

GLOBEC Northeast Pacific, Coastal Gulf of Alaska

Cruise Report, R/V *Pandalus* (PA0403)

(Alternate Cruise ID: G04-3)

10 - 17 September 2004

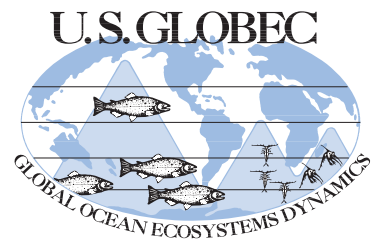
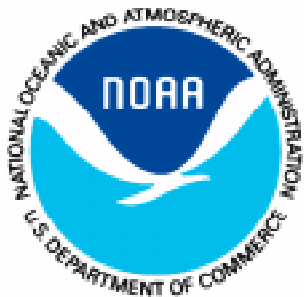


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Atmospheric Administration



GLOBEC Northeast Pacific, Coastal Gulf of Alaska
Cruise Report, R/V *Pandalus* (PA0403)
(Alternate Cruise ID: G04-3)
10 - 17 September 2004

Chief Scientist:

Lew Haldorson
Juneau Center School of Fisheries and Ocean Sciences
University of Alaska, Fairbanks
Juneau, AK 99801
907-465-6441
lew.haldorson@uaf.edu

Port of Departure: Seward, Alaska

Port of Return: Seward, Alaska

Cruise Objectives

- 1) Determine the distribution and abundance of fish along the Seward Line, in Southwest Prince William Sound, and in ACC and Shelf Water on the Cape Fairfield Line.
- 2) Determine the abundance and species composition of zooplankton in surface waters at all stations.
- 3) Determine the temperature, salinity, density, and fluorescence of the water column at all stations.

Summaries of each of the GLOBEC projects may be found at the web site: <http://globec.coas.oregonstate.edu/groups/nep/projs.html>.

Table 1. GLOBEC Cruise Participants

Lew Haldorson	Juneau Center School of Fisheries and Ocean Sciences
Jack Piccolo	Juneau Center School of Fisheries and Ocean Sciences
Mikhail Blikshteyn	Juneau Center School of Fisheries and Ocean Sciences

Daily Cruise Summary (Narrative)

September 10 - 11. Scientists arrived in Seward, sorted gear and prepared for cruise.

September 12. Loaded gear on R/V *Pandalus* at Seward Marine Station.

September 12 - 17. Sampled fish, surface plankton, salinity, and water temperature on the Seward line, the Cape Fairfield Line and in PWS.

September 17. Offloaded gear at the Seward Marine Station and scientists left Seward.

Summary of Sampling Operations

A surface trawl was used to sample fish at GAK stations 1i, 2, 6 and 7; PWS stations 1-3; and CF stations 1, 2, 4, 6, and 8 (Table 2). Fish caught included juvenile pink, chum, and sockeye salmon; immature coho and chum salmon; herring and dogfish. Juvenile pink salmon were in low abundance throughout the study area. Fish were sorted to species, counted, and measured. Juvenile salmon were frozen in seawater for later analyses.

Surface plankton was sampled at each station, using a Bongo net (60 cm diameter, 0.333 mm mesh). Samples were preserved in 5% buffered formalin (Table 3).

A Seabird Seacat SBE-19 CTD was used to measure temperature, salinity, and fluorescence to 100 m depth at each station (Table 4). A Seabird thermosalinograph installed on the R/V *Pandalus* continuously monitored near-surface salinity and temperature throughout the cruise.

Summary of Gear Deployments

See Appendix 1 (Event Log).

