

GLOBEC Northeast Pacific, Coastal Gulf of Alaska

Cruise Report, R/V *Pandalus* (PA0303)

(Alternate Cruise ID: G03-3)

9 September - 16 September 2003

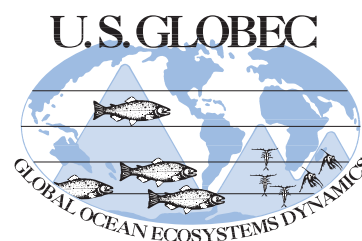


This cruise was
sponsored by the

National Science Foundation

and the

National Oceanic and
Atmospheric Administration



**GLOBEC Northeast Pacific, Coastal Gulf of Alaska
Cruise Report, R/V *Pandalus* (PA0303)
(Alternate Cruise ID: G03-3)
9 - 16 September, 2003**

Chief Scientist:

Jack Piccolo
Juneau Center School of Fishery Ocean Sciences
University of Alaska, Fairbanks
Juneau, AK 99801
907-465-6446
ftjpp7@uaf.edu

Port of Departure: Seward, Alaska

Port of Return: Seward, Alaska

Cruise Objectives

The objectives of the fish studies along the Seward and Cape Fairfield hydrographic transects and in Southwest Prince William Sound were to:

- 1) Determine the distribution and abundance of fish and preserve samples for laboratory analyses (Figure 1, Tables 1 and 2).
- 2) Determine the distribution and species composition of net zooplankton in surface waters (Figure 1, Tables 1 and 2).
- 3) Determine the temperature, salinity, density, and fluorescence of the water column (Figure 1, Tables 1 and 2).
- 4) Additional objectives were added because objectives 1-3 were completed ahead of schedule. These were to:
 - 1) assess the variation in catch of the surface trawl by conducting four consecutive tows at one station; and,
 - 2) assess the pre-and post dawn feeding patterns of juvenile salmon.

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

GLOBEC Cruise Participants

Jack Piccolo	Juneau Center School of Fishery Ocean Sciences
Mikhail Blikshcheyn	Juneau Center School of Fishery Ocean Sciences
Alison Cross	SAFS, University of Washington

Summary of Gear Deployments

See Appendix 1 (Event Log).

Daily Cruise Summary (Narrative)

September 8	Scientists arrived in Seward, and sorted and prepared gear.
September 9	Loaded gear on R/V <i>Pandalus</i> at Seward Marine Station, traveled to GAK1i and began sampling.
September 10-15	Sampled fish, surface plankton, and measured temperature, salinity, and fluorescence along the Seward and Cape Fairfield hydrographic transects and in Southwest Prince William Sound. Gear used was surface trawl, NIO net, Bongo Nets, and CTD.
September 16	Offloaded gear at Seward Marine Station and scientists left Seward.

Summary of Sampling Operations

A surface trawl (Table 1) was used to sample fish at GAK stations 1-6, Cape Fairfield Stations CF5, CF6, CF12, CF13, and PWS stations 1-3. Fish caught included juvenile pink, chum, sockeye, and coho salmon. Other species caught were mainly herring, sablefish, and sandlance, and two salmon sharks were caught and released. The daytime catch of juvenile pink salmon was highest at GAK1i (22), and were 16 fish or less at all other stations. Forty-four juvenile pink salmon were caught at 0530 (pre-dawn) at Station CF5, however, with catches diminishing at 0730 (15 fish) and 0930 (7 fish). Mean daytime catch of four trawls at CF 5 was five juvenile pink salmon. Fish were identified, sorted to species, and counted. Fish were measured and frozen in seawater.

Surface plankton was sampled at each station, using an NIO/Tucker trawl (1m² mouth, 0.333 mm mesh) equipped with a flowmeter (Table 2). The NIO net was towed for 2-3 minutes parallel to the surface trawl track. Three replicate samples were collected at each station. Plankton samples were preserved in 5% buffered formalin. Surface zooplankton was also sampled with a Bongo net (60 cm diameter, 0.333 mm mesh) (Table 3). Where fish were captured with the surface trawl, 2 replicates of two vertically towed Bongo nets from 10 m depth were completed. All zooplankton samples were preserved in 5% buffered formalin.

A Seabird Seacat SBE-19 CTD was used to measure temperature, salinity, and fluorescence to 100 m depth at each station (Table 4) where surface trawls, NIO/Tucker trawls, and Bongo tows were conducted. CTD casts were conducted at most stations along the Cape Fairfield transect prior to trawling to determine the location of the Alaska Coastal Current.

