14' 0"	WRIGHT SOUND
	IVS IVS	09/05/1961 09/05/1961		53° 4' 0"	129°13' 0"	ASHDOWN ISLAND CAAMANO SOUND
	IVS	09/05/1961		53°56' 0"	130°42' 0"	OVAL HILL
	īvs	11/05/1961		52°54' 0°	130° 0' 0"	20 MI OFF CAAMANO SD
	<b>IVS</b>	10/09/1961		53° 4' 0"	128°34' 0"	GRAHAM REACH
	IVS	15/09/1961		53°30' 0"	131°10' 0"	HECATE STRAIT HECATE STRAIT
	IVS IVS	16/09/1961 16/09/1961		53°30' 0" 52°48' 0"	128°23' 0"	TOLMIE CHANNEL
	īvs	07/03/1962		52° 0' 0"	128° 0' 0"	
	IVS	28/03/1962		52°48' 0"	128°44' 0"	LAREDO INLET
	IVS	07/05/1962		53°20' 0"	129°14' 0"	WRIGHT SOUND
	IVS	09/09/1962		53°36' 0"	0. 0. 0.	
19566002	VS	15/08/1956		50°47' 0"	128°46' 0°	BERESFORD ISLAND
	VS	16/08/1956		51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	AS	16/08/1956		52°16' 0"	128°43' 0"	MCINNES ISLAND
	VS VS	16/08/1956 16/08/1956		50°49' 0" 51°16' 0"	128°54' 0" 128°12' 0"	SARTINE ISLAND VIRGIN ROCKS
	VS VS	16/08/1956		51 • 22 • 0 •	128° 0' 0"	PEARL ROCKS
	vs	16/08/1956		51°23' 0"	128° 6' 0"	WATCH ROCK
	VS	16/08/1956		51°52' 0"	128°27' 0"	GOSLING ROCKS
	VS	16/08/1956		54°14' 0"	130°59' 0"	BUTTERWORTH ROCKS
	AS	16/08/1956 16/08/1956		51°47' 0" 52°23' 0"	128°15′0" 126°45′0"	BLENHEIM ISLAND BELLA COOLA AREA
	VS VS	16/08/1956		52°23°0° 53°24'0°	130°27' 0"	HALIBUT ROCKS
	VS VS	17/08/1956		52°44' 0"	129°32' 0"	ISNOR ROCK
	AS	17/08/1956		54°36' 0"	131° 4' 0"	ZAYAS ISLAND
19566003	VS	25/05/1956		51°16' 0"	128°12' 0"	VIRGIN ROCKS

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19566003	vs	25/05/1956		51*22' 0*	128° 0' 0"	PEARL ROCKS
19300003	vs	25/05/1956		51°23' 0"	128° 6' 0"	WATCH ROCK
	VS	27/05/1956		50°47' 0"	128*46' 0"	BERESFORD ISLAND
	VS	27/05/1956		50°52' 0°	129* 5' 0"	TRIANGLE ISLAND
	VS	27/05/1956		50°49' 0" 50°47' 0"	128°54' 0"	SARTINE ISLAND BERESFORD ISLAND
	VS VS	09/06/1956 03/07/1956		50°47' 0"	128°46' 0" 128°46' 0"	BERESFORD ISLAND
	VS VS	03/07/1956		50°48' 0"	128°36' 0"	COX ISLAND
	vs	07/07/1956		50°52' 0"	129* 5' 0"	TRIANGLE ISLAND
	VS	07/07/1956		50°49' 0"	128*54' 0"	SARTINE ISLAND
	VS	17/07/1956		51°16' 0"	128*12' 0"	VIRGIN ROCKS
	VS VS	17/07/1956 17/07/1956		51°22' 0"	128° 0' 0" 128° 6' 0"	PEARL ROCKS WATCH ROCK
	VS VS	19/07/1956		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	vs	19/07/1956		52°16' 0"	128°43' 0"	MCINNES ISLAND
	VS	22/07/1956		52°52' 0"	131°31' 0"	REEF ISLAND
	VS	22/07/1956		52°57' 0"	131°34' 0"	SKEDANS ISLAND
	VS	22/07/1956		53°24' 0"	130°27' 0"	HALIBUT ROCKS
	VS VS	25/07/1956 25/07/1956		51°56′0" 54°14′0"	131° 1' 0" 133° 2' 0"	CAPE ST. JAMES LANGARA ISLAND
	VS VS	27/07/1956		53 • 30 · 0 •	130°37' 0°	BONILLA ISLAND
	vs	31/07/1956		50°47' 0°	128°46' 0"	BERESFORD ISLAND
	VS	01/08/1956		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	vs	01/08/1956		50°49' 0"	128°54' 0"	SARTINE ISLAND
19566004	SAS	16/08/1956		50°49' 0"	128°54' 0"	SARTINE ISLAND
	SAS	17/08/1956		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS	17/08/1956		53°15' 0" 50°52' 0"	130°21' 0" 129° 5' 0"	NORTH DANGER ROCKS TRIANGLE ISLAND
	SAS	17/08/1956		30 32 0	129 3 0	I RANGLE BLAND
19566005	FC	09/06/1956	06/07/1956	50°47′ 0"	128°46' 0"	BERESFORD ISLAND
	FC	12/05/1958		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	FC	05/06/1958 15/06/1958	16/06/1958	50°52' 0" 53°30' 0"	129° 5' 0" 130°37' 0"	TRIANGLE ISLAND BONILLA ISLAND
	FC FC	16/06/1958	17/06/1958	53*15' 0"	130-37 0	NORTH DANGER ROCKS
	FC	10/07/1958	09/08/1958	50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	FC	15/08/1958	_	53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	FC	16/08/1958	17/08/1958	52°52' 0"	131°31' 0"	REEF ISLAND
	FC FC	22/05/1959 23/05/1959		50°47' 0" 50°52' 0"	128°46' 0"	BERESFORD ISLAND TRIANGLE ISLAND
	FC	23/05/1959	24/05/1959	50°49' 0"	128*54' 0"	SARTINE ISLAND
	FC	25/05/1959	26/05/1959	50°47' 0"	128°46' 0"	BERESFORD ISLAND
	FC	25/05/1959		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	FC	25/05/1959		50°49' 0"	128°54' 0"	SARTINE ISLAND
	FC FC	27/05/1959 29/05/1959		50°49' 0" 50°47' 0"	128°54' 0" 128°46' 0"	SARTINE ISLAND BERESFORD ISLAND
	FC	01/06/1959		51°20' 0"	128° 8' 0"	SEA OTTER GROUP
	FC	09/06/1959		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	FC	12/06/1959	14/06/1959	50°47' 0"	128°46' 0"	BERESFORD ISLAND
	FC	17/06/1959		51°56' 0"	131.0.	CAPE ST. JAMES
	FC FC	17/06/1959 18/06/1959		50°47' 0" 50°52' 0"	128°46' 0" 129° 5' 0"	BERESFORD ISLAND TRIANGLE ISLAND
	FC	18/06/1959	23/06/1959	53° 9' 0'	130° 2' 0°	JOSEPH ISLAND
	FC	03/07/1959	2010011202	51°20' 0"	128° 8' 0"	SEA OTTER GROUP
	FC	04/07/1959		52°16' 0"	128°43' 0"	MCINNES ISLAND
	FC	06/07/1959	07/07/1959	52°44' 0"	129°32' 0"	ISNOR ROCK
	FC FC	08/07/1959 11/07/1959		53°15' 0" 53°30' 0"	130°21' 0" 130°37' 0"	NORTH DANGER ROCKS BONILLA ISLAND
	FC	12/07/1959	15/07/1959	52°52' 0"	131°31' 0°	REEF ISLAND
	FC	19/07/1959	15.01.1707	54°14' 0"	133° 2' 0"	LANGARA ISLAND
	FC	21/07/1959	22/07/1959	51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	FC	06/06/1960		52°52' 0"	131°31' 0"	REEF ISLAND
	FC FC	10/06/1960 25/09/1960		53° 9' 0"	130° 2' 0" 128°46' 0"	JOSEPH ISLAND BERESFORD ISLAND
	FC	25/09/1960		50°52° 0"	129° 5' 0"	TRIANGLE ISLAND
	FC	25/09/1960		50°49' 0"	128°54' 0"	SARTINE ISLAND
	FC	26/09/1960		50°52' 0"	129 5 0"	TRIANGLE ISLAND
	FC	26/09/1960		50°49' 0"	128°54' 0"	SARTINE ISLAND
	FC FC	26/09/1960 30/09/1960		52°44' 0" 51°56' 0"	129°32' 0"	ISNOR ROCK CAPE ST. JAMES
	FC	03/10/1960		52°37' 0"	131°40' 0"	DARWIN SOUND
	FC	21/09/1961		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	FC	21/09/1961		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	FC FC	23/09/1961 24/05/1962	29/09/1961 27/05/1962	52°58' 0"	131°37' 0" 128° 8' 0"	SKEDANS SEA OTTER GROUP
	FC FC	31/05/1962	05/06/1962	51°56' 0"	131. 1. 0.	CAPE ST. JAMES
		<del></del>				

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
19566005	FC	01/07/1962		53 • 9 · 0 •	130° 2' 0"	JOSEPH ISLAND
	FC	08/06/1965	12/06/1965	51*56' 0"	131. 1. 0.	CAPE ST. JAMES
	FC	14/06/1965		50*52' 0"	129 5 0"	TRIANGLE ISLAND
	FC	15/06/1965	0410414044	50°47' 0"	128°46' 0"	BERESFORD ISLAND
	FC FC	03/06/1966 07/06/1966	06/06/1966	51°56' 0" 50°49' 0"	131° 1' 0" 128°54' 0"	CAPE ST. JAMES SARTINE ISLAND
	FC	08/06/1966		50*47' 0"	128°46' 0"	BERESFORD ISLAND
	FC	10/06/1966		50*52' 0*	129° 5' 0"	TRIANGLE ISLAND
	FC	14/06/1966	15/06/1966	50°47' 0"	128°46' 0"	BERESFORD ISLAND
	FC	14/06/1966		50°49′ 0°	128°54' 0"	SARTINE ISLAND
19576001	SAS	17/07/1957		54°14' 0"	133° 2' 0"	LANGARA ISLAND
	SAS	18/07/1957		52°52' 0"	131°31' 0"	REEF ISLAND
	SAS SAS	18/07/1957 18/07/1957		51°56' 0"	131° 1' 0" 130°37' 0"	CAPE ST. JAMES BONILLA ISLAND
	SAS	18/07/1957		54*14' 0*	130°59' 0"	BUTTERWORTH ROCKS
	SAS	19/07/1957		53*15'0"	130°21. 0.	NORTH DANGER ROCKS
	SAS	19/07/1957		52*44' 0"	129*32' 0"	ISNOR ROCK
19586001	ISS	01/08/1958	28/12/1960	51°32' 0"	127°47' 0"	ADDENBROKE LIGHT
19586002	svs	04/04/1958		51. 0. 0.	128° 0' 0"	
	SVS	05/04/1958		51°20' 0"	128°30' 0"	
	svs	05/04/1958		51°30' 0"	128°30' 0"	
	svs	05/04/1958		51°40' 0"	128°30' 0"	
	SVS	05/04/1958		51°50' 0" 51°50' 0"	128°30' 0" 129° 0' 0"	
	SVS SVS	05/04/1958 05/04/1958		52° 0' 0"	128°50' 0"	
	SVS	05/04/1958		52° 0' 0"	128°20' 0"	
	svs	05/04/1958		52° 0' 0"	128°40' 0"	
	SVS	06/04/1958		52°10' 0-	129*20' 0"	
	svs	06/04/1958		52*10. 0-	130°30' 0"	
	svs	06/04/1958		52°10' 0"	129°40' 0"	
	SVS SVS	06/04/1958 06/04/1958		52°10' 0* 52°10' 0*	129°50' 0" 129°30' 0"	
	SVS	06/04/1958		52°10' 0"	128°50' 0"	
	SVS	06/04/1958		52°10' 0	130° 0' 0"	
	SVS	06/04/1958		52°10' 0"	129° 0' 0"	
	SVS	06/04/1958		52°10' 0"	129°10' 0"	
	SVS	07/04/1958		51°30' 0"	129°30' 0"	
	SVS	07/04/1958		51°30' 0" 51°40' 0"	1 <b>29°4</b> 0' 0" 130° 0' 0"	
	SVS SVS	07/04/1958 07/04/1958		51°40' 0°	129°50' 0"	
	SVS	07/04/1958		51°50' 0"	130°10' 0"	
	SVS	07/04/1958		51°50' 0"	130° 0' 0"	
	svs	07/04/1958		52° 0' 0°	130°20' 0"	
	svs	07/04/1958		52° 0' 0"	130°50' 0"	
	SVS	07/04/1958		52° 0' 0"	130°30' 0"	
	SVS SVS	08/04/1958 08/04/1958		51°0'0"	128°50' 0" 129° 0' 0"	
	SVS	08/04/1958		51°10' 0"	129°10' 0"	
	svs	08/04/1958		51°20' 0"	129°20' 0"	
	SVS	08/05/1958		51° 0' 0"	129°10' 0"	
	SVS	12/06/1958		54°10' 0"	132°50' 0"	
	SVS	12/06/1958		54°10' 0°	132°40' 0"	
	svs	12/06/1958		54°20' 0"	132°20' 0"	
	SVS	12/06/1958		54°20' 0" 54°20' 0"	132°10′0°	
	svs svs	12/06/1958 12/06/1958		54°20' 0"	131°50' 0" 132° 0' 0"	
	SVS	12/06/1958		54°30° 0"	131°10' 0"	
	svs	12/06/1958		54°30' 0"	131.50.0.	
	svs	12/06/1958		54°30' 0"	131°40' 0"	
	svs	12/06/1958		54°30' 0"	131°30' 0"	
	SVS	12/06/1958		54°30' 0"	131° 0' 0"	
	SVS SVS	15/06/1958		53°20' 0"	130°30' 0"	
	SVS SVS	15/06/1958 15/06/1958		53°20' 0" 53°30' 0"	130°20' 0" 130°40' 0"	
	SVS	15/06/1958		53°30' 0"	130°50' 0"	
	SVS	15/06/1958		53*30' 0*	131° 0' 0-	
	svs	15/06/1958		23.10.0.	130°10'0"	
	SVS	15/06/1958		53°10' 0-	130°20' 0"	
	svs	20/06/1958		53°50' 0"	131.10.0.	
	svs	20/06/1958		54°10' 0"	131 °30' 0"	
	SVS	20/06/1958		54°10' 0"	132° 0' 0"	
	svs	20/06/1958		54°10' 0"	131°10' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19586002	svs	20/06/1958		54*10' 0"	131*40' 0"	
1750000	svs	20/06/1958		54*10' 0"	131°20' 0"	
	svs	20/06/1958		54°10' 0"	132*10' 0"	
	SVS SVS	20/06/1958 20/06/1958		54°10' 0" 53°40' 0"	131°50' 0"	
	SVS	20/06/1958		54° 0' 0"	131-10. 0-	
	svs	05/03/1959		53*30' 0"	131 * 0' 0"	
	svs	05/03/1959		53 • 30 · 0 *	130°50' 0"	
	SVS SVS	05/03/1959 06/03/1959		53°40' 0" 53°50' 0"	131° 0' 0"	
	svs	08/03/1959		53°30' 0"	130°40' 0"	
	svs	08/03/1959		53*30' 0"	130.20. 0.	
	svs	10/03/1959		53*30' 0"	130°40' 0" 130°40' 0"	
	SVS SVS	10/03/1959 12/03/1959		53°40° 0° 51°10' 0°	128*30' 0"	
	SVS	12/03/1959		51.50, 0.	128°50' 0"	
	svs	12/03/1959		52° 0' 0"	128°50' 0"	
	svs	19/06/1959		50*50' 0"	128°20' 0"	
	SVS SVS	19/06/1959 21/06/1959		50°50' 0"	128°10' 0" 128°50' 0"	
	SVS	21/06/1959		50.20, 0.	128*40' 0"	
	SVS	18/07/1959		54*10' 0"	131°40' 0"	
	svs	18/02/1960		53°40' 0" 52°10' 0"	130°40' 0"	
	SVS SVS	03/03/1960 04/03/1960		53°20' 0"	128°50' 0" 130°40' 0"	
	svs	04/03/1960		53 ° 30' 0"	130°40' 0"	
	svs	04/03/1960		53°40' 0"	130°50' 0"	
	svs	05/03/1960		53°40' 0"	130°30' 0" 130°50' 0"	
	SVS SVS	09/03/1960 10/03/1960		51°50' 0"	127°50' 0"	
	SVS	20/02/1961		52°40' 0"	129°0'0"	
	svs	21/02/1961		53°30' 0"	130°40' 0"	
	SVS	21/02/1961		53°50' 0"	130°10' 0"	
	SVS SVS	22/02/1961 22/02/1961		53°50' 0"	130°50' 0" 130°50' 0"	
	svs	22/02/1961		53°40' 0"	130*40' 0"	
	svs	22/02/1961		53°40' 0"	130°50' 0"	
	SVS SVS	22/02/1961 25/02/1961		53°40′ 0° 53°30′ 0°	130°30' 0"	
	svs	25/02/1961		53°40' 0"	130°40' 0"	
	svs	25/02/1961		53°40' 0"	130°50' 0"	
	SVS	27/02/1961		53°30' 0"	130°40' 0"	
	SVS SVS	27/02/1961 27/02/1961		53°30' 0" 53°40' 0"	131°10' 0" 130°40' 0"	
	svs	27/02/1961		53°40' 0"	130°50' 0"	
	svs	27/02/1961		53°40' 0"	131° 0' 0"	
	svs	27/02/1961		53°40' 0" 52°20' 0"	130°30' 0"	
	SVS SVS	02/03/1961 02/03/1961		52°30' 0"	128°30' 0" 128°30' 0"	
	svs	02/03/1961		52°50' 0"	128°20' 0"	
	svs	03/03/1961		51°40' 0"	128°10' 0"	
	SVS SVS	03/03/1961 04/03/1961		51°50' 0" 51°40' 0"	127°50' 0" 128°10' 0"	
	SVS	10/02/1962		53°30' 0"	130°40' 0"	
	svs	10/02/1962		53°50' 0"	130°50' 0"	
	svs	10/02/1962		54°10' 0"	131°10' 0"	
	SVS	10/02/1962		53°40' 0"	130°50' 0"	
	SVS SVS	11/02/1962 11/02/1962		53°50' 0"	131° 0' 0"	
	svs	11/02/1962		53°40' 0"	130°50' 0"	
	svs	11/02/1962		54° 0' 0"	131 ° 0' 0"	
	SVS SVS	18/02/1962 18/02/1962		54°10' 0" 54°20' 0"	130°30' 0" 130°30' 0"	
	SVS	19/02/1962		54°10' 0"	130*20' 0*	
	svs	20/02/1962		53°30' 0"	130°30' 0"	
	svs	20/02/1962		53°50' 0"	130°50' 0"	
	SVS SVS	20/02/1962 22/02/1962		53°40' 0" 51°10' 0"	130°40' 0" 127°50' 0"	
	SVS	22/02/1962		51 °20' 0"	127°50' 0"	
	svs	22/02/1962		51°30' 0"	127°50' 0"	
	SVS	25/02/1962		50°50' 0"	128°10' 0"	
	SVS SVS	23/05/1966 23/05/1966		21° 0' 0"	129°10' 0" 129° 0' 0"	
	SVS	23/05/1966		51°10' 0"	129°30' 0"	
	svs	23/05/1966		51°20' 0"	129°40' 0"	
	SVS	23/05/1966		51°30' 0"	129°50' 0"	
	svs	23/05/1966		51°40′ 0"	130°10' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	<u>Loogitude</u>	Location Name
19586002	svs	23/05/1966		51*40' 0"	130° 0' 0-	
1/50000	svs	23/05/1966		51°50′ 0°	130°20' 0"	
	svs	23/05/1966		51°50' 0"	130°30' 0"	
	svs	27/05/1966		51-0.0-	129° 0' 0"	
19586003	SAS	25/02/1958		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS	25/02/1958		50°52' 0"	129° 5' 0°	TRIANGLE ISLAND
	SAS	25/02/1958		50°49' 0"	128°54' 0"	SARTINE ISLAND
19586004	FC	10/07/1958		50°49' 0"	128°54' 0"	SARTINE ISLAND
	FC	19/06/1959		50°49' 0° 50°49' 0°	128°54' 0" 128°54' 0"	SARTINE ISLAND SARTINE ISLAND
	FC FC	03/06/1960 04/06/1960		50*49 0	128*54* 0*	SARTINE ISLAND
	FC	14/06/1960		50*49' 0"	128*54' 0"	SARTINE ISLAND
19606001	svs	21/04/1960		54°28' 0"	131*51' 0*	
1700001	svs	22/04/1960		54°40' 0"	131°58' 0"	
	SVS	26/01/1961		51°45' 0"	128° 0' 0"	
	SVS SVS	27/01/1961 28/01/1961		52°13' 0" 52°35' 0"	128°45' 0" 128°48' 0"	
	SVS	29/01/1961		53*47' 0*	130°34' 0"	
	svs	31/01/1961		53°57' 0"	130°58' 0"	
	svs	06/02/1961		53°38' 0"	130°44' 0" 130°28' 0"	
	SVS SVS	09/02/1961 09/02/1961		54°16' 0" 54°18' 0"	130°45' 0"	
	SVS	09/02/1961		54°31' 0"	130°36' 0"	
	svs	11/02/1961		53*52' 0"	130°53' 0"	
	SVS	13/02/1961 25/02/1961		53°18' 0" 52°28' 0"	129°26' 0" 128°52' 0"	
	SVS SVS	01/03/1961		53°56' 0"	130°30' 0"	
	svs	04/03/1961		54*40' 0"	132°38' 0"	
	svs	12/03/1961 12/03/1961		52°47' 0" 53° 4' 0"	131°18' 0" 131°17' 0"	
	SVS SVS	19/03/1961		51°45' 0"	127°56' 0"	
	SVS	19/03/1961		52°39' 0"	128*32' 0"	
	svs	19/03/1961		52°26' 0" 51°51' 0"	127°53' 0" 127°53' 0"	
	SVS SVS	19/03/1961 19/03/1961		52.56. 0.	127°53' 0°	
	svs	19/03/1961		51-45. 0-	127*56' 0"	
	svs	18/05/1968		54*26' 0*	131°30' 0"	
	SVS SVS	18/05/1968 18/05/1968		54°30' 0" 54°30' 0"	132°30' 0" 132°11' 0"	
	svs	18/05/1968		54*22' 0"	131 • 3' 0"	
	svs	18/05/1968		54°30' 0"	132°20' 0"	
	SVS SVS	18/05/1968 10/03/1974		54°28' 0" 52°23' 0"	131°45' 0" 128°29' 0"	
	svs	09/05/1974		51.53. 0.	127°51' 0"	
	svs	10/05/1974		53°27' 0"	129°28' 0"	
	SVS SVS	22/08/1974 27/08/1974		54 <b>*30</b> * 0* 51 <b>*3</b> 5* 0*	131° 0' 0"	
	SVS	15/03/1975		51°52' 0"	127°56' 0"	
	svs	03/04/1975		51 "39' 0"	127°54' 0"	
	SVS SVS	03/04/1975 30/04/1975		52°18' 0" 54°12' 0"	128°36' 0" 131°25' 0"	
	SVS	01/05/1975		54°20' 0"	132° 0' 0"	
	svs	01/05/1975		54°25' 0"	132°30' 0"	
	svs	01/05/1975		54°25' 0°	132°40' 0"	
	S∨S S <b>∨S</b>	06/05/1975 07/05/1975		51 °20' 0" 54°40' 0"	128°30' 0" 130°57' 0"	
	SVS	07/05/1975		52°33' 0"	128°28' 0"	
	svs	07/05/1975		53°23' 0"	129°20' 0"	
	SVS	25/05/1975		52°17' 0° 52°23' 0°	128°26' 0" 128°29' 0"	
	SVS SVS	25/05/1975 25/05/1975		52°32' 0"	128°26' 0"	
	svs	26/05/1975		53 * 10 ' 0 "	128°38' 0"	
	svs	27/05/1975		54°40' 0"	130°47' 0"	
	SVS SVS	15/08/1975 11/09/1975		54°27' 0" 51° 9' 0"	132°20' 0" 127°48' 0"	
	SVS	17/03/1976		52-15' 0-	128°32' 0"	
	SVS	03/04/1976		52*21' 0*	128°31' 0"	
	SVS	22/04/1976		54°34' 0° 54°28' 0°	132° 7' 0" 132° 8' 0"	
	SVS SVS	25/04/1976 01/05/1976		54°23' 0"	132° 8' 0"	
	svs	02/05/1976		54*26' 0"	132°14' 0"	
	svs	05/05/1976		54°34' 0"	132° 7' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19606001	svs	07/05/1976		54*38' 0*	130*44' 0"	
1700001	svs	18/05/1976		51 *35 ' 0"	127°53' 0"	
	SVS	19/05/1976		52°48' 0"	128°33' 0" 128°40' 0"	
	SVS SVS	19/05/1976 19/05/1976		53°10' 0"	129 • 5 · 0"	
	SVS	19/05/1976		54 40' 0"	130*47' 0"	
	svs	25/05/1976		52°20' 0"	127° 8' 0°	
	SVS	28/05/1976		52°31' 0" 52°45' 0"	128°26' 0" 128°28' 0"	
	SVS SVS	28/05/1976 28/05/1976		52°47' 0"	128*28' 0"	
	svs	28/05/1976		53°13' 0"	128°45' 0"	
	svs	28/05/1976		53°20' 0"	128°54' 0"	
	SVS SVS	28/05/1976 28/05/1976		53°25' 0° 53°33' 0°	128°55' 0" 128°55' 0"	
	SVS	29/05/1976		53°34' 0"	128*58' 0"	
	svs	29/05/1976		53°32' 0"	129°36' 0"	
	svs	30/05/1976		53°34' 0°	129°35' 0"	
	SVS	31/05/1976 07/06/1976		54°35' 0"	130°44' 0° 131°52' 0°	
	SVS	27/06/1976		52°30' 0"	128°28' 0"	
	svs	27/06/1976		52*32. 0*	128*27' 0"	
	svs	28/06/1976		54°39' 0"	131°56' 0"	
	SVS SVS	28/06/1976 28/06/1976		53° 9' 0"	128°38' 0" 128°53' 0"	
	svs	29/06/1976		54°35' 0"	130°44' 0"	
	svs	29/06/1976		54°38' 0"	130°44' 0"	
	SVS SVS	03/07/1976 05/07/1976		54°37' 0" 54°38' 0"	132°36' 0" 132°11' 0"	
	SVS	05/07/1976		54°40' 0°	130°48' 0°	
	SVS	10/07/1976		54°38' 0"	132°11' 0"	
	svs	13/07/1976		54°31' 0"	132° 3' 0"	
	SVS SVS	14/07/1976 15/07/1976		54°36' 0" 54°36' 0"	132° 2' 0"	
	SVS	15/07/1976		54°28' 0"	132. 8. 0.	
	svs	15/07/1976		54°34' 0"	130°44' 0"	
	SVS SVS	18/07/1976 18/07/1976		51°25' 0" 52°10' 0"	129°58' 0"	
	SVS	21/07/1976		54°30' 0"	132°18' 0"	
	svs	23/07/1976		54°34' 0"	132° 7' 0°	
	SVS	14/08/1976		54°38' 0"	130°42' 0°	
	SVS SVS	22/08/1976 22/08/1976		53°19' 0" 52°45' 0"	129° 2' 0" 128°33' 0"	
	svs	10/09/1976		23 ° 0. 0.	128°31' 0"	
	svs	10/09/1976		53°33' 0"	129°36' 0"	
	SVS SVS	13/09/1976 14/09/1976		52°22' 0° 52°27' 0°	128°22' 0" 127°47' 0"	
	SVS	15/09/1976		52°14' 0"	127°54' 0"	
	svs	17/09/1976		51°25' 0"	127°45' 0"	
	svs	19/09/1976		53°34' 0"	129°39' 0"	
	SVS SVS	19/09/1976 13/04/1977		53°25' 0°	129°24' 0" 128°38' 0"	
	svs	12/05/1977		52°43' 0"	128°34' 0"	
	svs	18/05/1977		52°45' 0"	130°40' 0"	
	SVS SVS	19/05/1977 20/05/1977		52°15' 0"	128°23' 0"	
	SVS	20/05/1977		52.25.0.	128 231 0"	
	svs	20/05/1977		53°16' 0"	128°51' 0"	
	svs	01/06/1977		52°15' 0"	128°15' 0"	
	SVS SVS	15/06/1977 29/06/1977		52° 2' 0" 54°21' 0"	127°56' 0" 130°56' 0"	
	SVS	25/08/1977		54°39' 0"	132°37' 0°	
	svs	13/09/1977		54°28' 0"	130°38' 0"	
	SVS SVS	20/09/1977 20/09/1977		53°52' 0°	130° 2' 0"	
	SVS	24/09/1977		52°43' 0"	128°26' 0"	
	svs	25/09/1977		52°22' 0"	128°21' 0"	
	SVS	02/11/1977		52°12' 0"	128° 7' 0" 127°55' 0"	
	svs svs	12/02/1978 19/04/1978		51.21.0. 21.20.0.	127°33°0"	
	svs	20/04/1978		54° 5' 0"	130°18' 0"	
	svs	20/04/1978		54°37' 0"	130°40' 0"	
	SVS SVS	13/05/1978 15/05/1978		52°14' 0" 52°43' 0"	128°17' 0" 128°26' 0"	
	SVS	15/05/1978	-	52*48' 0"	128 27 0	
	svs	16/05/1978		53°10' 0"	129°15' 0"	
	SVS	17/05/1978		54°38' 0" 54°20' 0"	132°10' 0"	
	svs	18/05/1978		34°20°0°	131 - 1.0.	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19606001	svs	18/05/1978		54°31' 0"	131* 1. 0*	
	svs	24/05/1978		54°35' 0"	130*40' 0*	
	SVS SVS	01/06/1978 19/06/1978		54°39' 0" 52°16' 0"	131°58' 0° 128°15' 0°	
	svs	19/06/1978		53 * 11 ' 0 "	128°45' 0"	
	SVS	19/06/1978		53°16' 0° 54°37' 0°	128°49' 0" 130°45' 0"	
	SVS SVS	20/06/1978 20/06/1978		54°38' 0"	130*44' 0"	
	SVS	21/06/1978		54*39' 0*	131*58' 0"	
	SVS SVS	29/06/1978 29/06/1978		52°34' 0"	128°29' 0° 131°10' 0°	
	SVS	28/07/1978		54*38' 0*	132°10' 0"	
	svs	29/07/1978		54°38' 0"	132° 4' 0"	
	SVS SVS	10/08/1978 12/08/1978		54°39' 0" 53°40' 0"	131°20' 0° 129°42' 0°	
	svs	13/08/1978		53 *40 ' 0 "	129°46' 0"	
	svs	14/08/1978		53°33' 0"	129°36' 0"	
	SVS SVS	14/08/1978 16/08/1978		53°26' 0° 52°46' 0°	129°26' 0" 129° 1' 0"	
	svs	17/08/1978		52.2.0.	128°41' 0"	
	svs	18/08/1978		54°36′ 0"	132°23' 0"	
	SVS SVS	19/08/1978 19/08/1978		52°52' 0" 52°54' 0"	128°42' 0" 128°40' 0"	
	svs	19/08/1978		52°57' 0"	128*39' 0"	
	SVS	20/08/1978		52°37' 0" 52°40' 0"	128°47' 0° 128°32' 0°	
	SVS SVS	20/08/1978 23/08/1978		52°21' 0"	128°32°0"	
	svs	23/08/1978		52°30' 0"	127°51' 0"	
	SVS	26/08/1978		52°21' 0" 51°33' 0"	127°42' 0" 127°51' 0"	
	SVS SVS	27/08/1978 31/08/1978		23. 1. 0.	128*32' 0"	
	svs	31/08/1978		52°22' 0"	128*31' 0"	
	SVS SVS	31/08/1978 31/08/1978		52°17' 0" 51°16' 0"	128°27' 0" 127°52' 0"	
	SVS	09/09/1978		54°39' 0"	131.28.0.	
	svs	26/10/1978		54°38' 0"	131°59' 0"	
	SVS SVS	26/10/1978 17/01/1979		54°35' 0" 53°18' 0"	132°18' 0"	
	SVS	17/01/1979		54°36' 0"	130°37' 0"	
	SVS SVS	18/01/1979 29/03/1979		53°20' 0" 54°24' 0"	128°30' 0" 131° 2' 0"	
	svs	29/04/1979		52°36' 0"	130°35' 0"	
	SVS	29/04/1979 25/05/1979		52°40' 0" 52°22' 0"	130°40' 0" 128°31' 0"	
	SVS SVS	30/06/1979		51°45' 0°	129° 2' 0"	
	svs	30/06/1979		53° 9' 0"	130°29' 0"	
	SVS SVS	30/06/1979 22/08/1979		53°18' 0" 53°11' 0"	130°38' 0" 128°42' 0"	
	SVS	22/08/1979		52°51' 0"	128°32' 0"	
	svs	22/08/1979		52°40' 0"	128°32' 0" 128°28' 0"	
	SVS SVS	22/08/1979 22/08/1979		52°32' 0" 52°23' 0"	128°28' 0"	
	svs	06/09/1979		54° 0' 0"	131° 0' 0"	
	svs	25/09/1979		53° 2' 0"	128°33' 0"	
	SVS SVS	18/11/19 <b>7</b> 9 18/01/1980		52°24' 0" 52°35' 0"	128°26' 0" 128°28' 0"	
	SVS	02/05/1980		53° 5' 0°	128°33' 0"	
	SVS	02/05/1980		52°38' 0"	128°29' 0"	
	SVS SVS	02/05/1980 02/05/1980		52°24' 0" 52°23' 0"	128°30' 0" 128°30' 0"	
	SVS	02/05/1980		51°38' 0"	127°50' 0"	
	SVS SVS	02/05/1980 25/07/1980		51°37' 0" 51°42' 0"	127°50' 0" 129°51' 0"	
	SVS	25/07/1980		51 • 34 · 0 •	129°47' 0"	
	SVS	25/07/1980		51° 8' 0"	129°31' 0" 128°32' 0"	
	SVS SVS	09/10/1980 09/10/1980		53°11' 0"	129°34' 0"	
	SVS	09/10/1980		53°10' 0"	129*37' 0"	
	SVS SVS	09/10/1980 09/10/1980		53° 9' 0"	129°41' 0" 130° 0' 0"	
	svs	09/10/1980		53°22' 0"	130°33' 0"	
	SVS	04/02/1981		53°18' 0"	129°10' 0"	
	SVS SVS	14/05/1981 03/06/1981		54°36' 0" 53°13' 0"	130°45' 0" 128°46' 0"	
	svs	19/06/1981		54°26' 0"	130°31' 0"	
	SVS SVS	28/10/1981 10/11/1981		53°15' 0"	128°50' 0" 127°56' 0"	
	343	10/11/1761		JI J <del>y</del> U	127 30 0	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19606001	svs	28/11/1981		54°36' 0"	132°33' 0"	
1700001	svs	28/11/1981		54°36' 0"	132°29' 0°	
	svs	29/11/1981		52°41' 0"	128°32' 0"	
	SVS	29/11/1981 29/11/1981		52°38' 0"	128°31' 0" 127°20' 0"	
	SVS SVS	29/11/1981		52°11' 0"	128 6' 0"	
	svs	29/11/1981		52° 4' 0"	127°56' 0"	
	svs	19/03/1982		52°41' 0"	128°34' 0"	
	SVS SVS	17/04/1982 17/04/1982		52°27' 0" 52°41' 0"	129°27' 0" 128°33' 0"	
	SVS	17/04/1982		52°45' 0"	128*33' 0"	
	svs	17/04/1982		52°47' 0"	128°33' 0"	•
	SVS	17/04/1982		53° 5' 0" 53°17' 0"	128°34' 0° 128°53' 0°	
	SVS SVS	17/04/1982 17/04/1982		53*19' 0*	128°58' 0"	
	svs	18/04/1982		54°37' 0"	131°24' 0°	
	svs	23/04/1982		52° 4' 0"	128°55' 0"	
	SVS SVS	30/04/1982 30/04/1982		52°32' 0"	128°27' 0" 128°32' 0"	
	SVS	30/04/1982		53°18' 0"	128°55' 0"	
	svs	29/05/1982		52°24' 0"	128°30' 0"	
	svs	29/05/1982		52*27' 0"	128°28' 0" 128°27' 0"	
	SVS SVS	29/05/1982 09/07/1982		52°27' 0"	130°29' 0"	
	svs	03/08/1982		53°46' 0"	129°53' 0"	
	svs	23/09/1982		54°23' 0"	130°36' 0"	
	SVS SVS	24/09/1982 10/11/1982		54°34' 0" 54°38' 0"	132°34' 0" 130°39' 0"	
	svs	10/11/1982		54*35' 0"	130-38. 0-	
	svs	10/11/1982		53°24' 0"	129°27' 0"	
	SVS SVS	26/01/1983 26/01/1983		54°26' 0" 53°58' 0"	130°38' 0° 130°12' 0°	
	SVS	25/02/1983		53°14' 0"	128°48' 0"	
	svs	01/04/1983		51°32' 0"	127°49' 0"	
	SVS	02/04/1983 02/04/1983		53°22' 0"	129°19' 0" 129°37' 0"	
	SVS SVS	02/04/1983		53°36' 0"	129°41' 0"	
	svs	02/04/1983		53°46' 0"	129°55' 0"	
	SVS	13/04/1983		52°41' 0"	128°32' 0"	
	SVS SVS	13/04/1983 15/04/1983		52°55' 0"	128°31' 0" 130°43' 0"	
	svs	16/04/1983		52°47' 0"	128°32' 0"	
	svs	16/04/1983		52°56' 0"	128°30' 0"	
	SVS SVS	13/05/1983 13/05/1983		51°43' 0° 52°50' 0°	127°55' 0" 128°32' 0"	
	svs	27/07/1983		23 • 18 · O.	129°10' 0"	
	svs	27/07/1983		53°19' 0"	129° 4' 0°	
	SVS SVS	04/08/1983 07/08/1983		53°19' 0" 52°46' 0"	128°54' 0" 128°33' 0"	
	SVS	06/09/1983		53°33' 0"	129°38' 0"	
	svs	07/09/1983		52° 4' 0"	127°56' 0"	
	SVS	12/09/1983		54° 9' 0"	131° 4' 0° 128°29' 0°	
	SVS SVS	03/02/1984 03/02/1984		23°18' 0°	129 29 0	
	svs	03/02/1984		52°33' 0"	128°29' 0"	
	svs	14/03/1984		52°19' 0"	129° 6' 0"	
	SVS SVS	11/04/1984 11/04/1984		52°34' 0" 53°25' 0"	128°28' 0" 129°24' 0"	
	svs	03/05/1984		52°36' 0"	128°29' 0"	
	svs	03/05/1984		54° 6' 0"	130.18, 0.	
	SVS SVS	12/05/1984 12/05/1984		52°23' 0" 52°28' 0"	127°30' 0" 128°27' 0"	
	SVS	31/05/1984		51°44' 0"	127°56' 0"	
	svs	31/05/1984		52°56' 0"	128°31' 0"	
	SVS	30/06/1984		52°45' 0" 52°53' 0"	128°33' 0" 130°34' 0"	
	SVS SVS	27/08/1984 27/08/1984		52°37' 0"	130°25' 0"	
	SVS	31/10/1984		53°31' 0"	129°34' 0"	
	SVS	13/04/1985		53°40' 0"	129°45' 0"	
	SVS SVS	13/04/1985 31/05/1985		53°52' 0" 51° 7' 0"	130° 4' 0" 127°49' 0"	
	svs	01/06/1985		52°40' 0"	128°32' 0"	
	svs	24/09/1985		54°37' 0"	130°44′ 0"	
	SVS SVS	25/09/1985 25/09/1985		52°41' 0" 51° 6' 0"	128°33' 0" 127°50' 0"	
	SVS	03/10/1985		52°50' 0"	128.33. 0.	
	svs	12/11/1985		51°60' 0"	127°56' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19606001	svs	12/11/1985		52°39' 0"	128*30' 0"	
	SVS	12/11/1985		51*57' 0*	127*56' 0"	
	SVS	24/01/1986		52*25' 0*	128°29' 0"	
	SVS SVS	24/01/1986 24/01/1986		52°29' 0"	128°27' 0" 128°28' 0"	
	svs	24/01/1986		52°45' 0"	128*33' 0"	
	svs	24/01/1986		53°20' 0"	129°12' 0"	
	SVS SVS	26/01/1986 26/01/1986		54°27' 0" 54°36' 0"	130°40' 0" 130°44' 0"	
	SVS	17/05/1986		53 • 5 · 0 •	128*34* 0*	
	svs	18/05/1986		54°28' 0"	130°40' 0"	
	SVS SVS	02/10/1986		53°24' 0" 53°37' 0"	129°21' 0" 129°37' 0"	
	SVS	02/10/1986 19/10/1986		54°36' 0"	130°44' 0"	
	SVS	20/10/1986		51°44' 0"	127°55' 0"	
	svs	12/11/1986		51°30' 0"	127°50' 0"	
	SVS SVS	21/02/1987 03/04/1987		52°39' 0"	1 <b>28°</b> 32' 0 <b>°</b> 130°46' 0°	
	svs	03/04/1987		54°11' 0"	130°27' 0"	
	svs	03/04/1987		54° 5' 0"	130.18. 0.	
	SVS	04/04/1987		52°15' 0"	128°18' 0" 128°50' 0"	
	SVS SVS	04/04/1987 04/04/1987		53°16' 0" 52°15' 0"	128 22' 0"	
	svs	04/04/1987		52° 3' 0"	127*56' 0"	
	svs	08/04/1987		54°20' 0"	131-35. 0-	
	SVS SVS	09/04/1987 09/04/1987		52°55' 0" 53°26' 0"	128°32' 0" 128°52' 0"	
	SVS	09/05/1987		23 ° 18' 0	128*54' 0"	
	SVS	09/05/1987		52°34' 0"	128*29' 0"	
	SVS	10/05/1987		54°20' 0"	130°36' 0" 129°30' 0"	
	SVS SVS	10/07/1987 08/08/1987		52°35' 0" 53°51' 0"	130° 1' 0°	
	svs	02/10/1987		23°10' 0°	128*39' 0*	
	svs	12/11/1987		23°30' 0"	129°32' 0"	
	SVS SVS	12/11/1987 12/11/1987		53°16' 0" 52°33' 0"	128°52' 0" 128°28' 0"	
	svs	03/03/1988		52*36' 0*	128*30' 0"	
	svs	07/04/1988		52°32' 0"	128°27' 0"	
	SVS SVS	07/04/1988 07/04/1988		52°48' 0° 53°19' 0°	128°26' 0" 129°12' 0"	
	SVS	07/04/1988		53°49' 0"	129.25. 0-	
	svs	21/05/1988		52°50' 0°	128*32' 0"	
	SVS SVS	21/05/1988 21/05/1988		52°54' 0° 52°59' 0°	128*31' 0" 128*31' 0"	
	SVS	21/05/1988		23°19' 0"	128*55' 0*	
	svs	21/05/1988		23°31' 0°	129*33' 0"	
	SVS	26/05/1988		52°25' 0"	128°29' 0"	
	SVS SVS	21/08/1988 21/08/1988		53°10' 0" 54°28' 0"	130°39' 0"	
	svs	11/09/1988		53°47' 0"	129*56' 0*	
	svs	12/09/1988		51°27' 0"	127°50' 0"	
	SVS SVS	30/09/1988 04/10/1988		53°33' 0" 51°16' 0"	129°37' 0" 127°44' 0"	
	svs	05/10/1988		53°15' 0"	128 ° 49 ' 0"	
	svs	05/10/1988		53°19' 0"	129° 6' 0"	
	SVS	05/10/1988		53°42' 0"	129°42' 0" 128°34' 0"	
	SVS SVS	06/10/1988 06/10/1988		53°29' 0"	129°30' 0"	
	svs	30/10/1988		54° 9' 0"	130°24' 0"	
	svs	31/10/1988		54°31' 0"	130°26' 0"	
	SVS SVS	01/[1/[988 [4/[1/[988		52°29' 0" 52°48' 0"	128°27' 0" 128°26' 0"	
	svs	10/03/1989		52°34' 0°	128-28-0-	
	svs	21/04/1989		53°53' 0"	130° 4' 0°	
	SVS SVS	21/04/1989 21/04/1989		54° 7' 0" 54°38' 0"	130°21' 0" 130°44' 0"	
	SVS	25/09/1989		53*37. 0*	129°36' 0"	
	svs	26/09/1989		52°11' 0"	128*18' 0"	
	SVS	26/09/1989		51°59' 0"	128° 8' 0" 127°32' 0"	
	SVS SVS	26/09/1989 27/09/1989		51°15' 0"	127°47' 0"	
	svs	04/10/1989		53°16' 0"	128°52' 0°	
	svs	15/03/1990		52°58' 0"	128*31' 0*	
	SVS SVS	15/03/1990 15/03/1990		53°12' 0" 53°17' 0"	128°43' 0° 128°52' 0°	
	SVS	15/03/1990		53°17' 0°	128 53 0"	
	svs	04/04/1990		54°19' 0"	131°48' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19606001	svs	04/04/1990		54*18' 0"	131*37 0-	
1700001	svs	05/05/1990		53 • 40 · 0 •	129*45* 0*	
	SVS	05/05/1990		53*36' 0"	129*19' 0"	
	SVS SVS	19/05/1990 20/05/1990		52°15' 0" 54°35' 0"	128*23' 0" 130*39' 0"	
	SVS	03/10/1990		53 • 4 · 0 •	128*36' 0"	
	SVS	13/10/1990		52°33' 0"	128*28' 0"	
	SVS SVS	06/11/1990 06/11/1990		52*46' 0" 52*41' 0"	128°29' 0"	
19606002	svs	21/04/1960		54°10' 0°	131 ° 0' 0"	
1700000	svs	21/04/1960		54*10' 0"	131-10, 0-	
	svs	21/04/1960		54°10' 0"	130*50' 0*	
	SVS SVS	21/04/1960 21/04/1960		54°20' 0" 54°20' 0"	131°30' 0" 131°20' 0"	
	svs	21/04/1960		54*20. 0.	131*40' 0"	
	svs	21/04/1960		54*20' 0"	131*50' 0"	
	SVS SVS	21/04/1960 21/04/1960		54°20' 0" 54°30' 0"	131°10' 0" 131°50' 0"	
	SVS	21/04/1960		54°40' 0°	131 •50 0	
	svs	22/04/1960		54°30' 0°	132° 0' 0°	
	SVS	22/04/1960		54°30' 0"	132°10' 0"	
	svs svs	22/04/1960 22/04/1960		54°30' 0" 54°40' 0"	132°10' 0°	
	svs	22/04/1960		54°40' 0"	132*30. 0*	
	svs	22/04/1960		54°40' 0"	131°50' 0°	
	SVS SVS	22/04/1960 25/01/1961		54°40' 0° 50°50' 0°	132°20' 0"	
	svs	25/01/1961		50*50' 0"	128 20 0	
	svs	25/01/1961		51° 0' 0"	128°30' 0"	
	SVS SVS	25/01/1961 26/01/1961		51° 0' 0" 51°10' 0"	128°40' 0" 127°50' 0"	
	SVS	26/01/1961		51°20°0°	127°50' 0"	
	SVS	26/01/1961		51°30' 0"	127°50' 0"	
	SVS	26/01/1961		51°40' 0"	128° 0' 0"	
	SVS SVS	26/01/1961 26/01/1961		51°40' 0" 51°50' 0"	127°50' 0" 127°50' 0"	
	SVS	27/01/1961		51°40' 0"	128°20' 0"	
	SVS	27/01/1961		51°40′ 0°	128°10' 0"	
	SVS SVS	27/01/1961 27/01/1961		51°40' 0"	128° 0' 0" 128°20' 0"	
	svs	27/01/1961		51°50' 0"	128°30' 0"	
	svs	27/01/1961		52° 0' 0"	128°40' 0"	
	SVS SVS	27/01/1961 27/01/1961		52°20' 0"	128°30' 0" 128°40' 0"	
	svs	27/01/1961		52*20' 0"	128.20. 0.	
	svs	27/01/1961		52°30' 0°	128°50' 0"	
	SVS SVS	27/01/1961 28/01/1961		52°10' 0" 52°30' 0"	128°40' 0" 128°50' 0"	
	SVS	28/01/1961		52°30' 0"	128°40' 0"	
	svs	28/01/1961		52°40' 0"	129°10' 0"	
	SVS	28/01/1961 28/01/1961		52°40' 0"	129° 0' 0"	
	SVS SVS	28/01/1961		52°40' 0" 53° 0' 0"	128°50' 0" 129°30' 0"	
	SVS	28/01/1961		53° 0' 0"	129°20' 0"	
	svs	28/01/1961		53°20' 0°	129°40' 0"	
	SVS SVS	28/01/1961 28/01/1961		53°20' 0" 52°50' 0"	129°50' 0" 129°20' 0"	
	SVS	28/01/1961		52°50' 0"	129°10' 0"	
	SVS	28/01/1961		53°10' 0"	129°40' 0"	
	SVS SVS	28/01/1961 29/01/1961		53°10' 0" 53°30' 0"	129°30' 0° 130°10' 0°	
	SVS	29/01/1961		53°30' 0"	130°20' 0"	
	SVS	29/01/1961		53°40' 0"	130°30' 0"	
	SVS	29/01/1961		53°40' 0"	130°40' 0"	
	SVS SVS	29/01/1961 31/01/1961		53°40' 0" 53°50' 0"	130°20' 0" 130°40' 0"	
	SVS	31/01/1961		53°50' 0"	130°50' 0°	
	SVS	31/01/1961		53°50' 0"	131° 0' 0"	
	SVS SVS	31/01/1961 31/01/1961		54°10' 0" 53°40' 0"	131°10' 0" 130°40' 0"	
	svs	31/01/1961		54° 0' 0"	131° 0' 0"	
	svs	31/01/1961		54° 0' 0"	131.10.0.	
	SVS SVS	06/02/1961 06/02/1961		54°30' 0" 54°40' 0"	130°40′ 0° 130°50′ 0°	
	SVS	06/02/1961		54°40' 0"	130°40' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19606002	svs	09/02/1961		54*10' 0"	130°30' 0"	
	svs	09/02/1961		54°10' 0"	130°40' 0"	
	svs	09/02/1961		54°20' 0"	130°40' 0°	
	SVS SVS	09/02/1961 09/02/1961		54°30' 0" 54°30' 0"	130°40' 0" 130°30' 0"	
	SVS	09/02/1961		54°40′ 0°	130*20' 0"	
	SVS	09/02/1961		54° 0' 0"	130*30' 0"	
	svs	09/02/1961		54*40' 0"	130°30' 0"	
	SVS SVS	09/02/1961 10/02/1961		54°50' 0" 53°50' 0"	130°30' 0° 130°30' 0°	
	SVS	10/02/1961		53°50' 0"	130°40' 0"	
	svs	10/02/1961		53°40' 0"	130°40' 0"	
	SVS	10/02/1961		53°40' 0"	130°50' 0°	
	SVS SVS	10/02/1961 11/02/1961		54° 0' 0"	130°30' 0° 130°50' 0°	
	svs	11/02/1961		53 • 40 · 0 =	130°40' 0°	
	svs	11/02/1961		53 * 40 * 0 *	130°50' 0"	
	SVS SVS	12/02/1961 12/02/1961		53°50' 0"	130°10' 0"	
	SVS	12/02/1961		53 °50' 0"	130°40' 0"	
	SVS	12/02/1961		53°40' 0"	130°50' 0"	
	svs	12/02/1961		53°40' 0"	130°20' 0"	
	SVS SVS	12/02/1961 12/02/1961		53°40' 0" 53°40' 0"	130°30' 0"	
	svs	12/02/1961		53°40' 0"	130°40' 0"	
	svs	13/02/1961		53°20' 0"	129°40' 0"	
	SVS	13/02/1961 13/02/1961		53°20' 0"	129°30' 0" 129°20' 0"	
	SVS SVS	13/02/1961		53°30' 0"	129°50' 0"	
	svs	13/02/1961		53 * 30 ' 0 *	129°40' 0"	
	svs	13/02/1961		53°10' 0°	129°20' 0"	
	SVS SVS	13/02/1961 13/02/1961		53°40' 0" 53°50' 0"	129°50' 0"	
	SVS	24/02/1961		21 ° 0' 0"	128°20' 0"	
	svs	24/02/1961		51° 0' 0"	128°10' 0"	
	SVS SVS	24/02/1961 24/02/1961		51°10' 0"	128°20' 0"	
	SVS	24/02/1961		51 °30' 0"	128*20' 0*	
	SVS	24/02/1961		51°30' 0°	128°10' 0"	
	SVS	24/02/1961		51°40' 0"	128°10' 0"	
	SVS SVS	24/02/1961 24/02/1961		51°50' 0" 50°50' 0"	128°10' 0"	
	SVS	25/02/1961		51°50' 0"	128°30' 0"	
	svs	25/02/1961		51°50' 0"	128°10' 0"	
	SVS SVS	25/02/1961 25/02/1961		51°50' 0"	128°20' 0" 128°40' 0"	
	SVS	25/02/1961		52° 0' 0"	128°30' 0"	
	svs	25/02/1961		52°20' 0"	128°50' 0"	
	SVS SVS	25/02/1961 25/02/1961		52°20' 0"	128°40' 0" 128°50' 0"	
	svs	25/02/1961		52°40' 0"	128°50' 0"	
	svs	25/02/1961		52°40' 0"	129° 0' 0"	
	SVS	25/02/1961		52°50' 0"	129° 0' 0"	
	SVS SVS	25/02/1961 26/02/1961		52°10' 0" 53° 0' 0"	128°40' 0" 129°30' 0"	
	SVS	26/02/1961		53° 0' 0"	129°20' 0"	
	svs	26/02/1961		53°20' 0"	130° 0' 0"	
	svs	26/02/1961		53°20' 0"	129°50' 0"	
	SVS SVS	26/02/1961 26/02/1961		53°30' 0"	130°20' 0"	
	SVS	26/02/1961		53°30' 0"	130° 0' 0°	
	svs	26/02/1961		52°50' 0"	129°20' 0"	
	SVS SVS	26/02/1961 26/02/1961		52°50' 0"	129° 0' 0" 129° 10' 0"	
	SVS	26/02/1961		53°10' 0"	129 • 30 · 0 *	
	svs	26/02/1961		53°10' 0"	129°40' 0"	
	SVS	26/02/1961		53°10' 0" 53°40' 0"	129°50' 0" 130°30' 0"	
	SVS SVS	26/02/1961 26/02/1961		53°40' 0"	130°20' 0"	
	SVS	27/02/1961		53 * 50 ' 0 "	130°40' 0"	
	SVS	27/02/1961		53°50' 0"	130°50' 0"	
	SVS SVS	27/02/1961 27/02/1961		53°40' 0" 53°40' 0"	130°40' 0" 130°50' 0"	
	SVS	27/02/1961		53°40' 0"	130°30' 0"	
	svs	01/03/1961		53°50' 0"	130°10' 0"	
	SVS	01/03/1961		53°40' 0"	130°10' 0" 130°20' 0"	
	svs	01/03/1961		33 40 U	130 20 0	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	<u>Longitude</u>	Location Name
19606002	svs	03/03/1961		54°10' 0"	131°10' 0"	
	svs	03/03/1961		54°10' 0"	130°30' 0" 131° 0' 0"	
	SVS SVS	03/03/1961 03/03/1961		54°10' 0" 54°10' 0"	130 • 50 · 0 •	
	svs	03/03/1961		54°10' 0"	130°40' 0°	
	SVS SVS	03/03/1961 03/03/1961		54°20' 0" 54°20' 0"	130°40′ 0″ 131°40′ 0″	
	SVS	03/03/1961		54°20' 0"	131 20' 0"	
	svs	03/03/1961		54°20' 0"	130°50' 0°	
	SVS SVS	03/03/1961 03/03/1961		54°20' 0° 54°30' 0°	131°30' 0° 132° 0' 0°	
	svs	03/03/1961		54°30' 0"	132°10' 0"	
	svs	03/03/1961		54°30' 0"	132°20' 0"	
	SVS SVS	03/03/1961 03/03/1961		54°30' 0" 54°30' 0"	131°50' 0° 131°40' 0°	
	svs	03/03/1961		54*40' 0"	132*20' 0"	
	SVS SVS	03/03/1961 04/03/1961		54°40' 0" 54°30' 0"	132°30' 0" 132°30' 0"	
	SVS	04/03/1961		54°30' 0"	132°40' 0"	
	SVS	04/03/1961		54°40' 0"	132°30' 0"	
	SVS SVS	06/03/1961 06/03/1961		53°50' 0" 54°10' 0"	130°50' 0"	
	SVS	06/03/1961		54°10' 0"	131 •20, 0	
	svs	06/03/1961		54*10' 0"	131°30' 0°	
	SVS SVS	06/03/1961 06/03/1961		54°20' 0"	132° 0' 0"	
	SVS	06/03/1961		54°20' 0"	131 *30' 0"	
	SVS	06/03/1961 06/03/1961		54°20' 0"	131°40' 0° 131°50' 0°	
	SVS SVS	06/03/1961		54°20' 0" 54°30' 0"	132°20' 0"	
	SVS	06/03/1961		54*30' 0"	132°30' 0"	
	SVS SVS	06/03/1961 06/03/1961		54°30' 0" 54° 0' 0"	131° 0' 0"	
	svs	06/03/1961		54° 0' 0°	130.20, 0.	
	svs	06/03/1961		54° 0' 0"	131°10' 0"	
	SVS SVS	06/03/1961 08/03/1961		54°40' 0" 53°50' 0"	132°30' 0°	
	svs	08/03/1961		53°50' 0"	130° 0' 0"	
	svs svs	08/03/1961 08/03/1961		54° 0' 0" 54° 10' 0"	130° 0' 0" 130° 10' 0"	
	svs	08/03/1961		54°10' 0"	130°20' 0°	
	SVS	08/03/1961		53°40' 0" 53°40' 0"	130°20' 0"	
	SVS SVS	08/03/1961 08/03/1961		53°40' 0"	130 30, 0,	
	svs	08/03/1961		54° 0' 0"	130°10' 0"	
	SVS SVS	11/03/1961 11/03/1961		53°30' 0"	130°40' 0" 130°50' 0"	
	svs	11/03/1961		53°50' 0"	130°40' 0"	
	svs	11/03/1961		54°10' 0"	130°20' 0"	
	svs svs	11/03/1961 11/03/1961		53°40' 0"	130°40' 0"	
	svs	11/03/1961		53°40' 0"	130°30' 0"	
	SVS SVS	11/03/1961 11/03/1961		53°40' 0" 54° 0' 0"	130°50' 0"	
	SVS	11/03/1961		54° 0' 0"	130°40' 0"	
	svs	11/03/1961		54° 0' 0" 52°30' 0"	130°30' 0" 131°20' 0"	
	SVS SVS	12/03/1961 12/03/1961		52°40' 0"	131°20' 0"	
	svs	12/03/1961		52°40' 0"	131.10.0.	
	svs	12/03/1961 12/03/1961		53° 0' 0" 53°20' 0"	130°50' 0°	
	SVS SVS	12/03/1961		53°20' 0"	131° 0' 0"	
	svs	12/03/1961		53°30' 0"	130°40' 0° 130°50' 0°	
	SVS SVS	12/03/1961 12/03/1961		53°30' 0" 52°30' 0"	131 °30' 0"	
	svs	12/03/1961		52°50' 0"	131°10' 0"	
	svs	12/03/1961		53°10' 0" 53°10' 0"	131°10′0″ 131°0′0″	
	SVS SVS	12/03/1961 12/03/1961		53°40' 0"	130°30' 0°	
	svs	13/03/1961		51°50' 0"	130°50' 0"	
	SVS SVS	13/03/1961 13/03/1961		52° 0' 0" 52° 0' 0"	131° 0' 0" 130°50' 0"	
	SVS	13/03/1961		52°20' 0"	131° 0' 0"	
	SVS	13/03/1961	7.0	52°20' 0"	131°10' 0"	
	SVS SVS	13/03/1961 13/03/1961		52°30' 0" 52°30' 0"	131°10' 0°	
	SVS	13/03/1961		52°30' 0"	131 °30' 0"	