PA0403 Stations: 10–17 September 2004

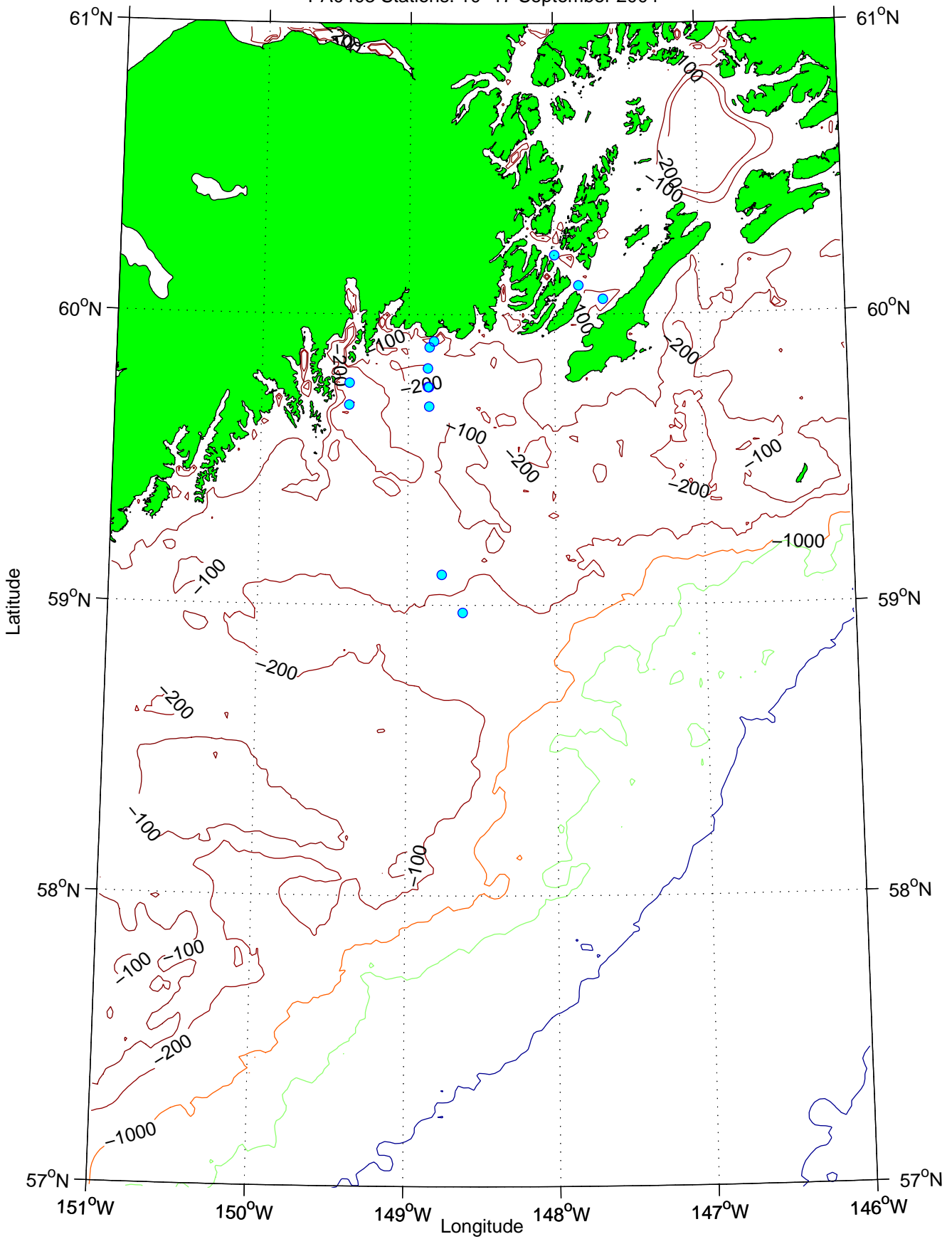


Figure 1. Stations Sampled on PA0403

Table 2: Trawls

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA04256.07	Trawl	4	1	GAK1i	12	9	1352	S	59.7497	-149.3760	257	0	1	Pandalus thermosalinograph (TSG) start 25.08, end 25.13.
PA04256.08	Trawl	4	1	GAK1i	12	9	1422	E	59.7352	-149.3687	nd	0	1	
PA04256.15	Trawl	4	2	GAK2	12	9	1524	S	59.6843	-149.3760	216	0	2	TSG start 28.83, end 29.40.
PA04256.16	Trawl	4	2	GAK2	12	9	1554	E	59.6725	-149.2428	nd	0	2	
PA04256.17	Trawl	5	2	GAK2	12	9	1633	S	59.6793	-149.2880	211	0	3	TSG start 29.05, end 29.44.
PA04256.18	Trawl	5	2	GAK2	12	9	1703	E	59.6778	-149.2030	nd	0	3	
PA04257.07	Trawl	4	3	PWS2	13	9	1252	S	60.1055	-147.8372	267	0	4	TSG start 23.36, end 23.45.
PA04257.08	Trawl	4	3	PWS2	13	9	1322	E	60.1263	-147.8372	nd	0	4	
PA04257.15	Trawl	4	4	PWS1	13	9	1507	S	60.2097	-148.0032	219	0	5	TSG start 21.88, end 21.15.
PA04257.16	Trawl	4	4	PWS1	13	9	1537	E	60.1872	-147.9892	nd	0	5	
PA04257.17	Trawl	5	4	PWS1	13	9	1617	S	60.2025	-148.0028	199	0	6	TSG start 22.38, end 20.81.
PA04257.18	Trawl	5	4	PWS1	13	9	1646	E	60.1797	-147.9893	nd	0	6	
PA04258.07	Trawl	4	5	PWS3	14	9	0838	S	60.0577	-147.6722	112	0	7	TSG start 26.1, end 25.7.
PA04258.08	Trawl	4	5	PWS3	14	9	0908	E	60.0817	-147.6827	nd	0	7	
PA04258.15	Trawl	4	6	CF6	14	9	1508	S	59.7498	-148.8490	191	0	8	TSG start 28.40, end 28.9.
PA04258.16	Trawl	4	6	CF6	14	9	1538	E	59.7443	-148.8072	nd	0	8	