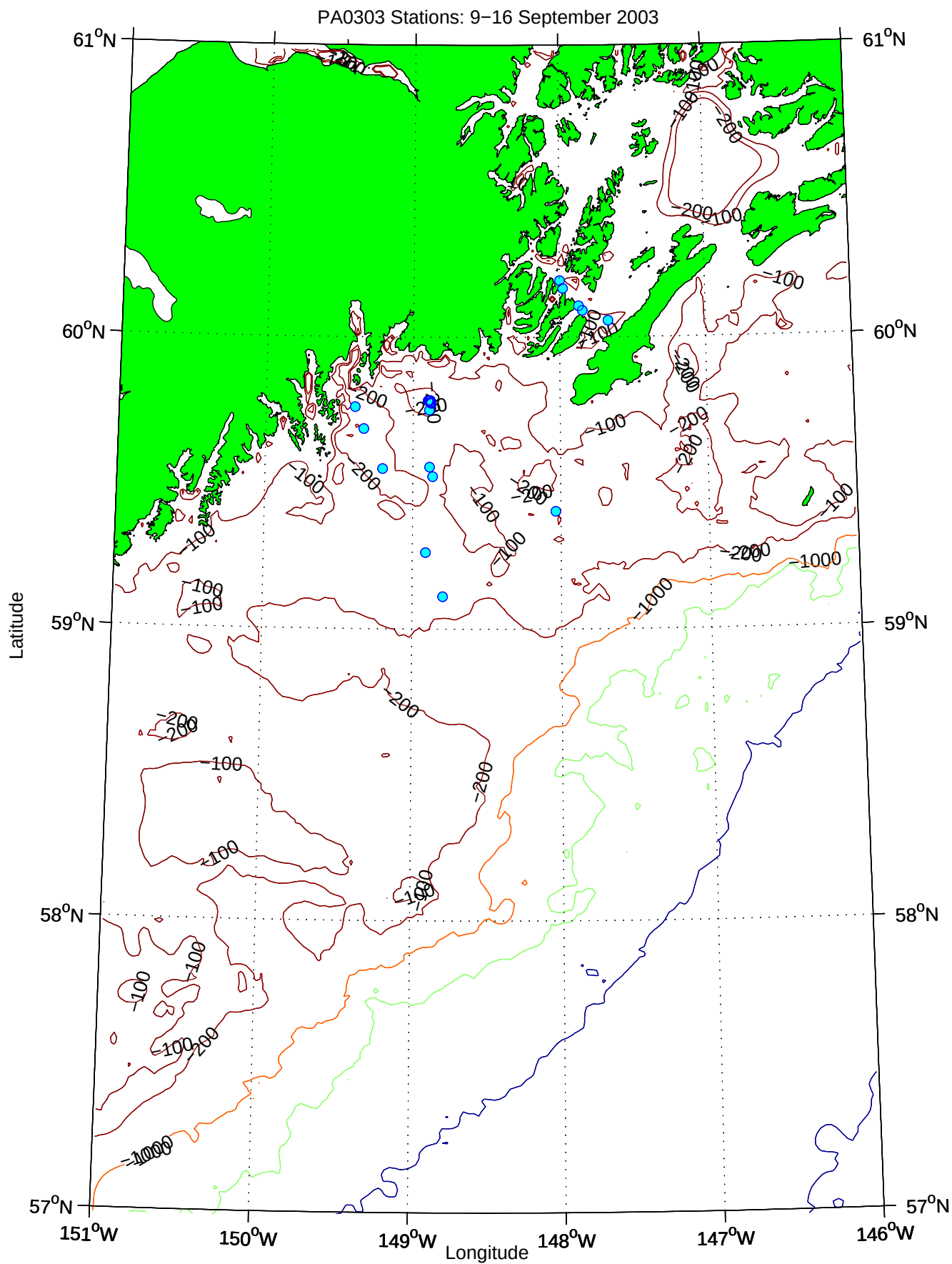


Figure 1. Stations Sampled on PA0303

Table 1: Trawls

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA03213.01	Trawl	1	1	GAK1i	1	8	1810	S	59.7737	-149.4165	nd	0	1	Recorder Mikhail Blikshteyn; distance towed and water depth not recorded.
PA03213.02	Trawl	1	1	GAK1i	1	8	1820	E	59.7785	-149.4292	nd	0	1	See Misc Note (1) in header.
PA03214.02	Trawl	2	2	CF00	2	8	0935	S	59.7650	-148.8600	189	0	2	At 020 degrees.
PA03214.03	Trawl	2	2	CF00	2	8	1005	E	59.7822	-148.8235	nd	0	2	
PA03214.20	Trawl	1	9	CF13	2	8	1418	S	59.5502	-148.8367	144	0	3	ABORTED: Lost Buoy.
PA03214.21	Trawl	1	9	CF13	2	8	nd	E	nd	nd	nd	0	3	
PA03214.22	Trawl	2	9	CF13	2	8	1512	S	59.5483	-148.8308	140	0	4	At 127 degrees.
PA03214.23	Trawl	2	9	CF13	2	8	1542	E	59.5357	-148.7972	nd	0	4	
PA03215.02	Trawl	2	10	CF9	3	8	0955	S	59.6477	-148.8697	176	0	5	At 026 degrees.
PA03215.03	Trawl	2	10	CF9	3	8	1025	E	59.6643	-148.8537	nd	0	5	
PA03215.17	Trawl	2	13	CF12	3	8	1338	S	59.5485	-148.8707	184	0	6	At 087 degrees.
PA03215.18	Trawl	2	13	CF12	3	8	1408	E	59.5498	-148.8282	nd	0	6	
PA03215.40	Trawl	7	14	CF13	3	8	1635	S	59.5180	-148.8595	167	0	7	At 195 degrees.
PA03215.41	Trawl	7	14	CF13	3	8	1705	E	59.5000	-148.8693	nd	0	7	
PA03216.12	Trawl	7	15	PWS3	4	8	0844	S	60.0480	-147.6703	159	0	8	At 036 degrees.
PA03216.13	Trawl	7	15	PWS3	4	8	0914	E	60.0665	-147.6428	nd	0	8	
PA03216.25	Trawl	7	16	PWS1	4	8	1208	S	60.1928	-147.9888	153	0	9	At 348 degrees.
PA03216.26	Trawl	7	16	PWS1	4	8	1238	E	60.2128	-148.0055	nd	0	9	
PA03217.12	Trawl	7	17	GAK5	5	8	0939	S	59.2680	-148.9040	165	0	10	At 232 degrees.
PA03217.13	Trawl	7	17	GAK5	5	8	1009	E	59.2557	-148.9348	nd	0	10	
PA03217.25	Trawl	7	18	GAK6	5	8	1225	S	59.1202	-148.7652	148	0	11	At 202 degrees.
PA03217.26	Trawl	7	18	GAK6	5	8	1255	E	59.1010	-148.7800	nd	0	11	
PA03217.38	Trawl	7	19	GAK4	5	8	1635	S	59.4117	-149.0497	200	0	12	At 212 degrees.
PA03217.39	Trawl	7	19	GAK4	5	8	1705	E	59.3923	-149.0727	nd	0	12	
PA03218.12	Trawl	7	20	GAK1i	6	8	0842	S	59.7645	-149.4083	263	0	13	At 029 degrees; net set to 150 fathoms.
PA03218.13	Trawl	7	20	GAK1i	6	8	0912	E	59.7842	-149.3868	nd	0	13	
PA03218.25	Trawl	7	21	GAK2	6	8	1105	S	59.6870	-149.3320	229	0	14	At 033 degrees; set to 150 fathoms.
PA03218.26	Trawl	7	21	GAK2	6	8	1135	E	59.7017	-149.3133	nd	0	14	
PA03218.38	Trawl	7	22	GAK3	6	8	1424	S	59.5520	-149.1978	214	0	15	At 035 degrees.
PA03218.39	Trawl	7	22	GAK3	6	8	1454	E	59.5683	-149.1752	nd	0	15	
PA03219.12	Trawl	7	23	WF1	7	8	0926	S	59.4907	-149.7733	187	0	16	At 049 degrees; 100 fathoms due to fog.
PA03219.13	Trawl	7	23	WF1	7	8	0956	E	59.5058	-149.7390	nd	0	16	
PA03219.14	Trawl	8	23	WF1	7	8	1046	S	59.5048	-149.7480	163	0	17	At 197 degrees; second trawl to increase sample size of pinks.
PA03219.15	Trawl	8	23	WF1	7	8	1116	E	59.4823	-149.7617	nd	0	17	
PA03219.27	Trawl	7	24	WF2	7	8	1337	S	59.4908	-149.4443	119	0	18	At 095 degrees; 150 fathoms.
PA03219.28	Trawl	7	24	WF2	7	8	1407	E	59.4890	-149.4050	nd	0	18	
PA03219.29	Trawl	8	24	WF2	7	8	1447	S	59.4878	-149.4432	117	0	19	At 056 degrees; second trawl to increase sample size of pinks.
PA03219.30	Trawl	8	24	WF2	7	8	1517	E	59.4978	-149.4132	nd	0	19	

Table 2: Tucker Trawls

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA03252.08	Tucker	5	1	GAK1i	9	9	1815	S	59.7557	-149.3903	254	0	1	
PA03252.09	Tucker	5	1	GAK1i	9	9	1818	E	59.7557	-149.3882	nd	0	1	
PA03252.10	Tucker	6	1	GAK1i	9	9	1821	S	59.7560	-149.3855	253	0	2	
PA03252.11	Tucker	6	1	GAK1i	9	9	1824	E	59.7555	-149.3832	nd	0	2	
PA03252.12	Tucker	7	1	GAK1i	9	9	1827	S	59.7543	-149.3807	251	0	3	
PA03252.13	Tucker	7	1	GAK1i	9	9	1830	E	59.7522	-149.3788	nd	0	3	
PA03253.06	Tucker	4	2	GAK6	10	9	1010	S	59.1127	-148.7860	145	0	4	At 237 deg.
PA03253.07	Tucker	4	2	GAK6	10	9	1013	E	59.1113	-148.7903	nd	0	4	
PA03253.08	Tucker	5	2	GAK6	10	9	1015	S	59.1098	-148.7935	149	0	5	At 234 deg.
PA03253.09	Tucker	5	2	GAK6	10	9	1018	E	59.1082	-148.7977	nd	0	5	
PA03253.10	Tucker	6	2	GAK6	10	9	1020	S	59.1068	-148.8007	150	0	6	At 233 deg.
PA03253.11	Tucker	6	2	GAK6	10	9	1023	E	59.1052	-148.8048	nd	0	6	
PA03253.19	Tucker	4	3	GAK5	10	9	1307	S	59.2608	-148.9177	170	0	7	At 231 deg.
PA03253.20	Tucker	4	3	GAK5	10	9	1310	E	59.2595	-148.9208	nd	0	7	
PA03253.21	Tucker	5	3	GAK5	10	9	1317	S	59.2558	-148.9280	176	0	8	At 232 deg.
PA03253.22	Tucker	5	3	GAK5	10	9	1320	E	59.2547	-148.9312	nd	0	8	
PA03253.23	Tucker	6	3	GAK5	10	9	1322	S	59.3037	-148.9330	175	0	9	At 230 deg.
PA03253.24	Tucker	6	3	GAK5	10	9	1325	E	59.2523	-148.9360	nd	0	9	
PA03253.32	Tucker	4	4	GAK4	10	9	1621	S	59.4078	-148.0465	201	0	10	At 121 deg.
PA03253.33	Tucker	4	4	GAK4	10	9	1624	E	59.4063	-148.0413	nd	0	10	
PA03253.34	Tucker	5	4	GAK4	10	9	1626	S	59.4055	-148.0382	200	0	11	At 123 deg.
PA03253.35	Tucker	5	4	GAK4	10	9	1629	E	59.4038	-148.0330	nd	0	11	
PA03253.36	Tucker	6	4	GAK4	10	9	1631	S	59.4092	-148.0372	199	0	12	At 123 deg; short tow.
PA03253.37	Tucker	6	4	GAK4	10	9	1633	E	59.4013	-148.0243	nd	0	12	
PA03254.06	Tucker	4	5	GAK2	11	9	0959	S	59.6850	-149.3368	228	0	13	At 022 deg.
PA03254.07	Tucker	4	5	GAK2	11	9	1002	E	59.6860	-149.3360	nd	0	13	
PA03254.08	Tucker	5	5	GAK2	11	9	1005	S	59.6872	-149.3357	230	0	14	At 032 deg.
PA03254.09	Tucker	5	5	GAK2	11	9	1007	E	59.6877	-149.3335	nd	0	14	
PA03254.10	Tucker	6	5	GAK2	11	9	1009	S	59.6887	-149.3345	230	0	15	At 024 deg.
PA03254.11	Tucker	6	5	GAK2	11	9	1011	E	59.6893	-149.3340	nd	0	15	
PA03254.19	Tucker	4	6	GAK3	11	9	1238	S	59.5502	-149.1940	216	0	16	At 068 deg.
PA03254.20	Tucker	4	6	GAK3	11	9	1241	E	59.5508	-149.1910	nd	0	16	
PA03254.21	Tucker	5	6	GAK3	11	9	1243	S	59.5513	-149.1893	215	0	17	At 062 deg.
PA03254.22	Tucker	5	6	GAK3	11	9	1246	E	59.5522	-149.1863	nd	0	17	
PA03254.23	Tucker	6	6	GAK3	11	9	1247	S	59.5528	-149.1845	213	0	18	At 059 deg.
PA03254.24	Tucker	6	6	GAK3	11	9	1250	E	59.5538	-149.1818	nd	0	18	
PA03254.32	Tucker	4	7	CF13	11	9	1527	S	59.5173	-148.8667	173	0	19	At 181 deg.
PA03254.33	Tucker	4	7	CF13	11	9	1530	E	59.5155	-148.8668	nd	0	19	
PA03254.34	Tucker	5	7	CF13	11	9	1532	S	59.5140	-149.3665	171	0	20	At 184 deg.
PA03254.35	Tucker	5	7	CF13	11	9	1535	E	59.5123	-148.8667	nd	0	20	
PA03254.36	Tucker	6	7	CF13	11	9	1538	S	59.5105	-148.9335	171	0	21	At 219 deg.
PA03254.37	Tucker	6	7	CF13	11	9	1540	E	59.5093	-148.8687	nd	0	21	
PA03255.12	Tucker	4	17	CF12	12	9	1153	S	59.5495	-148.8742	186	0	22	At 087 deg.
PA03255.13	Tucker	4	17	CF12	12	9	1156	E	59.5495	-148.8715	nd	0	22	
PA03255.14	Tucker	5	17	CF12	12	9	1158	S	59.5500	-148.8682	184	0	23	At 084 deg.
PA03255.15	Tucker	5	17	CF12	12	9	1200	E	59.5502	-148.8658	nd	0	23	
PA03255.16	Tucker	6	17	CF12	12	9	1203	S	59.5505	-148.8635	178	0	24	At 086 deg.
PA03255.17	Tucker	6	17	CF12	12	9	1205	E	59.5505	-148.8610	nd	0	24	