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	<u>Method</u>	Start Date	Stop Date	Latitude	Longitude	Location Name
19606002	svs	13/03/1961		52°10' 0"	130°50' 0"	
	svs	13/03/1961		52°10' 0"	131 ° 0' 0"	
	svs	16/03/1961		54°10' 0"	132°40' 0"	
	SVS SVS	16/03/1961 16/03/1961		54°10' 0" 54°10' 0"	132°20' 0" 132°50' 0"	
	SVS	16/03/1961		54°10'0"	132*30 0	
	SVS	16/03/1961		54°10' 0"	132 10. 0.	
	SVS	16/03/1961		54°10' 0"	133° 0' 0"	
	SVS	18/03/1961		53*10' 0"	128°30' 0"	
	svs	18/03/1961		53 *20' 0"	129°20' 0"	
	SVS	18/03/1961		53°20' 0°	129°10' 0"	
	SVS SVS	18/03/1961 18/03/1961		53°20' 0"	129°30' 0" 129°40' 0"	
	SVS	18/03/1961		53°40' 0"	129 40 0	
	svs	18/03/1961		53°50' 0"	130°10' 0"	
	SVS	18/03/1961		53 * 50 * 0 *	130° 0' 0"	
	<b>SVS</b>	18/03/1961		54*10' 0"	130°20' 0"	
	SVS	18/03/1961		53°10' 0"	129° 0' 0"	
	svs	18/03/1961		53°10' 0"	128*40' 0"	
	SVS	18/03/1961 18/03/1961		53°10' 0"	129°10' 0"	
	SVS SVS	18/03/1961		53 * 30 ' 0 "	129*30' 0"	
	SVS	18/03/1961		53 * 40 ' 0 "	130° 0' 0"	
	SVS	18/03/1961		53*40' 0"	129°50' 0"	
	svs	18/03/1961		54° 0' 0"	130°10' 0"	
	svs	18/03/1961		54° 0' 0"	130°20' 0"	
	SVS	18/03/1961		53° 0' 0"	128°30' 0" 127°50' 0"	
	SVS SVS	19/03/1961 19/03/1961		52° 0' 0"	127°50' 0"	
	SVS	19/03/1961		52°20' 0"	128 • 0' 0"	
	svs	19/03/1961		52*20' 0"	127*50' 0"	
	SVS	19/03/1961		52°30' 0"	128°30' 0"	
	svs	19/03/1961		52°30' 0°	128*20' 0"	
	SVS	19/03/1961		52*40' 0"	128°40' 0" 129° 0' 0"	
	SVS SVS	19/03/1961 19/03/1961		52°40' 0° 52°40' 0°	128°30' 0"	
	SVS	19/03/1961		52°40' 0"	128*50' 0"	
	SVS	19/03/1961		53° 0' 0"	129°30' 0"	
	SVS	19/03/1961		51*40' 0"	127*50' 0"	
	SVS	19/03/1961		51°50' 0"	127°50' 0"	
	SVS	19/03/1961		52°30' 0"	128° 0' 0" 128°10' 0"	
	SVS SVS	19/03/1961 19/03/1961		52°30' 0"	129°10' 0"	
	svs	19/03/1961		52*50' 0"	129*20' 0"	
	svs	19/03/1961		52°50' 0"	129* 0' 0"	
•	SVS	19/03/1961		52°50' 0"	129°30' 0"	
	svs	19/03/1961		52°10' 0"	127°50' 0"	
	SVS	20/03/1961		51°10' 0"	127°50' 0" 127°50' 0"	
	SVS SVS	20/03/1961 20/03/1961		51 °20' 0"	127°50' 0"	
	SVS	18/05/1968		54°20' 0"	131°50' 0"	
	svs	18/05/1968		54*20' 0*	131° 0' 0"	
	SVS	18/05/1968		54°20' 0"	130°50' 0"	
	SVS	18/05/1968		54°20' 0"	131*20' 0"	
	SVS	18/05/1968		54°20' 0" 54°20' 0"	131°40' 0" 132° 0' 0"	
	SVS SVS	18/05/1968 18/05/1968		54°20' 0"	131°10' 0"	
	SVS	18/05/1968		54*20 0	131 • 30 · 0 -	
	SVS	18/05/1968		54°30' 0"	132*10' 0"	
	SVS	18/05/1968		54*30' 0"	132°20' 0"	
	svs	18/05/1968		54°30' 0"	132 * 0' 0"	
	SVS	18/05/1968		54°30' 0"	132*30' 0"	
	svs	18/05/1968		54*30' 0"	132*40' 0*	
19616001A	SAS	24/01/1961		50°47' 0" 50°52' 0"	128°46' 0" 129° 5' 0"	BERESFORD ISLAND TRIANGLE ISLAND
	SAS SAS	24/01/1961 24/01/1961		50°49' 0"	128°54' 0"	SARTINE ISLAND
	SAS	24/01/1961		50°49' 0"	128*41' 0"	LANZ ISLAND
19616001B	SAS	22/06/1961		52°52' 0"	131*31' 0"	REEF ISLAND
	SAS	22/06/1961		51°56' 0"	131 • 1' 0 •	CAPE ST. JAMES
	SAS	22/06/1961		52°57' 0"	131°34' 0"	SKEDANS ISLAND
	SAS	22/06/1961		52°27' 0*	131°14' 0"	SCUDDER POINT
	SAS	22/06/1961		54"14' 0"	133° 2' 0"	LANGARA ISLAND
	SAS SAS	22/06/1961 22/06/1961		50°47' 0° 53°15' 0°	128°46' 0" 130°21' 0"	BERESFORD ISLAND NORTH DANGER ROCKS
	JAJ	22/00/1901		22 12 0	130 AL V	IORIII DAIIODA ROCKS

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19616001B	SAS	22/06/1961		52*16' 0*	128*43* 0*	MCINNES ISLAND
174144012	SAS	22/06/1961		53 *30' 0"	130*37' 0*	BONILLA ISLAND
	SAS	22/06/1961		50*52' 0"	129° 5' 0"	TRIANGLE ISLAND
	SAS	22/06/1961		50°49' 0"	128*54' 0"	SARTINE ISLAND
	SAS	22/06/1961		21.16.0.	128°12' 0°	VIRGIN ROCKS
	SAS	22/06/1961		51°22' 0"	128* 0' 0*	PEARL ROCKS
	SAS	22/06/1961		51°23' 0"	128° 6' 0"	WATCH ROCK
	SAS	22/06/1961 22/06/1961		51*52' 0*	128*27' 0"	GOSLING ROCKS
	SAS SAS	22/06/1961		52°44' 0"	129°32' 0" 130° 2' 0"	ISNOR ROCK JOSEPH ISLAND
	SAS	22/06/1961		54°14' 0"	130 59 0	BUTTERWORTH ROCKS
	SAS	22/06/1961		52*28' 0"	129 • 22 · 0 •	STEELE ROCK
	SAS	22/06/1961		0. 0. 0.	0. 0. 0.	FORRESTER ISLAND
	SAS	22/06/1961		54°26' 0"	130°59' 0"	CHEARNLEY ISLAND
19626001A	AS	03/04/1962	07/04/1962	52°52' 0"	131°31' 0"	REEF ISLAND
	AS	03/04/1962		0. 0. 0.	0. 0, 0.	
	AS	04/04/1962		51°56' 0"	131. 1. 0.	CAPE ST. JAMES
	AS	07/04/1962		52°57' 0"	131°34' 0"	SKEDANS ISLAND
19626001B	AS	19/04/1962		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	AS	19/04/1962		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	AS	19/04/1962		50°49' 0"	128°54' 0"	SARTINE ISLAND
19626001C	SAS	12/04/1962		50°49' 0"	128°54' 0"	SARTINE ISLAND
	SAS	12/04/1962		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS	12/04/1962		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
19636001	СН	NS/NS/1963	NS/NS/1968	0. 0. 0.	0. 0. 0.	STAT AREAS 1 - 11
19646001	SAS	09/06/1964		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS	09/06/1964		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	SAS	09/06/1964		52°16' 0"	128°43' 0"	MCINNES ISLAND
	SAS	09/06/1964		53°30' 0°	130°37' 0"	BONILLA ISLAND
	SAS	09/06/1964		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	SAS	09/06/1964		50°49' 0"	128°54' 0"	SARTINE ISLAND
	SAS	09/06/1964 09/06/1964		51°16' 0° 51°22' 0°	128° 0' 0"	VIRGIN ROCKS PEARL ROCKS
	SAS SAS	09/06/1964		52°44' 0"	129°32' 0"	ISNOR ROCK
	SAS	09/06/1964		50°49· 0-	128°41' 0"	LANZ ISLAND
	SAS	10/06/1964		52°52' 0"	131.31.0.	REEF ISLAND
	SAS	10/06/1964		51°56' 0"	131° 1' 0"	CAPE ST. JAMES
	SAS	10/06/1964		52°57' 0"	I31°34' 0"	SKEDANS ISLAND
	SAS	10/06/1964		52°27' 0"	131°14' 0"	SCUDDER POINT
	SAS	10/06/1964		54°14' 0"	133° 2' 0"	LANGARA ISLAND
	SAS	10/06/1964		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS	10/06/1964		53°15' 0" 52°34' 0"	130°21' 0" 131°24' 0"	NORTH DANGER ROCKS RAMSAY ISLAND
	SAS SAS	10/06/1964 10/06/1964		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	SAS	10/06/1964		50°49' 0°	128°54' 0"	SARTINE ISLAND
	SAS	10/06/1964		54°14' 0"	130 - 59' 0	BUTTERWORTH ROCKS
19646002	СН	05/05/1964		54°19' 0"	130°19' 0"	PRINCE RUPERT
	CH	10/05/1964		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	05/06/1964		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	10/06/1964		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	30/06/1964		23° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	30/07/1964		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	01/08/1964		53° 0' 0"	132 ° 0' 0"	QUEEN CHARLOTTE I.
	CH	04/08/1964		54°19' 0"	130°19' 0"	PRINCE RUPERT
	CH CH	06/08/1964 06/08/1964		51°28' 0"	127°35' 0" 132° 0' 0"	RIVERS INLET OUEEN CHARLOTTE I.
	CH	18/08/1964		53° 0' 0"	135. 0. 0.	QUEEN CHARLOTTE I.
	CH	18/08/1964	31/08/1964	54° 2' 0"	128°40' 0"	KITIMAT
	CH	02/09/1964	J	23.21.0.	128°34' 0"	KILDALE ARM MOUTH
	СН	17/09/1964		53 • 27 · 0 •	128°25' 0"	GARDNER CANAL
	CH	18/09/1964		53°15' 0"	127°52' 0"	KITLOPE RIVER MOUTH
	CH	16/10/1964		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	25/10/1964		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	15/11/1964		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	28/11/1964		54°19' 0"	130°19' 0"	PRINCE RUPERT
	CH CH	25/04/1965 29/04/1965		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
	CH	24/05/1965		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I. QUEEN CHARLOTTE I.
	CII	&-TI-UJI 17UJ		<i>33</i> 0 0	132 0 0	QUEEN CHARLOTTE I.

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	<u>Longitude</u>	Location Name
19646002	СН	30/06/1965		53° 0' 0"	132° 0' 0"	QUEEN CHARLOTTE I.
19646003	CH CH	NS/NS/1964 NS/NS/1964	NS/NS/1968 NS/NS/1968	54° 1' 0" 54° 2' 0"	130° 7' 0" 128°40' 0"	SKEENA RIVER KITIMAT
19656001	VS VS VS VS	NS/06/1965 NS/NS/1973 25/07/1973 17/05/1974		51°52' 0" 52°35' 0" 51°28' 0" 53°11' 0"	127°52' 0" 128°31' 0" 127°35' 0" 129° 8' 0"	NAMU KLEMTU RIVERS INLET WHALE CHANNEL
	VS VS VS VS VS	30/08/1974 26/03/1975 13/06/1975 23/06/1975 05/08/1975		51°28' 0" 0° 0' 0" 52° 9' 0" 52°25' 0" 51°32' 0"	127°35' 0" 0° 0' 0" 128° 7' 0" 131°30' 0" 127°47' 0"	RIVERS INLET NISQUALLY FLATS BELLA BELLA MORESBY ISLAND ADDENBROKE LIGHT
	VS VS VS VS VS	08/08/1975 10/08/1975 22/08/1975 23/08/1975 23/08/1975		51°44' 0" 51°43' 0" 52° 4' 0" 52° 5' 0"	128° 0' 0" 128° 4' 0" 127°57' 0" 127°57' 0" 128° 7' 0"	KELPIE POINT HAKAI PASS POINTER ISLAND POINTER ISLAND LAMA PASSAGE
	VS VS VS VS VS	16/04/1976 09/08/1976 06/04/1977 12/07/1977 27/07/1977		54° 9' 0" 54° 2' 0" 54° 2' 0" 54° 2' 0"	130°14' 0" 130°14' 0" 128°40' 0" 129°22' 0" 130°41' 0"	SMITH ISLAND SMITH ISLAND KITIMAT CAAMANO SOUND CHEARNLEY PASSAGE
	VS VS VS VS VS	30/09/1977 20/05/1978 28/06/1978 05/08/1978 NS/NS/1979		54° 9° 0" 50°52° 0" 54°12' 0" 52°20' 0"	130°14' 0" 129° 5' 0" 131°38' 0" 0° 0' 0" 131°13' 0"	SMITH ISLAND TRIANGLE ISLAND ROSE SPIT NISQUALLY REACH SKINCUTTLE INLET
	VS VS VS VS VS	05/06/1979 NS/07/1979 04/07/1979 14/07/1979 16/06/1980		54°20' 0" 54°19' 0" 53°30' 0" 54°19' 0" 52°39' 0"	130°18' 0" 130°19' 0" 130°37' 0" 130°19' 0" 128°32' 0"	PRINCE RUPERT HRB. PRINCE RUPERT BONILLA ISLAND PRINCE RUPERT BOAT BLUFF
	VS VS VS VS VS	NS/09/1980 12/06/1981 16/06/1981 02/07/1981 22/08/1981		51°28' 0" 53°30' 0" 53°30' 0" 54°19' 0" 51°40' 0"	127°35' 0" 131°10' 0" 130°37' 0" 130°19' 0" 127°50' 0"	RIVERS INLET HECATE STRAIT BONILLA ISLAND PRINCE RUPERT FITZHUGH SOUND
	VS VS VS VS VS	09/06/1982 26/06/1982 01/07/1982 03/08/1982 04/08/1982		52°19' 0" 51°56' 0" 54°19' 0" 54°19' 0" 54°19' 0"	127°31' 0" 131° 1' 0" 130°19' 0" 130°19' 0"	DEAN CHANNEL CAPE ST. JAMES PRINCE RUPERT PRINCE RUPERT PRINCE RUPERT
	VS VS VS VS VS	30/09/1982 07/05/1983 22/05/1983 23/06/1983 23/06/1983		52°17'0" 52°9'0" 0°0'0" 53°37'0" 54°19'0"	128°24' 0" 128° 7' 0" 0° 0' 0" 129°43' 0" 130°19' 0"	IVORY ISLAND BELLA BELLA E. QUEEN CHARLOTTE I. GRENVILLE CHANNEL PRINCE RUPERT
	VS VS VS VS VS	05/07/1983 27/07/1983 NS/08/1983 02/08/1983 12/08/1983		53°29' 0" 53°37' 0" 51°28' 0" 51°28' 0" 51°28' 0"	129°59' 0" 129°43' 0" 127°35' 0" 127°35' 0" 127°35' 0"	PRINCIPE CHANNEL GRENVILLE CHANNEL RIVERS INLET RIVERS INLET RIVERS INLET
	VS VS VS VS VS	24/08/1983 03/09/1983 24/09/1983 NS/05/1984 21/06/1984		51°28' 0" 51°28' 0" 51°28' 0" 54°19' 0" 52° 5' 0"	127°35' 0" 127°35' 0" 127°35' 0" 130°19' 0" 128° 7' 0"	RIVERS INLET RIVERS INLET RIVERS INLET PRINCE RUPERT LAMA PASSAGE
	VS VS VS VS VS	NS/07/1984 12/07/1984 24/08/1984 NS/NS/1985 01/01/1985		52°58' 0" 51°55' 0" 54° 1' 0" 51°32' 0" 51°30' 0"	131°37' 0" 127°23' 0" 130° 7' 0" 127°47' 0" 128°30' 0"	SKEDANS BURKE CHANNEL SKEENA RIVER ADDENBROKE LIGHT OUEEN CHARLOTTE SND.
	VS VS VS VS VS	14/07/1985 17/08/1985 05/10/1985 01/07/1986 07/07/1986		53°34' 0" 52° 6' 0" 51°10' 0" 52° 6' 0" 53°25' 0"	127°57' 0" 128° 7' 0" 127°47' 0" 131° 5' 0" 130°10' 0"	KEMANO BELLA BELLA CAPE CAUTION KUNGHIT ISLAND BANKS ISLAND
	VS VS VS VS	08/07/1986 23/02/1987 25/03/1987 30/03/1987		52° 9' 0" 54°19' 0" 54°19' 0"	131° 5' 0" 130°19' 0" 130°19' 0" 128°32' 0"	ROSE HARBOUR PRINCE RUPERT PRINCE RUPERT BOAT BLUFF
	VS VS VS	15/07/1987 20/07/1987 11/08/1987		52°39' 0° 52°39' 0°	128°32' 0" 128°32' 0" 127°35' 0"	BOAT BLUFF BOAT BLUFF RIVERS INLET

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19656001	VS	15/08/1987		52°39' 0"	128°32' 0"	BOAT BLUFF
19666001	FC FC FC FC	06/06/1966 10/06/1966 14/06/1966 15/06/1966		51°56' 0" 50°52' 0" 50°49' 0" 50°47' 0"	131° 1' 0" 129° 5' 0" 128°54' 0" 128°46' 0"	CAPE ST. JAMES TRIANGLE ISLAND SARTINE ISLAND BERESFORD ISLAND
19706001	SAS SAS	31/03/1971 31/03/1971		50°47' 0° 50°52' 0°	128°46' 0" 129° 5' 0"	BERESFORD ISLAND TRIANGLE ISLAND
19706002	SAS	31/03/1971 NS/07/1970		50°49' 0" 54°14' 0"	128°54' 0"	SARTINE ISLAND
		NG 606 /1070			1224 41 05	
19706003	13 13 13 13 13 13 13 13 13 13 13 13 13 1	NS/05/1970 NS/05/1972 NS/05/1972 NS/05/1972 24/01/1980 22/05/1980 28/05/1980 28/05/1980 30/06/1980 07/04/1981 01/10/1988		54*15' 0" 51*55' 0" 52*52' 0" 52*57' 0" 52*57' 0" 51*55' 0" 52*57' 0" 52*57' 0" 52*57' 0" 52*57' 0" 52*57' 0" 52*57' 0"	133° 4' 0" 131° 0' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0"	LANGARA POINT KEROUARD ISLAND REEF ISLAND SKEDANS ISLAND SKEDANS ISLAND SKEDANS ISLAND KEROUARD ISLAND REEF ISLAND SKEDANS ISLAND SKEDANS ISLAND SKEDANS ISLAND LOUISE NARROWS REEF ISLAND SKEDANS ISLAND
19716001A	SAS SAS SAS SAS SAS SAS SAS SAS SAS SAS	28/06/1971 28/06/1971 28/06/1971 28/06/1971 28/06/1971 29/06/1971 29/06/1971 29/06/1971 29/06/1971 29/06/1971 29/06/1971 29/06/1971 29/06/1971 29/06/1971 30/06/1971 30/06/1971 30/06/1971 30/06/1971 30/06/1971 30/06/1971 30/06/1971 30/06/1971 30/06/1971 30/06/1971		50°47' 0" 50°52' 0" 50°41' 0" 50°47' 0" 50°49' 0" 53°15' 0" 51°16' 0" 51°22' 0" 51°52' 0" 52°44' 0" 53°9' 0" 52°57' 0" 52°34' 0" 52°37' 0" 51°16' 0" 52°57' 0" 52°57' 0" 52°57' 0" 51°16' 0" 52°57' 0" 51°56' 0" 52°57' 0" 51°16' 0" 51°52' 0"	128°46' 0" 129°5' 0" 128°18' 0" 128°22' 0" 128°54' 0" 130°21' 0" 128°43' 0" 130°37' 0" 128°12' 0" 128°6' 0" 128°27' 0" 130°59' 0" 131°1' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0" 131°34' 0"	BERESFORD ISLAND TRIANGLE ISLAND CAPE PALMERSTON CAPE RUSSELL CAPE SCOTT SARTINE ISLAND NORTH DANGER ROCKS MCINNES ISLAND BONILLA ISLAND VIRGIN ROCKS PEARL ROCKS WATCH ROCK GOSLING ROCKS ISNOR ROCK ISNOR ROCK ISNOR ROCK SEPH ISLAND BUTTERWORTH ROCKS CAPE ST. JAMES SKEDANS ISLAND SCUDDER POINT LANGARA ISLAND RAMSAY ISLAND REEF ISLAND VIRGIN ROCKS PEARL ROCKS
19716001B	SAS SAS SAS SAS SAS SAS SAS SAS SAS SAS	09/12/1971 09/12/1971 09/12/1971 09/12/1971 09/12/1971 09/12/1971 09/12/1971 09/12/1971 09/12/1971 10/12/1971 10/12/1971 10/12/1971 10/12/1971 10/12/1971 10/12/1971 10/12/1971 10/12/1971 11/12/1971 11/12/1971 11/12/1971		50°47' 0° 50°52' 0° 50°41' 0° 50°47' 0° 50°49' 0° 51°16' 0° 51°22' 0° 51°23' 0° 52°16' 0° 52°16' 0° 52°16' 0° 52°45' 0° 52°45' 0° 52°52' 0° 52°52' 0° 52°52' 0° 52°57' 0° 52°34' 0°	128°46' 0" 128°18' 0" 128°22' 0" 128°26' 0" 128°54' 0" 128°54' 0" 128°12' 0" 128°6' 0" 128°27' 0" 133°21' 0" 128°43' 0" 128°43' 0" 128°43' 0" 129°22' 0" 130°37' 0" 131°34' 0" 131°34' 0" 131°34' 0"	BERESFORD ISLAND TRIANGLE ISLAND CAPE PALMERSTON CAPE RUSSELL CAPE SCOTT SARTINE ISLAND VIRGIN ROCKS PEARL ROCKS WATCH ROCK GOSLING ROCKS LANGARA ISLAND NORTH DANGER ROCKS MCINNES ISLAND MCINNES ISLAND BONILLA ISLAND STEELE ROCK ANDERSON ISLAND STEPHENS ISLAND REEF ISLAND SKEDANS ISLAND SCUDDER POINT RAMSAY ISLAND

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19716001B	SAS	12/12/1971		51°56' 0"	131° 1' 0"	CAPE ST. JAMES
19716002	NS	NS/NS/1971		54* 0' 0"	128*40' 0"	LOWER KITIMAT R.
	NS NS	NS/NS/1971 NS/NS/1971		53°37' 0" 53°27' 0"	129°12' 0" 128°25' 0"	DOUGLAS CHANNEL GARDNER CANAL
	No	143/143/19/1		33 27 0	120 25 0	OARDNER CANAL
19716003	NS	30/07/1971		51°28' 0"	127*35' 0"	RIVERS INLET
	NS NS	01/08/1971 04/08/1971		51°28' 0" 51°28' 0"	127°35' 0° 127°35' 0°	RIVERS INLET RIVERS INLET
	NS	11/08/1971		51°28' 0"	127°35' 0"	RIVERS INLET
	NS NS	17/08/1971 01/08/1972		51°28' 0" 51°28' 0"	127°35' 0" 127°35' 0"	RIVERS INLET RIVERS INLET
	NS NS	09/08/1972		51°28' 0"	127*35* 0*	RIVERS INLET
	NS	25/07/1973		51°28' 0"	127°35' 0"	RIVERS INLET
	NS NS	06/08/1973 08/08/1973		51°28' 0" 51°28' 0"	127°35' 0" 127°35' 0"	RIVERS INLET RIVERS INLET
	NS	02/08/1974		51*28' 0"	127*35' 0"	RIVERS INLET
	NS	10/08/1974		51*28' 0" 51*28' 0"	127°35' 0" 127°35' 0"	RIVERS INLET
	NS NS	17/08/1974 22/08/1974		51*28' 0"	127*35' 0"	RIVERS INLET RIVERS INLET
	NS	23/08/1974		51*28' 0*	127°35' 0"	RIVERS INLET
19716004	NS	NS/NS/1971		54* 0' 0"	128°40' 0"	KITIMAT RIVER
17/1000	NS	NS/NS/1971		52°23' 0"	126*45' 0"	BELLA COOLA RIVER
	NS	NS/NS/1971		0° 0' 0"	0. 0. 0.	KITIMAT DISTRICT
19716005A	IVS	NS/NS/1971		0. 0. 0.	0. 0. 0.	STAT AREAS 1 - 11
19716005B	IVS	NS/NS/1972		0. 0. 0.	0. 0. 0.	STAT AREAS 1 - 11
19716005C	IVS	NS/NS/1973		0. 0, 0.	0. 0. 0.	STAT AREAS 1 - 11
19726001A	SAS	09/09/1972		52°52' 0"	131°31' 0"	REEF ISLAND
	SAS SAS	09/09/1972 09/09/1972		51°56' 0" 52°57' 0"	131° 1' 0" 131°34' 0"	CAPE ST. JAMES SKEDANS ISLAND
	SAS	09/09/1972		54*14' 0"	133 ° 2' 0"	LANGARA ISLAND
	SAS	09/09/1972		50°47' 0"	128*46' 0"	BERESFORD ISLAND
	SAS SAS	09/09/1972 09/09/1972		53°15' 0"	130°21' 0" 128°43' 0"	NORTH DANGER ROCKS MCINNES ISLAND
	SAS	09/09/1972		53°30' 0"	130°37' 0"	BONILLA ISLAND
	SAS SAS	09/09/1972 09/09/1972		50°52' 0"	129° 5' 0° 128°54' 0°	TRIANGLE ISLAND SARTINE ISLAND
	SAS	09/09/1972		51°16' 0"	128°12' 0"	VIRGIN ROCKS
	SAS	09/09/1972		51°22' 0"	128° 0' 0"	PEARL ROCKS
	SAS SAS	09/09/1972 09/09/1972		51°23' 0" 51°52' 0"	128° 6' 0" 128°27' 0"	WATCH ROCK GOSLING ROCKS
	SAS	09/09/1972		52*44' 0"	129*32' 0"	ISNOR ROCK
	SAS SAS	09/09/1972 09/09/1972		53° 9' 0° 54°14' 0°	130° 2' 0" 130°59' 0"	JOSEPH ISLAND BUTTERWORTH ROCKS
	SAS	09/09/1972		52*28' 0"	129°22' 0"	STEELE ROCK
	SAS	09/09/1972		51°47' 0"	128°15' 0"	BLENHEIM ISLAND
	SAS	09/09/1972		54° 9' 0"	132°39' 0"	SHAG ROCK
19726001B	SAS	11/04/1973		52°52' 0"	131°31' 0"	REEF ISLAND
	SAS SAS	11/04/1973 11/04/1973		51°56' 0" 52°57' 0"	131° 1' 0" 131°34' 0"	CAPE ST. JAMES SKEDANS ISLAND
	SAS	11/04/1973		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS	11/04/1973		53°15' 0"	130°21' 0"	NORTH DANGER ROCKS
	SAS SAS	11/04/1973 11/04/1973		52°16' 0" 53°30' 0"	128°43' 0" 130°37' 0"	MCINNES ISLAND BONILLA ISLAND
	SAS	11/04/1973		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	SAS	11/04/1973		50°49' 0"	128°54' 0" 128°12' 0"	SARTINE ISLAND VIRGIN ROCKS
	SAS SAS	11/04/1973 11/04/1973		51°16' 0" 51°22' 0"	128° 0' 0"	PEARL ROCKS
	SAS	11/04/1973		51°52' 0"	128*27' 0"	GOSLING ROCKS
	SAS SAS	11/04/1973 11/04/1973		54°14' 0" 52°28' 0"	130°59' 0" 129°22' 0"	BUTTERWORTH ROCKS STEELE ROCK
	SAS	11/04/1973		51°47' 0"	128°15' 0"	BLENHEIM ISLAND
	SAS	11/04/1973		54* 9' 0"	132°39' 0"	SHAG ROCK
19726001C	SAS	12/10/1973		51°56' 0"	131° 1' 0" 131°34' 0"	CAPE ST. JAMES SKEDANS ISLAND
	SAS	12/10/1973		34-31 U	131 34 V	AVENUIS ISTUID

