

Appendix Table-4

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1988

Series No. of Net	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306
Survey Area	2	"	"	1	"	"	"	"	"	"	1	"	"	"	"	"	"
Survey Date	Sep.26	"	"	Sep.27	"	"	"	"	"	"	Sep.28	"	"	"	"	"	"
Position lat. (N)	10-14.6	10-18.5	10-23.2	10-30.7	10-35.4	10-39.6	10-44.0	10-48.0	10-47.2	10-43.8	10-40.4	10-42.2	10-40.0	10-44.5	10-46.3	10-41.9	10-37.6
of Start long. (W)	85-59.8	86-02.4	86-07.1	86-02.4	86-02.4	86-03.5	86-03.2	86-02.6	86-01.8	86-58.9	85-57.9	86-02.3	86-01.0	86-05.1	86-07.0	86-06.5	86-05.1
Time of Start (LST)	13-03	14-40	16-23	7-48	9-00	10-16	11-30	12-45	14-10	15-32	7-57	9-34	10-42	12-18	13-40	15-00	16-27
Depth of Start (m)	113	111	118	103	110	141	144	134	131	120	109	135	126	156	168	170	134
Position lat. (N)	10-15.3	10-19.1	10-22.4	10-32.4	10-37.2	10-41.3	10-45.6	10-49.6	10-45.7	10-45.7	10-41.9	10-40.5	10-41.8	10-46.0	10-44.7	10-40.4	10-36.0
of Finish long (W)	86-01.4	86-03.8	86-07.6	86-02.0	86-02.5	86-03.6	86-03.1	86-02.3	86-01.5	86-59.1	85-57.7	86-02.3	86-01.0	86-05.2	86-06.5	86-06.2	86-05.4
Time of Finish (LST)	13-33	15-10	16-46	8-18	9-30	10-46	12-00	13-15	14-40	16-02	8-27	10-04	11-12	12-48	14-10	15-30	16-57
Depth of Finish (m)	114	111	140	105	118	144	142	126	132	114	108	135	128	155	168	168	119
Towing Time (min)	30	30	23	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Towing speed (knot)	3.2	3.2	2.6	3.4	3.3	3.3	3.3	3.2	3.0	3.4	3.2	3.3	3.2	3.0	3.2	3.1	3.2
Towing Direction	295	305	210	15	355	355	5	10	170	355	10	180	N	355	175	165	190
Length of Warp (m)	380	380	380	300	380	480	480	400	400	380	380	400	380	500	580	580	500
Wing Spread (m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
State of Haul	Normal	"	"	Normal	"	"	"	"	"	"	Normal	"	"	"	"	"	"
Weather	C	R	C	C	C	C	BC	C	C	C	BC						
Wind Direction	NW	N	SE	S	S	S	S	S	S	S	S	S	S	SW	S	S	SSW
Wind Force	2	4	4	2	3	3	2	2	3	3	2	2	2	2	2	3	3
Atmosph. Pressure (mb)	1017	1015	1015	1018	1019	1019	1019	1018	1016	1015	1018	1019	1019	1017	1016	1015	1015
Air Temperature (°C)	31.5	27.5	27.0	26.0	29.0	29.0	31.0	31.0	29.0	27.5	28.0	30.0	30.0	31.0	30.0	30.0	29.0
Surface WaterTemp (°C)	27.5	27.2	27.5	26.7	27.4	27.8	28.1	28.2	28.0	28.0	27.3	27.7	28.4	27.6	28.4	28.7	28.1
Bottom materials	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Current Direction																	
Total Catches (kg)	217.4	139.4	234.0	65.5	24.2	27.2	58.1	23.4	20.5	23.1	22.4	78.0	202.4	83.0	112.1	57.2	68.2
Remarks																	

Appendix Table-4

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1988

Series No. of Net	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323
Survey Area	1	"	"	"	"	"	1	"	"	"	"	2	"	"	"	"	2
Survey Date	Sep.29	"	"	"	"	"	Sep.30	"	"	"	"	Oct. 1	"	"	"	"	Oct. 2
Position lat. (N)	10-30.6	10-35.4	10-37.9	10-35.6	10-33.4	10-32.7	10-32.1	10-31.1	10-30.7	10-31.1	10-33.9	10-22.2	10-22.1	10-21.8	10-20.6	10-20.7	10-20.9
of Start long. (W)	86-04.0	86-04.2	86-08.5	86-09.4	86-12.1	86-16.0	86-10.4	86-12.1	86-14.2	86-14.6	86-18.5	85-59.6	85-59.7	85-59.9	85-59.6	86-59.6	85-59.5
Time of Start (LST)	7-36	8-50	10-14	11-30	12-52	15-05	8-20	9-37	11-00	12-45	14-15	6-12	10-00	14-04	18-03	22-27	2-00
Depth of Start (m)	107	115	185	162	215	343	170	226	291	320	355	91	91	94	92	91	90
Position lat. (N)	10-32.2	10-37.1	10-36.7	10-34.4	10-34.9	10-33.2	10-30.4	10-31.8	10-31.8	10-32.3	10-34.2	10-20.6	10-20-6	10-20-9	10-22.1	10-22.3	10-22.8
of Finish long (W)	86-04.5	86-04.1	86-09.5	86-10.6	86-12.6	86-16.6	86-10.4	86-12.8	86-14.7	86-15.4	86-19.2	85-59.7	85-59.5	86-00.1	85-59.6	86-59.6	85-59.5
Time of Finish (LST)	8-06	9-20	10-44	12-00	13-22	15-20	8-50	9-57	11-30	13-45	14-31	6-42	10-30	14-17	18-33	22-57	2-30
Depth of Finish (m)	109	123	188	183	225	345	172	234	292	321	360	96	91	97	88	89	88
Towing Time (min)	30	30	30	30	30	15	30	20	30	30	16	30	30	13	30	30	30
Towing speed (knot)	3.2	3.3	3.3	3.3	3.3		3.2	3.0	2.6	2.8		3.2	3.2		3.0	3.2	3.4
Towing Direction	345	5	220	225	340	305	180	315	330	330	310	180	175	190	N	N	N
Length of Warp (m)	300	380	600	580	680	900	580	680	880	900	980	300	300	300	300	300	300
Wing Spread (m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
State of Haul	Normal	"	"	"	"	"	Normal	"	"	"	"	Normal	"	Void	"	"	Normal
Weather	B C	B C	B C	B C	B C	B C	B C	B C	B C	B C	B C	B C	B C	B C	C	B C	B C
Wind Direction	W	W	SSW	Calm	SW	W	N	N	N	N	N	Calm	Calm	W	SE	SE	NE
Wind Force	3	1	1	-	2	3	3	2	2	2	4	-	-	3	3	3	7
Atmosph. Pressure (mb)	1017	1018	1019	1018	1018	1016	1017	1018	1018	1017	1016	1016	1017	1014	1014	1017	1014
Air Temperature (°C)	28.0	28.5	30.0	30.0	31.0	31.2	28.0	29.0	31.0	32.0	31.2	26.0	30.5	30.5	26.8	26.5	26.0
Surface WaterTemp (°C)	27.3	27.9	28.7	29.8	28.8	28.7	27.3	27.4	27.8	29.0	27.8	27.4	27.8	27.6	27.7	27.8	27.4
Bottom materials	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Current Direction																	
Total Catches (kg)	13.6	34.6	117.8	10.5	3000.0	1.4	622.3	713.6	1800.0	732.6	0.3	202.9	18.7	22.4	11.8	74.4	80.3
Remarks												Day-night survey	Lots of jelly-fishes				Lots of jelly-fishes

