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Environmental Protection Service  
Environment Canada  
Pacific Region

A REVIEW OF EXISTING AND  
HISTORICAL OCEAN DUMPSITES  
IN THE PACIFIC REGION

Regional Program Report: 80-5

by

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ABSTRACT

The Ocean Dumping Control Act of Canada was promulgated on 13 December, 1975. This legislation was created to regulate the deliberate disposal of any substance from ships, aircraft or man-made structures in Canadian territorial waters and all Canadian vessels anywhere in the world. It does not apply to discharges from land-based sources, the dumping of materials for construction purposes, disposal that is incidental to the normal operations of ships and aircraft, or discharges that are incidental to the exploration for or exploitation of off-shore processing of seabed mineral resources.

Following this legislation, Environmental Protection Service researched and documented all available information on past and present ocean dumping activities to identify the scope of these activities in the Pacific Region and to assist in the designation of areas as official dumpsites.

This report includes all available information on historical dumping in the Pacific Region to 31 December, 1979.

RESUME

La loi sur l'immersion des déchets en mer a été promulguée le 13 décembre 1975. Elle vise à réglementer le déversement délibéré de toute substance dans les eaux territoriales canadiennes à partir d'un navire, d'un aéronef ou d'un engin construit par l'homme et, partout dans le monde, à partir d'un navire canadien. Elle ne s'applique pas au rejet de substances à partir de la terre ferme, à l'immersion de matériaux de construction, au déversement qui résulte de l'opération normale d'un navire ou d'un aéronef, de l'exploration de fonds marins ou de l'exploitation des ressources minières qui s'y trouvent.

S'inspirant de cette loi, le Service de la protection de l'environnement a recherché et rassemblé toute la documentation pouvant se rapporter aux déversements qui ont eu lieu dans le passé et qui ont lieu actuellement, dans l'océan, afin d'en déterminer l'ampleur en ce qui concerne le Pacifique et d'aider à déterminer quels secteurs pourraient être choisis officiellement comme points d'immersion.

Ce rapport contient toute la documentation obtenue sur les opérations de déversement qui ont pu avoir lieu dans la période historique antérieure au 31 décembre 1979.

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## 1 INTRODUCTION

The Ocean Dumping Control Act became law in Canada in December 1975, thereby placing controls on the disposal of wastes at sea. Environment Canada was designated to administer the Act and to establish a Permit System to regulate disposal from ships, aircraft, platforms and other man-made structures at sea, and the disposal of substances considered harmful to the marine environment under special circumstances.

The west coast of Canada (Figure 1) is characterized by rugged topography with heavy precipitation which does not readily lend itself to suitable land fill sites. Where flat land is available it is often associated with sensitive habitat areas such as estuaries and river valleys which would be vulnerable to pollutants leaching from land dumped materials. The geographic features which limit the number of land fill sites in British Columbia also provide environments suitable for marine disposal. The numerous inlets on the B.C. coast are generally very deep ( 200 metres) and are usually fed by creeks and rivers which promote good circulation and flushing of the marine waters. The presence of a sill near the mouth of certain inlets reduces adequate deep water exchange and has negative implications for the siting of ocean dump sites. Impact studies conducted in the vicinity of approved ocean disposal sites have thus far indicated minimal deleterious effects on the resident biological communities and no significant elevation in the concentrations of trace contaminants in sediments.

### 1.1 Ocean Dump Sites

The B.C. coastline has been divided into five regions in order to catalogue the incidents of ocean dumping. The regions are Southern Vancouver Island and B.C. South Coast (Figure 2) (Dumpsites 1-66), Northern Vancouver Island and B.C. Central Coast (Figure 3) (Dumpsites 67-92), Queen Charlotte Islands and B.C. North Coast (Figure 4)

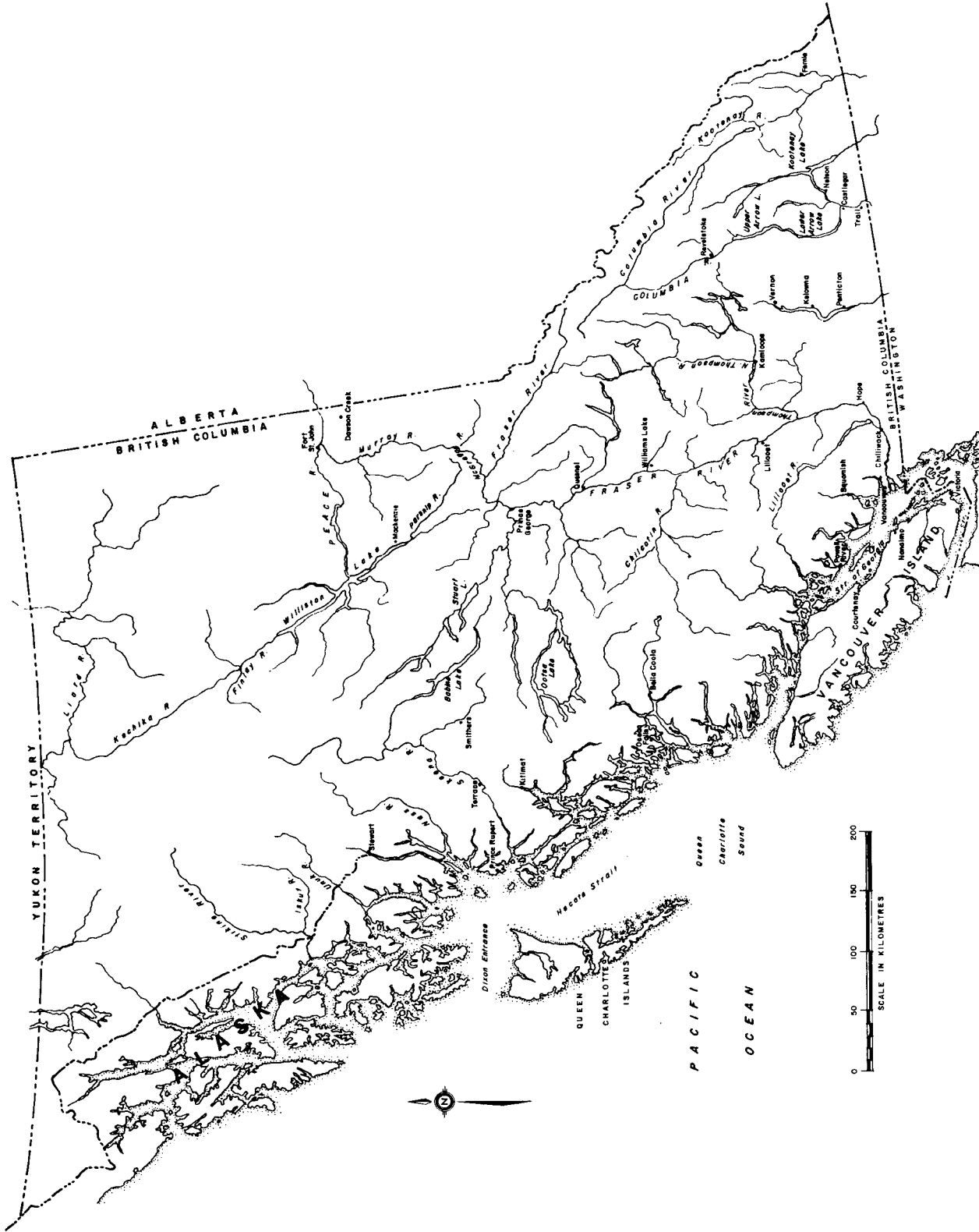


FIGURE 1 LOCATION MAP

(Dumpsites 93-106) and isolated incidents of dumping (Figure 5) (Dumpsites 107-110). Information pertaining to each dumpsite is contained in Appendix III.

A record of the dumping which has occurred under permit at designated dumpsites is contained in the dumpsite summary in Appendix I.

Estimates of total cubic metres of material dumped at existing and historical dumpsites is contained in Appendix II.



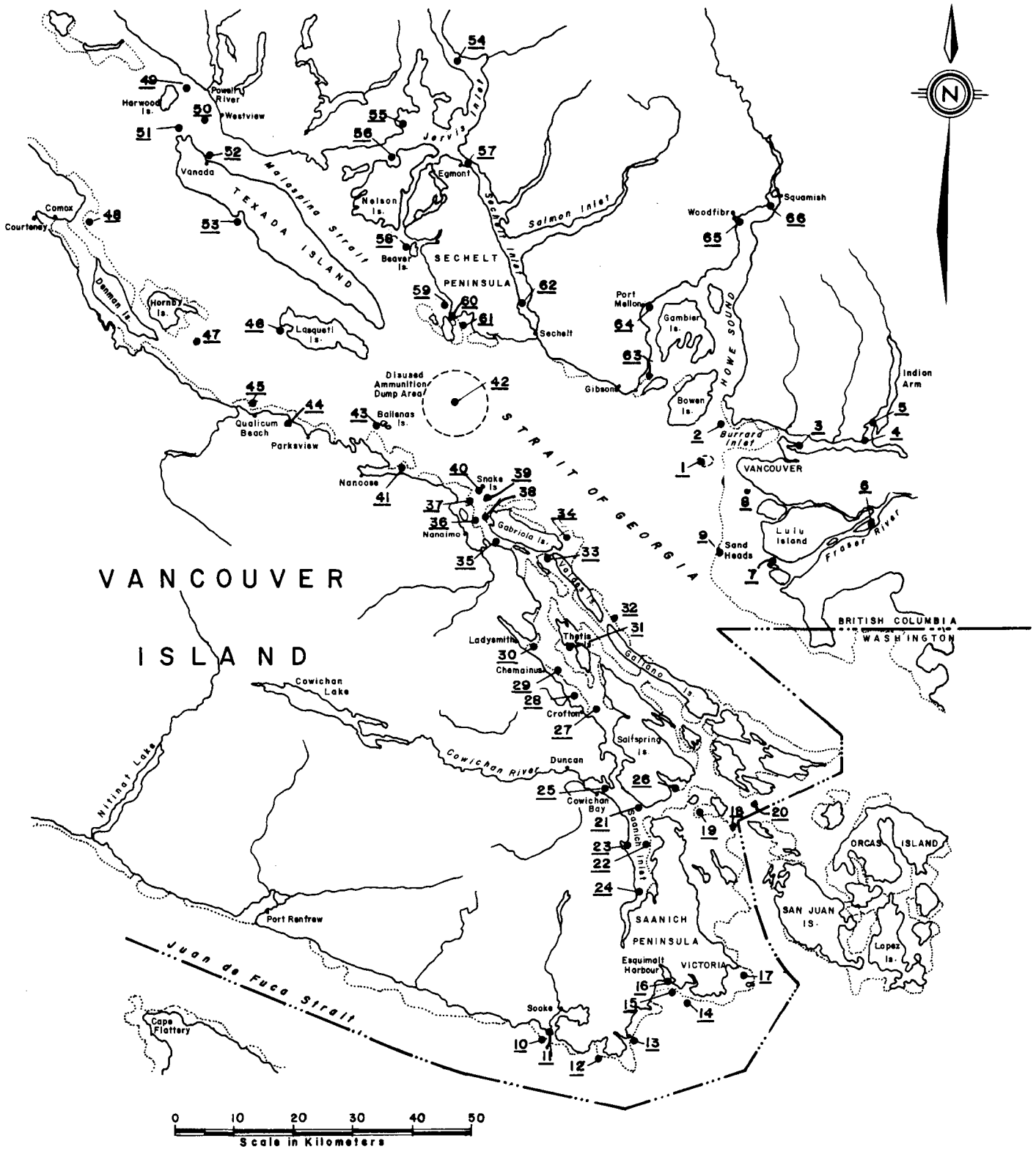
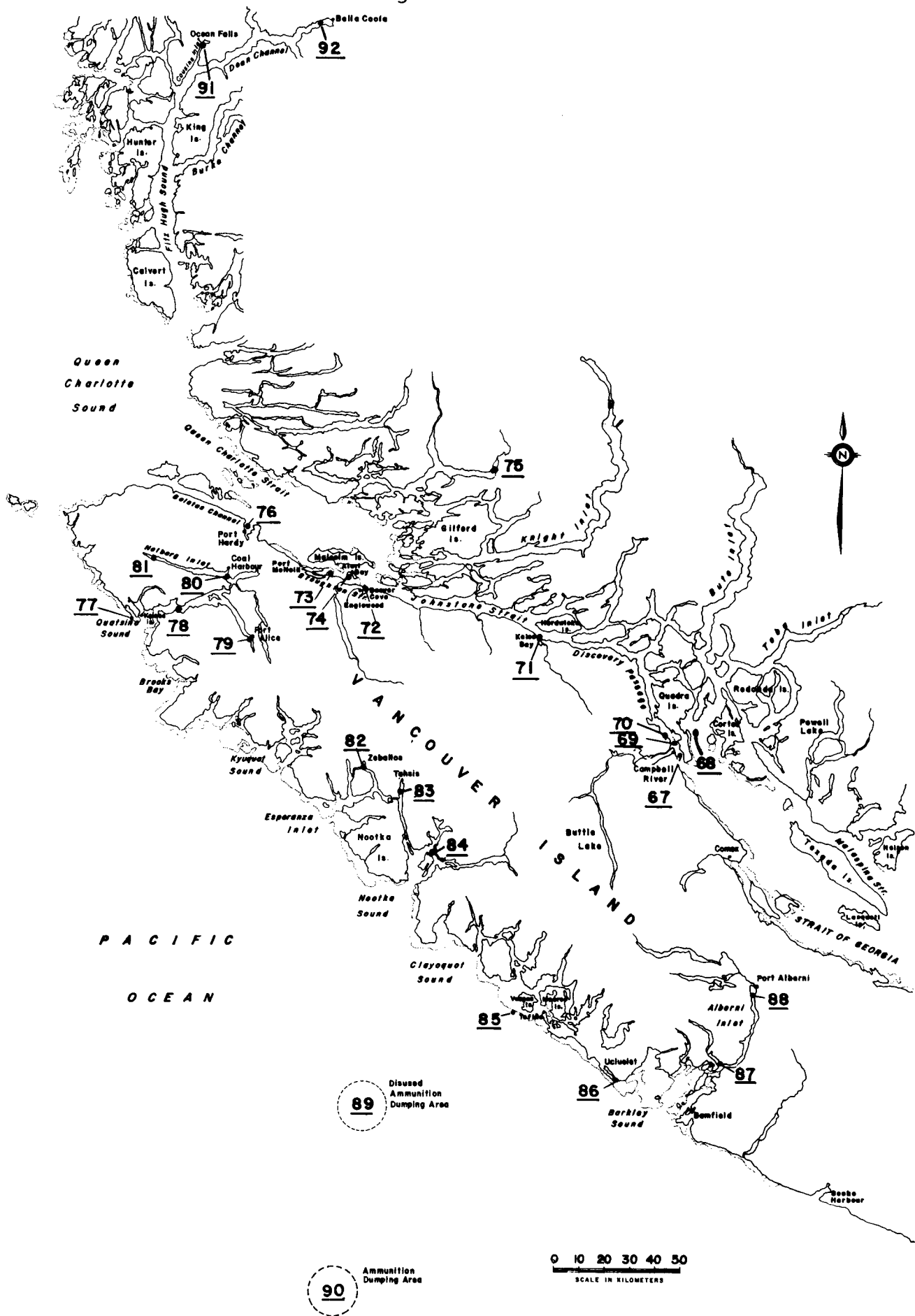