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	<u>Longitude</u>	Location Name
19726001C	SAS SAS SAS SAS SAS SAS SAS SAS	12/10/1973 12/10/1973 12/10/1973 12/10/1973 12/10/1973 12/10/1973 12/10/1973 12/10/1973 12/10/1973		50°47' 0" 53°15' 0" 53°30' 0" 50°52' 0" 50°49' 0" 51°16' 0" 51°22' 0" 51°52' 0" 52°44' 0"	128*46' 0" 130*21' 0" 130*37' 0" 129* 5' 0" 128*54' 0" 128*0' 0" 128*27' 0" 129*32' 0"	BERESFORD ISLAND NORTH DANGER ROCKS BONILLA ISLAND TRIANGLE ISLAND SARTINE ISLAND VIRGIN ROCKS PEARL ROCKS GOSLING ROCKS ISNOR ROCK
19726002	VS VS VS VS VS VS VS VS VS VS	15/05/1972 15/05/1972 15/05/1972 15/05/1972 15/05/1972 15/05/1972 15/05/1972 15/05/1972 15/05/1972 15/05/1972 15/05/1972	14/06/1972 14/06/1972 14/06/1972 14/06/1972 14/06/1972 14/06/1972 14/06/1972 14/06/1972 14/06/1972 14/06/1972 14/06/1972	51°55' 0° 52°22' 0° 52°19' 0° 52°30' 0° 52°30' 0° 52°34' 0° 52°48' 0° 52°40' 0° 52°10' 0°	127°23' 0" 126°53' 0" 127°14' 0" 127°31' 0" 126°45' 0" 127°30' 0" 127°30' 0" 127°14' 0" 126°58' 0" 127° 5' 0" 127° 0' 0"	BURKE CHANNEL NORTH BENTINCK ARM LABOUCHERE CHANNEL DEAN CHANNEL BELLA COOLA AREA CASCADE INLET KWATNA INLET CARLSEN INLET DEAN RIVER KIMSQUIT RIVER IRONBOUND ISLET SOUTH BENTINCK ARM
19726003A	ISS ISS	25/07/1972 28/07/1972		51°55' 0°	131.0.0.0.	
19726003B	FS FS	19/05/1972 27/05/1973	07/08/1972 06/07/1973	51°55' 0"	131.0.0.	
19726004A	FS	09/05/1972	09/07/1972	52°16' 0"	128°43' 0"	
19726004B	FS	09/05/1972	31/05/1973	52°16' 0"	128°43' 0"	
19736001	SAS SAS	25/01/1973 25/01/1973 25/01/1973		50°36' 0" 50°41' 0" 50°47' 0"	158,59. 0. 158,55. 0. 158,18. 0.	CAPE PALMERSTON CAPE RUSSELL CAPE SCOTT
19736002	SAS SAS SAS SAS SAS SAS SAS SAS SAS SAS	29/06/1973 29/06/1973 29/06/1973 29/06/1973 29/06/1973 29/06/1973 03/07/1973 03/07/1973 03/07/1973 03/07/1973 03/07/1973 03/07/1973		50°47' 0" 50°52' 0" 50°49' 0" 51°16' 0" 51°22' 0" 51°23' 0" 52°52' 0" 51°36' 0" 53°30' 0" 54°14' 0" 0° 0' 0" 54°36' 0"	128°46' 0" 129° 5' 0" 128°54' 0" 128°54' 0" 128°12' 0" 128° 6' 0" 131°31' 0" 131°31' 0" 130°59' 0" 0°0' 0" 131° 4' 0"	BERESFORD ISLAND TRIANGLE ISLAND SARTINE ISLAND VIRGIN ROCKS PEARL ROCKS WATCH ROCK REEF ISLAND CAPE ST. JAMES BONILLA ISLAND RAMSAY ISLAND BUTTERWORTH ROCKS FORRESTER ISLAND ZAYAS ISLAND
19736003	FC FC FC	30/06/1973 04/07/1973 02/07/1974 04/07/1974		51°56' 0" 51°56' 0" 51°56' 0"	131° 1' 0" 131° 1' 0" 131° 1' 0"	CAPE ST. JAMES CAPE ST. JAMES CAPE ST. JAMES CAPE ST. JAMES
19746001	NS	NS/NS/1974		0. 0. 0.	0. 0. 0.	BUTEDALE SUBDISTRICT
19756001	ISS	10/09/1975	11/09/1975	50°47' 0"	128°20' 0"	CAPE SCOTT LIGHTST.
19756002	ISS ISS ISS ISS	27/07/1975 29/07/1975 31/07/1975 01/08/1975		52°22' 0" 52°22' 0" 52°22' 0"	131°14' 0° 131°13' 0° 131°21' 0° 131°21' 0°	SCUDDER POINT SKINCUTTLE INLET BURNABY STRAIT BURNABY STRAIT
19756004	NS	NS/NS/1975		0. 0. 0.	0. 0. 0.	BUTEDALE SUBDISTRICT
19766001	SAS SAS SAS	14/12/1976 14/12/1976 14/12/1976		50°47' 0° 53° 4' 0° 50°52' 0°	128°46' 0° 129° 5' 0° 129° 5' 0°	BERESFORD ISLAND ASHDOWN ISLAND TRIANGLE ISLAND

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19766001	SAS	14/12/1976		50°47' 0"	128*26' 0"	CAPE SCOTT
	SAS	14/12/1976		50°49' 0"	128°54' 0"	SARTINE ISLAND
	SAS	14/12/1976		51°52' 0" 53° 9' 0"	128°27' 0" 130° 2' 0"	GOSLING ROCKS JOSEPH ISLAND
	SAS SAS	14/12/1976 14/12/1976		50°49' 0"	128°41' 0"	LANZ ISLAND
	SAS	14/12/1976		51*32' 0"	127*47' 0"	ADDENBROKE POINT
	SAS	14/12/1976		51 • 47 : 0 "	128*15' 0"	BLENHEIM ISLAND
	SAS SAS	15/12/1976 15/12/1976		54°14' 0" 54°26' 0"	130°59' 0" 130°59' 0"	BUTTERWORTH ROCKS CHEARNLEY ISLAND
	SAS	15/12/1976		54°36' 0"	131 • 4 · 0 ·	ZAYAS ISLAND
	SAS	16/12/1976		54*14' 0*	133* 2' 0"	LANGARA ISLAND
	SAS SAS	16/12/1976 16/12/1976		53°15' 0"	130°21' 0" 130°37' 0"	NORTH DANGER ROCKS BONILLA ISLAND
	SAS	16/12/1976		0. 0. 0.	0° 0' 0"	FORRESTER ISLAND
	SAS	17/12/1976		52*52' 0"	131*31' 0"	REEF ISLAND
	SAS SAS	17/12/1976 17/12/1976		51°56' 0" 52°57' 0"	131° 1' 0" 131°34' 0"	CAPÉ ST. JAMES SKEDANS ISLAND
	SAS	17/12/1976		52*27' 0*	131°14' 0"	SCUDDER POINT
	SAS	17/12/1976		53°15' 0"	130*21' 0"	NORTH DANGER ROCKS
	SAS	17/12/1976		52°16' 0"	128°43' 0"	MCINNES ISLAND
	SAS SAS	17/12/1976 17/12/1976		53°30' 0" 52°34' 0"	130°37' 0" 131°24' 0"	BONILLA ISLAND RAMSAY ISLAND
	SAS	17/12/1976		51*16' 0"	128*12' 0"	VIRGIN ROCKS
	SAS	17/12/1976		51°22' 0"	128° 0' 0"	PEARL ROCKS
	SAS SAS	17/12/1976 17/12/1976		51°23' 0" 52°44' 0"	128° 6' 0" 129°32' 0"	WATCH ROCK ISNOR ROCK
	SAS	17/12/1976		23. 8. 0.	130° 2' 0-	JOSEPH ISLAND
	SAS	17/12/1976		52°28' 0"	129°22' 0°	STEELE ROCK
	SAS SAS	17/12/1976 17/12/1976		52°45' 0"	129°22' 0" 129°40' 0"	ANDERSON ISLAND WEST ESTEVAN GROUP
19766003	IVS IVS	20/06/1976 23/06/1976		51°52' 0"	128°27' 0" 129°19' 0"	GOSLING ROCKS HARVEY ISLANDS
19766004	SAS	31/08/1976	27/09/1976	54°14' 0"	133° 2' 0°	LANGARA ISLAND
19700004	SAS	31/08/1976	27/09/1976	53°37' 0"	129°12' 0"	DOUGLAS CHANNEL
	SAS	31/08/1976	27/09/1976	54°22' 0"	130*35' 0"	CHATHAM SOUND
	SAS SAS	31/08/1976 31/08/1976	27/09/1976 27/09/1976	53°29' 0" 54°12' 0"	129°59' 0"	PRINCIPE CHANNEL ROSE SPIT
	SAS	31/08/1976	27/09/1976	23.22. 0.	128°42' 0"	KITIMAT ARM
19766005	vs	30/08/1976		52°12' 0"	131°20' 0°	
19776001	SAS	11/05/1977		50°36' 0"	128°18' 0"	CAPE PALMERSTON
	SAS	11/05/1977		50°41' 0"	128°22' 0"	CAPE RUSSELL
	SAS	11/05/1977		50°47' 0"	128°26' 0"	CAPE SCOTT
19776002	SAS	27/06/1977		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS SAS	27/06/1977 27/06/1977		50°36' 0" 50°41' 0"	128°18' 0" 128°22' 0"	CAPE PALMERSTON CAPE RUSSELL
	SAS	27/06/1977		50°47' 0"	128.56. 0.	CAPE SCOTT
	SAS	28/06/1977		50°47' 0"	128°26' 0"	CAPE SCOTT
	SAS SAS	28/06/1977 28/06/1977		51°16' 0" 51°22' 0"	128°12'0"	VIRGIN ROCKS PEARL ROCKS
	SAS	28/06/1977		51°23' 0"	128° 6' 0"	WATCH ROCK
	SAS	28/06/1977		51°32' 0"	127*47' 0"	ADDENBROKE POINT
	SAS SAS	28/06/1977 29/06/1977		51°27' 0" 52°52' 0"	127°40' 0" 131°31' 0"	BILTON ISLAND REEF ISLAND
	SAS	29/06/1977		51°56' 0"	131 . 1. 0.	CAPE ST. JAMES
	SAS	29/06/1977		52°57' 0"	131°34' 0"	SKEDANS ISLAND
	SAS SAS	29/06/1977 29/06/1977		54°14' 0" 53°15' 0"	133° 2' 0" 130°21' 0"	LANGARA ISLAND NORTH DANGER ROCKS
	SAS	29/06/1977		52°16' 0-	128°43' 0"	MCINNES ISLAND
	SAS	29/06/1977		53 °30' 0"	130°37' 0"	BONILLA ISLAND
	SAS SAS	29/06/1977 29/06/1977		52°34' 0" 51°52' 0"	131°24' 0" 128°27' 0"	RAMSAY ISLAND GOSLING ROCKS
	SAS	29/06/1977		52°44' 0"	129°32' 0"	ISNOR ROCK
	SAS	29/06/1977		52°28' 0"	129°22' 0"	STEELE ROCK
	SAS	29/06/1977		51°47' 0°	128°15' 0" 130°27' 0"	BLENHEIM ISLAND
	SAS SAS	29/06/1977 30/06/1977		53°24' 0° 50°47' 0°	130°27°0"	HALIBUT ROCKS BERESFORD ISLAND
	SAS	30/06/1977		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	SAS	30/06/1977		50°47' 0"	128°26' 0"	CAPE SCOTT
	SAS	30/06/1977		50°49' 0"	128°54' 0"	SARTINE ISLAND

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
19776002	SAS	30/06/1977		50°49' 0"	128°41' 0"	LANZ ISLAND
19776003A	SAS	15/06/1977	16/06/1977	0. 0. 0.	0. 0. 0.	SKEENA RIVER
19776003B	SAS	13/06/1983	14/06/1983	0. 0. 0.	0. 0. 0.	SKEENA RIVER
19776003C	SAS	14/06/1987	15/06/1987	0, 0, 0,	0. 0. 0.	SKEENA RIVER
19776003C 19786001	ISS	04/06/1978 03/08/1978 13/11/1978 13/11/1978 18/11/1978 17/05/1980 27/05/1980 20/08/1980 20/08/1980 10/10/1980 18/11/1980 21/08/1982 22/08/1982 22/08/1982 22/08/1982 22/08/1982 22/06/1983 22/06/1983 22/06/1983 22/06/1983 22/06/1983 22/06/1983 11/07/1983 27/04/1984 21/09/1984 05/01/1985 05/03/1985 16/11/1985 02/02/1986 08/05/1985 16/11/1985 02/02/1986 08/05/1986 08/05/1987 25/06/1987 25/06/1987 25/06/1987 25/06/1987 25/06/1987 25/06/1987 25/06/1987 25/06/1987 25/06/1987 25/06/1989 10/06/1989 10/06/1989 28/06/1989 28/06/1989 28/06/1989 28/06/1989	15/06/1987	51°56' 0° 51°56'	131° 1' 0" 131° 1' 0"	CAPE ST. JAMES CAPE S
	ISS ISS IVS ISS	08/10/1989 15/12/1989 10/05/1990 12/05/1990		51°56' 0" 51°56' 0" 51°56' 0"	131° 1' 0° 131° 1' 0° 131° 1' 0°	CAPE ST. JAMES CAPE ST. JAMES CAPE ST. JAMES CAPE ST. JAMES
	IVS IVS IVS IVS IVS IVS IVS IVS	15/05/1990 28/05/1990 04/06/1990 10/06/1990 18/06/1990 13/07/1990 21/07/1990 26/07/1990 26/07/1990		53°14' 0" 52°30' 0" 52°53' 0" 52°46' 0" 52°17' 0" 52°36' 0" 52°30' 0" 52°57' 0" 52°57' 0" 52°52' 0"	132° 0' 0" 131°25' 0" 131°31' 0" 131°34' 0" 131°25' 0" 131°27' 0" 131°25' 0" 131°31' 0"	SKIDEGATE INLET JUAN PEREZ SOUND N. SIDE REEF ISLAND S.W. CORNER KUNGA I. GOODWIN POINT N. SIDE MURCHISON I. WINDY BAY JUAN PEREZ SOUND SKEDANS ISLAND REEF ISLAND
	IVS IVS ISS IVS ISS ISS	27/07/1990 30/07/1990 08/08/1990 16/08/1990 27/08/1990 31/08/1990 28/01/1991		52°45' 0" 51°56' 0" 51°56' 0" 51°56' 0" 51°56' 0" 51°56' 0"	131° 40' 0" 131° 1' 0" 131° 1' 0" 131° 1' 0" 131° 1' 0" 131° 1' 0"	OFF TANU VILLAGE AWAYA POINT CAPE ST. JAMES PARRY PASS LANGARA I. CAPE ST. JAMES CAPE ST. JAMES CAPE ST. JAMES CAPE ST. JAMES

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set IDs	Survey <u>Method</u>	Start Date	Step Date	Latitude	Longitude	Location Name
19786801	ISS	29/01/1991		51°56' 0"	131 * 1' 0"	CAPE ST. JAMES
	IVS	23/02/1991		53°14' 0"	132° 0' 0"	SKIDEGATE INLET
	IVS IVS	10/05/1991 17/05/1991		53°15' 0" 52°30' 0"	131°59' 0" 131°25' 0"	JEWELL ISLAND JUAN PEREZ SOUND
	īvs	10/06/1991		53*14' 0"	132 0' 0"	SKIDEGATE INLET
	IVS	13/06/1991		52°40' 0"	131°27' 0"	GOGIT PASSAGE
	IVS	04/07/1991		54°14' 0"	132°58' 0"	E. SIDE LANGARA I.
	IVS IVS	10/07/1991 12/07/1991		52°13' 0"	131°21' 0" 131°55' 0"	FLAMINGO INLET E. OF EAST LIMESTONE
	IVS	16/07/1991		52°27' 0"	131*15' 0"	1.2 NM E SCUDDER PT.
	IVS	17/07/1991		52°46' 0"	131°28' 0"	4 NM E OF KUNGA I.
	IVS IVS	18/07/1991 19/07/1991		52°45' 0" 52°50' 0"	131 <b>°</b> 36' 0" 131 <b>°</b> 39' 0"	KLUE PASS HEMING HEAD
	īvs	22/07/1991		52*53' 0"	131°37' 0"	S. OF VERTICAL POINT
	<b>IVS</b>	24/07/1991		52°28' 0"	131°27' 0"	NEWBERRY COVE
	IVS	08/08/1991		52°40' 0"	131°42' 0"	SHUTTLE ISLAND
	IVS IVS	17/08/1991 17/08/1991		52°17' 0" 52°48' 0"	131° 8' 0" 131°45' 0"	COLLISON BAY DANA INLET
	īvs	22/08/1991		52°14' 0"	131 • 7 0	CARPENTER BAY
	īvs	24/08/1991		53°14' 0"	132° 1' 0"	OFF SKIDEGATE
	ISS ISS	26/09/1991 10/11/1991		51°56' 0" 51°56' 0"	131° 1' 0" 131° 1' 0"	CAPE ST. JAMES CAPE ST. JAMES
				••••	-	CALL ST. JAMES
19786002	ISS	27/03/1978		54°11' 0"	133° 1' 0"	
19796001	iss iss	24/06/1979 26/06/1979		54°12' 0" 54°12' 0"	131°38' 0"	ROSE SPIT ROSE SPIT
19816001	īvs	13/03/1982		52° 1' 0"	128°50' 0" 128°59' 0"	
	IVS IVS	13/03/1982 13/03/1982		52° 9' 0" 52°10' 0"	128°48' 0"	
	īvs	14/03/1982		52°13' 0"	128°42' 0"	
	IVS	14/03/1982		52° 7' 0"	129°16' 0"	
	IVS IVS	14/03/1982 14/03/1982		52° 6' 0"	129°19' 0" 129°29' 0"	
	IVS	14/03/1982		52°12' 0"	128°50' 0"	
	IVS	18/05/1982		51°24' 0"	128*47' 0"	•
	īvs	28/09/1982		51°23' 0"	130° 8' 0" 129° 1' 0"	
	IVS IVS	10/09/1983 11/09/1983		51° 3' 0" 50°58' 0"	129°1'0"	
	īvs	13/09/1983		21.12.0.	128°50' 0"	
	IVS	13/09/1983		51°30' 0"	128°44' 0"	
	IVS IVS	18/09/1983 25/09/1983		54° 3' 0" 52°39' 0"	130°38' 0" 129°16' 0"	
	īvs	27/09/1983		52°29' 0"	131°23' 0"	
	IVS	16/04/1984		54°29' 0"	131°41' 0"	
	IVS	16/04/1984		54°34' 0"	131°56' 0"	
	IVS IVS	18/04/1984 25/04/1984		54°26' 0" 52°56' 0"	132° 0' 0" 131°15' 0"	
	īvs	20/10/1984		54°22' 0"	132° 0' 0"	
	īvs	20/10/1984		54°22' 0"	132° 0' 0"	
	IVS IVS	20/10/1984 25/10/1984		54°30' 0" 54°15' 0"	132° 2' 0" 131°53' 0"	
	īvs	26/10/1984		54°26' 0"	132°28' 0"	
	IVS	26/10/1984		54°18' 0"	132°31' 0"	
	IVS	26/10/1984		54°13' 0"	132°44' 0" 132°57' 0"	
	IVS IVS	26/10/1984 28/10/1984		54°13' 0" 53°21' 0"	130°47' 0"	
19826001	SAS	11/01/1982		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS	11/01/1982		50°52' 0"	129° 5' 0"	TRIANGLE ISLAND
	SÁS	11/01/1982		50°36' 0"	128°18' 0"	CAPE PALMERSTON
	SAS SAS	11/01/1982 11/01/1982		50°41' 0" 50°47' 0"	128°22' 0" 128°26' 0"	CAPE RUSSELL CAPE SCOTT
	SAS	11/01/1982		50°49' 0"	128°54' 0"	SARTINE ISLAND
	SAS	11/01/1982		50°49' 0"	128°41' 0"	LANZ ISLAND
	SAS	11/01/1982		50°48' 0"	128°50' 0"	SCOTT ISLAND
19826002	SAS	28/06/1982		50°47' 0"	128°46' 0"	BERESFORD ISLAND
	SAS SAS	28/06/1982 28/06/1982		50°52' 0" 50°36' 0"	129° 5' 0" 128°18' 0"	TRIANGLE ISLAND CAPE PALMERSTON
	SAS	28/06/1982		50°41' 0"	128°22' 0"	CAPE RUSSELL
	SAS	28/06/1982		50°47' 0"	128°26' 0"	CAPE SCOTT
	SAS	28/06/1982		50°49' 0"	128°54' 0"	SARTINE ISLAND

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID/	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19826002	SAS	29/06/1982		50°47' 0°	128°46' 0"	BERESFORD ISLAND
	SAS	29/06/1982 29/06/1982		53°15' 0° 52°16' 0°	130°21' 0" 128°43' 0"	NORTH DANGER ROCKS MCINNES ISLAND
	SAS SAS	29/06/1982		23 • 30 · 0 •	130*37' 0*	BONILLA ISLAND
	SAS	29/06/1982		50°52' 0"	129 5 0	TRIANGLE ISLAND
	SAS	29/06/1982		50°49' 0"	128°54' 0"	SARTINE ISLAND
	SAS	29/06/1982		51.16.0.	128°12' 0°	VIRGIN ROCKS
	SAS SAS	29/06/1982 29/06/1982		51°23' 0°	128° 0' 0" 128° 6' 0"	PEARL ROCKS WATCH ROCK
	SAS	29/06/1982		51 *52' 0"	128°27' 0"	GOSLING ROCKS
	SAS	29/06/1982		52*44' 0*	129*32' 0"	ISNOR ROCK
	SAS	29/06/1982		53 • 9 · 0 •	130° 2' 0°	JOSEPH ISLAND STEELE ROCK
	SAS SAS	29/06/1982 29/06/1982		52°28' 0" 51°47' 0"	129°22' 0"	BLENHEIM ISLAND
	SAS	29/06/1982		53 • 24 · 0 •	130°27' 0"	HALIBUT ROCKS
	SAS	30/06/1982		52°52' 0"	131°31' 0"	REEF ISLAND
	SAS	30/06/1982		51.26. 0.	131° 1' 0°	CAPE ST. JAMES
	SAS SAS	30/06/1982 30/06/1982		52°57' 0" 54°14' 0"	[31°34' 0° 133° 2' 0°	SKEDANS ISLAND LANGARA ISLAND
	SAS	30/06/1982		52*34' 0"	131°24' 0"	RAMSAY ISLAND
	SAS	30/06/1982		54*14' 0"	130°59' 0"	<b>BUTTERWORTH ROCKS</b>
	SAS	30/06/1982		0° 0' 0°	0.0.0.	FORRESTER ISLAND
	SAS SAS	30/06/1982 30/06/1982		54°26' 0" 54°36' 0"	130°59' 0° 131° 4' 0°	CHEARNLEY ISLAND ZAYAS ISLAND
	SAS	01/07/1982		0. 0. 0.	0. 0. 0.	FORRESTER ISLAND
		•				
19836001	FC	17/04/1983		53°43' 0"	132*20' 0"	
1,20001	FC	23/04/1983		53 *43' 0*	132°20' 0"	
	FC	30/04/1983		53°46' 0"	132°15' 0"	
	FC FC	30/04/1983 11/06/1983		53°43' 0" 53°43' 0"	132°20' 0"	
	FC	12/06/1983		53°41' 0"	132 • 36 · 0 •	
	FC	26/06/1983		53°41' 0"	132°36' 0"	
	FC	26/06/1983		53°40' 0"	132°35' 0"	
	FC	30/06/1983		53°41' 0"	132°36' 0"	
19836002A	IVS	27/07/1983		54*17' 0*	130°37' 0"	
19836002B	IVS	12/05/1987	19/05/1987	54*29' 0"	130°48' 0"	
	IVS	13/05/1987		54°30' 0"	130°45' 0"	
	IVS IVS	17/05/1987 17/05/1987		54°38' 0" 54°38' 0"	130°50' 0" 130°55' 0"	
	IVS	17/05/1987		54°37' 0"	130°45' 0"	
	IVS	18/05/1987		54°24' 0"	130°55' 0"	
	IVS	19/05/1987		54°15' 0"	130°51' 0"	TREE KNOB GROUP
	IVS IVS	21/05/1987 22/05/1987	24/05/1987	54°12' 0" 53°56' 0"	130°50' 0" 130°43' 0"	
	IVS	25/05/1987	24/03/196/	53°43' 0"	130°25' 0"	
19836002C	IVS	17/05/1988		52°40' 0"	129*25' 0"	
	IVS IVS	24/05/1988 24/05/1988		52°40' 0° 52°40' 0°	129°25' 0" 129°25' 0"	
	IVS	25/05/1988		25.33. 0.	129°29' 0"	
	īVS	29/05/1988		52°31' 0"	129°24' 0"	
	IVS	06/06/1988		52°47' 0"	129°21' 0"	
	IVS	07/06/1988		52°33' 0" 52°33' 0"	129°24' 0" 129°24' 0"	
	IVS IVS	07/06/1988 09/06/1988		52°33' 0"	129°24' 0	
	īvs	11/06/1988		52*33' 0*	129°24' 0°	
	IVS	12/06/1988		52°31' 0"	129°24' 0°	·
	IVS	12/06/1988		52°27' 0" 52°31' 0"	129°19' 0"	
	IVS IVS	13/06/1988 15/06/1988		53° 8' 0"	130° 2' 0"	
	IVS	18/06/1988		52°33' 0°	129*24' 0"	
	IVS	18/06/1988		52°33' 0"	129°24' 0"	
	IVS	19/06/1988		52°32' 0°	129°29' 0" 129°29' 0"	
	IVS IVS	20/06/1988 24/06/1988		52°39' 0" 52°16' 0"	128°43' 0"	
	IVS	24/06/1988	29/06/1988	51°58' 0"	128°26' 0"	
	IVS	27/06/1988		51°58' 0"	128°26' 0"	
	IVS	27/06/1988	02/07/1000	52°52' 0"	128°27' 0" 128° 8' 0"	
	IVS IVS	01/07/1988 02/07/1988	02/07/1988	51°39' 0° 51°25' 0"	128° 8' 0"	
	140	02,0111700		J. 25 J		

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	<u>Latitude</u>	Longitude	Location Name
19866001	ISS ISS	27/05/1986 30/05/1986		51°32' 0"	127°47' 0" 127°47' 0"	ADDENBROKE LIGHT ADDENBROKE LIGHT
19866002	SAS	22/07/1986	24/07/1986	0. 0. 0.	0. 0. 0.	E. QUEEN CHARLOTTE I.
19876001	IVS IVS ISS ISS ISS ISS ISS ISS ISS ISS	30/03/1987 13/06/1987 15/07/1987 20/07/1987 15/08/1987 15/10/1987 17/10/1987 21/12/1987 30/12/1988 26/01/1988 03/03/1988 11/03/1988 12/03/1988 12/03/1988 24/03/1988 29/03/1988 29/03/1988 29/03/1988 29/03/1988 29/03/1988 29/03/1988 27/04/1988		52°19' 0" 52°39' 0"	128*33' 0* 127*57' 0* 128*32' 0*	MILBANKE SOUND POINTER ISLAND BOAT BLUFF
19876002	SAS SAS SAS SAS SAS SAS SAS SAS SAS SAS	29/06/1987 29/06/1987 29/06/1987 30/06/1987 30/06/1987 30/06/1987 30/06/1987 30/06/1987 30/06/1987 01/07/1987 02/07/1987 02/07/1987 03/07/1987 03/07/1987 03/07/1987 03/07/1987 03/07/1987 03/07/1987 03/07/1987		50°47' 0° 50°52' 0° 50°49' 0° 52°16' 0° 53°30' 0° 51°52' 0° 52°44' 0° 53° 9' 0° 52°57' 0° 54°14' 0° 51°56' 0° 0° 0° 50°47' 0° 50°52' 0° 51°16' 0° 51°16' 0° 51°12' 0° 51°16' 0° 51°12' 0° 51°14' 0°	128°46' 0" 129° 5' 0" 128°26' 0" 128°54' 0" 128°54' 0" 128°27' 0" 129°32' 0" 130° 2' 0" 129°22' 0" 131°34' 0" 133° 2' 0" 131° 1' 0" 0° 0' 0" 128°54' 0" 128°54' 0" 128°54' 0" 128°57' 0" 128°57' 0" 128°57' 0"	BERESFORD ISLAND TRIANGLE ISLAND CAPE SCOTT SARTINE ISLAND MCINNES ISLAND BONILLA ISLAND GOSLING ROCKS ISNOR ROCK JOSEPH ISLAND STEELE ROCK SKEDANS ISLAND LANGARA ISLAND CAPE ST. JAMES FORRESTER ISLAND TRIANGLE ISLAND TRIANGLE ISLAND VIRGIN ROCKS PEARL ROCKS WATCH ROCK GOSLING ROCKS BLENHEIM ISLAND
19876003	IVS	27/04/1959 30/04/1959 31/05/1959 08/09/1959 27/09/1959 17/04/1960 28/04/1961 09/05/1961 09/05/1961 11/05/1961 11/05/1961 16/09/1961 28/03/1962 07/05/1962 30/07/1981 25/05/1982 20/09/1982 01/10/1984 21/05/1985 25/08/1985	07/10/1984	53° 8' 0" 53°30' 0" 51°15' 0" 53°16' 0" 52° 0' 0" 53°30' 0" 53° 4' 0" 53° 56' 0" 52° 54' 0" 52° 54' 0" 52° 48' 0" 52° 48' 0" 52° 48' 0" 52° 48' 0" 53° 59' 0" 53° 59' 0" 53° 50' 0" 53° 50' 0" 53° 57' 0"	129°22' 0° 129°59' 0° 127°50' 0° 129°18' 0° 0° 0' 0° 129°43' 0° 129°13' 0° 129°13' 0° 130°42' 0° 129°22' 0° 128°34' 0° 128°23' 0° 128°23' 0° 128°44' 0° 129°14' 0° 130°18'36' 128°50' 0° 131°21' 0° 131° 9' 0° 131° 9' 0° 130° 9' 0°	GRAHAM REACH PRINCIPE CHANNEL OFF EGG ISLAND LEWIS PASSAGE LUSCOMBE INLET GRENVILLE CHANNEL ASHDOWN ISLAND WRIGHT SOUND ASHDOWN ISLAND OVAL HILL CAAMANO SOUND 20 MI OFF CAAMANO SD. GRAHAM REACH TOLMIE CHANNEL LAREDO INLET WRIGHT SOUND PRINCE RUPERT HRB. QUEEN CHARLOTTE SND. NEAR PRINCE RUPERT 10 M. E OF COPPER I. W. SIDE GORDON I. HECATE STRAIT BEDFORD I

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19876003	īvs	09/07/1987		51°18' 0"	127*40' 0"	SMITH INLET
	ISS	17/11/1987		53°15'44"	131°49'32°	SANDSPIT
	IVS IVS	17/07/1988 21/08/1988		53°14' 0" 52°12' 0"	161° 4' 0" 130°47' 0"	120 KM S OF ALEUTIAN IS S. END HECATE STR.
	IVS	22/08/1988		52 7 0	130.22. 0.	5 M E OF HOWE BAY
	īvs	22/08/1988		52°21' 0"	130°51' 0"	12 MI E. OF COPPER I.
	īvs	29/08/1988		51°47' 0"	130°34' 0"	16 MAINT OF BOOK OFF
	IVS ISS	11/12/1988 25/02/1989		54°19' 0° 53°33'56°	131°26' 0" 131°55'22"	15 MI NE OF ROSE SPIT TLELL RIVER
	īvs	08/03/1989		52°38' 0"	128°30' 0"	BOAT BLUFF
	IVS	14/03/1989		52°15' 0"	128*21' 0"	SEAFORTH CHANNEL
	ISS IVS	19/03/1989 25/03/1989		53°34'27" 52°25' 0"	131°55'20" 128°40' 0"	TLELL RIVER EAST HIGGINS PASSAGE
	īVS	28/03/1989		52.12.0.	128.53. 0.	SEAFORTH CHANNEL
	IVS	02/04/1989		52°37' 0"	128°32' 0"	BOAT BLUFF
	IVS IVS	15/05/1989 19/05/1989		51°55' 0" 52°52' 0"	130°15' 0° 130°30' 0°	S. END HECATE STR. 9 MI E OF CAAMANO SND.
	īvs	20/05/1989		52°19' 0°	128*33' 0"	MILBANKE SOUND
	īvs	01/06/1989	30/06/1989	52*34'38"	128*44' 2"	W COAST SWINDLE I.
	IVS	09/06/1989		53°11' 0" 53°42' 0"	129°25' 0"	SQUALLY CHANNEL
	IVS IVS	10/06/1989 12/06/1989		53°21' 0"	129° 0' 0" 128°53' 0"	SUE CHANNEL GOAT HARBOUR
	īvs	20/06/1989		51° 9' 0"	128° 9' 0"	LAMA PASSAGE
	īvs	06/08/1989		53°45'13"	I32°16'18"	W SIDE SHIP I.
	IVS ISS	08/10/1989 24/10/1989		54°13' 0" 53°34'46"	132°28' 0" 131°55'32"	N. OF GRAHAM ISLAND TLELL RIVER
	īvs	16/01/1990		53°35'36"	130° 4'25"	PETREL CHANNEL
	NS	28/02/1990		54° 6'12"	132°10'25"	GRAHAM ISLAND
	NS	17/03/1990		52°33' 0"	128°28' 0" 130°15' 0"	FREEMAN PT S. END HECATE STR.
	IVS IVS	23/03/1990 05/04/1990		52°40'45"	129°13'22"	KETTLE INLET
	NS	04/06/1990		52*59'50"	129*33'51*	CAAMANO SOUND
	NS	04/06/1990		52°59'14"	129*32'36"	CAAMANO SOUND
	ISS IVS	06/06/1990 11/06/1990		54° 1'21° 52°30'60°	132° 0'10" 128°44' 0"	SOUTH BEACH KITASU BAY
	iss	27/06/1990		53°20' 0"	131°55'54"	MILLER CREEK
	IVS	01/07/1990	0010511000	54* 9' 0"	131°21' 0°	HECATE STRAIT
	IVS ISS	10/07/1990 10/07/1990	20/07/1990 20/08/1990	52°21'17" 53°41' 4"	131°10'36" 132°11'24"	EAST COPPER I. PORT CLEMENTS
	IAS	22/07/1990	20/00/1770	54*36'51"	130°55'39"	DUNDAS I
	IVS	01/08/1990	31/08/1990	53*52' 0"	130°18' 0"	OGDEN CH, PITT I
	IVS NS	01/08/1990 18/04/1991	31/08/1990	53°53'11" 54° 7' 1"	130°17' 1" 132°24' 5"	OGDEN CH, PITT I WIAH POINT
	ISS	28/04/1991		53°49'26"	131°50'45"	N.E. GRAHAM ISLAND
	NS	30/04/1991		21.20. 0.	128°31' 5"	2 I/2 MI. S.W. CURRIE I.
	NS IVS	03/05/1991 01/06/1991		51° 9' 0"	127°57' 0" 128°32'16"	CAPE CAUTION 2 MI. W. GOOSE I.
	ISS	11/06/1991		54*11:3*	133° 1'42"	YAKU POINT
	ISS	27/06/1991		53*14'46"	130° 3'18"	2 MI N. SPEARER PT.
	ISS	10/07/1991		54°15'27" 54° 3'28"	133° 1'55" 130°33'32"	N. SIDE LANGARA I. EDYE PASSAGE
	IVS ISS	14/07/1991 22/07/1991		53°38' 0"	130°30' 0"	N. END BANKS I.
	ISS	04/09/1991		54° 4' 0"	130°34' 0"	MORRELL PT.
	ISS	08/09/1991		52°16'45"	128°40'11"	S. TIP MCINNES I.
	IVS SVS	13/05/1992 29/06/1992		51°55' 0" 52°17' 0"	130°40' 0" 128°39' 5"	E. OF CAPE ST JAMES PRICE IS
	5.5	25.00.1572			.50 07 0	
19886002	īVS	06/03/1988		53*15' 0"	132° 0' 0"	
1700000	īvs	11/04/1988		53 * 8' 0"	128°33' 0"	
	īvs	31/08/1988		54°15'27"	133° 1'55" 131°47' 0"	N. SIDE LANGARA I. CUMSHEWA INLET
	IVS IVS	02/06/1989 20/09/1989		53° 3' 0"	132°58' 0"	E. SIDE LANGARA I.
	īvs	10/04/1990		53°15' 0"	131°49' 0"	SANDSPIT
	īvs	05/06/1990		52°55' 0"	131°32' 0"	LOW ISLAND
	IVS IVS	15/05/1991 01/06/1991		52°55' 0"	131°36' 0" 131°36' 0"	LIMESTONE ISLAND LIMESTONE ISLAND
	IVS	04/06/1991		52°55° 0"	131.39. 0.	LIMESTONE ISLAND
	<b>IVS</b>	11/06/1991		53°14' 0"	132° 0' 0"	SKIDEGATE INLET
	IVS IVS	11/06/1991		52°29' 0"	13[°28' 0" 13[°59' 0"	WERNER BAY ALLIFORD BAY
	IVS IVS	11/06/1991 15/06/1991		52°52' 0"	131.31.0.	REEF ISLAND
	IVS	15/06/1991		53° 3' 0°	131°47' 0"	<b>CUMSHEWA INLET</b>
	IVS	26/06/1991		53°14′0"	132" 0' 0"	SKIDEGATE INLET
	IVS IVS	26/06/1991 01/07/1991		54°12' 0° 54° 7' 0°	13[°38' 0" 132°[9' 0"	ROSE SPIT WIAH POINT
	īvs	08/07/1991		52°13' 0"	131.0.0.	BENJAMIN POINT

TABLE 3. LOCATIONS OF DATA SET MEASUREMENTS/OBSERVATIONS (Continued)

Data set ID#	Survey Method	Start Date	Stop Date	Latitude	Longitude	Location Name
19886002	IVS	09/07/1991		52° 6' 0"	131° 9' 0"	GORDON ISLANDS
	IVS	23/07/1991		53°42' 0"	132°30' 0"	MASSET INLET
	IVS	03/08/1991		53 • 3 · 0 •	131°47' 0"	CUMSHEWA INLET
	IVS	04/08/1991		54° 6' 0"	132°26' 0"	CAPE EDENSAW
	IVS	19/08/1991		54° 9' 0"	132°39' 0"	SHAG ROCK
	IVS	24/09/1991		53*15' 0*	131*49' 0"	SANDSPIT
19896001	SAS	20/07/1989		50°47' 0"	128*46* 0*	BERESFORD ISLAND
2707000	SAS	20/07/1989		50*52' 0"	129° 5' 0"	TRIANGLE ISLAND
	SAS	20/07/1989		50°49' 0"	128°54' 0"	SARTINE ISLAND
19896002	RVS	25/04/1989		51°43' 0"	128° 4' 0°	HAKAI PASS
17070000	RVS	29/04/1989		51*55' 0*	127*23' 0*	BURKE CHANNEL
	RVS	30/04/1989		51*55' 0"	127°23' 0"	BURKE CHANNEL
	RVS	30/04/1989		51°40' 0"	127°50' 0"	FITZHUGH SOUND
	RVS	02/05/1989		51*55' 0"	127°23' 0°	BURKE CHANNEL
	RVS	03/05/1989		51*55' 0"	127*23' 0"	BURKE CHANNEL
	RVS	04/05/1989		51*55' 0"	127°23' 0°	BURKE CHANNEL
	RVS	05/05/1989		51*55' 0"	127*23' 0"	BURKE CHANNEL
	RVS	07/05/1989		52*22' 0"	126°53' 0"	NORTH BENTINCK ARM
	RVS	11/05/1989		51*55' 0"	127°23' 0"	BURKE CHANNEL
	RVS	13/05/1989		51*55' 0"	127*23' 0"	BURKE CHANNEL
	RVS	14/05/1989		51°55' 0"	127°23' 0"	BURKE CHANNEL
	RVS	14/05/1989		52°24' 0"	127*14' 0*	LABOUCHERE CHANNEL
	RVS	15/05/1989		51°55' 0°	127°23' 0"	BURKE CHANNEL
	RVS	17/05/1989		52°24' 0"	127°14' 0"	LABOUCHERE CHANNEL
	RVS	18/05/1989		52°24' 0"	127°14' 0"	LABOUCHERE CHANNEL
	RVS	19/05/1989		52°24' 0"	127°14' 0" 127°50' 0"	LABOUCHERE CHANNEL FITZHUGH SOUND
	RVS RVS	20/05/1989 21/05/1989		51°40' 0° 52°19' 0°	127*31' 0"	DEAN CHANNEL
	RVS RVS	22/05/1989		52° 8' 0°	127*53' 0"	FISHER CHANNEL
	RVS RVS	26/05/1989		51°55' 0"	127*23' 0"	BURKE CHANNEL
	RVS	26/05/1989		52 * 8' 0"	127.53. 0.	FISHER CHANNEL
	RVS	26/05/1989	28/05/1989	51°40' 0"	127°50' 0"	FITZHUGH SOUND
	RVS	30/05/1989		51*55' 0"	127°23' 0°	BURKE CHANNEL
	RVS	31/05/1989		52°24' 0°	127*14' 0"	LABOUCHERE CHANNEL
	RVS	01/06/1989		51°55' 0"	127°23' 0°	BURKE CHANNEL
	RVS	02/06/1989		51*55' 0"	127°23' 0"	BURKE CHANNEL
	RVS	03/06/1989		52*19' 0"	127°31' 0"	DEAN CHANNEL
	RVS	04/06/1989		51°55' 0"	127°23' 0"	BURKE CHANNEL
	RVS	07/06/1989		51*55' 0"	127*23' 0"	BURKE CHANNEL
	RVS	10/06/1989		52°24' 0"	127°14' 0"	LABOUCHERE CHANNEL
	RVS	11/06/1989		52°19' 0"	127°31' 0" 127°23' 0"	DEAN CHANNEL BURKE CHANNEL
	RVS	12/06/1989		51°55' 0" 51°55' 0"	127°23' 0"	BURKE CHANNEL
	RVS	13/06/1989		21,22,0	127 23 0	BURRE CHANNEL
19906001	svs	25/06/1990		54°14' 0"	132°55' 0"	E. OF LANGARA ISLAND
	SVS	25/06/1990		54°14' 0"	132°55' 0"	4 NM E OF LANGARA 1.
	svs	17/07/1991		54°20' 0"	132°54' 0"	N.E. OF LANGARA I.
	SVS	30/07/1991		52°20' 0"	131°13' 0"	SKINCUTTLE INLET
	svs	04/08/1991		52°27' 0"	131*14' 0*	SCUDDER POINT
	svs	05/08/1991		52°41' 0"	131*27' 0"	WINDY BAY
	svs	06/08/1991		52*29' 0"	131*24' 0*	ALL ALONE STONE
	svs	07/08/1991		52°22' 0"	131°21′0°	BURNABY STRAIT
	svs	10/08/1991		52°20' 0"	131•13. 0•	SKINCUTTLE INLET
19916001	RVS	NS/05/1991	NS/06/1991	51°57' 0"	128° 0' 0"	HUNTER ISLAND AREA

## 11. TABLE 4: INDEX OF DATA SET REFERENCES BY DATA SET IDENTIFIER

The following is a listing of the references and source information for each data set, presented by data set identifier. Commonly there are several references or information sources associated with each data set.

## 11.1 PRESENTATION FORMAT

Secondary sources are indented by 1/2" relative to primary references. Primary references are the original documentation that provide critical details about the data, methods, sampling locations and dates. These are the sources where the user can find the original data and methods details.

Secondary references are generally documents that analyze, interpret or summarize the data. In some cases the secondary sources may be as useful or more useful to the user because they are easier to obtain or they present the data in a more useable format.

