

GLOBEC CRUISE REPORT
Cruise HX254, March 4-13, 2002

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Scientific Purpose:

The purpose of the NE Pacific GLOBEC Program is to develop a mechanistic understanding of the response of this marine ecosystem to climate variability. Toward that end, the GLOBEC cruises on the Gulf of Alaska shelf will determine the physical-chemical structure, primary production, the distribution and abundance of zooplankton, YOY salmon, other planktivorous fishes, and marine birds and mammals. These interdisciplinary cruises will occur over a seven-year period and throughout the year so that seasonal and interannual comparisons of the oceanography of this shelf can be made. Some of the data will be compared with historical data sets, whereas other data sets will be a product of the first systematic sampling effort from this shelf.

The March 2002 cruise was the fifth March cruise conducted as part of the Gulf of Alaska GLOBEC program Long Term Observation Program (LTOP). Cruise activities concentrated on physical oceanography (circulation and thermohaline structure), nutrient and chlorophyll concentrations, zooplankton, seabird and marine mammal distributions. Zooplankton were sampled for C-N stable isotope composition and experiments were established to estimate zooplankton growth rates and egg production and primary production.

March characterizes late winter conditions during which coastal discharge is minimum and downwelling or cyclonic wind stress is strong, and solar radiation increases. The shelf is typically weakly stratified (or unstratified) in winter. Phytoplankton production is low and zooplankters are just beginning to appear in some areas of the shelf.

Cruise Objectives:

1. Determine thermohaline, velocity, and nutrient structure of the Gulf of Alaska shelf, emphasizing Seward Line, C. Fairfield Line, Prince William Sound stations, and offshore PWS stations (Table 1). Other lines as time permits.
2. Determine primary production and phytoplankton biomass distribution.
3. Determine the distribution and abundance of zooplankton.
4. Determine the distribution and abundance of seabirds and marine mammals.
5. Determine copepod and euphausiid rates of growth and egg production.
6. Characterize the carbon and nitrogen stable isotope concentrations in zooplankton.

SAMPLING

DAYTIME ACTIVITIES

1. Occupied the hydrographic transects (Table 1) and collected vertical CTD-chlorophyll-PAR profiles.
2. Collected ADCP, sea surface salinity (SSS), temperature (SST) and fluorescence (SSF) using seacrest sensors,
3. Collected discrete bottle samples at these stations for nutrients and chlorophyll pigments. Chlorophyll Size Fractionation was done at the whole numbered Seward Line stations and at every other C. Fairfield Line station.
4. Measured Primary Productivity at Stations GAK1, GAK4, GAK9, GAK13, and KIP2.
5. Observed and documented marine mammal and seabird distributions from the bridge.
6. One CalVet Net cast was done (the CalVet frame has 4 nets) on the Seward Line stations and at selected PWS stations. There were two fine mesh nets (.053mm) and two large mesh nets (.150mm) on each tow.
7. At Seward Line stations GAK1, GAK4, GAK9, GAK13 and KIP2 station, Liu performed 3-6 casts with the 10-liter Niskins/Rosette to collect water (from 10-20m) for zooplankton incubations. This was accompanied by two to three ring net tows over the upper 50m.
8. We did deep MOCNESS tows (to 600 m) near the end of the Seward Line at station GAK13 and at station PWS2.

NIGHTTIME ACTIVITIES

1. Hydroacoustic samples and MOCNESS discrete samples were taken along the Seward Line, and at select PWS and Hinchinbrook Entrance Stations (see Event Log for details).

2. In addition to the normal .5mm mesh nets, fine mesh nets (.100 mm) were swapped into the MOCNESS at intermittent stations for euphausiid collection.

A detailed sampling schedule is contained in the Cruise Event Log appended to this report.

Cruise Chronology:

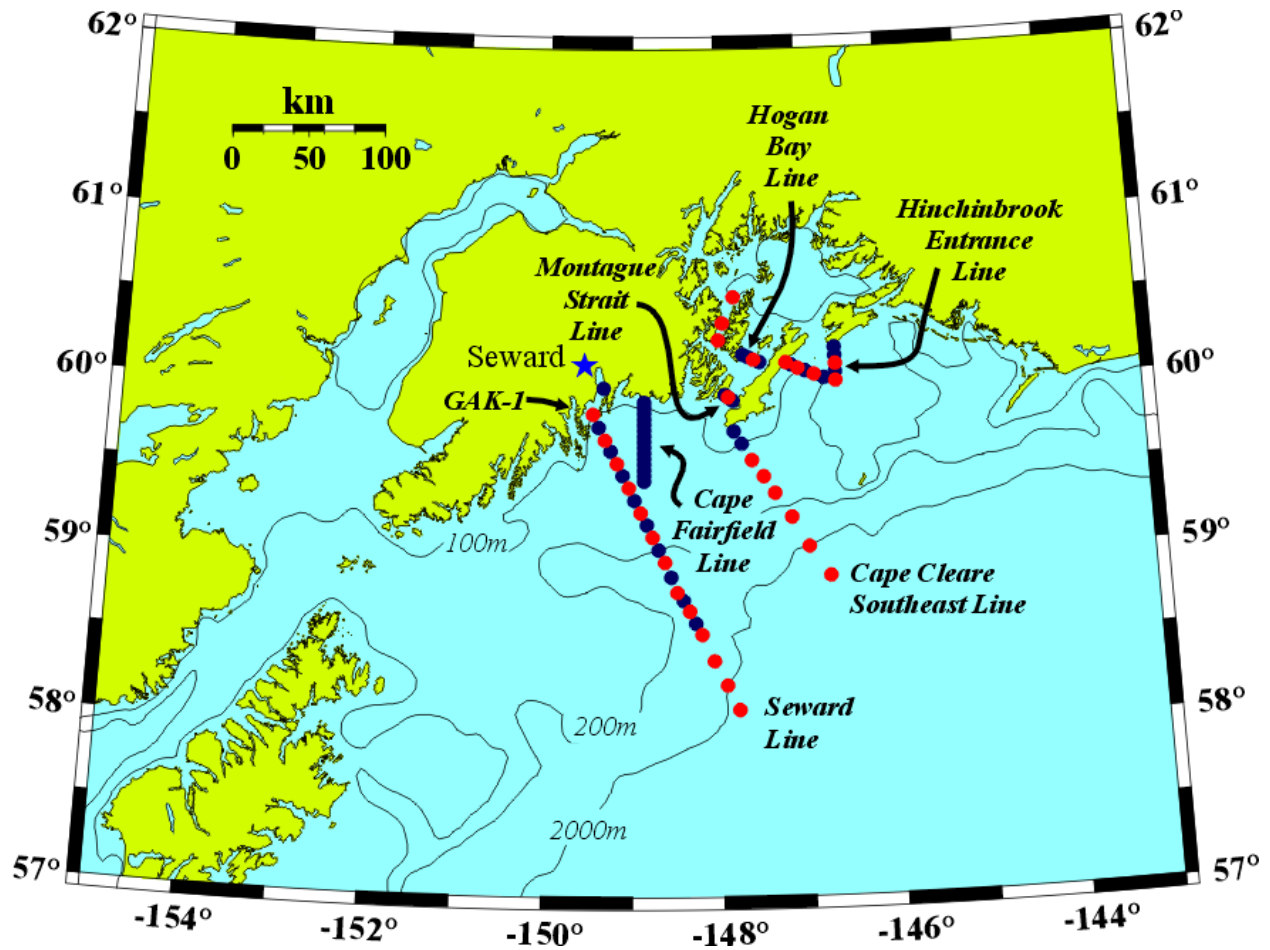
We departed Seward at 10:07 on 4 March, 2002. Some equipment problems were encountered on our first day, notably with the HTI acoustics. Communicated with the manufacturer and arranged to have parts shipped to Seward ASAP. We worked our way toward the outer edge of the Seward Line, and though the winds were brisk on the first day of the cruise (15-20kts), the winds stayed < 20 kts for the few days and we continued work until 7 March. At 22:00 on March 7, winds picked up at GAK4 (to 30 knots) and we steamed to Seward to pick up a new HTI transducer waiting at the dock. Resumed work at GAK1 on March 8 then progressed to our work on the Cape Fairfield Line during the day and more Seward Line work at night. Steamed to Hinchinbrook Entrance and began CTD work, but had to terminate sampling on March 9 at 15:50 due to high winds and seas; made our way into Prince William Sound. Over the next few days, we completed our work in the sound and then were able to complete our sampling on the Hinchinbrook Entrance line on March 12. With a bit of time left in the cruise, we were able to re-occupy the odd-numbered Cape Fairfield Line stations, perform a C. Fairfield Line ADCP transect, and steam between GAK5 and GAK7 to complete the bird count transect. We made two final MOCNESS tows at GAK2 for live animals on the morning of March 13, then steamed to GAK1 for a final CTD and then to the Seward dock.

Table 1.