PA04258.17	Trawl	5	6	CF6	14	9	1606	S	59.7492	-148.8300	188	0	9	TSG start 28.77, end 28.6.
PA04258.18	Trawl	5	6	CF6	14	9	1636	E	59.7532	-148.8722	nd	0	9	
PA04259.07	Trawl	4	7	GAK6	15	9	1023	S	59.0933	-148.7867	156	0	10	TSG start 30.45, end 30.4.
PA04259.08	Trawl	4	7	GAK6	15	9	1123	E	59.0555	-148.8733	nd	0	10	
PA04259.15	Trawl	4	8	GAK7	15	9	1320	S	58.9835	-148.5610	240	0	11	TSG start 29.95, end 29.74.
PA04259.16	Trawl	4	8	GAK7	15	9	1420	E	58.0347	-148.7080	nd	0	11	
PA04260.07	Trawl	4	9	CF4	16	9	0912	S	59.7590	-148.8727	185	0	12	TSG start 26.4, end 27.1.
PA04260.08	Trawl	4	9	CF4	16	9	0942	E	59.7878	-148.8727	nd	0	12	
PA04260.15	Trawl	4	10	CF6	16	9	1039	S	59.7473	-148.8698	188	0	13	TSG start 28.3, end 28.3.
PA04260.16	Trawl	4	10	CF6	16	9	1109	E	59.7323	-148.9195	nd	0	13	
PA04260.23	Trawl	4	11	CF8	16	9	1213	S	59.6783	-148.8795	178	0	14	TSG start 29.2, end 29.05.
PA04260.24	Trawl	4	11	CF8	16	9	1243	E	59.6677	-148.9265	nd	0	14	
PA04260.31	Trawl	4	12	CF2	16	9	1502	S	59.8898	-148.8815	106	0	15	TSG start 25.45, end 25.60.
PA04260.32	Trawl	4	12	CF2	16	9	1532	E	59.8967	-148.9328	nd	0	15	
PA04260.39	Trawl	4	13	CF1	16	9	1628	S	59.9092	-148.8462	88	0	16	TSG start 25.45.
PA04260.40	Trawl	4	13	CF1	16	9	1658	E	59.9107	-148.8953	nd	0	16	
PA04261.01	Trawl	5	14	GAK2	17	9	0619	S	59.6855	-149.3195	222	0	17	TSG start 28.4, dawn sample.
PA04261.02	Trawl	5	14	GAK2	17	9	0645	E	59.6613	-149.3225	nd	0	17	

