



Plankton Net Tow Log Sheet

Cruise #: 201743 Vessel: Neo Page: 1
Project(s): SOG Contact: Steve
TSK Serial #: 7131 RBR serial #: 79081
Time offset = + 7 hrs = UTC (please record local time for samples)

Date: 21 May 2017	Station: 6E01	Time: 1255	LOCAL
Net Event # 3	CTD # 1		
Latitude: 49 15.436 N	Longitude: 123 45.161 W		
deg min.dec	deg min.dec		
Wire out: 395	Wire angle: 70	Bottom Depth: 405	
Net Type: SCOR	Tow Type: VNH		
Flow start	Flow end	Flow = frozen	
68422	70650	Non-flow = pickled	
Notes:			

Date: 21 May 2017	Station: CPF1	Time: 1510	LOCAL
Net Event # 5	CTD # 4		
Latitude: 49 21.978 N	Longitude: 124 4.935 W		
deg min.dec	deg min.dec		
Wire out: 240	Wire angle: 5	Bottom Depth: 248	
Net Type: SCOR	Tow Type: VNH		
Flow start	Flow end	Flow = frozen	
70650	72090	Non-flow = pickled	
Notes:			

Date: 21 May 2017	Station: BS11	Time: 1837	LOCAL
Net Event # 7	CTD # 6		
Latitude: 49 28.945 N	Longitude: 124 45.966 W		
deg min.dec	deg min.dec		
Wire out: 50	Wire angle: 0	Bottom Depth: 60	
Net Type: SCOR	Tow Type: VNH		
Flow start	Flow end	Flow = frozen	
72090	72397	Non-flow = pickled	
Notes:			

Date: 22 May 2017	Station: CPF2	Time: 0844	LOCAL
Net Event # 9	CTD # 8		
Latitude: 49 27.910 N	Longitude: 124 29.565 W		
deg min.dec	deg min.dec		
Wire out: 318	Wire angle: 5	Bottom Depth:	
Net Type: SCOR	Tow Type: VNH		
Flow start	Flow end	Flow = frozen	
72397	74169	Non-flow = pickled	
Notes:			



Plankton Net Tow Log Sheet

Cruise #: 2017-43 Vessel: Neo Page: 2

Project(s): SOG

Contact:

TSK Serial #: 7131

RBR serial #: 79081

Time offset = + 4

hrs = UTC (please record local time for samples)

Date: 22 May 2017	Station: 11	Time: 1118	LOCAL
Net Event # 11	CTD # 10		
Latitude: 49 42.398 N	Longitude: 124 43.493 W		
deg min.dec	deg min.dec		
Wire out: 291	Wire angle: 40	Bottom Depth: 301	
Net Type: SCOR	Tow Type: VNH		
Flow start	Flow end	Flow = frozen	
74169	75773	Non-flow = pickled	

Notes:

Date: 22 May 2017	Station: 22	Time: 1433	LOCAL
Net Event # 13	CTD # 12		
Latitude: 49 39.940 N	Longitude: 124 16.242 W		
deg min.dec	deg min.dec		
Wire out: 245	Wire angle: 0	Bottom Depth: 255	
Net Type: SCOR	Tow Type: VNH		
Flow start	Flow end	Flow = frozen	
75773	77152	Non-flow = pickled	

Notes: Lots of stuff in water. Jellies, ctenophores, phyto.

Date: 22 May 2017	Station: 15-02	Time: 1546	LOCAL
Net Event # 15	CTD # 14		
Latitude: 49 38.173 N	Longitude: 124 05.002 W		
deg min.dec	deg min.dec		
Wire out: 20	Wire angle: 0	Bottom Depth: 29	
Net Type: SCOR	Tow Type: VNH		
Flow start	Flow end	Flow = frozen	
77152	77286	Non-flow = pickled	

Notes:

Date: 23 May 2017	Station: 24	Time: 0851	LOCAL
Net Event # 17	CTD # 16		
Latitude: 49 30.242 N	Longitude: 124 05.989 W		
deg min.dec	deg min.dec		
Wire out: 417	Wire angle: 0	Bottom Depth: 427	
Net Type: SCOR	Tow Type: VNH		
Flow start	Flow end	Flow = frozen	
77286	79730	Non-flow = pickled	