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	SPECIES														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
3			2.3						4.8						
4		2.8			1.0								0.0		15.6
5		2.2	2.0		0.6								1.9		2.3
6					1.5			63.9	5.3				0.6		14.9
7					1.8			0.5					4.4		74.7
8			65.1					38.4			0.2				4.7
9		3.2	8.5		3.4										10.0
10				0.1							0.0		0.1		116.7
11	0.1	0.1			1.2						0.5				20.3
12					2.7										8.7
13					1.6		0.0			0.0					9.1
14		1.6	0.4	0.0			0.1								8.2
15					1.4						0.5				9.2
16		0.0	1.2	0.0							1.5				7.3
17		0.5		0.1							0.8				12.1
18		0.2			1.7		0.1				1.2				14.2
22					0.0					0.2					18.0
23			0.5		0.9						1.0				23.5
24	2.3	5.1			0.9					0.1	0.6				34.9
25		0.2			0.0						1.5				2.7
26	0.3	0.6			0.2		0.0			0.1	2.8				4.3
27	0.5	4.3				0.1					3.0				5.8
29				0.0					2.5						11.6
30															8.4
31															9.8
32															4.2
33															4.5
34															8.3
35															42.0
36															23.5
37															24.3
38															34.2
39															130.6
40															49.3
41															13.5
42															520.0
43															87.6
44															67.8
45															7.8
46															495.5
47															21.7
48															657.0
49															42.0
50															29.5
51															11.8
52															355.7
53															457.0
54															40.6
55															61.4
56															29.7

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3								0.6							
4		3.2						0.9						0.0	
5				0.0				0.2						0.0	
6								0.3							
7								1.0							
8								2.1							
9		11.7						1.2							
10	0.0														
11				2.2		1.8									
12				0.0		0.0									
13	0.9		0.1	0.6		0.3		0.6		0.1	0.4		0.5	0.3	
14	3.0		0.6	0.3		0.2		1.7		0.2	0.4		0.1	0.1	0.2
15			0.2	0.2		0.2		1.6							
16			0.2	0.1				0.9							
17				1.2		0.9		0.3							
18			0.1	2.3		2.3		1.9							
19				0.1		0.1		0.2			1.1		1.3	1.3	
20				0.5				1.3			10.6		0.4	0.4	
21	0.0		0.6	0.5	12.8			1.4		1.0	0.2		4.5	0.6	
22			0.3	0.3	16.9	2.4		0.5					3.2	0.6	
23				0.5				0.6		0.2				0.0	
24								0.6						0.2	
25								0.6						0.2	
26								0.6						0.2	
27				0.2				0.6		0.2	6.4			0.2	
28				0.1				0.6						0.2	
29				0.1				0.6	0.1					0.2	
30				0.1				0.2						0.1	
31				0.1				0.6						0.2	
32				0.1				1.0						0.2	
33				0.1				0.9						0.9	
34				1.3				1.2						0.1	
35				5.1				3.9						0.3	
36				2.5				4.0						0.9	
37				1.6				3.1						0.3	
38				1.2				2.8						0.5	
39				7.1				2.0						1.0	
40	0.3			1.5				1.1						0.4	
41	0.9			7.1				1.3						1.0	
42	2.7			1.3				1.3							
43	2.1			0.0				1.3							
44	1.7							1.0							
45	0.0							0.1							
46								0.1		450.0					
47								0.4							
48	15.0			3.7				0.3							
49	0.3			3.0				0.3							
50	0.0			0.2				0.3							
51				0.0				0.1							
52								0.1		244.7					
53								0.1		428.2					
54	0.8							6.5							
55	2.2			0.0				1.8							
56								0.3							

NET NO.	1	2	3	4	5	SPECIES	6	7	8	9	10	11	12	13	14	15
56			0.2						0.2							
57	0.3		0.0						0.1							
58	0.0								0.1							
59						0.3			0.3					1.5		
61			0.0			0.6			0.3					0.4	0.1	
62			0.2						0.3							
63			0.1						0.9							
64			0.4			0.6			2.3							
65	0.0		0.1		7.3				0.3							
66	0.1		0.3			0.0			1.4							
67	1.1		0.1			0.0			0.8							
68	0.1		0.1			0.5										
69						0.4										
70	84.5					1.7		15.4			0.1	1.3	4.6			
71	14.7										53.2	0.6	1.6			
73		1.6								98.1	40.1	3.4	3.4			
74									1.1		15.4	1.0	1.0			0.0
75									4.7					2.5	1.1	
76			0.2						4.5						0.0	
77			1.3						4.0		15.4				0.6	
78			1.3			1.3			4.1	6.0				9.6	1.2	
79			1.6						2.6	0.4	48.5			2.7		
80	40.0								0.1							
81	16.2															
82	29.6															
83	168.0															
84			0.0			1.2			0.2							
85			0.0			0.0			1.9		53.3			2.1		
86	7.6								0.1						0.2	
87	63.0															
89			0.2						0.3							
90			0.1													
91									7.1							
92	4.8															
93	3.6															
94	1.4															
95																
96	6.0															
97	0.6															
98	33.5															
99	28.5															
100	16.5															
101	19.6					1.6			0.8							
102	13.9		0.0													
103	0.5															
104	1.1															
105	113.5															
106																
107																
108																
109									0.1	4.3						