FIGURE 2 OCEAN DUMP SITES - SOUTHERN VANCOUVER ISLAND AND B.C. SOUTH COAST



**FIGURE 3 OCEAN DUMP SITES - NORTHERN VANCOUVER ISLAND AND B.C. CENTRAL COAST**

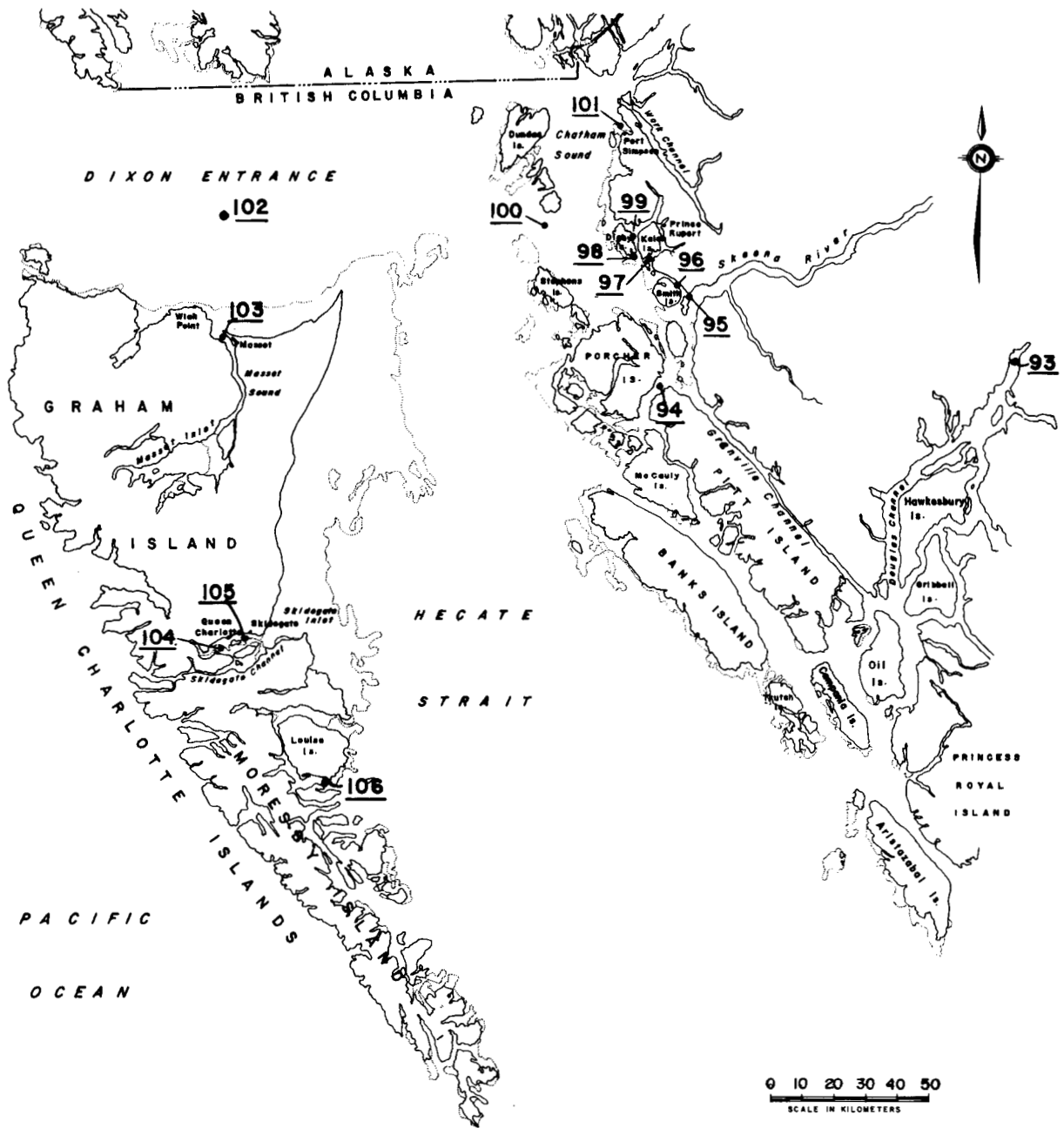


FIGURE 4 OCEAN DUMP SITES - QUEEN CHARLOTTE ISLANDS AND B.C. NORTH COAST



FIGURE 5 OCEAN DUMP SITES - ISOLATED INCIDENTS

## 2 DREDGING AND DUMPING ACTIVITIES

### 2.1 Dredging Activities

Ocean disposal has taken place in British Columbia since the turn of the century. The first recorded dumping occurred in Prince Rupert in 1908. In Victoria and Vancouver, ocean disposal sites were identified and used as early as 1920-1930. In smaller communities and isolated locations on the coast, a 36 metre depth nearest to the dredging site was generally considered adequate as a dumpsite.

Most of the material dumped at sea today is spoil from dredging activities. In B.C. the major requirement for dredging and dumping comes from operations related to the forest products industry. Maintenance of navigable waterways, berthing areas, log storage facilities, etc. require periodic dredging. Channel maintenance necessitated by seasonal sediment loading in river constitutes another major source of dredge material in the province. In addition, dredging and dumping operations are often required for construction, maintenance, and improvements to harbours, marinas, bridges, loading docks, ferry terminals, etc.

### 2.2 Loading and Dumping Equipment

In British Columbia, dredging is carried out by all conventional types of equipment including pipeline suction plants, suction hoppers, clamshell dredges and bucket dredges.

Suction dredge equipment is generally used for homogeneous sediments of silt and sand such as found in the lower Fraser River and Vancouver Harbour. This material is often disposed of at landfill sites; however, large amounts of unsuitable or unwanted dredge spoil are disposed of at ocean dumpsites.

Clamshell and bucket dredge equipment is used for sediments mixed with wood debris and other forms of refuse which preclude suction

dredging. This type of spoil usually originates near sites related to the forest products industry and is loaded on scows or barges for disposal at some alternate location. The material frequently contains high organic levels and other pollutants which may render it unsuitable for landfill where it is susceptible to leaching.

Scows loaded with material for ocean disposal are usually towed to a designated site where a front-end loader empties the scow. A few self-dumping scows also operate on the B.C. coast; however, these are considerably more expensive to construct and are restricted by the type of material to be dumped. Dredge spoils which tend to bind together are not suitable for this method of dumping.

### 2.3 Sources of Material Disposed of at Sea

2.3.1 Forest Products Industry. Dredging is frequently required in log storage and sorting areas at forest products facilities and industries to maintain berthing facilities and navigable channels. The nature of the material from these sites generally makes it unsuitable for landfill or construction purposes due to the high organic content, the possibility of toxic leachates, and the presence of other pollutants. Wood debris, fibre and sediment are loaded onto barges by clamshell or bucket dredge equipment and disposed of at ocean dumpsites. If potential leachates can be contained, or are of minimal concern, the dredge spoil may be disposed of at a landfill site.

2.3.2 Channel Maintenance for Navigation. The heavy annual sediment load carried down rivers, particularly the Fraser River, requires that dredging for channel maintenance be conducted at certain times throughout the year. Harbours, marinas, bridges, wharves, ferry terminals and berthing areas may also require periodic dredging to maintain a minimum acceptable depth. Routine dredging at these sites is generally completed by suction hopper or suction pipeline dredge equipment and much of the dredge spoil is disposed of at landfill sites.

2.3.3 Miscellaneous Dumping. In addition to the recurring dredging and dumping requirements of the forest products industry and the maintenance of navigable waterways, there have been Ocean Dumping Permits issued for several isolated incidents of dumping which should be noted. Emergency dumping of caustic soda, quicklime, chlorine and vanillan black liquor has occurred on the coast since 1950. The existence of the Ocean Dumping Control Act insures that disposal of toxic chemical or dangerous material at sea as a result of an emergency, or isolated incidents of dumping, can be regulated and controlled. Between 1974 and 1976 the Rayonier Canada Ltd. pulp mill at Port Alice, B.C. was permitted to dump spent sulphite liquor 5 km off Vancouver Island in an attempt to maintain dissolved oxygen levels in Neroutsos Inlet. In 1976, 902 000 kg of baroid ballast containing 66% toxic barium sulphate was discharged over several kilometres of open ocean to ensure adequate dilution.

In 1977 and 1978, an experiment was conducted involving the deposit of coal dust and salt on the ice surface near Herschel Island, Yukon (Figure 6), in an attempt to weaken the ice and allow for early breakup. In the winter of 1978, a disabled fish boat belonging to the TAIHEIYO Fish Co. of Japan was towed to a location 160 nautical miles SW of Vancouver Island and sunk by demolition.

Very little information is available on the disposal of radioactive waste off the Canadian Pacific Coast. Radioactive waste disposal is no longer permitted in Canadian waters and disposal has recently been curtailed on the coast of the United States. All radioactive wastes are now disposed of by burning or at the Chalk River Nuclear Power Station.

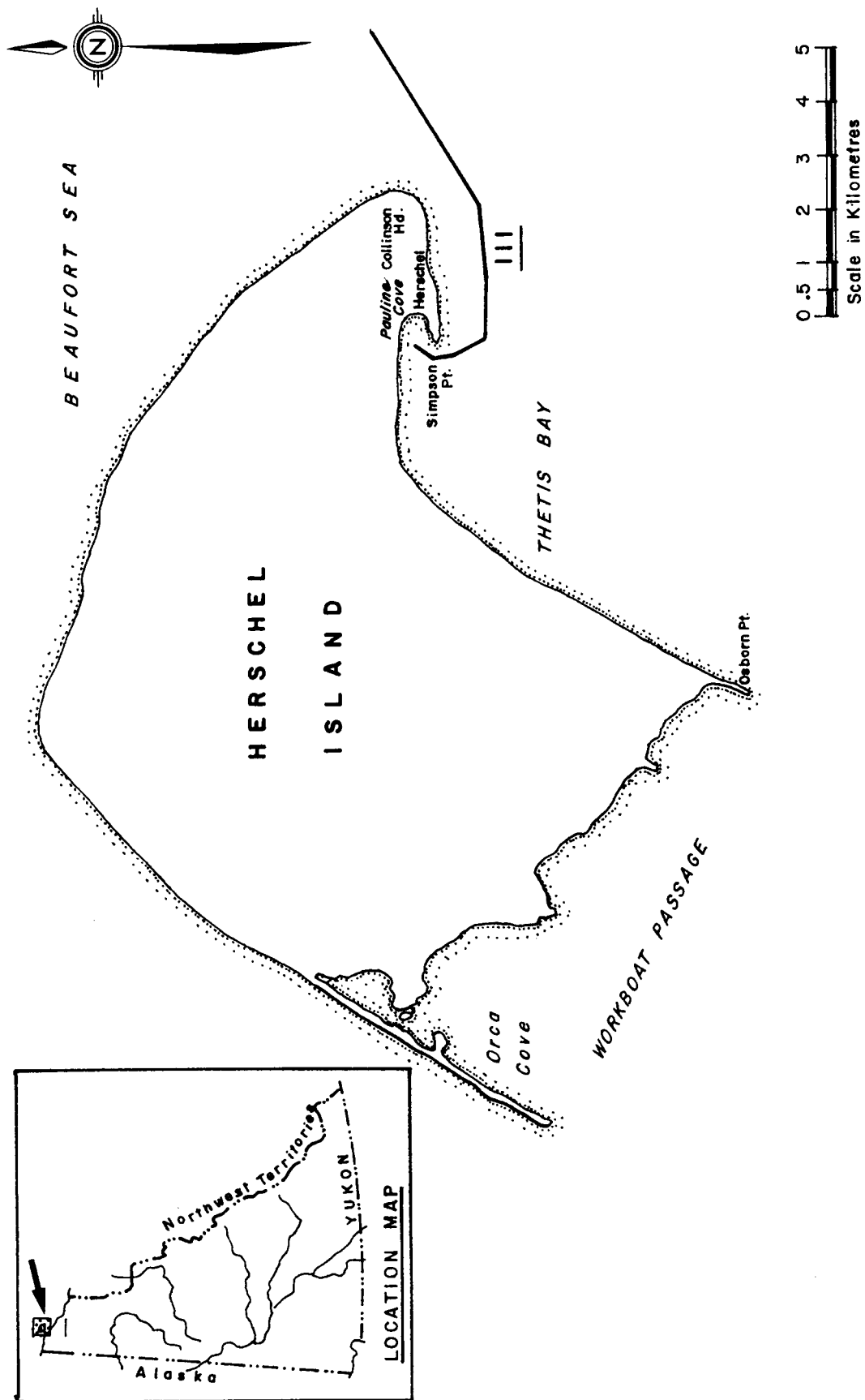


FIGURE 6 HERSCHEL ISLAND: PAULINE COVE OCEAN DUMPSITE



### 3 ADMINISTRATION OF THE OCEAN DUMPING CONTROL ACT

#### 3.1 Permit Applications

Under the Ocean Dumping Control Act all materials to be dumped and/or loaded for the purpose of dumping at sea will require a permit.

Application forms and additional information including a guide to the Ocean Dumping Control Act and a copy of the Act and Regulations, are available from Environmental Protection Service, Kapilano 100, Park Royal, West Vancouver, B.C. V7T 1A2.

Application forms containing all pertinent information are submitted with the appropriate fee to the Permit Issuing Office where they are recorded on a National Database System and subsequently distributed to various Federal and Provincial agencies for review. The final assessment and evaluation procedures for each application are conducted by the Regional Ocean Dumping Advisory Committee (R.O.D.A.C.) which decides whether or not an Ocean Dumping Permit should be issued. This committee is comprised of three scientists who represent Environmental Protection Service, (R.O.D.A.C. chairman), Fisheries and Marine Service, and Ocean and Aquatic Sciences, respectively. Final approval for permit issuance, based on the recommendations of R.O.D.A.C., is indicated by the signature of the Regional Director of Environmental Protection Service on the Permit.

Should the application receive approval, a Permit is issued with various conditions stipulated such as timing restrictions, dump site locations (Figure 7), quantity and type of material to be dumped, method of release, reporting requirements, etc. The Permits issued are effective for a maximum period of one year.

#### 3.2 Restrictions on Dredging and Ocean Dumping

The Department of Fisheries and Oceans imposes timing restriction for dredging and dumping between various specified dates at certain locations on the coast. These restrictions are designed to

insure that the fisheries resources of a particular area are protected during sensitive periods. In the Lower Fraser River clamshell dredging is subject to a site-specific review during the period March 1 to July 30. It is recommended that dredging of organic sediments (containing wood wastes) be scheduled during the period August 1 to March 1. In Vancouver Harbour and Burrard Inlet dredging is prohibited from June 1 to July 15 to protect salmonids released from the Capilano Hatchery. It is recommended that clamshell dredging be scheduled from August 1 to March 1 in this area. In both areas, Lower Fraser and Vancouver Harbour, clamshell dredging of clean, inert and inorganic material is not restricted.

In accordance with the Ocean Dumping Control Act, certain substances are prohibited or restricted from ocean disposal. In Schedule I of the Act, certain substances are prohibited when present at concentrations exceeding those specified below:

- a) organohalogen compounds, quantities shall not exceed 0.01 parts of a concentration shown to be toxic to marine animal and plant sensitive organisms in a bioassay sample and test carried out in accordance with procedures established or approved by the Minister;
- b) mercury and mercury compounds in a solid phase of a waste, 0.75 milligrams per kilogram, and in the liquid phase of a waste, 1.5 milligrams per kilogram;
- c) cadmium and cadmium compounds in a solid phase of a waste, 0.6 milligrams per kilogram and in the liquid phase of a waste, 3.0 milligrams per kilogram;
- d) persistent plastics and other persistent synthetic materials, four per cent by volume, in a suitably comminuted form;
- e) crude oil, fuel oil, heavy diesel oil and lubricating oils, hydraulic fluids and any mixtures containing any of them, any quantity that yields more than 10.0 milligrams per kilogram of n-hexane soluble substances;

- f) high level radioactive wastes or other high level radioactive matter that may be prescribed;
- g) substances in whatever form produced for biological and chemical warfare.

In Schedule II, the following substances are restricted:

- a) arsenic and its compounds;
- b) lead and its compounds;
- c) copper and its compounds;
- d) zinc and its compounds;
- e) organosilicon and its compounds;
- f) cyanides;
- g) fluorides;
- h) pesticides and their by-products not included in Schedule I;
- i) beryllium and its compounds;
- j) chromium and its compounds;
- k) nickel and its compounds;
- l) vanadium and its compounds;
- m) containers and scrap metal;
- o) radioactive wastes or other radioactive matter not included in Schedule I;
- p) substances that by reason of their bulk would interfere with fishing.

### 3.3 Environmental Assessment

The routine monitoring and assessment of potential effects on marine life of dredging/loading and dumping activities is carried out by Environmental Protection Service with input from Fisheries and Marine Service. In addition, a National Ocean Dumping Research Fund has been set up from which annual fund allocations are made to support research

which may more accurately identify the concerns of ocean disposal to clarify long-term environmental implications of dumping certain substances and identify the conditions under which such material may be dumped, and thereby assist in more effective administration of the Act.

Research proposals are submitted by private environmental consultant groups and research scientists and subsequently evaluated by R.O.D.A.C. on the basis of Regional research requirements and National priority guidelines. Final fund allocations are approved in Ottawa by a joint Ocean and Aquatic Science/Environmental Protection Service Committee based on the recommendations of the various R.O.D.A.C. Committees.

#### 3.4 Enforcement of the O.D.C.A.

The Environmental Protection Service is responsible for policing ocean dumping activities to insure that the provisions of the Act are complied with. The Minister of Environment has designated Ocean Dumping Inspectors in each Region whose responsibility is to investigate possible contraventions of the Act, inspect O.D. activities and, where appropriate, lay charges against the persons involved in the activity. Ocean Dumping Inspectors working out of the Permit Issuing Office also conduct periodic inspections and surveillance to insure that dredging/loading and dumping operations carried out under a valid permit are conducted in accordance with the conditions outlined therein.

