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THE “OSHORO MARU” CRUISE 189 TO THE NORTHWEST PACIFIC OCEAN

IN MAY 2008

1. Cruise Itinerary

Cruise 189			
Departure from Hakodate	May	7	, 2008
Start hydrographic research (OS08043)		8	
Start Gillnet research (OSG0801)		10	
Finish Gillnet research (OSG0804)		16	
Finish hydrographic research (OS08052)		18	
Return to Hakodate		20	
Total coverage 1941.1 miles			

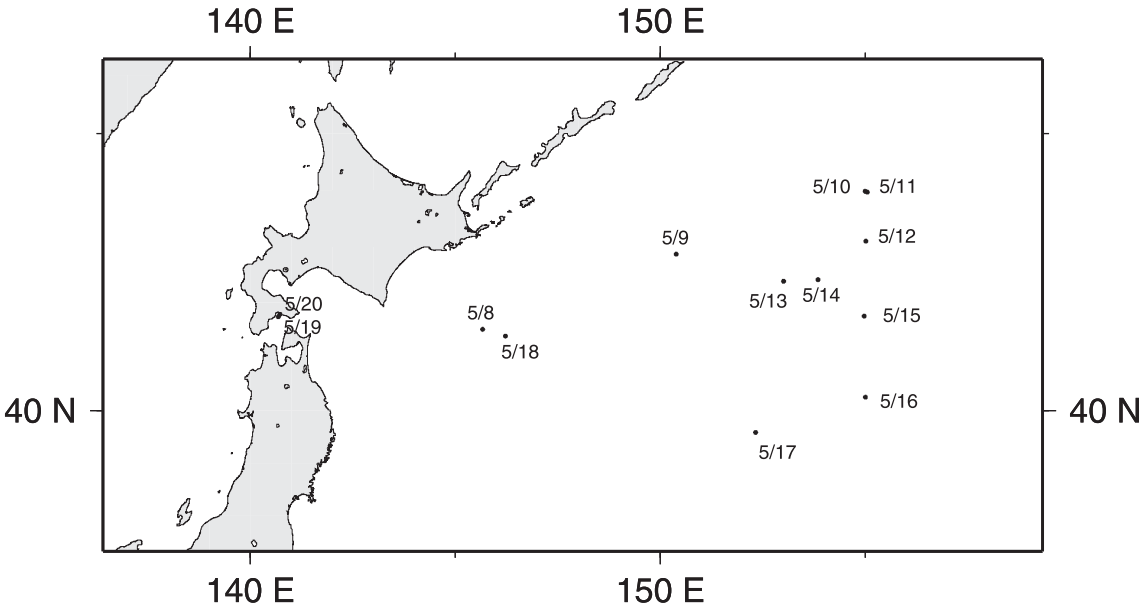

Figure 1: Noon position

2. Vessel Personnel

Captain:		Professor	Toshimi Meguro
Crew :	Chief Officer	Associated Professor	Yoshiyuki Kajiwara
	First Officer	Associated Professor	Shogo Takagi
	Second Officer	Instructor	Yoshihiko Kamei
	Jr. Second Officer	Instructor	Keiichiro Sakaoka
	Chief Engineer	Instructor	Junichi Kimura
	And 26 men		

Cruise 189

Research Staff:	Associate Professor	(Laboratory of Strategic Studies on Marine Bioresource Conservation and Management) Hideaki Kudo
	Associate Professor	(Laboratory of Marine and Atmospheric Geochemistry, Graduate School of Environmental Earth Science) Yutaka Watanabe
Guest Staff:	Scientist	(Japan Atomic energy research institute) Shigeyosi Otosaka

Teaching Assistant:	1 persons
Graduate Students:	2 persons
Under Graduate Students:	8 persons

Total 46 persons

3. Items of Research

Hydrographic observation by CTD, XCTD, XBT and:	Fig. 2	Table 1, 2
Biological research for fishes caught by non-selective drift gillnets:	Fig. 3	Table 3-8
Data on plankton collected by vertical hauls with a twin NORPAC-net:	Fig. 2	Table 9, 10

Plankton samplings by NORPAC-net, Closing-net,

Studies on life history of dominant zooplankton at Site H off Kushiro

Study on food habit of pink salmon in North Pacific

Studies on biogeochemical cycles in the northern north Pacific

Study for the change in biogenic fluxes in the settling particle

Comparative study on relationship between long-term climate change and feeding ecology and trophic dynamics of Oncorhyncus spp. In the North Pacific

4. Data on Temperature, Salinity, and Computed Dynamic Depth Anomaly

Hydrographic work on deck and the data processing were made by the deck officers, crews, research staff and cadets of the “Oshoro Maru”.

Temperature and salinity were measured by CTD (Seabird SBE9Plus and SBE-19).

Dynamic computations were made using a desk-top computer aboard the “Oshoro Maru”.