NEP GLOBEC LTOP STANDARD STATIONS				
Latitude N (degrees, minutes)		Longitude W (degrees, minutes)		Station Name
<i>Resurrection Bay Station</i>				
60	1.5	149	21.5	RES2.5
<i>Seward Line</i>				
59	50.7	149	28	GAK1
59	46	149	23.8	GAK1I
59	41.5	149	19.6	GAK2
59	37.6	149	15.5	GAK2I
59	33.2	149	11.3	GAK3
59	28.9	149	7.1	GAK3I
59	24.5	149	2.9	GAK4
59	20.1	148	58.7	GAK4I
59	15.7	148	54.5	GAK5
59	11.4	148	50.3	GAK5I
59	7	148	46.2	GAK6
59	2.7	148	42	GAK6I
58	58.3	148	37.8	GAK7
58	52.9	148	33.6	GAK7I
58	47.5	148	29.4	GAK8
58	44.6	148	25.2	GAK8I
58	40.8	148	21	GAK9
58	36.7	148	16.7	GAK9I
58	32.5	148	12.7	GAK10
58	23.3	148	4.3	GAK11
58	14.6	147	56	GAK12
58	5.9	147	47.6	GAK13
<i>Cape Fairfield Line</i>				
59	54.5	148	52	CF1
59	53	148	52	CF2
59	51	148	52	CF3
59	49	148	52	CF4
59	47	148	52	CF5
59	45	148	52	CF6
59	43	148	52	CF7
59	41	148	52	CF8
59	39	148	52	CF9
59	37	148	52	CF10
59	35	148	52	CF11
59	33	148	52	CF12

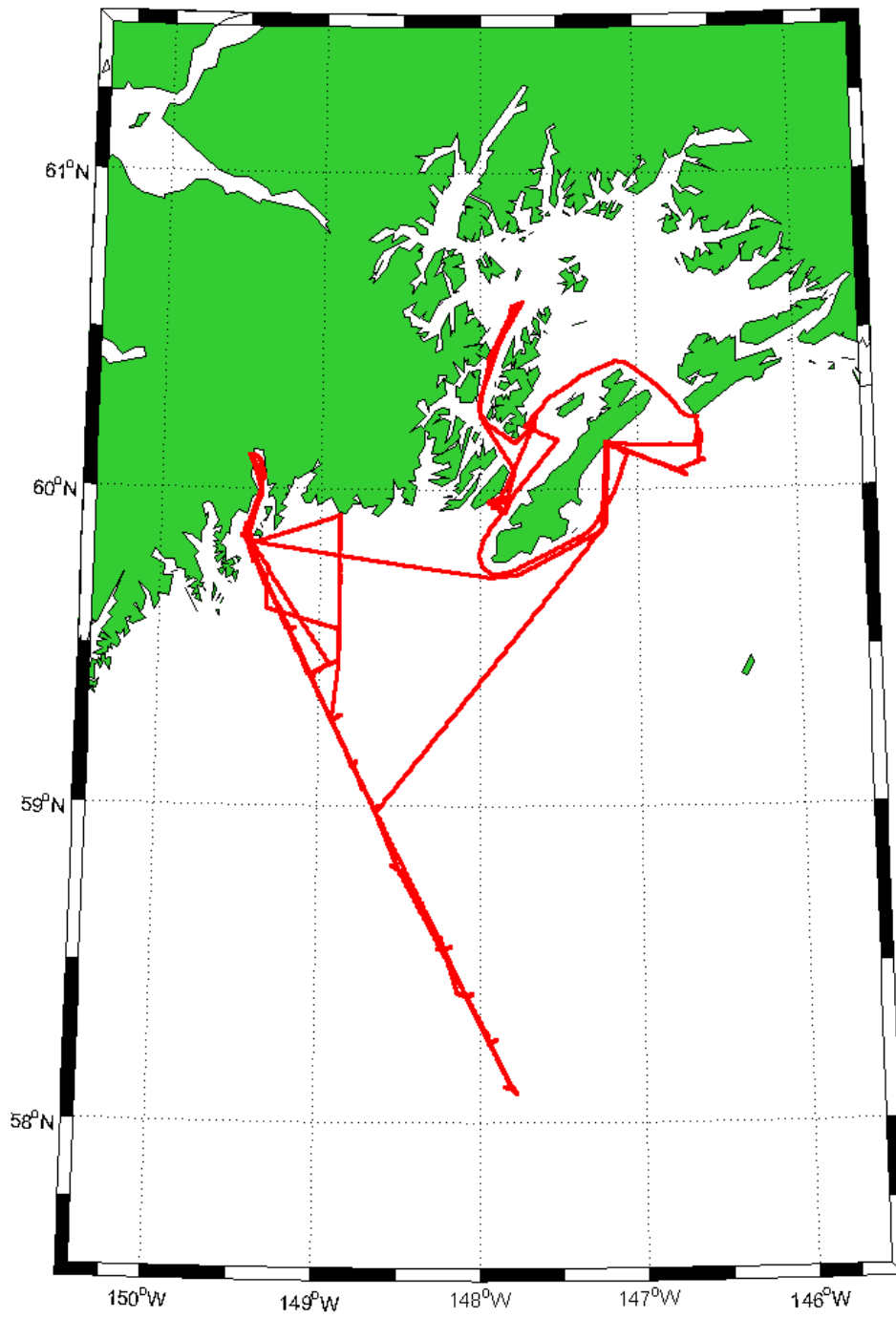
59	31	148	52	CF13
59	29	148	52	CF14
59	27	148	52	CF15
Prince William Sound Stations				
60	22.78	147	56.17	PWS1
60	32.1	147	48.2	PWS2
Knight Island Passage Station				
60	16.7	147	59.2	KIP2
Hogan Bay Line				
60	11.57	147	42	HB1
60	10.754	147	38.5	HB2
60	9.855	147	34.508	HB3
60	8.807	147	30.04	HB4
Montague Strait Line				
59	57.465	147	56.225	MS0i
59	57.257	147	55.602	MS1
59	56.982	147	54.761	MS1i
59	56.6	147	53.7	MS2
59	56.282	147	52.633	MS2i
59	55.9	147	51.4	MS3
59	55.56	147	50.611	MS3i
59	55.2	147	49.7	MS4
Hinchinbrook Entrance Line				
60	13	146	36.5	HE1
60	10.8	146	36.5	HE2
60	7.8	146	36.5	HE3
60	4.8	146	36.5	HE4
60	3.126	146	44.19	HE6.5
60	5.6	146	57.7	HE8
60	6.6	147	3	HE9
60	7.8	147	8	HE10
60	8.6	147	11.5	HE11
Cape Cleare Southeast				
59	44.5	147	49	CCSE1
59	40	147	43.6	CCSE2
59	34.25	147	36.5	CCSE3
59	28.5	147	28.5	CCSE4
59	22.5	147	21	CCSE5
59	14	147	9.5	CCSE6
59	3.5	146	58	CCSE7
58	53	146	44	CCSE8

NEP GLOBEC Standard Station Map

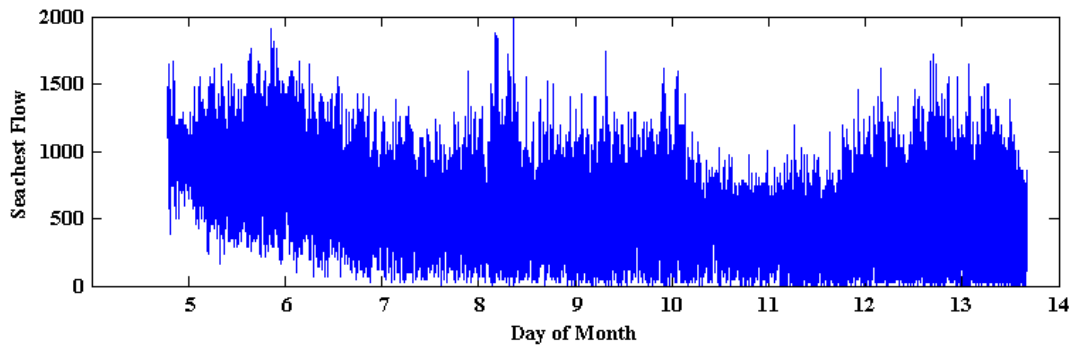
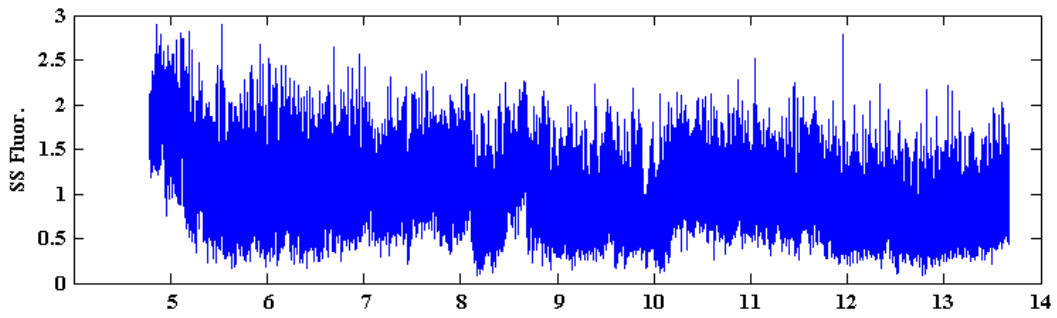
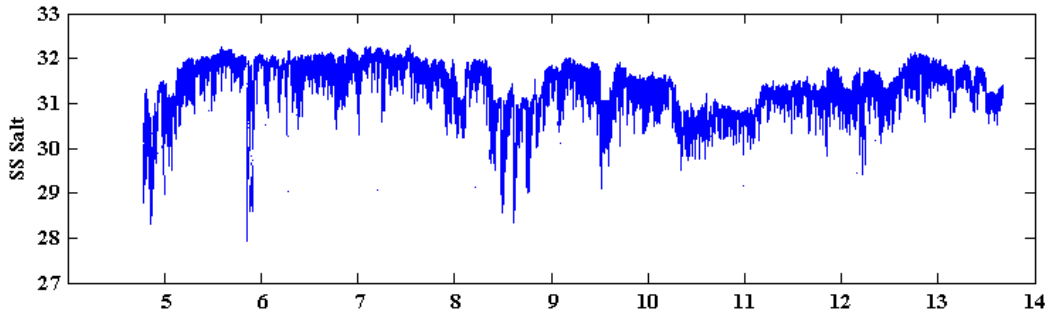
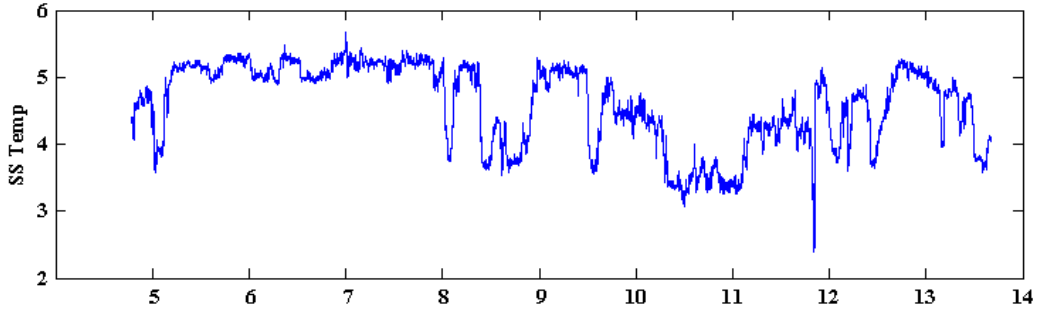