Table 2: NIO / Tucker Trawls (cont'd)

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA03255.25	Tucker	4	18	CF6	12	9	1458	S	59.7498	-148.8770	191	0	25	At 266 deg.
PA03255.26	Tucker	4	18	CF6	12	9	1501	E	59.7497	-148.8830	nd	0	25	
PA03255.27	Tucker	5	18	CF6	12	9	1503	S	59.7492	-148.8880	191	0	26	At 268 deg.
PA03255.28	Tucker	5	18	CF6	12	9	1505	E	59.7492	-148.8922	nd	0	26	
PA03255.29	Tucker	6	18	CF6	12	9	1507	S	59.7487	-148.8975	192	0	27	At 267 deg.
PA03255.30	Tucker	6	18	CF6	12	9	1509	E	59.7485	-148.9020	nd	0	27	
PA03255.40	Tucker	4	19	CF5	12	9	1725	S	59.7823	-148.8715	193	0	28	At 263 deg.
PA03255.41	Tucker	4	19	CF5	12	9	1728	E	59.7820	-148.8775	nd	0	28	
PA03255.42	Tucker	5	19	CF5	12	9	1730	S	59.7982	-148.8825	193	0	29	At 266 deg.
PA03255.43	Tucker	5	19	CF5	12	9	1732	E	59.7813	-148.8867	nd	0	29	
PA03255.44	Tucker	6	19	CF5	12	9	1734	S	59.7808	-148.8920	193	0	30	At 264 deg.
PA03255.45	Tucker	6	19	CF5	12	9	1736	E	59.7807	-148.8960	nd	0	30	
PA03256.10	Tucker	6	20	PWS2	13	9	1305	S	60.1342	-147.8435	297	0	31	At 344 deg.
PA03256.11	Tucker	6	20	PWS2	13	9	1308	E	60.1358	-147.8445	nd	0	31	
PA03256.12	Tucker	7	20	PWS2	13	9	1310	S	60.1370	-147.8460	280	0	32	At 342 deg.
PA03256.13	Tucker	7	20	PWS2	13	9	1313	E	60.1388	-147.8472	nd	0	32	
PA03256.14	Tucker	8	20	PWS2	13	9	1315	S	60.1407	-147.8492	263	0	33	At 345 deg.
PA03256.15	Tucker	8	20	PWS2	13	9	1318	E	60.1425	-147.8503	nd	0	33	
PA03257.15	Tucker	9	23	CF5	14	9	1556	S	59.7778	-148.8645	197	0	34	At 231 deg; trawl cAtchability sampling.
PA03257.16	Tucker	9	23	CF5	14	9	1559	E	59.7762	-148.8687	nd	0	34	
PA03257.17	Tucker	10	23	CF5	14	9	1601	S	59.7748	-148.8710	194	0	35	At 228 deg; trawl catchability sampling.
PA03257.18	Tucker	10	23	CF5	14	9	1603	E	59.7737	-148.8738	nd	0	35	
PA03257.19	Tucker	11	23	CF5	14	9	1605	S	59.7723	-148.8760	193	0	36	At 228 deg; trawl catchability sampling.
PA03257.20	Tucker	11	23	CF5	14	9	1607	E	59.7713	-148.8785	nd	0	36	
PA03258.08	Tucker	5	24	CF5	15	9	0635	S	59.7775	-148.8772	193	0	37	At 069 deg; crepuscular feeding sampling.
PA03258.09	Tucker	5	24	CF5	15	9	0638	E	59.7778	-148.8748	nd	0	37	
PA03258.10	Tucker	6	24	CF5	15	9	0640	S	59.7783	-148.8733	194	0	38	At 074 deg; crepuscular feeding sampling.
PA03258.11	Tucker	6	24	CF5	15	9	0642	E	59.7787	-148.8717	nd	0	38	
PA03258.12	Tucker	7	24	CF5	15	9	0644	S	59.7792	-148.8700	194	0	39	At 077 deg; crepuscular feeding sampling; sonar: 0700-top layer w/some small targets; but bottom layer is gone.
PA03258.13	Tucker	7	24	CF5	15	9	0646	E	59.7795	-148.8683	nd	0	39	
PA03258.21	Tucker	12	24	CF5	15	9	0834	S	59.7807	-148.8635	195	0	40	At 084 deg; crepuscular feeding sampling.
PA03258.22	Tucker	12	24	CF5	15	9	0837	E	59.7808	-148.8597	nd	0	40	
PA03258.23	Tucker	13	24	CF5	15	9	0840	S	59.7817	-148.8560	196	0	41	At 071 deg; crepuscular feeding sampling.
PA03258.24	Tucker	13	24	CF5	15	9	0843	E	59.7823	-148.8522	nd	0	41	
PA03258.25	Tucker	14	24	CF5	15	9	0845	S	59.7833	-148.8485	191	0	42	At 072 deg; crepuscular feeding sampling.
PA03258.26	Tucker	14	24	CF5	15	9	0847	E	59.7838	-148.8458	nd	0	42	
PA03258.34	Tucker	19	24	CF5	15	9	1047	S	59.7687	-148.8547	187	0	43	At 112 deg (scribed arc b/c something was in the way); crepuscular feeding sampling.
PA03258.35	Tucker	19	24	CF5	15	9	1050	E	59.7678	-148.8512	nd	0	43	
PA03258.36	Tucker	20	24	CF5	15	9	1052	S	59.7685	-148.8480	194	0	44	At 077 deg; crepuscular feeding sampling.
PA03258.37	Tucker	20	24	CF5	15	9	1055	E	59.7690	-148.8437	nd	0	44	
PA03258.38	Tucker	21	24	CF5	15	9	1057	S	59.7697	-148.8412	190	0	45	At 075 deg; crepuscular feeding sampling.
PA03258.39	Tucker	21	24	CF5	15	9	1100	E	59.7702	-148.8367	nd	0	45	