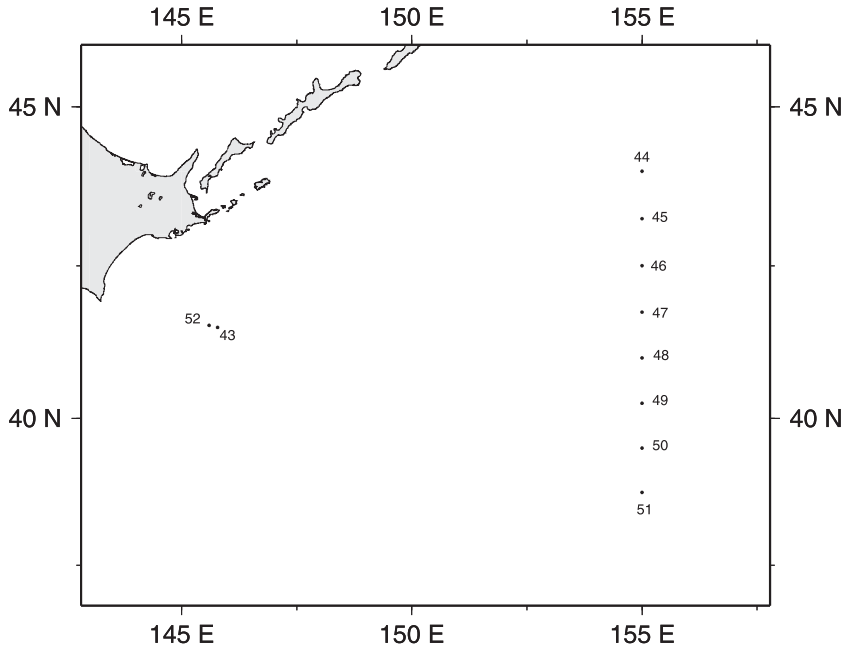

Figure 2: Oceanographic stations

Table 1: List of Oceanographic Stations

Station	Lat.(*)	Long.(*)	Date	S.M.T	T.Z.	Depth	COL.	TR.	S.S.T.	WR.	Remark
OS08043	41-30.0N	145-47.0E	5/8	1239	9	6905	6	4.4	8.1	bc	SBE-9plus
OS08044	44-00.0N	155-00.0E	5/10	1105	10	5298	4	13.9	5.4	o	SBE-9plus
OS08045	43-15.0N	155-00.0E	5/12	0942	10	5482	4	11.4	8.1	bc	SBE-9plus
OS08046	42-30.0N	155-00.0E	5/14	1900	10	5263	-	-	8.5	bc	SBE-9plus
OS08047	41-45.0N	155-00.0E	5/15	0950	10	5550	4	18	8.6	o	SBE-9plus
OS08048	41-00.0N	155-00.0E	5/15	1825	10	5570	-	-	9	o	SBE-9plus
OS08049	40-15.0N	155-00.0E	5/16	1054	10	5550	4	13.2	11.6	o	SBE-9plus
OS08050	39-30.0N	155-00.0E	5/16	1637	10	5613	3	17.7	13.5	o	SBE-9plus
OS08051	38-45.0N	155-00.0E	5/16	2230	10	5767	-	-	15.3	c	SBE-9plus
OS08052	41-32.0N	145-35.9E	5/18	1418	9	7070	-	-	10	o	SBE-9plus

(*):Fixed position by Global Positioning system

Table 2: Oceanographic data

Station OS08043
Longitude 41-30.0N
Latitude 145-47.0E
Depth(m) 6905

Press.	Temp.	Sal.	SIG-T
5	5.609	33.065	26.071
10	4.622	33.089	26.202
20	4.401	33.123	26.252
30	4.176	33.172	26.314
40	5.296	33.465	26.424
50	6.581	33.777	26.512
75	4.944	33.588	26.562
100	2.313	33.284	26.573
125	2.994	33.414	26.620
150	3.860	33.576	26.668
200	2.734	33.526	26.731
250	2.529	33.561	26.777
300	2.797	33.666	26.838
400	3.027	33.820	26.940
500	3.175	33.958	27.037
600	3.165	34.063	27.122
700	3.259	34.184	27.210
800	3.000	34.229	27.270
900	2.912	34.281	27.319
1000	2.786	34.330	27.370
1200	2.531	34.415	27.460
1500	2.324	34.498	27.543

Station OS08044
Longitude 44-00.0N
Latitude 155-00.0E
Depth(m) 5298

Press.	Temp.	Sal.	SIG-T
5	5.621	33.251	26.217
10	5.599	33.250	26.219
20	5.447	33.282	26.262
30	5.405	33.295	26.277
40	4.984	33.407	26.414
50	4.944	33.462	26.462
75	5.034	33.578	26.544
100	4.561	33.574	26.593
125	4.061	33.550	26.626
150	3.260	33.519	26.680
200	3.474	33.699	26.803
250	3.109	33.738	26.868
300	3.135	33.827	26.937
400	3.321	33.988	27.048
500	3.349	34.117	27.148
600	3.189	34.200	27.229
700	3.034	34.286	27.312
800	2.841	34.333	27.367
900	2.686	34.373	27.412
1000	2.597	34.410	27.450
1200	2.395	34.456	27.504
1500	2.177	34.516	27.570
2000	1.858	34.592	27.656
2500	1.654	34.629	27.701
3000	1.538	34.651	27.727

Station OS08045
Longitude 43-15.0N
Latitude 155-00.0E
Depth(m) 5482

Press.	Temp.	Sal.	SIG-T
5	8.110	33.889	26.385
10	8.108	33.889	26.386
20	8.102	33.889	26.386
30	8.096	33.888	26.386
40	8.083	33.886	26.387
50	8.017	33.877	26.389
75	7.488	33.920	26.500
100	7.115	33.870	26.513
125	5.863	33.729	26.566
150	5.156	33.674	26.606
200	4.651	33.730	26.707
250	4.123	33.754	26.783
300	4.133	33.872	26.875
400	3.605	33.953	26.993
500	3.595	34.085	27.099
600	3.269	34.158	27.189
700	3.115	34.228	27.259
800	2.960	34.278	27.312
900	2.929	34.340	27.365
1000	2.741	34.371	27.406
1200	2.552	34.445	27.482
1500	2.225	34.502	27.555

Station OS08046
Longitude 42-30.0N
Latitude 155-00.0E
Depth(m) 5263

Press.	Temp.	Sal.	SIG-T
5	8.467	33.700	26.183
10	7.844	33.843	26.388
20	7.765	33.843	26.400
30	7.719	33.841	26.405
40	7.696	33.840	26.408
50	7.689	33.840	26.408
75	7.109	33.879	26.521
100	7.001	33.879	26.536
125	6.700	33.850	26.553
150	6.374	33.850	26.597
200	6.314	33.857	26.609
250	6.293	33.858	26.613
300	5.840	33.811	26.633
400	3.947	33.823	26.856
500	3.921	33.971	26.976
600	3.678	34.091	27.095
700	3.616	34.182	27.174
800	3.225	34.223	27.244
900	3.164	34.301	27.312
1000	3.114	34.357	27.361
1200	2.656	34.410	27.445
1500	2.337	34.491	27.536

Station OS08047
Longitude 41-45.0N
Latitude 155-00.0E
Depth(m) 5550

Press.	Temp.	Sal.	SIG-T
5	8.451	33.876	26.323
10	8.441	33.877	26.326
20	8.286	33.890	26.360
30	8.241	33.891	26.367
40	8.223	33.891	26.370
50	8.198	33.891	26.374
75	7.325	33.887	26.497
100	6.807	33.829	26.523
125	6.114	33.770	26.566
150	5.628	33.732	26.596
200	5.508	33.751	26.626
250	4.377	33.719	26.728
300	3.957	33.772	26.813
400	3.507	33.847	26.918
500	3.583	33.989	27.024
600	3.695	34.133	27.128
700	3.473	34.206	27.207
800	3.401	34.289	27.280
900	3.127	34.324	27.334
1000	2.899	34.358	27.381
1200	2.621	34.421	27.457
1500	2.314	34.500	27.546

Station OS08048
Longitude 41-00.0N
Latitude 155-00.0E
Depth(m) 5570

Press.	Temp.	Sal.	SIG-T
5	9.283	33.839	26.164
10	9.258	33.835	26.165
20	9.087	33.809	26.172
30	9.056	33.808	26.176
40	8.951	33.804	26.190
50	8.713	33.807	26.229
75	7.102	33.781	26.445
100	6.690	33.784	26.503
125	5.985	33.756	26.572
150	5.652	33.741	26.601
200	4.868	33.720	26.676
250	4.276	33.762	26.773
300	3.942	33.785	26.825
400	4.126	33.958	26.944
500	3.824	34.078	27.071
600	3.693	34.171	27.158
700	3.515	34.252	27.240
800	3.316	34.300	27.297
900	3.109	34.340	27.348
1000	2.918	34.374	27.393
1200	2.599	34.438	27.473
1500	2.277	34.499	27.548