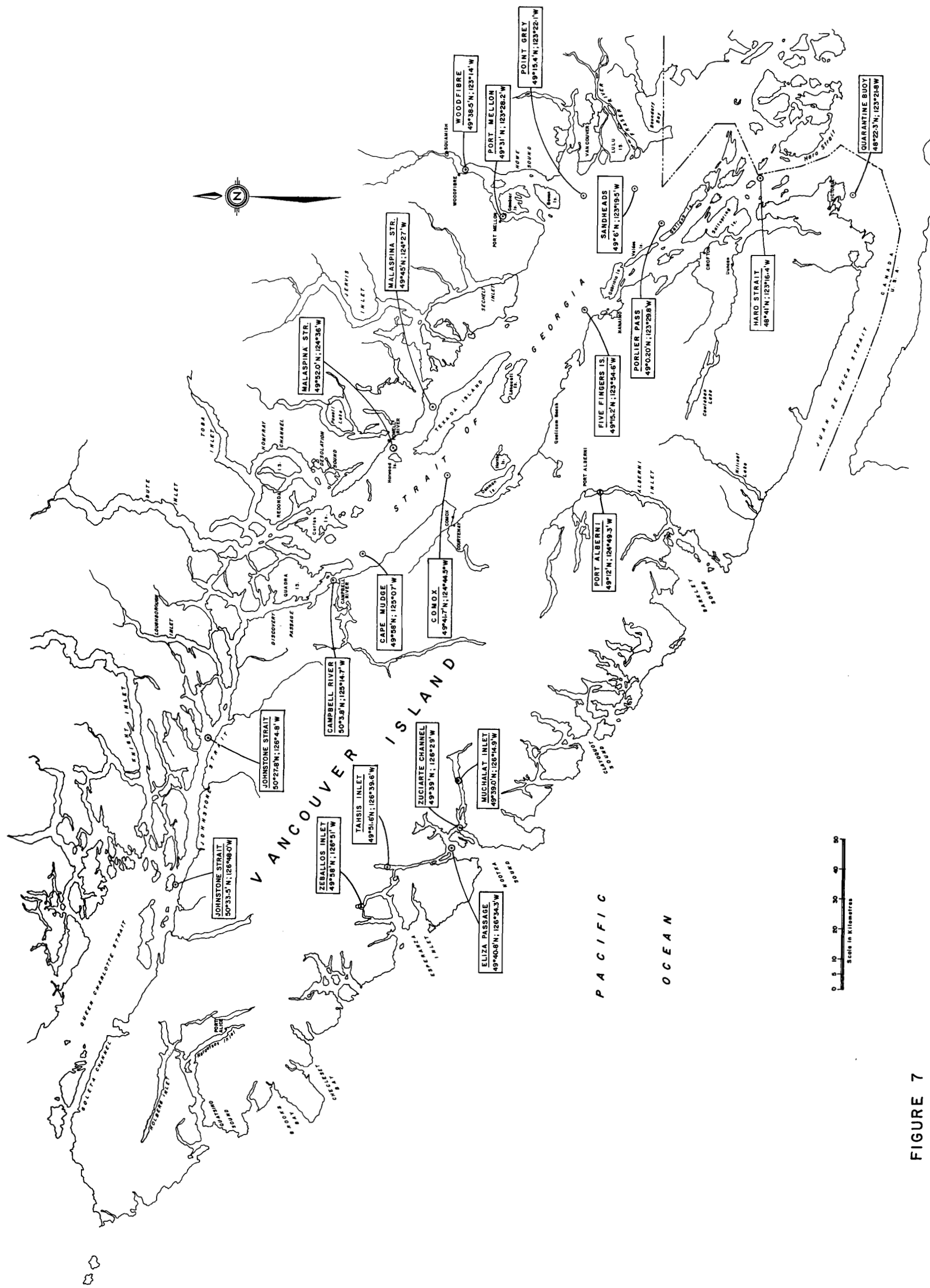


FIGURE 7  
 MAJOR OCEAN DUMP SITES IN BRITISH COLUMBIA

APPENDIX I

DUMPSITE SUMMARY

APPENDIX I DUMPSITE SUMMARY

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
Point Grey	4443-0011	(1 150 000)	97 531	-	-	-
49°15'N; 123°22'W	4443-0013	7 600	7 600	-	-	-
	4443-0016	42 000	39 925	-	-	-
	4443-0029	38 000	17 813	-	-	-
	4443-0030	7 600	5 351	-	-	-
	4443-0035	17 000	-	6 116	-	-
	4443-0040	7 600	-	4 587	-	-
	4443-0042	152 900	-	-	-	-
	4443-0044	3 800	458	994	-	-
	4443-0045	3 800	917	-	-	-
	4443-0048	8 000	6 574	-	-	-
	4443-0119	3 800	3 800	-	-	-
	4443-0141	22 935	830 tons	8 410	-	-
	4443-0164	15 290	-	-	-	-
	4443-0169	12 996	6 400	2 446	-	-
	4443-0172	1 529	1 529	-	-	-
	4443-0177	3 058	-	-	-	-
	4443-0178	22 935	3 058	18 000	-	-

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
			ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
Point Grey (cont'd.) 49°15'N; 123°22'W	4443-0180	7 600	-	7 600	-	-
	4443-0190	3 822	-	-	-	-
	4443-0196	19 113	-	3 058	-	-
	4443-0208	15 290	-	15 290	-	-
	4443-0238	114 000	-	6 116	-	-
	4443-0282	17 201	-	3 058	-	-
	4443-0296	76 000	-	55 579	-	-
	4443-0322	340 000	-	340 000	-	-
	4443-0323	304 000	-	229 350	-	-
	4443-0324	6 120	-	6 120	-	-
	4443-0325	3 800	-	3 800	-	-
	4443-0326	3 800	-	3 800	-	-
	4443-0327	152 000	-	-	1 147	-
	4443-0347	1 147	-	-	1 147	-
4443-0350	1 529	-	-	-	-	
4443-0356	22 935	-	6 000	-	-	
4443-0367	76 000	-	15 290	-	-	
4443-0368	13 000	-	-	1 529	-	

Continued...



APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
			ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
Point Grey (cont'd.)	4443-0391	23 000	-	-	2 141	-
49°15'N; 123°22'W	4443-0394	20 000	-	-	16 055	-
	4443-0416	32 109	-	-	30 274	2 290
	4443-0450	22 935	-	-	14 602	229
	4443-0455	114 675	-	-	8 529	841
	4443-0496	11 000	-	-	11 000	-
	4443-0509	7 650	-	-	3 060	2 360
	4443-0510	7 650	-	-	2 620	460
	4443-0537	76 000	-	-	28 255	23 635
	4443-0569	17 200	-	-	-	1 530
	4443-0587	3 060	-	-	2 265	-
	4443-0594	7 650	-	-	-	5 350
	4443-0605	4 970	-	-	3 820	765
	4443-0611	9 175	-	-	3 520	4 700
	4443-0616	12 000	-	-	-	16 500 (both years)
	4443-0617	60 000	-	-	43 800	-
	4443-0640	1 000	-	-	-	1 000
	4443-0764	6 000	-	-	-	4 788
	4443-0836	1 600	-	-	-	1 500

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
			1976	1977	1978	1979
Sandheads 49°05'N; 123°19'W	4443-0011	1 150 000	1 302 400	-	-	-
	4443-0140	1 150 000	104 000	946 000	-	-
	4443-0162	764	1 681	-	-	-
	4443-0200	6 116	-	6 116	-	-
	4443-0248	38 225	-	21 788	-	-
	4443-0357	1 150 000	-	104 000	-	-
	4443-0373	7 600	-	5 218	-	-
	4443-0450	22 935	-	-	5 427	-
	4443-0591	974 740	-	-	-	974 740
	4443-0608	15 000	-	-	-	17 660 (both years)

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
			1976	1977	1978	1979
Burrard Inlet	4443-0015	153 000	-	153 000	-	-
49°17.8'N; 123°03.5'W	4443-0289	1 376	-	1 376	-	-
	4443-0017	114 600	24 464	-	-	-
Fraser River, South Arm	4443-0121	95 500	162 400	-	-	-
49°07'N; 123°10'W	4443-0385	22 935	-	4 000	-	-
49°07.1'N; 123°11.1'W	4443-0192	726 332	-	487 564	-	-
49°07.8'N; 123°12'W	4443-0137	12 200	6 100	11 400	-	-
49°05.6'N; 123°05.8'W	4443-0583	100 000	-	-	80 000	-
49°05.6'N; 123°06.2'W	4443-0592	76 450	-	-	76 450	-
49°06.7'N; 123°10'W	4443-0570	200 000	-	-	100 000	50 000
49°07.7'N; 123°12.8'W						
49°08'N; 123°14.5'W						

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
Victoria,						
Quarantine Buoy						
48°22.7'N; 123°24'W	4443-0022	5 400	5 400	-	-	-
48°22.1'N; 123°24.5'W	4443-0091	76 500	1 529	38 225	-	-
- not used -	4443-0143	42 000	-	-	-	-
48°22'N; 123°24'W	4443-0182	760	760	-	-	-
48°22.1'N; 123°24.5'W	4443-0330	55 044	-	15 290	-	-
48°22.1'N; 123°23.5'W	4443-0345	6 116	-	6 116	-	-
48°22.1'N; 123°24.5'W	4443-0375	38 225	-	12 232	21 400	-
48°22.8'N; 123°23.5'W	4443-0393	42 000	-	-	765	-
48°22.7'N; 123°23'W	4443-0471	10 000 tons	-	-	7 000 tons	-
48°22.5'N; 123°21.8'W	4443-0560	7 650	-	-	7 645	-
48°22.5'N; 123°21.8'W	4443-0596	30 000 tons	-	-	-	14 000 tons
48°22.5'N; 123°21.8'W	4443-0628	7 600	-	-	-	7 600
48°22.5'N; 123°21.8'W	4443-0629	2 100	-	-	-	1 687
48°22.5'N; 123°21.8'W	4443-0773	4 000	-	-	-	500
Sooke Basin						
49°19'N; 123°45'W	4443-0135	1 500	1 500	-	-	-

Continued....

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
			ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
Haro Strait 48°41'N; 123°16.4'W	4443-0370	3 800	-	3 822	-	-
	4443-0663	4 500	-	-	-	1 600

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
			ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
Strait of Georgia						
Porlier Pass	4443-0018	40 500	-	-	-	-
49°0.2'N; 123°29.8'W	4443-0585	32 500	-	-	32 500	-
Nanaimo, Five Fingers Island						
49°15'N; 123°54.6'W	4443-0139	3 800	-	-	-	-
	4443-0173	6 116	-	-	-	-
49°15.2'N; 123°53.2'W	4443-0456	45 780	-	-	45 780	-
49°15'N; 123°54.6'W	4443-0648	95 565	-	-	-	60 442
French Creek						
49°22.5'N; 123°19'W	4443-0514	30 000	-	-	20 000	-
Denman Island						
49°27.6'N; 124°33.9'W	4443-0571	600	-	-	600	-
Comox						
49°41.7'N; 124°44.5'W	4443-0374	3 800	-	871	-	-

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
			ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
Howe Sound - Woodfibre						
49°38.5'N; 123°14'W	4443-0012	9 000	6 600	2 400	-	-
	4443-0020	11 500	8 000	-	-	-
	4443-0036	19 113	23 189	-	-	-
	4443-0233	15 290	-	15 290	-	-
	4443-0343	11 467	-	8 562	-	-
	4443-0417	7 645	-	-	-	4 128
	4443-0460	21 414	-	-	-	26 760
	4443-0588	11 500	-	-	11 500	-
Howe Sound - Port Mellon						
49°31'N; 123°28.2'W	4443-0142	4 587	-	3 823	-	-
	4443-0376	3 058	-	3 058	-	-
Gibsons's Landing, Shoal Channel						
49°24.5'N; 123°29.1'W	4443-0348	6 880	-	6 880	-	-

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
			1976	1977	1978	1979
Powell River						
49°52'N; 123°36'W	4443-0346	30 580	-	7 645	7 260	-
	4443-0550	30 600	-	-	14 830	13 383
Blubber Bay, Texada Island						
49°48'N; 124°37'W	4443-0019	500	400	-	-	-
	4443-0472	700	-	-	535	-
Wilbraham Point						
49°30.9'N; 123°58'W	4443-0054	3 000	3 000	-	-	-

Continued...



APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
Campbell River, Discovery Passage						
50°3.8'N; 125°14.7'W	4443-0183	13 000	-	13 000	-	-
49°57.5'N; 125°07.5'W	4443-0118	7 600	-	7 600	-	-
49°58'N; 125°07'W	4443-0291	764	-	764	-	-
Sutil Channel						
50°05.8'N; 125°08.8'W	4443-0572	920	-	-	920	-
Kingcome Inlet						
50°55'N; 126°13'W	4443-0209	15 290	-	15 290	-	-
Kains Island						
50°27.7'N; 128°07.4'W	4443-0027	18.1x10 <sup>8</sup> (litres)	1.1x10 <sup>8</sup> (litres)	-	-	-
Quatsino Sound						
50°28.5'N; 127°50'W	4443-0194	382	-	382	-	-
Holberg Inlet						
50°38.7N; 127°59'W	4443-0158	62	76	-	-	-
50°35'N; 127°35'W	4443-0157	153	153	-	-	-

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
<b>Zaballos Inlet</b>						
49°58'N; 126°51'W	4443-0028	23 000	3 058	1 529	-	-
<b>Tahsis Inlet</b>						
49°53'N; 126°39.5'W	4443-0120	760	600	-	-	-
49°51.6'N; 126°39.6'W	4443-0187	4 587	-	4 587	-	-
	4443-0415	5 800	-	-	8 170	-
49°51.9'N; 126°36.6'W	4443-0634	36 250	-	-	3 825	460
<b>Zuciarate Channel</b>						
49°39'N; 126°28'W	4443-0027	1 529	-	1 529	-	-
49°39'N; 126°29'W	4443-0344	1 529	-	1 000	-	-
49°39'N; 126°29'W	4443-0634	36 250	-	-	7 650	24 315

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
			1976	1977	1978	1979
Port Alberni						
49°11.9'N; 124°49.3'W	4443-0014	76 500	52 521	27 981	-	-
	4443-0153	3 800	3 800	-	-	-
49°11.9'N; 124°49.2'W	4443-0179	103 200	-	57 335	-	-
49°12'N; 124°49.1'W	4443-0353	85 624	-	47 399	-	-
49°12'N; 124°49.1'W	4443-0369	38 225	-	12 232	25 993	-
49°12'N; 124°49.3'W	4443-0595	4 000	-	-	-	5 400
	4443-0612	15 000	-	-	-	8 500
49°09'N; 124°48.5'W	4443-0039	3 823	3 823	-	-	-
Cousins Inlet						
52°21.1'N; 127°42.7'W	4443-0483	38 250	-	-	49 549	-

Continued....

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
Kitimat, Douglas Channel						
53°58'N; 128°41.5'W	4443-0290	30 580	-	30 580	-	-
	4443-0589	15 000	-	-	-	15 000
	4443-0593	12 200	-	-	-	12 200
Ogden Channel						
53°54'N; 130°16'W	4443-0195	26 758	-	30 962	-	-
Porpoise Harbour						
54°14.5'N; 130°18.4'W	4443-0034	20 600	5 000	-	-	-
	4443-0459	2 294	-	-	2 294	-
Selwyn Inlet						
52°52.2'N; 131°45.5'W	4443-0513	800	-	-	765	-
Dixon Entrance						
54°17.2'N; 132°16.5'W	4443-0515	1 000	-	-	-	-
Skidegate Channel						
53°8.9'N; 132°15.3'W	4443-0536	700	-	-	700	-

Continued...

APPENDIX I DUMPSITE SUMMARY  
(cont'd.)

DUMPSITE	PERMIT NUMBER	TOTAL QUANTITY COVERED BY PERMIT (m <sup>3</sup> )	1976	1977	1978	1979
			ACTUAL QUANTITY DUMPED (m <sup>3</sup> )			
North Pacific Ocean 48°25'N; 126°20'W	4443-0055	907 000 kg	902 000 kg	-	-	-
Pauline Cove Herschel Island 69°34.5'N; 138°54'W	4443-0328	4 500 kg	-	4 500 kg	-	-
69 43'N; 138°56'W	4443-0441	60 960 kg	-	-	60 960 kg	-
	4443-0442	45 450 kg	-	-	45 450 kg	-
Portland Canal 55°34.5'N; 138°54'W	4443-0199	11 468	-	11 850	-	-
Observatory Inlet 55°07'N; 129°57'W	4443-0497	7 700	-	-	7 645	-
North Pacific Ocean 49°26'N; 131°43'W	4443-0684	Fishing vessel	-	-	-	-

APPENDIX II

TOTAL QUANTITIES DISPOSED OF AT  
EXISTING AND HISTORICAL DUMPSITES

APPENDIX II OCEAN DISPOSAL ON THE COAST OF BRITISH COLUMBIA

<u>DUMP SITES</u>	<u>TOTAL QUANTITY DUMPED (CUBIC METRES)</u>
1. Southern Vancouver Island and B.C. South Coast	
1	2 350 000
2	36 000
3	2 000 000
4	166 000
5	5 000
6	17 000
7	1 000 000
8	155 000
9	2 500 000
10	31 000
11	1 500
12	NOT KNOWN
13	100 000
14	282 000
15	40 000
16	NOT KNOWN
17	4 000
18	5 500
19	323 000
20	400
21	4 600
22	1 000
23	NOT KNOWN
24	13 000
25	360 000
26	NOT KNOWN
27	69 000
28	NOT KNOWN
29	17 000
30	535
31	46 000
32	32 500
33	NOT KNOWN
34	NOT KNOWN
35	92 000
36	345 000
37	23 000
38	NOT KNOWN
39	NOT KNOWN
40	107 000
41	3 800

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continued...