### 11.2 AVAILABILITY AND FORMAT OF DATA

The right most column in Table 4 gives information about the availability and format of the data set documentation. This is presented in the form: "A/F" where "A" is a code for the availability and "F" is a code for the format of the data. The following code are used:

# **Availability**

- P Public
- U Unpublished
- A Requires owner approval, privileged, confidential or there is an access fee.
- I In press or in preparation
- O Other availability

#### **Format**

- P Publication (report, manuscript, book, journal article)
- L Log book, field notes, diaries or historical records
- C Computer files (tabular, georeferenced and/or other)
- D Raw data, maps, photos, video, audio recordings, specimens and data cards

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
18626001	Scheffer, V.B., and J.W. Slipp. 1944. The harbor seal in Washington State. Amer. Midland Naturalist 32:373-416.	P/P
18796001	Department of Fisheries harbour seal commercial catch statistics. 1879-1917. Annual reports of the number of harbour seal pelts sold and their dollar value between 1879 and 1917. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C.	A/P
18866001	Townsend, C.H. 1899. Pelagic sealing with notes on the fur seals of Guadalupe, the Galapagos, and Lobos Islands. In: D.S. Jordan (ed.) The Fur Seals and Fur-Seal Islands of the North Pacific Ocean. U.S. Govt. Printing Office, Washington, D.C. Vol. 3, pp. 223-73.	P/P
	British Columbia Provincial Archives, Victoria, accession number ADD MSA 16. Records of the Victoria Sealing Company, involving 585 individual log books covering 90 sealing vessels over the period 1889-1911. (unpublished manuscripts).	U/L
	Federal Archives and Records Center, San Bruno, California, record group number 36, U.S. Bureau of Customs, San Francisco, CA, Section 8, Series 6.7, six log books from 6 sealing vessels over the period 1896-1898 (unpublished manuscripts).	U/L
	Federal Archives and Records Center, Sand Point Way, Seattle, WA, accession number R10 U35 S13, thirty-four log books covering 18 sealing vessels over the period 1895 to 1897 (unpublished manuscripts).	U/L
	Murie, D.J. 1981. The migration of the northern fur seal, Callorhinus ursinus, Linnaeus 1758, in the eastern North Pacific and eastern Bering Sea: An analysis of pelagic sealing logs of the years 1886 to 1911. B.Sc. thesis, Univ. Victoria, Victoria, 111 pp.	P/P
18906001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	Avail./
Data Set I.D.	References and Sources	Format
18906001	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
	Pike, G.C., and B.E. Maxwell. 1958. The abundance and distribution of the northern sea lion (Eumetopias jubata) on the coast of British Columbia. J. Fish. Res. Bd. Canada 15(1):5-17.	P/P
18926001	Newcombe, C.F. unpublished papers. Private papers on sea lion abundance in British Columbia between 1892 and 1916 held at the Provincial Archives, Royal B.C. Museum, Victoria.	U/L
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
18926002	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19006001	Osgood, W.H. 1901. Natural history of the Queen Charlotte Islands, British Columbia and natural history of the Cook Inlet region of Alaska. U.S.D.A. Div. of Biol. Survey. N. Amer. Fauna No. 21. Washington.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19006001	Pike, G.C., and I.B. MacAskie. 1969. Marine mammals of British Columbia. J. Fish. Res. Bd. Canada Bull. No. 171:5-23.	P/P
19136001	Newcombe, C.F., and W.A. Newcombe. 1914. Sea lions on the coast of British Columbia. Report of the Commissioner of Fisheries of British Columbia for the year ending December 31st, 1913. pp. R131-45.	P/P
	Newcombe, C.F. unpublished papers. Private papers on sea lion abundance in British Columbia between 1892 and 1916 held at the Provincial Archives, Royal B.C. Museum, Victoria.	U/L
	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
	Newcombe, C.F., W.H. Greenwood, and C.M. Fraser. 1918. Part 1. Preliminary report of the Commission on the sea lion question, 1915. Part 2. Report and conclusion of the sea lion investigation, 1916. Contrib. Canadian Biol. pp. 1-39.	P/P
19136002	Department of Fisheries harbour seal bounty hunt statistics. 1913-1964. Annual district reports and miscellaneous correspondence regarding harbour seal bounty kills between 1913 and 1964. Marine mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/P
	Fisher, H.D. 1952. The status of the Harbour seal in B.C., with particular reference to the Skeena River. Fish. Res. Bd. Canada Bull. No. 93. 58 pp.	P/P
19166001	Newcombe, C.F., W.H. Greenwood, and C.M. Fraser. 1918. Part 1. Preliminary report of the Commission on the sea lion question, 1915. Part 2. Report and conclusion of the sea lion investigation, 1916. Contrib. Canadian Biol. pp. 1-39.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A 1
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19166001	Newcombe, C.F. unpublished papers. Private papers on sea lion abundance in British Columbia between 1892 and 1916 held at the Provincial Archives, Royal B.C. Museum, Victoria.	U/L
	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19196001	Moran, J. 1924. Killer whales at Green Island lighthouse. Can. Field-Nat. 38:84-5.	P/P
19246001	Consolidated Whaling Inc. Unpublished data and catch records (1925-28) for Naden Harbour (1924-27), Rose Harbour (1924-28) and Kyuquot (1924-25) Whaling Stations. William Lagen Collection, Suzzallo Library, U. Washington, Seattle, Accession #2292-4.	U/L
	ESL Environmental Sciences Ltd. Historical whaling database. 1987. A computer database containing all historical records on whale catches in B.C. waters between 1924 and 1967. Sidney, B.C.	A/C
	Nichol L.M. and K. Heise. 1992. The historical occurrence of large whales off the Queen Charlotte Islands. Prepared for: South Moresby/Gwaii Haanas National Parks Reserve, Canadian Parks Reserve. 68pp.	P/P
	Nichol, L.M., L. Michaluk, A. Peacock, and R. Gurney. 1987. B.C. historical whaling database report. Draft manuscript, ESL Environmental Sciences Ltd., Sidney, B.C., 109 pp. (unpublished manuscript).	PU/
	Pike, G.C. 1953. Whaling on the British Columbia Coast. Proceedings of the 7th Pacific Science Congress (1949). 4:370-2.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19256001	Consolidated Whaling Inc. Unpublished data and catch records (1925-28) for Naden Harbour (1924-27), Rose Harbour (1924-28) and Kyuquot (1924-25) Whaling Stations. William Lagen Collection, Suzzallo Library, U. Washington, Seattle, Accession #2292-4.	U/L
	ESL Environmental Sciences Ltd. Historical whaling database. 1987. A computer database containing all historical records on whale catches in B.C. waters between 1924 and 1967. Sidney, B.C.	A/C
	Pike, G.C. 1967. Whaling data tables (1948-1967) Coal Harbour, B.C. (unpublished manuscript).	A/P
	Nichol L.M. and K. Heise. 1992. The historical occurrence of large whales off the Queen Charlotte Islands. Prepared for: South Moresby/Gwaii Haanas National Parks Reserve, Canadian Parks Reserve. 68pp.	P/P
	Nichol, L.M., L. Michaluk, A. Peacock, and R. Gurney. 1987. B.C. historical whaling database report. Draft manuscript, ESL Environmental Sciences Ltd., Sidney, B.C., 109 pp. (unpublished manuscript).	PU/
	Pike, G.C. 1953. Whaling on the British Columbia Coast. Proceedings of the 7th Pacific Science Congress (1949). 4:370-2.	P/P
19346001	Department of Fisheries for seal sightings. 1934-37. These are unpublished letters and memos regarding fur seal sightings on the coast of British Columbia. 17 pp. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	U/L
19356001	McTaggart-Cowan, I., and G.C. Carl. 1945. The northern elephant seal (Mirounga angustirostris) in B.C. waters and vicinity. Can. Field-Nat. 59(5):170-1.	P/P
19376001	Royal British Columbia Museum. Computer file containing data associated with marine mammal (and other mammals) specimens held at the Royal British Columbia Museum, Victoria, B.C.	A/D
19386001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A :1 /
Data Set I.D.	References and Sources	Avail./ Format
19386001	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
	Pike, G.C., and B.E. Maxwell. 1958. The abundance and distribution of the northern sea lion (Eumetopias jubata) on the coast of British Columbia. J. Fish. Res. Bd. Canada 15(1):5-17.	P/P
19396001	Manzer, J.L., and l. McTaggart-Cowan. 1956. Northern fur seal in the inside coastal waters of B.C. J. Mammal. 37:83-6.	P/P
19416001	Cameron, W.M. 1941. Killer whales stranded near Masset. Fish. Res. Bd. Canada Pacific Prog. Rep. 49:16-7.	P/P
19456001	Cowan Vertebrate Musuem. Marine mammal specimen collection of the Cowan Vertebrate Museum, Department of Zoology, University of British Columbia, Vancouver, B.C.	P/D
	Manzer, J.L., and I. McTaggart-Cowan. 1956. Northern fur seal in the inside coastal waters of B.C. J. Mammal. 37:83-6.	P/P
	Mitchell, E. 1968. Northeast Pacific stranding distribution and seasonality of Cuvier's beaked whale Ziphius cavirostris. Can. J. Zool. 46:265-79.	P/P
	Moore, J.C. 1963. The goose-beaked whale: Where in the world? Chicago Nat. Hist. Mus. Bull. 34(2):2-3,8.	P/P
	Pike, G.C., and I.B. MacAskie. 1969. Marine mammals of British Columbia. J. Fish. Res. Bd. Canada Bull. No. 171:5-23.	P/P
19456002	Fisher, H.D. 1947. The biology, economic status and control of the harbour seal (Phoca vitulina richardii) in British Columbia with particular reference to the Skeena River area. M.A. thesis, Univ. British Columbia, Vancouver, B.C., 102 pp.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	4 11 /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19456002	Fisher, H.D. 1947. The harbour seals (Phoca vitulina richardii) on the Skeena River, B.C. Fish. Res. Bd. Canada. Pacific Prog. Rep. 72:36-8.	P/P
	Fisher, H.D. 1952. The status of the Harbour seal in B.C., with particular reference to the Skeena River. Fish. Res. Bd. Canada Bull. No. 93. 58 pp.	P/P
	Pritchard, A.L., and H.D. Fisher. 1948. Skeena River salmon investigation, Interim report, Appendix No. 9: Mammalian and other predators of Skeena River salmon. Fish. Res. Bd. Can., Nanaimo, B.C., 10 pp.	P/P
19466001	Odlum, G.C. 1948. An instance of killer whales feeding on ducks. Can. Field-Nat. 62:42	P/P
19476001	Scheffer, V.B. 1949. The Dall's porpoise Phocoenoides dalli, in Alaska. J. Mammal. 30:116-21.	P/P
19486001A	Department of Fisheries harbour seal management kill statistics. 1948-1962. Annual or biennial reports of the number of harbour seals killed on the Skeena River between 1948 and 1962. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/P
19486001B	Department of Fisheries harbour seal management kill statistics. 1948-1963. Annual reports of the number of harbour seals killed on the Nass river between 1948 and 1963. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/P
19486002	Department of Fisheries harbour seal management kill statistics. 1948-1972. Annual records and miscellaneous correspondence that give the annual numbers of harbour seals killed per district on the B.C. coast between 1948 and 1972. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/P
<b>19486003</b>	Anonymous. 1948-59. Catch slips, tallybooks and navigational chart records from the Coal Harbour Whaling Station on file at the Pacific Biological Station. (unpublished data). Nanaimo, B.C. V6R 5K6	A/L
	Anonymous. 1955-1967. Catch slips, whale catcher log books, plant tally books from Coal Harbour, B.C. Packers Ltd., Vancouver, B.C. (unpublished data). Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/L
	International Whaling Commission. 1947-1952 statistics. Committee for Whaling Statistics, Oslo Norway. Vols. 17-28.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	Amail /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19486003	International Whaling Commission, unpublished data. Whaling catch database with records pertaining to British Columbia (Coal Harbour Whaling Station). Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	ESL Environmental Sciences Ltd. Historical whaling database. 1987. A computer database containing all historical records on whale catches in B.C. waters between 1924 and 1967. Sidney, B.C.	A/C
	Pike, G.C. 1967. Whaling data tables (1948-1967) Coal Harbour, B.C. (unpublished manuscript).	A/P
	Pike, G.C. 1953. Two records of Baird's beaked whale. J. Mammal. 34(1): 98-104.	P/P
	Clarke, M.R., and N. MacLeod. 1980. Cephalopod remains from sperm whales caught off western Canada. Mar. Biol. 59:241-6.	P/P
	Mitchell, E. 1980. Comments on sperm whale pregnancy rate, British Columbia, 1954-67, from data collected by G.C. Pike. Int. Whaling Comm. Special Issue 2, Annex L. pp. 130-2.	P/P
	Nichol L.M. and K. Heise. 1992. The historical occurrence of large whales off the Queen Charlotte Islands. Prepared for: South Moresby/Gwaii Haanas National Parks Reserve, Canadian Parks Reserve. 68pp.	P/P
	Nichol, L.M., L. Michaluk, A. Peacock, and R. Gurney. 1987. B.C. historical whaling database report. Draft manuscript, ESL Environmental Sciences Ltd., Sidney, B.C., 109 pp. (unpublished manuscript).	PU/
	Pike, G.C. 1949. Whaling Investigation. Fish. Res. Bd. Canada. Pacific Prog. Rep. 79:30-1.	P/P
	Pike, G.C. 1950. Stomach contents of whales caught off the coast of British Columbia. Fish. Res. Bd. Canada. Pacific Prog. Rep. 83:27-8.	P/P
	Pike, G.C. 1951. Lamprey marks on whales. J. Fish. Res. Bd. Canada. 8(4):275-80.	P/P
	Pike, G.C. 1952. Whales and whaling. 8 pp. (unpublished manuscript).	U/P
	Pike, G.C. 1952. Whaling in British Columbia. 5 pp. (unpublished manuscript).	U/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19486003	Pike, G.C. 1953. Whaling on the British Columbia Coast. Proceedings of the 7th Pacific Science Congress (1949). 4:370-2.	P/P
	Pike, G.C. 1953. Preliminary report on the growth of finback whales from the coast of British Columbia. Norwegian Whaling Gazette. 1:11-5.	P/P
	Pike, G.C. 1953. Colour pattern of humpback whales from the coast of British Columbia. J. Fish. Res. Bd. Canada. 10(6):320-5.	P/P
	Pike, G.C. 1954. B.C. whale stocks studied. Fisherman 16(10):12.	P/P
	Pike, G.C. 1954. Whaling on the coast of British Columbia. Norwegian Whaling Gazette. 3:117-27.	P/P
	Pike, G.C. 1955. British Columbia whaling industry. Report for B.C. Natural Resources Atlas. 3 pp. (unpublished manuscript).	U/P
	Pike, G.C. 1959. Marine mammals. A brief manuscript that appears to describe marine mammal research conducted by Department of Fisheries in B.C. in 1958. Potentially this is copied from a DFO annual report. pp. 175-7 (unpublished manuscript).	U/P
	Pike, G.C. 1962. Canadian whaling off British Columbia and progress of research, 1948 to 1959. Document C submitted to the June 1963 meeting of the International Whaling Commission's working group on North Pacific whale stocks. 41 pp. (unpublished manuscript).	U/P
	Pike, G.C., 1963. Ovulation counts and their relation to age and stock assessment in female fin whales from British Columbia. Fish. Res. Bd. Can. MS Rep. Ser. (Biological) No. 752, 25 pp.	P/P
	Pike, G.C. 1966. North Pacific sperm whaling. Paper presented at the annual meeting of Pacific Fisheries Biologists. Richardson's Hot Springs, California. 4 pp. (unpublished manuscript).	U/P
	Pike, G.C. 1968. Whaling in the North Pacific-the end of an era. Canadian Geographic Journal. pp. 128-37.	P/P
	Pike, G.C., and L. Giovando. 1963. Whales and dolphins of the west coast of Canada. Fish. Res. Bd. Canada. Bull. No. 68, 31 pp.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19506001	Incidental marine mammal sightings. Sighting forms completed on various vessels and at various lighthouses for the Pacific Biological Station, Nanaimo, B.C. between 1952 and 1990. Data from 1952 to 1960 have been computerized. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	P/D
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Pike, G.C. 1962. Migration and feeding of the grey whale (Eschrichtius gibbosus). J. Fish. Res. Bd. Canada 19(5):815-38.	P/P
19526001	Anonymous. 1954. Distribution and food habits of the fur seals of the North Pacific Ocean. A report of the co-operative investitgation undertaken by the governments of Canada, Japan and the U.S., FebJuly 1952. (unpublished manuscript)	U/P
	Scheffer, V.B. 1950. Growth layers on the teeth of Pinnipedia as an indication of age. Science, 112(2907):309-11.	P/P
	Wilke, F., and K.W. Kenyon. 1954. Migration and food of the northern fur seal. In: J.B. Trefethen (ed.) Transactions of the 19th North American Wildlife Conference. pp. 430-40.	P/P
19556001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A *11. /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19556001	Pike, G.C., and B.E. Maxwell. 1958. The abundance and distribution of the northern sea lion (Eumetopias jubata) on the coast of British Columbia. J. Fish. Res. Bd. Canada 15(1):5-17.	P/P
19556002	McNaughton, W., and D.McNaughton. 1955-1960. Logbooks from bounty and commercial hunts carried out by W. and D. McNaughton between 1955 and 1960 in coastal British Columbia. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/L
19566001	Pike, G.C., and I.B. MacAskie. 1969. Marine mammals of British Columbia. J. Fish. Res. Bd. Canada Bull. No. 171:5-23.	P/P
19566002	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
	Pike, G.C., and B.E. Maxwell. 1958. The abundance and distribution of the northern sea lion (Eumetopias jubata) on the coast of British Columbia. J. Fish. Res. Bd. Canada 15(1):5-17.	P/P
19566003	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A 28 /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19566003	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P 400000
	Pike, G.C., and B.E. Maxwell. 1958. The abundance and distribution of the northern sea lion (Eumetopias jubata) on the coast of British Columbia. J. Fish. Res. Bd. Canada 15(1):5-17.	P/P
19566004	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19566005	Department of Fisheries and Oceans Steller sea lion biological data. 1956-1966. A computer file containing reproductive, morphometric, diet and age measurements made on collected specimens. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Pike, G.C. 1958. Food of the Northern sea lion. Fish. Res. Bd. Canada. Pacific Prog. Rep. 112:18-20.	P/P
	Pike, G.C., 1966. The northern sea lion, (Eumetopias jubatus), on the coast of British Columbia. Pacific Biological Station, Nanaimo, 54 pp. (unpublished manuscript).	U/P
	Spalding, D.J. 1964. Comparative feeding habits of the fur seal, sea lion and harbour seal on the British Columbia coast. Fish. Res. Bd. Can. Bull. No. 146. 52 pp.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	Avail./
Data Set I.D.	References and Sources	Format
19576001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
	Pike, G.C., and B.E. Maxwell. 1958. The abundance and distribution of the northern sea lion (Eumetopias jubata) on the coast of British Columbia. J. Fish. Res. Bd. Canada 15(1):5-17.	P/P
19586001	Incidental marine mammal sightings. Sighting forms completed on various vessels and at various lighthouses for the Pacific Biological Station, Nanaimo, B.C. between 1952 and 1990. Data from 1952 to 1960 have been computerized. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	P/D
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
19586002	North Pacific Fur Seal Commission pelagic fur seal data. 1958-1975. Computer files containing data collected on fur seals taken pelagically in the North Pacific by Canada and the United States for research and management purposes between 1958 and 1975. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C.	A/C
	Bigg, M.A. 1982. Migration of northern fur seals in the eastern North Pacific and eastern Bering Sea: an analysis using effort and population composition data. Paper submitted to the 25th annual meeting of the Standing Scientific Committee of the North Pacific Fur Seal Commission, Ottawa, April 1982.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	Avail./
Data Set I.D.	References and Sources	Format
19586002	Bigg, M.A., and I. Fawcett. 1985. Two biases in diet determination of northern fur seals (Callorhinus ursinus). In: J.R. Beddington, R.J.H. Beverton, and D.M. Lavigne (eds.). Marine Mammals and Fisheries. George Allen and Unwin, London, pp. 284-91.	P/P
	Landers R.H. 1980. Summary of Northern Fur Seal Data and Collection Procedures. NOAA Technical Memorandum NMFS/NWC - 4. Vol. 2: Eastern North Pacific Pelagic Data of the United States and Canada (excluding fur seal sightings). 541 pp.	P/P
	MacAskie, I.B. 1979. Methods of pelagic sampling by Canada, 1958-74. 45 pp. (unpublished manuscript).	U/P
	North Pacific Fur Seal Commission. 1962. North Pacific Fur Seal Commission report on investigations from 1958 to 1961. Presented by the Standing Scientific Committee. 183 pp. (unpublished manuscript).	U/P
	Perez, M.A., and M.A. Bigg. 1986. Diet of northern fur seals, Callorhinus ursinus, off western North America. Fish. Bull. 84:957-71.	P/P
	Pike, G.C. 1959. Marine mammals. A brief manuscript that appears to describe marine mammal research conducted by Department of Fisheries in B.C. in 1958. Potentially this is copied from a DFO annual report. pp. 175-7 (unpublished manuscript).	U/P
	Pike, G.C. 1960. Canada's share of the North Pacific fur seal resource. Department of Fisheries "Trade News" pp. 8-9.	P/P
	Pike, G.C. 1961. Summary of results of Canadian pelagic research in 1961. 2 pp. (unpublished manuscript).	U/P
	Pike, G.C., D.J. Spalding, I.B. MacAskie, and A. Craig. 1959. Preliminary report on Canadian pelagic fur seal research in 1959. Fish. Res. Bd. Can. MS Rep. Biol. Stations No. 629, 51 pp.	P/P
	Pike, G.C., D.J. Spalding, 1.B. MacAskie, and A.M. Craig. 1960. Report on Canadian pelagic fur seal research in 1960. Fish. Res. Bd. Canada, Biol. MS Rept. No. 700. 100 pp.	P/P
	Pike, G.C., D.J. Spalding, I.B. MacAskie, and A. Craig. 1961. Report on Canadian pelagic fur seal research in 1961. Fish. Res. Bd. Can. MS Rep. Ser. No. 719.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19586002	Pike, G.C., D.J. Spalding, I.B. MacAskie, and A. Craig. 1962. Report on Canadian pelagic fur seal research in 1962. Fish. Res. Bd. Can. MS Rep. Ser. No. 736. 35pp.	P/P
	Pike, G.C., and I.B. MacAskie. 1966. Report on Canadian pelagic fur seal research in 1966. Fish. Res. Bd. Can. MS Rep. Ser. No. 875. 5pp. + 15pp of maps and tables.	P/P
19586003	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19586004	Department of Fisheries and Oceans Steller sea lion tagging study. 1958-1960. Tagging and morphometric data on animals captured for tagging.  Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
19606001	National Marine Fisheries Service incidental marine mammal sightings. 1960-1990. Computer file containing incidental sightings of marine mammals made by US National Marine Fisheries personnel. National Marine Fisheries Service, National Marine Mammal Laboratory, Seattle, WA. (unpublished data)	P/C
19606002	North Pacific Fur Seal Commission pelagic fur seal data. 1958-1975. Computer files containing data collected on fur seals taken pelagically in the North Pacific by Canada and the United States for research and management purposes between 1958 and 1975. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C.	A/C
	Bigg, M.A. 1982. Migration of northern fur seals in the eastern North Pacific and eastern Bering Sea: an analysis using effort and population composition data. Paper submitted to the 25th annual meeting of the Standing Scientific Committee of the North Pacific Fur Seal Commission, Ottawa, April 1982.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19606002	Bigg, M.A., and I. Fawcett. 1985. Two biases in diet determination of northern fur seals (Callorhinus ursinus). In: J.R. Beddington, R.J.H. Beverton, and D.M. Lavigne (eds.). Marine Mammals and Fisheries. George Allen and Unwin, London, pp. 284-91.	P/P
	Landers R.H. 1980. Summary of Northern Fur Seal Data and Collection Procedures. NOAA Technical Memorandum NMFS/NWC - 4. Vol. 2: Eastern North Pacific Pelagic Data of the United States and Canada (excluding fur seal sightings). 541 pp.	P/P
	Perez, M.A., and M.A. Bigg. 1986. Diet of northern fur seals, Callorhinus ursinus, off western North America. Fish. Bull. 84:957-71.	P/P
19616001A	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19616001B	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19616001B	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19626001A	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19626001B	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	<b>P/P</b> .
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19626001C	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A woil /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19626001C	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19636001	Department of Fisheries harbour seal commercial catch statistics. 1963-1968. Annual reports of the number of harbour seal pelts bought and the number of pelts rejected and their market value from British Columbia between 1963 and 1968. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C.	A/P
19646001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19646002	Stutz, S.S. 1963. Moult and pelage patterns in the Pacific harbour seal, Phoca vitulina. M.Sc. thesis, Univ. British Columbia, Vancouver, B.C. 74 pp.	P/P
	Stutz, S.S. 1966. Foetal and postpartum whitecoat pelage in Phoca vitulina. J. Fish. Res. Bd. Canada 23:607-9.	P/P
	Stutz, S.S. 1967. Pelage patterns and population distributions in the pacific harbour seal (Phoca vitulina richardi). J. Fish. Res. Bd. Canada. 24(2):451-5.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19646002	Stutz, S.S. 1967. Moult in the pacific harbour seal Phoca vitulina richardi. J. Fish. Res. Bd. Canada 24(2):435-41.	P/P
19646003	Bigg M.A. 1966. Age determination, reproduction, growth, and population analysis of the harbour seal, Phoca vitulina richardi, Gray. University of British Columbia, M.Sc. Thesis 121 pp.	P/P
	Bigg, M.A. 1969. The harbour seal in B.C. Fish. Res. Bd. Canada. Bull. No. 172, 32 pp.	P/P
	Bigg, M.A. 1966. Control of annual reproduction in the female harbor seal, Phoca vitulina.	P/P
	Bigg, M.A. 1969. Clines in pupping season of the harbour seal, Phoca vitulina, J. Fish. Res. Bd. Canada. 26:449-55.	P/P
19656001	Department of Fisheries and Oceans killer whale photograph log. 1962-1987. Computer file documenting photo-identification type photographs taken of killer whales on the B.C. coast by the Department of Fisheries and Oceans. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/D
	Bigg, M.A. 1982. Assessment of killer whale (Orcinus orca) stocks off Vancouver Island, British Columbia. Int. Whal. Comm. Rep. Paper SC/JN81/KW4, 32:655-66.	P/P
	Bigg, M.A., I.B. MacAskie, and G.M. Ellis. 1976. Abundance and movements of killer whales off eastern and southern Vancouver Island with comments on management. Preliminary Report. Arctic Biological Station, Ste. Ann de Bellevue, Quebec. 20 pp.	U/P
	Bigg, M.A., G.M. Ellis, J.K.B. Ford, and K.C. Balcomb. 1987. Killer Whales, A Study of Their Identification, Genealogy and Natural History in British Columbia and Washington State. Phantom Press, Nanaimo, B.C. 79 pp.	P/P
19666001	Department of Fisheries and oceans Steller sea lion tagging study. 1966. Tagging and morphometric data on animals captured for tagging. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
19706001	Smith, I.D. 1972. Sea lions wintering along the outer coast of Vancouver Island. J. Fish. Res. Bd. Canada 29(12):1764-6.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A 11 /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19706001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
19706002	Guiguet, C.J. 1971. An apparent increase in California sea lion Zalophus californianus and elephant seal Mirounga angustirostris on the coast of B.C. Syesis: 4(1-2):263-4.	P/P
19706003	B.C. Ministry of Environment. 1970-1989. Sighting records collected by various staff of the Queen Charlotte City office between 1970 and 1989. Filed under "sea lions". Ministry of Environment, Queen Charlotte City, B.C. VOT 1SO (unpublished data)	P/D
19716001A	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19716001B	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19716001B	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19716002	Gjaltema, H. 1972. Annual narrative report 1971. Butedale sub-distict. Canada Department of the Environment, Fisheries and Marine Services, Pacific Region, Vancouver, B.C., 17pp.	A/P
19716003	Schutz, D.C. 1975. Rivers Inlet chinook sport fishery 1971-74. Tech. Rept. Ser. PAC/T-75-9. Nothern operations branch, Pacific Region Fisheries and Marine Services, Environment Canada. 24 pp.	P/P
19716004	Christiansen, E.R. 1972. Annual narrative report, 1971, Kitimat District No. 7. Canada Dept. of the Environment, Fisheries and Marine Service, Pacific Region, Vancouver B.C. 20 pp.	P/P
	Bell, L.M., and R.J. Kallman. 1976. The Kitimat River estuary: status of environmental knowledge to 1976. Environment Canada, Special Estuary Series No. 6. 296 pp.	P/P
19716005A	Department of Fisheries and Oceans killer whale census. 1973. Coast wide volunteer killer whale census results from 1971, 1972 and 1973.	A/D
19716005B	Department of Fisheries and Oceans killer whale census. 1973. Coast wide volunteer killer whale census results from 1971, 1972 and 1973.	A/D
19716005C	Department of Fisheries and Oceans killer whale census. 1973. Coast wide volunteer killer whale census results from 1971, 1972 and 1973.	A/D
19726001A	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19726001B	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Hatler, D.F., and J.D. Darling. 1974. Recent observations of the gray whale in B.C. Can. Field-Nat. 88:449-60.	P/P
19726001C	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
19726002	McNaughton, W., and D.McNaughton. 1972. Harbour seal census conducted by W. and D. McNaughton for the Department of Fisheries and Oceans in the Bella Coola and Dean Channel gillnet area. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C.	A/P
	Lemmen, N.J. 1972. A report on the increasing seal population in the Bella Coola and Dean Channel gill-net areas. Unpublished manuscript by Bella Coola Fishery Officer, June 1972, 6 pp.	U/P
19726003A	Edie, A.G. 1973. Sea otter sighting at Cape St. James, British Columbia. Syesis 6:265.	P/P
19726003B	Edie, A.G. 1977. Distribution and movements of Steller sea lion cows (Eumetopias jubata) on a pupping colony. M.Sc. Thesis, Univ. of B.C., Vancouver. 81 pp.	P/P
19726004A	Harestad, A.S. 1973. Social behaviour in a non-pupping colony of Steller sea lion (Eumetopias jubata). M.Sc. Thesis, U.B.C., Vancouver, B.C.	P/P
	Harestad, A.S., and H.D. Fisher. 1975. Social behaviour in a non-pupping colony of Steller sea lions (Eumethpias jubata). Can. J. Zool. 53(11):1596-613.	P/P
19726004B	Harestad, A.S. 1977. Seasonal abundance of northern sea lions Eumetopias jubatus (Schreber), at McInnes Island, B.C. Syesis 10:173-5.	P/P
19736001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19736001	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19736002	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19736003	Fisher 1974. Records of the dates, locations and numbers where Steller sea lions were tagged in 1973 and 1974 by Dr. H.D. Fisher. Department of Zoology, University of British Columbia, Vancouver, B.C. Records held at the Marine Mammal Tagging Centre, Washington D.C.	A/D
	Fisher, H.D. 1981. Studies on the biology of sea lions in British Columbia. Natl. Geogr. Soc. Res. Rep. 13:215-9.	P/P
19746001	Macdonald, J.A. 1975. Annual narrative report, 1974, Butedale Sub-District. Canada Department of the Environment, Fisheries and Marine Service, Pacific Region, Vancouver, B.C. 16 pp.	P/P
	Bell, L.M., and R.J. Kallman. 1976. The Kitimat River estuary: status of environmental knowledge to 1976. Environment Canada, Special Estuary Series No. 6. 296 pp.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A 21 /
Data Set I.D.	References and Sources	Avail./ <u>Forma</u>
19756001	Darling, J.D. 1977. Aspects of the behaviour and ecology of Vancouver Island gray whales, Eschrichtius glaucus Cape. M.Sc. Thesis. Univ. of Victoria, Victoria, B.C. 200 pp.	P/P
19756002	Hatter, I., and N.S. Trenholme. 1975. Burnaby Island wildlife inventory. Draft report (unpublished manuscript).	U/P
19756003	Alaska Troller's Association Troll Logbook Program This is a formal program initiated in 1976 by legislative grant to record fisheries, oceanographic and marine mammal data incidental to Alaskan troll fishing. unpublished data.	U/C
	Braham, H.W., and M.E. Dahlheim. 1982. Killer whales in Alaska documented in the Platforms of Opportunity Program. Int. Whaling Comm. Rep. Paper SC/Jn81/KW2, 32:643-6.	P/P
	Fiscus, C.H., H.W. Braham, and R.W. Mercer. 1976. Seasonal distribution and relative abundance of marine mammals in the Gulf of Alaska. Submitted as part of final report for BLM, OCSEAP Contract No. R7120806, pp. 19-264.	P/P
19756004	MacDonald, J.A. 1976. Annual narrative report 1975, Butedale sub-district. Canada Department of the Environment, Fisheries and Marinr Services, Pacific Region, Vancouver, B.C. 10pp.	A/P
19766001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19766002	Alaska Troller's Association Troll Logbook Program. This is a formal program initiated in 1976 by legislative grant to record fisheries, oceanographic and marine mammal data incidental to Alaskan troll fishing. unpublished data	U/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A \$1. /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19766002	Leatherwood, S., E. Krygier, J.D. Hall, and S. Ignell. 1984. Killer whales (Orcinus orca) in Southeast Alaska, Prince William Sound, and Shelikof Strait: a review of available information. Int. Whaling Comm. Rep. SC/35/SM7.	P/P
19766003	Bigg, M.A., and I.B. MacAskie. 1978. Sea otters re-established in British Columbia. J. Mamm. 59:874-6.	P/P
19766004	F.F. Slaney and Co. Ltd. 1976. Termpol submission re: marine terminal at Kitimat, B.C. Vols. 1-8. Report prepared for Kitimat Pipe Line Ltd. (unpublished manuscript).	U/P
	F.F. Slaney and Co. Ltd. 1976. Marine environmental assessment program, Kitimat tanker traffic and terminal. Prepared for Kitimat Pipe Line Ltd., Vancouver, B.C. (unpublished manuscript).	U/P
19766005	Taylor, R.L., and B. Gough. 1977. New sighting of sea otter reported for Queen Charlotte Islands. Syesis 10:177.	P/P
19776001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19776002	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A ! I . /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19776002	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19776003A	Department of Fisheries and Oceans harbour seal census statistics. 1977-1987. A computer file containing the results of harbour seal censuses carried out in British Columbia between 1977 to 1987. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Olesiuk, P.F., M.A. Bigg, and G.M. Ellis. 1990. Recent trends in the abundance of harbour seals, Phoca vitulina, in British Columbia. Can. J. Fish. Aquat. Sci. 47(5):992-1003.	P/P
19776003B	Department of Fisheries and Oceans harbour seal census statistics. 1977-1987. A computer file containing the results of harbour seal censuses carried out in British Columbia between 1977 to 1987. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Olesiuk, P.F., M.A. Bigg, and G.M. Ellis. 1990. Recent trends in the abundance of harbour seals, Phoca vitulina, in British Columbia. Can. J. Fish. Aquat. Sci. 47(5):992-1003.	P/P
19776003C	Department of Fisheries and Oceans harbour seal census statistics. 1977-1987. A computer file containing the results of harbour seal censuses carried out in British Columbia between 1977 to 1987. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Olesiuk, P.F., M.A. Bigg, and G.M. Ellis. 1990. Recent trends in the abundance of harbour seals, Phoca vitulina, in British Columbia. Can. J. Fish. Aquat. Sci. 47(5):992-1003.	P/P
19786001	Ford J.K.B., G.M. Ellis and L.M. Nichol 1992. Killer whales of the Queen Charlotte Islands. A preliminary study of the abundance, distribution and population identity of Orcinus orca in the waters of Haida Gwaii. Prepared for: South Moresby/ Gwaii Haanas National Parks Reserve, Canadian Parks Service. 26pp +40pp of photographs.	P/P
19786002	Reimchen, T. 1980. Sightings of Risso's dolpins (Grampus griseus) off Queen Charlotte Islands, British Columbia. The Murrelet 61(1):44-5.	P/P

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19796001	Gessler, N. 1979. Gray whale strandings. 4 pp + prints. (unpublished manuscript).	P/P
19816001	Morgan, K. 1981-1991. Sighting records collected incidental to Canadian Wildlife Service (IOS) pelagic bird surveys from 1981 to 1991. Ken Morgan, Institute of Ocean Sciences, Sidney, B.C. V8L 4B2 (unpublished data)	U/C
19826001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
19826002	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Bigg, M.A. 1984. Sighting and kill data of Steller sea lions (Eumetopias jubatus) and California sea lions (Zalophus californianus) from British Columbia during 1892-1982, with some records from Washington and southeastern Alaska. Can. Data Rep. Fish. Aquat. Sci. 460.	P/P
	Bigg, M.A. 1985. Status of the Steller sea lion (Eumetopias jubatus) and California sea lion (Zalophus californianus) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 pp.	P/P
	Bigg, M.A. 1988. Status of the Steller sea lion, Eumetopias jubatus, in Canada. Can. Field-Nat. 102(2):315-36.	P/P
19836001	Department of Fisheries and Oceans harbour seal diet data. 1982-1989. A computer file containing data on the volume and contents of harbour seal scats collected on British Columbia between December 1982 and March 1989. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	Avail./
Data Set I.D.	References and Sources	Format
19836001	Olesiuk, P.F., M.A. Bigg, G.M. Ellis, S.J. Crockford, and R.J. Wigen. 1990. An assessment of the feeding habits of harbour seals (Phoca vitulina) in the Strait of Georgia, British Columbia, based on scat analysis. Can. Tech. Rep. Fish. Aquat. Sci. No. 1730, 135 pp.	P/P
19836002A	Rodway, M.S., and M.J.F. Lemon. 1991. British Columbia seabird colony inventory: Report #7: northern mainland coast. Technical Report Series No. 121. Canadian Wildlife Service, Pacific and Yukon Region. British Columbia. 182 pp.	P/P
19836002B	Rodway, M.S., and M.J.F. Lemon. 1991. British Columbia seabird colony inventory: Report #7: northern mainland coast. Technical Report Series No. 121. Canadian Wildlife Service, Pacific and Yukon Region. British Columbia. 182 pp.	P/P
19836002C	Rodway, M.S., and M.J.F. Lemon. 1991. British Columbia seabird colony inventory: Report # 7: northern mainland coast. Technical Report Series No. 121. Canadian Wildlife Service, Pacific and Yukon Region. British Columbia. 182 pp.	P/P
19866001	Vancouver Aquarium, Vancouver, B.C. Audio recordings of killer whale vocalizations. Recordings made from the Addenbrooke Lighthouse in 1986. Vancouver Aquarium, Vancouver, B.C.	P/D
19866002	Department of Fisheries and Oceans harbour seal census statistics. 1977-1987. A computer file containing the results of harbour seal censuses carried out in British Columbia between 1977 to 1987. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
	Olesiuk, P.F., M.A. Bigg, and G.M. Ellis. 1990. Recent trends in the abundance of harbour seals, Phoca vitulina, in British Columbia. Can. J. Fish. Aquat. Sci. 47(5):992-1003.	P/P
19876001	Vancouver Aquarium, Vancouver, B.C. Audio recordings of killer whale and Pacific white-sided dolphin vocalizations. Recordings made from the Boat Bluff Lighthouse in 1987 and 1988. Vancouver Aquarium, Vancouver, B.C.	P/D
19876002	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
19876003	Baird, R.W. 1987. The Stranded Whale and Dolphin Program of B.C. Computer information file on incidental marine mammal strandings in B.C. Robin W., Dept. Biology Sciences, Simon Fraser University, Burnaby, B.C. or Marine Mammal Research Group, Victoria, B.C.	U/C

	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	
Data Set I.D.	References and Sources	Avail./ Format
19876003	Baird, R.W., P.J. Stacey, and K.M. Langelier. 1991. Strandings and incidental mortality of cetaceans on the B.C. coast, 1990. Int. Whaling Comm. Doc. SC/43/O1, 6 pp.	P/P
	Baird, R.W., K.M. Langelier, and P.J. Stacey. 1988. Stranded whale and dolphin program of B.C 1987 report. B.C. Veterinary Medical Assoc. Wildl. Veterin. Rep. 1:9-12.	P/P
	Baird, R.W., P.J. Stacey, D.A. Duffus, and K.M. Langelier. 1990. An evaluation of gray whale (Eschrichtius robustus) mortality incidental to fishing operations in British Columbia, Canada. Int. Whaling Comm. Doc. SC/A90/G21. 19 pp.	P/P
	Langelier, K.N., P.J. Stacey, R.W. Baird, and R. Marchetti. 1988. 1987 Cetacean strandings in British Columbia. Proceedings Joint Conference of the American Assoc. of Zoo Veterinarians and American Assoc. of Wildlife Veterinarians Nov. 6-10, 1988. Sheraton Center, Toronto, Ontario. pp. 79-82.	P/P
	Langelier, K.M., P.J. Stacey, and R.W. Baird. 1990. Stranded Whale and Dolphin Program of B.C 1989 report. Wildl. Veterinary Rep. 3(1):10-1.	P/P
·	Stacey, P.J., R.W. Baird, and K.M. Langelier. 1989. Stranded Whale and Dolphin Program 1988 report. Wildl. Veterinary Rep. 2(1):10-1.	P/P
19886001	Darling, J.D., 1989-1991. Unpublished data. Marine mammal sighting forms completed by biological observers employed by Archipelago Marine Research (Victoria) for the offshore hake fishery observers 1988 to April 1991. West Coast Whale Research Foundation, P.O. Box 49296, Four Bentall Centre, Vancouver, B.C., V7X 1L3.	P/D
19886002	Baird, R.W., P.J. Stacey, D.A. Duffus, and K.M. Langelier. 1990. An evaluation of gray whale (Eschrichtius robustus) mortality incidental to fishing operations in British Columbia, Canada. Int. Whaling Comm. Doc. SC/A90/G21. 19 pp.	P/P
	Ford J.K.B., G.M. Ellis and L.M. Nichol 1992. Killer whales of the Queen Charlotte Islands. A preliminary study of the abundance, distribution and population identity of Orcinus orca in the waters of Haida Gwaii. Prepared for: South Moresby/ Gwaii Haanas National Parks Reserve, Canadian Parks Service. 26pp +40pp of photographs.	P/P
	Stacey, P.J., R.W. Baird, and D.A. Duffus. 1990. A preliminary evaluation of incidental mortality of small cetaceans, primarily Dall's porpoise (Phocoennoides dalli), harbour porpoise (Phocoena phocoena), and Pacific white-sided dolphins, (Lagenorhynchus obliquidens), in inshore fisheries in British Columbia, Canada. Int. Whaling Comm. Doc. SC/2/SM20.	P/P

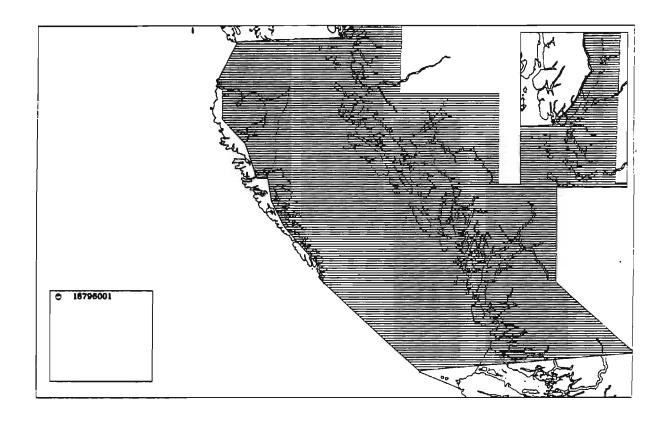
	TABLE 4. LISTING OF DATA SET REFERENCES AND SOURCES (Continued)	A :1 /
Data Set I.D.	References and Sources	Avail./ <u>Format</u>
19896001	Department of Fisheries and Oceans. 1989-1990. Sea lion census statistics 1890-1989 and kill statistics 1890-1968 compiled by the Department of Fisheries and Oceans. A computer file containing all census and kill statistics of both Steller and California sea lions made on the B.C. coast between 1890 and 1989. File is continually updated. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/C
19896002	Nichol, L. 1989. Sightings and audio recordings of killer whales and pacific white-sided dolphins. Made in May and June 1989 between Namu and Bella Coola. Linda, LGL Environmental Research Associates, Sidney, B.C. V8L 3Y8	U/D
	Nichol, L.M. 1990. Seasonal movements and foraging behaviour of resident killer whales (Orcinus orca) in relation to the inshore dsitribution of salmon (Oncorhynchus spp.) in British Columbia. M.Sc. thesis, University of British Columbia, 59pp.	P/P
19906001	Ford J.K.B., G.M. Ellis and L.M. Nichol 1992. Killer whales of the Queen Charlotte Islands. A preliminary study of the abundance, distribution and population identity of Orcinus orca in the waters of Haida Gwaii. Prepared for: South Moresby/ Gwaii Haanas National Parks Reserve, Canadian Parks Service. 26pp + 40pp of photographs.	P/P
19916001	Department of Fisheries and Oceans. 1991. Sea otter census on the central coast of British Columbia. Marine Mammal Unit, Pacific Biological Station, Nanaimo, B.C. V9R 5K6	A/D

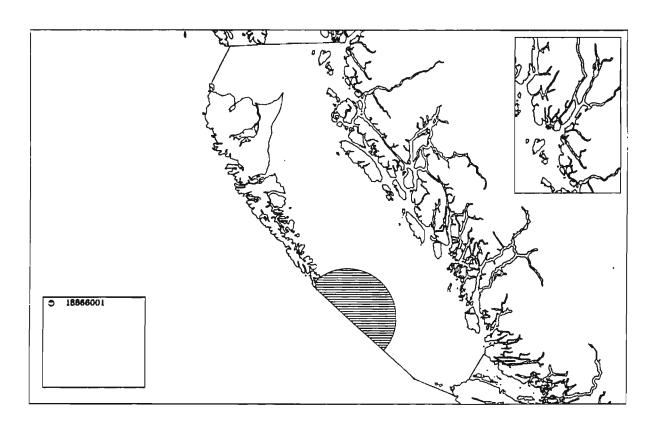
1114 01

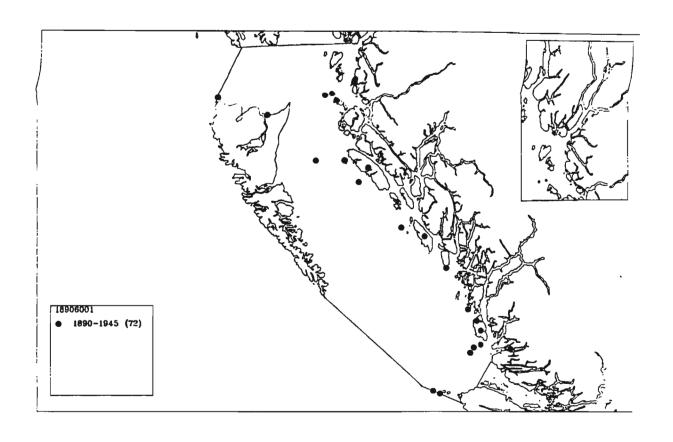
## 12. DATA SET MAPS

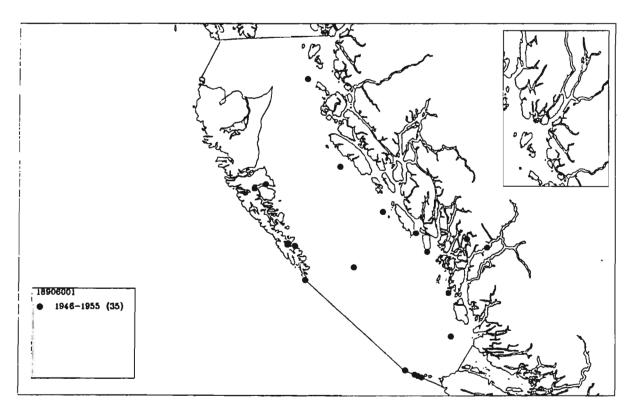
The purpose of these maps is to illustrate the distribution of sampling stations, not to present precise locations or to present the data. The maps display the study area with an inset map of Portland Inlet and Pearse Canal. Generally there is one data set per map, and maps are presented in chronological order. The number in parentheses following the data set identifier indicates the number of stations plotted, some of which may be hidden due to overlapping symbols. In some cases several data sets are presented on one map; this is done only when there is no overlap that will obscure any of the stations. There are two exceptions: data sets 19726003A and 19726003B, and data sets 19726004A and 19726004B are mapped together because observations in the subsets were made at the same single location. Some data sets that span many years are presented as a series of maps for clarity.