Station	OS08049
Longitude	40-15.0N
Latitude	155-00.0E
Depth(m)	5550

Press.	Temp.	Sal.	SIG-T
5	11.459	34.252	26.110
10	11.417	34.250	26.116
20	11.383	34.260	26.130
30	11.367	34.263	26.136
40	10.963	34.188	26.151
50	10.175	34.064	26.192
75	8.057	33.933	26.427
100	7.468	33.903	26.490
125	6.248	33.808	26.579
150	5.779	33.776	26.613
200	5.141	33.785	26.696
250	4.334	33.770	26.773
300	4.046	33.828	26.849
400	4.039	33.955	26.951
500	3.773	34.060	27.062
600	3.637	34.156	27.151
700	3.412	34.216	27.221
800	3.165	34.272	27.289
900	3.018	34.329	27.348
1000	2.822	34.359	27.390
1200	2.599	34.426	27.463
1500	2.324	34.501	27.545

Station	OS08050
Longitude	39-30.0N
Latitude	155-00.0E
Depth(m)	5613

Press.	Temp.	Sal.	SIG-T
5	13.587	34.469	25.863
10	13.575	34.469	25.866
20	13.439	34.473	25.897
30	13.364	34.474	25.912
40	13.276	34.467	25.925
50	12.761	34.437	26.004
75	11.294	34.341	26.209
100	10.822	34.319	26.277
125	9.960	34.210	26.342
150	9.177	34.130	26.409
200	6.909	33.869	26.540
250	5.793	33.772	26.608
300	5.526	33.833	26.689
400	4.503	33.922	26.876
500	4.484	34.087	27.009
600	4.226	34.176	27.107
700	3.222	34.146	27.183
800	3.182	34.238	27.260
900	3.210	34.324	27.326
1000	3.064	34.380	27.384
1200	2.612	34.428	27.463
1500	2.297	34.508	27.553

Station	OS08051
Longitude	38-45.0N
Latitude	155-00.0E
Depth(m)	5767

Press.	Temp.	Sal.	SIG-T
5	15.577	34.526	25.480
10	15.579	34.526	25.479
20	15.560	34.523	25.481
30	15.184	34.501	25.548
40	14.352	34.478	25.710
50	13.637	34.476	25.858
75	13.442	34.485	25.905
100	13.042	34.455	25.963
125	12.376	34.402	26.053
150	11.650	34.349	26.150
200	10.807	34.284	26.253
250	10.037	34.230	26.345
300	8.888	34.117	26.445
400	6.554	34.018	26.705
500	5.189	34.017	26.874
600	4.564	34.102	27.012
700	4.200	34.194	27.124
800	3.842	34.257	27.211
900	3.380	34.309	27.298
1000	3.151	34.352	27.354
1200	2.824	34.424	27.442
1500	2.407	34.499	27.537

Station	OS08052
Longitude	41-32.0N
Latitude	145-35.9E
Depth(m)	7070

Press.	Temp.	Sal.	SIG-T
5	9.367	33.564	25.936
10	9.640	33.579	25.902
20	8.768	33.538	26.010
30	7.011	33.516	26.248
40	5.774	33.460	26.363
50	4.201	33.303	26.416
75	3.891	33.429	26.548
100	3.251	33.403	26.588
125	2.398	33.359	26.626
150	2.516	33.442	26.683
200	2.812	33.567	26.758
250	3.077	33.656	26.805
300	4.038	33.857	26.873
400	3.289	33.887	26.971
500	3.618	34.041	27.061
600	3.440	34.143	27.160
700	3.326	34.235	27.244
800	2.866	34.281	27.323
900	2.666	34.317	27.370
1000	2.603	34.343	27.395
1200	2.507	34.377	27.431

5. Data on Drift Gillnet Research

Four gillnet research were performed during this cruise.
The operations were supervised by the captain, Deck officers, crew and research staff were engaged in the work.

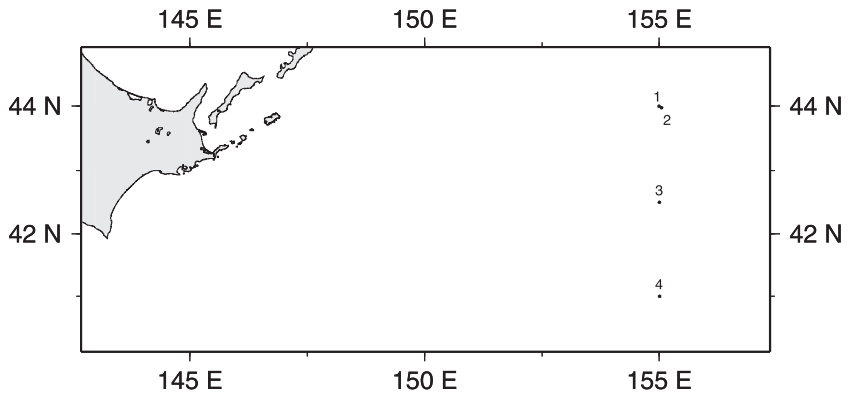

Figure 3: Locations of drift gillnet research

Table 3: Data on drift gillnet research

No. of research	Date and Time (S.M.T.) Net set		Net haul		Position Lat.(N)	Long.(E)	D.D.	Bottom depth(m)	Wr	Wind	S.T. (°C)	Tr
OSG0801	May 10	1755-1824	May 11	0425-0535	43-59.8	154-59.6	220	5296	o	WNW-4	5.6	13.9
OSG0802	May 11	1755-1825	May 12	0420-0525	43-58.5	155-02.9	140	5350	c	WSW-5	5.7	13.9
OSG0803	May 14	1750-1818	May 15	0425-0525	42-30.0	155-00.1	230	5135	c	Calm	8.5	-
OSG0804	May 15	1751-1817	May 16	0505-0612	41-00.0	155-00.4	000	5480	o	SSE-4	11.5	-

D.D : Direction of Drift toward S.T. : Surface temperature Wr. : Weather Tr : Transparency

Table 4: Amount of net cast (Tan)

No. of research	Mesh size (mm)																		
	19	22	25	29	33	37	42	48	55	63	72	82	93	106	121	138	157	115	121	Total
OSG0801	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	6	6	49
OSG0802	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	6	6	49
OSG0803	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	6	6	49
OSG0804	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	6	6	49

Table 5: Data on catch number of salmonids by drift gillnet research

Sockeye (catch number)

No. of research	Mesh size (mm)																		
	19	22	25	29	33	37	42	48	55	63	72	82	93	106	121	138	157	115	121	Total
OSG0801	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0802	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Chum (catch number)

No. of research	Mesh size (mm)																		
	19	22	25	29	33	37	42	48	55	63	72	82	93	106	121	138	157	115	121	Total
OSG0801	0	0	0	0	0	0	0	0	0	0	2	1	1	6	14	8	2	39	34	107
OSG0802	0	0	0	0	0	0	0	0	0	0	0	1	1	10	3	1	1	29	25	71
OSG0803	0	0	0	0	0	0	0	0	0	0	0	0	1	4	4	0	0	4	9	22
OSG0804	0	0	0	0	0	0	0	0	0	0	0	0	6	7	10	6	0	21	18	68

Pink (catch number)