Table 3: Bongo Nets

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA03252.04	Bongo	3	1	GAK1i	9	9	1800	S	59.7573	-149.3912	255	10	1	Two replicates; blue and red nets.
PA03252.05	Bongo	3	1	GAK1i	9	9	nd	E	nd	nd	nd	10	1	
PA03252.06	Bongo	4	1	GAK1i	9	9	1807	S	59.7557	-149.3962	258	10	2	Two replicates; blue and red nets.
PA03252.07	Bongo	4	1	GAK1i	9	9	nd	E	nd	nd	nd	10	2	
PA03253.02	Bongo	2	2	GAK6	10	9	1000	S	59.1010	-148.7790	147	10	3	Two replicates; blue and red nets.
PA03253.03	Bongo	2	2	GAK6	10	9	nd	E	nd	nd	nd	10	3	
PA03253.04	Bongo	3	2	GAK6	10	9	1005	S	59.1138	-148.7810	147	10	4	Two replicates; blue and red nets.
PA03253.05	Bongo	3	2	GAK6	10	9	nd	E	nd	nd	nd	10	4	
PA03253.15	Bongo	2	3	GAK5	10	9	1252	S	59.2643	-148.9093	170	10	5	Two replicates; blue and red nets.
PA03253.16	Bongo	2	3	GAK5	10	9	nd	E	nd	nd	nd	10	5	
PA03253.17	Bongo	3	3	GAK5	10	9	1257	S	59.2648	-148.9097	169	10	6	Two replicates; blue and red nets.
PA03253.18	Bongo	3	3	GAK5	10	9	nd	E	nd	nd	nd	10	6	
PA03253.28	Bongo	2	4	GAK4	10	9	1609	S	59.4080	-148.0428	201	10	7	Two replicates; blue and red nets.
PA03253.29	Bongo	2	4	GAK4	10	9	nd	E	nd	nd	nd	10	7	
PA03253.30	Bongo	3	4	GAK4	10	9	1613	S	59.4075	-148.0405	201	10	8	Two replicates; blue and red nets.
PA03253.31	Bongo	3	4	GAK4	10	9	nd	E	nd	nd	nd	10	8	
PA03254.02	Bongo	2	5	GAK2	11	9	0941	S	59.6862	-149.3333	228	10	9	Two replicates; blue and red nets.
PA03254.03	Bongo	2	5	GAK2	11	9	nd	E	nd	nd	nd	10	9	
PA03254.04	Bongo	3	5	GAK2	11	9	0949	S	59.6828	-149.3372	229	10	10	Two replicates; blue and red nets.
PA03254.05	Bongo	3	5	GAK2	11	9	nd	E	nd	nd	nd	10	10	
PA03254.15	Bongo	2	6	GAK3	11	9	1229	S	59.5493	-149.1930	216	10	11	Two replicates; blue and red nets.
PA03254.16	Bongo	2	6	GAK3	11	9	nd	E	nd	nd	nd	10	11	
PA03254.17	Bongo	3	6	GAK3	11	9	1233	S	59.5488	-149.1950	217	10	12	Two replicates; blue and red nets.
PA03254.18	Bongo	3	6	GAK3	11	9	nd	E	nd	nd	nd	10	12	
PA03254.28	Bongo	2	7	CF13	11	9	1520	S	59.5185	-148.8668	175	10	13	Two replicates; blue and red nets.
PA03254.29	Bongo	2	7	CF13	11	9	nd	E	nd	nd	nd	10	13	
PA03254.30	Bongo	3	7	CF13	11	9	1522	S	59.5190	-148.8668	175	10	14	Two replicates; blue and red nets.
PA03254.31	Bongo	3	7	CF13	11	9	nd	E	nd	nd	nd	10	14	
PA03255.08	Bongo	2	17	CF12	12	9	1144	S	59.5497	-148.8708	185	10	15	Two replicates; blue and red nets.
PA03255.09	Bongo	2	17	CF12	12	9	nd	E	nd	nd	nd	10	15	
PA03255.10	Bongo	3	17	CF12	12	9	1149	S	59.5493	-148.8743	185	10	16	Two replicates; blue and red nets.
PA03255.11	Bongo	3	17	CF12	12	9	nd	E	nd	nd	nd	10	16	
PA03255.21	Bongo	2	18	CF6	12	9	1449	S	59.7500	-148.8717	191	10	17	Two replicates; blue and red nets.
PA03255.22	Bongo	2	18	CF6	12	9	nd	E	nd	nd	nd	10	17	
PA03255.23	Bongo	3	18	CF6	12	9	1454	S	59.7502	-148.8747	191	10	18	Two replicates; blue and red nets.
PA03255.24	Bongo	3	18	CF6	12	9	nd	E	nd	nd	nd	10	18	
PA03255.36	Bongo	2	19	CF5	12	9	1718	S	59.7822	-148.8660	194	10	19	Two replicates; blue and red nets.
PA03255.37	Bongo	2	19	CF5	12	9	nd	E	nd	nd	nd	10	19	
PA03255.38	Bongo	3	19	CF5	12	9	1721	S	59.7828	-148.8672	192	10	20	Two replicates; blue and red nets.
PA03255.39	Bongo	3	19	CF5	12	9	nd	E	nd	nd	nd	10	20	
PA03256.06	Bongo	4	20	PWS2	13	9	1257	S	60.1347	-147.8435	298	10	21	Two replicates; blue and red nets.
PA03256.07	Bongo	4	20	PWS2	13	9	nd	E	nd	nd	nd	10	21	
PA03256.08	Bongo	5	20	PWS2	13	9	1301	S	60.1342	-147.8432	297	10	22	Two replicates; blue and red nets.
PA03256.09	Bongo	5	20	PWS2	13	9	nd	E	nd	nd	nd	10	22	
PA03257.11	Bongo	7	23	CF5	14	9	1547	S	59.7800	-148.8605	197	10	23	Two replicates; blue and red nets; trawl catchability sampling.
PA03257.12	Bongo	7	23	CF5	14	9	nd	E	nd	nd	nd	10	23	
PA03257.13	Bongo	8	23	CF5	14	9	1553	S	59.7790	-148.8615	197	10	24	Two replicates; blue and red nets; trawl catchability

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
PA03257.14	Bongo	8	23	CF5	14	9	nd	E	nd	nd	nd	10	24	sampling.
PA03258.04	Bongo	3	24	CF5	15	9	0625	S	59.7762	-148.8745	193	10	25	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.05	Bongo	3	24	CF5	15	9	nd	E	nd	nd	nd	10	25	
PA03258.06	Bongo	4	24	CF5	15	9	0630	S	59.7748	-148.8778	193	10	26	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.07	Bongo	4	24	CF5	15	9	nd	E	nd	nd	nd	10	26	
PA03258.17	Bongo	10	24	CF5	15	9	0826	S	59.7817	-148.8620	195	10	27	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.18	Bongo	10	24	CF5	15	9	nd	E	nd	nd	nd	10	27	
PA03258.19	Bongo	11	24	CF5	15	9	0829	S	59.7815	-148.8632	195	10	28	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.20	Bongo	11	24	CF5	15	9	nd	E	nd	nd	nd	10	28	
PA03258.30	Bongo	17	24	CF5	15	9	1032	S	59.7780	-148.8527	186	10	29	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.31	Bongo	17	24	CF5	15	9	nd	E	nd	nd	nd	10	29	
PA03258.32	Bongo	18	24	CF5	15	9	1039	S	59.7798	-148.8543	190	10	30	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.33	Bongo	18	24	CF5	15	9	nd	E	nd	nd	nd	10	30	