Note: The Cape Cleare Southeast Line is a standard line only in select cruises during the Process Study sampling years.

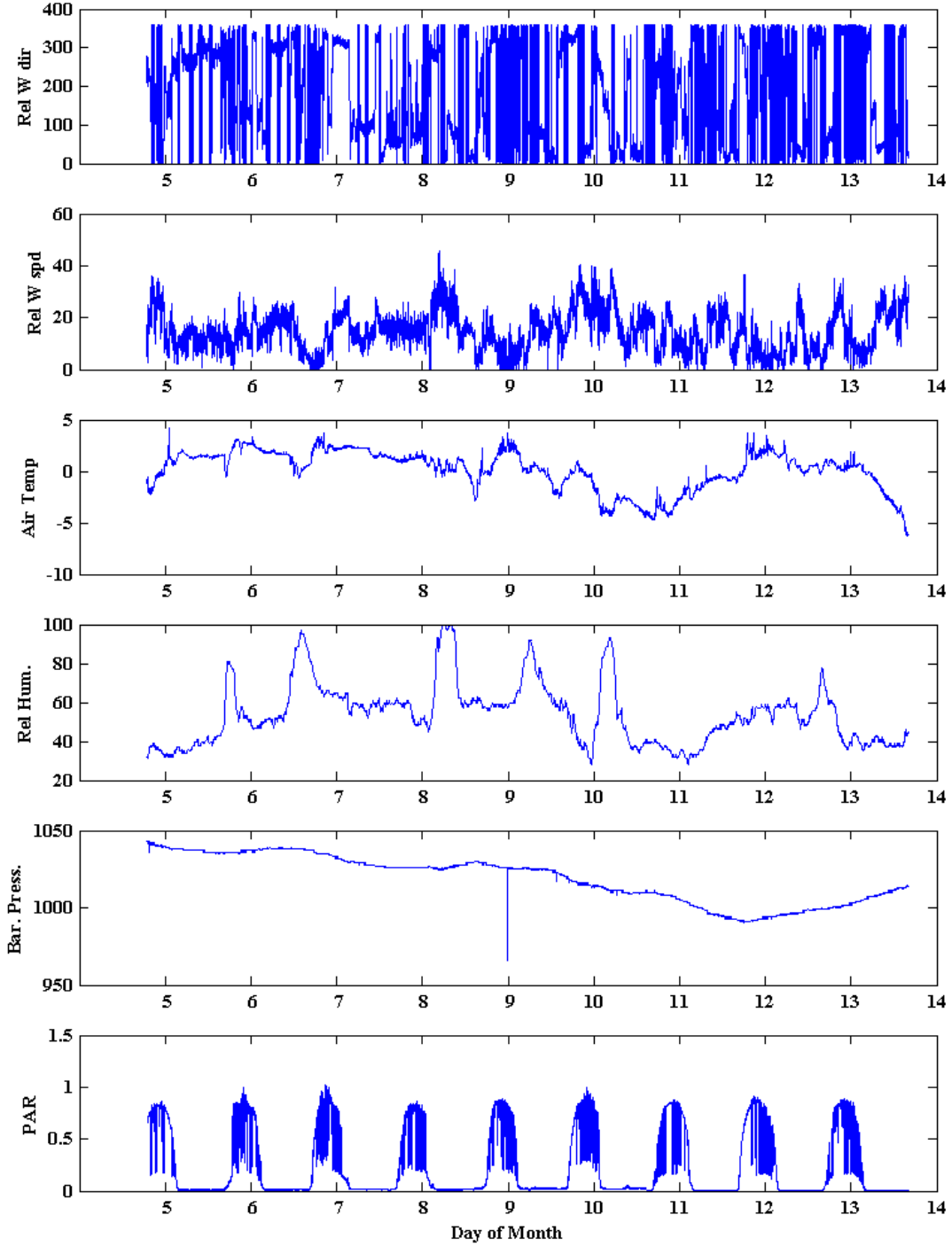
hx254 Cruise Track

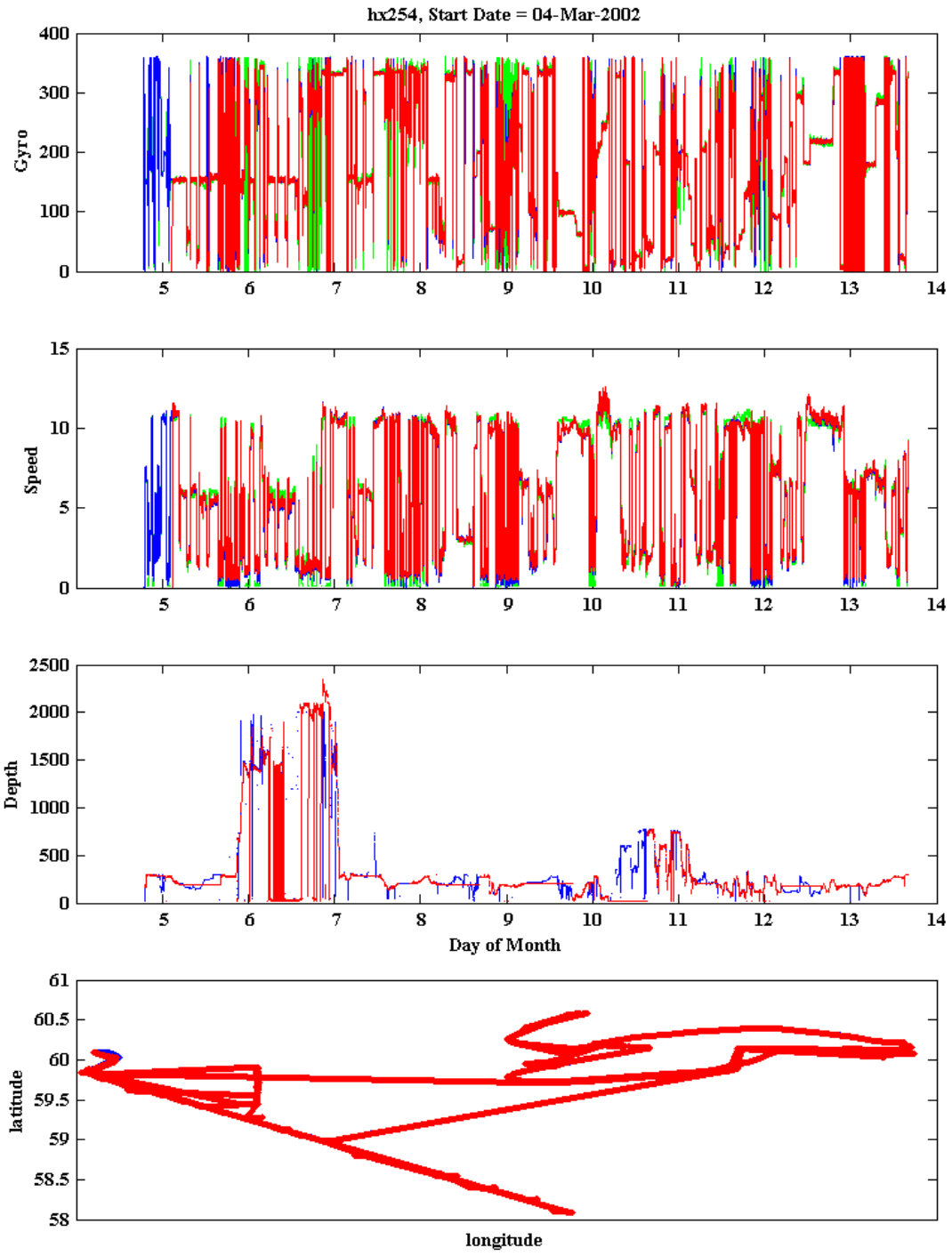


hx254, Start Date = 04-Mar-2002



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Unless otherwise noted, CTDs were taken for T. Weingartner and T. Royer.
Water samples taken for T. Whitledge and D. Stockwell Nutrient and Chlorophyll analysis.
CalVet samples were taken for K. Coyle and R. Hopcroft.
HTI and MOCNESS samples were taken for K. Coyle.
Ring Net samples were taken for R. Hopcroft and K. Coyle.