No. of research	Mesh size (mm)																		
	19	22	25	29	33	37	42	48	55	63	72	82	93	106	121	138	157	115	121	Total
OSG0801	0	0	0	0	0	0	0	0	0	0	7	53	24	8	0	0	0	4	0	96
OSG0802	0	0	0	0	0	0	0	0	1	0	11	41	45	14	0	0	0	0	1	113
OSG0803	0	0	0	0	0	0	0	0	3	8	72	126	63	4	2	0	0	1	3	282
OSG0804	0	0	0	0	0	0	0	0	0	2	28	53	46	19	0	0	0	0	2	150

Coho (catch number)

No. of research	Mesh size (mm)																		
	19	22	25	29	33	37	42	48	55	63	72	82	93	106	121	138	157	115	121	Total
OSG0801	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0802	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Chinook (catch number)

No. of research	Mesh size (mm)																		
	19	22	25	29	33	37	42	48	55	63	72	82	93	106	121	138	157	115	121	Total
OSG0801	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0802	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Steelhead (catch number)

No. of research	Mesh size (mm)																		
	19	22	25	29	33	37	42	48	55	63	72	82	93	106	121	138	157	115	121	Total
OSG0801	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0802	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OSG0804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 6: Biological characteristics of salmonids caught by drift gillnet

CHUM SALMON

St.	Gear	F.L. (mm)	B.W. (gr)	Sex	G.W. (gr)	St.	Gear	F.L. (mm)	B.W. (gr)	Sex	G.W. (gr)	St.	Gear	F.L. (mm)	B.W. (gr)	Sex	G.W. (gr)
G01	A115	500	1560	M	5	G01	C121	604	2869	F	170	G02	A121	590	2250	F	21
G01	A115	571	2172	F	42	G01	C121	576	2400	M	6	G02	A121	540	1682	F	34
G01	A115	572	2374	F	20	G01	C121	574	2122	M	7	G02	A121	510	1931	M	4
G01	A115	552	1831	F	18	G01	C121	560	2030	M	5	G02	A121	506	1541	F	26
G01	A115	584	2739	F	31	G01	C121	549	1994	F	23	G02	A121	530	1945	F	43
G01	A115	544	1878	F	37	G01	C121	592	2700	M	3	G02	A121	598	2439	M	2
G01	A115	606	2763	M	4	G01	C121	563	2365	M	3	G02	A121	650	3506	M	6
G01	A115	576	2143	F	20	G01	C121	558	2087	F	22	G02	C082	567	2400	M	12
G01	A115	576	2032	F	45	G01	C121	600	2850	M	4	G02	C093	540	1757	M	4
G01	A115	562	2106	M	2	G01	C121	608	2973	M	3	G02	C106	534	1623	F	15
G01	A115	516	1648	F	16	G01	C121	589	2470	F	23	G02	C106	556	2277	M	7
G01	A115	526	1753	F	22	G01	C121	518	1460	F	15	G02	C106	570	2331	F	24
G01	A115	559	2239	M	30	G01	C121	559	2637	M	16	G02	C106	530	2052	F	41
G01	A115	561	2261	M	5	G01	C121	517	1807	M	6	G02	C106	500	1419	F	14
G01	A115	589	2411	M	5	G01	C138	562	2196	M	4	G02	C106	584	2391	M	8
G01	A115	537	2000	F	26	G01	C138	576	2667	F	66	G02	C106	538	1801	F	22
G01	A115	560	2707	M	24	G01	C138	610	2902	M	4	G02	C106	520	1661	M	1
G01	A115	576	2400	M	13	G01	C138	578	2353	F	35	G02	C106	530	1648	F	35
G01	A115	574	2246	M	5	G01	C138	584	2557	M	2	G02	C106	580	2495	M	12
G01	A115	558	2075	F	18	G01	C138	603	2600	M	5	G02	C121	580	2418	F	25
G01	A115	576	2528	M	59	G01	C138	628	3160	F	31	G02	C121	564	2321	F	31
G01	A115	584	2573	F	28	G01	C138	610	2891	M	3	G02	C121	530	1689	M	10
G01	A115	562	2081	F	17	G01	C157	622	2984	M	5	G02	C138	616	2900	M	12
G01	A115	537	1889	M	3	G01	C157	624	3188	M	6	G02	C157	636	3346	M	7
G01	A115	515	1612	F	30	G02	A115	560	2496	F	31	G03	A115	540	2224	M	8
G01	A115	597	2529	M	2	G02	A115	600	2848	M	3	G03	A115	528	1724	M	12
G01	A115	591	2891	M	2	G02	A115	510	1476	F	21	G03	A115	582	2614	F	140
G01	A115	558	2193	F	30	G02	A115	590	2540	M	4	G03	A115	500	1555	M	7
G01	A115	520	1957	F	54	G02	A115	540	1969	M	2	G03	A121	520	1934	F	40
G01	A115	615	2888	M	6	G02	A115	510	1469	M	5	G03	A121	518	1862	M	10
G01	A121	568	2425	M	2	G02	A115	556	1951	F	25	G03	A121	530	1980	M	5
G01	A121	589	2467	M	4	G02	A115	510	1586	M	7	G03	A121	572	2576	F	75
G01	A121	569	2167	F	19	G02	A115	530	2035	M	7	G03	A121	566	1247	M	14
G01	A121	637	2701	M	4	G02	A115	510	1555	F	28	G03	A121	558	2371	F	70
G01	A121	546	1835	M	3	G02	A115	520	1780	M	9	G03	A121	630	2897	M	2
G01	A121	584	2516	F	67	G02	A115	566	2232	M	4	G03	A121	574	2074	F	22
G01	A121	528	1691	M	7	G02	A115	560	2353	M	4	G03	A121	564	1882	M	1
G01	A121	537	1946	M	6	G02	A115	540	1875	F	18	G03	C093	570	2150	M	5
G01	A121	600	2676	M	4	G02	A115	520	1547	F	16	G03	C106	536	1731	F	20
G01	A121	591	2178	F	30	G02	A115	540	1952	F	49	G03	C106	502	1522	F	17
G01	A121	552	2291			G02	A115	552	2100	M	4	G03	C106	492	1409	M	5
G01	A121	577	2662	F	26	G02	A115	590	2420	M	3	G03	C106	518	1622	F	15
G01	A121	568	2168	F	23	G02	A115	474	1297	F	17	G03	C121	584	2616	M	4
G01	A121	608	2631	M	4	G02	A115	588	2540	M	4	G03	C121	638	3380	M	5
G01	A121	579	2245	F	25	G02	A115	570	2160	F	20	G03	C121	600	2625	F	22
G01	A121	603	2439	M	5	G02	A115	520	1564	F	12	G03	C121	588	2620	F	182
G01	A121	524	1893	F	44	G02	A115	514	1766	F	40	G04	A115	550	2350	F	58
G01	A121	577	2650	F	63	G02	A115	564	2072	M	3	G04	A115	560	2650	F	61
G01	A121	586	2517	F	33	G02	A115	524	1759	M	4	G04	A115	480	1932	F	31
G01	A121	566	2351	M	2	G02	A115	530	1699	M	1	G04	A115	523	2155	F	45
G01	A121	633	3362	M	20	G02	A115	574	2220	M	4	G04	A115	531	2207	M	7
G01	A121	519	1750	F	29	G02	A115	532	1795	F	45	G04	A115	541	2183	F	19
G01	A121	588	2694	M	8	G02	A121	530	1742	F	17	G04	A115	554	2060	M	4
G01	A121	568	2269	M	3	G02	A121	550	2376	F	67	G04	A115	546	2025	M	22
G01	A121	568	2191	F	22	G02	A121	574	2115	F	21	G04	A115	496	1654	F	21
G01	A121	562	2341	F	18	G02	A121	500	1684	M	15	G04	A115	550	2288	M	10
G01	A121	584	2528	F	51	G02	A121	530	1660	F	25	G04	A115	582	2300	F	18
G01	A121	583	2390	F	27	G02	A121	600	3174	M	30	G04	A115	542	2162	M	3
G01	A121	590	2876	F	67	G02	A121	518	1770	F	36	G04	A115	540	2066	F	43
G01	A121	562	2308	M	10	G02	A121	500	1407	M	10	G04	A115	542	2070	F	20
G01	C072	610	2948	M	9	G02	A121	574	2258	F	23	G04	A115	561	2354	M	12
G01	C072	589	2632	M	5	G02	A121	512	1730	F	28	G04	A115	510	2163	M	14
G01	C082	584	2388	F	3	G02	A121	570	1930	F	19	G04	A115	510	1986	M	11
G01	C093	518	1668	F	30	G02	A121	530	1678	F	15	G04	A115	553	2472	F	60
G01	C106	522	1730	M	4	G02	A121	580	2331	F	46	G04	A115	524	1993	M	4
G01	C106	504	1527	F	15	G02	A121	554	1945	F	21	G04	A115	554	2467	M	22
G01	C106	529	1973	F	42	G02	A121	492	1496	F	29	G04	A121	570	2347	M	7
G01	C106	496	1618	F	42	G02	A121	570	1595	M	1	G04	A121	539	2082	M	8
G01	C106	533	1869	F	43	G02	A121	570	2259	F	23	G04	A121	523	1863	F	43
G01	C106	516	1540	M	4	G02	A121	540	1916	F	18	G04	A121	518	1834	M	10