APPENDIX II OCEAN DISPOSAL ON THE COAST OF BRITISH COLUMBIA

DUMP SITES

TOTAL QUANTITY DUMPED (CUBIC METRES)

1. Southern Vancouver Island  
and B.C. South Coast (continued)

42	NOT KNOWN
43	NOT KNOWN
44	20 000
45	140 000
46	NOT KNOWN
47	600
48	4 700
49	1 000 000
50	48 000
51	1 000
52	NOT KNOWN
53	NOT KNOWN
54	NOT KNOWN
55	NOT KNOWN
56	NOT KNOWN
57	NOT KNOWN
58	NOT KNOWN
59	1 500
60	NOT KNOWN
61	NOT KNOWN
62	3 000
63	15 000
64	10 000
65	80 000
66	80 000

2. Northern Vancouver Island  
and B.C. Central Coast

67	390 000
68	1 000
69	23 000
70	NOT KNOWN
71	2 600 000
72	NOT KNOWN
73	31 000
74	37 000
75	15 000
76	NOT KNOWN
77	110 000
78	400

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continued...



APPENDIX II OCEAN DISPOSAL ON THE COAST OF BRITISH COLUMBIA

DUMP SITES TOTAL QUANTITY DUMPED (CUBIC METRES)

2. Northern Vancouver Island  
and B.C. Central Coast (continued)

79	NOT KNOWN
80	31 000
81	80
82	5 000
83	18 000
84	35 000
85	NOT KNOWN
86	NOT KNOWN
87	NOT KNOWN
88	475 000
89	NOT KNOWN
90	NOT KNOWN
91	50 000
92	NOT KNOWN

3. Queen Charlotte Islands  
and B.C. North Coast

93	1 250 000
94	31 000
95	575 000
96	192 000
97	7 500
98	NOT KNOWN
99	1 500
100	NOT KNOWN
101	80 000
102	NOT KNOWN
103	NOT KNOWN
104	20 000
105	700
106	800

4. Isolated Incidents

107	NOT KNOWN
108	NOT KNOWN
109	11 900
110	7 700
111	NOT KNOWN

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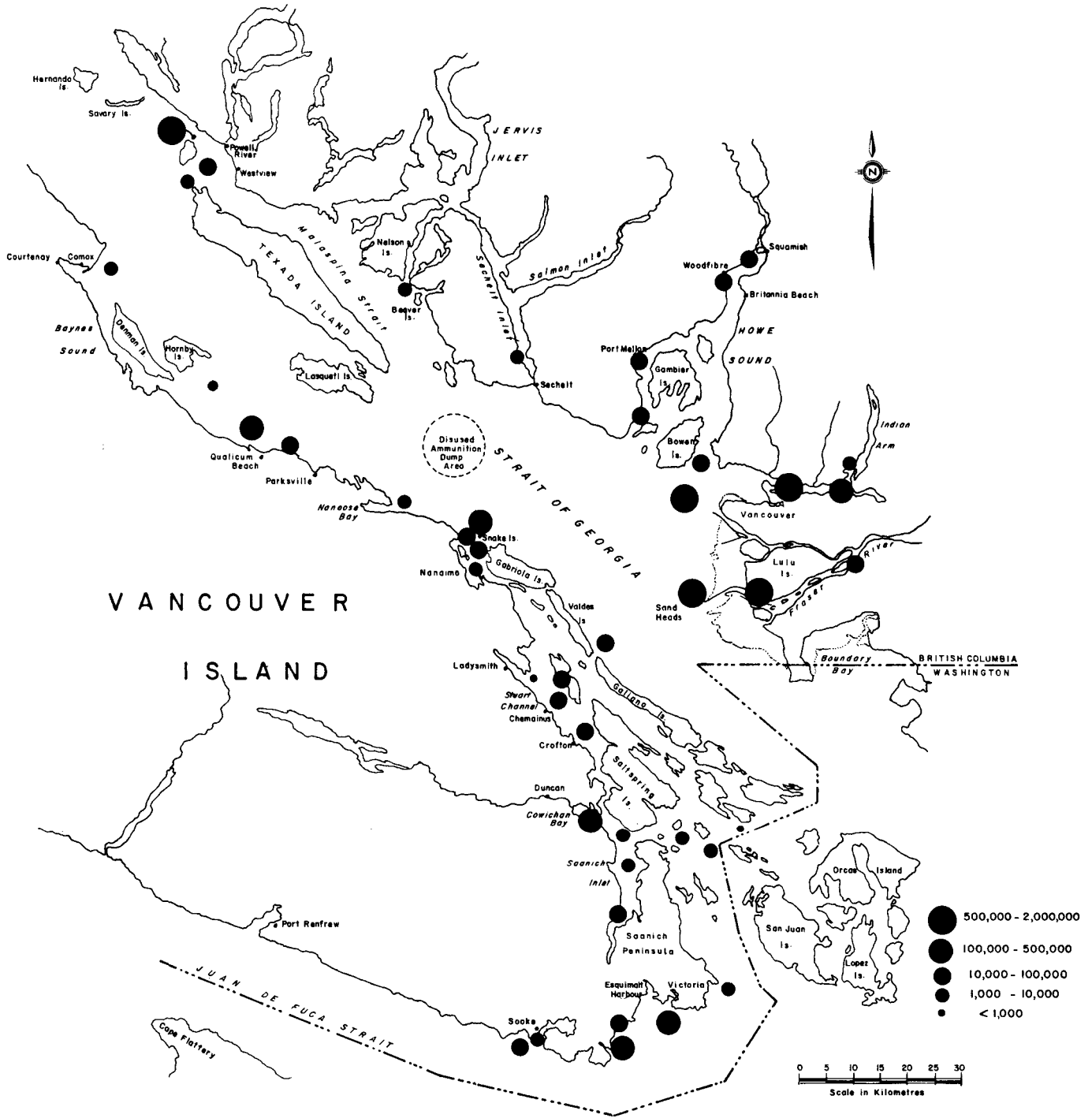


FIGURE IIa OCEAN DUMP SITES - SOUTHERN VANCOUVER ISLAND AND BRITISH COLUMBIA SOUTH COAST

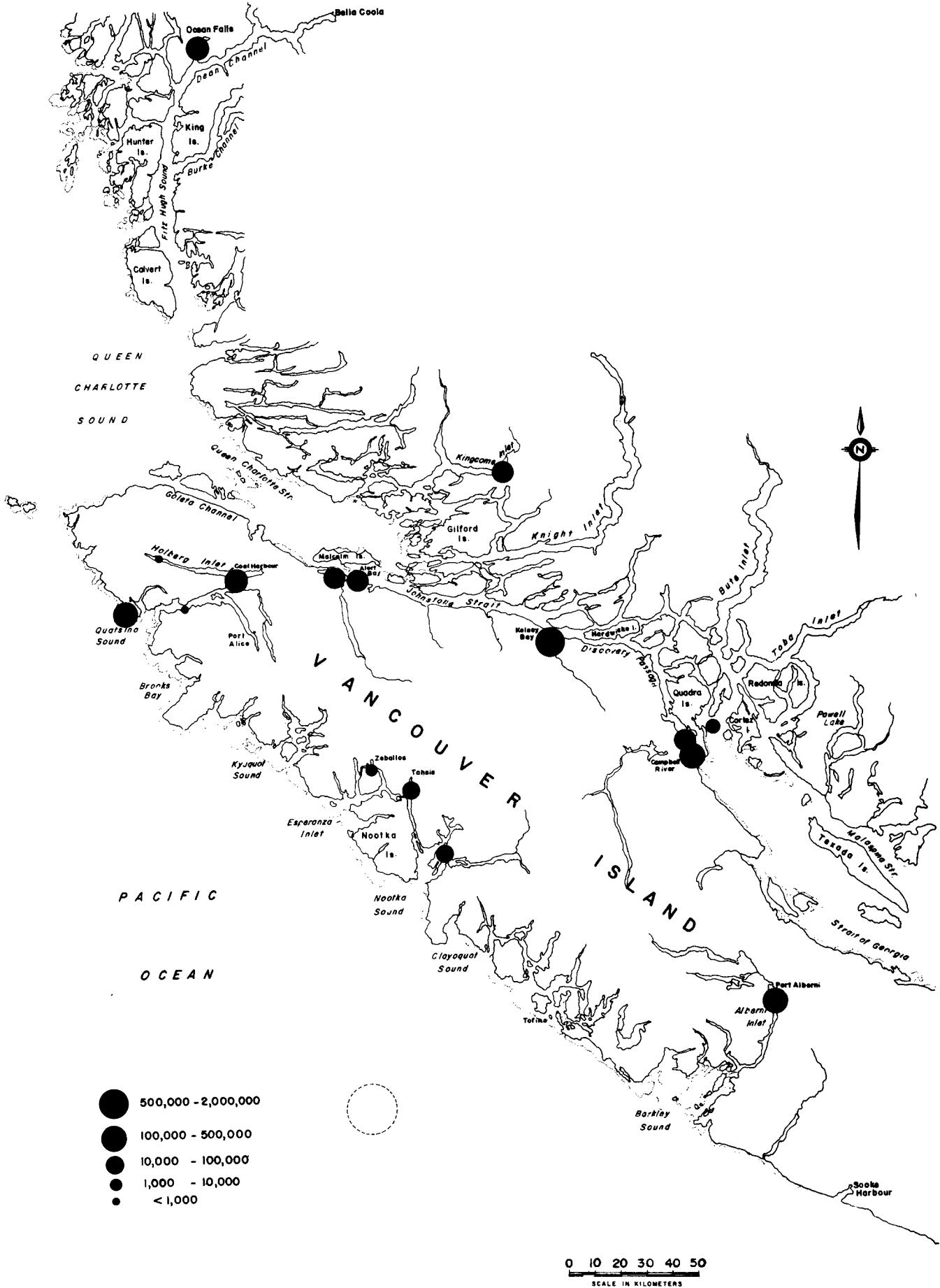


FIGURE IIb OCEAN DUMP SITES - NORTHERN VANCOUVER ISLAND AND BRITISH COLUMBIA CENTRAL COAST

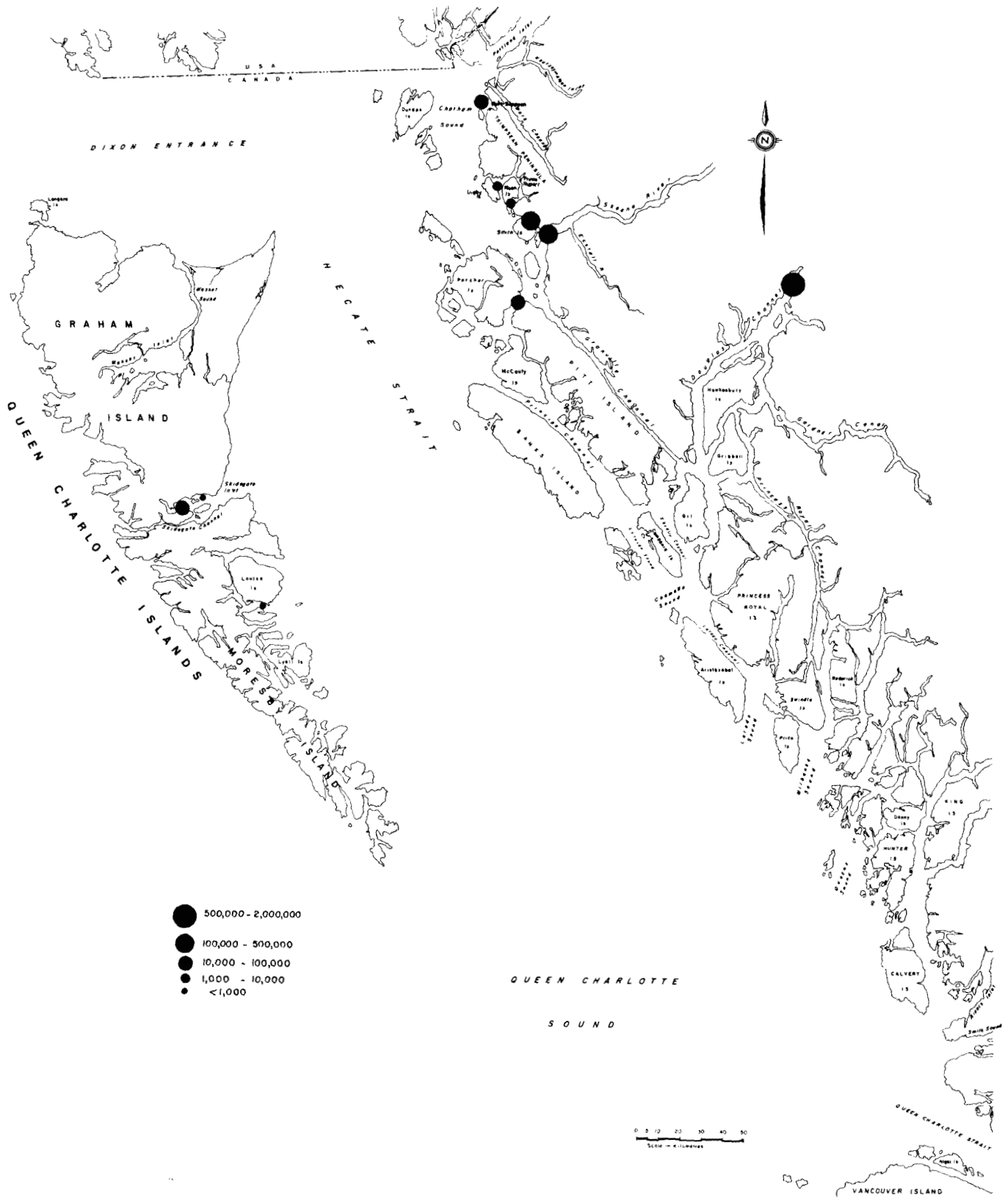


FIGURE IIc OCEAN DUMP SITES - QUEEN CHARLOTTE ISLANDS AND BRITISH COLUMBIA NORTH COAST



FIGURE II d OCEAN DUMPSITES - ISOLATED INCIDENTS

APPENDIX III

ACTIVE AND INACTIVE DUMP SITES  
LOCATED IN BRITISH COLUMBIA COASTAL WATERS

APPENDIX III            ACTIVE AND INACTIVE DUMP SITES LOCATED  
                              IN BRITISH COLUMBIA COASTAL WATERS

1            Southern Vancouver Island and B.C. South Coast

<u>Number</u>	<u>Site</u>
1	Point Grey
2	"Mansens' Deep," Point Atkinson
3	Burrard Inlet, Harbour
4	Boulder Island, Indian Arm
5	Raccoon Island, Indian Arm
6	Annacis Island, Fraser River
7	Fraser River, South Arm
8	North Arm Jetty, Fraser River
9	Sand Heads, North Arm, Fraser River
10	Sooke Harbour
11	Sooke Basin, Juan de Fuca Strait
12	Race Rocks, Juan de Fuca Strait
13	Pedder Bay, Juan de Fuca Strait
14	Quarantine Buoy, Juan de Fuca Strait
15	Site between Victoria and Esquimalt Harbour
16	Esquimalt Harbour
17	Cadboro Bay, Vancouver Island
18	Haro Strait
19	Coal Island, Saanich Peninsula
20	Swanson Channel
21	Satellite Channel
22	Patricia Bay, Saanich Inlet
23	Mill Bay, Saanich Inlet
24	Bamberton, Saanich Inlet
25	Duncan, Cowichan Bay
26	Fulford Harbour, Saltspring Island

<u>Number</u>	<u>Site</u>
27	Crofton, Stuart Channel
28	Shoal Islands, Stuart Channel
29	Chemainus, Stuart Channel
30	Ladysmith
31	Thetis and Kuper Islands
32	Porlier Pass, Dionisio Point
33	Degnen Bay, Gabriola Island
34	Silva Bay, Gabriola Island
35	Harmac, Nanaimo
36	Nanaimo Harbour
37	Departure Bay
38	Descanso Bay
39	South Snake Island
40	Five Fingers Island, Strait of Georgia
41	Nanoose
42	Strait of Georgia, East of Ballenas Island
43	Ballenas Channel
44	French Creek
45	Qualicum Beach
46	False Bay, Lasqueti Island
47	Denman Island
48	Comox
49	Powell River
50	Westview
51	Blubber Bay, Texada Island
52	Vananda Cove, Texada Island
53	Gillies Bar, Texada Island
54	Jervis Inlet, (various locations)
55	St. Vincent Bay
56	Vanguard Bay
57	Sechelt Rapids, Egmont Point



<u>Number</u>	<u>Site</u>
58	Beaver Island, Sechelt
59	Secret Cove, Sechelt
60	Wilbraham Point
61	Halfmoon Bay, Sechelt
62	Porpoose Bay, Sechelt Peninsula
63	Gibson's Landing, Shoal Island
64	Howe Sound, Port Mellon
65	Howe Sound, Woodfibre
66	Howe Sound, Squamish

2 Northern Vancouver Island and B.C. Central Coast

<u>Number</u>	<u>Site</u>
67	Campbell River, Discovery Passage
68	Sutil Channel
69	Duncan Bay, Discovery Passage
70	Menzies Bay, Discovery Passage
71	Kelsey Bay, Johnstone Strait
72	Beaver Cove, Johnstone Strait
73	Port McNeil, Johnstone Strait
74	Alert Bay, Johnstone Strait
75	Kingcome Inlet
76	Pt. Hardy, Queen Charlotte Strait
77	Kains Island
78	Quatsino Sound
79	Pt. Alice, Neroutsos Inlet
80	Holberg Inlet
81	Holberg Inlet
82	Zeballos, Zeballos Inlet
83	Tahsis Inlet
84	Zuciarte Channel
85	Tofino, Clayoquot Sound
86	Ucluelet, Barkley Sound
87	Green Cove, Barkley Sound
88	Alberni Inlet
89	West Coast, off Barkley Sound
90	West Coast, off Cape Flattery
91	Ocean Falls, Cousins Inlet
92	Bella Coola

3 Queen Charlotte Islands and B.C. North Coast

<u>Number</u>	<u>Site</u>
93	Kitimat, Douglas Channel
94	Ogden Channel
95	De Horsey Island, Inverness Passage
96	Inverness Passage
97	Porpoise Harbour
98	Prince Rupert Harbour
99	Casey Cove, Digby Island
100	Brown Passage, Chatham Sound
101	Port Simpson, Tsimpsean Peninsula
102	Dixon Entrance
103	Masset, Queen Charlotte Islands
104	Queen Charlotte City, Skidegate Inlet
105	Skidegate Channel, B.C.
106	Selwyn Inlet, B.C.