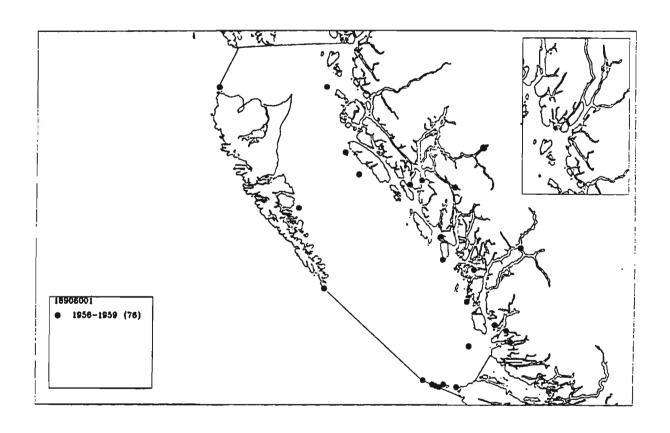
Symbols used on the maps to represent stations are approximately five kilometres in diameter. Some coordinates were derived from geographical place names given in the original data; these locations are generally less precise than those reported as coordinates because place names are often fairly general, e.g., 10 miles off Cape St. James or Hecate Strait or Banks Island. The precision of stations can usually be described from the place names given in Table 3.