Table 6. Biological characteristics of salmonids caught by drift gillnet (continued)

CHUM SALMON

St.	Gear	F.L.	B.W.	Sex	G.W.	St.	Gear	F.L.	B.W.	Sex	G.W.	St.	Gear	F.L.	B.W.	Sex	G.W.
	(mm)	(mm)	(gr)		(gr)		(mm)	(mm)	(gr)		(gr)		(mm)	(mm)	(gr)		(gr)
G04	A121	564	2073	M	1	G04	C093	529	1564	M	1	G04	C121	589	2744	M	13
G04	A121	533	1985	F	60	G04	C093	516	1840	F	38	G04	C121	526	1908	M	13
G04	A121	571	2154	F	26	G04	C093	558	2560	M	20	G04	C121	502	1743	M	9
G04	A121	566	2247	F	64	G04	C093	522	2060	F	62	G04	C121	490	1521	M	17
G04	A121	548	1887	F	22	G04	C093	548	2122	F	55	G04	C121	580	2543	M	21
G04	A121	528	2044	M	7	G04	C093	534	1925	F	60	G04	C121	546	2596	M	10
G04	A121	550	2190	M	8	G04	C106	568	2546	M	5	G04	C121	552	1900	M	3
G04	A121	530	1957	F	50	G04	C106	510	1697	F	34	G04	C121	594	2831	F	34
G04	A121	572	2121	F	34	G04	C106	542	2176	F	43	G04	C138	562	2571	M	9
G04	A121	554	2212	F	60	G04	C106	546	2244	M	12	G04	C138	634	2886	M	5
G04	A121	543	2170	F	50	G04	C106	570	2622	M	7	G04	C138	560	2391	F	44
G04	A121	524	2065	M	10	G04	C106	526	2013	F	52	G04	C138	579	2433	M	3
G04	A121	530	2027	M	10	G04	C121	548	2083	F	30	G04	C138	604	3010	F	96
G04	A121	617	3072	M	50	G04	C121	512	1730	M	3	G04	C138	520	1909	F	43

PINK SALMON

G01	A115	470	1224	M	6	G01	C093	376	648	M	3	G02	C082	400	660	M	2
G01	A115	449	1099	M	5	G01	C093	389	752	M	2	G02	C082	440	986	M	3
G01	A115	443	967	M	4	G01	C093	406	728	F	22	G02	C082	384	690	M	2
G01	A115	422	988	M	4	G01	C093	414	834	M	4	G02	C093	406	770	F	10
G01	C072	397	673	M	2	G01	C093	416	768	M	2	G02	C093	416	775	M	4
G01	C072	368	537	M	1	G01	C093	389	667	M	1	G02	C093	420	822	F	12
G01	C072	414	777	F	15	G01	C106	428	870	M	10	G02	C093	420	831	F	13
G01	C072	396	731	F	8	G01	C106	438	924	M		G02	C093	412	846	M	2
G01	C072	388	647	M	6	G01	C106	484	1162	M	3	G02	C093	422	880	M	4
G01	C072	399	719	F	22	G01	C106	450	865	M	4	G02	C093	422	830	M	3
G01	C082	412	723	M	2	G01	C106	446	921	M	2	G02	C093	410	804	F	13
G01	C082	412	807	F	25	G01	C106	395	725	F	6	G02	C093	398	779	M	4
G01	C082	420	788	M	2	G01	C106	426	961	M	3	G02	C093	464	1110	M	3
G01	C082	368	571	M	1	G01	C106	408	802	M	3	G02	C093	434	777	M	3
G01	C082	400	760	F	15	G02	A121	494	1342	M	2	G02	C093	394	714	F	7
G01	C082	373	582	M	2	G02	C055	420	802	M	1	G02	C093	378	602	M	1
G01	C082	404	728	M	5	G02	C072	404	700	F	12	G02	C093	400	700	F	8
G01	C082	419	581	F	15	G02	C072	380	617	F	8	G02	C093	414	870	F	30
G01	C082	401	729	F	15	G02	C072	390		M	4	G02	C093	420	832	M	5
G01	C082	408	752	F	8	G02	C072	372	569	F	6	G02	C093	410	843	F	19
G01	C082	400	711	M	2	G02	C072	384	688	F	19	G02	C093	440	924	M	5
G01	C082	380	622	M	4	G02	C072	400	718	M	3	G02	C093	400	777	F	20
G01	C082	396	683	F	11	G02	C072	402	695	M	4	G02	C093	410	769	F	25
G01	C082	420	749	M	1	G02	C072	380	611	M	2	G02	C093	436	867	M	3
G01	C082	412	813	F	14	G02	C072	390	599	M	3	G02	C093	420	846	F	6
G01	C082	390	639	M	1	G02	C072	370	595	M	5	G02	C093	430	881	M	1
G01	C082	402	830	F	25	G02	C082	426	850	F	5	G02	C093	408	795	F	26
G01	C082	384	713	M	1	G02	C082	420	802	M	2	G02	C093	450	1027	M	5
G01	C082	398	703	M	2	G02	C082	408	757	M	2	G02	C093	404	730	F	8
G01	C082	358	560	M	2	G02	C082	400	745	F	7	G02	C093	410	750	F	19
G01	C082	430	1022	M	5	G02	C082	390	725	F	6	G02	C093	412	718	M	4
G01	C082	368	623	M	2	G02	C082	410	765	F	11	G02	C093	430	874	M	4
G01	C082	423	763	M	4	G02	C082	390	678	M	2	G02	C093	420	840	M	6
G01	C082	404	775	M	2	G02	C082	410	780	F	14	G02	C093	414	832	F	12
G01	C082	390	663	F	5	G02	C082	430	903	M	4	G02	C093	424	903	F	29
G01	C082	364	676	F	20	G02	C082	400	688	M	4	G02	C093	418	800	M	8
G01	C082	370	567	M	2	G02	C082	400	679	F	6	G02	C093	410	714	F	5
G01	C093	422	810	F	10	G02	C082	326	466	F	28	G02	C093	454	1002	M	4
G01	C093	395	713	M	3	G02	C082	418	796	M	2	G02	C093	424	855	M	6
G01	C093	391	746	F	16	G02	C082			M	1	G02	C093	400	829	F	36
G01	C093	439	1011	M	3	G02	C082	418	845	M	4	G02	C093	444	990	M	6
G01	C093	430	890	F	18	G02	C082	438	948	M	4	G02	C093	412	825	F	22
G01	C093	424	800	M	2	G02	C082	400	680	M	2	G02	C093	400	744	F	12
G01	C093	402	730	M	2	G02	C082	380		M	1	G02	C093	434	943	M	4
G01	C093	393	708	F	20	G02	C082	400	632	M	3	G02	C093	394	733	M	4
G01	C093	388	662	F	18	G02	C082	388	617	M	3	G02	C106	444	925	M	3
G01	C093	410	797	F	15	G02	C082	380	573	M	3	G02	C106	408	770	F	13
G01	C093	397	728	F	8	G02	C082	414	781	M	3	G02	C106	430	905	M	4
G01	C093	437	887	F	28	G02	C082	370	558	F	4	G02	C106	432	902	M	2
G01	C093	405	772	F	22	G02	C082	410	723	F	14	G02	C106	450	1034	M	3
G01	C093	388	696	M	2	G02	C082	380	604	M	3	G02	C106	430	905	M	3
G01	C093	384	768	F	10	G02	C082	400	655	M	3	G02	C106	428	921	M	3
G01	C093	391	694	F	7	G02	C082	414	772	F	10	G02	C106	408	844	M	3