4        Isolated Incidents

<u>Number</u>	<u>Site</u>
107	North Pacific Ocean
108	North Pacific Ocean
109	Portland Canal
110	Observatory Inlet
111	Pauline Cove, Herschel Island, Yukon

INFORMATION ON ACTIVE AND INACTIVE DUMP SITES

1 Southern Vancouver Island and B.C. South Coast

Area: Point Grey  
No: 1  
Location: 49°15.4'N; 123°22.1'W; 7.4 km off Point Grey  
Depth: 231 metres  
Chart: 3480  
Usage: Active  
Material: Silt, sand, mud, rock, gravel, construction debris, woodwastes.  
Comments: This dumpsite was designated by MOT in 1968. Information prior to December 1975 was the only available documented information on historical dumping incidents at Point Grey.

POINT GREY

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1939	19 125	silt, sand, gravel	False Creek	NHB	
1945	525	silt	Kitsilano Bridge	NHB	
	536	silt	Cambie Street Bridge	NHB	
	173	silt, mud	East of Cribin Channel	NHB	
1967 (Aug)	-	millwaste	M & B King Lumber	NHB	
		deadheads, debris, chips	L & K Lumber		
1967 (Sep)	3825	dredging waste	West Indies Wharf by Argonaut Dredging	NHB	
1969	7560-9180	mud, silt	Burrard Bridge	NHB	
1971/72	-	clay	Pacific Centre	Gulf of Georgia	
1972 (Dec)	15 300	mud, silt	False Creek	NHB	
1973/74	328 109	-	-	Greenlees for DPW	
1974/75	156 825	-	-	Greenlees for DPW	
1975/76					
1974/75	382 500	mud, silt, sand, logging waste	False Creek	Greenlees (other)	
1975	34 425	-	False Creek	DPW	
1975	30 600	"clean"	-	FRPD	
1975	1530	-	False Creek	Dillingham	
1975 (Jun)	175 950	dredge material	False Creek	DOE (NHB)	
1975 (Dec)	1148	silt, debris	Jib Sailing School	Dillingham	

Continued...

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	97 531	silt, sand	Fraser River	DPW	11
1976	7 600	silt, sand, woodwastes	Fraser River	Crown Zellerbach Coast Wood,	13
1976	39 925	sand, silt, gravel, shells, rip-rap	Granville Island	Central Mortgage	16
1976	17 813	silt, mud, sand, woodwastes	North Arm, Fraser River	MB, Vancouver Plywood	29
1976	5 351	silt, mud, sand	North Arm, Fraser River	CFP, Eburne	30
1976	458	woodwastes, silt, mud, sand	Fraser River	Terminal Sawmills	44
1976	917	woodwastes, silt, mud, sand	North Arm, Fraser River	Mainland Sawmills	45
1976	6 574	dredge material	Fisherman's Cove, West Vancouver	DPW	48
1976	3 800	mud, sand, gravel	Fraser River	Rivtow	119
1976	636	concrete pipe	Vancouver	Ocean Concrete	141
1976	6 400	sand, mud, woodwastes	Vancouver	Bay Forest Products	169
1976	1 529	silt, sand	Fraser River	Hercules Dredging	172
1976	3 058	silt, mud, clay, gravel, rock rock	False Creek	Marathon Realty	178
1977	6 116	silt, mud, sand, woodwastes	North Arm, Fraser River	Rayonier Canada	35
1977	4 587	silt, mud, sand, woodwastes and concrete blocks	Fraser River	Welwood	40
1977	994	woodwastes, silt, mud, sand	Fraser River	Terminal Sawmills	44
1977	8 410	silt, sand, gravel	Vancouver	Ocean Concrete	141

continued....

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	2 446	sand, mud, woodwaste	Vancouver	Bay Forest Products	169
1977	18 000	silt, mud, clay, gravel, rock	False Creek	Marathon Realty	178
1977	7 600	silt, mud, woodwastes	Fraser River	Crown Zellerbach	180
1977	3 058	silt, mud, sand, woodwastes	North Arm, Fraser River	MB, Fraser River	196
1977	15 290	silt, mud, sand, woodwastes	North Arm, Fraser River	CFP, Eburne	208
1977	6 116	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Dillingham	238
1977	3 058	silt, mud, sand, woodwastes	North Arm, Fraser River	Rayonier Canada	282
1977	55 579	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Fraser River Pile Driving	296
1977	340 000	silt, clay, sand, woodwastes	North Arm, Fraser River	Rivcon Industries	322
1977	229 350	mud, sand, woodwastes	Burrard Inlet	Pioneer Grain Terminal	323
1977	6 120	clay, silt, gravel, rock	Coal Harbour	Coal Harbour Maritime	324
1977	3 800	woodwastes, silt, mud, sand	North Arm, Fraser River	Terminal Sawmills	325
1977	3 800	woodwastes, silt, mud, sand	North Arm, Fraser River	Mainland Sawmills	326
1977	1 147	mud, woodwastes	North Arm, Fraser River	Goldwood Industries	347
1977	6 000	silt, mud, sand, woodwastes	North Arm, Fraser River	Crown Zellerbach	356
1977	15 290	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	D.J. Byrne Construction Ltd.	367

continued....



Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	1 147	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Greenless Piledriving	327
1978	1 529	sand, mud, woodwastes	False Creek	Bay Forest Products	368
1978	2 141	silt, sand, gravel, concrete	Fraser River, Burrard Inlet, Granville Island	Ocean Construction	391
1978	16 055	silt, sand, mud, woodwastes	Fraser River	CFP-Eburne	394
1978	30 274	silt, sand, mud, woodwastes	North Arm, Fraser River	MB-Fraser River	416
1978	14 602	silt, sand, gravel	Vancouver Harbour and Fraser River Estuary	Valley Towing	450
1978	8 529	sand, silt, gravel, rock	Vancouver Harbour and Fraser River Estuary	Dillingham	455
1978	11 000	sand, silt	North Arm, Fraser River	PWC	496
1978	3 060	woodwastes, silt, sand, mud	North Arm, Fraser River	Mainland Sawmills	509
1978	2 620	woodwastes, silt, sand, mud	North Arm, Fraser River	Terminal Sawmills	510
1978	28 255	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Fraser River Pile Driving	537
1978	2 265	woodwastes, silt, mud	Vancouver Harbour	L & K Lumber	587
1978	3 820	silt, mud, sand, woodwastes	North Arm, Fraser River	Crown Zellerbach	605
1978	3,520	sand, mud, woodwastes	False Creek	Bay Forest Products	611
1978	43,800	clay, mud, silt, woodwastes	North Arm, Fraser River	North Fraser Harbour Commission	617

continued...

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1979	2 290	silt, sand, mud, woodwaste	North Arm, Fraser River	MB - Fraser River	416
1979	229	silt, sand, gravel	Vancouver Harbour and Fraser River Estuary	Valley Towing	450
1979	841	sand, silt, gravel, rock	Vancouver Harbour and Fraser River Estuary	Dillingham	455
1979	2 360	woodwastes, silt, sand, mud	North Arm, Fraser River	Mainland Sawmills	509
1979	460	woodwastes, silt, sand, mud	North Arm, Fraser River	Terminal Sawmills	510
1979	23 635	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Fraser River	537
1979	1 530	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Rayonier Canada	569
1979	5 350	silt, mud, sand	North Arm, Fraser River	Weldwood	594
1979	765	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Crown Zellerbach	605
1979	4 700	woodwastes, sand, mud	False Creek	Bay Forest Products	611
1979	16 500	sand, silt, gravel, woodwastes	North Arm, Fraser River	P.W. - North Fraser	616
1979	1 000	clay, silt, sand, gravel	Coal Harbour	D.J. Byrne	640
1979	4 788	mud, sand	Snug Cove	DPW	764
1979	1 500	sand, clay, silt	Coal Harbour	Vancouver Rowing Club	836

Area: "Mansens' Deep" Point Atkinson  
No: 2  
Location: 49°19.4'N; 123°16.8'W  
Depth: 120-150 metres  
Chart: 3481  
Usage: 1940 (possibly earlier) - 1970. Inactive.  
Material: Human remains, refuse, cars, woodwaste, chemicals.  
Comments: The site was utilized for a variety of materials including a burial ground for people requesting burial at sea.

Year	Cubic Metres	Material	Origin	Agent
1940-1950	Unknown	Refuse	Ships in Harbour	-
1950's	Unknown	Cars	Japan	-
1950's	Unknown	Hog Fuel	-	-
1959-1960	30 983	Glacial Till	Fisherman's Cove	DPW
1960's	Unknown	Tinned Salmon	-	FMS
1965-1966	5 355	Silt	Fisherman's Cove	Centennial

Area: Burrard Inlet Harbour  
No: 3  
Location: 49°17.8'N; 123°06'W  
Depth: 65 metres  
Chart: 3482  
Usage: Inactive  
Material: Clean material, mud, silt, sand, construction debris.  
Comments: The following projects were completed for NHB by various  
dredging companies as well as DPW.  
Other isolated incidents of dumping which have occurred  
in Burrard Inlet include:

1967 - Broken concrete and scrap steel from Second Narrows Bridge cast  
into water greater than 18 meters;

1965-1969 - Silt from Saskatchewan Wheat Pool, North Vancouver, 95 563  
cubic metres, pumped by suction dredge into deeper area of the harbour  
to the southwest, approximately 18-21 metres below the low water level;

1969-1972 - First Narrows dredging program by DPW, included  
approximately 1 529 000 cubic metres gravel which went to NHB stockpile.  
68 800 cubic metres glacial till and 19 113 cubic metres rock were  
scattered on the west side of the inlet in deep water;

1970-1971 - DPW project at Neptune Terminals, approximately 267 575  
cubic metres of dredged material was deposited in deeper water off Loch  
Katrine Bank;

1971 - Maintenance dredging, Cambie Work Yard in False Creek - sidecast  
and disposed of in deeper water in False Creek.

BURRARD INLET

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1946	3 491	silt	#1 Berth, #1 Jetty	NHB	
	4 542	silt, sand	E & W Berths, #3 Jetty	NHB	
1948	3 823	silt, sand	E & W Berths, West Indies Wharf	NHB	
1950	9 174	silt, sand	Ballantyne, LaPointe Piers and #1 Jetty	NHB	
1951	22 229	silt, sand	Ballantyne, LaPointe Piers and #1 Jetty	NHB	
1955	283	silt, mud	#1 Jetty, Dunlevy Avenue Wharf	NHB	
1956	2 205	sand	#1 Jetty, Dunlevy Avenue Wharf	NHB	
1957	92 423	soft mud	Centennial Pier	NHB	
1960	16 697	silt	LaPointe Pier, berths 2,5	NHB	
	1 529	silt	Ballantyne Pier	NHB	
1962	5 657	sand, silt	Home Oil and Northern Construction Co. berths	NHB	
1964	4 204	overburden	#3 Jetty	NHB	
	31 727	conglomerate			
1967	2 294	-	West Indies Wharf	NHB	
1969	1 835	-	DL272 Neptune Terminal	NHB	
1970/71	172 471	-	West Vancouver, phase I, by Northern Construction	DPW	

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1971	6 116	dredgeate	Ballantyne Pier #1	NHB	
	38 225	dredgeate	Fisherman's Wharf	NHB	
	4 281	-	LaPointe Pier #4	NHB	
1972	-	-	LaPointe #7	NHB	
1973	237 841	overburden	Vancouver Terminal	NHB	
1975	1.15 million	-	RVYC, Coal Harbour	NHB	
	2292-3058	silt, mud	Burrard Terminals by Fraser River	NHB	
	4 587	-	Ocean Cement by Fraser River	NHB	
1976	24 464	woodwaste, sand, gravel, rock	Vancouver	Dillingham	17
1977	153 000	silt, sand, gravel	Neptune Shoal	DPW	15
	1 376	sand, mud	Burrard Inlet	Mackenzie	289

Area: Boulder Island, Indian Arm  
No: 4  
Location: 49°18.85'N; 122°56.20'W  
Depth: 40 metres  
Chart: 3484  
Usage: Inactive  
Material: Mud, clay, woodwastes  
Comments: Little information is available regarding which materials were disposed of here or at the site off Raccoon Island in Indian Arm.

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Year	Cubic Metres	Material	Origin	Agent
1969	76 450	mud, clay	Port Moody	FRPD
	59 631	mud	Pacific Coast Bulk	McKenzie
1970/75	5-6000/yr	-	Port Moody	McKenzie

---

Area: Raccoon Island, Indian Arm  
No: 5  
Location: 49°20.81'N; 123°54.64'W  
Depth: 77 metres  
Chart: 3485  
Usage: Inactive  
Material: Sediment  
Comments: Used by NHB contractor for material from Ocean Cement.

Area: Annacis Island - Fraser River  
No: 6  
Location: From LLW mark southwest of Annacis Island training wall.  
Depth: 3.5 m below LLW  
Chart: 3488  
Usage: Inactive  
Material: Native material, Class 'B'  
Comments: Dredging across river at Fraser Surrey Container Terminal February-March, 1976, with clamshell by FRP for DPW.

Area: Fraser River, South Arm  
No: 7  
Location & Depth:  
49°07'N; 123°10'W 73 metres  
49°07.1'N; 123°11.1'W 6 metres  
49°07.8'N; 123°12'W 11 metres  
49°05.6'N; 123°05.8'W 2.6 metres  
49°05.6'N; 123°06.2'W 11 metres  
49°06.7'N; 123°10'W  
49°07.7'N; 123°12.8'W 6 metres  
49°08'N; 123°14.5'W  
Chart: 3488  
Usage: Active  
Material: Sand, silt, mud, clay.  
Comments:



FRASER RIVER, SOUTH ARM

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	162 400	sand, silt	Cannery Channel	DPW - Steveston	121
	6 100	sand, silt	Ladner	DPW - Ladner	137
1977	4 000	silt, mud, clay	Cannery Channel	DPW - Steveston	385
	487 564	silt, mud, snad	Cannery Channel	DPW- Steveston	192
	11 400	silt, sand	Ladner	DPW- Ladner	137
1978	80 000	mud, silt, clay	Ladner	DPW- Ladner	583
	100 000	silt, sand, mud	Cannery Channel	DPW - Steveston	570
	76 450	clay, silt, mud, sand	Steveston Harbour	DPW - Steveston	592
1979	50 000	silt, sand, mud	Cannery Channel	DPW - Steveston	570

Area: North Arm Jetty, Fraser River  
No: 8  
Location: 49°15.50'N; 123°17.45'W  
Depth: 37 metres  
Chart: 3480  
Usage: Inactive  
Material: Silt, sand, mud, woodwastes  
Comments: The following is the only documented information available on the historical dumping incidents at this site.