NET NO.	16	17	18	19	20	21	SPECIES										29	30
							22	23	24	25	26	27	28					
56	4.6	5.6	-	0.9	-	-	-	-	-	0.0	-	0.5	15.8	-	29.7			
57	-	2.1	-	0.3	-	-	0.0	-	-	0.7	-	0.8	38.1	-	42.7			
58	-	0.4	-	0.7	-	-	0.0	-	-	1.2	-	2.1	8.2	-	13.2			
59	-	0.2	-	0.9	-	-	0.1	-	-	1.3	-	2.4	11.6	-	17.0			
61	-	0.0	-	-	0.1	-	-	-	-	-	-	-	0.3	-	9.7			
62	0.1	-	-	-	0.2	-	-	-	-	-	-	-	0.0	-	2.3			
63	0.1	-	-	-	0.1	-	-	-	-	0.1	-	-	1.1	-	19.7			
64	0.5	0.5	-	-	0.4	-	0.0	-	-	0.0	0.0	-	2.2	-	7.3			
65	-	-	-	0.0	0.0	-	0.1	-	-	-	0.0	-	5.7	-	11.8			
66	-	0.4	-	-	-	-	0.3	-	-	-	0.0	-	1.4	-	25.5			
67	0.1	6.6	-	0.6	-	-	0.1	-	-	0.2	-	1.0	-	-	32.1			
68	5.5	5.5	-	2.9	-	-	0.1	-	-	0.3	-	1.6	-	-	15.1			
69	-	-	-	4.3	-	-	0.4	-	-	0.3	-	1.7	-	-	63.8			
70	-	-	-	0.0	-	-	0.2	-	10.5	0.3	-	1.0	-	-	143.7			
71	-	-	-	-	-	-	-	-	3.5	-	2.1	-	-	-	50.8			
73	-	-	-	-	-	-	-	-	6.8	-	2.3	-	1.3	-	129.2			
74	-	0.1	-	-	-	-	-	-	-	-	6.9	-	0.6	-	18.5			
75	-	-	-	-	0.6	-	-	-	-	-	4.4	-	0.4	-	31.9			
76	-	-	-	0.9	0.9	-	-	-	-	-	0.8	-	-	-	35.8			
77	-	-	-	1.0	0.2	-	-	-	-	-	-	-	-	-	50.8			
78	-	-	-	0.5	-	-	-	-	-	0.3	-	5.3	28.8	-	73.4			
79	5.4	13.9	-	0.0	-	-	-	-	-	0.3	-	11.6	378.0	-	97.5			
80	7.9	166.2	-	0.0	-	-	0.0	-	-	0.3	-	144.0	-	-	414.3			
81	-	12.8	-	-	-	-	-	-	-	0.0	-	-	-	-	223.3			
82	-	0.2	0.6	-	0.4	-	-	-	-	0.9	0.4	-	-	-	328.0			
83	-	0.2	-	-	0.3	-	-	-	-	-	-	-	-	-	77.7			
84	-	0.2	-	-	0.1	-	-	-	-	-	0.0	-	-	-	2.8			
85	-	69.0	-	0.6	-	-	-	-	-	-	0.0	-	-	-	2.9			
86	-	56.0	-	3.0	-	-	-	-	-	-	0.3	-	-	-	135.4			
87	-	-	-	-	0.5	-	-	-	-	0.0	-	-	-	-	208.0			
89	-	0.1	-	-	2.5	-	-	-	-	0.0	0.1	-	-	-	21.8			
90	-	0.1	-	-	6.0	-	-	-	-	0.0	-	-	-	-	5.4			
91	-	3.6	-	-	-	-	-	-	-	0.0	-	-	-	-	10.7			
92	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	30.4			
93	-	-	-	4.2	-	-	-	-	-	0.5	-	1.8	-	-	76.8			
94	-	-	-	1.0	-	-	-	-	-	2.6	-	0.0	-	-	111.6			
95	-	-	-	34.4	-	-	6.9	-	-	4.7	-	-	-	-	943.9			
96	-	-	-	16.0	-	-	8.0	-	-	1.1	-	-	-	-	236.7			
97	-	-	-	8.1	-	-	2.4	-	-	-	-	-	-	-	31.6			
98	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	55.0			
99	-	-	-	1.9	-	-	-	-	-	0.0	-	0.0	-	-	31.3			
100	2.8	9.2	-	1.5	0.4	-	-	-	-	0.4	8.0	-	3.6	-	18.0			
101	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	66.8			
102	-	-	-	1.1	-	-	-	-	-	-	-	-	-	-	124.3			
103	-	-	-	0.8	-	-	0.2	-	-	-	-	-	-	-	36.7			
104	-	-	-	3.0	-	-	3.0	-	-	-	-	24.6	-	-	48.3			
105	-	-	-	19.7	-	-	9.8	-	-	-	-	0.0	-	-	848.7			
106	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	4.5			
107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70.8			
108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9			
109	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	11.0			

NET NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
110	4.2	-	-	-	-	-	61.1	-	-	7.1	-	26.5	-	-	-
111	-	-	-	-	-	-	-	0.9	-	-	-	0.1	-	0.0	-
112	-	-	-	-	-	-	-	0.1	1.6	-	-	0.1	-	1.1	-
114	-	2.6	1.5	0.3	-	-	-	0.1	-	-	-	1.0	-	0.0	-
115	-	-	-	-	-	0.1	-	0.3	-	-	-	0.0	-	0.0	-
116	-	-	0.4	0.2	7.0	0.4	-	0.3	-	-	2.1	0.0	4.3	0.0	-
117	1.6	-	4.3	-	-	-	-	7.5	-	-	-	-	-	-	-
118	-	-	17.9	-	-	-	-	0.3	2.0	-	-	-	-	-	-
119	2.9	-	-	-	-	-	-	0.1	3.0	-	-	-	-	-	-
120	103.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
123	10.3	-	-	-	-	-	1.1	-	-	1.7	-	8.6	-	-	-
125	322.0	-	-	-	-	-	-	-	-	-	-	154.0	-	-	-
126	361.6	-	-	-	-	-	-	-	-	-	-	115.2	-	-	-
127	18.2	-	24.5	-	-	-	-	-	-	-	-	0.7	-	0.0	-

NET NO.	SPECIES														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
110	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	40.2
111	-	-	-	-	-	-	6.1	-	-	-	-	-	-	-	110.0
112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0
114	-	0.0	-	-	3.2	-	0.1	-	-	0.1	0.2	-	-	-	9.1
115	0.1	0.3	-	-	0.1	-	-	-	-	1.0	-	-	-	-	15.7
116	-	0.0	-	-	6.3	-	-	-	-	-	-	-	-	-	14.4
117	-	0.0	-	-	5.8	-	-	-	-	-	0.2	-	-	-	33.0
118	-	0.0	-	-	11.5	-	-	-	-	0.2	1.3	-	-	-	47.7
119	-	-	-	0.0	-	-	-	-	-	-	1.0	-	-	-	40.3
120	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	212.1
122	-	-	-	62.9	-	-	-	-	-	-	-	-	-	-	1.5
124	-	-	-	-	-	-	-	-	-	6.4	-	-	-	-	99.7
125	0.0	11.2	-	-	-	-	-	-	-	-	-	-	-	-	523.6
126	3.2	3.2	-	-	-	-	-	-	-	1.8	-	-	-	-	577.8
127	-	-	-	-	-	-	-	-	-	-	19.6	-	-	-	91.0