Table 3: Bongo Nets

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA04256.03	Bongo	2	1	GAK1i	12	9	1329	S	59.7627	-149.4035	263	10	1	Blue net/red net.
PA04256.04	Bongo	2	1	GAK1i	12	9	nd	E	nd	nd	nd	10	1	
PA04256.05	Bongo	3	1	GAK1i	12	9	1334	S	59.7618	-149.4060	265	10	2	Blue net/red net.
PA04256.06	Bongo	3	1	GAK1i	12	9	nd	E	nd	nd	nd	10	2	
PA04256.11	Bongo	2	2	GAK2	12	9	1506	S	59.6887	-149.4035	223	10	3	Blue net/red net.
PA04256.12	Bongo	2	2	GAK2	12	9	nd	E	nd	nd	nd	10	3	
PA04256.13	Bongo	3	2	GAK2	12	9	1510	S	59.6887	-149.4060	223	10	4	Blue net/red net.
PA04256.14	Bongo	3	2	GAK2	12	9	nd	E	nd	nd	nd	10	4	
PA04257.03	Bongo	2	3	PWS2	13	9	1231	S	60.0983	-147.8345	253	10	5	Blue net/red net.
PA04257.04	Bongo	2	3	PWS2	13	9	nd	E	nd	nd	nd	10	5	
PA04257.05	Bongo	3	3	PWS2	13	9	1236	S	60.0973	-147.8348	252	10	6	Blue net/red net.
PA04257.06	Bongo	3	3	PWS2	13	9	nd	E	nd	nd	nd	10	6	
PA04257.11	Bongo	2	4	PWS1	13	9	1442	S	60.2038	-147.9987	175	10	7	Blue net/red net.
PA04257.12	Bongo	2	4	PWS1	13	9	nd	E	nd	nd	nd	10	7	
PA04257.13	Bongo	3	4	PWS1	13	9	1446	S	60.2037	-147.9993	175	10	8	Blue net/red net.
PA04257.14	Bongo	3	4	PWS1	13	9	nd	E	nd	nd	nd	10	8	
PA04258.03	Bongo	2	5	PWS3	14	9	0821	S	60.0518	-147.6655	153	10	9	Blue net/red net.
PA04258.04	Bongo	2	5	PWS3	14	9	nd	E	nd	nd	nd	10	9	
PA04258.05	Bongo	3	5	PWS3	14	9	0825	S	60.0515	-147.6653	155	10	10	Blue net/red net.
PA04258.06	Bongo	3	5	PWS3	14	9	nd	E	nd	nd	nd	10	10	
PA04258.11	Bongo	2	6	CF6	14	9	1451	S	59.7508	-148.8667	191	10	11	Blue net/red net.
PA04258.12	Bongo	2	6	CF6	14	9	nd	E	nd	nd	nd	10	11	
PA04258.13	Bongo	3	6	CF6	14	9	1455	S	59.7507	-148.8662	191	10	12	Blue net/red net.
PA04258.14	Bongo	3	6	CF6	14	9	nd	E	nd	nd	nd	10	12	
PA04259.03	Bongo	2	7	GAK6	15	9	1004	S	59.1033	-148.7713	154	10	13	Blue net/red net.
PA04259.04	Bongo	2	7	GAK6	15	9	nd	E	nd	nd	nd	10	13	
PA04259.05	Bongo	3	7	GAK6	15	9	1008	S	59.1028	-148.7725	154	10	14	Blue net/red net.
PA04259.06	Bongo	3	7	GAK6	15	9	nd	E	nd	nd	nd	10	14	
PA04259.11	Bongo	2	8	GAK7	15	9	1302	S	58.9747	-148.6290	245	10	15	Blue net/red net.
PA04259.12	Bongo	2	8	GAK7	15	9	nd	E	nd	nd	nd	10	15	
PA04259.13	Bongo	3	8	GAK7	15	9	1306	S	58.9755	-148.6302	245	10	16	Blue net/red net.
PA04259.14	Bongo	3	8	GAK7	15	9	nd	E	nd	nd	nd	10	16	
PA04260.03	Bongo	2	9	CF4	16	9	0851	S	59.8132	-148.8707	182	10	17	Blue net/red net.
PA04260.04	Bongo	2	9	CF4	16	9	nd	E	nd	nd	nd	10	17	
PA04260.05	Bongo	3	9	CF4	16	9	0855	S	59.8125	-148.8743	182	10	18	Blue net/red net.
PA04260.06	Bongo	3	9	CF4	16	9	nd	E	nd	nd	nd	10	18	
PA04260.11	Bongo	2	10	CF6	16	9	1022	S	59.7470	-148.8638	188	10	19	Blue net/red net.
PA04260.12	Bongo	2	10	CF6	16	9	nd	E	nd	nd	nd	10	19	
PA04260.13	Bongo	3	10	CF6	16	9	1025	S	59.7485	-148.8638	188	10	20	Blue net/red net.
PA04260.14	Bongo	3	10	CF6	16	9	nd	E	nd	nd	nd	10	20	
PA04260.19	Bongo	2	11	CF8	16	9	1158	S	59.6833	-148.8635	180	10	21	Blue net/red net.
PA04260.20	Bongo	2	11	CF8	16	9	nd	E	nd	nd	nd	10	21	
PA04260.21	Bongo	3	11	CF8	16	9	1201	S	59.6833	-148.8612	180	10	22	Blue net/red net.
PA04260.22	Bongo	3	11	CF8	16	9	nd	E	nd	nd	nd	10	22	
PA04260.27	Bongo	2	12	CF2	16	9	1444	S	59.8872	-148.8587	105	10	23	Blue net/red net.
PA04260.28	Bongo	2	12	CF2	16	9	nd	E	nd	nd	nd	10	23	
PA04260.29	Bongo	3	12	CF2	16	9	1448	S	59.8877	-148.8600	105	10	24	Blue net/red net.
PA04260.30	Bongo	3	12	CF2	16	9	nd	E	nd	nd	nd	10	24	

Table 3: Bongo Nets (cont'd)

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA04260.35	Bongo	2	13	CF1	16	9	1613	S	59.9075	-148.8280	90	10	25	Blue net/red net.
PA04260.36	Bongo	2	13	CF1	16	9	nd	E	nd	nd	nd	10	25	
PA04260.37	Bongo	3	13	CF1	16	9	1616	S	59.9078	-148.8288	90	10	26	Blue net/red net.
PA04260.38	Bongo	3	13	CF1	16	9	nd	E	nd	nd	nd	10	26	