Table 6. Biological characteristics of salmonids caught by drift gillnet (continued)

PINK SALMON

St.	Gear	F.L. (mm)	B.W. (gr)	Sex	G.W. (gr)	St.	Gear	F.L. (mm)	B.W. (gr)	Sex	G.W. (gr)	St.	Gear	F.L. (mm)	B.W. (gr)	Sex	G.W. (gr)
G02	C106	424	953	M	3	G03	C072	366	575	M	4	G03	C093	420	788	M	3
G02	C106	380	698	F	16	G03	C072	426	784	F	17	G03	C093	394	692	F	12
G02	C106	450	1013	M	4	G03	C072	404	725	M	4	G03	C093	418	800	M	3
G02	C106	444	940	M	3	G03	C072	384	733	M	2	G03	C093	428	870	F	15
G02	C106	450	1007	M	5	G03	C072	404	736	F	15	G03	C093	430	843	M	4
G03	A115	392	701	M	5	G03	C072	426	797	M	3	G03	C093	384	635	M	2
G03	A121	486	1255	M	3	G03	C072	394	649	M	1	G03	C093	404	722	F	15
G03	A121	432	901	F	20	G03	C072	400	679	M	3	G03	C093	418	783	M	3
G03	A121	486	1186	M	3	G03	C072	418	822	F	18	G03	C093	416	744	F	16
G03	C055	406	706	F	13	G03	C072	366	552	M	1	G03	C093	422	742	M	4
G03	C055	422	785	F	11	G03	C082	394	609	F	4	G03	C093	408	782	M	3
G03	C055	410	691	F	15	G03	C082	392	621	F	7	G03	C093	388	670	M	2
G03	C063	368	513	F	5	G03	C082	400	680	F	8	G03	C093	414	752	M	4
G03	C063	376	540	M	1	G03	C082	386	572	F	8	G03	C093	406	708	M	1
G03	C063	378	605	F	5	G03	C082	370	645	M	3	G03	C093	386	664	F	9
G03	C063	376	580	F	8	G03	C082	414	704	M	1	G03	C093	388	650	M	3
G03	C063	378	563	F	7	G03	C082	406	710	F	13	G03	C093	400	694	F	13
G03	C063	304	286	F	4	G03	C082	396	604	M	1	G03	C093	412	775	M	5
G03	C063	350	466	M	1	G03	C082	372	570	M	1	G03	C093	402	703	M	2
G03	C063	384	611	M	2	G03	C082	388	638	M	3	G03	C093	414	766	M	2
G03	C072	382	614	F	8	G03	C082	308	690	F	6	G03	C093	438	836	M	2
G03	C072	386	638	F	6	G03	C082	390	648	F	12	G03	C093	416	810	F	20
G03	C072	406	683	F	13	G03	C082	416	761	F	18	G03	C093	430	835	F	10
G03	C072	432	841	M	2	G03	C082	394	685	F	5	G03	C093	394	681	M	4
G03	C072	358	505	M	2	G03	C082	418	809	F	13	G03	C093	406	744	F	14
G03	C072	396	655	F	5	G03	C082	392	607	M	2	G03	C093	416	746	F	13
G03	C072	410	781	M	3	G03	C082	382	599	M	1	G03	C093	404	700	M	2
G03	C072	420	770	F	12	G03	C082	398	696	F	5	G03	C093	406	717	M	2
G03	C072	396	650	F	6	G03	C082	414	719	F	17	G03	C093	396	685	M	1
G03	C072	392	630	M	1	G03	C082	432	884	M	3	G03	C093	386	696	F	18
G03	C072	394	649	F	13	G03	C082	408	814	F	19	G03	C093	400	675	F	9
G03	C072	366	508	F	5	G03	C082	384	672	F	13	G03	C093	430	882	M	3
G03	C072	364	481	F	7	G03	C082	400	594	M	1	G03	C093	414	740	M	4
G03	C072	306	655	F	6	G03	C082	410	710	F	22	G03	C093	424	826	F	23
G03	C072	396	648	F	6	G03	C082	386	642	F	12	G03	C093	390	759	M	3
G03	C072	390	690	F	10	G03	C082	410	787	F	10	G03	C093	408	710	M	2
G03	C072	384	655	F	15	G03	C082	380	572	F	6	G03	C093	402	694	M	2
G03	C072	400	680	M	2	G03	C082	400	714	F	6	G03	C093	410	756	F	15
G03	C072	386	635	F	6	G03	C082	382	603	M	1	G03	C093	406	697	F	6
G03	C072	412	754	M	2	G03	C082	400	731	F	16	G03	C093	394	685	M	2
G03	C072	398	687	F	18	G03	C082	396	705	F	12	G03	C093	390	634	M	2
G03	C072	402	743	F	17	G03	C082	412	761	F	14	G03	C093	404	717	M	3
G03	C072	388	694	F	15	G03	C082	400	681	M	4	G03	C093	392	684	M	4
G03	C072	394	649	F	10	G03	C082	424	852	M	2	G03	C093	424	804	F	23
G03	C072	398	650	M	2	G03	C082	410	720	F	13	G03	C093	420	746	F	19
G03	C072	420	813	F	17	G03	C082	388	620	F	13	G03	C093	396	732	M	2
G03	C072	372	553	M	4	G03	C082	384	584	F	5	G03	C093	420	739	M	2
G03	C072	384	599	F	7	G03	C082	394	655	F	5	G03	C093	410	744	F	6
G03	C072	376	554	F	5	G03	C082	396	619	M	1	G03	C093	426	805	M	3
G03	C072	396	606	F	6	G03	C082	400	686	F	11	G03	C093	414	795	M	3
G03	C072	416	802	F	12	G03	C082	386	676	F	5	G03	C093	400	707	F	9
G03	C072	428	770	F	14	G03	C082	394	623	F	5	G03	C093	402	734	F	16
G03	C072	394	730	F	13	G03	C082	392	661	M	1	G03	C093	400	767	F	16
G03	C072	390	589	M	1	G03	C082	402	758	F	12	G03	C106	430	829	M	6
G03	C072	376	600	F	7	G03	C082	406	706	F	10	G03	C106	450	883	M	4
G03	C072	400	709	F	10	G03	C082	396	636	F	13	G03	C106	410	786	F	17
G03	C072	366	477	F	5	G03	C082	414	776	F	10	G03	C106	460	1026	M	4
G03	C072	414	806	F	18	G03	C082	384	682	M	1	G03	C121	412	728	F	12
G03	C072	362	500	M	1	G03	C082	478	1090	M	5	G03	C121	414	765	M	2
G03	C072	410	721	F	13	G03	C082	400	718	F	13	G04	A121	530	1787	M	4
G03	C072	376	517	M	1	G03	C082	414	804	M	3	G04	A121	446	986	F	21
G03	C072	370	560	M	3	G03	C082	422	776	F	15	G04	C063	431	781	M	2
G03	C072	402	721	F	8	G03	C082	392	693	F	7	G04	C063	440	954	F	13
G03	C072	400	662	F	6	G03	C082	392	643	F	6	G04	C072	398	679	F	10
G03	C072	406	681	F	5	G03	C082	396	665	F	10	G04	C072	410	814	F	22
G03	C072	396	682	F	7	G03	C082	404	669	F	7	G04	C072	384	573	F	6
G03	C072	376	545	F	8	G03	C082	394	681	F	10	G04	C072	410	664	F	16
G03	C072	380	611	M	2	G03	C082	350	522	F	5	G04	C072	408	685	F	5
G03	C072	384	600	F	5	G03	C082	412	698	M	4	G04	C072	440	918	F	19
G03	C072	410	695	M	1	G03	C082	410	750	F	10	G04	C072	419	829	F	8