CATCH DENSITY (kg/tow) BY SPECIES AND TOW FOR 2nd CRUISE

NET No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
128	-	-	-	1.1	-	-	-	-	-	18.3	-	-	-	-	56.1
129	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	39.5
130	1.0	0.1	49.7	-	-	-	-	-	-	18.3	-	-	-	-	167.8
131	-	4.6	-	0.9	-	-	-	0.2	6.7	-	-	-	1.6	-	23.8
132	-	1.5	-	-	-	-	-	-	-	4.1	-	-	3.1	-	31.8
134	-	-	-	13.4	-	-	-	-	-	0.0	-	-	-	2.6	42.9
135	-	10.0	-	-	-	-	-	2.2	-	0.0	6.3	-	-	0.0	35.5
136	0.1	0.4	-	-	8.8	-	-	-	-	3.0	-	-	-	0.0	23.9
137	-	1.9	-	-	1.9	0.9	-	-	0.7	3.0	-	-	1.9	-	16.1
138	0.1	1.9	-	-	0.8	0.8	-	-	-	3.9	-	-	0.2	-	27.0
139	-	4.2	-	-	-	-	-	-	-	1.3	-	-	-	-	13.4
140	-	8.7	-	1.0	-	4.8	-	-	3.8	2.8	4.1	-	-	0.0	50.8
141	-	8.3	-	-	-	1.0	-	-	3.7	6.1	-	-	-	2.1	35.2
142	-	7.3	-	-	-	7.0	-	0.4	2.5	10.3	-	-	-	1.9	53.9
143	-	7.7	-	-	-	1.0	-	-	1.0	2.5	-	-	-	7.2	49.7
144	-	5.1	-	-	-	1.9	-	-	0.9	10.2	-	-	0.3	-	22.0
145	-	6.5	-	-	-	2.0	-	-	0.6	16.6	-	-	-	0.0	44.5
146	-	3.5	-	-	-	-	-	-	0.6	3.7	-	-	-	0.0	44.8
147	-	0.1	-	-	-	-	-	-	14.9	5.6	-	-	-	-	42.1
148	-	-	-	-	-	-	-	-	15.0	3.6	-	-	-	-	73.8
149	-	-	-	-	-	-	-	-	13.4	6.0	1.9	4.1	-	-	57.8
150	-	0.8	-	-	-	-	-	-	16.0	-	2.2	7.6	3.1	-	77.3
151	-	0.5	-	-	-	1.2	-	-	11.6	-	10.2	7.2	0.0	-	126.0
152	-	0.7	-	-	-	0.6	-	-	0.1	3.1	-	10.2	2.8	-	68.0
153	-	1.1	-	-	-	0.8	-	-	0.1	1.9	-	-	6.2	0.0	126.0
154	-	0.6	-	-	-	-	-	-	9.6	1.9	-	-	0.0	-	38.6
155	-	-	-	-	-	-	-	-	7.4	-	6.2	1.6	0.0	-	40.2
156	-	0.5	-	-	-	-	-	-	10.1	1.4	0.0	9.3	-	4.2	58.9
157	-	-	-	-	-	-	-	-	2.4	-	0.7	6.9	-	6.6	64.3
158	-	-	-	-	-	-	-	-	3.4	-	0.1	0.9	-	0.3	9.1
159	-	-	-	-	-	-	-	-	0.6	-	0.5	2.5	-	4.9	16.9
160	-	-	-	-	-	-	-	-	0.2	-	0.1	1.0	-	-	8.7
161	-	6.2	-	-	-	0.4	-	-	0.8	-	0.5	0.5	-	-	64.5
162	-	0.3	-	-	-	-	-	-	0.2	1.4	1.2	0.2	0.0	-	20.4
163	-	0.3	-	-	-	-	-	-	5.4	-	0.0	2.5	-	1.0	26.1
164	-	0.9	-	-	-	1.5	-	-	2.9	-	0.9	1.5	-	5.4	39.4
165	-	-	-	0.3	-	-	-	-	9.3	-	0.9	0.8	-	3.9	36.3
166	-	4.2	-	-	-	-	-	-	8.2	0.2	0.6	0.6	-	8.3	17.1
167	-	4.0	-	-	-	-	-	-	-	2.5	0.6	0.6	-	-	29.2
168	-	6.4	-	-	-	-	-	-	-	0.3	0.7	-	0.7	0.0	10.5
169	-	4.4	-	-	-	-	-	-	-	0.9	0.5	-	1.5	0.0	13.5
170	-	1.9	-	-	-	0.2	-	-	9.3	0.9	2.3	-	0.7	0.9	23.7
171	-	2.9	-	-	-	0.6	-	-	1.7	2.2	6.7	0.0	16.7	1.1	65.6
172	-	2.6	-	0.3	-	0.9	-	-	1.1	0.2	1.8	0.5	-	0.9	37.4
173	-	0.2	-	-	-	0.2	-	-	-	-	1.3	-	-	0.4	12.8
174	-	-	-	-	-	-	-	-	-	0.5	2.2	-	0.2	-	0.6
175	-	8.6	-	-	-	-	-	-	-	0.5	0.4	-	0.2	0.0	23.3
176	-	2.0	-	-	-	-	-	-	-	-	0.4	-	0.2	-	5.7
177	-	4.8	-	-	-	-	-	0.4	0.1	-	3.1	-	0.2	0.2	16.9
178	-	7.2	-	-	-	-	-	-	-	-	0.6	-	-	-	14.1

CATCH DENSITY (kg/tow) BY SPECIES AND TOWS FOR 2nd CRUISE

NET NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
128	0.1	8.4						10.1			27.8	11.8			
129			0.8	0.8	1.2						8.7	35.8	1.7		0.9
130			32.4	32.4	0.7		4.9		0.7	0.5					0.3
131				5.8						0.0		2.6	4.9		0.0
132	0.7			0.9			1.8		5.8	0.2	5.7	7.5	4.8		
134	2.2			1.8	0.2		1.9		0.2	0.2	1.9		2.2		0.1
135							1.4		1.2	0.2			3.5		0.4
136	0.1						1.9			1.4		14.4			0.2
137										0.0					4.1
138				0.4			8.6		2.1	4.1					
139	0.2						11.5			0.0				0.8	0.9
140	0.4			2.4			11.3			1.3				1.0	0.5
141	1.3				6.1		2.6		0.5					1.0	
142	0.5				2.6									5.4	
143	0.3			0.1			2.6		0.0	0.0			4.4	16.4	0.0
144	0.3														
145	0.3				3.7		8.2		0.8	0.7					
146									4.2	0.7					
147					2.1				4.2	1.2					
148					1.2				6.2	3.6					1.4
149					29.5				2.8	11.2					0.9
150					18.5				0.8	0.8				12.3	6.8
151					21.0				0.8	0.8				17.9	0.6
152					6.2				1.6	0.8					
153					2.9				0.6	0.6					
154					1.3				0.0	0.2				0.5	2.1
155					6.9				1.9	0.7					
156									0.6	0.1					
157					0.7				1.2	0.1					
158					0.7				0.6	3.1					
159									0.4	1.0					0.2
160					1.2		0.4		2.4	4.1					1.2
161					2.1				4.7	2.0					1.2
162					2.0				5.2	2.3					0.6
163	0.3				1.9		0.3		0.9	0.7					0.6
164					1.5		0.9		1.0	1.9					0.1
165					4.9										0.0
166															0.0
167	0.5			0.8					0.2	0.9				2.5	
168					1.2				0.6	1.1				0.9	0.6
169					5.6									2.1	2.1
170					10.6					0.3				0.9	0.5
171					0.9	16.7			0.4	0.4				0.9	0.2
172					0.7										
173										0.0					
174					0.5				0.0	0.0					
175				0.1	0.2										0.4
176					1.5										0.0
177					0.2										
178					0.2										