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Cubic Metres	Material	Origin	Agent
6 116 twice a year	woodwaste	Rayonier Canada - ) Marpole Division )	McKenzie
4 969 2-4 times a year	woodwaste	Rayonier Fraser St.)	or
6 116 2-4 times a year	woodwaste	Rayonier New West. )	FRPD
10 703	woodwaste	MB New West.	-
22-27 500	woodwaste	MB Can. White Pine	-
2 290	woodwaste	MB Van. Plywood	-
3 822	silt, mud	-	Rivtow
3800-4600	concrete	Fraser St. Bridge	D.J. Byrne
87 900	silt, sand, logs, fibres	Total estimate going to site	NFHC

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Area: Sand Heads, North Arm, Fraser River  
 No: 9  
 Location: 49°6'N; 123°19.5'W; 2.4 km from Sand Heads light  
 Depth: 44 metres  
 Chart: 3480 and 3488  
 Usage: Active  
 Material: Native material, sand, silt from maintenance dredging of navigation channels in main arm of Fraser River.  
 Comments: Used since 1974, mainly by DPW Fort Langley Suction Dredge, approximately 1 500 000 cubic metres/year.

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	413 307	sand, silt	Fraser River	DPW	11
1976	104 000	sand silt	Fraser River	DPW	140
1976	1 681	mud, sand, gravel, rock	Fraser River	DPW	162
1977	946 000	sand, silt	Fraser River	DPW	140
1977	6 116	silt, sand, mud	Tsawwassen	B.C. Ferries	200
1977	21 788	sand, silt	Fraser River	B.C. Highways	248
1977	104 000	sand, silt	Fraser River	DPW	357
1977	5 218	sand	Tsawwassen	DPW	373

SAND HEADS, NORTH ARM, FRASER RIVER

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	413 307	sand, silt	Fraser River	DPW	11
	104 000	sand, silt	Fraser River	DPW	140
	1 681	mud, sand, gravel, rock	Fraser River	DPW	162
1977	946 000	sand, silt	Fraser River	DPW	140
	6 116	silt, sand, mud	Tsawwassen	B.C. Ferries	200
	21 788	sand, silt	Fraser River	B.C. Highways	248
	104 000	sand, silt	Fraser River	DPW	357
	5 218	sand	Tsawwassen	DPW	373
1978	5 427	silt, sand, gravel	Vancouver Harbour and Fraser Estuary	Valley Towing Ltd.	450
1979	974 746	sand, silt	Fraser River	DPW	591
1978-79	17 660	sand	Fraser River	B.C. Highways	608

Area: Sooke Harbour, South Vancouver Island  
No: 10  
Location: 48°20.2'N; 123°44.3'W, 3.2 km south of harbour entrance.  
Depth: 36 metres  
Chart: 3641  
Usage: Inactive  
Material: Woodwaste, silt and mud.  
Comments: Small quantities of dredged material in the past 20-25 years; less than 765 cubic metres from Muir Creek, North Sooke and Cooper Cove, South Sooke.  
Sooke Timber dredged regularly until encouraged to use landfill site.  
In 1974, 30 580 cubic metres dredged from marina sites were disposed of at this location.

Area: Sooke Basin, Juan de Fuca Strait  
No: 11  
Location: 48°19'N; 123°45'W  
Depth: 155 metres  
Chart: 3641  
Usage: Active  
Material: Mud, sand, gravel, woodwastes.  
Comments: Site established in 1976.

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	1500	Mud, sand, gravel Woodwastes	Sooke Basin	Sooke Forest Products	135

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Area: Race Rocks, Juan de Fuca Strait  
No: 12  
Location: 48°17.2'N; 123°36.4'W, 5 km southwest of Race Rocks  
light.  
Depth: 182 metres  
Chart: 3641  
Usage: Inactive  
Material: Heavy steelwire mesh  
Comments: Site established 1946.

Area: Pedder Bay, Juan de Fuca Strait  
No: 13  
Location: 48°19.85'N; 123°32.0'W, east of Manor Point.  
Depth: 36 metres  
Chart: 3422  
Usage: Inactive  
Material: Mud and silt.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent
1967/68	11 470	mud, silt	Marina	-
1969	23-30 500	mud, silt	Marina	FRPD
1974/75	23-30 500	mud, silt	Marina	Greenlees
1975 (Feb-Mar)	26 000	mud, silt	Marina	FMS

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Area: Quarantine Buoy, Juan de Fuca Strait  
No: 13  
Location: 48°22.5'N; 123°21.8'W, 7.4 km south of Victoria Harbour.  
Depth: 77 metres  
Chart: 3422  
Usage: Active  
Material: Mud, clay, rock, woodwastes.  
Comments: The following information, mainly from FMS, indicated material was dumped at this site, but according to dredge companies, part of the material was dumped outside the harbour off Macaulay Point. This site designated by MOT 1970.

QUARANTINE BUOY, JUAN de FUCA STRAIT

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1972	-	-	Plumber Bay	Victoria Pile	
1972	-	-	Ocean Cement, Rock Bay	Victoria Pile	
1972	-	-	Home Oil Dock	Seaspan	
1973	-	-	Bay Street, Inner Harbour	Butler LaFarge	
1973	-	mud, clay, rock	Johnston Street Bridge	B.C. Tel., B.C. Hydro	
1973	-	sawdust, mud, bark	Lime Bay Shakes	Pacific Pile	
1973	6 185	mud	Esquimalt Harbour	Pacific Pile	
	500 only	logs			
1973	1 911	rock	Ocean Cement, Rock Bay	Greenlees	
	65 750	mud, clay			
1973	-	mud, clay, logs	Plumber Bay Sawmill	Pacific Pile	
1973/74	-	mud, clay, rock	West Bay Marina	Pacific Pile	
1973	-	clay, mud	BCFP Mill, Harbour	D.J.B.	
1974	-	oozing mud	Inner Harbour	Pacific Pile	
1974	7 645	-	Rock Bay	Greenlees	
1974	15 290	mud, clay	Rock Bay	Victoria Pile	
	3 800	rock			
1974	18 348	clay	Blanshard & Pandora, Victoria	-	
1974	-	log waste	BCFP, Esquimalt	-	
1974	-	booming grounds	Victoria Plywood, Plumber Bay	-	

continued...



Year	Cubic Metres	Material	Origin	Agent	Permit Number
1975	some	-	Point Ellis Ferryslip	-	
1975	7 645	-	Fishing Harbour, Victoria	-	
1975	-	-	Fishermans Float	Victoria Pile	
1973/75	15 290/yr.	mud	LaGorge, Esquimalt	D.J. Byrne	
1976	5 400	clay, mud, woodwastes	Victoria	BCFP, Victoria	22
1976	1 529	clay, sand	Victoria	Oliver Equipment Ltd.	91
1976	760	woodwastes, mud, bark, sawdust	Equimalt Harbour	Plumper Bay Sawmills	182
1977	38 225	clay, sand	Victoria	Oliver Equipment Ltd.	91
1977	15 290	clay, sand	Victoria	Oliver Equipment Ltd.	330
1977	6 116	clay, mud, woodwastes	Victoria	BCFP, Victoria	345
1977	12 232	silt, clay, sand, gravel rock	Victoria Harbour	Provincial Capital Commission	375
1978	21 400	silt, clay, sand, gravel rock	Victoria Harbour	Provincial Capital Commission	375
1978	765	silt, sand, gravel	Vancouver Island	Ocean Construction	393
1978	7 000 tons	concrete	Victoria	Arrow Transportation Systems	471
1978	7 645	woodwastes, clay, mud	Victoria Harbour	BCFP, Victoria	560
1979	14 000 tons	rock, clay, sand, concrete	Victoria Harbour	Oliver Equipment Ltd.	596
1979	7 600	silt	Equimalt Harbour	DND	628
1979	1 687	silt	Manor Point	DND	629

Area: Site between Victoria and Esquimalt Harbours  
No: 15  
Location: 48°24.8'N; 123°25.6'W, 1.6 km offshore.  
Depth: 32-40 metres  
Chart: 3422  
Usage: Inactive  
Material: Mud, sand, silt, woodwaste, garbage.  
Comments: Designated site by MOT. Established 1953,  
discontinued 1973.  
Prior to 1960, Victoria City garbage was deposited  
daily at this site. Sanitary landfill site  
established in 1950's.

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Year	Cubic Metres	Material	Origin	Agent
1960's	-	rock, mud	Hospital Rock	G. Jones
1960's	-	clay	Inner Harbour	G. Jones
1960's	-	log waste	BCFP	-
1964/65	5 500	silt, clay, organic	Shoal Harbour	McKenzie
1967/68	34 400	-	West Bay	FRPD (DPW)

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Area: Esquimalt Harbour  
No: 16  
Location: 48°26.3'N; 123°26.5'W  
Depth: 12 metres  
Chart: 3422  
Usage: Active  
Material: Ammunition dumpsite, small arms and mortars.  
Comments: Used by Department of National Defense in  
calibration of ammunition from F. Jetty Naval  
Docks, on west side of harbour.

Area: Cadboro Bay, Vancouver Island  
No: 17  
Location: 48°26.5'N; 123°16'W, in Baynes Channel.  
Depth: 36 metres  
Chart: 3422  
Usage: Inactive  
Material: Dredged material from Royal Victoria Yacht Club,  
approximately 4200 cubic metres.  
Comments: Work done in June, 1972.

Area: Haro Strait  
No: 18  
Location: 48°41'N; 123°16.4'W  
Depth: 231 metres  
Chart: 3451  
Usage: Active  
Material: Silt, gravel, clay, mud, rock, gypsum, cement, iron ore.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	3822	silt, gravel, gypsum, cement, iron ore, clay, mud, rock	Saanich Inlet	Inland Cement	370
1979	1600	clay, silt, mud, sand, gravel, rock, cement	Saanich Inlet	Inland Cement	663

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Area: Coal Island, Saanich Peninsula  
No: 19  
Location: 48°40.3'N; 123°23'W; outside Tsehum Harbour  
Depth: 38-41 metres  
Chart: 3451  
Usage: Inactive  
Material: Mud, clay, silt.  
Comments: Dredged material from the following marina projects at Tsehum Harbour and Sidney was disposed of at this site. Site has been used occasionally since 1938 and has been active the last 20 years.

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Year	Cubic Metres	Material	Origin	Agent
1959/60	3 058	-	Sidney	Pacific Pile (DPW)
1967/68	38 225	silt	Blue Heron Bay T.H.	FRPD (DPW)
1970/71	7 645	mud, clay	Tsehum Harbour	FRPD
1971/72	52 750	mud	Tsehum Harbour	McKenzie
1969/75	9 174	mud	Maintenance T.H.	FRPD
1969/75	91 740	mud, etc.	New marinas	FRPD
1969/75	46-54 000	mud, etc.	Capital City Y.C.	Greenlees
1973	-	-	Swartz Bay Ferry	CPR
1973/74	-	-	Sidney	Victoria Pile
1973/74	15 290	mud	Tsehum Harbour	Pacific Pile
1974	6 116	-	Vancouver Island Marine Co. T.H.	-
1974/75	42 812	mud, rock	Tsehum Harbour	FRPD (DPW)
1975	-	-	Blue Heron Bay T.H.	DPW
1975	1 911	-	Shoal Harbour	FRPD

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Area: Swanson Channel  
No: 20  
Location: 48°43'N; 123°14'W  
Depth: 291 metres  
Chart: 3452  
Usage: Inactive  
Material: Silt and sand.  
Comments: Maintenance dredging at Patricia Bay, Institute of Ocean Sciences (400 cubic metres).

Area: Satellite Channel  
No: 21  
Location: 48°42.05'N; 123°29.65'W  
Depth: 81 metres  
Chart: 3451  
Usage: Inactive  
Material: Mud, silt, rock.  
Comments: Part of Pat Bay Oceanographic Institute project, 38-4600 cubic metres

Area: Patricia Bay, Saanich Inlet  
No: 22  
Location: 48°39.25'N; 123°29.45'W  
Depth: 117 metres  
Chart: 3451  
Usage: Inactive  
Material: Mud, silt, rock.  
Comments: Part of Pat Bay Oceanographic Institute project, building of new docks, less than 765 metres. This load was dumped illegally. The remainder of the material (15 290 cubic metres) was disposed of at the Crofton dumpsite.

Area: Mill Bay, Saanich Inlet  
No: 23  
Location: 48°38.9'N; 123°31.85'W  
Depth: 58 metres  
Chart: 3451  
Usage: Inactive  
Material: Woodwastes and mud  
Comments: Extent of dredging and disposal activity is unknown.  
B.C. Forest Products log dump for 25 years.

Area: Bamberton, Saanich Inlet  
No: 24  
Location: 48°35.2'N; 123°30.75'W; west of Brentwood Bay.  
Depth: 81 metres  
Chart: 3451  
Usage: Inactive  
Material: Mud, clay  
Comments: 1529 cubic metres in 1975; 11 468 cubic metres in 1976;  
1976 project side cast into deeper water.

Area: Duncan, Cowichan Bay  
No: 25  
Location: 48°44.2'N; 123°34.4'W; outside harbour, south of  
Separation Point.  
Depth: 54 metres  
Chart: 3452  
Usage: Inactive  
Material: Woodwastes, mud, silt.  
Comments: B.C.F.P. used the site for approximately 10 years.  
Early 1970's, 360 000 cubic metres dredged from  
Cowichan Doman Ltd. and deposited at this site.

Area: Fulford Harbour, Saltspring Island  
No: 26  
Location: Unknown  
Usage: Inactive  
Comments: Extent of activity in this area unknown.

Area: Crofton, Stuart Channel  
No: 27  
Location: 48°52.4'N; 123°37.5'W, in Stuart Channel  
Depth: 203 metres  
Usage: Inactive  
Chart: 3590  
Material: Woodwastes, mud and silt.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent
1960/75	15 290	log boom debris	B.C.F.P.	FRPD
1967/68	-	log boom debris	B.C.F.P.	Dillingham
1970's	15 290	woodwastes	B.C.F.P.	Gulf Contr.
1975	22 935	woodwastes	B.C.F.P.	FRPD
1975	15 290	mud, silt	Marina	-

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Area: Shoal Islands, Stuart Channel  
No: 28  
Location: 49°54'N; 123°38.6'W  
Depth: 95 metres  
Usage: Inactive

Area: Chemainus, Stuart Channel  
No: 29  
Location: 48°56.2'N; 123°40'W  
Depth: 72 metres  
Usage: Inactive  
Chart: 3453  
Material: Woodwastes from log storage and berthing areas.  
Comments:

Year	Cubic Metres	Material	Origin	Agent
Annual	6 900- 9 000	log storage debris	M & B Booming Grounds	-
1975	7 645	log storage debris	M & B Booming Grounds	Gulf Contr.

Area: Ladysmith  
No: 30  
Location: 48°58.6'N; 123°46.05'W  
Depth: 49-52 metres  
Usage: Inactive  
Chart: 3471/3453  
Material: Bark and mud debris  
Comments: 535 cubic metres dredged from berthing areas and log storage areas.

Area: Thetis and Kuper Islands  
No: 31  
Location: 48°57.7'N; 123°40'W  
Depth: 36-43 metres  
Chart: 3452  
Usage: Inactive  
Material: Mud, silt, sand  
Comments: In 1974-1975, 45 870 cubic metres of mud and silt were dredged from Telegraph and Preedy Harbours and disposed of at this site.



Area: Porlier Pass, Dionisio Point  
No: 32  
Location: 49°00'N; 123°38.2'W; 4.3 km southeast of Dionisio Point  
on Galiano Island.  
Depth: 176 metres  
Chart: 3453  
Usage: Active  
Material: Clay, silt, sand, woodwastes.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	32 500	clay, sand, silt	Crofton	BCFP, Crofton	585

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Area: Degnen Bay, Gabriola Island  
No: 33  
Location: 49°07.4'N; 123°46.6'W  
Depth: 45 metres  
Chart: 3453  
Usage: Inactive

Area: Silva Bay, Gabriola Island  
No: 34  
Location: 49°09.1'N; 123°40.5'W  
Depth: 45 metres  
Chart: 3453  
Usage: Inactive

Area: Harmac, Nanaimo  
No: 35  
Location: 49°08.68'N; 123°51.3'W  
Depth: 47-76 metres  
Chart: 3456  
Usage: Inactive  
Material: Gravel, woodwastes  
Comments: During construction of the Harmac mill, approximately 76 450 cubic metres of gravel was disposed of at this site. Approximately 15 290 cubic metres was dredged annually from log storage areas and docking facilities. From 1972-1975, material containing less than 5% fibre was dredged and dumped at this site.

Area: Nanaimo Harbour  
No: 36  
Location: 49°10.32'N; 123°54.25'W  
Depth: 45 metres  
Chart: 3456  
Usage: Inactive  
Material: Sandstone, mud, log boom debris.  
Comments:

---

Year	Cubic Metres	Material	Origin	Agent
1950	305 800	sandstone	Harbour	G. Jones
1973/74	15 290	silt, sand	Harbour	FRPD
1975	22 935	booming waste	Harbour	FRPD (DPW)

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Area: Departure Bay  
No: 37  
Location: 49°12.4'N; 123°55.35'W  
Depth: 36 metres  
Chart: 3456  
Usage: Inactive  
Material: Mud, silt, rock  
Comments: In 1973-1974, 15 000-23 000 cubic metres of sediment from B.C. Ferry Terminal was disposed of at this site.