Table 4: CTD Casts

Event#	Instr	Cast	Sta	Sta std	Day	Mos	Time	S/E flag	Lat	Long	Water Depth	Cast Depth	Haul	Comments
PA03252.03	CTD	2	1	GAK1i	9	9	1747	S	59.7577	-149.3937	259	100	1	
PA03253.01	CTD	1	2	GAK6	10	9	0951	S	59.1153	-148.7762	149	100	2	Drift: 1 kt at 229 deg.
PA03253.14	CTD	1	3	GAK5	10	9	1246	S	59.2635	-148.9093	170	100	3	Drift: .7 kts at 330 deg.
PA03253.27	CTD	1	4	GAK4	10	9	1604	S	59.4087	-148.0452	201	100	4	Drift: 1 kt at 117 deg.
PA03254.01	CTD	1	5	GAK2	11	9	0935	S	59.6882	-149.3307	226	100	5	Drift: 1.9 kts. at 218 deg.
PA03254.14	CTD	1	6	GAK3	11	9	1225	S	59.5498	-149.1913	214	100	6	Drift: 0.9 kts at 245 deg.
PA03254.27	CTD	1	7	CF13	11	9	1515	S	59.5173	-148.8672	174	100	7	Drift: 0.7 kts at 354 deg.
PA03254.40	CTD	1	8	CF11	11	9	1720	S	59.5838	-148.8658	177	100	8	Drift: 0.8 kts at 044 deg.
PA03254.41	CTD	1	9	CF9	11	9	1755	S	59.6505	-148.8655	178	100	9	Drift: 0.3 kts at 029 deg.
PA03254.42	CTD	1	10	CF7	11	9	1832	S	59.7173	-148.4178	181	100	10	Drift: 0.3 kts at 260 deg.
PA03255.01	CTD	1	11	CF6	12	9	0922	S	59.7503	-148.8722	187	100	11	Drift: 1.8 kts at 267 deg.
PA03255.02	CTD	1	12	CF7	12	9	0946	S	59.7165	-148.8687	181	100	12	Drift: 1.8 kts at 264 deg.
PA03255.03	CTD	1	13	CF8	12	9	1009	S	59.6832	-148.8712	177	100	13	Drift: 1.6 kts at 264 deg.
PA03255.04	CTD	1	14	CF9	12	9	1032	S	59.6498	-148.8678	177	100	14	Drift: 1.9 kts at 262 deg.
PA03255.05	CTD	1	15	CF10	12	9	1055	S	59.6162	-148.8712	174	100	15	Drift: 2.0 kts at 258 deg.
PA03255.06	CTD	1	16	CF11	12	9	1118	S	59.5828	-148.8683	176	100	16	Drift: 1.9 kts at 253 deg.
PA03255.07	CTD	1	17	CF12	12	9	1138	S	59.5502	-148.8665	182	100	17	Drift: 1.4 kts at 250 deg.
PA03255.20	CTD	1	18	CF6	12	9	1444	S	59.7497	-148.8687	192	100	18	Drift: 1.1 kts at 266 deg.
PA03255.35	CTD	1	19	CF5	12	9	1713	S	59.7823	-148.8637	195	100	19	Drift: 0.9 kts at 249 deg.
PA03256.01	CTD	1	20	PWS2	13	9	1012	S	60.0993	-147.8363	250	100	20	Drift: 0.8 kts at 200 deg.
PA03256.16	CTD	1	21	PWS1	13	9	1426	S	60.1853	-147.9955	110	100	21	Drift: 0.5 kts at 155 deg.
PA03256.21	CTD	1	22	PWS3	13	9	1855	S	60.0497	-147.6698	153	100	22	Drift: 0.5 kts at 194 deg.
PA03257.01	CTD	1	23	CF5	14	9	1103	S	59.7828	-148.8718	191	100	23	Drift: 0.8 kts at 250 deg; trawl catchability sampling.
PA03257.10	CTD	6	23	CF5	14	9	1542	S	59.7805	-148.8592	198	100	24	Drift: 0.7 kts at 223 deg; trawl catchability sampling.
PA03258.01	CTD	1	24	CF5	15	9	0505	S	59.7822	-148.8693	193	100	25	Drift: 1.4 kts at 232 deg; clear skies; waning 3/4 moon; bottom scatter layer~28m; crepuscular feeding sampling.
PA03258.16	CTD	9	24	CF5	15	9	0822	S	59.7822	-148.8608	196	100	26	Drift: 0.6 kts at 246 deg; crepuscular feeding sampling.
PA03258.29	CTD	16	24	CF5	15	9	1027	S	59.7785	-148.8520	186	100	27	Drift: 0.3 kts at 237 deg; crepuscular feeding sampling.

APPENDIX I

PA0303 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;

Tucker: NIO/Tucker Trawl; 1-m² mouth opening; 0.333-mm mesh; equipped with flowmeter; towed 2-5 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.

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
PA03252.01	Trawl	1	1	GAK1i	9	9	1637	S	59.7598	-149.3952	253	0	1	Drift: 2.2 kts at 245 deg.
PA03252.02	Trawl	1	1	GAK1i	9	9	1707	E	59.7645	-149.3680	nd	0	1	
PA03252.03	CTD	2	1	GAK1i	9	9	1747	S	59.7577	-149.3937	259	100	1	
PA03252.04	Bongo	3	1	GAK1i	9	9	1800	S	59.7573	-149.3912	255	10	1	Two replicates; blue and red nets.
PA03252.05	Bongo	3	1	GAK1i	9	9	nd	E	nd	nd	nd	10	1	
PA03252.06	Bongo	4	1	GAK1i	9	9	1807	S	59.7557	-149.3962	258	10	2	Two replicates; blue and red nets.
PA03252.07	Bongo	4	1	GAK1i	9	9	nd	E	nd	nd	nd	10	2	
PA03252.08	Tucker	5	1	GAK1i	9	9	1815	S	59.7557	-149.3903	254	0	1	
PA03252.09	Tucker	5	1	GAK1i	9	9	1818	E	59.7557	-149.3882	nd	0	1	
PA03252.10	Tucker	6	1	GAK1i	9	9	1821	S	59.7560	-149.3855	253	0	2	
PA03252.11	Tucker	6	1	GAK1i	9	9	1824	E	59.7555	-149.3832	nd	0	2	
PA03252.12	Tucker	7	1	GAK1i	9	9	1827	S	59.7543	-149.3807	251	0	3	
PA03252.13	Tucker	7	1	GAK1i	9	9	1830	E	59.7522	-149.3788	nd	0	3	
PA03253.01	CTD	1	2	GAK6	10	9	0951	S	59.1153	-148.7762	149	100	2	Drift: 1 kt at 229 deg.
PA03253.02	Bongo	2	2	GAK6	10	9	1000	S	59.1010	-148.7790	147	10	3	Two replicates; blue and red nets.
PA03253.03	Bongo	2	2	GAK6	10	9	nd	E	nd	nd	nd	10	3	
PA03253.04	Bongo	3	2	GAK6	10	9	1005	S	59.1138	-148.7810	147	10	4	Two replicates; blue and red nets.
PA03253.05	Bongo	3	2	GAK6	10	9	nd	E	nd	nd	nd	10	4	
PA03253.06	Tucker	4	2	GAK6	10	9	1010	S	59.1127	-148.7860	145	0	4	At 237 deg.
PA03253.07	Tucker	4	2	GAK6	10	9	1013	E	59.1113	-148.7903	nd	0	4	
PA03253.08	Tucker	5	2	GAK6	10	9	1015	S	59.1098	-148.7935	149	0	5	At 234 deg.
PA03253.09	Tucker	5	2	GAK6	10	9	1018	E	59.1082	-148.7977	nd	0	5	
PA03253.10	Tucker	6	2	GAK6	10	9	1020	S	59.1068	-148.8007	150	0	6	At 233 deg.
PA03253.11	Tucker	6	2	GAK6	10	9	1023	E	59.1052	-148.8048	nd	0	6	
PA03253.12	Trawl	7	2	GAK6	10	9	1041	S	59.1110	-148.7950	147	0	2	At 040 deg.
PA03253.13	Trawl	7	2	GAK6	10	9	1111	E	59.1277	-148.7677	nd	0	2	
PA03253.14	CTD	1	3	GAK5	10	9	1246	S	59.2635	-148.9093	170	100	3	Drift: .7 kts at 330 deg.
PA03253.15	Bongo	2	3	GAK5	10	9	1252	S	59.2643	-148.9093	170	10	5	Two replicates; blue and red nets.
PA03253.16	Bongo	2	3	GAK5	10	9	nd	E	nd	nd	nd	10	5	
PA03253.17	Bongo	3	3	GAK5	10	9	1257	S	59.2648	-148.9097	169	10	6	Two replicates; blue and red nets.
PA03253.18	Bongo	3	3	GAK5	10	9	nd	E	nd	nd	nd	10	6	
PA03253.19	Tucker	4	3	GAK5	10	9	1307	S	59.2608	-148.9177	170	0	7	At 231 deg.
PA03253.20	Tucker	4	3	GAK5	10	9	1310	E	59.2595	-148.9208	nd	0	7	
PA03253.21	Tucker	5	3	GAK5	10	9	1317	S	59.2558	-148.9280	176	0	8	At 232 deg.
PA03253.22	Tucker	5	3	GAK5	10	9	1320	E	59.2547	-148.9312	nd	0	8	
PA03253.23	Tucker	6	3	GAK5	10	9	1322	S	59.3037	-148.9330	175	0	9	At 230 deg.
PA03253.24	Tucker	6	3	GAK5	10	9	1325	E	59.2523	-148.9360	nd	0	9	
PA03253.25	Trawl	7	3	GAK5	10	9	1346	S	59.2623	-148.9115	170	0	3	At 143 deg.
PA03253.26	Trawl	7	3	GAK5	10	9	1416	E	59.2437	-148.8833	nd	0	3	
PA03253.27	CTD	1	4	GAK4	10	9	1604	S	59.4087	-148.0452	201	100	4	Drift: 1 kt at 117 deg.
PA03253.28	Bongo	2	4	GAK4	10	9	1609	S	59.4080	-148.0428	201	10	7	Two replicates; blue and red nets.
PA03253.29	Bongo	2	4	GAK4	10	9	nd	E	nd	nd	nd	10	7	
PA03253.30	Bongo	3	4	GAK4	10	9	1613	S	59.4075	-148.0405	201	10	8	Two replicates; blue and red nets.
PA03253.31	Bongo	3	4	GAK4	10	9	nd	E	nd	nd	nd	10	8	
PA03253.32	Tucker	4	4	GAK4	10	9	1621	S	59.4078	-148.0465	201	0	10	At 121 deg.
PA03253.33	Tucker	4	4	GAK4	10	9	1624	E	59.4063	-148.0413	nd	0	10	
PA03253.34	Tucker	5	4	GAK4	10	9	1626	S	59.4055	-148.0382	200	0	11	At 123 deg.
PA03253.35	Tucker	5	4	GAK4	10	9	1629	E	59.4038	-148.0330	nd	0	11	