Table 4: CTD Casts

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA04256.01	CTD	1	1	GAK1i	12	9	1325	S	59.7633	-149.4023	262	100	1	Cast 00.
PA04256.02	CTD	1	1	GAK1i	12	9	nd	E	nd	nd	nd	100	1	
PA04256.09	CTD	1	2	GAK2	12	9	1500	S	59.6878	-149.4023	223	100	2	TSG 28.71; passed salinity front between GAK1i and 2, close to GAK 2.
PA04256.10	CTD	1	2	GAK2	12	9	nd	E	nd	nd	nd	100	2	
PA04257.01	CTD	1	3	PWS2	13	9	1224	S	60.0992	-147.8342	255	100	3	TSG 23.26.
PA04257.02	CTD	1	3	PWS2	13	9	nd	E	nd	nd	nd	100	3	
PA04257.09	CTD	1	4	PWS1	13	9	1426	S	60.2038	-147.9982	178	100	4	
PA04257.10	CTD	1	4	PWS1	13	9	nd	E	nd	nd	nd	100	4	
PA04258.01	CTD	1	5	PWS3	14	9	0816	S	60.0520	-147.6655	150	100	5	TSG 26.18.
PA04258.02	CTD	1	5	PWS3	14	9	nd	E	nd	nd	nd	100	5	
PA04258.09	CTD	1	6	CF6	14	9	1446	S	59.7508	-148.8675	191	100	6	TSG 28.43.
PA04258.10	CTD	1	6	CF6	14	9	nd	E	nd	nd	nd	100	6	
PA04259.01	CTD	1	7	GAK6	15	9	0957	S	59.1045	-148.7690	152	100	7	TSG 30.5.
PA04259.02	CTD	1	7	GAK6	15	9	nd	E	nd	nd	nd	100	7	
PA04259.09	CTD	1	8	GAK7	15	9	1258	S	58.9738	-148.6270	245	100	8	TSG 29.95.
PA04259.10	CTD	1	8	GAK7	15	9	nd	E	nd	nd	nd	100	8	
PA04260.01	CTD	1	9	CF4	16	9	0848	S	59.8143	-148.8680	181	100	9	TSG 26.37.
PA04260.02	CTD	1	9	CF4	16	9	nd	E	nd	nd	nd	100	9	
PA04260.09	CTD	1	10	CF6	16	9	1017	S	59.7497	-148.8600	188	100	10	TSG 28.60.
PA04260.10	CTD	1	10	CF6	16	9	nd	E	nd	nd	nd	100	10	
PA04260.17	CTD	1	11	CF8	16	9	1154	S	59.6833	-148.8582	179	100	11	TSG 29.2.
PA04260.18	CTD	1	11	CF8	16	9	nd	E	nd	nd	nd	100	11	
PA04260.25	CTD	1	12	CF2	16	9	1442	S	59.8870	-148.8572	117	100	12	TSG 25.5.
PA04260.26	CTD	1	12	CF2	16	9	nd	E	nd	nd	nd	100	12	
PA04260.33	CTD	1	13	CF1	16	9	1610	S	59.9073	-148.8270	90	100	13	TSG 25.4.
PA04260.34	CTD	1	13	CF1	16	9	nd	E	nd	nd	nd	100	13	

APPENDIX I

PA0403 EVENT LOG

EVENT LOG CONTENTS

Column Label

Event#
Instrument (Instr)

Cast
Station (Sta)
Station Standard (Sta std)
Day
Month (Mos)
Time
Start/End (S/E) flag
Latitude (Lat)
Longitude (Long)
Water Depth
Cast Depth
Haul
Comments

Description

Unique identifier for each line of event log.
Trawl: Surface Rope Trawl; 198-m long; 25-m wide; 35-m deep, 1.2 cm mesh liner in cod end; usually towed 20-30 minutes at surface;
Bongo: Bongo net: paired 60 cm diameter mouth opening; 0.333 mm mesh; equipped with flowmeter; towed vertically from 10 m depth;
CTD: Seabird Seacat SBE-19, with pump and Wetlabs fluorometer; lowered to 100-m depth at all fish stations.

Sequence # for gear deployed at current station.
Sequence # for station occupied.

Local time basis.
Local time basis.
Local time. (Local time = GMT - 8 hrs or UTC - 8)
S=Start of event; E=End of event.
Decimal degrees; north is positive.
Decimal degrees; east is positive.
Depth of bottom.
Maximum depth of deployment.
Cruise sequence number for a particular gear deployment.