Notes:



Plankton Net Tow Log Sheet

Cruise #: 2017-48 Vessel: Neo Page: 3

Project(s): SDG Contact:

TSK Serial #: 7131 RBR serial #: 79081

Time offset = + 7 hrs = UTC (please record local time for samples)

Date: 23 May 2017	Station: 23	Time: 1004	LOCAL
Net Event # 19	CTD # 18		
Latitude: 49 24.153 N	Longitude: 123 45.495 W		
deg min.dec	deg min.dec		
Wire out: 121	Wire angle: 5	Bottom Depth:	
Net Type: SLOW	Tow Type: VNA		
Flow start	Flow end	Flow = frozen	
77236	80419	Non-flow = pickled	

Notes:

Date: 23 May 2017	Station: 38	Time: 1328	LOCAL
Net Event # 21	CTD # 20		
Latitude: 49 12.135 N	Longitude: 123 26.285 W		
deg min.dec	deg min.dec		
Wire out: 295	Wire angle: 8°	Bottom Depth:	
Net Type: SLOW	Tow Type: VNA		
Flow start	Flow end	Flow = frozen	
80419	82079	Non-flow = pickled	

Notes:

Date: 23 May 2017	Station: 41	Time: 1518	LOCAL
Net Event # 23	CTD # 22		
Latitude: 49 03.193 N	Longitude: 123 22.244 W		
deg min.dec	deg min.dec		
Wire out: 240	Wire angle: 15°	Bottom Depth: 236	
Net Type: SLOW	Tow Type: VNA		
Flow start	Flow end	Flow = frozen	
82079	83490	Non-flow = pickled	

Notes: 55 wire angle
lamprey in sample

Date: 24 May 2017	Station: 40	Time: 0756	LOCAL
Net Event # 25	CTD # 24		
Latitude: 49 08.492 N	Longitude: 123 36.682 W		
deg min.dec	deg min.dec		
Wire out: 137	Wire angle: 0	Bottom Depth: 147	
Net Type:	Tow Type: SLOW VNA		
Flow start	Flow end	Flow = frozen	
83490	84220	Non-flow = pickled	

Notes:



Plankton Net Tow Log Sheet

Cruise #: 2017-48 Vessel: Neo Page: 4

Project(s): SOG Contact: Steve

TSK Serial #: 7731 RBR serial #: 79031

Time offset = + 7 hrs = UTC (please record local time for samples)

Date: 24 May 2017	Station: 46	Time: 1045	LOCAL
Net Event # 27	CTD # 26		
Latitude: 40 51.322 N	Longitude: 123 10.683 W		
deg min.dec	deg min.dec		
Wire out: 171	Wire angle: 120	Bottom Depth: 171	
Net Type: SCOR	Tow Type: VNY		
Flow start	Flow end	Flow = frozen	
84220	85232	Non-flow = pickled	

Notes:

Date: 24 May 2017	Station: 65-01	Time: 1336	LOCAL
Net Event # 29	CTD # 28		
Latitude: 43 45.930 N	Longitude: 123 20.624 W		
deg min.dec	deg min.dec		
Wire out: 54	Wire angle: 0	Bottom Depth: 64	
Net Type: SCOR	Tow Type: VNY		
Flow start	Flow end	Flow = frozen	
85232	85614	Non-flow = pickled	

Notes:

Date: 24 May 2017	Station: SCOR	Time: 1423	LOCAL
Net Event # 31	CTD # 30		
Latitude: 43 43.644 N	Longitude: 123 25.212 W		
deg min.dec	deg min.dec		
Wire out: 62	Wire angle: 0	Bottom Depth: 72	
Net Type:	Tow Type:		
Flow start	Flow end	Flow = frozen	
85614	86055	Non-flow = pickled	

Notes:

