



2008 BROODSTOCK COLLECTION LICENCE

This Scientific Licence is issued under the authority of the Fisheries Act,
R.S.C. 1985, Chapter F-14.

Licence Number: XBI 1 2008

Commence Date: 23 Jan 2008

Expiry Date: 15 Mar 2008

Purpose: Broodstock Collection using the unlicensed vessel "Abrupt One"
registered as 14K22095

Licensee:

DAN MCDERMID

1525 WEST 29TH AVE

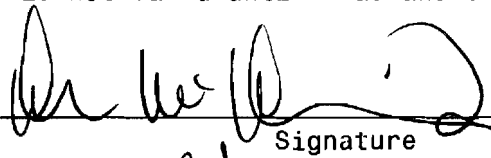
VANCOUVER BC V6J 2Z1

Phone: 604-732-4622

Assisted by: Oreste Michael Panacui

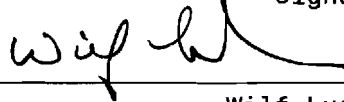
This licence is subject to the terms and conditions that are included herein
and/or attached hereto. These conditions are part of the licence and may not
be removed. This licence is not valid until read and signed by the licensee.

Licensee:



Signature

Date



JAN 23 2008

Wilf Luedke, Area Director

Date

Fisheries and Oceans Canada, Pacific Region

Species and Catch Limits:

Species	Catch Limit / Comment
Geoduck Clam	200 Pieces

Collection Methods / Gears:

DIVE Standard Geoduck Harvest Equipment

Areas:

Management Area 17 Subareas 17-5 and 17-6 other than closed areas
indicated on attached map the harvest area.

Reporting Requirements:

By Date Specified, due 31 Mar 2008

This licence was prepared by: Kerry Marcus

Dated: 18 Jan 2008



Licence Serial No.: 231787

Terms and Conditions

A DFO approved observer, Oreste Michael Panacui, of PO Box 279, Shawnigan Lake, BC VOR 2W0 shall be on board when harvesting is taking place, to document the location of harvest by completion of dive data logsheets (sample form attached as Appendix 1). Logsheets are to be completed on-board the harvest vessel prior to landing geoduck. The Observer shall collect and document additional sample information of Appendix 3, and photograph all animals collected. This information is to be forwarded to R. Harbo, Fisheries and Oceans Canada, 3225 Stephenson Pt. Rd., Nanaimo, V9T 5K3 within 30 days of the collection.

Genetic samples are required from at least 25 animals from the authorized harvest area. The samples from each harvest site should be grouped and labeled separately. Samples are to be sent to DFO by June 30, 2008. Sample protocol and contacts attached to this licence as Appendix 4.

Geoducks collected under authority of this licence may continue to be held at the Island Scallops Hatchery.

A Section 56 Fishery (General) Regulations Permit is required for the transfer of hatchery-raised geoduck juveniles from the hatchery to marine waters.

The DFO Office responsible for the area in which fishing shall take place, shall be notified on each occasion prior to fishing and collection of samples. Notification shall occur by telephone during normal business hours. If you are unable to notify the local office on evenings or weekends, advise the DFO Radio Room at 1-800-465-4336 prior to sampling.

Copies of this licence must accompany the collecting personnel, be on board any collecting vessel, be carried with the transport vehicle at all times during collection and transport of samples and shall be present in the holding area or hatchery. The original, signed licence must be produced upon the request of a Fishery Officer or Guardian.

This licence authorizes collections to be made by the licensee and employees provided that all persons other than minors who are engaged in activities under the authority of this licence are carrying suitable photo identification to be produced upon request of a Fishery Officer or Guardian.

The collection of bivalves from areas closed for PSP (red tide), ASP (domoic acid) or bacterial contamination under the Management of Contaminated Fisheries Regulations is not authorized by this licence. Check with the local DFO office or on the internet for closure information immediately prior to sampling. Closure information is available on the internet at:

http://www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/Biotoxins/closures/default_e.htm

Specimens retained under the authority of this licence may not be utilized,

sold or processed for food or bait.

A Section 56 Fishery (General) Regulations Permit is required for the transfer of live specimens between marine areas, or to holding tanks which discharge to marine waters. The licence holder is required to make application to the Federal/ Provincial Introductions and Transfers Committee. Contact Dorothee Kieser, Pacific Biological Station, 250-756-7069.