event	Description	station	Date	GMT	lat	lon	Depth	Scientist	Comments
HX25406302.01	Ring Net Start	RES2.5	3/4/2002	2105	60.0238	-149.3568	294	Hopcroft	
HX25406302.02	Ring Net End	RES2.5	3/4/2002	2105	60.0238	-149.3568	294	Hopcroft	
HX25406302.03	CTD1 Start	RES2.5	3/4/2002	2110	60.0243	-149.3588	294	Weingartner	new termination
HX25406302.04	CTD1 End	RES2.5	3/4/2002	2125	60.0243	-149.3588	294	Weingartner	
HX25406402.01	CTD2 Start	GAK1	3/5/2002	0122	59.8448	-149.4669	272	Weingartner	
HX25406402.02	CTD2 End	GAK1	3/5/2002	0137	59.8432	-149.4659	272	Weingartner	
HX25406402.03	CalVET Net Tow Start	GAK1	3/5/2002	0140	59.8429	-149.4669	272	Hopcroft	
HX25406402.04	CalVET Net Tow End	GAK1	3/5/2002	0147	59.8428	-149.4693	272	Hopcroft	
HX25406402.05	HTI Transect Start	GAK4	3/5/2002	0451	59.4187	-149.5800	200	Coyle	
HX25406402.06	HTI Transect End	GAK5	3/5/2002	0639	59.2616	-148.9082	167	Coyle	
HX25406402.07	MOCNESS Start	GAK5	3/5/2002	0723	59.2727	-148.8689	167	Coyle	
HX25406402.08	MOCNESS End	GAK5	3/5/2002	0738	59.2775	-148.8543	167	Coyle	
HX25406402.09	HTI Transect Start	GAK5	3/5/2002	0759	59.2601	-148.9078	167	Coyle	
HX25406402.10	HTI Transect End	GAK6	3/5/2002	0934	59.1163	-148.7695	145	Coyle	
HX25406402.11	MOCNESS Start	GAK6	3/5/2002	0938	59.1188	-148.7667	145	Coyle	
HX25406402.12	MOCNESS End	GAK6	3/5/2002	1009	59.1310	-148.7557	145	Coyle	
HX25406402.13	HTI Transect Start	GAK6	3/5/2002	1029	59.1152	-148.7695	167	Coyle	
HX25406402.14	HTI Transect End	GAK7	3/5/2002	1215	58.9723	-148.6306	240	Coyle	
HX25406402.15	MOCNESS Start	GAK7	3/5/2002	1218	58.9725	-148.6277	240	Coyle	
HX25406402.16	MOCNESS End	GAK7	3/5/2002	1252	58.9870	-148.6205	240	Coyle	
HX25406402.17	HTI Transect Start	GAK7	3/5/2002	1319	58.9715	-148.6313	244	Coyle	
HX25406402.18	HTI Transect End	GAK8	3/5/2002	1535	58.7918	-148.4881	292	Coyle	
HX25406402.19	CTD3 Start	GAK8	3/5/2002	1540	58.7922	-148.4881	292	Weingartner	
HX25406402.20	CTD3 End	GAK8	3/5/2002	1605	58.7955	-148.4947	292	Weingartner	
HX25406402.21	CalVET Net Tow Start	GAK8	3/5/2002	1605	58.7956	-148.4948	292	Hopcroft	
HX25406402.22	CalVET Net Tow End	GAK8	3/5/2002	1615	58.7976	-148.4969	292	Hopcroft	

HX25406402.23	CTD4 Start	GAK8I	3/5/2002	1645	58.7445	-148.4187	292	Weingartner	
HX25406402.24	CTD4 End	GAK8I	3/5/2002	1709	58.7519	-148.4253	287	Weingartner	
HX25406402.25	CTD5 Start	GAK9	3/5/2002	1747	58.6808	-148.3488	277	Weingartner	
HX25406402.26	CTD5 End	GAK9	3/5/2002	1807	58.6824	-148.3494	277	Weingartner	
HX25406402.27	CalVET Net Tow Start	GAK9	3/5/2002	1816	58.6847	-148.3480	277	Hopcroft	
HX25406402.28	CalVET Net Tow End	GAK9	3/5/2002	1818	58.6848	-148.3479	277	Hopcroft	
HX25406402.29	CTD6 Start	GAK9	3/5/2002	1824	58.6800	-148.3477	277	Stockwell	prim prod cast
HX25406402.30	CTD6 End	GAK9	3/5/2002	1842	58.6810	-148.3470	277	Stockwell	
HX25406402.31	Ring Net Start	GAK9	3/5/2002	1850	58.6821	-148.3450	280	Hopcroft	
HX25406402.32	Ring Net End	GAK9	3/5/2002	1856	58.6824	-148.3446	280	Hopcroft	
HX25406402.33	Ring Net Start	GAK9	3/5/2002	1911	58.6813	-148.3503	277	Hopcroft	
HX25406402.34	Ring Net End	GAK9	3/5/2002	1918	58.6813	-148.3491	277	Hopcroft	
HX25406402.35	CTD7 Start	GAK9	3/5/2002	1922	58.6815	-148.3487	277	Hopcroft	zoop cast 1
HX25406402.36	CTD7 End	GAK9	3/5/2002	1926	58.6817	-148.3482	277	Hopcroft	
HX25406402.37	CTD8 Start	GAK9	3/5/2002	1933	58.6813	-148.3454	277	Hopcroft	zoop cast 2
HX25406402.38	CTD8 End	GAK9	3/5/2002	1937	58.6816	-148.3453	277	Hopcroft	
HX25406402.39	CTD9 Start	GAK9	3/5/2002	1945	58.6823	-148.3448	277	Hopcroft	zoop cast 3
HX25406402.40	CTD9 End	GAK9	3/5/2002	1948	58.6825	-148.3448	277	Hopcroft	
HX25406402.41	CTD10 Start	GAK9	3/5/2002	1959	58.6833	-148.3444	277	Hopcroft	zoop cast 4
HX25406402.42	CTD10 End	GAK9	3/5/2002	2000	58.6834	-148.3445	277	Hopcroft	
HX25406402.43	CTD11 Start	GAK9	3/5/2002	2011	58.6813	-148.3495	277	Hopcroft	zoop cast 5
HX25406402.44	CTD11 End	GAK9	3/5/2002	na	na	na	na	Hopcroft	
HX25406402.45	Ring Net Start	GAK9	3/5/2002	2027	58.6824	-148.3448	277	Hopcroft	
HX25406402.46	Ring Net End	GAK9	3/5/2002	na	na	na	277	Hopcroft	
HX25406402.47	CTD12 Start	GAK9I	3/5/2002	2101	58.6125	-148.2772	668	Weingartner	
HX25406402.48	CTD12 End	GAK9I	3/5/2002	2136	58.6133	-148.2818	668	Weingartner	
HX25406402.49	CTD13 Start	GAK10	3/5/2002	2253	58.5424	-148.2128	1448	Weingartner	
HX25406502.01	CTD13 End	GAK10	3/6/2002	0010	58.5417	-148.2482	1448	Weingartner	
HX25406502.02	CalVET Net Tow Start	GAK10	3/6/2002	0026	58.5412	-148.2159	1448	Hopcroft	
HX25406502.03	CalVET Net Tow End	GAK10	3/6/2002	0034	58.5369	-148.2162	1448	Hopcroft	
HX25406502.04	CTD14 Start	GAK11	3/6/2002	0139	58.3895	-148.0717	1425	Weingartner	
HX25406502.05	CTD14 End	GAK11	3/6/2002	0302	58.3992	-148.1185	1400	Weingartner	
HX25406502.06	CalVET Net Tow Start	GAK11	3/6/2002	0310	58.4012	-148.1217	1400	Hopcroft	
HX25406502.07	CalVET Net Tow End	GAK11	3/6/2002	0317	58.4028	-148.1266	1400	Hopcroft	
HX25406502.08	MOCNESS Start	GAK10	3/6/2002	0458	58.5426	-148.1904	1480	Coyle	
HX25406502.09	MOCNESS End	GAK10	3/6/2002	0523	58.5464	-148.1710	1480	Coyle	
HX25406502.10	HTI Transect Start	GAK10	3/6/2002	0543	58.5354	-148.2070	1480	Coyle	
HX25406502.11	HTI Transect End	GAK11	3/6/2002	0734	58.3894	-148.0698	1480	Coyle	
HX25406502.12	MOCNESS Start	GAK11	3/6/2002	0736	58.3899	-148.0681	1480	Coyle	
HX25406502.13	MOCNESS End	GAK11	3/6/2002	0810	58.3973	-148.0395	1480	Coyle	
HX25406502.14	HTI Transect	GAK11	3/6/2002	0830	58.3832	-148.0666	1480	Coyle	