Area: Descanso Bay  
No: 38  
Location: 49°10.69'N; 123°52.7'W  
Depth: 130 metres  
Chart: 3456  
Usage: Inactive  
Comments: Site used in last 15 years.

Area: South Snake Island  
No: 39  
Location: 49°12.4;N; 123°53.75'W  
Depth: 155 metres  
Chart: 3456  
Usage: Inactive  
Comments: Site used in last 15 years.

Area: Five Fingers Island, Strait of Georgia  
No: 40  
Location: 49°15.2'N; 123°54.6'W  
Depth: 271 metres  
Chart: 3456  
Usage: Active  
Material: Silt, sand, mud, rock, gravel.  
Comments:

---

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	45 780	silt, sand, mud	Nanaimo Harbour	Dorman Pulp	456
1979	60 442	silt, mud, sand, fine bark debris, flyash	Harmac	MacMillan Bloedel	648

---

Area: Nanoose  
No: 41  
Location: 49°15.82'N; 124°06.55'W; outside harbour.  
Depth: 36 metres  
Chart: 3577  
Usage: Inactive  
Comments: Fraser River Pile Driving removed approximately 3800  
cubic metres of sand and gravel from the harbour area.

Area: Strait of Georgia, east of Ballenas Is.  
No: 42  
Location: 49°22'N; 123°57'W  
Depth: 360 metres  
Chart: 3590  
Usage: Inactive  
Material: Light ammunition  
Comments: Established as DND ammunition disposal site in 1945 and  
use discontinued in 1965.

Area: Ballenas Channel  
No: 43  
Location: 49°18.9'N; 124°13.5'W  
Depth: 72 metres  
Chart: 3590  
Usage: Inactive  
Comments: Used by Gulf Contractors in last 10 years.

Area: French Creek  
No: 44  
Location: 49°22.5'N; 123°19'W  
Depth: 200 metres  
Chart: 3590  
Usage: Active  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	20 000	sand, gravel	French Creek	DPW-French Creek	514

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Area: Qualicum Beach  
No: 45  
Location: 49°21.9'N; 124°26.3'W  
Depth: 36 metres  
Chart: 3579  
Usage: Inactive  
Material: Sand and gravel  
Comments: 1965/66 Texada Rentals dredged 140 000 cubic metres  
by clam shell and dumped off beach.

Area: False Bay, Lasqueti Island  
No: 46  
Location: 49°29.4'N; 124°21.7'W  
Depth: 36 metres  
Chart: 3590  
Usage: Inactive  
Comments: Gulf Contractors dredged material from mooring areas and disposed in nearest deep hole (greater than 36 metres).

Area: Denman Island  
No: 47  
Location: 49°27.6'N; 124°33.9'W  
Depth: 220 metres  
Chart: 3590  
Usage: Active  
Material: Silt, sand, gravel, rock  
Comments: Gulf Contractors dredged material from mooring areas and disposed at 47 metres at 49°28'N, 124°44.6'W in past 10 years.

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	600	silt, sand gravel, rock	Denman Island	DPW-Denman Is.	571

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Area: Comox  
No: 48  
Location: 49°41.7'N; 124°44.5'W  
Depth: 182 metres  
Chart: 3590  
Usage: Active  
Comments: Gulf Contractors and Fraser River Pile Driving disposed of dredged material in the 1960's in 36-40 metres at 49°38.8'N; 124°53.5'W. In 1972-1973, FRPD dredged 3800 cubic metres of sediment and were requested to dispose of it in 445 metres at 49°40.2'N; 124°51'W.

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	871	sand	Comox	DPW-Comox	374

Area: Powell River\*  
No: 49  
Location: 49°52'N; 124°36'W  
Depth: 140 metres  
Chart: 3580/3579  
Usage: Inactive  
Material: Woodwastes and dredged material from marina.  
Comments: Varied use - dumpsite used to range from 3-5 km offshore to 180 metres off river but most recently a site just off breakwater has been used. MacMillan Bloedel dumped varied amount annually until 1969. The following records were obtained regarding the historical use of the site.

\* As of 31 May, 1980, newly designated dumpsite in Malaspina Strait located at 49°45'N; 124°27'W.

POWELL RIVER

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1948	190 000	mud, rock	Pulpmill Wharf	G. Jones	
1964	765 400	sawdust	Pulpmill	FRPD	
1966	38 225	chips	Pulpmill	FRPD	
1968/69 (dumped between Harwood and Texada Island)	15 290	woodwastes (90% landfill)	Pulpmill	D.J. Byrne	
1974/75	14 526	sand, gravel	Boat Harbour	DPW	
1977	7 645	woodwastes, silt mud, sand, gravel	Powell River	MacMillan Bloedel	346
1978	7 260	woodwastes, silt mud, sand, gravel	Powell River	MacMillan Bloedel	346
1978	14 830	woodwastes, silt mud, sand, gravel	Redonda Island	MacMillan Bloedel	550
1979	13 383	woodwastes, silt, mud, sand, gravel	Powell River	MacMillan Bloedel	550



Area: Westview  
No: 50  
Location: 49°50'N; 124°32'W  
Depth: 36 metres  
Chart: 3579  
Usage: Inactive  
Material: Gravel, sand  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1974/75	45 000	sand, gravel	Westview	FRPD	
1975	2200-3000	gravel	Westview	D.J. Byrne	

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Area: Blubber Bay, Texada Island  
No: 51  
Location: 49°48'N; 123°37'W  
Depth: 12 metres  
Chart: 3591  
Usage: Active  
Material: Limestone, rock  
Comments: Domtar Chemical dredge loading and berthing areas annually.

---

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	400	limestone	Blubber Bay	Domtar Chem.	19
1978	535	limestone	Blubber Bay	Domtar Chem.	472

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Area: Vanada Cove, Texada Island  
No: 52  
Location: 49°45.8'N; 124°33.2'W  
Depth: Greater than 36 metres  
Chart: 3579  
Usage: Inactive  
Comments: Project completed in early 1970's.

Area: Gillies Bar, Texada Island  
No: 53  
Location: 49°39.8'N; 124°28.9'W  
Depth: 45 metres  
Chart: 3579  
Usage: Inactive  
Comments: Project completed by Gulf Contractors in last 10 years.

Area: Jervis Inlet (various locations)  
No: 54

Location and  
Depth:

Sykes Island	49°48.9'N; 124°05.5'W	88 metres
Princess Royal Reach	49°49.6'N; 124°00.2'W	180 metres
Deserted Bay	50°05.4'N; 123°45.3'W	180 metres
Princess Louise Inlet	50°10.5'N; 123°50.2'W	157 metres
Queens Reach, Slave Creek	50°10.3'N; 123°57.7'W	180 metres

Chart: 3589

Comments: Projects completed by Gulf Contractors in late 1960's.

Area: St. Vincent Bay  
No: 55  
Location: 49°49.8'N; 124°04.8'W; behind Sykes Island.  
Depth: 90 metres  
Chart: 3589  
Usage: Inactive  
Material: Log boom debris and woodwastes.  
Comments: Dredging and dumping done by Gulf Contractors for MacMillan Bloedel.

Area: Vanguard Bay  
No: 56  
Location: 49°45.5'N; 124°05.5'W  
Depth: 234 metres  
Chart: 3589  
Usage: Inactive  
Material: Maintenance dredging at Marina.  
Comments: Gulf Contractors used this site. Caustic soda dumped in an emergency, 1975.

Area: Sechelt Rapids, Egmont Point  
No: 57  
Location and Depth: 49°44.1'N; 123°53.4'W 36 metres  
49°45.0'N; 123°54.7'W 54 metres  
49°45.3'N; 123°55.7'W 63 metres  
49°46.3'N; 123°43.2'W 54 metres  
Chart: 3589  
Usage: Inactive  
Material: Woodwaste, gravel.  
Comments: Gulf Contractors used these sites in early 1970's.  
Dredged material from Egmont Point was disposed of at this site in December, 1975.

Area: Francis Peninsula, Sechelt  
No: 58  
Location: 49°37.7'N; 124°05.4'W  
Depth: 47 metres  
Chart: 3535  
Usage: Inactive  
Material: Dredged material from marina site.  
Comments: Gulf Contractors used this site.

Area: Secret Cove, Sechelt  
No: 59  
Location: 49°31.5'N; 123°58.5'W  
Depth: 72 metres  
Chart: 3590  
Usage: Inactive  
Material: Mud, silt  
Comments: In 1970's, 1529 cubic metres of mud and sediment dredged from marina by Gulf Contractors and disposed of at the site.

Area: Wilbraham Point  
No: 60  
Location: 49°30.9'N; 123°58'W  
Depth: 109 metres  
Chart: 3590  
Usage: Active  
Material: Silt, mud, sand, gravel, rock.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	3000	silt, mud, sand, gravel, rock	Pender Harbour	Hercules Dredging	54

---

Area: Halfmoon Bay, Sechelt  
No: 61  
Location: 49°30.2'N; 123°55.7'W  
Depth: 72-81 metres  
Chart: 3590  
Usage: Inactive  
Material: Mud, silt  
Comments: Gulf Contractors used this site in early 1970's.

Area: Porpoose Bay, Sechelt Peninsula  
No: 62  
Location: 49°32.8'N; 123°47.0'W; off Piper Point  
Depth: 162 metres  
Chart: 3579  
Usage: Inactive  
Material: Sediment  
Comments: Dredged material from Osborn Marina was disposed of at this site in early 1970's.

Area: Gibsons Landing, Shoal Channel  
 No: 63  
 Location: 49°24.5'N; 123°29.1'W  
 Depth: 88 metres  
 Chart: 3586  
 Usage: Active  
 Material: Mud, sand, gravel.  
 Comments: In early 1960's, approximately 7500 cubic metres of mud and glacial till were dredged at a marina site and disposed of in 90-99 metres at 49°25'N; 123°28'W. In the late 1960's, 765 cubic metres of material from Langdale Ferry Terminal was disposed of at the same site.

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	6880	mud, sand, gravel	Gibson's Landing	Gibson's Landing Boatworks	348

Area: Howe Sound, Port Mellon  
 No: 64  
 Location: 49°31'N; 123°28.2'W  
 Depth: 201 metres  
 Chart: 3586  
 Usage: Active  
 Material: Woodwastes, sand, gravel, rock.  
 Comments: Canadian Forest Products dredged and dumped 3400 cubic metres of woodwastes and mud in 212 metres, northwest of Woolridge Island, December, 1975.

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	3823	silt, sand	Hillside	Ocean Constr'n.	142
1977	3058	woodwastes, sand, gravel, rock	Pt. Mellon	CFP-Pt. Mellon	376

Area: Howe Sound, Woodfibre  
No: 65  
Location: 49°38.5'N; 123°14.0'W  
Depth: 230 metres  
Chart: 3586  
Usage: Active  
Material: Woodwastes, sand, gravel, rock.  
Comments:

HOWE SOUND, WOODFIBRE

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	6 600	woodwaste, sand, gravel, rock	Mamquam Channel	Weldwood Empire	12
1976	8 000	woodwaste, sand, gravel, rock	Woodfibre	Rayonier, Woodfibre	20
1976	23 189	mud, gravel	Stawamus River	DPW-Mamquam	36
1977	2 400	woodwaste, sand, gravel, rock	Mamquam Channel	Weldwood Empire	12
1977	15 290	woodwaste, silt, mud, sand	Mamquam Channel	MB-Stawamus River	233
1977	8 562	woodwaste, sand, gravel, rock	Woodfibre	Rayonier, Woodfibre	343
1978	11 500	woodwaste, sand, gravel, rock	Woodfibre	Rayonier, Woodfibre	588
1979	4 128	woodwaste, silt, mud, sand	Stawamus River	MB-Squamish	417



Area: Howe Sound, Squamish  
No: 66  
Location: 49°39.7'N; 123°11.7'W  
Depth: 144-149 metres  
Chart: 3586  
Usage: Inactive  
Material: Clay, sand, silt, mud, woodwaste.  
Comments: New site designated off Woodfibre in 1976.

---

Year	Cubic Metres	Material	Origin	Agent
Annually until 1972	19-22 900	sediment	Govt. Dock Approach Channel	DPW
Prior to 1974	Some	-	Britannia	-
Twice/year	9 174	-	Weldwood Canada	FRPD
1975	26 757	sandy	Lumber Terminals	FRPD
1974/75	19 877	-	-	Greenlees (DPW)

---

2            Northern Vancouver Island and B.C. Central Coast

Area:                    Campbell River, Discovery Passage  
No:                        67  
Location and  
Depth:                   50°00'N; 125°12.7'W to            41-45 metres  
                             50°04'N; 125°14.5'W  
                             50°3.8'N; 125°14.7'W                75 metres  
                             49°57.5'N; 125°07.5'W               182 metres  
                             49°58'N; 125°07'W                   182 metres  
Chart:                    3594/3591  
Usage:                    Active  
Material:                Mud, sand, gravel, rock, woodwastes.  
Comments:               Site varied according to tidal conditions.

CAMPBELL RIVER, DISCOVERY PASSAGE

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1950's	76 450	gravel	Iron mine	G. Jones	
1959/60	91 740	sand, gravel	Townsite	B.C. Bridge & Dredging	
1972	7 450	sand	Townsite	Dillingham	
1973	190 000	sand, gravel	Townsite	G. Jones	
1977	7 600	mud, sand, gravel	Campbell River	DPW	118
1977	13 000	silt, sand, gravel	Campbell River	B.C. Highways	183
1977	764	silt, mud, woodwastes	Campbell River	Raven Lumber Company	291

Area: Sutil Channel  
No: 68  
Location: 50°05.8'N; 125°08.8'W  
Depth: 198 metres  
Chart: 3591  
Usage: Active  
Material: Mud, sand, gravel, rock.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	920	mud, sand, gravel, rock	Heriot Bay	DPW	572

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Area: Duncan Bay, Discovery Passage  
No: 69  
Location: 50°05'N; 125°16.4'W  
Depth: 95 metres  
Chart: 3594/3556  
Usage: Inactive  
Material: Woodwaste from log storage and berthing areas.  
Comments: In 1975, 22 900 cubic metres of dredged material from Elk Falls was dredged and disposed of at this site by Dillingham.  
Material currently disposed of at landfill site.

Area: Menzies Bay, Discovery Passage  
No: 70  
Location: 50°07.3'N; 125°20.05W  
Depth: 99 metres  
Chart: 3594  
Usage: Inactive  
Material: Log boom debris, wood chips, mud.  
Comments: Dredged material currently disposed of at landfill site.

Area: Kelsey Bay, Johnstone Strait  
No: 71  
Location: 50°25'N; 125°57'W  
Depth: 36 metres  
Chart: 3595  
Usage: Inactive  
Material: Mud, sediment, log storage debris.  
Comments: The following incidents of dumping were recorded at this site.

---

Year	Cubic Metres	Material	Origin	Agent
1950/60	3 000	log waste	Mill	G. Jones
1960's	2 600 000	sandsill	Mill pipeline (some landfill)	G. Jones
1960's	7 645	sediment, rock	Ferry Terminal	FRPD (DPW)

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Area: Beaver Cove, Johnstone Strait  
No: 72  
Location: 50°33.25'N; 127°51.08W; between Lewis Point and  
Telegraph Cove  
Depth: 153 metres  
Chart: 3569  
Usage: Inactive  
Material: Woodwaste, bark and debris.  
Comments: Site used by Crown Zellerbach, Canfor and Gulf  
Contractors in early 1970's.

Area: Port McNeill, Johnstone Strait  
No: 73  
Location: 50°35.8'N; 127°02.25'W  
Depth: 40 metres  
Chart: 3569  
Usage: Inactive  
Material: Sediment, rock, woodwastes.  
Comments: The following records were obtained regarding  
historical usage of this disposal site.

---

Year	Cubic Metres	Material	Origin	Agent
1967/68	22 900	sediment	Marina	Gulf Contr.
1974	7 645	-	Marina	Gulf Contr.
Annually to 1974	-	log waste	Log booms	D.J. Byrne

---

Area: Alert Bay, Johnstone Strait  
No: 74  
Location: 50°34.1'N; 126°54.2W  
Depth: 36 metres  
Chart: 3659  
Usage: Inactive  
Material: Sand, gravel, silt, clay.  
Comments: In 1970, 30 500 cubic metres of sediment from the harbour was disposed of at this site. Garbage was previously disposed of north of the harbour. The newly designated dumpsites in Johnstone Strait are located at:  
50°33.5'N; 126°48.0'W (near Alert Bay)  
50°27.8'N; 126°4.8'W (southern Johnstone Strait)

Area: Kingcome Inlet  
No: 75  
Location: 50°55'N; 126°13'W  
Depth: 128 metres  
Chart: 3578  
Usage: Active  
Material: Silt, woodwastes.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent
1977	15 290	silt, woodwaste	Kingcome Inlet	Bay Forest Products

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Area: Port Hardy, Queen Charlotte Strait  
No: 76  
Location: Outside harbour in depths greater than 30 metres.  
Comments: Historically, dredged material from the Port Hardy area was disposed of at various locations outside the harbour limits.