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
PA03253.36	Tucker	6	4	GAK4	10	9	1631	S	59.4092	-148.0372	199	0	12	At 123 deg; short tow.
PA03253.37	Tucker	6	4	GAK4	10	9	1633	E	59.4013	-148.0243	nd	0	12	
PA03253.38	Trawl	7	4	GAK4	10	9	1648	S	59.4032	-148.0343	199	0	4	At 298 deg.
PA03253.39	Trawl	7	4	GAK4	10	9	1718	E	59.4120	-148.0667	nd	0	4	
PA03254.01	CTD	1	5	GAK2	11	9	0935	S	59.6882	-149.3307	226	100	5	Drift: 1.9 kts. at 218 deg.
PA03254.02	Bongo	2	5	GAK2	11	9	0941	S	59.6862	-149.3333	228	10	9	Two replicates; blue and red nets.
PA03254.03	Bongo	2	5	GAK2	11	9	nd	E	nd	nd	nd	10	9	
PA03254.04	Bongo	3	5	GAK2	11	9	0949	S	59.6828	-149.3372	229	10	10	Two replicates; blue and red nets.
PA03254.05	Bongo	3	5	GAK2	11	9	nd	E	nd	nd	nd	10	10	
PA03254.06	Tucker	4	5	GAK2	11	9	0959	S	59.6850	-149.3368	228	0	13	At 022 deg.
PA03254.07	Tucker	4	5	GAK2	11	9	1002	E	59.6860	-149.3360	nd	0	13	
PA03254.08	Tucker	5	5	GAK2	11	9	1005	S	59.6872	-149.3357	230	0	14	At 032 deg.
PA03254.09	Tucker	5	5	GAK2	11	9	1007	E	59.6877	-149.3335	nd	0	14	
PA03254.10	Tucker	6	5	GAK2	11	9	1009	S	59.6887	-149.3345	230	0	15	At 024 deg.
PA03254.11	Tucker	6	5	GAK2	11	9	1011	E	59.6893	-149.3340	nd	0	15	
PA03254.12	Trawl	7	5	GAK2	11	9	1027	S	59.6848	-149.3347	229	0	5	At 028 deg.
PA03254.13	Trawl	7	5	GAK2	11	9	1057	E	59.6980	-149.3208	nd	0	5	
PA03254.14	CTD	1	6	GAK3	11	9	1225	S	59.5498	-149.1913	214	100	6	Drift: 0.9 kts at 245 deg.
PA03254.15	Bongo	2	6	GAK3	11	9	1229	S	59.5493	-149.1930	216	10	11	Two replicates; blue and red nets.
PA03254.16	Bongo	2	6	GAK3	11	9	nd	E	nd	nd	nd	10	11	
PA03254.17	Bongo	3	6	GAK3	11	9	1233	S	59.5488	-149.1950	217	10	12	Two replicates; blue and red nets.
PA03254.18	Bongo	3	6	GAK3	11	9	nd	E	nd	nd	nd	10	12	
PA03254.19	Tucker	4	6	GAK3	11	9	1238	S	59.5502	-149.1940	216	0	16	At 068 deg.
PA03254.20	Tucker	4	6	GAK3	11	9	1241	E	59.5508	-149.1910	nd	0	16	
PA03254.21	Tucker	5	6	GAK3	11	9	1243	S	59.5513	-149.1893	215	0	17	At 062 deg.
PA03254.22	Tucker	5	6	GAK3	11	9	1246	E	59.5522	-149.1863	nd	0	17	
PA03254.23	Tucker	6	6	GAK3	11	9	1247	S	59.5528	-149.1845	213	0	18	At 059 deg.
PA03254.24	Tucker	6	6	GAK3	11	9	1250	E	59.5538	-149.1818	nd	0	18	
PA03254.25	Trawl	7	6	GAK3	11	9	1310	S	59.5485	-149.2047	219	0	6	At 049 deg.
PA03254.26	Trawl	7	6	GAK3	11	9	1340	E	59.5602	-149.1780	nd	0	6	
PA03254.27	CTD	1	7	CF13	11	9	1515	S	59.5173	-148.8672	174	100	7	Drift: 0.7 kts at 354 deg.
PA03254.28	Bongo	2	7	CF13	11	9	1520	S	59.5185	-148.8668	175	10	13	Two replicates; blue and red nets.
PA03254.29	Bongo	2	7	CF13	11	9	nd	E	nd	nd	nd	10	13	
PA03254.30	Bongo	3	7	CF13	11	9	1522	S	59.5190	-148.8668	175	10	14	Two replicates; blue and red nets.
PA03254.31	Bongo	3	7	CF13	11	9	nd	E	nd	nd	nd	10	14	
PA03254.32	Tucker	4	7	CF13	11	9	1527	S	59.5173	-148.8667	173	0	19	At 181 deg.
PA03254.33	Tucker	4	7	CF13	11	9	1530	E	59.5155	-148.8668	nd	0	19	
PA03254.34	Tucker	5	7	CF13	11	9	1532	S	59.5140	-149.3665	171	0	20	At 184 deg.
PA03254.35	Tucker	5	7	CF13	11	9	1535	E	59.5123	-148.8667	nd	0	20	
PA03254.36	Tucker	6	7	CF13	11	9	1538	S	59.5105	-148.9335	171	0	21	At 219 deg.
PA03254.37	Tucker	6	7	CF13	11	9	1540	E	59.5093	-148.8687	nd	0	21	
PA03254.38	Trawl	7	7	CF13	11	9	1559	S	59.5220	-148.8668	175	0	7	At 171 deg.
PA03254.39	Trawl	7	7	CF13	11	9	1629	E	59.5032	-148.8617	nd	0	7	
PA03254.40	CTD	1	8	CF11	11	9	1720	S	59.5838	-148.8658	177	100	8	Drift: 0.8 kts at 044 deg.
PA03254.41	CTD	1	9	CF9	11	9	1755	S	59.6505	-148.8655	178	100	9	Drift: 0.3 kts at 029 deg.
PA03254.42	CTD	1	10	CF7	11	9	1832	S	59.7173	-148.4178	181	100	10	Drift: 0.3 kts at 260 deg.
PA03255.01	CTD	1	11	CF6	12	9	0922	S	59.7503	-148.8722	187	100	11	Drift: 1.8 kts at 267 deg.
PA03255.02	CTD	1	12	CF7	12	9	0946	S	59.7165	-148.8687	181	100	12	Drift: 1.8 kts at 264 deg.