	Start								
HX25406502.15	HTI Transect End	GAK12	3/6/2002	1021	58.2436	-147.9307	1480	Coyle	
HX25406502.16	MOCNESS Start	GAK12	3/6/2002	1022	58.2438	-147.9297	1480	Coyle	
HX25406502.17	MOCNESS End	GAK12	3/6/2002	1057	58.2516	-147.8965	1480	Coyle	
HX25406502.18	HTI Transect Start	GAK12	3/6/2002	1117	58.2428	-147.9324	1480	Coyle	
HX25406502.19	HTI Transect End	GAK13	3/6/2002	1306	58.0982	-147.7933	2000	Coyle	
HX25406502.20	MOCNESS Start	GAK13	3/6/2002	1312	58.0958	-147.7880	2000	Coyle	
HX25406502.21	MOCNESS End	GAK13	3/6/2002	1350	58.0854	-147.7727	2000	Coyle	
HX25406502.22	MOCNESS Start	GAK13	3/6/2002	1507	58.1027	-147.8165	2000	Hopcroft	deep MOCNESS
HX25406502.23	MOCNESS End	GAK13	3/6/2002	1634	58.0968	-147.7894	2000	Hopcroft	
HX25406502.24	CTD15 Start	GAK13	3/6/2002	1637	58.0983	-147.7948	2000	Weingartner	
HX25406502.25	CTD15 End	GAK13	3/6/2002	1808	58.1011	-147.8130	2000	Weingartner	
HX25406502.26	CalVET Net Tow Start	GAK13	3/6/2002	1815	58.0985	-147.7940	2080	Hopcroft	
HX25406502.27	CalVET Net Tow End	GAK13	3/6/2002	1822	58.0991	-147.7980	2080	Hopcroft	
HX25406502.28	CTD16 Start	GAK13	3/6/2002	1824	58.0993	-147.7991	2080	Stockwell	prim prod cast
HX25406502.29	CTD16 End	GAK13	3/6/2002	1833	58.1001	-147.8052	2080	Stockwell	
HX25406502.30	Ring Net Start	GAK13	3/6/2002	1847	58.1012	-147.8145	2080	Hopcroft	
HX25406502.31	Ring Net End	GAK13	3/6/2002	1853	58.1019	-147.8185	2080	Hopcroft	
HX25406502.32	CTD17 Start	GAK13	3/6/2002	1912	58.1007	-147.7936	2080	Hopcroft	zoop cast 1
HX25406502.33	CTD17 End	GAK13	3/6/2002	na	na	na	na	Hopcroft	
HX25406502.34	CTD18 Start	GAK13	3/6/2002	1924	58.1027	-147.8006	2080	Hopcroft	zoop cast 2
HX25406502.35	CTD18 End	GAK13	3/6/2002	na	na	na	na	Hopcroft	
HX25406502.36	CTD19 Start	GAK13	3/6/2002	1934	58.1041	-147.8066	2080	Hopcroft	zoop cast 3
HX25406502.37	CTD19 End	GAK13	3/6/2002	na	na	na	na	Hopcroft	
HX25406502.38	CTD20 Start	GAK13	3/6/2002	1944	58.1051	-147.8130	2080	Hopcroft	zoop cast 4
HX25406502.39	CTD20 End	GAK13	3/6/2002	na	na	na	na	Hopcroft	
HX25406502.40	CTD21 Start	GAK13	3/6/2002	1953	58.1061	-147.8181	2080	Hopcroft	zoop cast 5
HX25406502.41	CTD21 End	GAK13	3/6/2002	na	na	na	na	Hopcroft	
HX25406502.42	Ring Net Start	GAK13	3/6/2002	2016	58.0986	-147.7947	2080	Hopcroft	
HX25406502.43	Ring Net End	GAK13	3/6/2002	2024	58.0998	-147.7977	2080	Hopcroft	
HX25406502.44	Ring Net Start	GAK13	3/6/2002	2029	58.0999	-147.7979	2080	Hopcroft	
HX25406502.45	Ring Net End	GAK13	3/6/2002	2035	58.0998	-147.7980	2070	Hopcroft	
HX25406502.46	CTD22 Start	GAK12	3/6/2002	2130	58.2443	-147.9364	2160	Weingartner	
HX25406502.47	CTD22 End	GAK12	3/6/2002	2245	58.2592	-147.9382	2160	Weingartner	
HX25406502.48	Ring Net Start	GAK12	3/6/2002	2246	58.2595	-147.9381	2023	Hopcroft	
HX25406502.49	Ring Net End	GAK12	3/6/2002	na	na	na	na	Hopcroft	
HX25406602.01	CalVET Net Tow Start	GAK7	3/7/2002	0331	58.9718	-148.6302	243	Hopcroft	
HX25406602.02	CalVET Net Tow End	GAK7	3/7/2002	0338	58.9726	-148.6308	243	Hopcroft	
HX25406602.03	CTD23 Start	GAK7	3/7/2002	0340	58.9735	-148.6324	243	Weingartner	
HX25406602.04	CTD23 End	GAK7	3/7/2002	0410	58.9735	-148.6324	243	Weingartner	

HX25406602.05	CTD24 Start	GAK7I	3/7/2002	0444	58.8820	-148.5600	304	Weingartner	
HX25406602.06	CTD24 End	GAK7I	3/7/2002	0502	58.8845	-148.5594	304	Weingartner	
HX25406602.07	MOCNESS Start	GAK8	3/7/2002	0548	58.7927	-148.4888	291	Coyle	
HX25406602.08	MOCNESS End	GAK8	3/7/2002	0625	58.8056	-148.5292	291	Coyle	
HX25406602.09	HTI Transect Start	GAK8	3/7/2002	0644	58.7904	-148.4888	291	Coyle	
HX25406602.10	HTI Transect End	GAK9	3/7/2002	0803	58.6804	-148.3504	278	Coyle	
HX25406602.11	MOCNESS Start	GAK9	3/7/2002	0806	58.6810	-148.3496	278	Coyle	
HX25406602.12	MOCNESS End	GAK9	3/7/2002	0839	58.6878	-148.3767	278	Coyle	
HX25406602.13	HTI Transect Start	GAK9	3/7/2002	0856	58.6799	-148.3492	278	Coyle	
HX25406602.14	HTI Transect End	GAK10	3/7/2002	1034	58.5403	-148.2105	278	Coyle	
HX25406602.15	CTD25 Start	GAK6I	3/7/2002	1403	59.0458	-148.7037	191	Weingartner	
HX25406602.16	CTD25 End	GAK6I	3/7/2002	1418	59.0453	-148.7124	191	Weingartner	
HX25406602.17	CTD26 Start	GAK6	3/7/2002	1453	59.1168	-148.7702	156	Weingartner	
HX25406602.18	CTD26 End	GAK6	3/7/2002	1505	59.1166	-148.7751	156	Weingartner	
HX25406602.19	CalVET Net Tow Start	GAK6	3/7/2002	1516	59.1185	-148.7796	151	Hopcroft	
HX25406602.20	CalVET Net Tow End	GAK6	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.21	CTD27 Start	GAK5I	3/7/2002	1551	59.1903	-148.8386	167	Weingartner	
HX25406602.22	CTD27 End	GAK5I	3/7/2002	1603	59.1903	-148.8421	167	Weingartner	
HX25406602.23	CTD28 Start	GAK5	3/7/2002	1635	59.2618	-148.9079	167	Weingartner	
HX25406602.24	CTD28 End	GAK5	3/7/2002	1647	59.2605	-148.9104	167	Weingartner	
HX25406602.25	CalVET Net Tow Start	GAK5	3/7/2002	1653	59.2608	-148.9107	167	Weingartner	
HX25406602.26	CalVET Net Tow End	GAK5	3/7/2002	na	na	na	na	Weingartner	
HX25406602.27	CTD29 Start	GAK4I	3/7/2002	1728	59.3355	-148.9793	195	Weingartner	
HX25406602.28	CTD29 End	GAK4I	3/7/2002	1742	59.3370	-148.9859	195	Weingartner	
HX25406602.29	CTD30 Start	GAK4	3/7/2002	1814	59.4088	-149.0515	201	Weingartner	
HX25406602.30	CTD30 End	GAK4	3/7/2002	1828	59.4085	-149.0582	201	Weingartner	
HX25406602.31	CalVET Net Tow Start	GAK4	3/7/2002	1833	59.4093	-149.0585	201	Hopcroft	
HX25406602.32	CalVET Net Tow End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.33	CTD31 Start	GAK4	3/7/2002	1845	59.4090	-149.0482	201	Stockwell	prim prod cast
HX25406602.34	CTD31 End	GAK4	3/7/2002	1856	59.4082	-149.0530	201	Stockwell	
HX25406602.35	Ring Net Start	GAK4	3/7/2002	1857	59.4085	-149.0533	201	Hopcroft	
HX25406602.36	Ring Net End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.37	CTD32 Start	GAK4	3/7/2002	1918	59.4093	-149.0497	201	Stockwell	prim prod cast
HX25406602.38	CTD32 End	GAK4	3/7/2002	na	na	na	na	Stockwell	
HX25406602.39	CTD33 Start	GAK4	3/7/2002	1934	59.4083	-149.0513	201	Hopcroft	zoop cast 1
HX25406602.40	CTD33 End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.41	CTD34 Start	GAK4	3/7/2002	1942	59.4084	-149.0547	201	Hopcroft	zoop cast 2
HX25406602.42	CTD34 End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.43	CTD35 Start	GAK4	3/7/2002	1950	59.4082	-149.0587	201	Hopcroft	zoop cast 3