Area: Kains Island  
No: 77  
Location: 50°27.7'N; 128°07.4'W  
Depth: 91 metres  
Chart: 3617  
Usage: Active  
Material: Spent sulphite liquor.  
Comments: In order to maintain water quality levels in Neroutsos Inlet, spent sulphite liquor was periodically barged out of Quatsino Sound.

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	110 000	spent sulphite liquor	Pt. Alice	Rayonier	27

---



Area: Quatsino Sound  
No: 78  
Location: 50°28.5'N; 127°50'W  
Depth: 171 metres  
Chart: 3617  
Usage: Active  
Material: Woodwastes.  
Comments:

---

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	382	woodwastes	Mahatta River	Rayonier	194

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Area: Port Alice, Neroutsos Inlet  
No: 79  
Location: 50°22.8'N; 127°27.2'W  
Depth: greater than 36 metres  
Chart: 3617  
Usage: Inactive  
Material: Log storage waste  
Comments: Refuse disposed of at landfill site.

Area: Holberg Inlet  
No: 80  
Location: 50°35'N; 127°35'W  
Depth: 73 metres  
Chart: 3617  
Usage: Active  
Material: Sand, gravel, woodwastes.  
Comments: In 1970, 30 500 cubic metres of dredged material from wharf area was deposited at 50°34'N; 127°34'W in 36 metres of water.

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	153	sand, gravel woodwastes	Coal Harbour	Rayonier	157

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Area: Holberg Inlet  
No: 81  
Location: 50°38.7'N; 127°59'W  
Depth: 55 metres  
Chart: 3617  
Usage: Active  
Material: Woodwastes  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	76	Woodwastes	Holberg Inlet	Rayonier	158

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Area: Zeballos, Zeballos Inlet  
No: 82  
Location: 49°58'N; 126°51'W  
Depth: 162 metres  
Chart: 3663  
Usage: Active  
Material: Gravel, woodwastes.  
Comments:

---

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	3058	Gravel, woodwastes	Zeballos Inlet	DPW	28
1977	1529	Gravel, woodwastes	Zeballos Inlet	DPW	28

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Area: Tahsis Inlet  
No: 83  
Location: 49°51.6'N; 126°39.6'W  
Depth: 199 metres  
Chart: 3663  
Material: Clay, silt, mud, bark.  
Comments:

---

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	600	mud, sand, gravel, rock	Tahsis Inlet	Tahsis Co.	120
1977	4 587	clay, silt, mud, bark	Tahsis Inlet	Tahsis Co.	187
1978	8 170	woodwastes, clay	Tahsis Inlet	Tahsis Co.	415
1978	3 825	bark, silt, clay silt, sand, gravel	Tahsis, Zeballos	Tahsis Co.	634
1979	460	woodwastes, clay silt, sand, gravel	Tahsis, Zeballos	Tahsis Co.	634

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Area: Zuciarte Channel  
No: 84  
Location: 49°39'N; 126°29'W  
Depth: 345 metres  
Chart: 3663  
Material: Mud, sand, gravel, woodwaste  
Usage: Active  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	1 529	Woodwastes, mud, sand, gravel	Muchalat Inlet	Tahsis Co.	73
1977	1 000	Woodwastes, mud, sand, gravel	Muchalat Inlet	Tahsis Co.	344
1978	7 650	Woodwastes, mud, silt, sand	Muchalat Inlet	Tahsis Co.	634
1979	24 315	Woodwastes, mud, silt, sand	Muchalat Inlet	Tahsis Co.	634

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Area: Tofino, Clayoquot Sound  
No: 85  
Location: 49°07.7'N; 125°59.6'W; off Vargas Island.  
Depth: 27-36 metres  
Chart: 3640  
Usage: Inactive  
Comments: Herring carcasses were disposed of at this site  
in 1974.

Area: Ucluelet, Barkley Sound  
No: 86  
Location: Newcombe Channel  
Depth: Greater than 36 metres.  
Chart: 3627  
Usage: Inactive  
Comments: BCFP used site to dispose of dredged material from sorting grounds.

Area: Green Cove, Barkley Sound  
No: 87  
Location: 48°59.1'N; 124°59.3'W  
Depth: Greater than 36 metres.  
Chart: 3627  
Usage: Inactive  
Comments: BCFP used site to dispose of dredged material from sorting grounds.

Area: Alberni Inlet  
No: 88  
Location: 49°12'N; 124°49.3'W; south of Polly Point.  
Depth: 55 metres.  
Chart: 3609  
Usage: Active  
Material: Silt, mud, sand, woodwastes.  
Comments: For approximately 10 years prior to 1970, dredged material was disposed of at Polly Point. (49°13'N; 124°49.45'W). Then, for a short time, the majority of dredged material went to the landfill site at Johnson Island. From 1973, dredged material has been disposed of at the above dumpsite (the coarser fraction still goes to Johnson Island).

## ALBERNI INLET

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1960	76 450	log debris	-	McKenzie	
1960	7-14 000	-	-	McClelland	
1963-64	6 300	sediment	Dock	McKenzie	
1971-72	61 000	-	Assembly Wharf	Dillingham	
1970 's	52 000	woodwaste	Pulpmill	MB-Alberni	
	4 587	gravel	Marina	-	
1974-75	15 290	-	Alpulp	MB-Alberni	
1976	52 521	silt, mud, sand, woodwastes	Pt. Alberni Harbour	MB-Alberni	14
1976	3 800	clay, silt, mud sand	Pt. Alberni	Pt. Alberni Harbour Commission	153
1976	3 823	silt, sand, gravel	China Creek	Pt. Alberni Harbour	39
1977	27 981	silt, mud, sand, woodwastes	Pt. Alberni Harbour	MB-Alberni	14
1977	57 335	woodwastes, sand, mud	Pt. Alberni Harbour	DPW-Alberni	179
1977	47 399	silt, sand, mud, woodwastes	Pt. Alberni Harbour	MB-Alberni	353
1977	12 232	clay, silt, sand, gravel	Somass River	DPW-Pt. Alberni	369
1978	25 993	clay, silt, sand, gravel	Somass River	DPW-Pt. Alberni	369
1979	5 400	silt, sand	Alberni Inlet	PWC	595
1979	8 500	clay, silt, gravel	Alberni Inlet	PWC	612

Area: West Coast, off Barkley Sound  
No: 89  
Location: 48°50'N; 126°50'W; approximately 50 nautical miles southwest of Tofino.  
Depth: 810 metres  
Chart: L3001  
Usage: Inactive  
Material: Ammunition  
Comments: Used for dumping of unwanted explosives after the war and obsolete ammunition and arms in post-war years. It was established in 1945 and area disused in 1965.

Area: West Coast, off Cape Flattery  
No: 90  
Location: 48°12.5'N; 127°00'W; approximately 70 nautical miles southwest of Barkley Sound.  
Depth: 2500 metres  
Chart: L3001  
Usage: Inactive  
Material: Ammunition  
Comments: This site not used as extensively as previous one and not frequently since 1965. Site has not been used since 1970.

Area: Ocean Falls, Cousins Inlet  
No: 91  
Location: 52°21.1'N; 127°42.7'W  
Depth: 55 metres  
Chart: 3720  
Usage: Active  
Material: Fibre, silt, woodwastes.  
Comments: Area has previously been used by Ocean Falls Corporation to dispose of dredge woodwastes.

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	49 549	Fibre, silt	Cousins Inlet	Ocean Falls Co.	483

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Area: Bella Coola  
No: 92  
Location: 51°22.7'N; 126°50'W; North Bentinck Arm.  
Depth: 252 metres  
Chart: 3730  
Usage: Active  
Material: Silt  
Comments: Material dredged from dock area is disposed of annually.



3      Queen Charlotte Islands and B.C. North Coast

Area:            Kitimat, Douglas Channel  
No:              93  
Location:        53°58'N; 128°41.5'W  
Depth:          176 metres  
Chart:          3743  
Usage:          Active  
Material:        Silt, sand, gravel  
Comments:

KITIMAT

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1966-68	14 500	sediment	Townsite	Horie & Tynan	
1969	1 150 000	sediment	Eurocan	-	
Annual	7 645	sand, gravel	Yacht Basin	-	
1975	3-4 000	sediment	Hartley Bay	Rivtow	
1977	30 580	silt, sand, gravel	Kitimat Arm	Rivtow	290
1979	15 000	silt, mud	Alcan Site	Alcan	589
1979	12 200	silt, mud, gravel	Kitimat Harbour	Rivtow	593

Area: Ogden Channel  
No: 94  
Location: 53°54'N; 130°16'W  
Depth: 267-388 metres  
Chart: 3927  
Usage: Active  
Material: Silt, sand, gravel.  
Comments:

---

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	30 962	silt, sand, gravel	Oona River	DPW	195

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Area: De Horsey Island, Inverness Passage  
No: 95  
Location: 54°08.2'N; 130°07'W  
Depth: 7.2 metres  
Chart: 3713  
Usage: Inactive  
Material: Gravel and mud.  
Comments: The material was used to make a small island to block the ice moving from upper Inverness Channel into Inverness Passage and damaging piles and wharves.

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Year	Cubic Metres	Material	Origin	Agent
1953	575 000	gravel	De Horsey Island	G. Jones

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Area: Inverness Passage  
 No: 96  
 Location: 54°11'N; 130°11.5'W  
 Depth: Less than 11 metres  
 Chart: 3713  
 Usage: Inactive  
 Material: Silt  
 Comments:

Year	Cubic Metres	Material	Origin	Agent
1953-54	190 000	silt	Caspaco Cannery	G. Jones
Dredged annually until 1970's	1-2 000	silt	Caspaco Cannery	G. Jones

Area: Porpoise Harbour  
 No: 97  
 Location: 54°14.5'N; 130°18.4'W  
 Depth: 24 metres  
 Chart: 3701  
 Usage: Active  
 Material: Silt, clay, mud, woodwastes.  
 Comments: Canadian Cellulose have conducted dredging and dumping operations near this site since 1950.

Year	Cubic Metres	Material	Origin	Agent	Permit Number
1976	5 000	mud, silt, woodwastes	Porpoise Harbour	CanCel	34
1978	2 294	silt, mud, clay	Porpoise Harbour	B.C. Packers	459

Ipea: Prince Rupert Harbour  
No: 98  
Location: South of Digby Island  
Material: City garbage  
Comments: Historical records show that city garbage was barged to this site for disposal. In the 1930's a sanitary landfill site was established.

Area: Casey Cove, Digby Island  
No: 99  
Location: 54°16.9'N; 130°22.2'W  
Depth: 20 metres  
Chart: 3701  
Usage: Inactive  
Material: Log storage waste.  
Comments: 1000-1500 cubic metres of dredged material deposited at this site.

Area: Brown Passage, Chatham Sound  
No: 100  
Location: 54°18.5'N; 130°45.5'W  
Depth: 180 metres  
Chart: 3989  
Usage: Inactive  
Material: Heavy steel wire mesh, fish offal, ammunition.  
Comments: This site established by MOT in 1946 but officially disused now. After World War II, U.S. forces based at Watson Island disposed of excess and unwanted ammunition at this site - quantities unknown. Early 1950's, fish offal was removed in scows when fish plant inoperative.

Area: Port Simpson, Tsimpsean Peninsula  
No: 101  
Location: Off Cannery site  
Depth: 36 metres  
Chart: 3702  
Usage: Inactive  
Material: Silt, mud, gravel, rock.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent
1967-68	80 000	sediment	Cannery	McKenzie
1971	-	sediment	Cannery	Rivtow

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Area: Dixon Entrance  
No: 102  
Location: 54°17.2'N; 132°16.5'W  
Depth: 208 metres  
Chart: 3802  
Usage: Active  
Material: Sand, gravel  
Comments:

Area: Masset, Queen Charlotte Islands  
No: 103  
Location: 54°0'N; 132°9'W : 54°7'N; 132°13'W  
Depth: 36 metres  
Chart: 3804  
Usage: Inactive  
Material: Sediment  
Comments: Dredging has occurred during the past 10 years,  
by DPW, to maintain the harbour.

Area: Queen Charlotte City, Skidegate Inlet  
No: 104  
Location: 53°14.63'N; 132°03.2'W  
Depth: 36 metres  
Chart: 3806  
Usage: Inactive  
Material: Silt, clay, woodwaste  
Comments:

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Year	Cubic Metres	Material	Origin	Agent
1967-68	17 500	silt, clay	Q.C. harbour	Pacific Pile
1972	unknown	woodwastes	-	MacMillan-Blodet
1960-70	unknown	woodwastes	-	Crown Zellerbach
1974	765	woodwastes	-	Rivtow
	909 (tonnes)	sediment	Ferry terminal	

---

Area: Skidegate Channel  
No: 105  
Location: 53°8.9'N; 132°15.3'W  
Depth: N/A  
Chart: 3806  
Usage: Active  
Material: Gravel, sand, rock  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	700	gravel, sand, rock	Skidegate Channel	DPW	536

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Area: Selwyn Inlet  
No: 106  
Location: 52°52.2'N; 131°45.5'W  
Depth: 183 metres  
Chart: 3807  
Usage: Active  
Material: Sand and gravel.  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	765	sand, gravel	Louise Narrows	DPW	513

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4            Isolated Incidents

Area:            North Pacific Ocean  
No:              107  
Location:        48°25'N; 126°20'W  
Depth:          910 metres  
Chart:          L3001  
Usage:          Active  
Material:        Baroid Ballast: 66% barium sulphate  
Comments:

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Year	Quantity	Material	Origin	Agent	Permit Number
1976	902 000 kilos	barium sulphate	Esquimalt	Candian Marine Drilling Ltd.	55

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Area:            North Pacific Ocean  
No:              108  
Location:        49°26'N; 131°43'W; 160 nautical miles southwest  
                  of Vancouver Island.  
Chart:          3000  
Usage:          Active  
Comments:        The disabled No. 55 HATSUE MARU of the TAIHEIYO Fish  
                  Company of Japan was towed to the above location and  
                  sunk by demolition.

Area: Portland Canal  
No: 109  
Location: 55°54 'N; 130°00 'W  
Depth: 127 metres  
Chart: 3933  
Usage: Active  
Material: Silt and sand  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1977	11 850	silt, sand	Portland Canal	Granduc	199

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Area: Observatory Inlet  
No: 110  
Location: 55°07 'N; 129°57 'W  
Depth: 420 metres  
Chart: 3933  
Usage: Active  
Comments:

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Year	Cubic Metres	Material	Origin	Agent	Permit Number
1978	7 645	sand, silt, gravel	Kincolith	DPW	497

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Area: Pauline Cove, Herschel Island, Yukon  
No: 111  
Location: 69°34.5'N; 138°54'W  
Depth: 4 metres  
Usage: Active  
Material: Coal dust, salt.  
Comments: The deposit of coal dust and salt on the ice surface was part of an experiment being conducted by Canadian Marine Drilling Ltd. to weaken the ice and allow for an early breakout.

Year	Quantity (kilograms)	Material	Origin	Agent	Permit Number
1976	4 500	coal dust	-	Canadian Marine Drilling Ltd.	328
1978	60 960	coal dust	-	Canadian Marine Drilling Ltd.	441
1978	45 450	salt	-	Canadian Marine Drilling Ltd.	442

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APPENDIX IV

ABBREVIATIONS

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BCFP	British Columbia Forest Products
CFP	Canadian Forest Products
CPR	Canadian Pacific Railway
Dillingham	Dillingham Corporation Canada Ltd.
D.J. Byrne	D.J. Byrne Construction Ltd.
DND	Department of National Defense
DOE	Department of Environment
DPW	Department of Public Works
FMS	Fisheries and Marine Service
FRPD	Fraser River Pile Driving Co. Ltd.
Greenlees	Greenlees Piledriving Co. Ltd.
Gulf Contr.	Gulf Contractors
Gulf of Georgia	Gulf of Georgia Towing Co. Ltd.
G. Jones	George E. Jones & Associates Ltd.
McClelland	McClelland Barge and Marine Ways Ltd.
McKenzie	McKenzie Barge and Marine Ways Ltd.
NHB	National Harbours Board
NFHC	North Fraser Harbour Commission
Ocean Constr.	Ocean Construction
Pacific Pile	Pacific Pile Driving Co. Ltd.
PWC	Public Works Canada
Rivtow	Rivtow Straits Ltd.
Seaspan	Seaspan International Ltd.
Victoria Pile	Victoria Pile Driving Co. Ltd.