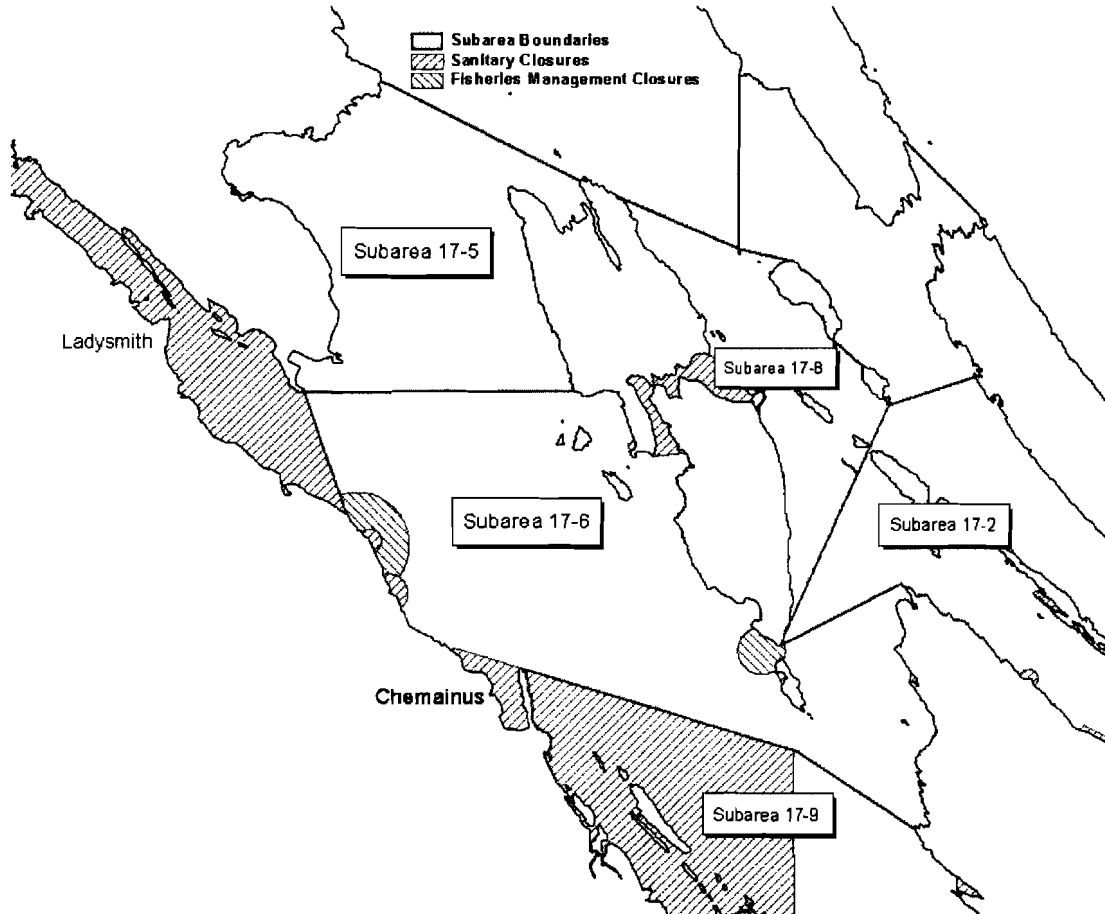
Morphometric data including shell length, wet weight and quality assessment (visible signs of disease or other abnormalities) shall be assessed upon collection of the sample (sample form in attached Appendix), and this information is to be included in the submitted reports.

Specimens caught and retained under authority of this licence may not be shipped or provided to any party not named on this licence.

This licence may be revoked or amended by the Department prior to the expiry date as may be considered necessary by the Department.

See attached documents.

Map 1. Harvest area includes portions of Subareas 17-5 and 17-6 not covered by sanitary or management closures.



Appendix 1: Geoduck and Horse Clam Harvest Log

For brood stock collections reporting please complete the relevant portions of Sections A and C of the logsheet. Use a separate copy for each collection day.