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
PA03255.03	CTD	1	13	CF8	12	9	1009	S	59.6832	-148.8712	177	100	13	Drift: 1.6 kts at 264 deg.
PA03255.04	CTD	1	14	CF9	12	9	1032	S	59.6498	-148.8678	177	100	14	Drift: 1.9 kts at 262 deg.
PA03255.05	CTD	1	15	CF10	12	9	1055	S	59.6162	-148.8712	174	100	15	Drift: 2.0 kts at 258 deg.
PA03255.06	CTD	1	16	CF11	12	9	1118	S	59.5828	-148.8683	176	100	16	Drift: 1.9 kts at 253 deg.
PA03255.07	CTD	1	17	CF12	12	9	1138	S	59.5502	-148.8665	182	100	17	Drift: 1.4 kts at 250 deg.
PA03255.08	Bongo	2	17	CF12	12	9	1144	S	59.5497	-148.8708	185	10	15	Two replicates; blue and red nets.
PA03255.09	Bongo	2	17	CF12	12	9	nd	E	nd	nd	nd	10	15	
PA03255.10	Bongo	3	17	CF12	12	9	1149	S	59.5493	-148.8743	185	10	16	Two replicates; blue and red nets.
PA03255.11	Bongo	3	17	CF12	12	9	nd	E	nd	nd	nd	10	16	
PA03255.12	Tucker	4	17	CF12	12	9	1153	S	59.5495	-148.8742	186	0	22	At 087 deg.
PA03255.13	Tucker	4	17	CF12	12	9	1156	E	59.5495	-148.8715	nd	0	22	
PA03255.14	Tucker	5	17	CF12	12	9	1158	S	59.5500	-148.8682	184	0	23	At 084 deg.
PA03255.15	Tucker	5	17	CF12	12	9	1200	E	59.5502	-148.8658	nd	0	23	
PA03255.16	Tucker	6	17	CF12	12	9	1203	S	59.5505	-148.8635	178	0	24	At 086 deg.
PA03255.17	Tucker	6	17	CF12	12	9	1205	E	59.5505	-148.8610	nd	0	24	
PA03255.18	Trawl	7	17	CF12	12	9	1237	S	59.5550	-148.8870	181	0	8	At 056 deg.
PA03255.19	Trawl	7	17	CF12	12	9	1307	E	59.5638	-148.8612	nd	0	8	
PA03255.20	CTD	1	18	CF6	12	9	1444	S	59.7497	-148.8687	192	100	18	Drift: 1.1 kts at 266 deg.
PA03255.21	Bongo	2	18	CF6	12	9	1449	S	59.7500	-148.8717	191	10	17	Two replicates; blue and red nets.
PA03255.22	Bongo	2	18	CF6	12	9	nd	E	nd	nd	nd	10	17	
PA03255.23	Bongo	3	18	CF6	12	9	1454	S	59.7502	-148.8747	191	10	18	Two replicates; blue and red nets.
PA03255.24	Bongo	3	18	CF6	12	9	nd	E	nd	nd	nd	10	18	
PA03255.25	Tucker	4	18	CF6	12	9	1458	S	59.7498	-148.8770	191	0	25	At 266 deg.
PA03255.26	Tucker	4	18	CF6	12	9	1501	E	59.7497	-148.8830	nd	0	25	
PA03255.27	Tucker	5	18	CF6	12	9	1503	S	59.7492	-148.8880	191	0	26	At 268 deg.
PA03255.28	Tucker	5	18	CF6	12	9	1505	E	59.7492	-148.8922	nd	0	26	
PA03255.29	Tucker	6	18	CF6	12	9	1507	S	59.7487	-148.8975	192	0	27	At 267 deg.
PA03255.30	Tucker	6	18	CF6	12	9	1509	E	59.7485	-148.9020	nd	0	27	
PA03255.31	Trawl	7	18	CF6	12	9	1522	S	59.7495	-148.8907	192	0	9	Set to 150 fa; ABORTED.
PA03255.32	Trawl	7	18	CF6	12	9	1537	E	nd	nd	nd	0	9	
PA03255.33	Trawl	8	18	CF6	12	9	1605	S	59.7495	-148.8905	191	0	10	At 097 deg.
PA03255.34	Trawl	8	18	CF6	12	9	1635	E	59.7470	-148.8518	nd	0	10	
PA03255.35	CTD	1	19	CF5	12	9	1713	S	59.7823	-148.8637	195	100	19	Drift: 0.9 kts at 249 deg.
PA03255.36	Bongo	2	19	CF5	12	9	1718	S	59.7822	-148.8660	194	10	19	Two replicates; blue and red nets.
PA03255.37	Bongo	2	19	CF5	12	9	nd	E	nd	nd	nd	10	19	
PA03255.38	Bongo	3	19	CF5	12	9	1721	S	59.7828	-148.8672	192	10	20	Two replicates; blue and red nets.
PA03255.39	Bongo	3	19	CF5	12	9	nd	E	nd	nd	nd	10	20	
PA03255.40	Tucker	4	19	CF5	12	9	1725	S	59.7823	-148.8715	193	0	28	At 263 deg.
PA03255.41	Tucker	4	19	CF5	12	9	1728	E	59.7820	-148.8775	nd	0	28	
PA03255.42	Tucker	5	19	CF5	12	9	1730	S	59.7982	-148.8825	193	0	29	At 266 deg.
PA03255.43	Tucker	5	19	CF5	12	9	1732	E	59.7813	-148.8867	nd	0	29	
PA03255.44	Tucker	6	19	CF5	12	9	1734	S	59.7808	-148.8920	193	0	30	At 264 deg.
PA03255.45	Tucker	6	19	CF5	12	9	1736	E	59.7807	-148.8960	nd	0	30	
PA03255.46	Trawl	7	19	CF5	12	9	1759	S	59.7827	-148.8833	193	0	11	At 078 deg.
PA03255.47	Trawl	7	19	CF5	12	9	1829	E	59.7860	-148.8515	nd	0	11	
PA03256.01	CTD	1	20	PWS2	13	9	1012	S	60.0993	-147.8363	250	100	20	Drift: 0.8 kts at 200 deg.
PA03256.02	Trawl	2	20	PWS2	13	9	1031	S	60.0915	-147.8435	185	0	12	At 018 deg.
PA03256.03	Trawl	2	20	PWS2	13	9	1101	E	60.1130	-147.8297	nd	0	12	

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
PA03256.04	Trawl	3	20	PWS2	13	9	1151	S	60.1068	-147.8698	206	0	13	At 013 deg; replaced buoy ring on starboard side.
PA03256.05	Trawl	3	20	PWS2	13	9	1231	E	60.1368	-147.8558	nd	0	13	
PA03256.06	Bongo	4	20	PWS2	13	9	1257	S	60.1347	-147.8435	298	10	21	Two replicates; blue and red nets.
PA03256.07	Bongo	4	20	PWS2	13	9	nd	E	nd	nd	nd	10	21	
PA03256.08	Bongo	5	20	PWS2	13	9	1301	S	60.1342	-147.8432	297	10	22	Two replicates; blue and red nets.
PA03256.09	Bongo	5	20	PWS2	13	9	nd	E	nd	nd	nd	10	22	
PA03256.10	Tucker	6	20	PWS2	13	9	1305	S	60.1342	-147.8435	297	0	31	At 344 deg.
PA03256.11	Tucker	6	20	PWS2	13	9	1308	E	60.1358	-147.8445	nd	0	31	
PA03256.12	Tucker	7	20	PWS2	13	9	1310	S	60.1370	-147.8460	280	0	32	At 342 deg.
PA03256.13	Tucker	7	20	PWS2	13	9	1313	E	60.1388	-147.8472	nd	0	32	
PA03256.14	Tucker	8	20	PWS2	13	9	1315	S	60.1407	-147.8492	263	0	33	At 345 deg.
PA03256.15	Tucker	8	20	PWS2	13	9	1318	E	60.1425	-147.8503	nd	0	33	
PA03256.16	CTD	1	21	PWS1	13	9	1426	S	60.1853	-147.9955	110	100	21	Drift: 0.5 kts at 155 deg.
PA03256.17	Trawl	2	21	PWS1	13	9	1453	S	60.1667	-147.9777	104	0	14	At 336 deg.
PA03256.18	Trawl	2	21	PWS1	13	9	1543	E	60.2020	-147.0130	nd	0	14	
PA03256.19	Trawl	3	21	PWS1	13	9	1625	S	60.1938	-147.9985	158	0	15	At 324 deg; no plankton samples collected.
PA03256.20	Trawl	3	21	PWS1	13	9	1655	E	60.2112	-148.0235	nd	0	15	
PA03256.21	CTD	1	22	PWS3	13	9	1855	S	60.0497	-147.6698	153	100	22	Drift: 0.5 kts at 194 deg.
PA03256.22	Trawl	2	22	PWS3	13	9	1908	S	60.0565	-147.6683	111	0	16	At 006 deg; no plankton samples collected.
PA03256.23	Trawl	2	22	PWS3	13	9	1938	E	60.0807	-147.6633	nd	0	16	
PA03257.01	CTD	1	23	CF5	14	9	1103	S	59.7828	-148.8718	191	100	23	Drift: 0.8 kts at 250 deg; trawl catchability sampling.
PA03257.02	Trawl	2	23	CF5	14	9	1124	S	59.7825	-148.8940	191	0	17	At 078 deg; trawl catchability sampling.
PA03257.03	Trawl	2	23	CF5	14	9	1154	E	59.7862	-148.8600	nd	0	17	
PA03257.04	Trawl	3	23	CF5	14	9	1233	S	59.7820	-148.8893	192	0	18	At 078; pronounced feed layers between 81-91m and 5-30m-critters small but dense (euph?).
PA03257.05	Trawl	3	23	CF5	14	9	1303	E	59.7857	-148.8550	nd	0	18	Trawl catchability sampling.
PA03257.06	Trawl	4	23	CF5	14	9	1340	S	59.7822	-148.8995	193	0	19	At 079 deg; trawl catchability sampling.
PA03257.07	Trawl	4	23	CF5	14	9	1410	E	59.7853	-148.8662	nd	0	19	
PA03257.08	Trawl	5	23	CF5	14	9	1448	S	59.7815	-148.8922	193	0	20	At 077 deg; trawl catchability sampling.
PA03257.09	Trawl	5	23	CF5	14	9	1518	E	59.7855	-148.8580	nd	0	20	
PA03257.10	CTD	6	23	CF5	14	9	1542	S	59.7805	-148.8592	198	100	24	Drift: 0.7 kts at 223 deg; trawl catchability sampling.
PA03257.11	Bongo	7	23	CF5	14	9	1547	S	59.7800	-148.8605	197	10	23	Two replicates; blue and red nets; trawl catchability sampling.
PA03257.12	Bongo	7	23	CF5	14	9	nd	E	nd	nd	nd	10	23	
PA03257.13	Bongo	8	23	CF5	14	9	1553	S	59.7790	-148.8615	197	10	24	Two replicates; blue and red nets; trawl catchability sampling.
PA03257.14	Bongo	8	23	CF5	14	9	nd	E	nd	nd	nd	10	24	
PA03257.15	Tucker	9	23	CF5	14	9	1556	S	59.7778	-148.8645	197	0	34	At 231 deg; trawl catchability sampling.
PA03257.16	Tucker	9	23	CF5	14	9	1559	E	59.7762	-148.8687	nd	0	34	
PA03257.17	Tucker	10	23	CF5	14	9	1601	S	59.7748	-148.8710	194	0	35	At 228 deg; trawl catchability sampling.
PA03257.18	Tucker	10	23	CF5	14	9	1603	E	59.7737	-148.8738	nd	0	35	
PA03257.19	Tucker	11	23	CF5	14	9	1605	S	59.7723	-148.8760	193	0	36	At 228; trawl catchability sampling.