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	SPECIES	8	9	10	11	12	13	14	15
179			0.0					0.5				3.6			0.1	
180			0.2					0.7				2.7			0.3	
181								1.3				11.2			0.0	
182			1.5					1.5				4.9			0.2	
183			0.3	0.2		0.4		0.9				3.6		7.0	0.5	
184			1.0					0.2				26.0				
185								2.1				4.8				
186			0.1					0.5				13.8		0.5		
187			0.2					9.4				2.5				
188			2.1			0.6		4.9				22.6				
189			1.7			0.0		1.9				17.3		0.2		
190		7.2	0.8			0.6		2.8				4.0				
191			3.0			0.0										
192			0.2			0.6										
193			0.0			2.0										
194			0.0													
195			0.0													
196			0.0					0.1				0.7			0.3	
197								0.2				11.0			0.2	
198																
199								0.1				7.0			0.1	
200								0.8				7.7			0.2	
201								0.4				2.2			0.1	
202								1.6							0.2	
203																
204					0.0			0.0								
205								5.0							0.6	
206								7.9							0.1	
207								12.2								
208						0.1		2.1				0.3			0.2	
209						0.0		0.1				0.3			0.1	
210						0.1		0.8		0.4						
211								8.4				0.3			0.6	
213								2.6				0.7			0.3	
214								8.7							0.5	
215								0.6							0.1	
216								0.7								
217					16.4			9.6								
218											225.3		28.6			
219											2560.0		88.3			
220								0.8				0.4				
221								0.6							1.1	
222								2.4							0.5	
223		16.9								6.8		2.9		0.1	0.2	
224								2.1							0.0	
226								0.1							0.0	
227								1.1						1.8	0.7	
228								3.2							0.6	
229								0.6				17.0			0.6	
230						5.1		2.6				2.2			0.4	

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
179		0.2			0.0										4.6
180		0.0			0.2										5.2
181					0.1						0.2				16.7
182				0.0	2.0					0.1	0.3		0.0		12.0
183					1.3						0.2				20.1
184					0.3										5.2
185															26.7
186		1.3									0.2		0.5		12.6
187	0.1	0.1			0.8								1.0		18.0
188	1.7			0.0	17.5								6.4		50.1
189		1.1		0.0	4.8						0.0		5.9		52.2
190	8.0	15.8		0.8	0.4					0.2		0.4	6.8		49.4
191					8.1										37.2
192					4.0								0.8		31.2
193	1.4	2.6			0.2							0.4	1.0		9.2
194	0.2	4.2		0.0						0.2		5.0	0.6		10.8
195		2.7		0.4						0.8		3.4			13.0
196		0.6									0.3		1.0		7.7
197	0.3		6.0		0.0						0.1		0.5		14.0
198								0.9	0.9		0.2		0.4		4.3
199													1.2		23.2
200		13.0			0.0								0.2		12.7
201	0.1	0.6			0.5				0.2						12.3
202															10.6
203					0.5						0.2				4.7
204															9.5
205					0.1								0.0		15.5
206		0.1			4.7										16.7
207		0.1			1.8										9.7
208	0.3	0.1			4.7										14.6
209									10.5						17.4
210	0.1	0.1	0.4		2.7			9.0					2.5		36.8
211			0.3					10.7	2.3						45.9
213		0.0			7.1			3.2		0.0			17.3		52.7
214			0.5		6.4								27.7		26.8
215	0.4	1.1			8.7								2.6		3.8
216					0.2						0.1		0.0		85.6
217	14.9	26.8		1.5	7.4										625.9
218		0.0		35.3						0.9					2702.1
219				0.0	2.4					0.2					6.5
220		2.0			0.9										7.7
221	0.1				0.0										15.8
222					0.0										57.9
223					4.2					0.1			0.6		10.9
224			0.4		0.1					0.9					12.6
226					10.7			0.7		0.1					25.1
227					0.0					1.1					17.0
228					0.6					2.0					30.2
229	0.6	1.2			0.6					0.3			2.4		107.9
230	1.3	5.1		0.0	2.6								66.6		

CATCHES (KG) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
231			7.5					0.5			13.0			1.2	
232	1.8		2.4			0.6		1.2						0.1	
233	16.8		2.5			1.9		1.3			1.5			0.1	
234	24.3		1.1					0.6			0.7	1.1			
235	5.6		1.6					0.8			4.8	0.0			
236	0.0									25.2					
237	0.0									63.0					
238	0.9		0.3												
239	15.3		5.7			5.7		5.7							
240	5.7		0.6			1.2					1.1	0.3			
241	5.4		2.8			2.0		1.7			2.0				
242	4.2		2.0			0.7		0.9			0.4				
243	2.8		1.1			1.7		0.9			1.9				
244	2.2		3.0					2.4							
245	5.1		2.4					1.0							
246			0.2		7.2			0.7							
247	5.3							12.8				1.6			
248	0.8											1.6			
249	9.8									54.2		0.8			
250	9.6									22.4		0.6			
251	74.2									105.0		3.8			
252	28.0		0.0					0.0				0.3			
253	131.8		0.0							122.4		7.5			
254	88.4		0.0							64.8					
255	0.8		0.0							83.4					
256										200.0					
257	12.0		0.0								0.5				
258	13.9		1.9							566.4					
259	383.9		6.3							218.8	2.4				
260	4.7									118.6					
261	4.0									155.3					
262	1.4									96.0					
263	1.1									64.9					
264	73.4											0.0			
265												0.2			
266															
267															
268	448.0														
269	184.6														
270															
271		1.6												0.0	
272	93.8														
273	16.5														
274															
275	29.5														
276	377.1		5.9												
277															
278															
279	4.6														
280	4.5														

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
231		0.5			0.5					1.7			3.0		40.7
232	2.7	3.3			0.6					0.3		0.3			17.6
233	0.6	1.9		1.2	0.6					1.2		0.6	1.2		62.2
234		3.2		3.2						5.0		0.0			58.3
235				4.5						10.5		0.6			49.6
236		2.4		1.6						2.4		1.6	0.0		33.6
237		1.4		4.2						5.9		18.2	6.3		77.3
238		9.0		2.7						1.5		5.4	18.9		109.2
239		10.8								0.3		0.3			30.0
240				5.7						1.1					114.7
241				3.3						0.3					32.0
242		4.0		0.3	0.8					0.5					27.4
243		8.8		4.0	0.4					1.4					47.7
244		8.1		0.7	0.9					0.5		0.0	0.4		21.5
245	0.0	1.7			5.1					0.6					27.4
246	0.7	2.4			4.0					0.1					17.4
247		2.1			0.8					0.1					19.2
248		2.4		0.0	3.2										107.0
249					2.5										16.7
250															95.3
251				0.3						0.0					34.2
252				0.0						0.0					186.9
253										0.1					29.1
254				0.0						0.2		4.7			265.5
255				1.2						0.4		1.5			165.2
256				0.8						0.4		20.0			92.1
257		2.0		2.0						1.2		2.1			287.6
258		2.1		1.6						1.3		6.3			50.0
259		6.3		6.3						0.3		7.1			1063.9
260				9.4						1.2		4.0			257.7
261		0.0		2.6						0.7		11.3			131.1
262		0.0		1.4						1.6		29.4			178.1
263		1.1		1.1						2.4		15.5			133.4
264		2.8		1.4						0.8					167.3
265															5.5
266															11.1
267							1.0								77.5
268		3.2		9.6											508.8
269				14.8			1.8			9.8					231.4
270				22.1			6.2			4.4					45.8
271															15.3
272		3.3		3.3			1.8			1.1					187.9
273				13.7						3.3					77.5
274		1.9			1.9										39.9
275				2.0											91.6
276		3.4		68.6											531.4
277				2.1	0.0										403.2
278				19.2			0.0			0.2					326.6
279				1.7			0.0			0.3		0.0			54.1
280				4.5						1.4		0.0			161.9