HX25406602.44	CTD35 End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.45	CTD36 Start	GAK4	3/7/2002	2001	59.4095	-149.0485	201	Hopcroft	zoop cast 4
HX25406602.46	CTD36 End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.47	Ring Net Start	GAK4	3/7/2002	2017	59.4101	-149.0538	201	Hopcroft	
HX25406602.48	Ring Net End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.49	Ring Net Start	GAK4	3/7/2002	2022	59.4101	-149.0539	201	Hopcroft	
HX25406602.50	Ring Net End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.51	Ring Net Start	GAK4	3/7/2002	2027	59.4101	-149.0540	201	Hopcroft	
HX25406602.52	Ring Net End	GAK4	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.53	CTD37 Start	GAK3I	3/7/2002	2113	59.4823	-149.1237	201	Weingartner	
HX25406602.54	CTD37 End	GAK3I	3/7/2002	2130	59.4829	-149.1322	203	Weingartner	
HX25406602.55	CTD38 Start	GAK3	3/7/2002	2202	59.5526	-149.1943	209	Weingartner	
HX25406602.56	CTD38 End	GAK3	3/7/2002	2215	59.5526	-149.1943	210	Weingartner	
HX25406602.57	CalVET Net Tow Start	GAK3	3/7/2002	2219	59.5526	-149.1952	210	Hopcroft	
HX25406602.58	CalVET Net Tow End	GAK3	3/7/2002	na	na	na	na	Hopcroft	
HX25406602.59	CTD39 Start	GAK2I	3/7/2002	2255	59.6272	-149.2598	209	Weingartner	
HX25406602.60	CTD39 End	GAK2I	3/7/2002	2309	59.6285	-149.2643	209	Weingartner	
HX25406602.61	CTD40 Start	GAK2	3/7/2002	2340	59.6914	-149.3277	224	Weingartner	
HX25406602.62	CTD40 End	GAK2	3/7/2002	2353	59.6891	-149.3319	224	Weingartner	
HX25406702.01	CalVET Net Tow Start	GAK2	3/8/2002	0001	59.6884	-149.3346	224	Hopcroft	
HX25406702.02	CalVET Net Tow End	GAK2	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.03	CTD41 Start	GAK1I	3/8/2002	0039	59.7617	-149.4085	152	Weingartner	
HX25406702.04	CTD41 End	GAK1I	3/8/2002	0055	59.7614	-149.4089	265	Weingartner	
HX25406702.05	CTD42 Start	GAK1	3/8/2002	0136	59.8445	-149.4688	275	Weingartner	
HX25406702.06	CTD42 End	GAK1	3/8/2002	0149	59.8440	-149.4685	275	Weingartner	
HX25406702.07	CalVET Net Tow Start	GAK1	3/8/2002	1644	59.8445	-149.4647	272	Hopcroft	
HX25406702.08	CalVET Net Tow End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.09	Ring Net Start	GAK1	3/8/2002	1707	59.8427	-149.4736	272	Hopcroft	
HX25406702.10	Ring Net End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.11	CTD43 Start	GAK1	3/8/2002	1716	59.8453	-149.4683	272	Stockwell	prim prod cast
HX25406702.12	CTD43 End	GAK1	3/8/2002	1726	59.8449	-149.4734	272	Stockwell	
HX25406702.13	CTD44 Start	GAK1	3/8/2002	1733	59.8448	-149.4760	272	Stockwell	prim prod cast
HX25406702.14	CTD44 End	GAK1	3/8/2002	1740	59.8441	-149.4780	272	Stockwell	
HX25406702.15	Ring Net Start	GAK1	3/8/2002	1751	59.8442	-149.4671	272	Hopcroft	
HX25406702.16	Ring Net End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.17	Ring Net Start	GAK1	3/8/2002	1758	59.8432	-149.4694	272	Hopcroft	
HX25406702.18	Ring Net End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.19	CTD45 Start	GAK1	3/8/2002	1815	59.8451	-149.4700	272	Hopcroft	zoop cast 1
HX25406702.20	CTD45 End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.21	CTD46 Start	GAK1	3/8/2002	1823	59.8440	-149.4736	272	Hopcroft	zoop cast 2
HX25406702.22	CTD46 End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.23	CTD47 Start	GAK1	3/8/2002	1832	59.8434	-149.4778	272	Hopcroft	zoop cast 3
HX25406702.24	CTD47 End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.25	Ring Net Start	GAK1	3/8/2002	1845	59.8437	-149.4826	272	Hopcroft	

HX25406702.26	Ring Net End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.27	CTD48 Start	GAK1	3/8/2002	1849	59.8437	-149.4823	272	Hopcroft	zoop cast 4
HX25406702.28	CTD48 End	GAK1	3/8/2002	na	na	na	na	Hopcroft	
HX25406702.29	CTD49 Start	CF1	3/8/2002	2056	59.9091	-148.8663	84	Weingartner	
HX25406702.30	CTD49 End	CF1	3/8/2002	2110	59.9089	-148.8683	84	Weingartner	
HX25406702.31	CTD50 Start	CF2	3/8/2002	2117	59.8834	-148.8656	112	Weingartner	
HX25406702.32	CTD50 End	CF2	3/8/2002	2124	59.8824	-148.8683	112	Weingartner	
HX25406702.33	CTD51 Start	CF3	3/8/2002	2140	59.8503	-148.8648	163	Weingartner	
HX25406702.34	CTD51 End	CF3	3/8/2002	2149	59.8504	-148.8670	163	Weingartner	
HX25406702.35	CTD52 Start	CF4	3/8/2002	2206	59.8168	-148.8657	183	Weingartner	
HX25406702.36	CTD52 End	CF4	3/8/2002	2216	59.8165	-148.8689	183	Weingartner	
HX25406702.37	CTD53 Start	CF5	3/8/2002	2235	59.7832	-148.8661	193	Weingartner	
HX25406702.38	CTD53 End	CF5	3/8/2002	2243	59.7830	-148.8671	193	Weingartner	
HX25406702.39	CTD54 Start	CF6	3/8/2002	2302	59.7514	-148.8644	188	Weingartner	
HX25406702.40	CTD54 End	CF6	3/8/2002	2312	59.7503	-148.8649	188	Weingartner	
HX25406702.41	CTD55 Start	CF7	3/8/2002	2332	59.7162	-148.8639	185	Weingartner	
HX25406702.42	CTD55 End	CF7	3/8/2002	2342	59.7145	-148.8634	181	Weingartner	
HX25406802.01	CTD56 Start	CF8	3/8/2002	0012	59.6833	-148.8646	178	Weingartner	
HX25406802.02	CTD56 End	CF8	3/8/2002	0021	59.6824	-148.8651	178	Weingartner	
HX25406802.03	CTD57 Start	CF9	3/8/2002	0035	59.6501	-148.8651	177	Weingartner	
HX25406802.04	CTD57 End	CF9	3/8/2002	0046	59.6496	-148.8653	177	Weingartner	
HX25406802.05	CTD58 Start	CF10	3/8/2002	0102	59.6167	-148.8651	175	Weingartner	
HX25406802.06	CTD58 End	CF10	3/8/2002	0111	59.6155	-148.8661	175	Weingartner	
HX25406802.07	CTD59 Start	CF11	3/8/2002	0127	59.5838	-148.8651	177	Weingartner	
HX25406802.08	CTD59 End	CF11	3/8/2002	0137	59.5837	-148.8684	177	Weingartner	
HX25406802.09	CTD60 Start	CF12	3/8/2002	0155	59.5501	-148.8686	185	Weingartner	
HX25406802.10	CTD60 End	CF12	3/8/2002	0204	59.5503	-148.8707	185	Weingartner	
HX25406802.11	CTD61 Start	CF13	3/8/2002	0219	59.5166	-148.8686	172	Weingartner	
HX25406802.12	CTD61 End	CF13	3/8/2002	0230	59.5167	-148.8713	172	Weingartner	
HX25406802.13	CTD62 Start	CF14	3/8/2002	0246	59.4835	-148.8689	172	Weingartner	
HX25406802.14	CTD62 End	CF14	3/8/2002	0257	59.4842	-148.8723	172	Weingartner	
HX25406802.15	CTD63 Start	CF15	3/8/2002	0313	59.4500	-148.8665	181	Weingartner	
HX25406802.16	CTD63 End	CF15	3/8/2002	0326	59.4514	-148.8689	181	Weingartner	
HX25406802.17	HTI Transect Start	GAK4	3/8/2002	0443	59.4088	-149.0489	200	Coyle	
HX25406802.18	HTI Transect End	GAK3	3/8/2002	0612	59.5535	-149.1885	214	Coyle	
HX25406802.19	MOCNESS Start	GAK3	3/8/2002	0747	59.5518	-149.1781	214	Coyle	
HX25406802.20	MOCNESS End	GAK3	3/9/2002	0826	59.5544	-149.1503	214	Coyle	
HX25406802.21	HTI Transect Start	GAK3	3/9/2002	0843	59.5532	-149.1885	214	Coyle	
HX25406802.22	HTI Transect End	GAK2	3/9/2002	1016	59.6916	-149.3265	226	Coyle	
HX25406802.23	MOCNESS Start	GAK2	3/9/2002	1019	59.6945	-149.3270	226	Coyle	
HX25406802.24	MOCNESS End	GAK2	3/9/2002	1057	59.7149	-149.3280	226	Coyle	
HX25406802.25	HTI Transect Start	GAK2	3/9/2002	1119	59.6927	-149.3288	226	Coyle	
HX25406802.26	HTI Transect	GAK1	3/9/2002	1301	59.8476	-149.4665	270	Coyle	