Table 6. Biological characteristics of salmonids caught by drift gillnet (continued)

PINK SALMON

St.	Gear	F.L.	B.W.	Sex	G.W.	St.	Gear	F.L.	B.W.	Sex	G.W.	St.	Gear	F.L.	B.W.	Sex	G.W.
	(mm)	(mm)	(gr)		(gr)		(mm)	(mm)	(gr)		(gr)		(mm)	(mm)	(gr)		(gr)
G04	C072	412	740	F	20	G04	C082	402	711	F	8	G04	C093	400	692	F	8
G04	C072	405	681	F	10	G04	C082	418	848	F	12	G04	C093	463	1004	M	2
G04	C072	402	636	F	8	G04	C082	392	602	F	5	G04	C093	414	812	F	14
G04	C072	381	636	F	10	G04	C082	382	626	F	8	G04	C093	422	848	F	26
G04	C072	403	730	M	3	G04	C082	421	767	F	7	G04	C093	391	615	F	13
G04	C072	386	555	F	8	G04	C082	416	781	F	6	G04	C093	428	856	F	15
G04	C072	412	786	F	16	G04	C082	405	714	F	10	G04	C093	421	899	M	6
G04	C072	402	657	F	7	G04	C082	416	814	F	10	G04	C093	411	761	F	14
G04	C072	385	589	F	9	G04	C082	420	791	F	15	G04	C093	426	816	F	13
G04	C072	406	690	F	6	G04	C082	419	749	F	8	G04	C093	420	793	F	16
G04	C072	500	1632	M	8	G04	C082	414	782	M	1	G04	C093	410	745	F	16
G04	C072	420	787	F	10	G04	C082	425	829	F	12	G04	C093	484	1316	M	5
G04	C072	410	813	F	9	G04	C082	406	796	F	8	G04	C093	440	973	M	2
G04	C072	416	500	M	2	G04	C082	421	847	F	30	G04	C093	444	1030	M	2
G04	C072	408	719	F	7	G04	C082	427	859	F	20	G04	C093	446	974	F	30
G04	C072	390	685	M	3	G04	C082	394	689	F	9	G04	C093	402	777	F	28
G04	C082	406	818	F	38	G04	C082	424	893	F	16	G04	C093	421	824	F	18
G04	C082	409	760	M	2	G04	C082	418	827	F	18	G04	C093	410	760	F	22
G04	C082	434	926	F	43	G04	C082	384	578	F	5	G04	C093	418	773	F	12
G04	C082	489	647	F	8	G04	C082	404	708	F	7	G04	C093	419	790	F	9
G04	C082	390	638	M	1	G04	C082	423	842	M	2	G04	C093	424	858	F	18
G04	C082	410	797	M	1	G04	C082	410	718	M	2	G04	C093	416	730	F	9
G04	C082	409	749	F	9	G04	C082	415	807	F	20	G04	C106	441	987	F	12
G04	C082	444	892	M	4	G04	C082	405	817	F	8	G04	C106	455	1042		
G04	C082	394	684	F	12	G04	C093	486	1319	M	5	G04	C106	479	1247	M	4
G04	C082	417	787	F	16	G04	C093	417	799	F	25	G04	C106	470	1222	M	3
G04	C082	424	813	M	3	G04	C093	415	779	M	2	G04	C106	453	1035	M	6
G04	C082	394	692	M	2	G04	C093	411	791	F	46	G04	C106	441	1018	M	4
G04	C082	446	949	F	28	G04	C093	402	756	M	2	G04	C106	444	1032	F	30
G04	C082	403	793	F	11	G04	C093	422	911	F	10	G04	C106	451	980	F	29
G04	C082	395	624	F	9	G04	C093	450	964	F	10	G04	C106	440	962	M	2
G04	C082	395	690	F	10	G04	C093	410	752	F	19	G04	C106	454	1063	M	4
G04	C082	406	794	M	2	G04	C093	404	784	M	2	G04	C106	440	966	M	9
G04	C082	435	933	F	30	G04	C093	417	765	F	6	G04	C106	464	1186	F	37
G04	C082	428	962	F	26	G04	C093	420	790	F	8	G04	C106	440	973	M	4
G04	C082	404	780	F	14	G04	C093	418	745	M	1	G04	C106	444	942	F	26
G04	C082	374	642	F	6	G04	C093	414	823	F	25	G04	C106	436	976	F	28
G04	C082	416	783	F	22	G04	C093	437	860	F	30	G04	C106	450	1096	M	6
G04	C082	400	737	F	8	G04	C093	484	1280	M	4						
G04	C082	426	853	M	2	G04	C093	423	867	F	12						