LANDING DATE IN PORT:		GEODUCK <input type="checkbox"/> HORSE CLAM <input type="checkbox"/> VALIDATION & HARVEST LOGBOOK			VALIDATION ID No.				
Please Print, Use Pen									
A		G-TAB	VESSEL NAME		CFV #	VESSEL OPERATOR			
		DATE ONTO PACKER	TIME (24 hr clock)	# CAGES	# LINERS	PACKER GROSS WT.	PACKER NAME		
B		OFFLOAD TIME	VAL. METH.	MGMT AREA	SUB - AREA	QUOTA AREA			
		TOTAL CAGES	GROSS DOCK WEIGHT	TOTAL CAGE WT + LINER WT	PRODUCT TYPE	CONV. FACTOR	PREVIOUS R.Q.		
		TOTAL LINERS	CAGE WT LINER WT	SUM		= NET OFFLOAD WEIGHT			
						NEW REMAINING QUOTA			
CAGE TAGS ?		<input type="checkbox"/> Y <input type="checkbox"/> N	TRANSFER TO / FROM G-TAB #	<input type="checkbox"/>	SPLIT LOAD? YES <input type="checkbox"/> NO <input type="checkbox"/>	HOW MANY PARTS? <input type="checkbox"/>			
HOLD CHECK? <input type="checkbox"/> Y <input type="checkbox"/> N						TOTAL NET WT. FOR ALL PARTS			
Observer's Comments:									
Please Print, Use Pen									
C									
DIVE HARVEST INFO - USE A NEW PAGE FOR EACH NEW QUOTA AREA FISHED. - ENTER THE DIVE INFO FOR EACH DIVE. ALSO RECORD GPS LAT. & LONG. IF POSSIBLE. - USE NEXT DIVE LINE TO RECORD GPS COORDINATES WHEN NECESSARY, AS SHOWN BELOW.									
DIVE No.	DIVE SITE	HARVEST DATE (m/d)	SUB-AREA	HARVEST LOCATION (bay, pass, island; N.S.E.W; LAT & LONG)	DIVER NAME (last name, first name)	DIVER MINUTES	DEPTH (ft)		# CAGES
1	B	10 / 25	9	Otter Pass E., Trap Islands	Clarke, Jim (example)	87	24	34	15
2	B	10 / 25	9	" 52° 08.311' 129° 42.693'	Brodie, Al (example)	130	30	35	17
3									
4									
5									
6									
7									
8									
9									
10									
TRUE PIECE COUNTS ?			YES	NO			TOTALS		
IS YOUR HARVEST CHART MARKED?			YES	NO	PIECES	MINUTES			CAGES

prepared by ARCHIPELAGO MARINE RESEARCH LTD.