	End								
HX25406802.27	MOCNESS Start	GAK1	3/9/2002	1305	59.8499	-149.4658	270	Coyle	
HX25406802.28	MOCNESS End	GAK1	3/9/2002	1339	59.8661	-149.4644	270	Coyle	
HX25406802.29	CTD64 Start	HE11	3/9/2002	2310	60.1428	-147.1912	179	Weingartner	
HX25406802.30	CTD64 End	HE11	3/9/2002	2319	60.1425	-147.1973	111	Weingartner	
HX25406802.31	CTD65 Start	HE10	3/9/2002	2338	60.1299	-147.1334	217	Weingartner	
HX25406802.32	CTD65 End	HE10	3/9/2002	2353	60.1285	-147.1460	217	Weingartner	
HX25406902.01	CalVET Net Tow Start	HE10	3/10/2002	0002	60.1275	-147.1519	217	Hopcroft	
HX25406902.02	CalVET Net Tow End	HE10	3/10/2002	na	na	na	na	Hopcroft	
HX25406902.03	CTD66 Start	HE9	3/10/2002	0030	60.1106	-147.0506	277	Weingartner	
HX25406902.04	CTD66 End	HE9	3/10/2002	0048	60.1077	-147.0627	269	Weingartner	End line - vessel icing
HX25406902.05	MOCNESS Start	KIP2	3/10/2002	0917	60.2605	-147.9917	600	Coyle	
HX25406902.06	MOCNESS End	KIP2	3/10/2002	0957	60.1077	-147.0627	600	Coyle	
HX25406902.07	MOCNESS Start	PWS1	3/10/2002	1104	60.3967	-147.9363	600	Coyle	
HX25406902.08	MOCNESS End	PWS1	3/10/2002	1144	60.1077	-147.0627	600	Coyle	
HX25406902.09	MOCNESS Start	PWS2	3/10/2002	1314	60.5658	-147.7868	600	Coyle	
HX25406902.10	MOCNESS End	PWS2	3/10/2002	1354	60.1077	-147.0627	600	Coyle	
HX25406902.11	MOCNESS Start	PWS2	3/10/2002	1522	60.1077	-147.0627	740	Hopcroft	deep MOCNESS
HX25406902.12	MOCNESS End	PWS2	3/10/2002	1645	60.5794	-147.7243	740	Hopcroft	
HX25406902.13	CTD67 Start	KIP2	3/10/2002	1851	60.2774	-147.9890	565	Stockwell	prim prod cast
HX25406902.14	CTD67 End	KIP2	3/10/2002	1904	60.2741	-147.9890	565	Stockwell	
HX25406902.15	CTD68 Start	KIP2	3/10/2002	1911	60.2783	-147.9883	565	Stockwell	redo prod cast
HX25406902.16	CTD68 End	KIP2	3/10/2002	1919	60.2769	-147.9881	590	Stockwell	
HX25406902.17	CalVET Net Tow Start	KIP2	3/10/2002	1926	60.2770	-147.9897	590	Hopcroft	
HX25406902.18	CalVET Net Tow End	KIP2	3/10/2002	na	na	na	na	Hopcroft	
HX25406902.19	CTD69 Start	KIP2	3/10/2002	1946	60.2782	-147.9859	600	Weingartner	
HX25406902.20	CTD69 End	KIP2	3/10/2002	2013	60.2733	-147.9901	600	Weingartner	
HX25406902.21	CTD70 Start	PWS2	3/10/2002	2155	60.5359	-147.8042	741	Weingartner	
HX25406902.22	CTD70 End	PWS2	3/10/2002	2223	60.5360	-147.8038	741	Weingartner	
HX25406902.23	CTD71 Start	PWS2	3/10/2002	2244	60.5352	-147.8017	741	Hopcroft	zoop cast 1
HX25406902.24	CTD71 End	PWS2	3/10/2002	na	na	na	na	Hopcroft	
HX25406902.25	CTD72 Start	PWS2	3/10/2002	2257	60.5350	-147.7985	741	Hopcroft	zoop cast 2
HX25406902.26	CTD72 End	PWS2	3/10/2002	na	na	na	na	Hopcroft	
HX25406902.27	CTD73 Start	PWS2	3/10/2002	2306	60.5350	-147.8035	741	Hopcroft	zoop cast 3
HX25406902.28	CTD73 End	PWS2	3/10/2002	na	na	na	na	Hopcroft	
HX25406902.29	CTD74 Start	PWS2	3/10/2002	2313	60.5344	-147.8039	741	Hopcroft	zoop cast 4
HX25406902.30	CTD74 End	PWS2	3/10/2002	na	na	na	na	Hopcroft	
HX25406902.31	CalVET Net Tow Start	PWS2	3/10/2002	2321	60.5346	-147.8024	741	Hopcroft	

HX25406902.32	CalVET Net Tow End	PWS2	3/10/2002	na	na	na	na	Hopcroft	
HX25406902.33	Ring Net Start	PWS2	3/10/2002	2348	60.5332	-147.8026	741	Hopcroft	
HX25406902.34	Ring Net End	PWS2	3/10/2002	na	na	na	na	Hopcroft	
HX25406902.35	Ring Net Start	PWS2	3/10/2002	2357	60.5326	-147.8029	741	Hopcroft	
HX25407002.01	Ring Net End	PWS2	3/11/2002	na	na	na	na	Hopcroft	
HX25407002.02	Ring Net Start	PWS2	3/11/2002	0005	60.5319	-147.8032	741	Hopcroft	
HX25407002.03	Ring Net End	PWS2	3/11/2002	na	na	na	na	Hopcroft	
HX25407002.04	Ring Net Start	PWS2	3/11/2002	0014	60.5308	-147.8036	741	Hopcroft	
HX25407002.05	Ring Net End	PWS2	3/11/2002	na	na	na	na	Hopcroft	
HX25407002.06	CalVET Net Tow Start	PWS1	3/11/2002	0130	60.3787	-147.9349	329	Hopcroft	
HX25407002.07	CalVET Net Tow End	PWS1	3/11/2002	na	na	na	na	Hopcroft	
HX25407002.08	CTD75 Start	PWS1	3/11/2002	0139	60.3773	-147.9354	329	Weingartner	
HX25407002.09	CTD75 End	PWS1	3/11/2002	0149	60.3753	-147.9331	329	Weingartner	
HX25407002.10	MOCNESS Start	HB2	3/11/2002	0503	60.1802	-147.6472	202	Coyle	
HX25407002.11	MOCNESS End	HB2	3/11/2002	0539	60.1969	-147.6427	202	Coyle	
HX25407002.12	MOCNESS Start	MS2	3/11/2002	0854	59.9453	-147.8906	200	Coyle	Aborted?
HX25407002.13	MOCNESS End	MS2	3/11/2002	na	na	na	200	Coyle	
HX25407002.14	MOCNESS Start	MS2	3/11/2002	0938	59.9543	-147.8457	200	Coyle	
HX25407002.15	MOCNESS End	MS2	3/11/2002	0954	59.9608	-147.8286	200	Coyle	
HX25407002.16	CTD76 Start	MS1	3/11/2002	1040	59.9538	-147.9294	167	Weingartner	
HX25407002.17	CTD76 End	MS1	3/11/2002	1053	59.9503	-147.9363	167	Weingartner	
HX25407002.18	CalVET Net Tow Start	MS2	3/11/2002	1110	59.9423	-147.8954	194	Coyle	
HX25407002.19	CalVET Net Tow End	MS2	3/11/2002	na	na	na	na	Coyle	
HX25407002.20	CTD77 Start	MS2	3/11/2002	1121	59.9419	-147.8983	194	Weingartner	
HX25407002.21	CTD77 End	MS2	3/11/2002	1135	59.9360	-147.9074	182	Weingartner	
HX25407002.22	CTD78 Start	MS3	3/11/2002	1151	59.9320	-147.8585	171	Weingartner	
HX25407002.23	CTD78 End	MS3	3/11/2002	1205	59.9274	-147.8672	171	Weingartner	
HX25407002.24	CTD79 Start	MS4	3/11/2002	1219	59.9204	-147.8292	112	Weingartner	
HX25407002.25	CTD79 End	MS4	3/11/2002	na	na	na	112	Weingartner	
HX25407002.26	CTD80 Start	HB4	3/11/2002	1420	60.1477	-147.5018	107	Weingartner	
HX25407002.27	CTD80 End	HB4	3/11/2002	1426	60.1478	-147.5029	107	Weingartner	
HX25407002.28	CTD81 Start	HB3	3/11/2002	1446	60.1646	-147.5752	83	Weingartner	
HX25407002.29	CTD81 End	HB3	3/11/2002	na	na	na	83	Weingartner	
HX25407002.30	CTD82 Start	HB2	3/11/2002	1511	60.1792	-147.6442	175	Weingartner	
HX25407002.31	CTD82 End	HB2	3/11/2002	1522	60.1794	-147.6469	175	Weingartner	
HX25407002.32	CalVET Net Tow Start	HB2	3/11/2002	1526	60.1794	-147.6469	175	Hopcroft	
HX25407002.33	CalVET Net Tow End	HB2	3/11/2002	1526	60.1794	-147.6469	175	Hopcroft	
HX25407002.34	CTD83 Start	HB1	3/11/2002	1546	60.1924	-147.7001	245	Weingartner	
HX25407002.35	CTD83 End	HB1	3/11/2002	1601	60.1908	-147.7030	245	Weingartner	
HX25407002.36	CTD84 Start	HE1	3/11/2002	2013	60.2165	-146.6122	85	Weingartner	
HX25407002.37	CTD84 End	HE1	3/11/2002	na	na	na	85	Weingartner	