Appendix I: Event Log

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA04256.01	CTD	1	1	GAK1i	12	9	1325	S	59.7633	-149.4023	262	100	1	Cast 00.
PA04256.02	CTD	1	1	GAK1i	12	9	nd	E	nd	nd	nd	100	1	
PA04256.03	Bongo	2	1	GAK1i	12	9	1329	S	59.7627	-149.4035	263	10	1	Blue net/red net.
PA04256.04	Bongo	2	1	GAK1i	12	9	nd	E	nd	nd	nd	10	1	
PA04256.05	Bongo	3	1	GAK1i	12	9	1334	S	59.7618	-149.4060	265	10	2	Blue net/red net.
PA04256.06	Bongo	3	1	GAK1i	12	9	nd	E	nd	nd	nd	10	2	
PA04256.07	Trawl	4	1	GAK1i	12	9	1352	S	59.7497	-149.3760	257	0	1	Pandalus thermosalinograph (TSG) start 25.08, end 25.13.
PA04256.08	Trawl	4	1	GAK1i	12	9	1422	E	59.7352	-149.3687	nd	0	1	
PA04256.09	CTD	1	2	GAK2	12	9	1500	S	59.6878	-149.4023	223	100	2	TSG 28.71; passed salinity front between GAK1i and 2, close to GAK 2.
PA04256.10	CTD	1	2	GAK2	12	9	nd	E	nd	nd	nd	100	2	
PA04256.11	Bongo	2	2	GAK2	12	9	1506	S	59.6887	-149.4035	223	10	3	Blue net/red net.
PA04256.12	Bongo	2	2	GAK2	12	9	nd	E	nd	nd	nd	10	3	
PA04256.13	Bongo	3	2	GAK2	12	9	1510	S	59.6887	-149.4060	223	10	4	Blue net/red net.
PA04256.14	Bongo	3	2	GAK2	12	9	nd	E	nd	nd	nd	10	4	
PA04256.15	Trawl	4	2	GAK2	12	9	1524	S	59.6843	-149.3760	216	0	2	TSG start 28.83, end 29.40.
PA04256.16	Trawl	4	2	GAK2	12	9	1554	E	59.6725	-149.2428	nd	0	2	
PA04256.17	Trawl	5	2	GAK2	12	9	1633	S	59.6793	-149.2880	211	0	3	TSG start 29.05, end 29.44.
PA04256.18	Trawl	5	2	GAK2	12	9	1703	E	59.6778	-149.2030	nd	0	3	
PA04257.01	CTD	1	3	PWS2	13	9	1224	S	60.0992	-147.8342	255	100	3	TSG 23.26.
PA04257.02	CTD	1	3	PWS2	13	9	nd	E	nd	nd	nd	100	3	
PA04257.03	Bongo	2	3	PWS2	13	9	1231	S	60.0983	-147.8345	253	10	5	Blue net/red net.
PA04257.04	Bongo	2	3	PWS2	13	9	nd	E	nd	nd	nd	10	5	
PA04257.05	Bongo	3	3	PWS2	13	9	1236	S	60.0973	-147.8348	252	10	6	Blue net/red net.
PA04257.06	Bongo	3	3	PWS2	13	9	nd	E	nd	nd	nd	10	6	
PA04257.07	Trawl	4	3	PWS2	13	9	1252	S	60.1055	-147.8372	267	0	4	TSG start 23.36, end 23.45.
PA04257.08	Trawl	4	3	PWS2	13	9	1322	E	60.1263	-147.8372	nd	0	4	
PA04257.09	CTD	1	4	PWS1	13	9	1426	S	60.2038	-147.9982	178	100	4	
PA04257.10	CTD	1	4	PWS1	13	9	nd	E	nd	nd	nd	100	4	
PA04257.11	Bongo	2	4	PWS1	13	9	1442	S	60.2038	-147.9987	175	10	7	Blue net/red net.
PA04257.12	Bongo	2	4	PWS1	13	9	nd	E	nd	nd	nd	10	7	
PA04257.13	Bongo	3	4	PWS1	13	9	1446	S	60.2037	-147.9993	175	10	8	Blue net/red net.
PA04257.14	Bongo	3	4	PWS1	13	9	nd	E	nd	nd	nd	10	8	
PA04257.15	Trawl	4	4	PWS1	13	9	1507	S	60.2097	-148.0032	219	0	5	TSG start 21.88, end 21.15.
PA04257.16	Trawl	4	4	PWS1	13	9	1537	E	60.1872	-147.9892	nd	0	5	
PA04257.17	Trawl	5	4	PWS1	13	9	1617	S	60.2025	-148.0028	199	0	6	TSG start 22.38, end 20.81.
PA04257.18	Trawl	5	4	PWS1	13	9	1646	E	60.1797	-147.9893	nd	0	6	
PA04258.01	CTD	1	5	PWS3	14	9	0816	S	60.0520	-147.6655	150	100	5	TSG 26.18.
PA04258.02	CTD	1	5	PWS3	14	9	nd	E	nd	nd	nd	100	5	
PA04258.03	Bongo	2	5	PWS3	14	9	0821	S	60.0518	-147.6655	153	10	9	Blue net/red net.
PA04258.04	Bongo	2	5	PWS3	14	9	nd	E	nd	nd	nd	10	9	
PA04258.05	Bongo	3	5	PWS3	14	9	0825	S	60.0515	-147.6653	155	10	10	Blue net/red net.
PA04258.06	Bongo	3	5	PWS3	14	9	nd	E	nd	nd	nd	10	10	
PA04258.07	Trawl	4	5	PWS3	14	9	0838	S	60.0577	-147.6722	112	0	7	TSG start 26.1, end 25.7.
PA04258.08	Trawl	4	5	PWS3	14	9	0908	E	60.0817	-147.6827	nd	0	7	
PA04258.09	CTD	1	6	CF6	14	9	1446	S	59.7508	-148.8675	191	100	6	TSG 28.43.
PA04258.10	CTD	1	6	CF6	14	9	nd	E	nd	nd	nd	100	6	