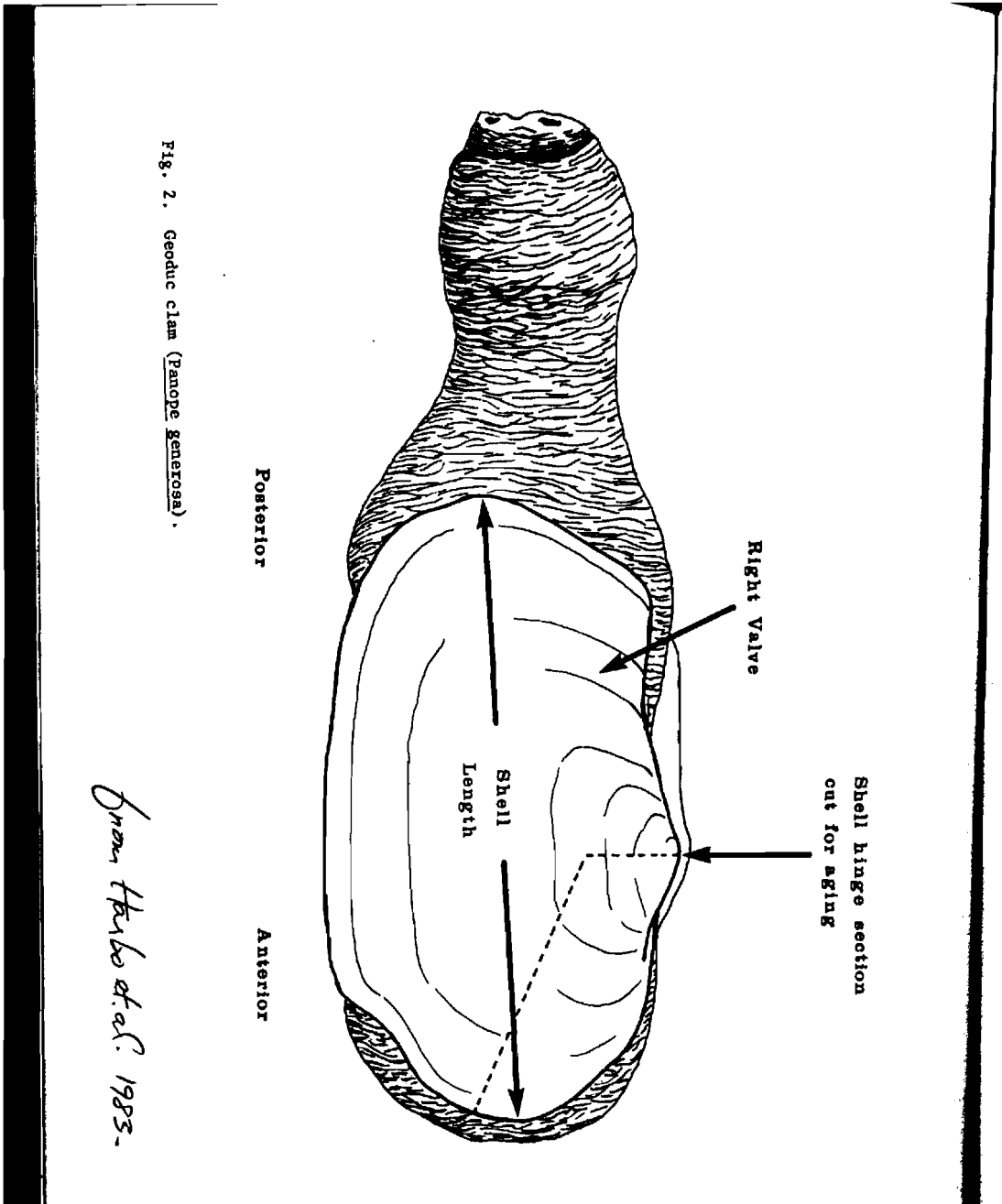
Please Print, Use Pen

WHITE COPY --- Observer

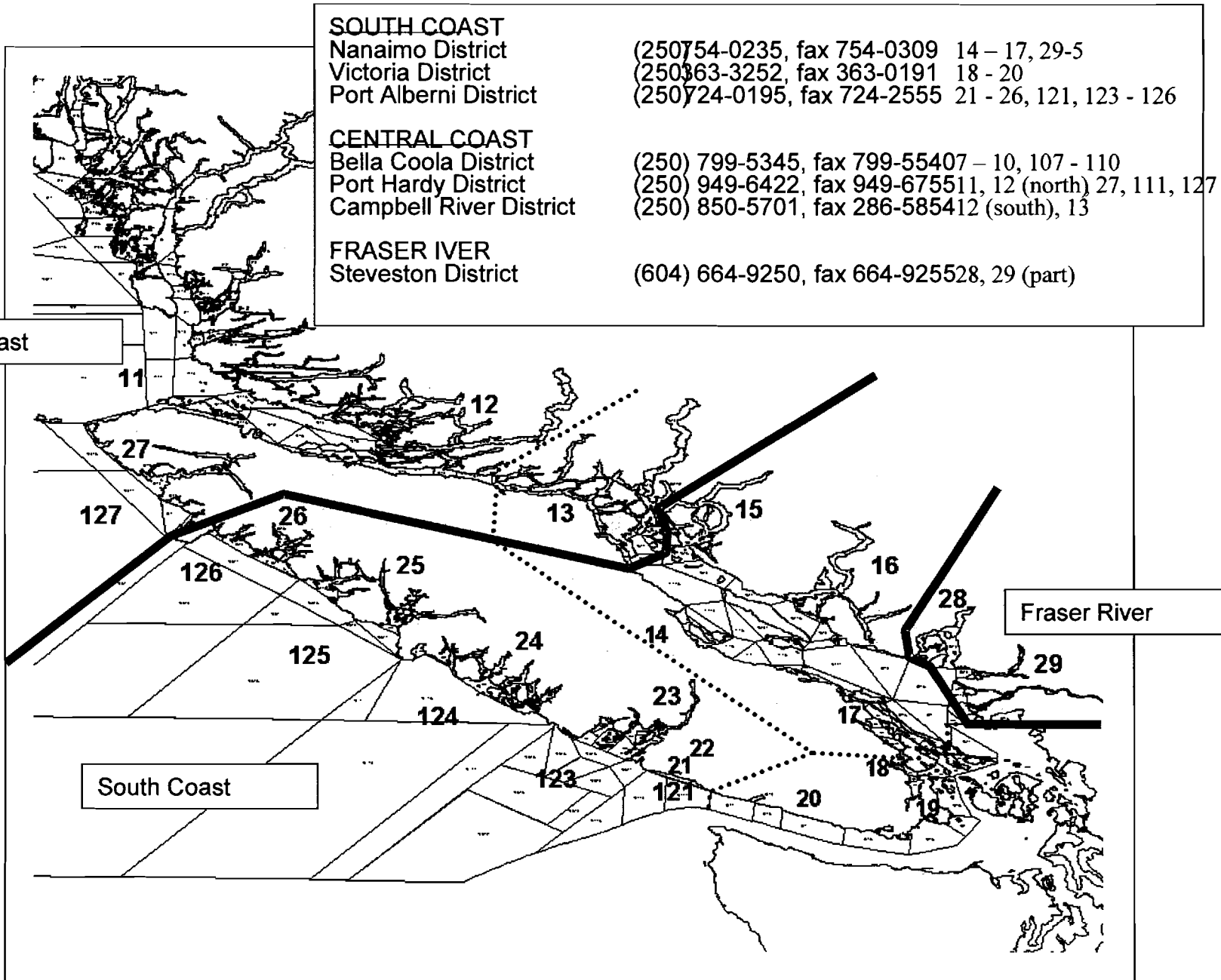
YELLOW COPY --- Truck and Plant

PINK COPY --- Vessel

Appendix 2.



Method to measure geoduck shell length.



Appendix 4. GEODUCK SAMPLING PROTOCOLS FOR DNA ANALYSIS

Sample 100 adult individuals per site for DNA analysis. The sampling process is a very small flesh clip, is non-destructive and product can continue to market, or into brood stock use. The potential effects of the sampling procedure on the live holding of brood stock has however not been tested at this time and may require further investigation by industry.

For DNA analyses to be conducted in the Molecular Genetics Lab (MGL) at the Pacific Biological Station, the sampling vials, boxes and ethanol mentioned below can be obtained from the MGL. Contact Liane Stenhouse (250 756-7316; stenhouse1@pac.dfo-mpo.gc.ca) or Janine Supernault (250 756-7213; supernaultj@pac.dfo-mpo.gc.ca) for sampling supplies and to arrange sample delivery.

Each box containing sample vials should be clearly labeled with:

- the harvest location information (DFO subarea, location name and aquaculture tenure Canadian Land File number if applicable).
- harvest date
- harvest vessel
- sampler name and contact information

Collect tissue samples from a random selection of live or freshly dead animals. If necessary, frozen animals may also be used – care should be taken to thaw the tissue as little as possible during sampling. It is best to place the frozen tissue directly into the ethanol.