HX25407002.38	CTD85 Start	HE2	3/11/2002	2031	60.1799	-146.6075	197	Weingartner	
HX25407002.39	CTD85 End	HE2	3/11/2002	2044	60.1800	-146.6088	197	Weingartner	
HX25407002.40	CalVET Net Tow Start	HE2	3/11/2002	2045	60.1799	-146.6088	197	Hopcroft	
HX25407002.41	CalVET Net Tow End	HE2	3/11/2002	na	na	na	na	Hopcroft	
HX25407002.42	CTD86 Start	HE3	3/11/2002	2113	60.1295	-146.6076	118	Weingartner	
HX25407002.43	CTD86 End	HE3	3/11/2002	2121	60.1289	-146.6075	118	Weingartner	
HX25407002.44	CalVET Net Tow Start	HE3	3/11/2002	2142	60.0966	-146.6079	118	Hopcroft	
HX25407002.45	CalVET Net Tow End	HE3	3/11/2002	na	na	na	na	Hopcroft	
HX25407002.46	CTD87 Start	HE4	3/11/2002	2151	60.0788	-146.6073	118	Weingartner	
HX25407002.47	CTD87 End	HE4	3/11/2002	2158	60.0781	-146.6049	118	Weingartner	
HX25407002.48	CalVET Net Tow Start	HE4	3/11/2002	2204	60.0781	-146.6049	118	Hopcroft	
HX25407002.49	CalVET Net Tow End	HE4	3/11/2002	na	na	na	na	Hopcroft	
HX25407002.50	CTD88 Start	HE6.5	3/11/2002	2236	60.0512	-146.7371	127	Weingartner	
HX25407002.51	CTD88 End	HE6.5	3/11/2002	2245	60.0513	-146.7393	127	Weingartner	
HX25407002.52	CalVET Net Tow Start	HE6.5	3/11/2002	2248	60.0511	-146.7396	127	Hopcroft	
HX25407002.53	CalVET Net Tow End	HE6.5	3/11/2002	na	na	na	na	Hopcroft	
HX25407002.54	CTD89 Start	HE8	3/11/2002	2339	60.0935	-146.9624	148	Weingartner	
HX25407002.55	CTD89 End	HE8	3/11/2002	2350	60.0938	-146.9639	148	Weingartner	
HX25407102.01	CTD90 Start	HE9	3/11/2002	0019	60.1042	-147.0589	277	Weingartner	
HX25407102.02	CTD90 End	HE9	3/12/2002	0029	60.1018	-147.0639	277	Weingartner	
HX25407102.03	CTD91 Start	HE10	3/12/2002	0051	60.1306	-147.1356	215	Weingartner	
HX25407102.04	CTD91 End	HE10	3/12/2002	0105	60.1279	-147.1363	215	Weingartner	
HX25407102.05	CTD92 Start	HE10	3/12/2002	0106	60.1278	-147.1364	215	Weingartner	redo Of CTD91
HX25407102.06	CTD92 End	HE10	3/12/2002	0120	60.1244	-147.1371	215	Weingartner	buffer overflow
HX25407102.07	CalVET Net Tow Start	HE10	3/12/2002	0127	60.1289	-147.1328	215	Hopcroft	
HX25407102.08	CalVET Net Tow End	HE10	3/12/2002	na	na	na	na	Hopcroft	
HX25407102.09	CTD93 Start	HE11	3/12/2002	0147	60.1425	-147.1883	179	Weingartner	
HX25407102.10	CTD93 End	HE11	3/12/2002	0201	60.1421	-147.1880	179	Weingartner	
HX25407102.11	MOCNESS Start	HE2	3/12/2002	0446	60.1773	-146.6077	179	Coyle	
HX25407102.12	MOCNESS End	HE2	3/12/2002	0521	60.1603	-146.5891	179	Coyle	
HX25407102.13	MOCNESS Start	HE4	3/12/2002	0610	60.0839	-146.6049	116	Coyle	
HX25407102.14	MOCNESS End	HE4	3/12/2002	0645	60.0810	-146.5790	116	Coyle	
HX25407102.15	MOCNESS Start	HE6.5	3/12/2002	0743	60.0509	-146.7326	124	Coyle	
HX25407102.16	MOCNESS End	HE6.5	3/12/2002	0835	60.0352	-146.6890	124	Coyle	
HX25407102.17	MOCNESS Start	HE11	3/12/2002	1022	60.1313	-147.1412	219	Coyle	
HX25407102.18	MOCNESS End	HE11	3/12/2002	1054	60.1384	-147.1696	219	Coyle	

HX25407102.19	CTD94 Start	CF15	3/12/2002	2210	59.4511	-148.8685	187	Weingartner
HX25407102.20	CTD94 End	CF15	3/12/2002	2219	59.4520	-148.8682	187	Weingartner
HX25407102.21	CTD95 Start	CF13	3/12/2002	2257	59.5174	-148.8682	175	Weingartner
HX25407102.22	CTD95 End	CF13	3/12/2002	2305	59.5164	-148.8679	175	Weingartner
HX25407102.23	CTD96 Start	CF11	3/12/2002	2347	59.5831	-148.8683	179	Weingartner
HX25407102.24	CTD96 End	CF11	3/12/2002	2356	59.5825	-148.8668	179	Weingartner
HX25407202.01	CTD97 Start	CF9	3/13/2002	0040	59.6506	-148.8688	178	Weingartner
HX25407202.02	CTD97 End	CF9	3/13/2002	na	na	na	178	Weingartner
HX25407202.03	CTD98 Start	CF7	3/13/2002	0129	59.7176	-148.8671	182	Weingartner
HX25407202.04	CTD98 End	CF7	3/13/2002	0138	59.7183	-148.8675	182	Weingartner
HX25407202.05	CTD99 Start	CF5	3/13/2002	0220	59.7837	-148.8667	193	Weingartner
HX25407202.06	CTD99 End	CF5	3/13/2002	0230	59.7837	-148.8667	193	Weingartner
HX25407202.07	CTD100 Start	CF3	3/13/2002	0309	59.8503	-148.8678	171	Weingartner
HX25407202.08	CTD100 End	CF3	3/13/2002	0319	59.8511	-148.8695	160	Weingartner
HX25407202.09	CTD101 Start	CF1	3/13/2002	0351	59.9088	-148.8682	84	Weingartner
HX25407202.10	CTD101 End	CF1	3/13/2002	0403	59.9097	-148.8733	81	Weingartner
HX25407202.11	Cape Fairfield Line ADCP Transect Start	CF1	3/13/2002	na	na	na	na	Weingartner
HX25407202.12	Cape Fairfield Line ADCP Transect End	CF12	3/13/2002	na	na	na	na	Weingartner
HX25407202.13	MOCNESS Start	GAK2	3/13/2002	1006	59.6986	-149.3268	230	Hopcroft
HX25407202.14	MOCNESS End	GAK2	3/13/2002	1039	59.7127	-149.3362	230	Hopcroft
HX25407202.15	MOCNESS Start	GAK2	3/13/2002	1043	59.7141	-149.3396	230	Hopcroft
HX25407202.16	MOCNESS End	GAK2	3/13/2002	1101	59.7570	-149.3814	230	Hopcroft
HX25407202.17	CTD102 Start	GAK1	3/13/2002	1253	59.8422	-149.4711	271	Weingartner
HX25407202.18	CTD102 End	GAK1	3/13/2002	1301	59.8406	-149.4722	271	Weingartner
HX25407202.19	CTD103 Start	GAK1	3/13/2002	1316	59.8447	-149.4691	272	Weingartner
HX25407202.20	CTD103 End	GAK1	3/13/2002	1327	59.8425	-149.4703	272	Weingartner
HX25407202.21	CTD104 Start	RES2.5	3/13/2002	1533	60.0248	-149.3600	295	Weingartner
HX25407202.22	CTD104 End	RES2.5	3/13/2002	1551	60.0220	-149.3579	295	Weingartner