Appendix I: Event Log (cont'd)

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA04258.11	Bongo	2	6	CF6	14	9	1451	S	59.7508	-148.8667	191	10	11	Blue net/red net.
PA04258.12	Bongo	2	6	CF6	14	9	nd	E	nd	nd	nd	10	11	
PA04258.13	Bongo	3	6	CF6	14	9	1455	S	59.7507	-148.8662	191	10	12	Blue net/red net.
PA04258.14	Bongo	3	6	CF6	14	9	nd	E	nd	nd	nd	10	12	
PA04258.15	Trawl	4	6	CF6	14	9	1508	S	59.7498	-148.8490	191	0	8	TSG start 28.40, end 28.9.
PA04258.16	Trawl	4	6	CF6	14	9	1538	E	59.7443	-148.8072	nd	0	8	
PA04258.17	Trawl	5	6	CF6	14	9	1606	S	59.7492	-148.8300	188	0	9	TSG start 28.77, end 28.6.
PA04258.18	Trawl	5	6	CF6	14	9	1636	E	59.7532	-148.8722	nd	0	9	
PA04259.01	CTD	1	7	GAK6	15	9	0957	S	59.1045	-148.7690	152	100	7	TSG 30.5.
PA04259.02	CTD	1	7	GAK6	15	9	nd	E	nd	nd	nd	100	7	
PA04259.03	Bongo	2	7	GAK6	15	9	1004	S	59.1033	-148.7713	154	10	13	Blue net/red net.
PA04259.04	Bongo	2	7	GAK6	15	9	nd	E	nd	nd	nd	10	13	
PA04259.05	Bongo	3	7	GAK6	15	9	1008	S	59.1028	-148.7725	154	10	14	Blue net/red net.
PA04259.06	Bongo	3	7	GAK6	15	9	nd	E	nd	nd	nd	10	14	
PA04259.07	Trawl	4	7	GAK6	15	9	1023	S	59.0933	-148.7867	156	0	10	TSG start 30.45, end 30.4.
PA04259.08	Trawl	4	7	GAK6	15	9	1123	E	59.0555	-148.8733	nd	0	10	
PA04259.09	CTD	1	8	GAK7	15	9	1258	S	58.9738	-148.6270	245	100	8	TSG 29.95.
PA04259.10	CTD	1	8	GAK7	15	9	nd	E	nd	nd	nd	100	8	
PA04259.11	Bongo	2	8	GAK7	15	9	1302	S	58.9747	-148.6290	245	10	15	Blue net/red net.
PA04259.12	Bongo	2	8	GAK7	15	9	nd	E	nd	nd	nd	10	15	
PA04259.13	Bongo	3	8	GAK7	15	9	1306	S	58.9755	-148.6302	245	10	16	Blue net/red net.
PA04259.14	Bongo	3	8	GAK7	15	9	nd	E	nd	nd	nd	10	16	
PA04259.15	Trawl	4	8	GAK7	15	9	1320	S	58.9835	-148.5610	240	0	11	TSG start 29.95, end 29.74
PA04259.16	Trawl	4	8	GAK7	15	9	1420	E	58.0347	-148.7080	nd	0	11	
PA04260.01	CTD	1	9	CF4	16	9	0848	S	59.8143	-148.8680	181	100	9	TSG 26.37.
PA04260.02	CTD	1	9	CF4	16	9	nd	E	nd	nd	nd	100	9	
PA04260.03	Bongo	2	9	CF4	16	9	0851	S	59.8132	-148.8707	182	10	17	Blue net/red net.
PA04260.04	Bongo	2	9	CF4	16	9	nd	E	nd	nd	nd	10	17	
PA04260.05	Bongo	3	9	CF4	16	9	0855	S	59.8125	-148.8743	182	10	18	Blue net/red net.
PA04260.06	Bongo	3	9	CF4	16	9	nd	E	nd	nd	nd	10	18	
PA04260.07	Trawl	4	9	CF4	16	9	0912	S	59.7590	-148.8727	185	0	12	TSG start 26.4, end 27.1.
PA04260.08	Trawl	4	9	CF4	16	9	0942	E	59.7878	-148.8727	nd	0	12	
PA04260.09	CTD	1	10	CF6	16	9	1017	S	59.7497	-148.8600	188	100	10	TSG 28.60.
PA04260.10	CTD	1	10	CF6	16	9	nd	E	nd	nd	nd	100	10	
PA04260.11	Bongo	2	10	CF6	16	9	1022	S	59.7470	-148.8638	188	10	19	Blue net/red net.
PA04260.12	Bongo	2	10	CF6	16	9	nd	E	nd	nd	nd	10	19	
PA04260.13	Bongo	3	10	CF6	16	9	1025	S	59.7485	-148.8638	188	10	20	Blue net/red net.
PA04260.14	Bongo	3	10	CF6	16	9	nd	E	nd	nd	nd	10	20	
PA04260.15	Trawl	4	10	CF6	16	9	1039	S	59.7473	-148.8698	188	0	13	TSG start 28.3, end 28.3.
PA04260.16	Trawl	4	10	CF6	16	9	1109	E	59.7323	-148.9195	nd	0	13	
PA04260.17	CTD	1	11	CF8	16	9	1154	S	59.6833	-148.8582	179	100	11	TSG 29.2.
PA04260.18	CTD	1	11	CF8	16	9	nd	E	nd	nd	nd	100	11	
PA04260.19	Bongo	2	11	CF8	16	9	1158	S	59.6833	-148.8635	180	10	21	Blue net/red net.
PA04260.20	Bongo	2	11	CF8	16	9	nd	E	nd	nd	nd	10	21	
PA04260.21	Bongo	3	11	CF8	16	9	1201	S	59.6833	-148.8612	180	10	22	Blue net/red net.
PA04260.22	Bongo	3	11	CF8	16	9	nd	E	nd	nd	nd	10	22	
PA04260.23	Trawl	4	11	CF8	16	9	1213	S	59.6783	-148.8795	178	0	14	TSG start 29.2, end 29.05.
PA04260.24	Trawl	4	11	CF8	16	9	1243	E	59.6677	-148.9265	nd	0	14	