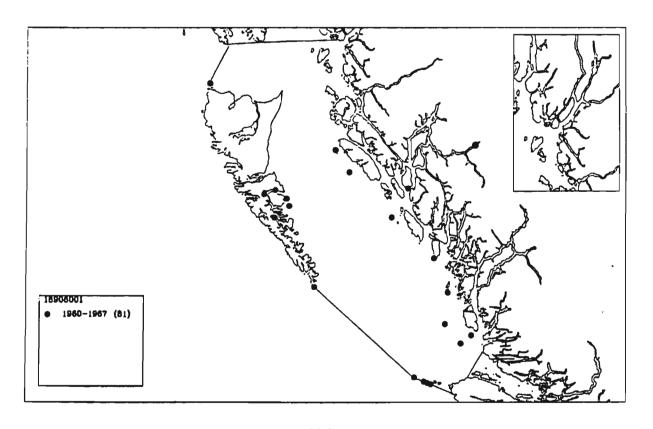


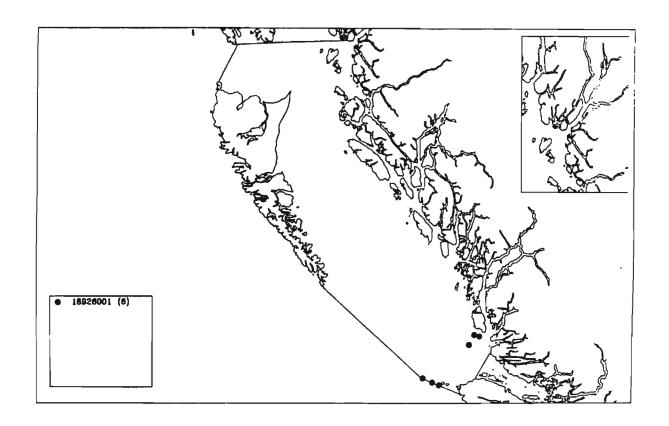


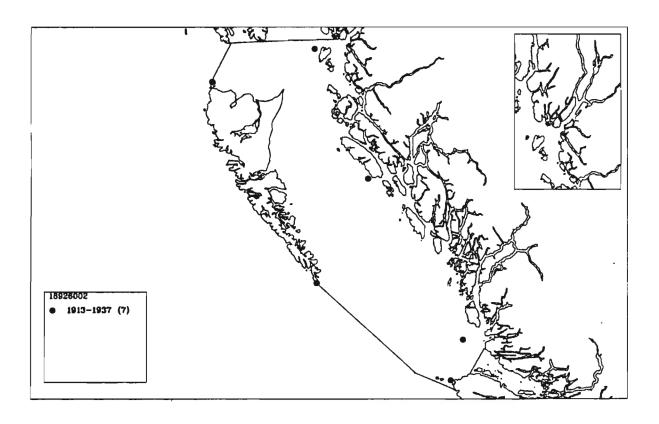


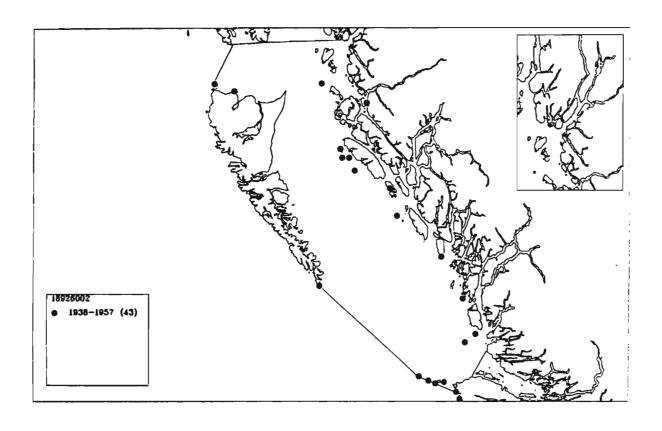


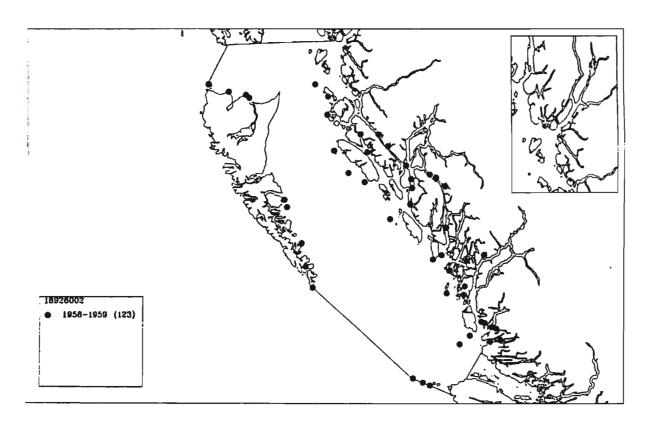


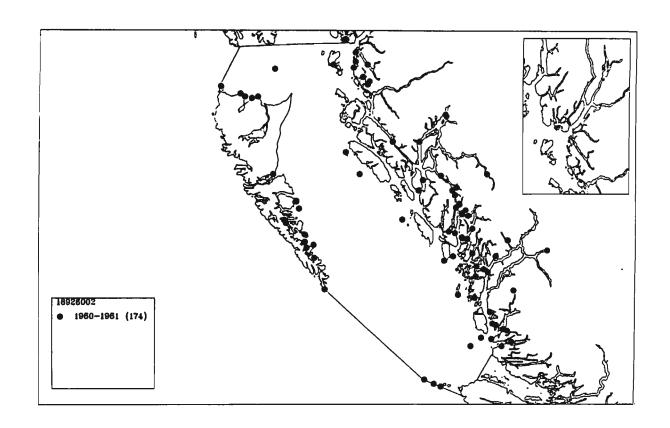


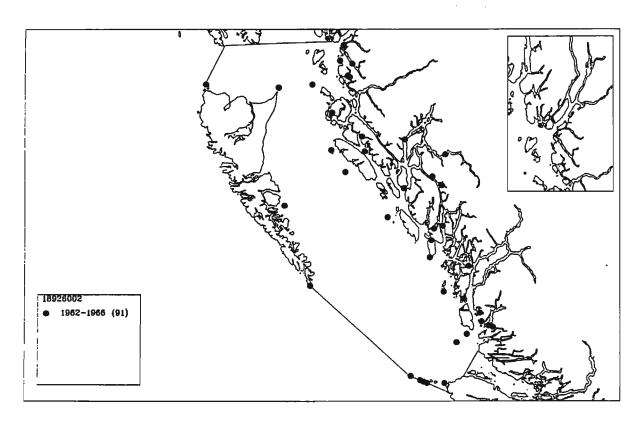


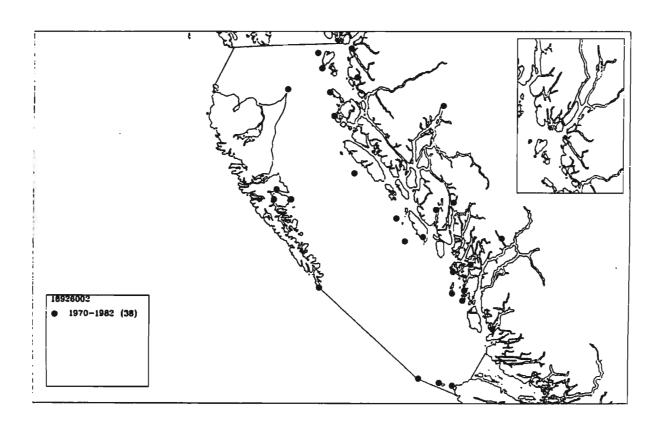


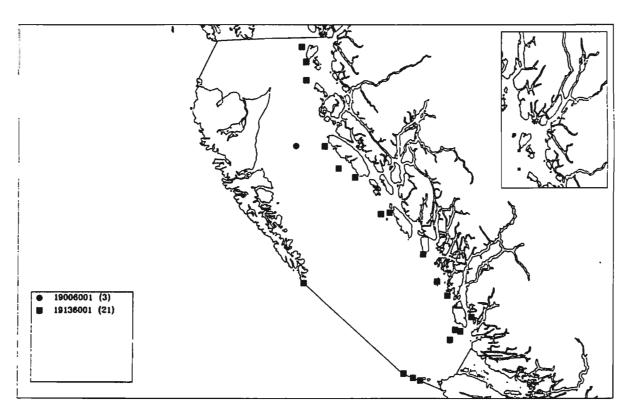


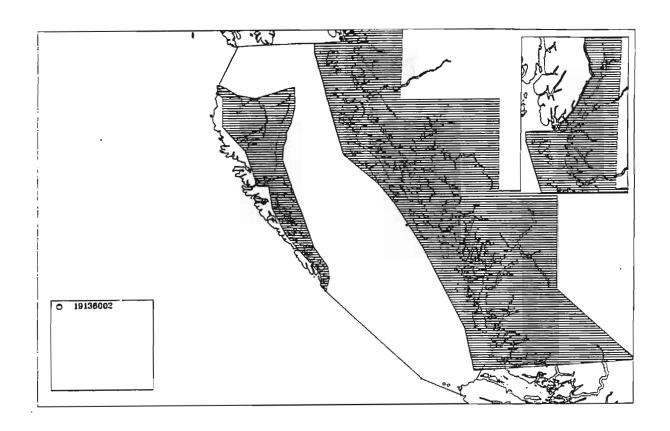


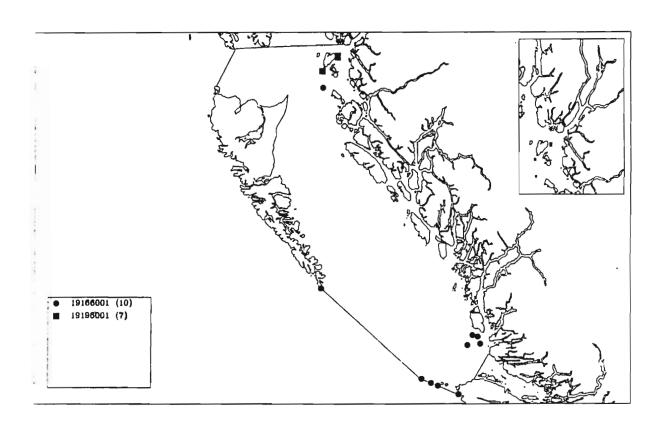


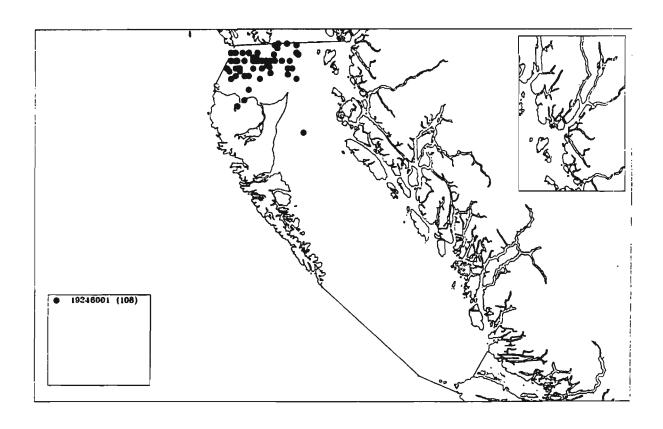


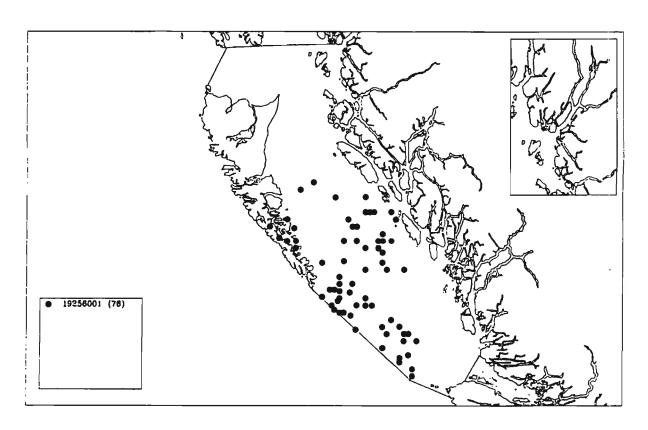


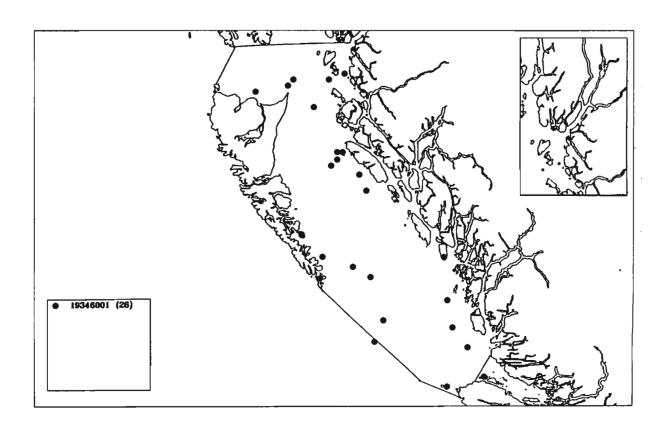


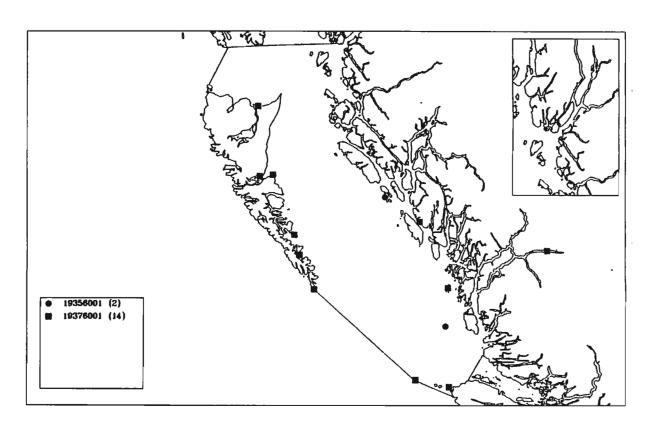


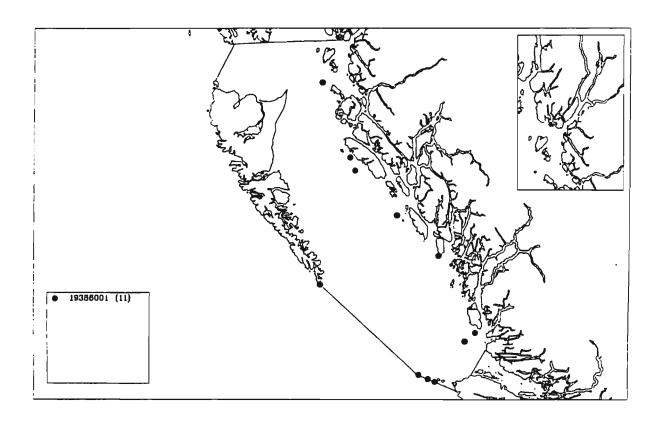


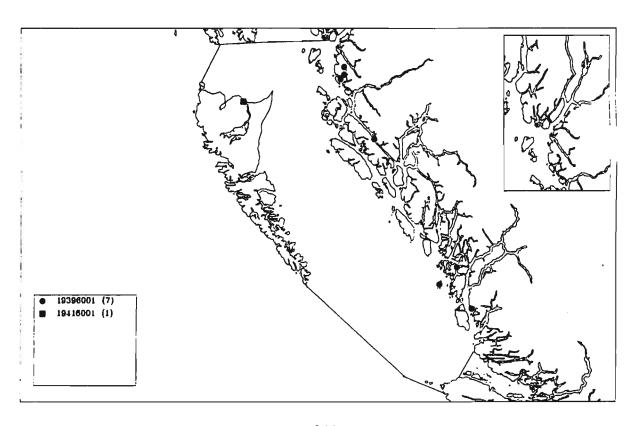


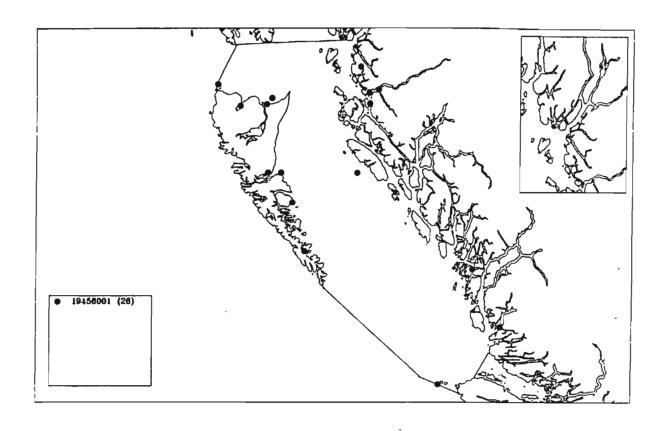


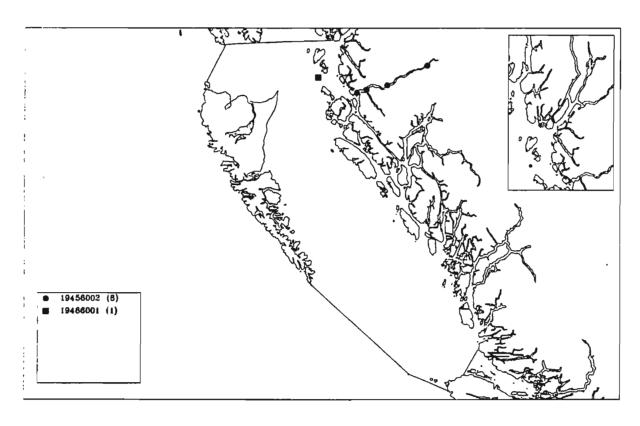


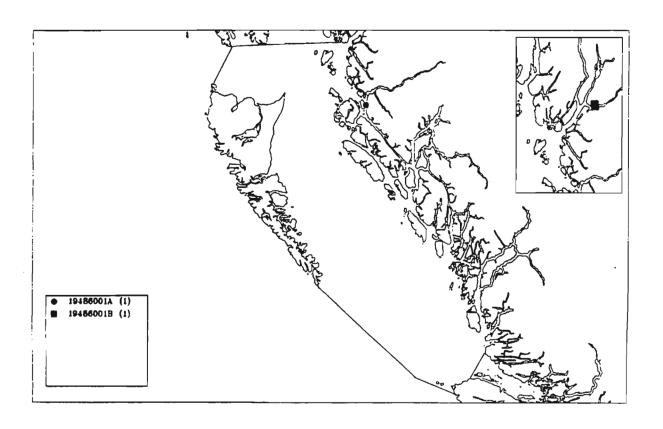


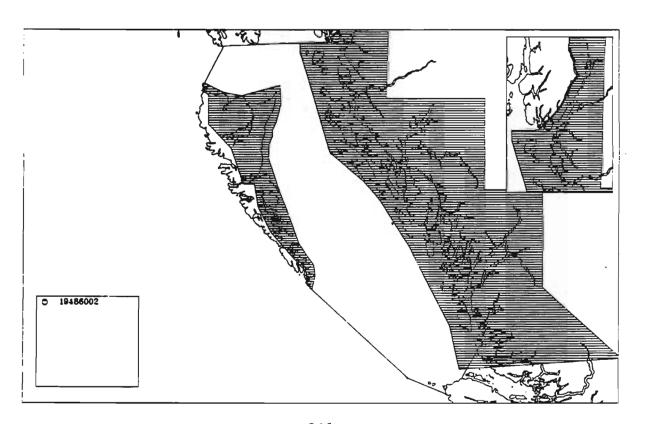


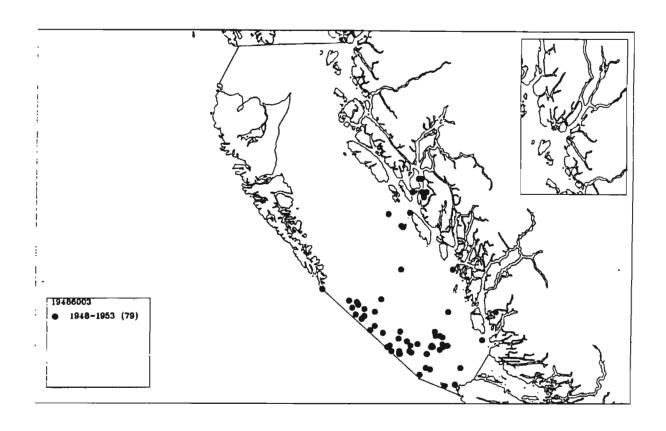


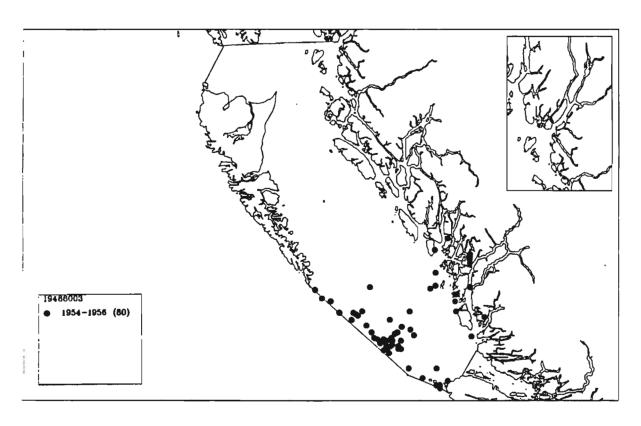


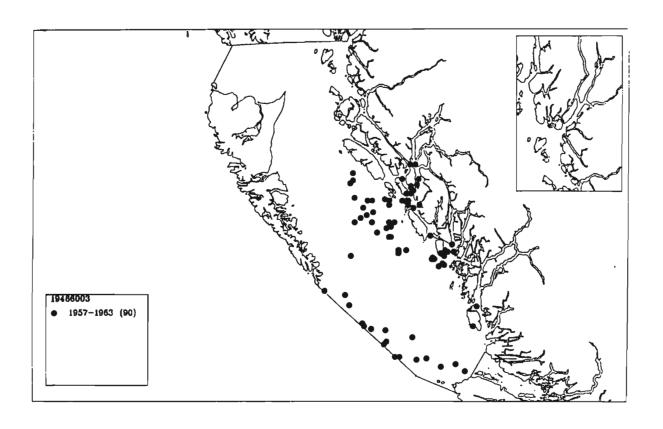


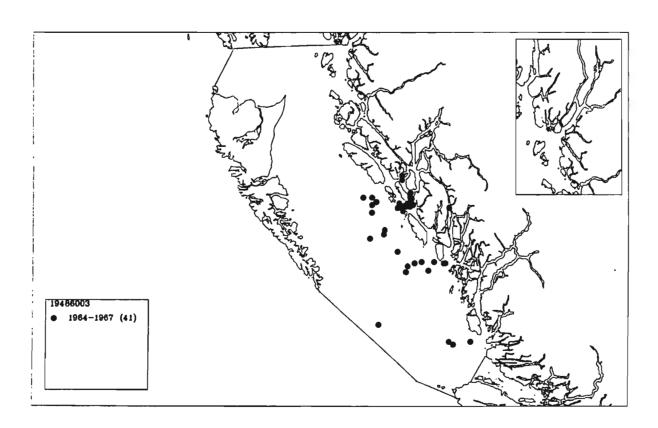


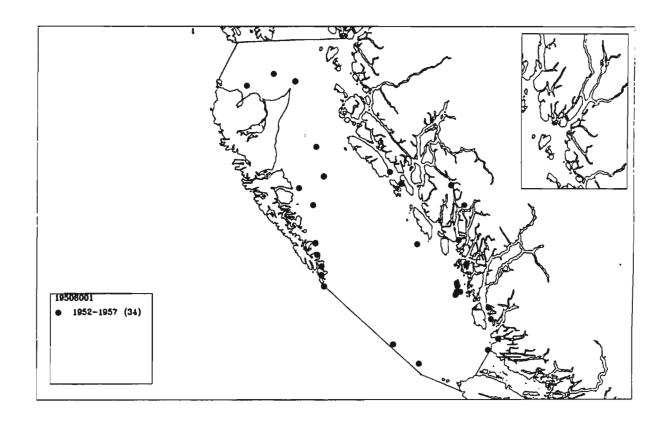


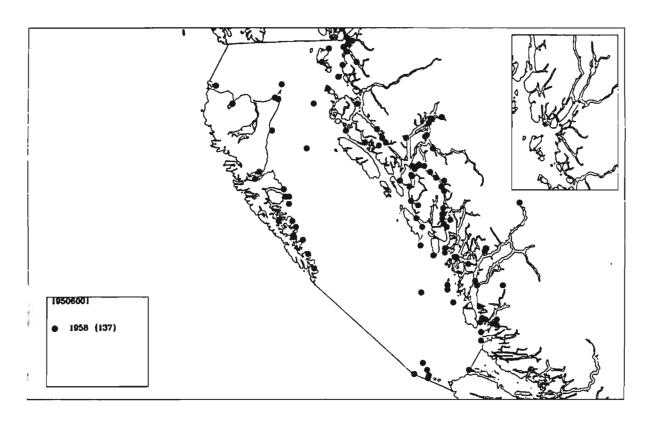


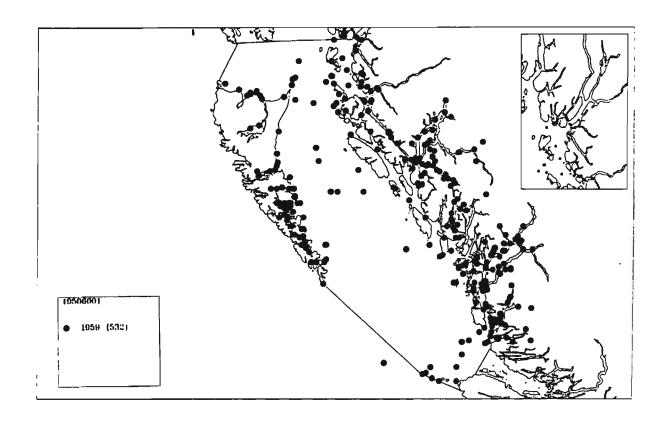


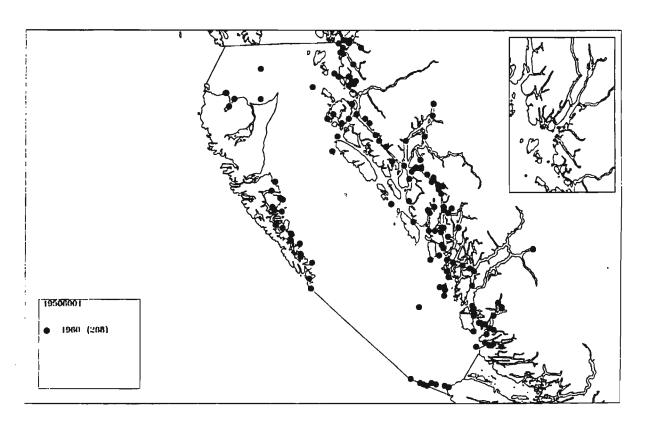


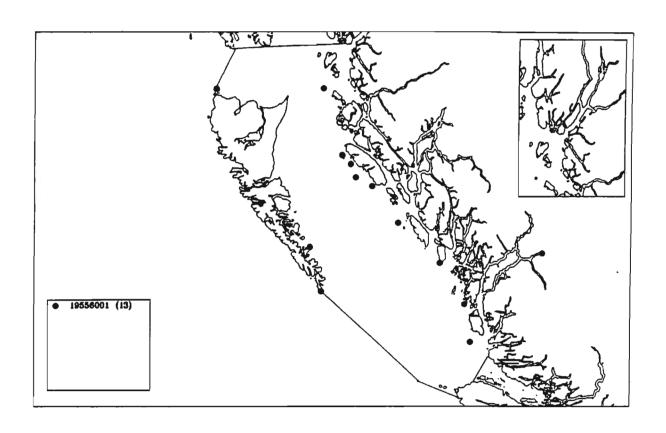


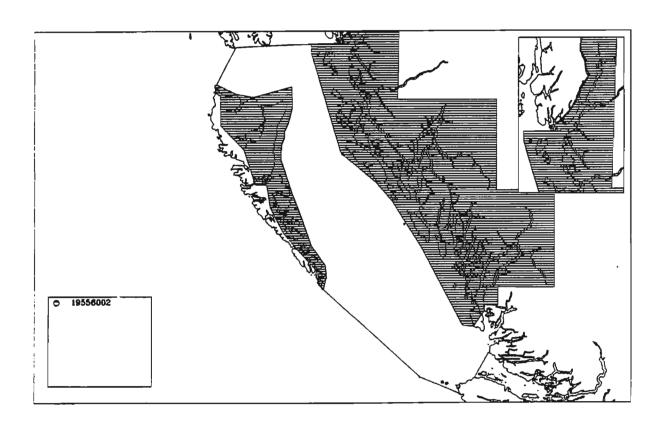


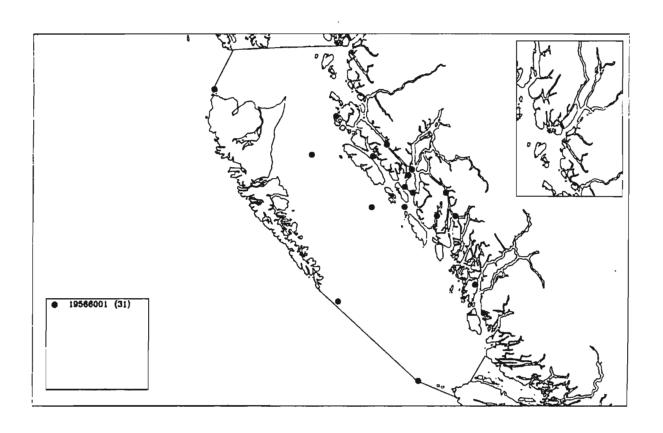


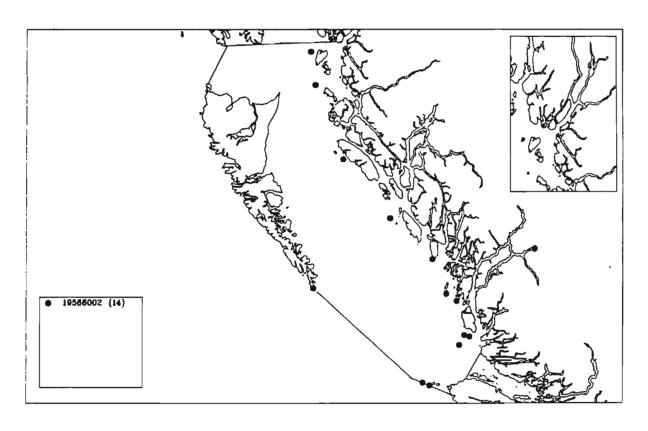


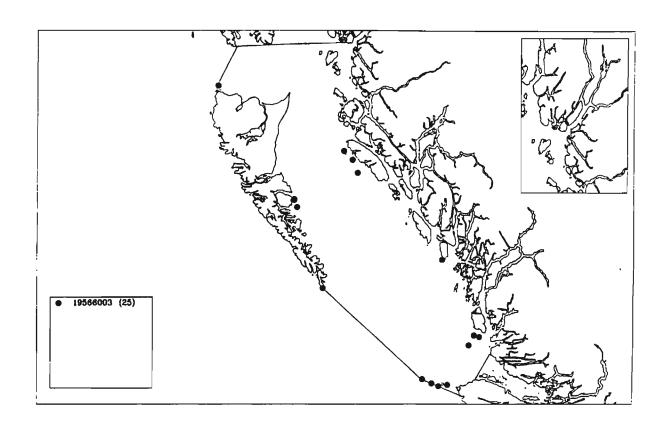


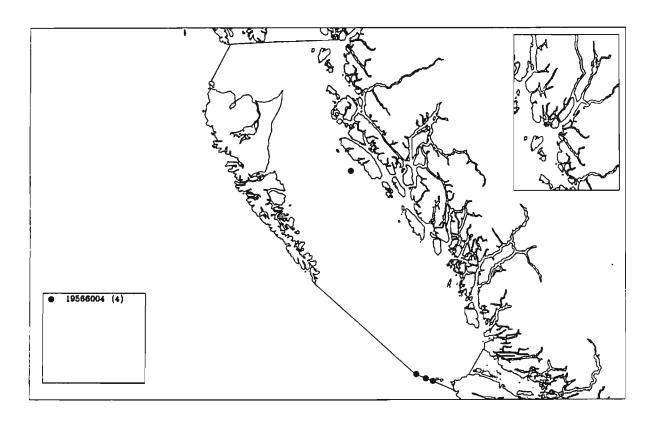


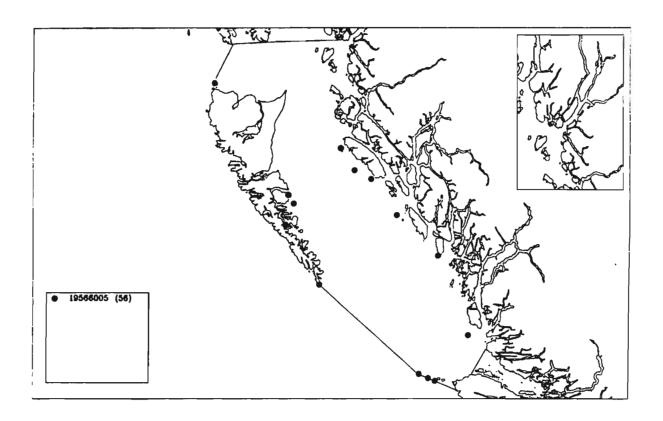


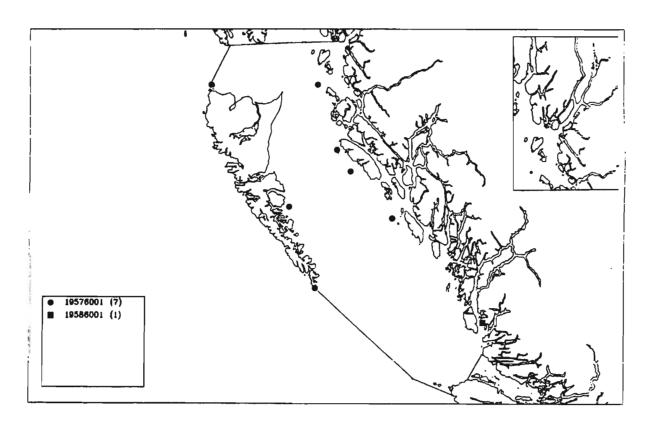


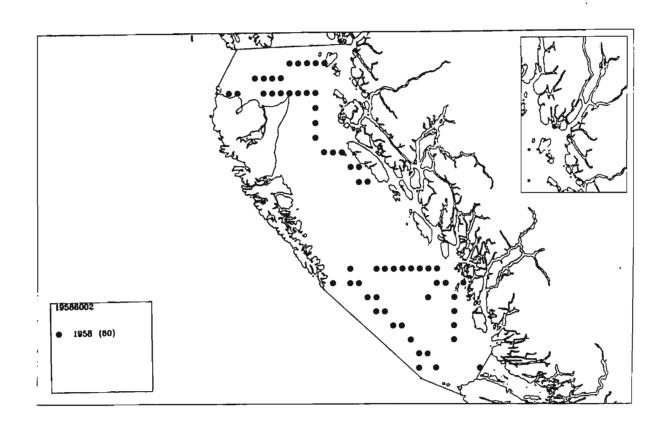


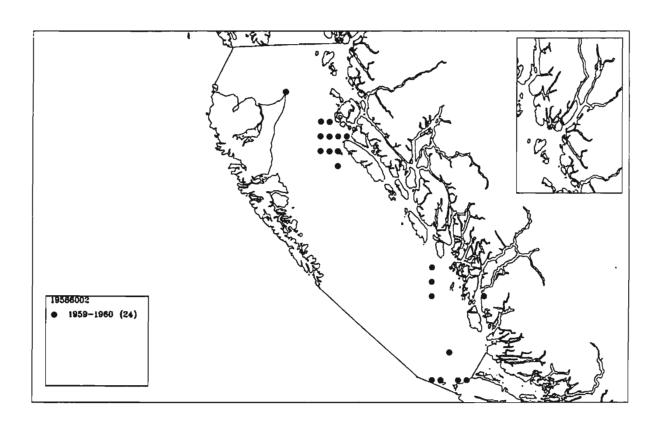


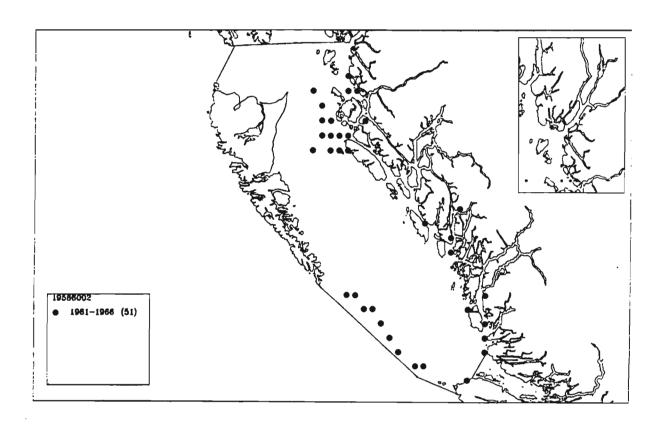


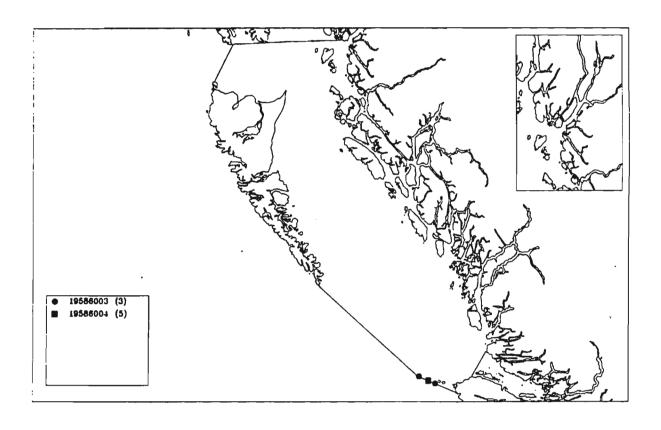


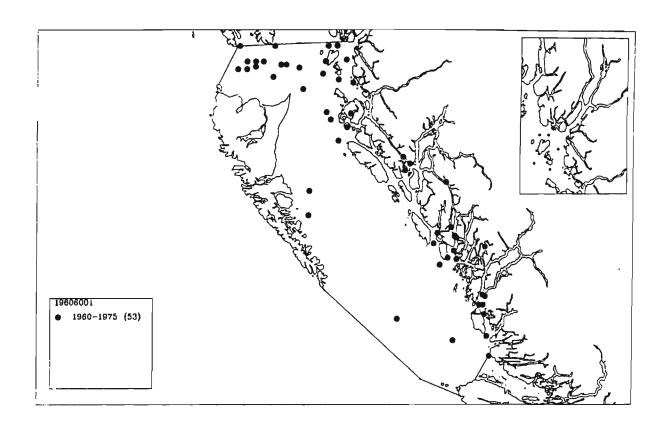


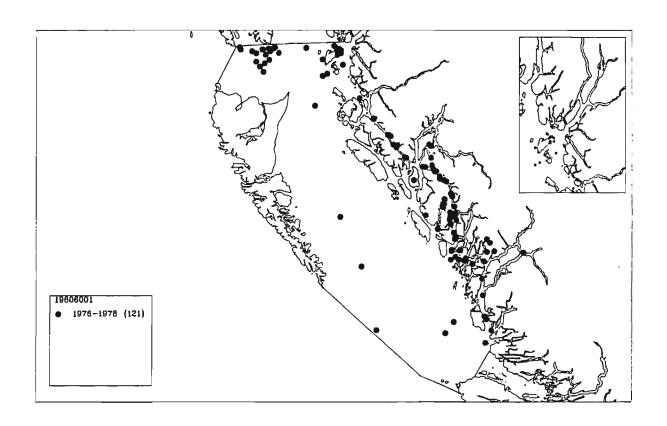


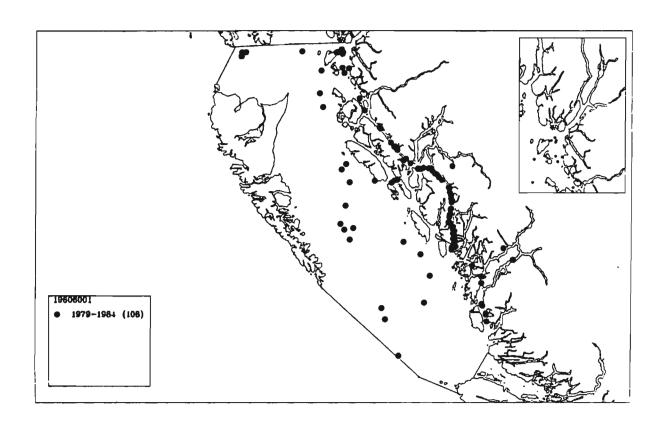


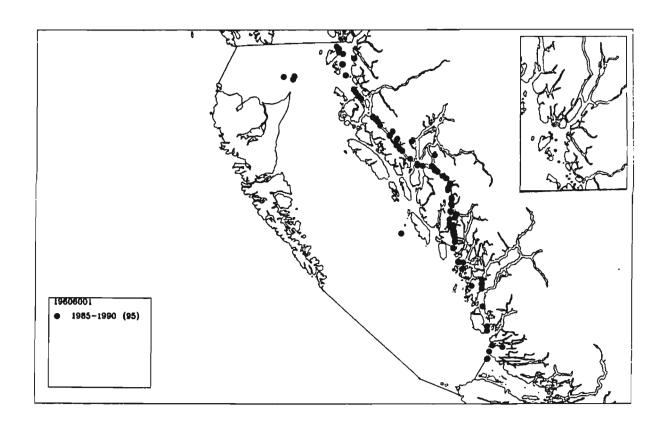


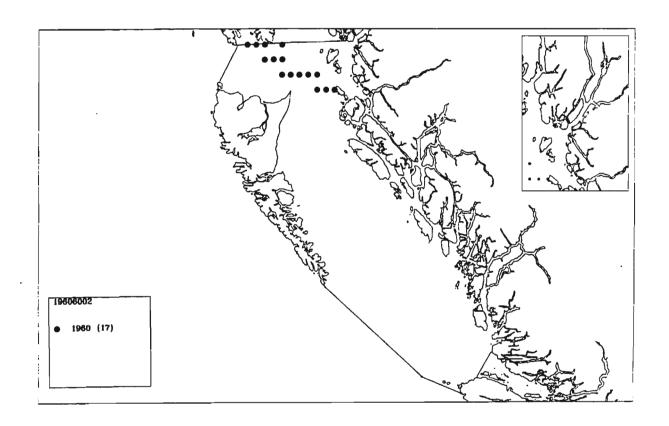


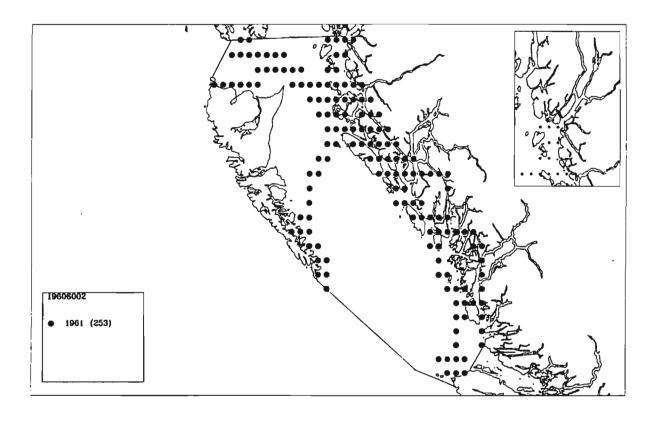


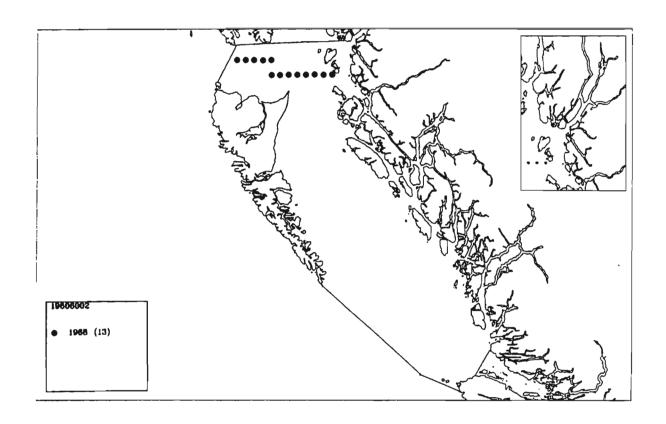


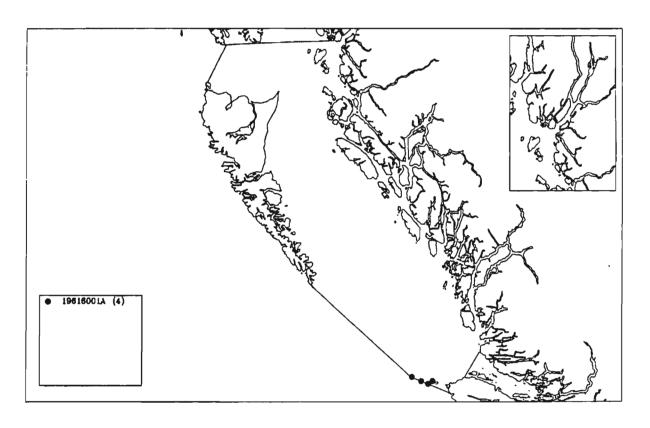


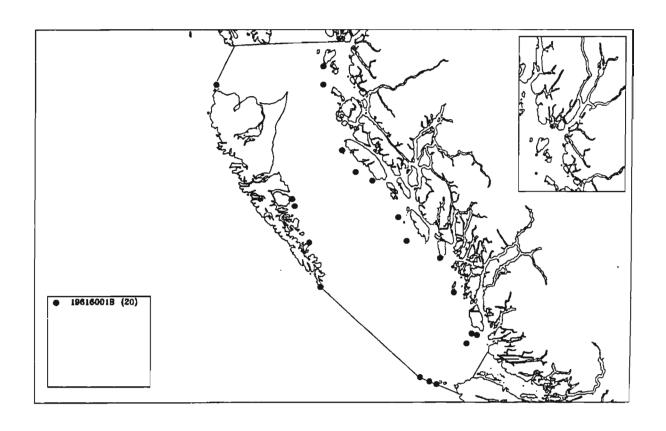


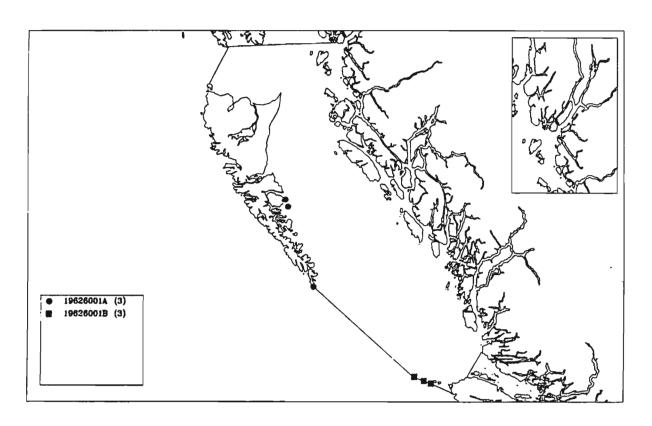


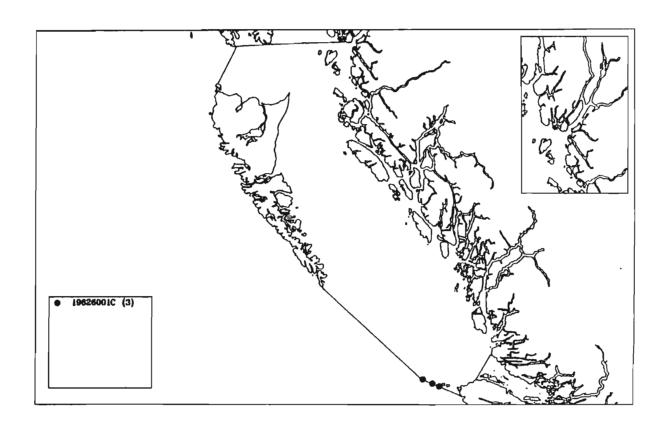


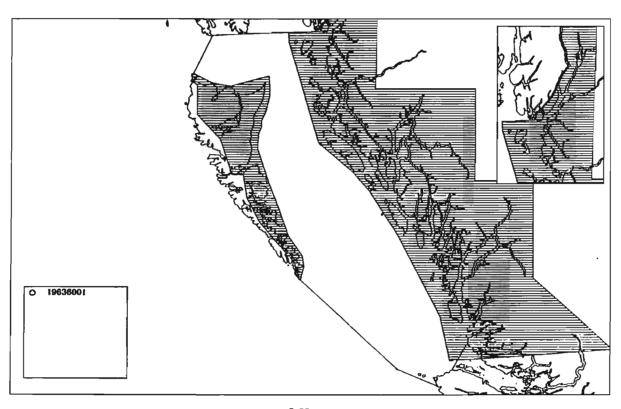


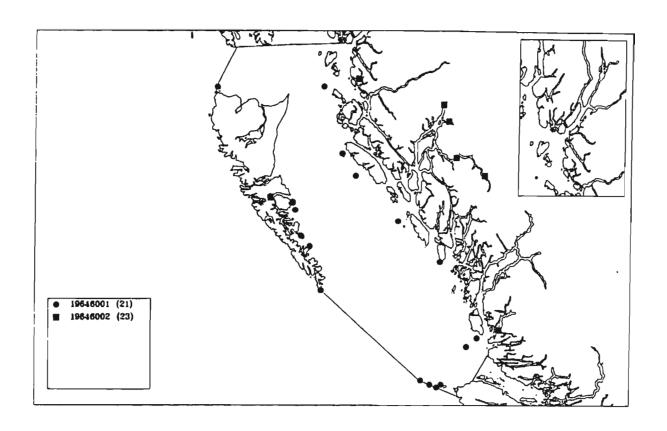


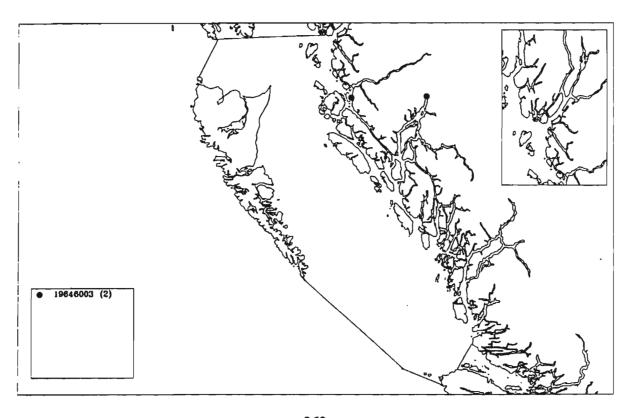


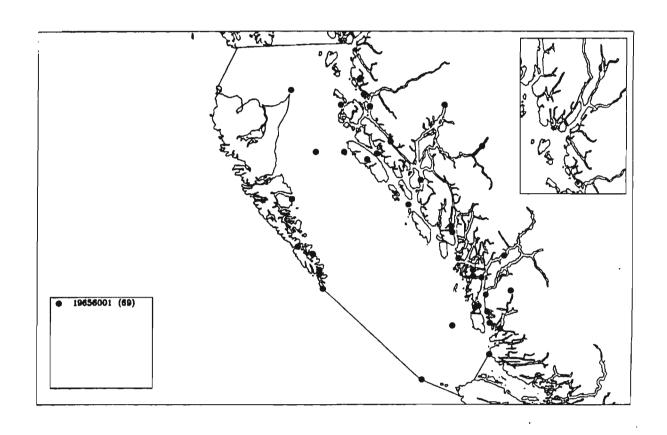


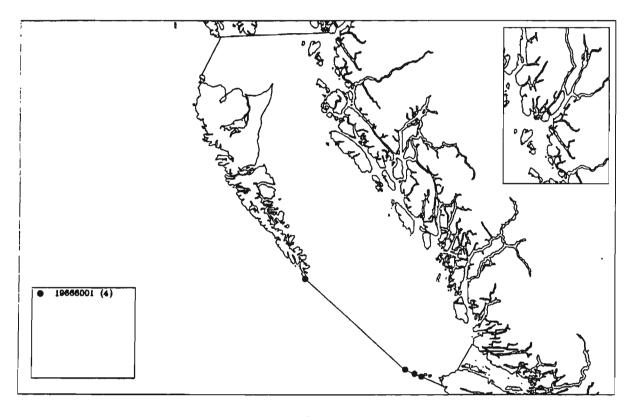


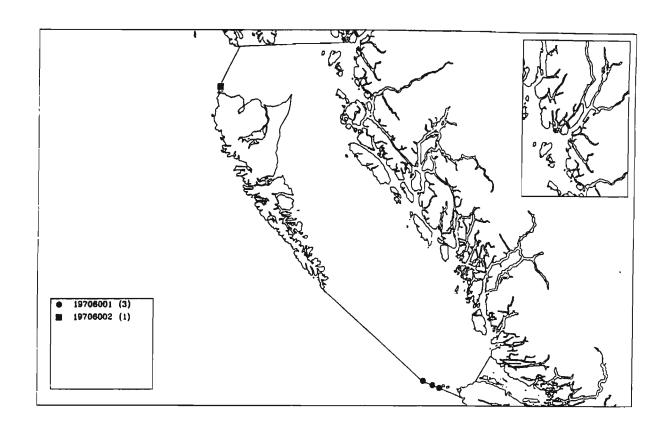


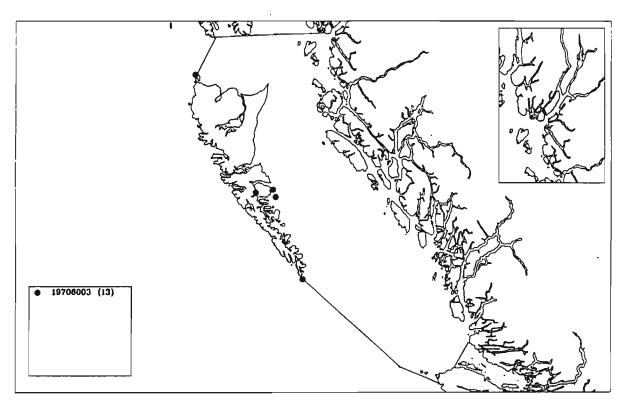


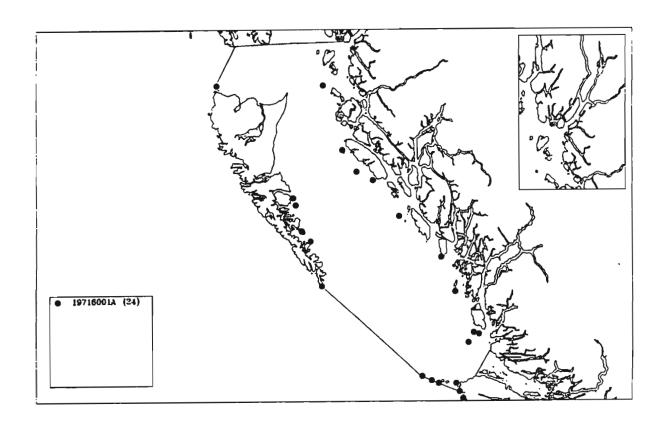


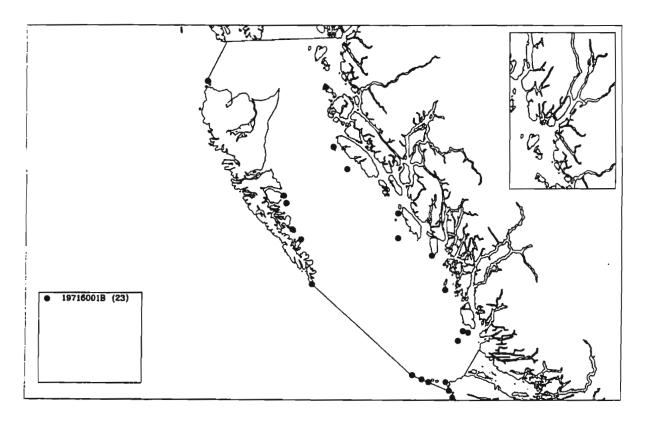


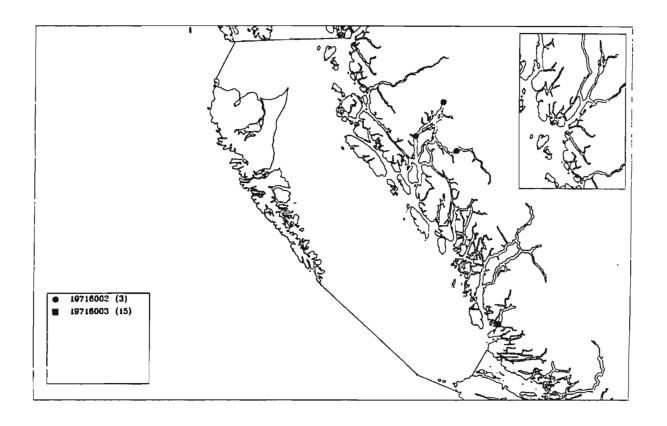


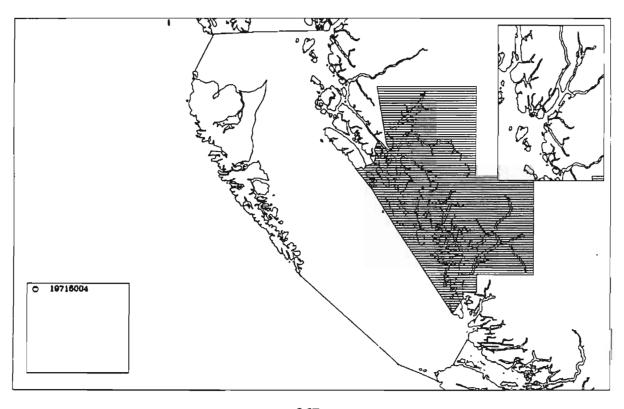


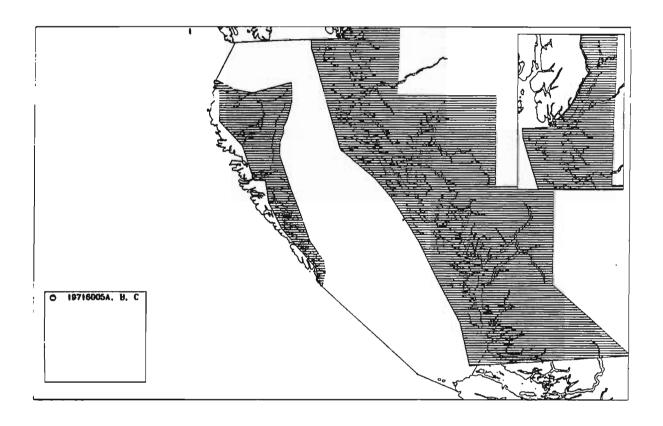


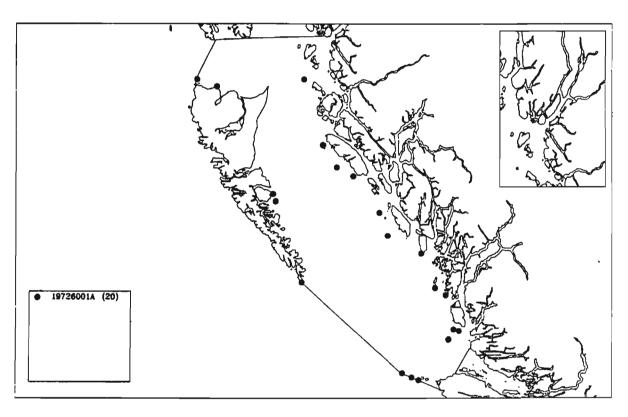


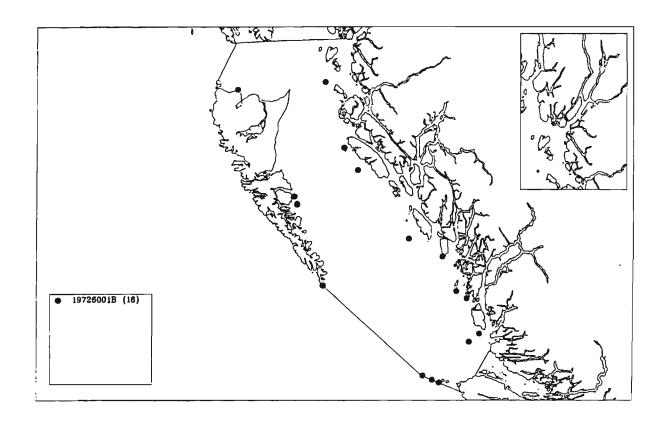


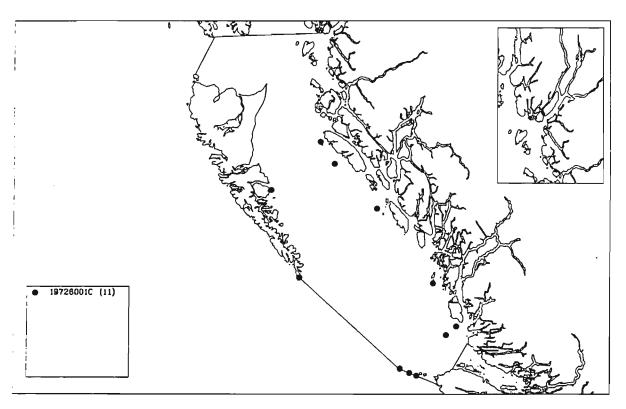


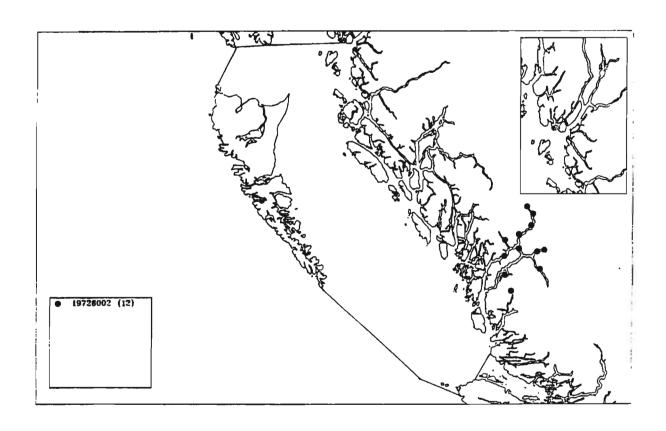


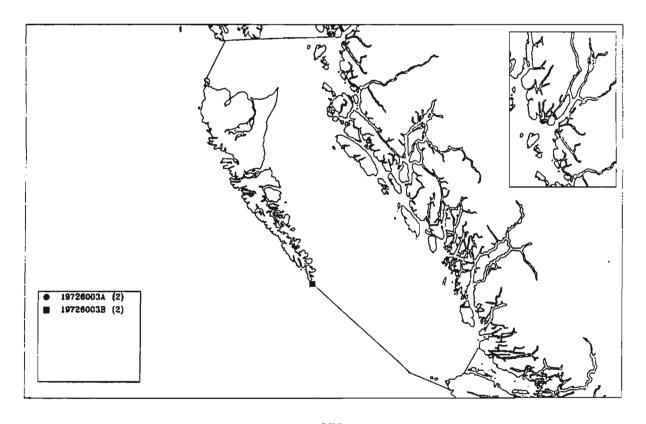


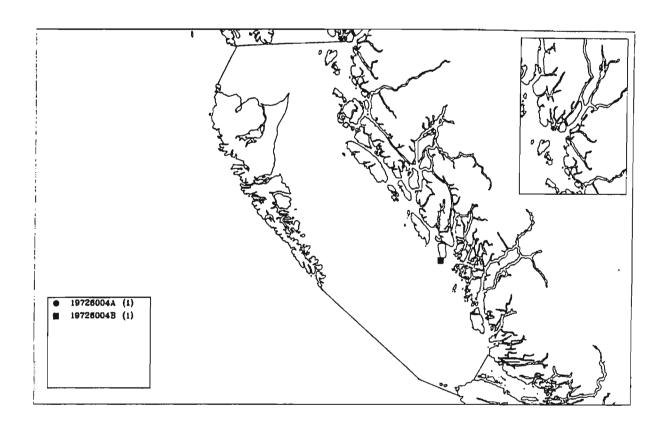


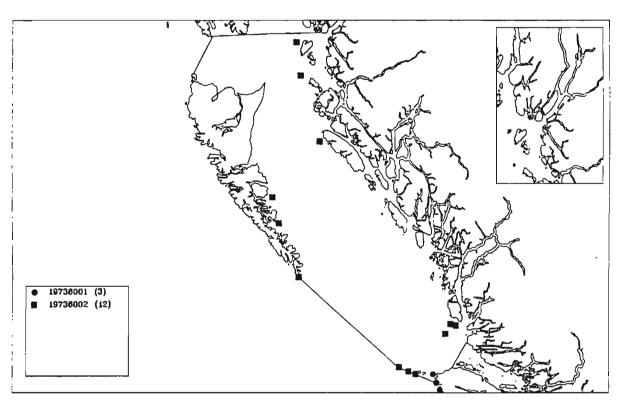


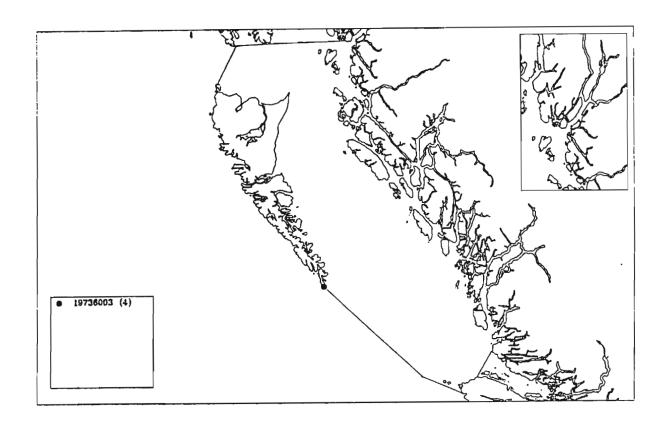


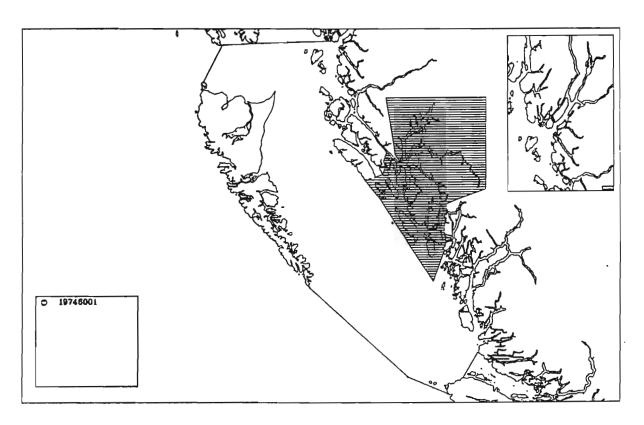


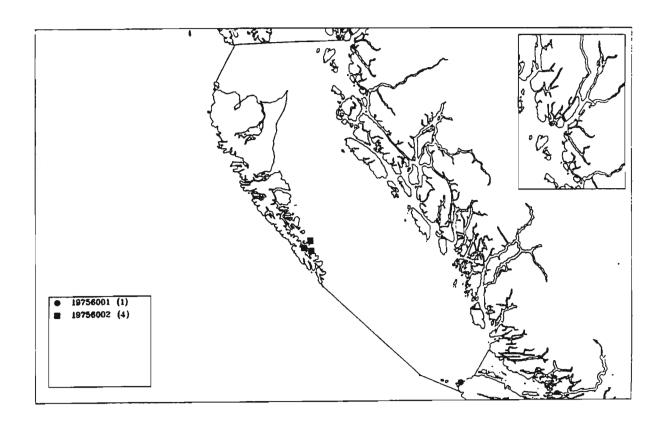


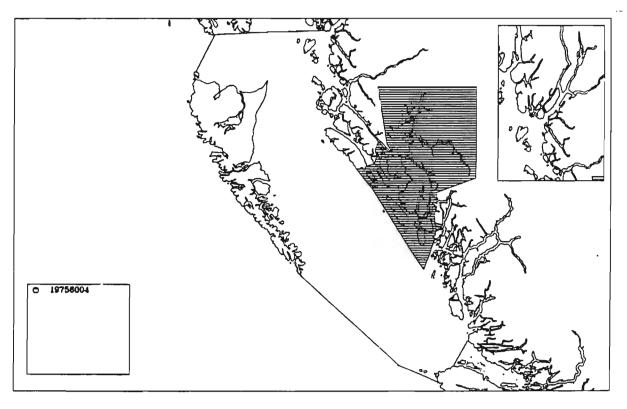


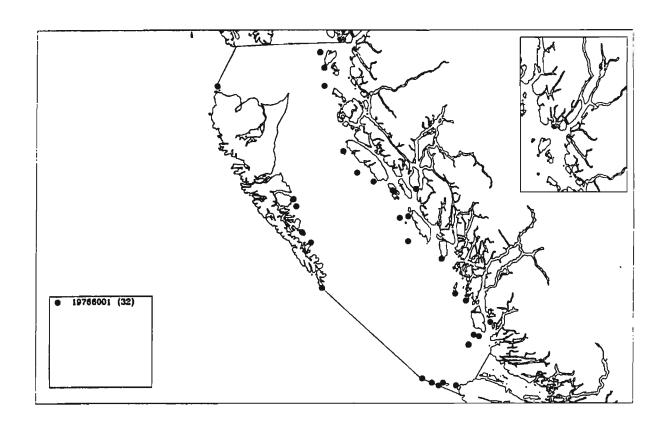


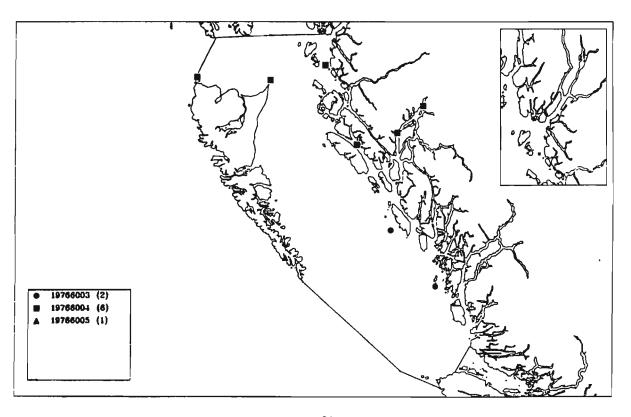


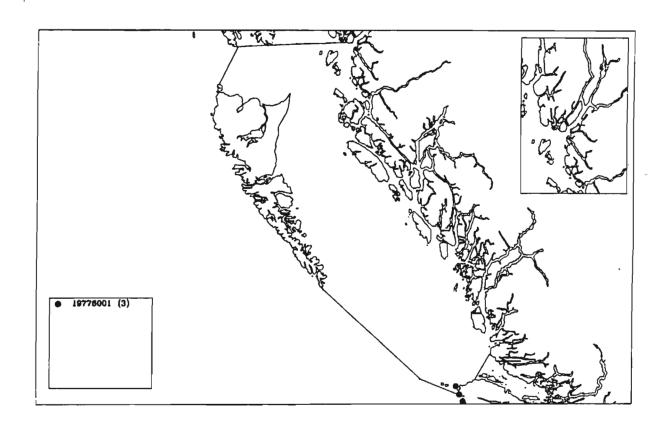


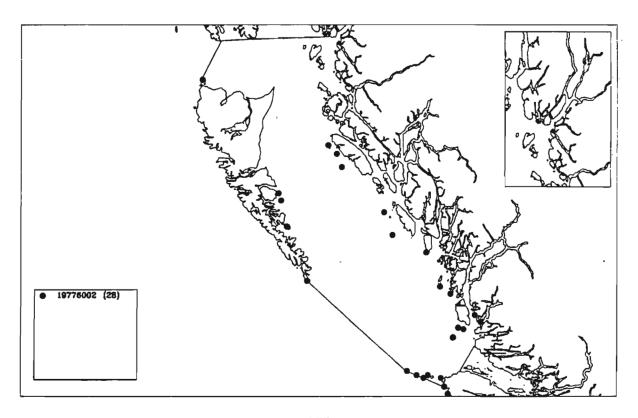


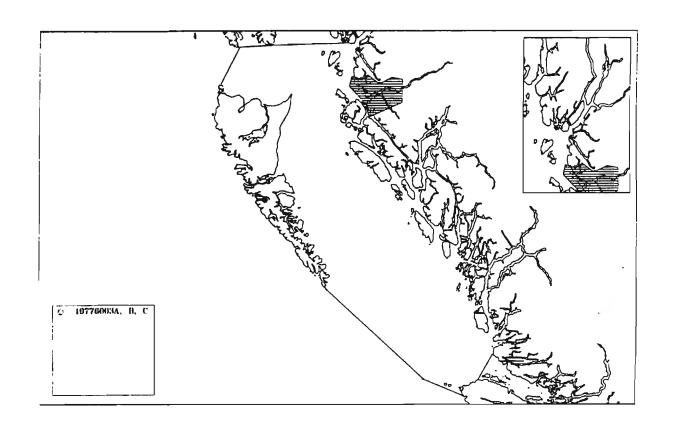


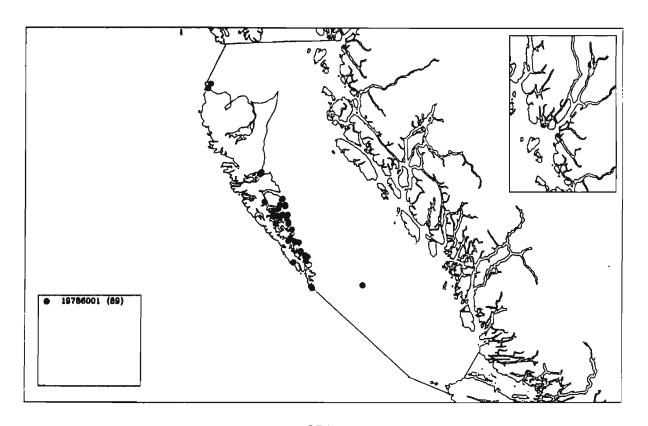


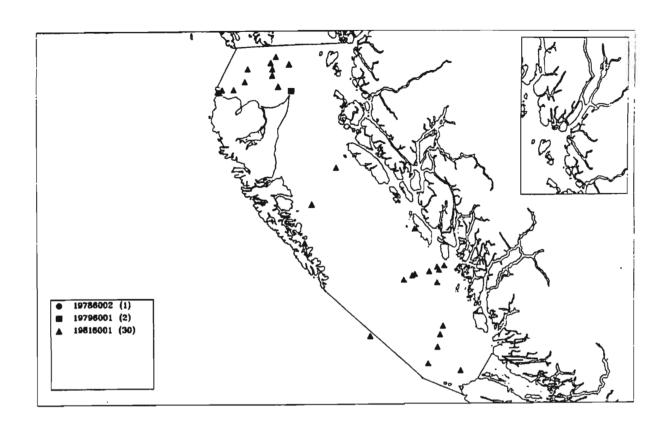


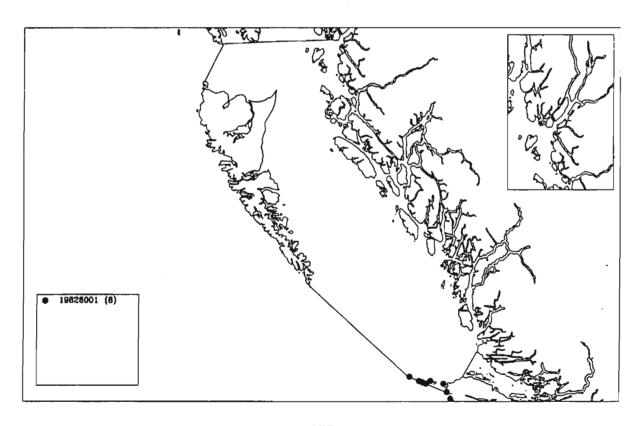


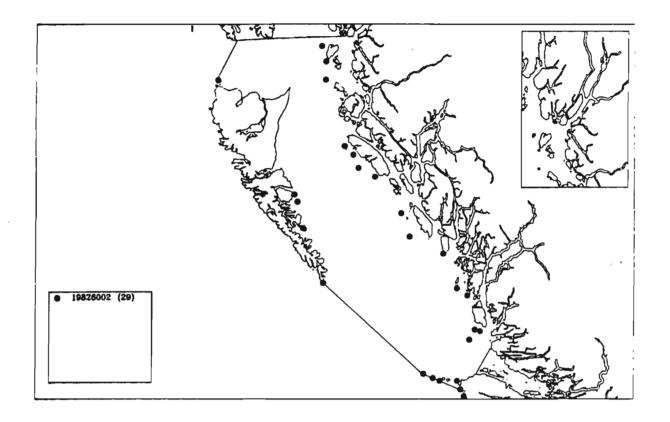


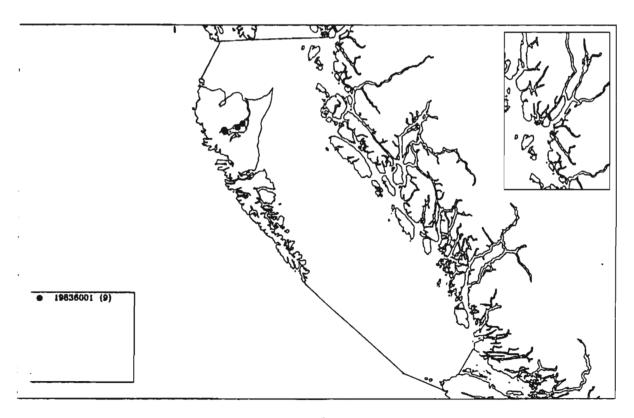


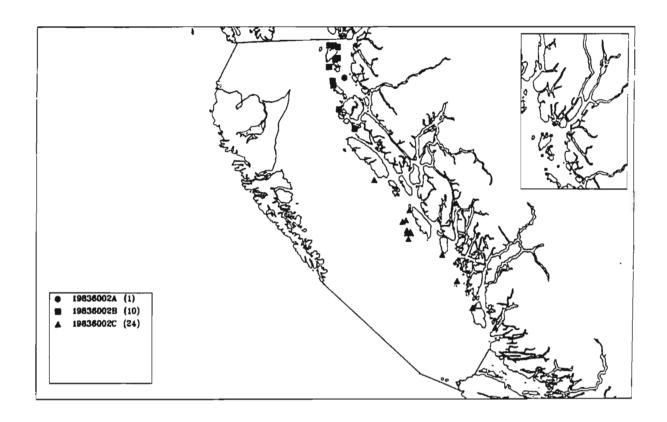


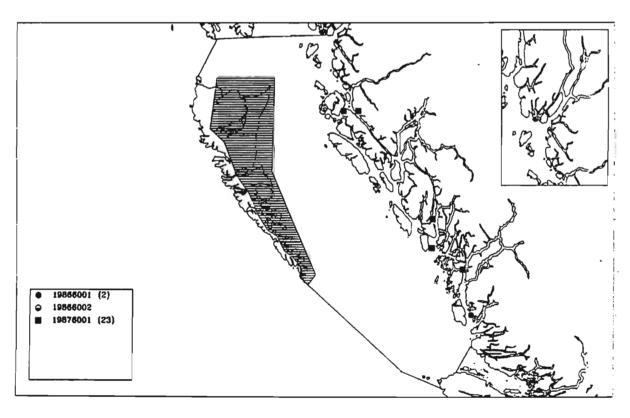


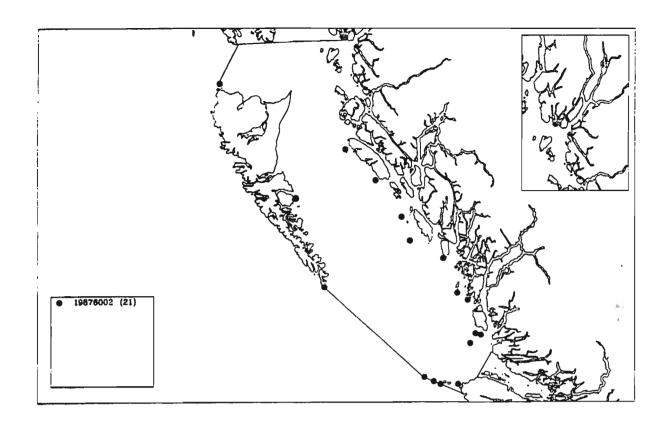


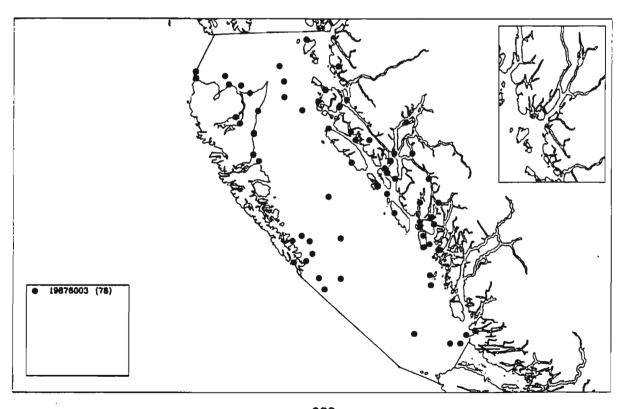


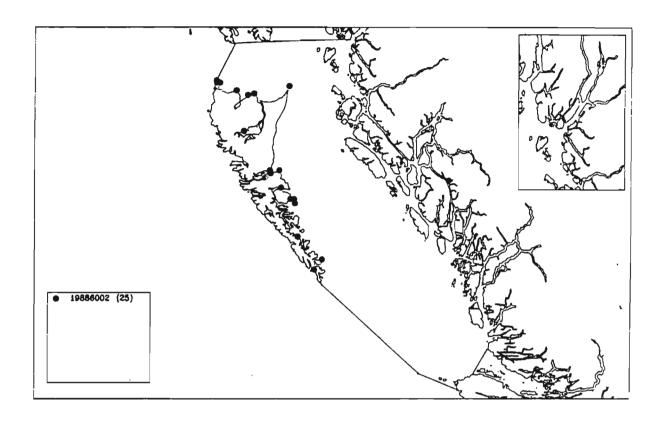


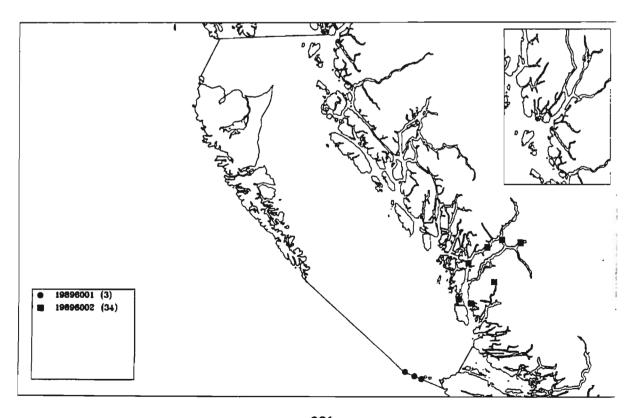


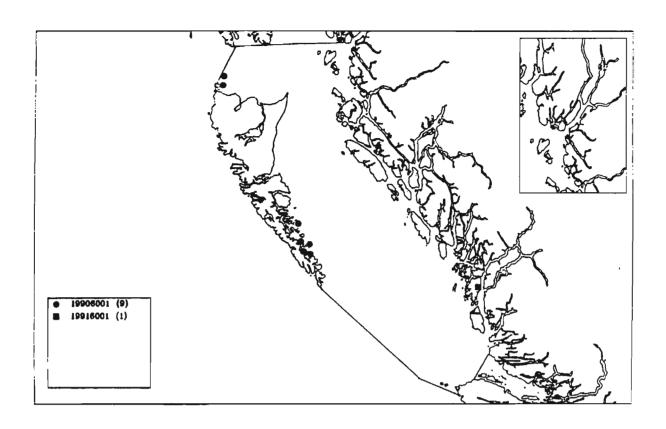












## 13. INDICES

## 13.1 SPECIES INDEX

<u>Species</u>	Data set identifier				**************************************
Baird's beaked whale	19256001	19376001	19486003		344.4
Blue whale	19246001	19256001	19486003	19816001	
Common dolphin	19606001				
Cuvier's beaked whale	19376001	19456001	19566001	19606001	19876003
Dall's porpoise	19376001	19606001	19816001	19836002B	19896002
Fin whale	19006001 19586001	19246001 19606001	19256001 19876003	19486003	19506001
Gray whale	19506001 19836002C	19586001 19876003	19756001	19796001	19816001
Harbour porpoise	19006001 19586001	19376001 19606001	19456001 19766004	19506001 19876003	19566001 19896002
Harbour seal	18796001 19456002 19556002 19646003 19756002 19776003C 19866002	19006001 19486001A 19586001 19716002 19756004 19836001	19136002 19486001B 19606001 19716004 19766004 19836002A	19376001 19486002 19636001 19726002 19776003A 19836002B	
Humpback whale	19246001 19606001	19256001 19816001	19486003 19876003	19506001	19586001
Killer whale	19196001 19586001 19716004 19756004 19876001	19416001 19606001 19716005A 19786001 19876003	19466001 19656001 19716005B 19816001 19896002	19506001 19716002 19716005C 19836002C 19886002	19566001 19716003 19746001 19866001 19906001

## 13.1 SPECIES INDEX - Cont'd

Minke whale	19376001	19606001	19836002C	19876003	
Northern elephant Seal	19356001	19566001	19606001	19706002	19876003
Northern fur seal	18866001 19506001	19346001 19586001	19376001 19586002	19396001 19606002	19456001 19816001
Pacific white-sided dolphin	19006001 19816001 19886002	19506001 19836002C	19566001 19876001	19586001 19876003	19606001 19896002
Right whale	19506001	19586001			
Risso's dolphin	19376001	19786002	19886002		
Sea otter	19376001 19836002C	19606001 19916001	19726003A	19766003	19766005
Sei whale	19246001	19256001	19486003	19876003	
Short-finned pilot whale	19006001	19506001	19586001		
Sperm whale	19246001	19256001	19486003	19506001	19586001
Steller sea lion	18906001 19376001 19566003 19586004 19626001B 19716001A 19726001B 19736001 19766001 19826002	18926001 19386001 19566004 19606001 19626001C 19716001B 19726001C 19736002 19766004 19836002B	18926002 19456001 19566005 19616001A 19646001 19716002 19726003B 19736003 19776001 19836002C	19136001 19556001 19576001 19616001B 19666001 19716004 19726004A 19746001 19776002 19876002	19166001 19566002 19586003 19626001A 19706001 19726001A 19726004B 19756004 19826001
Unidentified beaked whale	19456001	19566001			
Unidentified dolphin	19506001	19586001			

## 13.1 SPECIES INDEX - cont'd

Unidentified pinniped	19606001				
Unidentified porpoise	19506001	19586001	19606001	19876003	120000
Unidentified seal	19506001	19586001	19606001		with the ser
Unidentified sea lion	19196001 19836002B	19506001	19586001	19606001	19706003
Unidentified whale	19506001	19586001	19606001	19876003	

## 13.2 GEOGRAPHIC INDEX

Place name	Da	ta set identifi			
Addenbroke Light	19586001				
Bella Bella	19396001	19456001			
Bella Coola	19376001				
Bonilla Island	19136001	19346001	19566005		
Burke Channel	19506001	19726002	19896002		
Butedale Sub-district	19716002	19756004			
Caamano Sound	19136001	19486003	19506001	19566001	
Cape Scott	18926001 19826001	19376001	19736001	19756001	19776001
Cape St. James	19136001 19666001 19736003	19166001 19706003 19786001	19376001 19726003A	19566005 19726003B	19626001B 19766005
Central Coast	19656001	19716005A	19716005B	19716005C	
Chatham Sound	19196001 19836002C	19506001	19766004	19836002A	19836002B
Cumshewa Inlet	19876003	19886002			
Dean Channel	19506001	19726002	19896002		
Dixon Entrance	19246001 19606002 19766002			19586002 19716005C	
Douglas Channel	19766004				
Dundas Island	18926001				
East coast Louise Island	19566005	19626001B	19706003		