Date: 24 May 2017	Station: CBE2	Time: 1520	LOCAL
Net Event # 33	CTD # 32		
Latitude: 43 44.235 N	Longitude: 123 24.383 W		
deg min.dec	deg min.dec		
Wire out: 59	Wire angle: 100	Bottom Depth: 68	
Net Type:	Tow Type: SCOR VNY		
Flow start	Flow end	Flow = frozen	
86055	86300	Non-flow = pickled	

Notes:

Neocaligus Cruise IOS 2017-48

Table 1. Sampling stations

Station	lat	lat mins	long	lon mins	Depth (m)	Samples
CBE2	48	44.22	-123	34.45	65	CTD, net
SC-04	48	43.50	-123	25.00	90	CTD, net, phyto, chl-a
GI-01	48	45.86	-123	20.53	65	CTD, net
46	48	51.4	-123	10.8	176	CTD, net
41	49	3.3	-123	22.3	245	CTD, net, phyto, chl-a, SAL*
40	49	8.6	-123	36.8	146	CTD, net
38	49	12	-123	26.4	300	CTD, net, SAL*
GEO1	49	15	-123	45	400	CTD, net, phyto, chl-a, SAL*
CPF1	49	22	-124	5	245	CTD, net
28	49	24.1	-123	45.3	134	CTD, net, chl-a
CPF2	49	28	-124	30	325	CTD, net, SAL*
BS-11	49	29	-124	46	58	CTD, net
24	49	30.3	-124	6	425	CTD, net, SAL*
22	49	40.2	-124	16.3	353	CTD, net, SAL*
11	49	42.4	-124	43.4	290	CTD, net, phyto, chl-a
IS-2	49	38.2	-124	5	30	CTD, net
If timing allows:						
59	48	36.96	-123	14.978	225	CTD, net

*Note: really only need one deep SAL reference sample per day, but 5 locations indicated where it's deep enough for a good reference. Where the SAL is taken depends on the route taken during the cruise.