Very small (~20 mg) pieces of tissue are required. Rinse sampling gear (scissors, clippers or tissue punchers) well between samples in water or ethanol.

Remove a sample of tissue from the membrane between the siphons at the top of the neck. This sample can be obtained using either a small hole punch or small scissors.

Place the tissue sample from each individual (or the entire individual if sampling larvae) into a separate 2 ml vial with a screw cap lid. The vials should contain 95% undenatured alcohol and can be filled prior to or immediately after the tissue sample is added. The vial should be no more than 25% full of tissue sample with the remainder filled with ethanol.

Ensure that the vials are labeled with individual identifiers if required and placed in boxes designed to hold 100 vials. Labeling can be done with a Sharpie permanent marker. Label the box with information on the species, date of sampling, location or origin of samples, sample collectors, etc.

Once the samples are in 95% ethanol they can be stored at room temperature until transported to the lab for analysis.

The most important things are to rinse the sampling tool between individuals, ensure the ethanol does not get diluted with water during the process of sampling, and to ensure the caps are tight on the vials once sampling is completed.

Plan to deliver the sample boxes directly to the Pacific Biological Station. Please be sure to make prior arrangements during regular business hours to ensure staff are on hand to receive the samples. Contact Liane Stenhouse (250 756-7316; stenhouse1@pac.dfo-mpo.gc.ca) or Janine Supernault (250 756-7213; supernaultj@pac.dfo-mpo.gc.ca) to arrange sample delivery.