East coast Queen Charlotte Islands	19006001 19716005C	19506001 19786001	19656001 19866002	19716005A 19886002	19716005B
Estevan Island Group	19836002C				-35,1
Fisher Channel	19896002				
Fitz Hugh Sound	19136001 19876003	19396001 19896002	19506001	19566001	19866001
Goose Island Group	19136001 19836002C	19346001 19876003	19376001	19566005	19766003
Grenville Channel	19396001	19506001	19566001		
Harvey Islands	19766003	19836002C			
Hecate Strait	19006001 19586002 19716005C	19346001 19606001 19816001	19486003 19606002 19876003	19506001 19716005A	19566001 19716005B
Hunter Island	19136001	19916001			
Juan Perez Sound	19816001	19886002	19906001		
Kitimat Arm	19646002	19646003	19716004	19746001	19766004
Kunghit Island	19876003				
Labouchere Channel	19896002				
Langara Island	19506001 19706003 19886002	19566001 19766004 19906001	19566005 19786001	19626001B 19786002	19706002 19816001
Laredo Channel	19376001	19506001	19816001		
Laredo Inlet	19566001				
Laredo Sound	19816001	19876001	19876003		
Masset	19376001				

Masset Inlet	19416001	19506001	19836001	19886002	14.3
McInnes Island	19136001	19566005	19726004A	19726004B	267.245
McInytre Bay	19566001				
Milbanke Sound	19486003	19506001	19876001		
Moore Island Group	19836002C				
Nass River	19486001B				
North Bentinck Arm	19896002				
North coast	18796001 19486002 19576001 19716001A 19736002	18906001 19556001 19616001B 19716001B 19766001		19136002 19566002 19646001 19726001B 19826002	19386001 19566003 19656001 19726001C 19876002
Not Specified	19476001	19526001	19886001		
Ogden Channel	19876003				
Pearse Canal	19506001				
Petrel Channel	19876003				
Port Simpson	18626001				
Portland Canal	19506001				
Portland Inlet	19506001				
Prince Rupert	19396001	19456001	19466001	19566001	19646002
Principe Channel	19506001	19566001	19766004		
Princess Royal Channel	19396001	19566001			
Queen Charlotte Islands	19456001	19646002			

Queen Charlotte Sound	18626001 19566001	18866001 19716005A	19256001 19716005B	19486003 19716005C	19356001 19816001
Queen Charlotte Strait	19356001	19566001			
Queens Sound	19396001	19836002C	19876003		
Ramsay Island	19376001				ь.
Rivers Inlet	19646002	19506001	19716003		
Rose Harbour	18626001				
Rose Spit	19346001	19766004	19796001	19876003	19886002
Sandspit	19376001				
Scott Islands	18926001 19456001 19586003 19666001	19136001 19506001 19586004 19706001	19166001 19566001 19616001A 19826001	19346001 19566004 19626001A 19896001	19376001 19566005 19626001C
Sea Otter Islands	18926001 19836002C	19136001	19166001	19196001	19566005
Skidegate Inlet	19376001	19506001	19876003	19886002	
Skincuttle Inlet	19376001	19756002	19906001		
Skeena River	19456001 19776003B	19456002 19776003C	19486001A	19646003	19776003A
Smith Inlet	19876003				
Squally Channel	19566001				
Stephens Island	19136001	19166001			
Tolmie Channel	19566001				
West coast Aristizabal Island	19136001	19566005			

West coast Banks Island 19136001

West coast Lyell Island 19566005

Whale Channel 19506001 19876003

### 13.3 MEASUREMENT INDICES

#### 13.3.1 AGE MEASUREMENTS INDEX

Measurement type Data set identifiers

Fusion of epiphysis 19486003

Number of annuli in teeth 19566005 19586002 19646003 19606002

Age-sex class 19726003B 19726004A

#### 13.3.2 FOOD MEASUREMENTS INDEX

Measurement type Data set identifiers

Identification of prey from 19836001

scats

Identification of prey 19466001 19726003A

Identification of stomach 18926001 19136001 19166001 19256001 19456002

contents 19486003 19566001 19566005 19586002 19606002

19876003

Stomach fullness 19486003

Volume of stomach 19586002 19606002

contents

Weight of stomach contents 19586002 19606002

## 13.3.3 IDENTIFICATION MEASUREMENTS INDEX

Measurement type	Ī	Data set ident	<u>ifiers</u>	
Identification of individual animals	19726003B	19896002		21611
Identification of pods	19866001	19876001	19896002	21212.474
Identification of species	all data sets			
Photo-identification of individual animals	19656001	19786001	19906001	

## 13.3.4 MORPHOMETRIC MEASUREMENTS INDEX

Measurement type	Data set identifiers				
Blubber thickness	19456002	19486003	19566001		
Body length	19246001 19456002 19606002	19256001 19486003 19786002	19376001 19566001 19796001	19396001 19566005 19876003	19416001 19586002
Body weight	19396001 19606002	19456002 19876003	19566005	19586002	19586004
Chestgirth	19566005				
Foreflipper and hindflipper width	19456001	19456002			
Foreflipper and hindflipper length	19456002	19566005			
Detailed external measurements	19376001	19396001	19456002 19876003	19486003	19566001
Number of baleen plates	19796001				
Width of flippers	19486003	19796001	19876003		
Width of flukes	19486003	19566001	19796001	19876003	

### 13.3.5 MOVEMENT MEASUREMENTS INDEX

Measurement type Data set identifiers

Direction of travel 19606001

Number of animals 19586002 19606002

recovered with tags

## 13.3.6 NUMBERS MEASUREMENTS INDEX

Measurement type	Data set identifiers				
Number killed per location	18796001 19256001 19486003 19716004	18866001 19456002 19556002	18906001 19486001A 19566005	19136002 19486001B 19636001	19246001 19486002 19716002
Number of births	19726003B				
Number of copulations	19726003B				
Number seen per location	18926001 19356001 19506001 19566004 19606001 19626001B 19716005C 19726003A 19736002 19766001 19776003A 19816001 19836002C 19896001	19726001A 19726003B 19746001 19766004 19776003B 19826001	19136001 19416001 19566001 19586001 19616001A 19646001 19716004 19726004A 19726004A 19756001 19766005 19776003C 19826002 19876002	19166001 19456002 19566002 19586002 19616001B 19706001 19716005A 19726004B 19756002 19776001 19786001 19786001 19836002A 19876003	19346001 19486003 19566003 19586003 19626001A 19706002 19716005B 19726002 19736001 19756004 19776002 19786002 19836002B 19886002
Number tagged per location	19586004	19666001	19736003		
Number killed and lost per location	19586002	19606002			

Number wounded and lost 19586002 19606002

per location

Number captured per 19586004 19666001 19736003

Linds 1

1. 6. 1977

location

Number collected per 19586002 19606002

location

### 13.3.7 PARASITES INDEX

Measurement type Data set identifiers

Identification of parasites 19486003 19876003

## 13.3.8 REPRODUCTION INDEX

Measurement type	<u>I</u>	Data set ident			
Condition of ovaries	19486003	19566005	19606002		
Diameter of follicles	19566005				
Foetus length	19246001 19876003	19256001	19486003	19586002	19606002
Foetus sex	19586002				
Foetus weight	19586002	19606002	19876003		
Presence/absence of foetus	19246001 19876003	19256001	19486003	19586002	19606002
Reproductive condition	19556002	19566005	19586002	19606002	19646003
Status of active and inactive uterine horn	19566005				
Thickness of gonads	19456002				
Thickness of mammary gland	19486003				

Weight of gonads

19876003

Weight of ovaries

19486003 19566005

Width and length of gonads 19456002

Width and length of

uterine horn

19566005

#### 13.3.9 BEHAVIOUR INDEX

Measurement type

Data set identifiers

19876003

Activity of cows

19726003B

Foraging

19196001 19466001

19726003A

Frequency and duration

19726004A

of specific behaviour patterns

Identification of discrete

19786001

19906001

calls

Surface behaviour

19196001

19606001

Territorial boundary

19726003B

displays

#### 13.3.10 PHYSIOLOGY INDEX

Measurement type

Data set identifiers

Identification of moult stage 19646002

Lactating

19566005

19876003

Pathology of organs

19876003

## 13.4 SURVEY TYPE INDEX

Survey type	Dat	a set identifi	ers		
Aerial survey, type not specified	18926002	19566002	19626001A	19626001B	
Bounty hunt	19136002				
Commercial hunt	18796001 19486003	18866001 19636001	18906001 19646002	19246001 19646003	19256001
Field collection, of specimens for study	18906001 19836001	19566005	19586004	19666001	19736003
Field study, of animals at a site	19726003B	19726004A	19726004B		
Government kill for management purposes	18906001	19486001A	19486001B	19486002	
Incidental aerial sighting	19876003				
Incidental sighting, platform not specified	19706003				
Incidental sighting, made from shore	19196001 19726003A 19796001	19416001 19756001 19866001	19466001 19756002 19876001	19586001 19786001 19876003	19706002 19786002
Incidental vessel sighting	19346001 19716005C 19836002B		19566001 19786001 19876001	19716005A 19816001 19876003	19716005B 19836002A 19886002
Not specified	18926002 19556002 19756004	19356001 19716002 19876003	19376001 19716003	19396001 19716004	19456001 19746001
Reconnaissance vessel survey	19006001	19896002	19916001		

## 13.4 SURVEY TYPE INDEX - Cont'd

Systematic aerial survey	19386001 19616001B 19716001B 19736002 19776003A 19866002	19566004 19621001C 19726001A 19766001 19776003B 19876002		19586003 19706001 19726001C 19776001 19826001	19616001A 19716001A 19736001 19776002 19826002
Systematic vessel survey	19386001 19906001	19586002	19606001	19606002	19876003
Vessel survey, type not specified	18926001 19566002	19136001 19566003	19166001 19656001	19456002 19726002	19556001 19766005

#### APPENDIX A

#### List of Detailed External Body Measurements

The following is a complete list of specific detailed external body measurements which are grouped under the measurement type detailed external measurements in Table 2.

tail to hind margin of fin spread of flukes length of gape centre of eye to centre of ear centre of eve to angle of gape centre of eye to blowhole tip of upper jaw to insertion of flippers tip of jaw to umbilicus girth transverse at axilla girth maximum, 206cm from snout length of flippers from insertion to tip tail vertebrae measurement hindfoot measurement hindflipper length condylobasal length mastoid width tip of nose to insertion of flippers centre of navel to tip of lower jaw distance between mammae penis opening to centre of anus longest nasal vibrissa longest supranasal vibrissa longest brow vibrissa tip of snout to hind margin of flukes projection of lower jaw beyond tip of upper jaw tip of snout to tip of flipper hindmargin of flukes to posterior emargination of dorsal fin hind margin of flukes to anus hind margin of flukes to umbilicus centre of genital slit to centre of anus tip of anterior end of dorsal fin tip lower border of flippers length along curve of lower border to tip of flippers length of severed head from condyle to tip length of flipper from head of humerus to tip depth of body at dorsal fin tip of snout to forehead groove

## Appendix A: List of detailed external measurements - Cont'd

breadth of body at flippers (including flippers) breadth of body at blowhole snout to apex of melon snout to centre of blowhole snout to centre of eye snout to angle of mouth snout to ear snout to end of ventral groove snout to centre of genital slit snout to centre of anus snout to tip of dorsal fin snout to anterior insertion of dorsal fin fluke notch to centre of anus fluke notch to centre of genital slit fluke notch to centre of dorsal fin girth at eyes girth at posterior insertion of flippers girth at maximum anterior insertion of dorsal fin girth at posterior insertion of dorsal fin girth at anus girth midway from anus to fluke notch height of peduncle thickness of peduncle projection of lower or upper jaw rostral width at apex of melon length of eyes angle of mouth centre of right eye to blowhole blowhole width blowhole length diameter of right ear diameter of left ear diameter of head between centre of eyes length of throat grooves flipper width at insertion flipper length anterior flipper length posterior flipper length dorsal fin height length of dorsal fin base length of dorsal fin from anterior insertion to point bisected by tip lengths of left and right mammary slits

## Appendix A: List of detailed external measurements - Cont'd

number of mammary slits genital slit length anal slit length fluke insertion to notch fluke insertion to tip depth of fluke notch

## APPENDIX B

# Marine Mammals for which Data Exist in the Study Area

Calandan	Species	Taxonomic name
Suborder	Common name	raxodomic dame
Mysticeti	Blue whale	Balaenoptera musculus
	Fin whale	Balaenoptera physalus
	Gray whale	Eschrichtius robustus
	Humpback whale	Megaptera novaeangliae
	Minke whale	Balaenoptera acutorostrata
	Sei whale	Balaenoptera borealis
	Right whale	Eubalaena glacialis
Odontoceti	Baird's beaked whale	Berardius bairdii
	Common dolphin	Delphinus delphis
	Cuvier's beaked whale	Ziphius cavirostris
	Dall's porpoise	Phocoenoides dalli
	Harbour porpoise	Phocoena phocoena
	Killer whale	Orcinus orca
	Pacific white-sided dolphin	Lagenorhynchus obliquidens
	Short-finned pilot whale	Globicephala macrorhynchus
	Sperm whale	Physeter macrocephalus
	Risso's dolphin	Grampus griseus
Phocidae	Harbour seal	Phoca vitulina
	Northern elephant seal	Mirounga angustirostris
Otariidae	Northern fur seal	Callorhinus ursinus
	Steller sea lion	Eumetopias jubatus
Mustelidae	Sea otter	Enhydra lutris

#### Appendix C

#### References not examined (may be data sets or lead to data sets)

- Allen, J.A. 1881. Preliminary list of works and papers relating to the mammalian orders Cete and Sirenia 1495-1840). Bull. U.S. Geol. and Geogr. Survey of the Territories 6(3):399-562.
  - 41 Anas, R.E., and A.J. Wilson Jr. 1970. Organochlorine pesticides in fur seals. Pesticides Monitoring J. 3:198-200.
  - 42 Anas, R.E., and A.J. Wilson Jr. 1970. Organochlorine pesticides in nursing fur seal pups. Pesticides Monitoring J. 4:114-6.
- 414 Andersen, S. 1970. Auditory sensitivity of the harbour porpoise Phocoena phocoena. In: G. Pilleri (ed.) Investigations on Cetacea. Vol. II, Berne. pp. 255-9.
- 43 Andrews, R.C. 1914. Monographs of the Pacific Cetacea. In: The California Gray Whale (Rhachianectes glaucus). Mem. Amer. Museum Nat. Hist. Ser. 2, 1(5):227-87.
- 2181 Andrews, R.C. 1921. A remarkable hindlimb in a humpback whale. Amer. Mus. Novitates. 9: 1-6.
- 1013 Annonymous. no date. Journal of the Brigantine Hope from Boston to the North-West Coast of America. unpublished manuscript, Washington, D.C. Library of Congress.
- 189 Anonymous. 1828. Zalophus californianus californianus (Lesson). Dictionnaire Classique d'Histoire Naturelle 13:420 (Vancouver Island)
- Anonymous. 1848. Lissodelphis borealis (Peale), 1848, Mammalia and Ornithology in U.S. Explor. Exp...., 1838-1842 Proc. Acad. Nat. Sci. Philadelphia 8:35.
- 115 Anonymous. 1865. Lagenorhychus obliquidens Gill, 1865, Proc. Acad. Nat. Sci. Philadelphia Proc. 17:77.
- 44 Anonymous. 1954. Distribution and food habits of the fur seals of the North Pacific Ocean. A report of the cooperative investitgation undertaken by the governments of Canada, Japan and the U.S., Feb.-July 1952. (unpublished manuscript)
- 583 Anonymous. 1970. Wanted: live killer whales. Pac. Northwest Sea 3(3):3.
- 451 Anonymous. 1976. Marine mammal strandings and sightings. Nat. Sci. Event Bull. 1:9-15.
- 593 Antonelis, G.A., Jr., and C.H. Fiscus. 1980. The pinnipeds of the California Current. Calif. Coop. Oceanic Fish. Invest. Rep. 21:68-78.
- Antonelis, G.A., Jr., and M.A. Perez. 1984. Estimated annual food consumption by northern fur seals in the California Current. Calif. Coop. Oceanic Fish. Invest. Rep. 15:135-45.
- 498 Asper, E.D., and L.H. Cornell. 1977. Live capture statistics for the killer whale (Orcinus orca) 1961-1976, in California, Washington, and British Columbia. Aquatic Mamm. 5:21-7.
- 1133 Baird, R.W. 1991. The Risso's dolphin in British Columbia. The Victoria Naturalist 47(4):6-7.
- Baird, R.W., E.L. Waters, and P.J. Stacey. 1991. Status of the bottlenose dolphin, Tursiops truncatus, in Canada. Report for the Committee on the Status of Endangered Wildlife in Canada, Canadian Wildlife Service, Ottawa (unpublished manuscript).
- 3049 Baird R.W., P.J. Stacey and K.M. Langelier. 1991. A discussion of factors relevant to governmental policy and regulations regarding cetacean strandings: A British Columbia Viewpoint. Draft 8pp.
- 388 Baker, C.S. 1985. The population structure and social organization of humpback whales (Megaptera novaeangliae) in the central and eastern North Pacific. Ph.D. thesis, Univ. Hawaii, Honolulu.
- 341 Bannister, J.L., and C.L. Hubbs. 1960. Population growth and seasonal movements of the northern elephant seal, Mirounga angustirostris. Extr. Mamm. 24(3):313-24.
- 47 Barabash-Nikoforov, I.I. et al. 1962. The Sea Otter (Kalan). Israel Program for Scientific Translations, U.S. Dept. of Commerce, O.T.S. 61-31057, Washington.

- Barlow, J., R.W. Baird, J.E. Heyning, K. Wynne, A.M. Manville, L.F. Lowry, D. Hanan, and J. Sease. 1990. A review of cetacean mortality in fisheries of the eastern North Pacific and USSR Far East. Int. Whaling Comm. Doc. SC/090/G28.
- Barry, L.M., R.W. Baird, J. Hall, R. Gonzales, and P.J. Stacey. 1989. Observations on the behaviour of a lone false killer whale (Pseudorca crassidens) in British Columbia. Abstracts of the Eighth Biennial Conference on the Biology of Marine Mammals, Deember 7-11, 1989, Pacfic Grove, CA, p. 5.
  - 48 Bartholomew, G.A. 1952. Reproductive and social behavior of the northern elephant seal. Calif. Univ. Publ. Zoology 47(15):369-72.
- 527 Bartholomew, G.A. 1954. Body temperature and respiratory and heart rates in the northern elephant seal. Mammalia (Paris) 35:211-8.
- 656 Belton, D. 1970. 1970 Interpretation Report for Wickaninnish. Report for B.C. Parks Branch, Department of Recreation and Conservation, Victoria (unpublished manuscript).
- 452 Bennett, F.D. 1840. Narrative of a Whaling Voyage round the Globe from the Year 1833 to 1836. 2 Vols. Richard Bentley, London.
- Beresford, W. 1789. A Voyage Round the World, but More Particularly to the North-West Coast of America ... 1785-1789. George Goulding, London, 360 pp.
- 357 Berzin, A.A. 1978. Distribution and number of whales in the Pacific whose capture is prohibited. Sov. J. Mar. Biol. 4:738-43.
- 248 Berzin, A.A., and A.A. Rovnin. 1966. Distribution and migration of whales in the northeastern part of the Pacific Ocean, Bering and Chukchi seas. Izv. TINRO 58:179-207 (in Russian). Translated by Bureau Commer. Fish., US Fish Wild. Serv., Seattle, 1966. In: K.I. Panin (ed.) Soviet Research on Marine Mammals of the Far East, pp. 103-36.
- 2171 Best, R., and T. Angus. 1970. White killer whale captured, Vancouver Public Aquarium Newsletter. 14(2):6-7.
- 543 Bigg, M.A. 1982. Migration of northern fur seals in the eastern North Pacific and eastern Bering Sea: an analysis using effort and population composition data. Paper submitted to the 25th annual meeting of the Standing Scientific Committee of the North Pacific Fur Seal Commission, Ottawa, April 1982.
- Bird, J.E. 1983. An annotated bibliography of the published literature on the humpback whale (Megaptera novaeagliae) and the right whale (Eubalaena glacialis), 1864-1980. In: R.S. Payne (ed.). Communication and Behaviour of Whales. Westview Press, Boulder, CO, pp. 467-628.
- 249 Birkeland, K.B. 1926. The Whalers of Akutan: An Account of the Modern Whaling in the Aleutian Islands. Yale Univ. Press, New Haven, 171 pp.
- Bishop, R.H. 1968. Reproduction, age determination and behaviour of the harbour seal, Phoca vitulina, in the Gulf of Alaska. M.Sc. thesis, Univ. Alaska, College, Alaska.
- Boas, F. 1909. The Kwakiutl of Vancouver Island. Mem. Amer. Mus. Nat. Hist. 8:305-522. Reprint from vol. 5(2) of the Jessup North Pacific Expedition.
- Bolton, L. 1930. Report on the 1929 expedition against sea lions on the coast of British Columbia. MS Rep. Biol. Stations No. 281., 5 pp.
  - 50 Boness, D.J., L. Dabek, K.A. Ono, and O.T. Oftedal. 1985. Female attendace behavior in California sea lions. Proceedings of sixth biennial conference on the biology of marine mammals. Vancouver Aquarium, Vancouver, B.C. 22-26 November. (Abstract)
- Boucher, G.C., L.C. Consiglieri, and L.L. Jones. 1980. Report on the distribution and preliminary analyses of abundances of Dall's porpoise. In: INPFC list of documents, 1980. Doc. No. 2267: 26 pp.
- Bouchet, G.C. 1981. Estimation of the abundance of Dall's porpoise (Phocoenoides dalli) in the north Pacific Ocean and Bering Sea. NWAFC Processed Report 81-1, 25 pp, 1981 in INPFC Doc. No. 2388.
- Bowers, C.A., and R.S. Henderson. 1972. Project deep ops.: Deep object recovery with pilot and killer whales. Naval Undersea Center, San Diego C.A. NUC TP 306. 86 pp.
- 57 Bruce, P.G. 1978. Fisheries reconnaissance reports for Queen Charlotte Division. MacMillan Bloedel Ltd., Woodland Serv. MS. Rep. 24 pp.

- 657 Buffam, F. 1965. Wickaninnish Summer, 1965. Report for Interpretation, B.C. Parks Branch, Department of Recreation and Conservation, Victoria (unpublished manuscript).
- Calkins, D., and E. Goodwin. 1988. Investigations of the decline of Steller sea lions in the Gulf of Alaska. Unpub. report submitted to National Marine Mammal Lab., April 1, 1988. Available from Alaska Dept. Game, 333 Raspberry Road, Anchorage, AK 99518.
- 658 Campbell, R.W. 1967. Wickaninnish Provincial Park-Summer Report 1967. Report for Interpretation, B.C. Parks Branch, Department of Recreation and Conservation, Victoria (unpublished manuscript).
- 659 Campbell, R.W. 1968. Wickaninnish Provincial Park-Summer Report 1968. Report for Interpretation, B.C. Parks Branch, Department of Recreation and Conservation, Victoria (unpublished manuscript).
- 725 Campbell, R.W., and D. Stirling. 1971. A photoduplicate file for British Columbia vertebrate records. Syesis 4:217-22.
- 402 Canada Department of Fisheries. 1951. Seal census. Trade News, February, pp. 7-8 + illus.
- 1081 Canadian Wildlife Service (CWS). 1980. Marine-oriented birds and mammals of Chatham Sound, British Columbia Winter 1977-1978. Report by CWS, Delta, prepared for Environmental and Land Use Sub-Committee on Northeast Coal Development, 58 pp. (unpublished manuscript).
- 1127 Carrothers, W.A. 1941. The British Columbia Fisheries. Univ Toronto Press, Toronto, 136 pp.
- 643 Carter, A.H. 1965. The life history and ecology of the gray whale. Report by B.C. Provincial Museum, Victoria, B.C. 7 pp. + illus. (unpublished manuscript).
- 1125 Chapman, J.D., and D.B. Turner. 1956. British Columbia atlas of resources. B.C. natural resources conference, Vancouver, B.C.
- Chittleborough, R.G. 1965. Dynamics of two populations of the humpback whale Megaptera novaeangliae (Borowksi). Aust. J. Mar. Freshwat. Res. 16:33-128.
- 358 Consiglieri, L.D., and H.W. Braham. 1982. Seasonal distribution and relative abundance of marine mammals in the Gulf of Alaska. Submitted as part of final report for contract no. R120806, Research Unit 68, Alaska OSC Environment Assess. Program, NOAA, Juneau, AK. 204 pp.
- 1122 Cook, N.E., and N.M. Carter. 1948. Utilization of whales. Fish. Res. Bd. Can. Industrial Memorandum 10, Technological Station, Vancouver, B.C., 11 pp.
- 666 Cornwall, I.E. 1927. Some North Pacific whale barnacles. Contrib. Can. Biol. Fish., New. Ser. 3:501-17.
- 61 Cousteau, J., and P. Diole. 1972. The Whale. Doubleday and Co., Inc. Garden City, N.Y. 304 pp. + illus.
- Cummings, W.C., and J.F. Fish. 1971. A synopsis of marine animal underwater sounds in eight geographic areas. Report. by Naval Undersea Research and Development Center. Contract No. NTIS AD\_A068875. 97 pp.
- 719 Cummings, W.C., and P.O. Thompson. 1977. Long 20-Hz sounds from blue whales in the northeast Pacific. Proc. 2nd Conf. Biol. Mar. Mammals Abstr. 73.
- 417 Cummings, W.C., J.F. Fish, and P.O. Thompson. 1972. Sound production and other behavior of southern right whales, Eubalena glacialis. Trans. San Diego Nat. Hist. Soc. 17(1):1-13.
- 62 Dahlheim, M.E. 1987. Bio-acoustics of the gray whale (Eschrichtius robustus). University of British Columbia, Ph.D. Thesis. Vancouver, B.C. 266 pp. + appendices.
- Darling, J. 1972. Field notes taken on the Sea Lion Cruise Wickaninnish Bay, 29 June to 4 September, 1972. (unpublished data).
- 1037 Darling, J.D. 1977. The Vancouver Island gray whales. Waters (J. Vancouver Aquar.) 2(1):5-19.
- Darling, J.D. 1978. Summer abundance and distribution of gray whales along the Vancouver Island coast. Report to Natl. Mar. Fish. Serv. 10 pp. (unpublished manuscript).
- 1035 Darling, J. 1984. Source of the humpback's song. Oceans 17:3-10.
- de la Perouse, J.F. 1799. A voyage around the world, preformed in the years 1785, 1786 and 1788 by the Boussale and Astrolaise, under the command of J.F. de la Perouse. 2 volumes, London.

- 65 DeMaster, D.P., D.J. Miller, D. Goodman, R.L. DeLong, and B.S. Stewart. 1982. Assessment of California scalion fishery interactions. Trans. 47th N. Amer. Wildl. Conf. pp. 253-64.
- 267 Divinyi, C.A. 1973. Growth and movements of a known-age Harbor Seal. J. Mammal. 53:824.
- 238 Dodimead, A.J. 1958. Report on oceanographic observations in the northest Pacific Ocean during August 1956, February 1957 and August 1957. Fish. Res. Bd. Can. MS. Rep. 20, 14 pp.
- Dodimead, A.J., and A. Ballantyne. 1980. Oceanographic observations during fisheries research surveys off the British Columbia coast 1n 1979. Can. Data Rep. Fish. Aquat. Sci. 210, 90 pp.
- 240 Dodimead, A.J., and A. Ballantyne. 1984. Oceanographic observations during fisheries research surveys off the British Columbia coast 1n 1980-81. Can. Data Rep. Fish. Aquat. Sci. 442, 91 pp.
- 196 Dodimead, A.J., L.F. Giovando, R.H. Herlinveaux, and R.K. Lane. 1960. Oceanographic data record, North Pacific surveys, July 10 September 6, 1960. Fish. Res. Bd. Can. MS. Rep. 82, 329 pp.
- 194 Dodimead, A.J., N.K. Chippindale, and F.M. Boyce. 1961. Oceanographic cruise in the northest Pacific May 16 July 1, 1961. Circular 1961-27. Pacific Oceanographic Group, Nanaimo, B.C. 26 pp.
- 195 Dodimead, A.J., F.W. Dobson, N.K. Chippindale, and H.J. Hollister. 1962. Oceanographic data record, North Pacific survey, May 23 - July 5, 1962. Fish. Res. Bd. Can. MS. Rep. 138, 384 pp.
- 241 Dodimead, A.J., A. Ballantyne, and M. Douglas. 1979. Oceanographic observations during fisheries research surveys off the British Columbia coast in 1977. Fish. & Mar. Serv. Data Rep. 144, 41 pp.
- Dodimead, A.J., A. Ballantyne, and M. Douglas. 1979. Oceanographic observations during fisheries research surveys off the British Columbia coast in 1978. Fish. & Mar. Serv. Data Rep. 160, 160 pp.
- 709 Doe, L.A.E. 1955. Offshore waters of the Canadian Pacific coast. J. Fish. Res. Bd. Can. 12(1):1-34.
- Duff, W.C. 1923. Report and recommendations/ Commissioners: Wm. Duff, Chairman ... British Columbia Fisheries Commission (1922), King's Printer, Ottawa, 33 pp.
- 697 Dunn, D., and J. Darling. 1978. Humpback whales in British Columbia: a hope for the future. Waters Journal of the Vancouver Aquarium, 3(4th quarter):31-2.
- 456 Ellis, R. 1981. Physty: an encounter with a sperm whale. Whalewatcher 15:17-20.
- Ellis, G. (ed.) 1987. Killer whales of Prince William Sound and Southeast Alaska A catalogue of individuals photoidentified, 1976-01986. HSWRI Tech. Rep. No. 87-200.
- 67 Eschricht, D.F., and J. Reinhardt. 1866. On the Greenland right whale Balaena mysticetus, L., with especial reference to its geographical distribution and migrations in times past and present, and to its external and internal characteristics. In: W.H. Flower (ed.) Recent Memoirs on the Cetacea. Royal Soc. London, pp. 1-50.
- Eschricht, D.F., and J. Reinhardt. 1866. On the species of the genus Orca inhabiting the northern seas. In: W.H. Flower (ed.) Recent Memoirs on the Cetacea. Royal Soc. London, pp. 151-88.
- 515 Estes, J.A. 1980. Enhydra lutris. Mammal. Spec. 133:1-8.
- 376 Estes, J.A., R.J. Jameson, and E.B. Rhode. 1982. Activity and prey selection in the sea otter: influence of population status on community structure. journal not specified 120(2):242-58.
- 621 Evans, W.E., and J.J. Dreher. 1962. Observations on scouting behavior and associated sound production by the Pacific bottlenosed porpoise (Tursios gilli Dall). Bull. So. Calif. Academy Sci. 61(4):2127-26.
- 172 F.F. Slaney and Co. Ltd. 1973. Preliminary environmental effect assessment: super port development, Prince Rupert region. 81 pp. + appendices. (unpublished manuscript).
- 173 F.F. Slaney and Co. Ltd. 1977. An assessment of the implications to northern British Columbia fisheries resources of tanker operations. Prepared for Kitimat Pipe Line Ltd., Vancouver, B.C. (unpublished manuscript).
- 641 Fay, F.H. 1963. Unusual behavior of gray whales in summer. Psychol. Forsch. 27:175-6.
- 558 Fiscus, C.H. 1972. Northern fur seal-Steller's sea bear. In: A. Seed (ed.) Seals, sea lions and walruses in eastern North Pacific and arctic waters. Pacific Search Books, Seattle, W.A. pp. 5-11.

- Fiscus, C.H. 1972. Fur seal, Callorhinus ursinus, and northern (Steller) sea lion, Eumetopias jubatus, observations south of the western Aleutian Islands. In: Marine Mammal Biological Laboratory, Fur seal investigations, 1971 (unpublished manuscript), Northwest and Alaska Fish. Cent., Mar. Mammal Div., Natl. Mar. Fish. Serv., NOAA, 7600 Sand Point Way NE, Seattle WA 98115. pp. 109-23.
- 702 Fiscus, C.H. 1979, Interaction of marine mammals and Pacific hake. Mar. Fish. Rev. 41(10):1-9.
- 595 Fiscus, C.H. 1982. Predation by marine mammals on squids of the eastern North Pacific Ocean and the Bering Sea. Mar. Fish. Rev. 44(2):1-10.
- 570 Fiscus, C.H., and H. Kajimura. 1965. Pelagic fur seal investigations, 1964. U.S. Dept. Inter., U.S. Fish. Wildl. Serv., Spec. Sci. Rep. Fish. 522, 47 pp.
- 571 Fiscus, C.H., and H. Kajimura. 1967. Pelagic fur seal investigations, 1965. U.S. Dept. Inter., U.S. Fish. Wildl. Serv., Spec. Sci. Rep. Fish. 537, 42 pp.
- 739 Fiscus, C.H., and V.B. Scheffer. 1962. Variety of food remains in stomachs of Steller sea lions. U.S. Fish Wildl. Serv., Bur. Commer. Fish., Mar. Mammal Biol. Lab., Seattle, WA. 13 pp. (unpublished manuscript).
- Fiscus, C.H., K. Niggol, and F. Wilke. 1961. Pelagic fur seal investigation, California to British Columbia. U.S. Fish and Wildl. Serv. vi + 87 pp. (unpublished manuscript).
- Fiscus, C.H., G.A. Baines, and F. Wilke. 1964. Pelagic fur seal investigations, Alaska waters 1962. U.S. Fish Wildl. Serv. Spec. Sci. Rep. Fish. 475, 59 pp.
- Fish, J.F., J.L. Sumich, and G.L. Lingle. 1974. Sounds produced by the gray whale, Eschrichtius robustus. Mar. Fish. Rev. 36:38-45.
- Fisher, H.D. 1947. The biology, economic status and control of the harbour seal (Phoca vitulina richardii) in British Columbia with particular reference to the Skeena River area. M.A. thesis, Univ. British Columbia, Vancouver, B.C., 102 pp.
  - 76 Flower, W.H. 1872. On Risso's dolphin, Grampus grisseus. Trans. Zool. Soc. Lond. 8(1):1-21.
- Ford, J.K.B. 1984. Call traditions and dialects of killer whales (Orcinus orca) in British Columbia. Univ. British Columbia, Vancouver, B.C., 435 pp.
- 190 Friis, L.K. 1975. Environmental contamination by pesticides in British Columbia 1966-1974. Part 2: Birds and mammals. Wildlife Mgmt. Rep. 12, 39 pp.
- 705 Gambell, R. 1968. Aereal observations of sperm whale behavior based on observations, notes and comments by K.J. Pinkerton. Norsk Hvalfangsttid 57:126-38.
- 252 Gambell, R. 1976. World whale stocks. Mammal Review 6:41-53.
- 191 Garrett, C.L. 1976. Environmental contamination by polychlorinated biphenyls (PCB's) in British Columbia, A summary of current data, 1976. Environmental Protection Service, Pacific Region, EPS-8-PR-76-3, 73 pp.
- Gaskin, D.E. 1976. The evolution, Zoogeography and ecology of Cetacea. Oceanogr. Mar. Biol. Annu. Rev. 14:247-346.
- 274 Gaskin, D.E. 1982. The Ecology of Whales and Dolphins. Heinsmann, Exeter, New Hampshire, 459 pp.
- 596 Gaskin, D.E., P.W. Arnold, and B.A. Blair. 1974. Phocoena phocoena. Mamm. Species 42:1-8.
- 83 Gaston, A.J., and I.L. Jones. in press. Seabirds and marine mammals recorded in western Hecate Strait in spring and early summer, 1984-1989.
- 422 Gentry, R.L. 1967. Underwater auditory localization in the California sea lion (Zalophus californianus). J. Aud. Res. 7:187-93.
- 85 Gentry, R.L. 1970. Social behaviour of the Steller sea-lion. Ph.D. Thesis. Univ. California, Santa Cruz, C.A.
- Gentry, R.L. 1981. Land-sea movements of northern fur seals relative to commercial harvesting. In: J.A. Chapman and D. Pursley (eds.), Worldwide Furbearer Conference Proceedings. Aug. 3-11, 1980. Univ. Maryland, Frostburg, MD 21532. 2:1328-59.

- 572 Gentry R.L., and J.H. Johnson. 1981. Predation by sea lions on northern fur seal neonates. Mammalia 45:423-30.
- 457 Gilmore, R.M. 1951. The whaling industry: whales, dolphins, and porpoises. In: D.K. Tressler and J.M. Lemon (eds.) Marine products of Commerce. Reinhold, New York. pp. 680-715.
- 740 Gilmore, R.M. 1978. Some news and views of the gray whale, 1977; Part 1. Migration into and out of the Bering Sea. Whalewatcher 12(1):4-8.
- 726 Goodman, D. 1984. Annual report on cetaceans in Canada. Paper SC/36/0 25 presented to the IWC Scientific Committee, May 1984. (unpublished manuscript).
- 92 Gray, J.E. 1846. On the cetaceans animals. In: J. Richardson and J.E. Gray (eds.) The Zoology of the Voyage of H.M.S. Erebus and Terror under the command of Captain Sir James Clarke Ross, RN, FRS, during the years 1839-1843. 1:13-53 + 37 pls.
- 727 Guerrero, J.A. 1985. Foraging behavior of gray whales in relation to patch dynamics of their benthic prey along Vancouver Island, British Columbia. In: Abstracts of the Sixth Biennial Conference on the Biology of Marine Mammals, November 22-26, 1985. Vancouver, B.C.
- 605 Guiguet, C.J. unpublished data. Museum catalogues and field notes from 1960 to 1970. Royal British Columbia Museum, Victoria, B.C.
- Hall, J.D. 1986. Notes on the distribution and feeding behavior of killer whales in Prince William Sound. In: B.C. Kirkevold and J.S. Lockard (eds.), Behavioral Biology of Killer Whales. Alan R. Liss, New York pp. 69-83.
- 720 Hall, J.D., and M.F. Tillman. 1977. A survey of cetaceans of Prince William Sound and adjacent vicinity, their numbers and seasonal movements. Environ. Assess. Alask. Cont. Shelf. 1:681-708.
- 434 Harrison, J.P. 1954. An 1849 statement on the habits of right whales by Captain Daniel McKenzie of New Bedford. American Neptune 14(2):139-41.
- 522 Harrison, R.J., R.C. Hubbard, R.S. Peterson, C.W. Rice, and R.J. Schusterman (eds.) 1968. The Behavior and Physiology of Pinnipeds. New York, Appleton-Century-Crofts.
- 2166 Hatler, D. 1972. Gray whale. In: Mammal survey. Pacific Rim National Park. Report for Pacific Rim National Park, Ucluelet, B.C., pp. 174-8. (unpublished manuscript).
- 684 Hay, R.B. 1976. An environmental study on the Kitimat region with special reference to the Kitimat River estuary. Prepared for the Canadian Wildlife Service, Pacific and Yukon Region, Delta, B.C. 59 pp. + 4 appendices.
- 507 Heimlich-Boran, S.L. no date. Social organization of killer whales (Orcinus orea) in the Pacific Northwest. Friday Harbor Mus.
- 1164 Heizer, R.F. 1941. Aboriginal whalig in the Old and New Worlds. Ph.D. thesis, Univ. California, Berkeley.
- 200 Herlinveaux, R.H. 1961. Data record of oceanographic observations made in Pacific Naval Laboratory underwater sound studies, 1961. Pacific Oceanographic Group, Fish. Resh. Bd. Can. MS. Rep. 108, 85 pp.
- 201 Herlinveaux, R.H. 1963. Data record of observations made in Pacific Naval Laboratory underwater sound studies, November 1961 to November 1962. Pacific Oceanographic Group, Fish. Resh. Bd. Can. MS. Rep. 146, 107 pp.
- 105 Hershkovitz, P. 1966. Catalog of living whales. U.S. National Museum Bull. 246. 259 pp.
- 728 Heyning, J.E., and M.E. Dahlheim. 1990. Strandings and incidental takes of gray whales. Paper SC/A90/G2 presented to the IWC Scientific Committee, April 1990.
- 150 Howard Paish and Associates Limited. 1973. An environmental overview assessment of the District of Kitimat, B.C. Prepared for the District of Kitimat by Howard Paish and Assoc. Ltd., Environmental and Resource Management Consultants, Vancouver, B.C. 125 pp. (unpublished manuscript).
- Howay, F.W. 1931. A list of trading vessels in the maritime fur trade, 1785-1825. Royal Soc. Canada Trans. ser. 3, sec. 2, 24(1931):111-34, 25(1932):117-49, 26(1933):43-86, 27(1934):119-47, and 28(1935):11-49. Reprinted in A. Pierce. (comp.). 1973. A List of Trading Vessels in the Maritime Fur Trade, 1785-1825. Limestone Press, Kingston, Ont.
- Howay, F.W. (ed.) 1938. The Voyage of the "New Hazard". Peabody Museum, Salem, Mass.

- Howay, F.W. (ed.) 1940. The Journal of Captain James Colnett aboard the "Argonaut", 1789-1791. The Champlain Soc. Publ. XXVI, Toronto, 33 pp.
- 1012 Howay, F.W. (ed.) 1941. Voyages of the "Columbia" to the Northwest Coast, 1787-1790 and 1790-1793. Coll. Massachusetts Hist. Soc. Vol. 79, Boston.
- 722 Hoyt, E. 1981. The Whale called Killer. E.P. Dutton, New York. 226 pp.
- 294 Hoyt, E. 1987. The Smithsonian's Jim Mead. Cetus 7(2):20-5.
- Hubbs, C.L. 1965. Data on speed and underwater exhalation of a humpback whale accompanying ships. Hvalradet Skrifter 48:42-4.
- Hudnall, J. 1981. Population estimate, feeding behaviour and food sources of gray whales (Eschrichtius robustus), occupying the Straits of Juan de Fuca, British Columbia. Proc. Bienn. Conf. Biol. Mar. Mamm. 4th. 1981 Abstracts, p. 58
- 729 Hudnall, J. 1985. Determination of primary food resource, seafloor suction-feeding technique and bottom-sediment impact of a summer-resident gray whale, west coast of Vancouver Island, British Columbia, Canada. In: Abstracts of the Sixth Biennial Conference on the Biology of Marine Mammals. November 22-26, 1985. Vancouver, B.C.
- 462 International Whaling Commission Scientific Committee. 1971. Report of the Special Meeting on Sperm Whale Biology and Stock Assessments. Int. Whaling Comm. Rep.
- 107 International Whaling Commission. 1983. Report of the sub-committee on small cetaceans. Int. Whaling Comm. Rep. Annex H. 33:152-70, 34:144-60 and 36:112-7.
- 730 International Whaling Commission. 1986. Report of the subcommittee on protected species and aboriginal subsistence whaling. Int. Whaling Comm. Rep. 36:95-111.
- 108 Islands Protection Society. 1984. Islands at the Edge: Preserving the Queen Charlotte Island Wilderness. Douglas & McIntyre, Vancouver, 160 pp.
- 1060 Ivashin, M.V., and A.A. Rovnin. 1967. Some results of Soviet whale marking in the waters of the North Pacific. Nor. Hvalfangst-Tidende. 56(6):123-35.
- Jacobsen, J.K. 1986. The behavior of Orcinus orea in the Johnstone Strait, British Columbia. In: B.C. Kirkevold and J.S. Lockard (eds.) Behavioral Biology of Killer Whales. Alan R. Liss, New York pp. 135-85.
- 480 Jameson, R.J., K.W. Kenyon, A.M. Johnson, and H.M. Wight. 1982. History and status of translocated sea otter populations in North America. Wildlife Society Bull. 10:100-7.
- Jamieson, G.S., and G.D. Heritage. 1987. Experimental flying squid fishing off British Columbia, 1985 and 1986. Canadian Ind. Rep. Fish. Aquat. Sci. No. 179.
- 1072 Jefferson, T.A. 1989. Calving seasonality of Dall's porpoise in the eastern North Pacific. Marine Mammal Sci. 5:196-200.
- 1073 Jefferson, T.A. 1990. Sexual dimorphism and development of external features in the Dall's porpoise, Phocoenoides dalli. Fish. Bull. 88:119-32.
- Jefferson, T.A., P.J. Stacey, and R.W. Baird. 1991. A review of killer whale interactions with other marine mammals: predation to co-existence. Mammal Review 22(4): (in press).
- 723 Jeune, P. 1979. The Whale Who Wouldn't Die. The True Story of "Miracle". Follett Publishing Co., Chicago. 190 pp.
- Jones, L.L. 1983. Incidental take of the Dall's porpoise and harbour porpoise by Japanese salmon driftnet fisheries in the western North Pacific. Paper SC/35/SM8 presented to the IWC Scientific Committee, June July 1983, 20 pp. (unpublished manuscript).
- Jones, L.L., and T.C. Newby. 1980. Porgress Report on life history studies of Dall's porpoise in the northwestern Pacific, 1978-79. In: INPFC list of documents, 1980. Doc. No. 2269: 33 pp.
- 573 Jordon, D.S. (ed.) 1898. The fur seals and fur seal islands of the North Pacific Ocean. U.S. Treas. Dept. Doc. 2017, Washington, D.C., U.S. Gov. Print. Off.