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
281	2.1	-	-	-	-	-	-	-	-	-	-	2.1	-	-	-
282	-	-	3.6	0.0	-	-	-	1.5	-	-	6.3	-	1.5	0.4	-
283	-	-	0.2	-	-	-	-	0.4	-	-	22.6	-	0.8	0.3	-
284	-	-	3.8	-	-	-	-	7.2	-	-	6.6	-	0.8	0.0	-
285	-	-	6.0	0.5	-	-	-	11.0	-	-	4.0	-	7.0	0.2	-
286	-	-	0.0	-	1.0	-	-	9.4	-	-	4.7	-	-	-	-
287	0.9	-	81.1	-	-	-	-	-	-	-	-	-	-	-	-
342	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
343	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
344	2.8	-	-	-	-	-	-	-	-	-	-	1.4	0.0	0.0	0.0
345	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
346	4.9	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0
347	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
348	-	-	-	-	-	-	66.6	-	-	-	-	1.5	0.0	0.0	0.0
349	0.8	-	-	-	-	-	49.6	-	-	-	-	4.8	0.0	0.0	0.0
350	-	-	-	-	-	-	-	-	-	-	-	4.50	0.0	0.0	0.0
351	-	-	-	-	-	-	-	-	-	-	-	6.0	0.0	0.0	0.0
352	-	-	-	-	-	-	-	-	-	-	-	5.3	0.0	0.0	0.0
353	0.0	-	-	-	-	-	38.8	-	-	-	-	3.0	0.0	0.0	0.0
354	-	-	1.8	1.8	-	-	-	0.6	-	-	7.8	-	3.8	0.0	0.0
355	-	-	23.8	-	-	-	-	-	-	-	2.8	0.0	0.0	0.0	0.0
356	-	-	4.8	-	-	-	-	0.8	-	-	0.3	-	2.3	0.0	0.0

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
281	-	-	-	21.3	-	-	2.1	-	-	0.5	-	-	-	-	259.7
282	-	-	-	-	6.0	-	-	-	-	0.1	0.6	-	3.0	-	30.7
283	-	-	-	-	0.1	-	-	-	-	0.1	1.2	-	0.2	-	28.5
284	-	-	-	-	7.9	-	-	-	-	0.1	-	-	3.0	-	36.0
285	-	-	-	-	9.5	-	-	0.0	0.0	0.1	-	-	5.0	-	53.0
286	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	65.4
287	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114.6
342	-	3.0	-	35.8	-	-	6.0	-	-	4.5	-	-	-	-	348.1
343	-	-	-	6.8	-	-	-	-	-	1.1	-	-	-	-	178.4
344	-	-	-	15.5	-	-	1.4	-	-	1.7	-	1.4	-	-	137.2
345	-	6.4	-	8.0	-	-	0.0	-	-	6.4	-	1.6	-	-	192.0
346	-	16.5	-	14.8	-	-	-	-	-	3.4	-	3.3	-	-	177.8
347	-	-	-	54.4	-	-	0.0	-	-	3.2	-	-	-	-	291.2
348	-	-	-	0.0	-	-	0.3	-	-	-	-	-	-	-	88.8
349	-	-	-	0.8	-	-	1.6	-	-	0.0	-	-	-	-	59.2
350	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	5.2
351	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.4
352	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0
353	-	-	-	11.2	-	-	0.7	-	-	0.0	-	-	-	-	55.3
354	-	-	-	-	6.0	-	-	-	-	0.0	-	-	10.2	-	56.0
355	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86.1
356	-	1.6	-	-	8.0	-	-	-	-	0.0	-	-	2.4	-	45.3

CATCHES (Kg) PER STANDARD TOW BY STATIONS

STATION	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
289		8.0								0.3	2.1		5.0		17.8
290		12.7						0.0		0.4	0.6		16.6		33.5
291		1.8						0.0	8.1		0.3		15.5		9.1
292		0.0					0.0	1.7	11.2		1.2	0.2	1.5		4.0
293		0.0				2.3	0.0	2.9	8.3		4.4	4.6	4.0		39.1
294							2.2	1.4			0.7	0.7	1.5		70.8
295		4.6									3.7		1.2		15.0
296		0.6				0.2	0.2	1.6	1.0		1.6		2.5		14.4
297		0.3				2.0	0.5	2.5	17.6		0.7		1.5		21.8
298						1.1	0.5	3.2	3.2		0.0	2.2	16.9		74.2
299							0.3	0.3	2.9		0.0	0.2	0.7		19.7
300							2.6	1.3	14.7		1.3	2.0	0.7		10.7
301						0.3	0.0	1.3			1.4	2.0	0.7		66.1
302		0.0									0.0		6.4		15.1
303							0.0				0.0		1.0		17.1
304		0.0				0.2	0.0	0.0			0.0		4.6		22.2
305						2.2	0.6	2.5			0.6		13.0		28.1
306							3.7	0.8	2.8		1.6	3.7	1.1		58.0
307						2.4	4.9	0.8	8.7		13.0	9.7	2.4		111.1
308							4.2	0.7	10.3		2.1	11.1	2.8		102.3
309											2.5				6.9
310		3.2									1.4		0.5		9.4
311		5.8						0.5	0.0		1.2		2.5		12.0
312		0.9				0.7		2.1	2.5	0.2	3.0		5.3		20.6
313						2.1	0.8	0.6	4.1		0.4	0.6	0.7		24.6
314							1.7	0.4	1.4		0.4	1.1	0.7		29.6
315							1.7	0.5	1.9		0.2	3.2	0.5		38.2
316								0.0			1.6		0.5		11.4
317		3.6						0.0	0.1	0.5	5.0	0.0	0.3		26.2
318		1.7				1.1		0.5	4.6		1.0	1.5	1.0		39.2
319		5.7				2.2		0.0	5.4		0.4	0.9	27.4		44.8
320		0.4				0.4	0.0	0.4	2.1		0.4	0.4	14.8		27.0
321		0.0						0.2	0.7		0.0	0.4	4.8		12.6
322								0.0	1.2		0.2		0.5		15.7
323		2.0				3.0		0.2	3.2	0.9	0.1		0.3		10.8
324		3.8				0.2		0.2	3.6	2.4	0.4	0.2	0.6		27.2
325		1.9				1.2		0.2	3.6	2.9	1.6	0.2	0.6		50.6
326		2.7				4.4		0.2	0.1	2.9	0.4	0.2	0.4		22.3
327		0.3				0.7		0.2	4.7	2.9	1.4	0.2	2.1		28.0
328		5.7					0.0	0.7	5.7		2.3	0.5	2.1		16.7
329		0.3						0.7	0.7		0.9		0.2		24.1
330		1.5							0.7	0.4	0.4		0.2		15.2
331		1.6							1.9	0.7	1.0		1.7		13.2
332		0.3							5.4	0.7	0.9		13.7		38.4
333		0.5							0.3	0.2	3.7				15.1
334		1.9								0.2	4.3				15.1
335		0.5								0.1	1.3				4.5
336		1.9								0.7	1.3				13.7
337		1.3								0.1	1.6				21.2
338													8.0	0.6	