Table 7: Data on number of organisms except salmonids caught by drift gillnet

Scientific Name	Species	OSG0801	OSG0802	OSG0803	OSG0804	Total
Onychoteuthis borealijaponic	Boreal clubhook squid	-	-	7	5	12
Gonatopsis borealis	Eight-armed squid	3	6	2	-	11
Squalus acanthias Linnaeus	Spiny dogfish	-	-	1	-	1
Synodontidae	paperbone	1	-	-	-	1
Myctophidae	Lantern fishes	-	3	-	3	6
Engraulis japonica	Japanese anchovy	-	-	-	9	9
Scomber japonicus	Chub mackerel	-	-	-	4	4
Brama japonica	Pacific pomfret	-	-	4	11	15
Fulmarus glacialis	Northern Fulmar	-	1	-	-	1
Fratercula cirrhata	Tufted puffin	1	1	-	1	3
Puffinus tenuirostris	Short-tailed shearwater	-	-	-	6	6

Table 8: Biological characteristics of fishes caught by drift gillnet

				PACIFIC POMFRET							
St.	Gear	S.L. (mm)	B.W. (gr)	St.	Gear	S.L. (mm)	B.W. (gr)	St.	Gear	S.L. (mm)	B.W. (gr)
G03	A121	433	1120	G04	C093	404	1196	G04	C138	424	1236
G03	C093	450	1600	G04	C093	417	1261	G04	C157	436	1312
G03	C138	460	1400	G04	C138	425	1407	G04	C157	427	1260
G03	C138	425	1920	G04	C138	396	1025	G04	C157	434	1228
G04	A121	446	1540	G04	C138	420	1272	G04	C157	418	1224

6. Data on Plankton Collected by Vertical Hauls of a Twin-NORPAC Net

Vertical hauls with a twin-NORPAC net were made at hydrographic stations. This net was composed of 45 cm mouth diameter and 180 cm long conical one which was made of GG54 and XX13 having 0.33 mm and 0.10 mm mesh, respectively. The net was lowered to the estimated depth of 150 m, 500 m or near the bottom when the bottom depth was shallower than 150 m, and immediately hauled to the surface at a speed about 1 m s^{-1}. A flowmeter was mounted at the center of mouth of the net to estimate the volume water filtered. Sampling was conducted by research staffs and measurement of wet weight of the samples were made by A. Yamaguchi, H.S. Kim, K. Matsuno, R. Saito, K. Ohgi, Y. Onishi, Y. Hanamiya and T. Homma (Laboratory of Marine Biology).

Table 9: Data on plankton collected by vertical hauls with a single or twin NORPAC net.

GG54:0.33mm mesh, XX13:0.10mm mesh.

Station no.	Position Lat. (N)	Lon.	S.M.T. Date	Hour	Length of wire (m)	Angle of wire (^{o})	Depth estimated by wire angle (m)	Kind of cloth	Flowmeter No.	Reading	Estimated volume of water filtered (m^3)	Wet weight (g) per haul	per 1000 m^3		Sample no.
OS08043	41	145 E	8 May	14:00	150	2	150	GG54	2555	1140	21.53	41.81	1941.43	1)	08001
(Site H)								XX13	2176	1070	18.45				08002
				14:31	150	1	150	GG54	2555	1195	22.57	40.59	1798.02	1)	08003
								XX13	2176	1000	17.24				08004
				14:49	501	4	500	GG54	2555	3555	67.15	46.75	696.13	1)	08005
								XX13	2176	3531	60.88				08006
OS08044	44	155 E	10 May	14:49	152	9	150	GG54	2555	1232	23.27	15.57	668.86		08007
(St. KNOT)								XX13	2176	1221	21.05				08008
OS08045	43	155 E	12 May	10:46	150	6	149	GG54	2555	1179	22.27	15.99	717.79		08009
								XX13	2176	1213	20.91				08010
OS08046a	42	155 E	12 May	16:20	154	13	150	GG54	2555	1668	31.51	16.47	522.59		08011
								XX13	2176	1635	28.19				08012
OS08046	42	155 E	14 May	20:00	150	2	150	GG54	2555	1090	20.59	18.15	881.31		08013
								XX13	2176	1144	19.72				08014
OS08047	41	155 E	15 May	11:25	153	11	150	GG54	2555	1700	32.11	24.87	774.35		08015
								XX13	2176	1590	27.41				08016
OS08048	41	155 E	15 May	20:09	162	21	151	GG54	2555	1885	35.61	16.11	452.32		08017
								XX13	2176	1755	30.26				08018
OS08049	40	155 E	16 May	12:22	151	8	150	GG54	2555	1303	24.61	10.77	437.39		08019
								XX13	2176	1322	22.79				08020
OS08050	39	155 E	16 May	18:10	153	12	150	GG54	2555	1288	24.33	11.11	456.46		08021
								XX13	2176	1269	21.88				08022
OS08051	38	155 E	17 May	00:14	152	10	150	GG54	2555	1196	22.59	3.47	153.38		08023
								XX13	2176	1133	19.53				08024
OS08052	41	145 E	18 May	15:23	150	5	149	GG54	2555	1108	20.93	12.97	619.72		08025
(Site H)								XX13	2176	1185	20.43				08026
				15:35	508	10	500	GG54	2555	3891	73.50	17.09	232.53		08027
								XX13	2176	3908	67.38				08028

1) Exclusively phytoplankton
2) Including some fragments of medusae.
3) *Neocalanus* abundant.
4) Gelatinous zooplankton abundant.
5) Salpida abundant.
6) Chaetognaths abundant.

7. Data on Calibration of Flowmeters

Flowmeters used for plankton nets were calibrated once in the cruise.

Table 10: Calibration data on flowmeters used for a twin or single NORPAC net and other kind of nets

50-m wire out at St. OS08052 in 158 May 2008.

Flowmeter No.	Wire length (m)	Revolution 1	2	3	4	5	6	Mean
RG2176	50	490*	460	456	452*	466	463	461
RG2555	50	448*	415	415	412*	426	428	421
RG2562	50	536*	495	500	493*	503	511	502
RG3023	50	540*	511*	515	512	526	511	516
RG3024	50	577*	560	528	505*	559	546	548

*: omitted from calculation