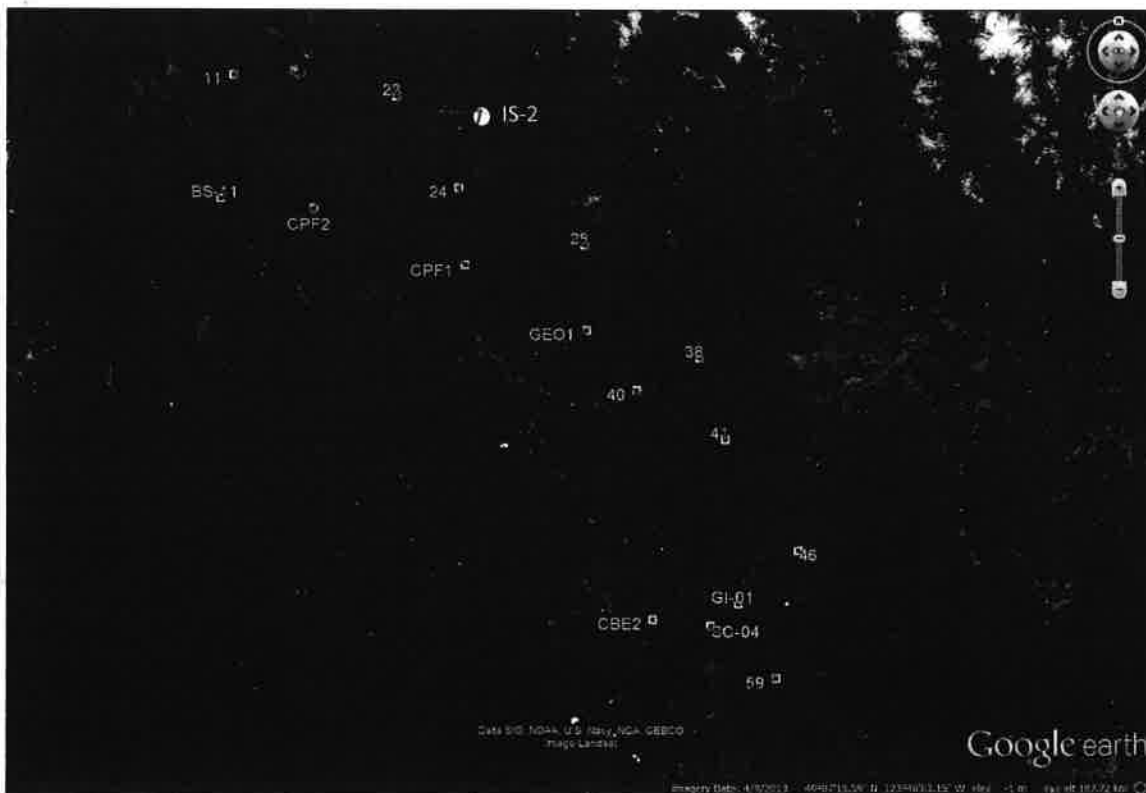


Figure 1. Station locations for IOS 2017-47 Strait of Georgia zooplankton surveys.

At each station, collect:

- Full depth CTD profile including oxygen and fluorometer, using SBE 25 CTD with SBE 43 DO and Wetlabs fluorometer sensors. **2 minute soak at start** (Turn on, down 10m and up, wait remaining time and start). **Note:** CTD fluorometer usually has an end cap that needs to be removed before the first cast!
- Full depth (10m off bottom to surface) zooplankton tow, using SCOR net with 236um black mesh. Preserved in 10% buffered formalin. Upcast speed approx. 1 m/s (with electric winch, will be slightly slower. Should not be less than 0.5 m/s). Net equipped with a TSK flowmeter and a RBR Solo that logs the net casts (depth and time).

At select stations, collect:

Salinity (SAL) – at least one deep water (>200m) salinity sample (in duplicate) per day (approx.), using 1 L Niskin attached 1m above CTD to collect a near-bottom salinity sample during CTD cast (CTD sensor check). Record sample number, depth collected in log.

- To be collected at stations: 41, 38, GEO1, CPF2, 22, 24.

Phytoplankton (phyto) – surface phyto sample preserved with Lugol's, collected with 1 L Niskin at surface; for taxonomy. Do not rinse jars (pre-filled with Lugol's). Record event number, sample number in log.

- To be collected at stations: SC-04, 41, GEO1, 11
- Stations chosen because: SC-04- close to Lou Hobson's station (historical site); 41 in plume; GEO1 for central; 11 for northern

Chlorophyll-a (chl-a) – Chl-a samples taken at surface and 5 m, at same stations as the phyto plus at Halibut Bank buoy (49.34, -123.72, near station 28). For comparison with Wetlabs fluorometer and for satellite and buoy data comparisons.

Water sampled with 1 L Niskin, 60-240 ml water (depending on how much phytoplankton is in the water; need some colour on the filter) filtered (in duplicate) with 140 ml syringe and 25 mm GF/F filters (same method as Citizen Science program). Store filter in scintillation vial and freeze at -20 °C (fridge freezer) until analyzed. *Record the sample number with the depth and volumes filtered in the cruise log.* Make sure labels have sample number and volume filtered as well.

- To be collected at stations: SC-04, 41, GEO1, 11, 28

Housekeeping

- There are 2 logs to fill out: cruise log and plankton log. Please fill out the cruise log with all events that occur, and give each event a number. Record BE, BO and EN time (note what time zone you are using! Eg: use local time if you want, but indicate so in the log and be consistent for the entire trip). ****Check that the GPS has the correct time (needs to be manually changed between Daylight ST and PST. Plankton log – enter information for all plankton tows.**
- Upload the CTD data at the end of the day. Make sure the laptop has the correct date and time before uploading. Upload the files individually (don't do as a batch). When uploading the file, name them with standard format names such as 2017-07-0001.hex (or .xml for SBE25+) for event #1. Put location, station name, and bottom depth in the header (comments box) of the file, using the format in the "CTD Header.txt" file on the CTD laptop (the leading * and following : plus N and W are needed for processing)
- Also check that the batteries have enough voltage, change if they drop below 9.5V (for SBE25+).
- Update the electronic cruise log (excel file) daily. Back up all files to USB.
- Run the Oziexplorer program with the GPS puck on the bridge every day, logging the cruise track and saving one per day.