Appendix I: Event Log (cont'd)

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA04260.25	CTD	1	12	CF2	16	9	1442	S	59.8870	-148.8572	117	100	12	TSG 25.5.
PA04260.26	CTD	1	12	CF2	16	9	nd	E	nd	nd	nd	100	12	
PA04260.27	Bongo	2	12	CF2	16	9	1444	S	59.8872	-148.8587	105	10	23	Blue net/red net.
PA04260.28	Bongo	2	12	CF2	16	9	nd	E	nd	nd	nd	10	23	
PA04260.29	Bongo	3	12	CF2	16	9	1448	S	59.8877	-148.8600	105	10	24	Blue net/red net.
PA04260.30	Bongo	3	12	CF2	16	9	nd	E	nd	nd	nd	10	24	
PA04260.31	Trawl	4	12	CF2	16	9	1502	S	59.8898	-148.8815	106	0	15	TSG start 25.45, end 25.60.
PA04260.32	Trawl	4	12	CF2	16	9	1532	E	59.8967	-148.9328	nd	0	15	
PA04260.33	CTD	1	13	CF1	16	9	1610	S	59.9073	-148.8270	90	100	13	TSG 25.4.
PA04260.34	CTD	1	13	CF1	16	9	nd	E	nd	nd	nd	100	13	
PA04260.35	Bongo	2	13	CF1	16	9	1613	S	59.9075	-148.8280	90	10	25	Blue net/red net.
PA04260.36	Bongo	2	13	CF1	16	9	nd	E	nd	nd	nd	10	25	
PA04260.37	Bongo	3	13	CF1	16	9	1616	S	59.9078	-148.8288	90	10	26	Blue net/red net.
PA04260.38	Bongo	3	13	CF1	16	9	nd	E	nd	nd	nd	10	26	
PA04260.39	Trawl	4	13	CF1	16	9	1628	S	59.9092	-148.8462	88	0	16	TSG start 25.45.
PA04260.40	Trawl	4	13	CF1	16	9	1658	E	59.9107	-148.8953	nd	0	16	
PA04261.01	Trawl	5	14	GAK2	17	9	0619	S	59.6855	-149.3195	222	0	17	TSG start 28.4, dawn sample.
PA04261.02	Trawl	5	14	GAK2	17	9	0645	E	59.6613	-149.3225	nd	0	17	