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
PA03257.20	Tucker	11	23	CF5	14	9	1607	E	59.7713	-148.8785	nd	0	36	
PA03258.01	CTD	1	24	CF5	15	9	0505	S	59.7822	-148.8693	193	100	25	Drift: 1.4kts at 232 deg; clear skies; waning 3/4 moon; bottom scatter layer~28m; crepuscular feeding sampling.
PA03258.02	Trawl	2	24	CF5	15	9	0527	S	59.7762	-148.8832	193	0	21	At 059 deg; crepuscular feeding sampling; sonar: 0545-dense surface layer to ~40m with hard targets at 10-14m.
PA03258.03	Trawl	2	24	CF5	15	9	0557	E	59.7853	-148.8523	nd	0	21	Sm targets ca.100m; 0556-bottom layer started to intensify from 90-100m and became much more defined.
PA03258.04	Bongo	3	24	CF5	15	9	0625	S	59.7762	-148.8745	193	10	25	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.05	Bongo	3	24	CF5	15	9	nd	E	nd	nd	nd	10	25	
PA03258.06	Bongo	4	24	CF5	15	9	0630	S	59.7748	-148.8778	193	10	26	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.07	Bongo	4	24	CF5	15	9	nd	E	nd	nd	nd	10	26	
PA03258.08	Tucker	5	24	CF5	15	9	0635	S	59.7775	-148.8772	193	0	37	At 069 deg; crepuscular feeding sampling.
PA03258.09	Tucker	5	24	CF5	15	9	0638	E	59.7778	-148.8748	nd	0	37	
PA03258.10	Tucker	6	24	CF5	15	9	0640	S	59.7783	-148.8733	194	0	38	At 074 deg; crepuscular feeding sampling.
PA03258.11	Tucker	6	24	CF5	15	9	0642	E	59.7787	-148.8717	nd	0	38	
PA03258.12	Tucker	7	24	CF5	15	9	0644	S	59.7792	-148.8700	194	0	39	At 077; crepuscular feeding sampling; sonar: 0700-top layer w/some small targets; but bottom layer is gone.
PA03258.13	Tucker	7	24	CF5	15	9	0646	E	59.7795	-148.8683	nd	0	39	
PA03258.14	Trawl	8	24	CF5	15	9	0724	S	59.7755	-148.8812	193	0	22	At 052 deg; crepuscular feeding sampling; predicted sunrise at Day Harbor = 0724.
PA03258.15	Trawl	8	24	CF5	15	9	0754	E	59.7853	-148.8512	nd	0	22	Sonar: 0745-surface layer slightly stronger; bottom layer returned; though not strongly.
PA03258.16	CTD	9	24	CF5	15	9	0822	S	59.7822	-148.8608	196	100	26	Drift: 0.6 kts at 246 deg; crepuscular feeding sampling.
PA03258.17	Bongo	10	24	CF5	15	9	0826	S	59.7817	-148.8620	195	10	27	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.18	Bongo	10	24	CF5	15	9	nd	E	nd	nd	nd	10	27	
PA03258.19	Bongo	11	24	CF5	15	9	0829	S	59.7815	-148.8632	195	10	28	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.20	Bongo	11	24	CF5	15	9	nd	E	nd	nd	nd	10	28	
PA03258.21	Tucker	12	24	CF5	15	9	0834	S	59.7807	-148.8635	195	0	40	At 084 deg; crepuscular feeding sampling.
PA03258.22	Tucker	12	24	CF5	15	9	0837	E	59.7808	-148.8597	nd	0	40	
PA03258.23	Tucker	13	24	CF5	15	9	0840	S	59.7817	-148.8560	196	0	41	At 071 deg; crepuscular feeding sampling.
PA03258.24	Tucker	13	24	CF5	15	9	0843	E	59.7823	-148.8522	nd	0	41	
PA03258.25	Tucker	14	24	CF5	15	9	0845	S	59.7833	-148.8485	191	0	42	At 072 deg; crepuscular feeding sampling.
PA03258.26	Tucker	14	24	CF5	15	9	0847	E	59.7838	-148.8458	nd	0	42	
PA03258.27	Trawl	15	24	CF5	15	9	0932	S	59.7733	-148.8782	191	0	23	At 068 deg; crepuscular feeding sampling; sonar: 0955-surface layer to 30m even stonger; bottom layer very light.
PA03258.28	Trawl	15	24	CF5	15	9	1002	E	59.7812	-148.8405	nd	0	23	
PA03258.29	CTD	16	24	CF5	15	9	1027	S	59.7785	-148.8520	186	100	27	Drift: 0.3 kts at 237 deg; crepuscular feeding sampling.

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
PA03258.30	Bongo	17	24	CF5	15	9	1032	S	59.7780	-148.8527	186	10	29	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.31	Bongo	17	24	CF5	15	9	nd	E	nd	nd	nd	10	29	
PA03258.32	Bongo	18	24	CF5	15	9	1039	S	59.7798	-148.8543	190	10	30	Two replicates; blue and red nets; crepuscular feeding sampling.
PA03258.33	Bongo	18	24	CF5	15	9	nd	E	nd	nd	nd	10	30	
PA03258.34	Tucker	19	24	CF5	15	9	1047	S	59.7687	-148.8547	187	0	43	At 112 deg (scribed arc b/c something was in the way); crepuscular feeding sampling.
PA03258.35	Tucker	19	24	CF5	15	9	1050	E	59.7678	-148.8512	nd	0	43	
PA03258.36	Tucker	20	24	CF5	15	9	1052	S	59.7685	-148.8480	194	0	44	At 077 deg; crepuscular feeding sampling.
PA03258.37	Tucker	20	24	CF5	15	9	1055	E	59.7690	-148.8437	nd	0	44	
PA03258.38	Tucker	21	24	CF5	15	9	1057	S	59.7697	-148.8412	190	0	45	At 075 deg; crepuscular feeding sampling.
PA03258.39	Tucker	21	24	CF5	15	9	1100	E	59.7702	-148.8367	nd	0	45	