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
289	0.1														
290	0.6			0.1										0.8	0.0
291	0.3			0.6										0.5	
292				0.0					0.0	1.3					
293					0.4					2.9					0.0
294					0.6					0.0					0.0
295					0.0										0.0
296							0.7								
297					0.8									2.1	0.0
298					0.7					0.7				1.2	0.0
299					2.2				0.5	0.5					0.0
300					2.2				0.9	0.3					0.0
301					0.1				0.9	0.7				0.7	0.0
302					0.0				1.3	1.5				0.3	
303					0.9				0.0	0.9				1.0	
304					5.6					0.6				5.6	0.0
305					8.1					0.9				0.9	0.0
306					1.6					0.6				0.9	0.0
307					2.4				1.8	2.6				0.9	0.0
308					1.4				2.1	4.9					0.5
309					0.0					2.0					
310					0.0					0.0					
311					0.2					1.6					
312					1.3					1.4					
313					1.9				0.0	0.2				5.8	0.2
314					0.7				3.3	1.4				0.7	
315					2.0				1.5	1.5					0.2
316					3.7				1.5	2.0					0.5
317					1.5					0.3					0.2
318					0.8				4.1	0.3					0.2
319					0.4				3.5	0.3				0.8	0.2
320					0.8				1.7	1.3				0.4	0.2
321					0.5				2.5	1.3				0.2	0.2
322					0.2				0.7	1.3				0.5	0.0
323					0.1				2.3	0.7				0.2	0.0
324	0.1				1.4				0.9	0.0				0.6	0.0
325	0.0				0.8				1.3	0.2				3.5	0.2
326	0.4				0.5				4.7	0.6				5.3	0.2
327					3.5				2.1	0.7				4.1	0.2
328					0.5				5.6	0.7				4.3	0.2
329					0.2				1.6	0.2				4.5	0.2
330					0.2				0.7	0.1					0.5
331									3.7	0.2					0.2
332									0.3	0.0					0.0
333					0.3				0.5	0.0				0.0	0.0
334									0.1	0.0					0.1
335									0.9	0.0					0.0
336					2.4				0.3	0.0					0.0
337	0.1								0.3	0.0					0.0
338	0.4								0.0	0.2					0.4

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	SPECIES														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
339	-	-	-	-	-	-	1.8	-	9.3	1.9	-	-	-	-	0.2
340	-	-	-	-	-	-	0.4	-	2.5	0.8	-	-	-	-	0.1
341	-	-	-	-	-	-	-	-	-	0.0	-	-	8.7	-	0.1

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	SPEIES														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
339	-	0.4	-	-	-	-	-	-	-	-	0.2	-	8.0	-	29.7
340	-	0.6	-	-	-	-	-	-	0.7	-	0.1	0.0	7.8	0.1	15.3
341	-	1.4	-	-	-	-	-	0.1	0.1	-	1.3	-	-	-	14.1

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	0.0	0.0	0.6					0.3						0.1	
2		0.4	12.8					12.8	0.2		2.2		0.3	0.7	
3			28.8					2.7							
4			48.2												
5			9.0		0.0	4.5		18.0		0.0				0.0	
6								0.6						0.0	
7								3.6						0.5	
8								3.4			6.0			0.4	
9						0.0		0.7			6.1			0.0	
10						1.7		17.1			4.7			0.0	
11								6.9							
12										375.0					
13								0.0		409.5					
14										7.5					
15							0.0	11.0			33.1				
16								2.9			3.9				
17						1.5		4.2						1.2	
18						2.3		2.1						0.2	
19						1.0		0.0							
20						0.0		0.0						0.1	
21								0.0		0.7					
22								0.0		184.0					
23								0.5		22.0				0.2	
24								0.7							
25								12.4			10.4				
26								25.4			0.5				
27								24.0							
28								15.0			2.0				
29								2.7							
30								1.1							
31								15.9			5.6				
32								15.6			63.2				
33								3.2			36.6				
34								6.6			8.4				
35								4.7							
36															
37															
38	122.0						96.9								
39	3.2														
40															
41															
42	33.6						0.1								
43								4.8							
44	12.9							16.5							
45								43.1							
46	0.0							5.9							
47								20.9							
48								29.9							
49								34.5							
50								3.4			7.3				
51	575.0							0.5			5.3				
52	125.3						120.0	2.5							

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1															
2	18.4	8.8	0.8										15.6		37.3
3	2.7	0.0		0.0											95.4
4	24.9	1.6		4.5	0.0										71.1
5	499.5	4.5		0.0		1.4									97.9
6	2.0	5.2				0.9					0.9		14.5		599.9
7	1.8	2.5				0.2							10.7		36.9
8	0.0	2.1				0.0					0.0		6.0		25.9
9	0.2	6.0			0.0	0.2							9.6		27.3
10					0.3	5.5							10.4		23.8
11	1.7	0.0			3.4	1.7							17.1		40.5
12	1456.0	160.4		0.5						0.0		1.7			414.2
13	30.0	150.0		9.0						0.0		6.9	0.0		1484.6
14	31.5	216.0		8.1						0.1		13.5	0.0		570.2
15		0.6		4.2						0.3		0.3			810.1
16				2.1							4.4		24.8		26.7
17	3.4	0.0		8.5											104.8
18	98.4	762.4		18.9						0.1		2.8	2.8		207.2
19		21.0		6.9						4.0		3.1			197.8
20		41.4		0.5						0.0		0.0			156.4
21		7.5		0.7						0.3		2.3			813.3
22				0.9						0.2		3.5			97.0
23		0.8		12.0						0.8			0.8		305.9
24		5.0		15.0						0.0			0.4		6.7
25		6.0		0.0						0.1			1.5		66.2
26		2.7		0.7						2.0		1.0			77.6
27				0.7						0.0					108.8
28		0.8		1.2						0.0					157.7
29		5.0		0.5						0.0					85.9
30		6.0		0.7						0.0					51.3
31		2.7		0.9						0.0					106.9
32				0.5						0.0					77.4
33				0.9						0.0					28.6
34										0.3					54.9
35		20.7		52.8						0.0					25.5
36	0.4	0.6		63.6						0.7					1194.6
37										15.9					215.2
38															4.5
39															5.8
40															1372.1
41	890.5	399.4													36.1
42															1176.1
43	47.5	99.2													65.0
44	0.0	35.2													414.3
45	4.7	360.7													751.8
46	0.0	705.9		0.0											313.6
47	0.0	199.5		0.2											23.9
48		0.4		2.7											58.3
49		1.1		2.7											628.0
50		5.3													413.7
51															
52															