- 423 Jurasz, C.M., and V.P. Jurasz. 1979. Ecology of humpback whale. Draft report for U.S. Nat. Park Service, Contract no. CX-9000-7-0045. 118 pp. + tables and diagrams. (unpublished manuscript).
- 424 Jurasz, C.M., and V.P. Jurasz. 1979. Feeding modes of the humpback whale, Megaptera novaeangliae, in southeast Alaska. Sci. Rep. Whales Res. Inst. 31:69-83.
- Kasuya, T., and D.W. Rice. 1970. Notes on baleen plates and on arrangement of parasitic barnacles of gray whales. Sci. Rep. Whales Res. Inst. 22:39-43.
- Kato, H. 1984. Observation of tooth scars on the head of male sperm whale, as an indication of intra-sexual fightings. Sci. Rep. Whales Res. Inst. 35:39-46.
- 692 Katona, S., and H. Whitehead. 1981. Identifying humpback whales using their natural markings. Polar Record 20:439-44.
- 392 Katona, S., B. Baxter, O. Brazier, S. Kraus, J. Perkins, and H. Whitehead. 1979. Identification of humpback whales by fluke photographs. In: H.E. Winn, and B.L. Olla (eds.) Behavior of Marine Animals. Vol. 3. Plenum Press, New York, pp. 33-44.
- 483 Kenyon, K.W. 1960. Territorial behavior and homing in the Alaska fur seal. Mammalia 24:431-44.
- 112 Kenyon, K.W. 1963. Recovery of the fur bearer. Nat. Hist. 72(9):12-20.
- 113 Kenyon, K.W. 1969. The Sea Otter in the Eastern Pacific Ocean. Dover Publications Inc., New York, N.Y. 352 pp.
- 1114 Kenyon, K.W., and V.B. Scheffer. 1953. The seals, sea-lions and sea otter of the Pacific coast: Information with drawings to aid in field identification. U.S. Fish Wildl. Serv. Wildlife Leaflet 344, 28 pp.
- 667 Keyes, M.C. 1965. Pathology of the northern fur seal. J. Am. Vet. Med. Assoc. 147:1090-5.
- 2155 Kleinenberg, S.E., and G.A. Klevelzal. 1962. On methods of aging toothed whales. Fish. Res. Bd. Canada. No. 407 (translation series) 145(2):460-2.
- Kriete, B. no date. An energetic study of free ranging killer whales, Oreinus orea. Dept. Animal Sci., Univ. B.C. (unpublished manuscript).
- 1061 Kugler, R.C. 1981. Historical records of American sperm whaling. In: Mammals in the Seas, Vol. 3. General Papers on Large Cetaceans. UN FAO Fish. Ser. 5, Vol. 3, Rome, pp. 321-6.
- 602 Lander, R.H. (ed.) 1980. Summary of northern fur seal data and collection procedures. Vol. 2: Eastern Pacific pelagic data of the United States and Canada (excluding fur seals sighted). U.S. Dept. Commer., NOAA Tech. Memo. NMFS F/NWC-4. 541 pp.
- 603 Lander, R.H., and H. Kajimura (eds.) 1980. Summary of northern fur seal data and collection procedures. Vol. 3: Western Pacific pelagic data of the Soviet Union and Japan, 1958-1978 (excluding fur seals sighted). U.S. Dept. Commer., NOAA Tech. Memo. NMFS F/NWC-5. 304 pp.
- Lane, R.K., R.H. Herlinveaux, W.R. Harling, and H.J. Hollister. 1960. Oceanographic data record, coastal seaways projects, October 3 to 26, 1960. Pacific Oceanographic Group, Fish. Res. Bd. Can. MS. Rep. 83, 142 pp.
- Lane, R.K., J. Butters, W. Atkinson, and H.J. Hollister. 1961. Oceanographic data record, North Pacific surveys, February 6 to March 2, 1961. Pacific Oceanographic Group, Fish. Res. Bd. Can. MS. Rep. 91, 128 pp.
- 221 Lane, R.K., A.M. Holler, J.H. Meikle, and H.J. Hollister. 1961. Oceanographic data record, monitor and coastal projects, March 20 to April 14, 1961. Fish. Res. Bd. Can. MS. Rep. 94, 188 pp.
- Langelier, K.M., R.W. Baird, P.J. Stacey, and R.J. Lewis. 1990. An investigation into the diseases and environmental contaminants of the marine mammals of British Columbia. Presentation to the Canadian Veterinary Students Assoc. Conference, Saskatoon, January 20, 1990 (unpublished manuscript).
- Leatherwood, J.S., and A. Walker. 1982. Population biology and ecology of the Pacific white-sided dolphin, Lagenorhynchus obliquidens, in the northeastern Pacific. Part I. Distribution seasonal movements and abundance with a bibliography and summary of specimen material. SWFC Admin. Rept. LJ-82-18C. 76 pp.
- 120 LeBoeuf, B.J. 1972. Sexual behaviour in the northern elephant seal, Mirounga angustirostris. Behaviour 41:1-26.

- 122 Lewis, R.J., and K. Berry. 1988. Brain lesions in a Pacific white-sided dolphin. J. Wildlife Diseases 24(3):577-81.
- 464 Lockyer, C. 1976. Body weights of some species of large whales. J. Cons. Int. Explor. Mer. 36:259-73.
- 465 Lockyer, C. 1977. Observations on diving behavior of the sperm whale Physeter catodon. In: M. Angel (ed.) A Voyage of Discovery. Pergamon Press, Oxford and New York. pp. 591-609.
- 265 Loughlin, T.R., D.J. Rugh, and C.H. Fiscus. 1984. Northern sea lion distribution and abundance 1956-80. J. Wild. Mgmt. 48:729-40.
- 125 Low, A.P. 1906. Whaling. Chap. 10. In: The Cruise of the Neptune, 1903-1904. Govt. Printing Bureau, Ottawa. pp. 248-82.
- 127 MacAskie, I.B. 1975. Sea otters, a third tranplant to B.C. The Beaver Spring:9-11.
- 668 Margolis, L. 1956. Parasitic helminths and arthropods from pinnipedia of the Canadian Pacific coast. J. Fish. Res. Bd. Can. 13:489-505.
- Martin, P. 1978. A winter inventory of the shoreline and marine oriented birds and mammals of Chatham Sound. 47 pp. (unpublished manuscript).
- 436 Martin, K.R. 1979. Whalemen of letters. Oceans 12(1):20-9.
- 442 Mason, C.F., and S.M. Macdonald. 1986. Otters: ecology and conservation. Cambridge University Press, Cambridge.
- 1117 Mate, B.R. no date. Gray whales Eschrichtius-robustus. Oregon State University (unpublished manuscript).
- 1118 Mate, B.R. no date. Watching whales. Oregon State University (unpublished manuscript).
- 129 Mathews, L.H. 1937. The humpback whale, Megaptera nodosa. Discovery Repts. (Cambridge) 17:7-92.
- 130 Mathews, L.H. 1938. The sperm whale, Physeter catodon. Discovery Repts. (Cambridge) 17:93-168.
- 131 Mathews, L.H. 1938. The sei whale, Balaenoptera borealis. Discovery Repts. (Cambridge) 17:183-290.
- Mathisen, O.A., and R.J. Lopp. 1963. Photographic census of the Steller sea lion herds in Alaska, 1956-58. U.S. Fish Wildl. Serv. Spec. Sci. Rep. 424: 17 pp.
- 467 Maury, M.F. 1851. Whale chart. US Hydrographic Office Miscellaneous No. 8514.
- Maury, M.F. 1852 et seq. Whale Chart of the World. (The Wind and Current Charts), Series F. Washington, D.C., 4 sheets, No. 1 (North Atlantic, NE Pacific) dated 1852. Whale Sheet No. 2 (NW Pacific) no date
- 360 Maury, M.F. 1863. The Physical Geography of the Sea. 6th Edition. T. Nelson and Sons, London 493 pp.
- 703 May, A.G. 1940. Notes on the sea otter. Nat. Hist. 52:22-3.
- 690 McLaren, I.A. 1977. The status of seals in Canada. In: T. Mosquin and C. Suchal (eds.) Canada's Threatened Species and Habitats. Can. Nature Federation. Ottawa.
- 1052 Mead, J.E., W.A. Walker, and W.J. Houch. 1982. Biological observations on Mesoplodon carlhubbsi (Cetacean, Ziphiidae). Smithsonian Contr. Zool. No. 344.
- Meares, J. 1791. Voyages made in the years 1788 and 1789 from China to the Northwest coast of America. London. 2 volumes.
- 734 Merilees, B. 1988. Humpback whale observations in northern Georgia Strait. Discovery 17(2):48-9.
- Mitchell, E. 1979. Comments on the magnitude of early catch of East Pacific gray whale (Eschrichtius robustus). Int. Whaling Comm. Rep. 29 SC/30/Doc. 41, pp. 307-14.
- Morejohn, V. 1979. The natural history of Dall's porpoise in the North Pacific Ocean. In: H.E. Winn and B.L. Olla (eds.) Behavior of Marine Animals. Vol. 3. Plenum Press, New York. pp. 45-83.

- 140 Morrell, B. 1832. A Narrative of Four Voyages to the South Sea, North and South Pacific Ocean, Chinese Sea, Ethiopic and Southern Atlantic Ocean, Indian and Antarctic Ocean. From the Year 1822 to 1831. J. & J. Harper, N.Y., 492 pp.
- 630 Morris, R.L., D.V. Ellis, and B.P. Emerson. 1981. The British Columbia transplant of sea otters (Enhydra lutris). Biol. Conserv. 20:291-5.
- 253 Nasu, K. 1963. Oceanography and whaling ground in the subarctic region of the Pacific Ocean. Sci. Rep. Whales Res. Inst. 17:105-55.
- Nemoto, T. 1963. New records of sperm whales with protruding rudimentary hindlimbs. Sci. Rept. Whale Res. Inst. 17:79-81
- Nemoto, T. 1970. Feeding pattern of baleen whales in the ocean. In: J.H. Steele (ed.) Marine Food Chains. Univ. California Press, Berkeley, pp. 241-52.
- Nemoto, T., and T. Kasuya. 1965. Foods of baleen whales in the Gulf of Alaska of the North Pacific. Sci. Rep. Whales Res. Inst. 19:45-51.
- 2176 Newby, T.C. 1975. A sea otter (Enhydra lutris) food dive record. Murrelet 56:19.
- 716 Nichols, J.T. 1927. Impressions of Alaska, -where East and West approximate. Natural History, 26(6):605-13.
- 742 Nichols, J.T. 1950. Additional data on the occurrence of Dall's porpoise. J. Mammal. 31(1):99.
- 146 Nishiwaki, M. 1967. Distribution and migration of marine mammals in the North Pacific area. Bull. Ocean Res. Inst. Univ. Tokyo. 64 pp.
- 426 Nishiwaki, M., and A. Sasao. 1977. Human acitivities disturbing natural migration routes of whales. Sci. Rep. Whales Res. Inst. 29:113-20.
- 471 Nishiwaki, M., T. Hibiya, and S. Kimura. 1956. On the sexual maturity of the sperm whale (Physeter catodon) found in the North Pacific. Sci. Rep. Whales Res. Inst. 13:135-53.
- North Pacific Fur Seal Commission. 1975. North Pacific Fur Seal Commission report on investigations from 1967-1972. Dependable Print. Co., Inc., Hyattsville, Maryland. 212 pp.
- 307 North Pacific Fur Seal Commission. 1984. North Pacific Fur Seal commission report on investigations during 1977-80. NPFSC, Washington, D.C.
- 1043 Northern Fur Seal Commission. 1984. Proceedings of the 27th annual meeting, April 9-13, 1984. Moscow, USSR, NPFSC Comm. Hdqrtrs.
- 295 Odell, D.K. 1987. The mystery of marine mammal strandings. Cetus 7(2):2-6.
- 2157 Ogawa, T., and T. Kemiga 1957. A case of the cachalot with protruded rudimentary hindlimbs. Sci. Rept. Whales Res. Inst. 12:197-208.
- 600 Okutani, T., and T. Nemoto. 1964. Squids as the food of sperm whales in the Bering Sea and Alaska Gulf. Sci. Rep. Whales Res. Inst., Tokyo 18:111-2.
- Olesiuk, P.F., and M.A. Bigg. in prep. Historical kills and population trends of harbour seals (Phoca vitulina) in British Columbia, 1913-70. Can. MS Rep. Fish. Aquat. Sci.
- Olesiuk, P.F., M.A. Bigg, and G.M. Ellis. in prep. Census data for the harbour seals (Phoca vitulina), in British Columbia, 1966-88. Can. MS Rep. Fish. Aquat. Sci.
- 1019 Olesiuk, P.F. in prep. Prey consumption by harbour seals (Phoca vitulina) in the Strait of Georgia, British Columbia. Fish. Bull.
- Omura, H., and S. Ohsumi. 1964. A review of Japanese whale marking in the North Pacific to the end of 1962, with some information on marking in the Antarctic. Norwegian Whaling Gazette 53(4):90-112.
- Orr, R.T., and T.C. Poulter. 1967. Some observations on reproduction, growth and social behaviour in the Steller sea-lion. Proc. Calif. Acad. Sci. 35:193-226.
- Osborne, R.W., F.L. Felleman, and J.R. Heimlich-Boran. 1985. Some variations in the behavior and ecology of socially isolated pods of killer whales, Orcinus orca. NOAA Contract No. 82-ABC-00221.

- 147 Ohsumi, S., M. Nishiwaki, and T. Hibija. 1958. Growth of fin whale in the North Pacific. Sci. Repts. Whales Res. Inst. Tokyo 13:97-133.
- Pacific Oceanographic Group. 1958. Physical, chemical and plankton data record. North Pacific survey, March 11 to April 10, 1958. Fish. Res. Bd. Can. MS. Rep. 16, 220 pp.
- Pacific Oceanographic Group. 1958. Physical, chemical and plankton data record. Coastal survey, April 25 to December 17, 1957. Fish. Res. Bd. Can. MS. Rep. 17, 274 pp.
- Pacific Oceanographic Group. 1959. Physical, chemical and plankton data record. Coastal seaways project, November 12 to December 5, 1958. Fish. Res. Bd. Can. MS. Rep. 36, 120 pp.
- 230 Pacific Oceanographic Group. 1959. Physical, chemical and plankton data record. Coastal seaways project, March 31 to April 22, 1959. Fish. Res. Bd. Can. MS. Rep. 47, 170 pp.
- Pacific Oceanographic Group. 1961. Oceanographic data record, Coastal seaways project, June 8 to July 1, 1959. Fish. Res. Bd. Can. MS. Rep. 52, 210 pp.
- Perez, M.A. 1979. Preliminary analysis of feeding habits of the northern fur seal in the eastern North Pacific and Bering Sea, 1958-1974. In: Preliminary Analysis of Pelagic Fur Seal Data Collected by the U.S. and Canada During 1958-1974. 22nd Annual Meeting of the Standing Scientific Committee, North Pacific Fur Seal Commission.
- 575 Perez, M.A., and M.A. Bigg. 1983. Food habits of northern fur seal (Callorhinus ursinus) off Western America. Submitted to the Standing Scientific Committee, North Pac. Fur Seal Comm. Available Natl. Mar. Mammal Lab., Natl. Mar. Fish. Serv., NOAA, 7600 Sand Point Way N.E., Seattle, W.A. (unpublished manuscript).
- 699 Peterson, R.S. 1965. Behavior of the northern fur seal. Ph.D. thesis, John Hopkins Univ., Baltimore, Maryland. 214 pp.
- 152 Peterson, R.S. 1968. Social behaviour in pinnipeds with particular reference to the northern fur seal. In: R.J. Harrison, R.C. Hubbard, R.S. Peterson, C.E. Rice and R.J. Schusterman (eds.) The Behavior and Physiology of Pinnipeds. Appleton-Century-Crofts, New York, N.Y. pp. 3-53.
- 153 Peterson, R.S., and G.A. Bartholomew. 1967. The natural history and behaviour of the California sea lion. Amer. Soc. Mammal. Spec. Pub. 1. 79 pp.
- Pierre, C. 1801. Voyage autour du Monde ... par Etienne Marchand. (6 vols, 1798-1800, L'Imprimerie de la Republique, Paris) translated by T.N. Longman and O. Rees (vol 1) and T. Cadell Jr. and W. Davies (vol 2), London.
- 1068 Pike, G.C. 1954. B.C. whale stocks studied. Fisherman 16(10):12.
- Provincial Archives. 1966. Nootka. British Columbia Heritage Series, Our Native Peoples. Series 1, Vol. 5. 58 pp.
- 282 Rae, B.B. 1973. Further observations on the food of seals. J. Zool. 169:287-97.
- 669 Rausch, R.L., and D.W. Rice. 1970. Ogmogaster trilineatus sp. n. (Trematoda: Notocotylidae) from the fin whale, Balaenoptera physalus L. Proc. Helminthol. Soc. Washington 37:196-200.
- 2180 Reagan, A.B. 1917. Archaeological notes on western Washington and Adjacent British Columbia. Proc. California Acad. Sci. Fourth Ser. 7:1-31.
- Reeves, R.R. 1975. The right whale. The Conservationist 30(1):32-33,45.
- 427 Reeves, R.R. 1977. The problem of gray whale (Eschrichtius robustus) harassment: at the breeding lagoons and during migration. U.S. Marine Mammal Comm. Rep. MMC-76/06. NTIS PB272 506, 60 pp.
- Reeves, R.R., and S. Leatherwood. 1984. Live-capture fisheries for cetaceans in U.S.A. and Canadian waters, 1973-1982. Int. Whaling Comm. Rep. 34:497-506.
- 155 Reeves, R.R., and S. Leatherwood. 1985. Sightings of right whales (Eubalaena glacialis) in the eastern North Pacific. Document SC/37/PS3, submitted to the June 1985 meeting of the Int. Whaling Comm. (unpublished manuscript).
- Reeves, R.R., and E. Mitchell. 1986. Current status of the gray whale, Eschrichtius robustus. Arctic Biological Station, 48 pp.

- 2132 Reynolds, J.N., and R.M. Gilmore 1969. Moch Dick: or the white whale of the Pacific. A leaf from a manuscript journal. Oceans 1(4):65-80.
- 670 Rice, D.W. 1963. Progress report on biological studies of the larger cetacea in the waters off California. Nor. Hvalfangst-Tid. 7:181-7.
- 353 Rice, D.W. 1967. Cetaceans. In: S. Anderson and J.K. Jones (eds.), Recent Mammals of the World. Ronald Press, New York pp. 291-324.
- Rice, D.W. 1984. Cetaceans. In: S. Anderson and J.K. Jones, Jr. (eds.) Recent Mammals of the World. John Wiley & Sons, Inc., New York. pp. 447-90.
- 2144 Rice, D.W., and C.H. Fiscus. 1968. Right whales in the southeastern north Pacific. Norwegian Whaling Gazette. 57(5):105-7.
- Rice, D.W., and A.A. Wolman. 1970. Sperm whales in the eastern North Pacific: Progress report on research 1959-1969. Int. Whal. Commn. Doc. SP/3, 18 pp.
- 444 Riedman, M.L. 1989. The Pinnipeds: Life at the Interface of Land and Sea. Univ. Calif. Press, Berkeley.
- Ritter, W.E., B.W. Everman, J.N. Cobb, and others. 1919. Scripps Institution for Biological Research. Bulletin 9, 82 pp.
- 1011 Roe, M. (ed.) 1967. The Journal and Letters of Captain Charles Bishop on the North-West Coast of America, in the Pacific and in New South Wales. Hakluyt Soc., 2nd ser., no. 131, Cambridge.
- 748 Sakiura, H., K. Ozaki, and K. Fujino. 1953. Biological investigation of the Northern Pacific baleen whales caught by the Japanese whaling fleet in 1952. Fish. Agency Jpn. Gov., issued by Jpn. Whaling Assoc., printed by Kokusai Bunken Insatsusha, Chiyoda-ku, Tokyo, Japan. 64 pp.
- 1033 Sandegren, F.E. 1970. Breeding and maternal behaviour of the Steller sea lion (Eumetopias jubata) in Alaska. M.Sc. thesis, Univ. Alaska, College, AK, 138 pp.
- 411 Savours, A., and S.G. Brown. no date. A list of Collections of logbooks and journals relating to voyages of British whaling vessels in the northern and southern whale fisheries. (unpublished manuscript).
- 441 Scammon, C.M. 1869. On the cetaceans of the western coast of North America. Proc. Acad. Nat. Sci. Philad., April 1869, pp. 13-63.
- 589 Scammon, C.M. 1870. The sea otters. Am. Nat. 4(2):65-74.
- 744 Scattergood, L.W. 1949. Notes on the little piked whale. Murrelet 30(1):3-16.
- 162 Scheffer, T.H. 1928. Dealing with the seals and sea-lions of the Northwest. Murrelet. 9:57-9.
- 713 Scheffer, V.B. 1945. Growth and behavior of young sea lions. J. Mammal. 26:390-2.
- 165 Scheffer, V.B. 1961. Pelage and surface topography of the northern fur seal. N. American Fauna No. 64. Washington.
- 166 Scheffer, V.B. 1964. Hair patterns in seals (pinnipedia). J. Morphol. 115:291-304.
- 2161 Scheffer, V.B. 1971. Pygmy sperm whale. In: Toothed whales in the eastern north Pacific and Arctic waters. Pacific Search Press
- 364 Scheffer, V.B. 1972. Marine mammals in the Gulf of Alaska. In: D.H. Rosenberg (ed.) A Review of the Oceanography and Renewable Resources of the Northern Gulf of Alaska. pp. 175-207.
- 296 Scheffer, V.B. 1985. Sea otters or shellfish: A choice. Mar. Mamm. Science 1(3):261-2.
- 429 Schusterman, R.J. 1972. Visual acuity in pinnipeds. In: Behaviour of Marine Mammals: Current Perspectives in Research, Vol. 2, Vertebrates. Plenum Press, New York. pp. 469-92.
- 430 Schusterman, R.J. 1981. Behavioral capabilities of seals and sea lions: a review of their hearing, visual, learning and diving skills. The Psychological Record 31:125-43.
- 655 Scott, R.B. 1972. Barkley Sound. Privately published, Victoria, B.C. 278 pp. Illus.

- 231 Scripps Institute of Oceanography. 1960. Oceanic observations of the Pacific: 1950. University of California, Berkeley and Los Angeles, Univ. Calif. Press. 426 pp.
- 243 Scripps institute of Oceanography. 1961. Oceanic observations of the Pacific: Pre-1949. University of California Press, Berkeley and Los Angeles, 349 pp.
- 232 Scripps Institute of Oceanography. 1963. Oceanic observations of the Pacific: 1956. University of California, Berkeley and Los Angeles, Univ. Calif. Press. 458 pp.
- 244 Scripps institute of Oceanography. 1965. Oceanic observations of the Pacific: 1957. University of California Press, Berkeley and Los Angeles, 707 pp.
- 245 Scripps institute of Oceanography. 1965. Oceanic observations of the Pacific: 1958. University of California Press, Berkeley and Los Angeles, 804 pp.
- 246 Scripps institute of Oceanography. 1965. Oceanic observations of the Pacific: 1959. University of California Press, Berkeley and Los Angeles, 901 pp.
- 2153 Seed, A. 1971. The obscure beaked whales. pp. 21-2. In: Toothed whales of the eastern north Pacific and Arctic waters. Pacific Search Press.
- 289 Sergeant, D.E. 1979. Ecological aspects of cetacean strandings. In: J.R. Geraci and D.J. St. Aubin (eds.) Biology of marine mammals: insights through strandings. Final Report. MMC-77/13, US Marine Mammal Comm. Washington, D.C.
- 171 Shane, S. 1987. Risso's dolphin harass pilot whales. West Coast Whales 3(1):3.
- Sheldon, C. 1912. The wilderness of the North Pacific coast islands; a hunter's experiences while searching for wapiti, bears and caribou on the larger coast islands of British Columbia and Alaska. Copp, Clarke, Toronto, 246 pp.
- 366 Sineti, D. 1978. Alaska's whales, a closer look. AK Geogr., Alaska Whales and Whaling 5(4):55-133.
- 431 Slijper, E.J. 1962. Whales. Hutchinson, London.
- 175 Smith, I.D. 1969. The sea otter: a fresh start. Western Fish and Game 4(6):26-8,48,50-2.
- 176 South Moresby Resource Planning Team. 1983. South Moresby land use alternatives. Report of the South Moresby Resource Planning Team, N. Gessler, Chairman, B.C. Ministry of Forests. Queen's Printer, Victoria, 249 pp.
- 355 Spero, D. 1981. Vocalizations and associated behavior of northern right whales, Eubalaena glacialis. In: Abstracts, Fourth Biennial Conference on the Biology of Marine Mammals, 14-18 Dec. 1981. San Francisco, CA 108 pp.
- Stacey, P.J., and R.W. Baird. 1989. Harbour seal predation by killer whales (Orcinus orca). Presentation to the Society for Northwestern Vertebrate Biology, Januray 14, 1989, Victoria, B.C. (unpubl. manuscript).
- 1154 Stacey, P.J., and R.W. Baird. 1991. Status of the false killer whale, Pseudorca crassidens, in Canada. Can Field-Nat. 105(2):189-197.
- 509 Starbuck, A. 1878. History of the American whale fishery from its earliest inception to the year 1876. Washington, D.C. (faesimile ed., preface by Stuart C. Sherman, 2 vols., Argosy-Antiquarian, Ltd. New York 1964)
- 693 Steiner, W.W., J.H. Hain, H.E. Winn, and P.J. Perkins. 1979. Vocalizations and feeding behavior of the killer whale (Orcinus orca). J. Mammal. 60:823-7.
- 588 Stejneger, L. 1936. Georg Wilhelm Steller. Harvard Univ. Press. Cambridge, M.A.
- Steller, G.W. 1899. The beasts of the sea. (Translated by W. Miller and J.E. Miller) In: D.S. Jordan (ed.) The fur seals and fur-seal islands of the North Pacific Ocean. Govt. Printing Off., Washington, D.C., Part 3, Art. 8, 2:289-398.
- 1111 Stewart, E.A., J.B. Foster, T.A. Carson, and P.A. Breen. 1982. Observations of sea urchins, other invertebrates and algae in an area inhabited by sea otters. Can. MS Rep. Fish. Aquat. Sci. 1655, 28 pp.

- 2168 Stirling, D. 1964. Additional records Long Beach Campsite. Report for Interpretation, B.C. Parks Branch, Dept. of Recreation and Conservation, Victoria. (unpublished manuscript).
- 647 Stirling, D. 1968. A naturalist at Wickaninnish. Canadian Audubon 30(5):139-44. Illus.
- 323 Strombom, D.B. 1981. Marine mammal fishery interactions in the northeast Pacific. M.Sc. thesis, Univ. Washington, Seattle, W.A. 189 pp.
- 2179 Sturgis, W. ca. 1799. Fur traders in the north Pacific. Archives of British Columbia, Victoria. Pac. MS. 33: 35 pp.
- Sumich, J.L., and R.M. Gilmore. 1978. Summer occurrences of California gray whales, Eschrichtius robustus, along the west coast of North America. In: Proc. 2nd Conf. Biol. Marine Mammals, San Diego, CA, December 12-15, 1977, p. 9.
- 178 Swan, J.G. 1884. Report on explorations and collections in the Queen Charlotte Islands, B.C. Smithson. Inst. Ann. Rep. for 1884 pp. 37-146.
- 1004 Swarth, H.S. 1911. Birds and mammals of the 1909 Alexander Alaska Expedition. Univ. Calif. Publs. Zool. 7:9-
- 1005 Swarth, H.S. 1922. Birds and mammals of the Stikine River Region of Northern British Columbia and Southeastern Alaska. Univ. Calif. Publs. Zool. 24(2):125-314.
- 1006 Swarth, H.S. 1924. Birds and mammals of the Skeena River Region of Northern British Columbia. Univ. Calif. Publs. Zool. 24:315-94.
- 2152 Terhune, J.M. 1985. Scanning behaviour of harbour seals on haul-out sites. J. Mammal. 66(2):392-5.
  - 704 Terhune, J.M., and M. Almon. 1983. Variability of harbor seal numbers on haul-out sites. Aquat. Mamm. 10:71-
- 1029 Thompson, P.M., M.A. Fedak, B.J. McConnell and K.S. Nicholas. 1989. Seasonal and sex-related variation in the activity patterns of common seals (Phoca vitulina) J. Appl. Ecol. 26:521-35.
- 745 Thorsteinson, F.V., R.W. Nelson, and D.F. Lall. 1961. Experimental harvest of the Steller sea lion in Alaskan waters. U.S. Fish Wildl. Serv., Spec. Sci. Rep. Fish. 371, 15 pp.
- 1168 Tillman, M.F., and J.H. Johnson. 1976. Radio tagging of humpback whales. Report to National Marine Fisheries Service (unpublished manuscript).
- 258 Tonnessen, J.N., and A.O. Johnsen. 1983. The History of Modern Whaling. Univ. California Press, Berkeley, 798 pp.
- 564 Townsend, C.H. 1912. The northern elephant seal Macrorhinus angustirostris (Gill). Zoologica 1:159-73.
- 1015 Trotter, W. 1979. Captain William Trotter's logs and diaries are in the Bradford Public Library, Bradford, Vermont. He commanded the brid Snow Susan which traded in the area between 17 Jan. and 15 Aug. 1797.
- 746 Ulmer, F.A. 1943. Two records of Dall's porpoise (Phocoenoides dalli). J. Mammal. 24(3):394.
- Van Arsdell, J. 1972. B.C. Whaling: The Indians. Raincoast Chronicles 1(1):14-22.
- Walker, W.A., S. Leatherwood, K.R. Goodrich, W.F. Perrin, and R.K. Stroud. 1986. Geographical variation and biology of the Pacific white-sided dolphin, Lagenorhynchus obliquidens, in the Northeastern Pacific. In: M.M. Bryden and R. Harrison (eds.) Research on Dolphins. Clarendon Press, Oxford. pp. 441-65.
- 477 Weilgart, L., and H. Whitehead. 1986. Observations of a sperm whale (Physeter catodon) birth. J. Mammal. 67:399-401.
- Wilson, S.C. 1974. Juvenile play of the common seal Phoca vitulina vitulina, with comparative notes on the grey seal, Halichoerus grypus. Behaviour 48:37-60.
- Withrow, D.E. 1982. Using aerial surveys, ground truth methodology, and haulout behaviour to census Steller sea lions, Eumetopias jubatus. M.Sc thesis, Univ. Washington, Seattle, 102 pp.
- 187 Wood, G., D.K. Caldwell, and M.C. Caldwell. 1970. Behavioural interactions between porpoises and sharks. Investigations on Cetacea 2:264-77.

#### APPENDIX D

List of individuals contacted regarding potential data sets.

Robin Baird
Department of Biological Sciences
Simon Fraser University
Burnaby, B.C. Canada V5A 1S6.

Robin Baird and Pam Stacey
Box 6244
Victoria, B.C. Canada V8P 5L5

The Whale Museum Box 945 Friday Harbor, W.A. 98250 U.S.A

J. Bandy or G. Smith B.C. Fish and Wildlife Branch Parliament Buildings Victoria, B.C. V8V 1X5

Tom Bell Ministry of Parks Garibaldi/Sunshine Coast District Alice Lake Park Brackendale, B.C. VON 1HO

Don Blood 5771 Kerry Lane Nanaimo, B.C. V9T 5N5

Jackie Booth Hammond Bay Environmental Services 3211 Hammond Bay Rd. Nanaimo, B.C. V9T 1E4.

Bruno Bomben Canadian Coast Guard District Superintendant P.O. Bag 3670 Prince Rupert, B.C. V8J 3R1

Jim Borrowman and Bill McKay Stubbs Island Charters Telegraph Cove, B.C. VON 3J0

Wayne Campbell B.C. Provincial Museum 675 Belleville, Victoria, B.C. V8V 1X4

Dr. Michael Castellini Institute of Marine Science University of Alaska Fairbanks, AK U.S.A. 99775-1080 Dr. Ian McTaggart-Cowan 3919 Woodhaven Terrace Victoria, B.C. V8N 1S7

James Darling West Coast Whale Research Foundation Box 384 Tofino, B.C. VOR 220

Martin Dueck Ministry of Environment and Parks RR 1 Site 11, C1 Black Creek, B.C. VOR 1C0

Alan Edie Ministry of Environment and Parks B.C. Wildlife Branch 3726 Alfred Ave, Bag 5000 Smithers, B.C. VOJ 2NO

Donna Grant Archipelago Marine Research 1140 Fort St. Victoria, B.C. V8V 3K8.

H. Dean Fisher 4875 Narvaez Vancouver, B.C. V6L 2J3

John Ford Vancouver Aquarium P.O. Box 3232 Stanley Park Vancouver, B.C. V68 3X8

Bristol Foster RR #4 Mansell Rd. C23 Ganges VOS 1E0

Jerry Ferguson B.C. Parks P.O. Box 19 Tiell, B.C. VOT 1YO

Don Graham P.O. Box 91338 W. Vancouver, B.C. V7V 3N9

Jeff Green 622 Fifth Ave. South West Suite 101 Calgary, Alberta T2P 1M6 Dave Watter
Box 5
Smithers, 8.C. VOJ 2NO

Margo Hearne Box 187 Masset, B.C. VOT 1MO

Bill Henwood Canadian Parks Service 103-267 W. Esplanade North Vancouver, B.C. V7M 1A5

Dr. Jeanette Hermes 4364 West 15th Ave. Vancouver, B.C. V6R 3A8.

Dr. P.W. Hochachka University of British Columbia Dept. of Zoology 6270 University Blvd. Vancouver, B.C. V6T 1W5

Richard A.W. Hoos Director of Environmental and Socioeconomic Services, Amoco Canada P.O. Box 200 Calgary, Alta. T2P 2H8

Erich Hoyt 2929 Dirleton Ave, 11 North Berwick East Lothian, Scotland U.K. EH39 48E

Gary Kaiser Canadian Wildlife Service P.O. Box 340 Delta, B.C. V4K 3Y3

Randy Kashino Seakem Oceanography 2045 Mills Rd., Sidney, B.C. VBL 3S1.

Ken Langelier Island Veterinary Hospital 1621 Townsite Road Nanaimo, B.C. V9S 1N3 Moira Lemmon Canadian Wildlife Service P.O. Box 340 Delta, B.C. V4K 3Y3

Gordon MacDonald Ministry of Parks Zone Supervisor Skeena/Charlottes District RR 4, 1st Avenue Terrace, B.C. V8G 4V2

Ian McDougall Ministry of Environment Vancouver Island Regional Headquarters 2569 Kenworth Rd. Nanaimo B.C. V9T 4P7

Guy Mathias Maritime Museum of British Columbia 28 Bastian Sq., Victoria, B.C. V8W 1H9

Ian McAskie 7468 Lantzville Rd Lantzville, B.C. VOR 2HO

John McDonald ESL Environmental Sciences Limited 2045 Mills Rd. Sidney, B.C. V&L 3S1

Lorne McIntosh Ministry of Environment Bag 5000 Smithers, B.C. VOJ 2NO

Bill Merilees Ministry of Parks Strathcona District Rathtrevor Beach Park Box 1479, Highway 19 Parksville, B.C. VOR 250

Edward Miller
B.C. Provicial Museum
Vertebrate Zoology Division
Victoria, B.C. V8V 1X4

Kieth Moore Ministry of Environment and Parks B.C. Wildlife Branch Main St. Box 370 Queen Charlotte City, B.C. VOT 150 Mary Morris Kallahin Expeditions P.O. Box 131 Queen Charlotte City, B.C. VOT 180

A. Morton General Delivery Simoon Sound, B.C. VOP 1SO

Bill Munro Ministry of Environment Wildlife Branch 780 Blanshard St. Victoria, B.C. V8V 1X5

Dave Nagorson Royal British Columbia Museum 675 Belleville, Victoria, B.C. V8V 1X4

T.G. Northcote University of British Columbia Dept. of Zoology Vancouver, B.C. V6T 1W5

Bob Redhead Pacific Rim National Park Box 280 Ucluelet, B.C. VOR 3A0

A.E. Peden B.C. Provincial Museum Parliament Building Victoria, B.C. VBV 1X4

Ed Pessah Environmental Management Service, Amoco Canada P.O. Box 200 Calgary, Alberta T2P 2H8

Prince Rupert Fisheries and Oceans Field Services Federal Building, Room 109 417 2nd Avenue West Prince Rupert, B.C. V8J 1G8

Debra Hughes
Fisheries and Oceans
P.O. Box 99
Queen Charlotte City, B.C. VOT 180

Natalie McFarland Queen Charlotte Island Museum Box 1, R.R. 1 Second Beach Skidegate, B.C. VOT 150

Doug Burls
Park Warden
South Moresby National Park
P.O. Box 37
Queen Charlotte City, B.C. VOT 150

T.E. Reimchen
Dept. Zoology
University of Alberta
Edmonton, Alberta, T6G 2E1

Herb Klaussen Bennett Environmental Consultants Ltd. 200 - 1130 West Pender St. Vancouver, B.C. V6E 4A4

Bill Schouwenburg P.O. Box 48475 Bentall Center Vancouver, B.C. V7X 1A2

Mike Shepherd Swiftsure Tours Ltd. 1241 Broad St. Victoria, B.C. VBW 2A4

Dr. P Sorensen
Dept. of Zoology
University of Alberta.
Edmonton, Alberta T6G 2E9

Park Warden
South Moresby National Park
P.O. Box 37
Queen Charlotte Island, B.C. VOT 1SO

David J. Spalding 9912 Cenal South Pender Island, B.C. VON 2MO

Paul Spong P.O. Box 258 Alert Bay, B.C. VON 1AO

Sherwood Stutz Headquarters, Modoc National Forest P.O. Box 1741 Alturas, C.A. 96101 U.S.A. Debra Muire Biology Dept. University of Victoria Victoria, B.C. V8W 2Y2

Becky Wigen
Pacific Indentifications
4053 Nethorpe St.
Victoria, B.C. V8X 2AZ

Murray Neuman Vancouver Aquarium P.O. Box 3232 Stanley Park Vancouver, B.C. V6B 3X8

Deborah Cavanagh Vancouver Aquarium P.O. Box 3232 Stanley Park Vancouver, B.C. V6B 3X8

Stephen Leatherwood Humbs - Sea World Research Institute 1700 South Shores Rd. San Diego, Calif. U.S.A. 92109

Karen Miller Hubbs - Sem World Research Institute 1700 South Shores Rd. San Diego, Calif. U.S.A. 92109

Bruce Mate
Hatfield Marine Science Center
Oregon State Univ.
2030 South Marine Science Dr.
Newport, Oregon
U.S.A. 97365

Karl Kenyon 11990 Lakeside Place NE Seattle, Wash. U.S.A. 98125

Samuel McGinnis Biology Dept. California State Univ. Hayward, Calif. U.S.A. 94542 Dr. Terrell Newby P.O. Box 488094 Seattle, WA U.S.A. 98148

William Walker
Section of Mammology
Natural History Museum
of Los Angeles County
900 Exposition Blvd.
Los Angeles, CA, U.S.A. 90007

Dale Rice National Marine Mammal Laboratory NMFS, NWAFC 7600 Sand Point Way, N.E. Bldg. 4 Seattle, WA U.S.A. 98115-0070

Dr. William Perrin National Marine Fisheries Service Southwest Fisheries Center P.O. Box 271 La Jolla, CA U.S.A. 92038

James Harvey
School of Oceanography
Oregon State Univ.
Harine Science Center
Newport, OR
U.S.A. 97365

Donald Calkins Alaska Dept. Fish & Game 333 Raspberry Rd. Anchorage, AK U.S.A. 99502

Laurie Briggs
National Marine Mammal Laboratory
National Marine Fisheries Service
NWAFC
7600 Sand Point Way N.E. Bldg. 4
Seattle, WA, U.S.A. 98115-0070

Marilyn Dahlheim National Marine Hammal Laboratory National Marine Fisheries Servica NWAFC 7600 Sand Point Way N.E. Bldg. 4 Seattle, WA, U.S.A. 98115-0070 Peter Vatcher 3770 W. 15th. Ave. Vancouver, B.C. V6R 2Z8

Kees Vermeer Institute of Ocean Sciences P.O. Box 6000 Sidney, B.C., VBL 4B2

Don Weeden Canadian Coast Guard Principle Lighthouse Keeper 21 Huron St. Victoria, B.C. VBV 4V9

Gord Wolfe Ministry of Environment Skeena Regional Headquarters Bag 5000 3726 Alfred Ave. Smithers, B.C. VOJ 2NO

Ken Zimmer Ministry of Parks Skeena District 3726 Alfred Street Smithers, B.C. VOJ 2NO

Paulette Westlake Fisheries & Oceans 555 West Hastings St. Vancouver, B.C. V68 SG3

Kerry Finley 10232 Summerset Place Sidney, B.C. V&L 4X2

Dr. Carl Christie Directorate of History Department of National Defence Ottawa, Ont.

Dr. Jim Clayton & Ross Lillie Freshwater Institute 501 University Crescent Winnipeg, Man. R3T 2W6

Dennis Girodet Fisheries and Oceans 1205 North Cariboo Highway #97 Quesnel, B.C. V2J 2Y3 Fisheries Officer or Sub-District Supervisor Fisheries and Oceans P.O. Box 130 Bella Coola, B.C. VOT 1CO

Nr. Rob Wilson District 7 Supervisor Fisheries and Oceans 222 - 417 2nd Ave. Prince Rupert, B.C. V8J 1G8

Fisheries Officer or Sub-District Supervisor Fisheries and Oceans Dawsons Landing P.O. Rivers Inlet, B.C. VON 1MO

Fisheries Officer or Sub-District Supervisor Fisheries and Oceans 315 - 450 Federal Bldg. Kitimat, B.C. V8C 176

Mr. Chris Dragseth District & Supervisor Fisheries and Oceans 109 - 417 2nd Ave. West Prince Rupert, B.C. V&J 168

Fisheries Officer or Sub-District Supervisor Fisheries and Oceans P.O. Box 99 Masset, B.C. VOT 1MO

Fisheries Officer or Sub-District Supervisor Fisheries and Oceans P.O. Box 222 Sandspit, B.C. VOT 1TO

Fisheries Officer or Sub-District Supervisor Fisheries and Oceans P.O. Box 222 Sandspit, B.C. VOT 170

Peter J. Hamel The Anglican Church of Canada 600 Jarvis St. Toronto, Ont. M4Y 2J6 Clifford Fiscus 23402 Brier Rd. Brier, WA U.S.A. 98036

John Heyning
Section of Birds and Mammals
Los Angeles County Museum
900 Exposition Blvd.
Los Angeles, CA, U.S.A. 90007

Steven Jeffries Washington Dept. Game Marine Mammal Investigations Mail Stop Ex. 12 Olympia, WA, U.S.A. 98504

Dr. Eugene Lyons
Dept. Veterinary Science
Animal Pathology Bldg. 00761
Univ. Kentucky
Lexington, KY, U.S.A. 40546

Dr. Ole Mathisen School of Fisheries and Science Univ. Alaska, Juneau 11120 Glecier Highway Juneau, AK, U.S.A. 99801

Craig Matkin North Gulf Oceanic Society P.O. Boz 156 Cordova, AK, U.S.A. 99574

Dr. James Mead
Marine Mammal Program
Smithsonian Institution
National Museum of Natural History
Washington, D.C.
U.S.A. 20560

Dr. Joseph Moore 4210 Mossy Oak Dr. Lakeland, FL, U.S.A. 33801

Michael Perez National Marine Hammal Laboratory National Marine Fisheries Service NWAFC 7600 Sand Point Way, N.E., Bldg. 4 Seattle, WA, U.S.A. 98115-0070 Kenneth Pitcher Alaska Dept. Game 333 Raspberry Rd. Anchorage, AK, U.S.A. 99502

David Withrow National Marine Mammal Laboratory National Marine Fisheries Service NWAFC 7600 Sand Point Way, N.E., Blgd. 4 Seattle, WA, U.S.A. 98115-0070

Dick Canning
Cowan Vertebrate Musuem
University of British Columbia
Zoology Dept.
Vancouver, B.C.
V6T 124

Calvor Palmateer Sidney Huseum Sidney, B.C.

Niel & Betty Carey PO Box 55 Sandspit, B.C. VOT 1TO

Denald W. Lint Dept. Zoology University of Manitoba Winnipeg, Man.

Patrick Gearin
National Marine Mammal Laboratory
National Marine Fisheries Service
NWAFC
7600 Sand Point Way, N.E., Blgd. 4
Seattle, WA, U.S.A. 98115-0070

Andrew Barton
Dept. Archaeology
Simon Fraser University
Burnaby, B.C.
V5A 156

Ian Robertson Gartner Lee Burnaby, 8.C. Peter Fraser Vancouver Island Helicopter P.O. Box 333 Sandspit, B.C. VOT 1TO

Ken Horgan c/o Brian Smiley P.O. Box 6000 Institute of Ocean Sciences Sidney, B.C. V&L 4B2