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	SPECIES														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
53	-	-	-	-	4.2	-	0.0	-	-	0.0	-	-	1.4	-	55.1
54	-	-	0.3	0.0	12.3	-	-	-	-	0.1	-	-	0.0	-	40.3
55	-	-	-	-	0.9	-	-	-	-	0.9	-	-	-	-	38.4
56	-	0.3	-	-	6.4	-	-	-	-	-	-	-	-	-	50.5
57	-	0.6	-	-	11.6	-	-	-	-	0.2	-	-	-	-	30.4
58	-	0.1	-	7.1	0.7	0.1	-	-	-	0.1	3.3	-	0.0	-	37.0
59	-	-	-	82.0	-	-	-	-	-	0.0	-	-	-	-	2666.7
60	-	-	-	0.4	0.0	-	0.0	-	-	-	-	0.0	-	-	2560.0
61	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	56.0
62	-	0.5	-	-	-	-	-	-	-	-	-	-	0.0	-	610.6
63	-	-	-	-	0.3	-	-	-	-	0.1	7.7	-	12.2	-	10.9
64	-	-	-	-	1.9	-	-	-	-	0.1	-	-	-	-	39.1
65	-	-	-	-	0.3	-	-	-	-	0.1	-	-	-	-	38.2
66	-	88.7	-	-	1.1	-	-	-	-	0.2	0.6	-	2.9	-	48.1
67	-	6.3	-	-	0.5	-	-	-	-	0.0	-	-	0.0	-	3.1
68	-	0.2	0.4	-	4.3	2.6	-	-	-	0.0	-	-	0.0	-	45.0
69	-	14.4	-	1.6	5.6	-	-	-	-	0.0	-	-	0.8	-	95.6
70	3.2	19.2	-	7.4	2.1	-	-	-	-	0.0	-	-	0.0	-	115.3
71	30.2	-	-	0.4	-	0.2	-	-	-	0.3	-	-	-	-	1035.0
72	-	1.3	-	4.8	-	-	-	-	-	0.2	-	-	-	-	48.6
73	-	-	-	0.4	-	-	-	-	-	0.3	-	-	-	-	1260.8
74	19.1	-	-	4.8	-	-	-	-	-	0.2	14.4	1155.7	-	-	48.6
75	-	0.9	-	1.8	-	-	-	-	-	0.1	-	-	-	-	31.6
76	-	6.4	-	1.7	-	-	-	-	-	0.9	-	-	-	-	39.6
77	-	1.5	-	9.0	-	-	0.5	-	-	2.5	-	-	-	-	63.5
78	4.0	17.1	-	-	2.0	-	-	-	-	0.0	-	-	6.6	-	108.1
79	0.8	0.8	-	-	-	-	-	-	-	0.2	-	-	5.8	-	33.9
80	0.3	0.3	-	0.9	-	-	-	-	-	0.7	-	-	13.8	-	35.8
81	-	23.0	-	2.5	-	5.7	-	-	-	0.9	-	-	0.0	-	135.5
82	-	0.7	-	8.4	-	-	-	-	-	1.1	-	-	0.0	-	90.0
83	-	0.0	-	10.2	-	-	-	-	-	4.9	-	-	6.1	-	219.1
84	0.8	1.1	-	0.3	-	-	-	-	-	0.1	-	-	1.0	-	28.9
85	120.3	34.2	-	2.9	-	-	-	-	-	-	-	-	1.0	-	176.1
86	146.3	3.4	-	17.0	-	0.4	-	-	-	0.4	-	102.3	-	-	582.6
87	-	-	-	10.0	-	-	-	-	-	6.0	-	-	-	-	112.0
88	-	-	-	7.2	-	-	-	-	-	1.4	-	-	-	-	414.2
89	-	5.9	-	5.9	-	-	-	-	-	2.0	-	-	-	-	1032.5
90	0.0	-	-	-	0.0	-	-	-	-	5.9	-	-	0.0	-	57.6
91	3.1	17.1	-	-	0.0	-	-	-	-	0.0	-	-	38.8	-	191.0
92	2.1	2.1	-	1.4	-	-	-	-	-	0.1	-	-	18.2	-	93.9
93	1582.3	284.8	-	-	-	-	-	-	-	0.1	-	-	-	-	2000.0
94	-	-	-	11.7	-	-	-	-	-	4.7	-	-	-	-	146.7
95	226.0	3774.0	-	-	-	-	-	-	-	3.9	-	-	-	-	4000.0
96	-	-	-	1.6	-	-	-	-	-	-	-	-	-	-	4.1
97	-	-	-	3.0	-	-	-	-	-	0.0	-	-	-	-	53.0
98	-	-	-	-	7.7	-	-	3.0	-	0.0	-	-	3.8	-	35.4
99	-	-	-	-	19.4	-	-	-	-	0.2	-	-	-	-	50.1
100	0.4	2.3	-	8.3	11.6	-	-	-	-	0.0	-	-	-	-	40.3
102	-	-	-	8.3	-	-	-	-	-	0.0	-	-	-	-	1093.6
103	-	-	-	8.5	-	-	8.3	-	-	6.4	-	21.2	-	-	244.1

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
104			6.2			0.6							2.5		
105			2.6					15.8			2.3		2.2		
106			1.1	0.4				16.0			7.5			0.0	
107											3.8				
108										0.4					
109															
110															
111															
112	4.8		3.8												
113	0.0		0.6												
114			10.2			0.3									
115	102.4		0.0												
117			0.0												
118							6.1								
119							5.8								
120			0.0				0.0								
121															
122															
123															
124															
125							0.0			16.0		0.2			0.1

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	SPECIES														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
104	0.0	0.2	-	-	1.0	-	-	-	-	-	-	-	0.0	-	12.9
105	-	-	-	-	3.8	-	-	-	-	-	-	-	0.5	-	10.8
106	0.0	3.9	-	-	2.3	-	-	-	-	-	-	-	1.5	-	36.9
107	1.6	6.9	-	-	1.1	-	-	-	-	-	-	-	34.1	-	71.6
108	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	0.1
109	1.4	1.2	-	-	1.2	-	-	-	-	-	-	-	1.0	-	16.2
110	-	0.2	-	0.0	0.5	-	-	-	-	-	-	-	0.2	-	14.7
111	-	0.5	-	0.2	-	6.5	-	-	-	0.0	-	0.0	0.5	-	32.5
112	8.4	16.2	-	25.4	-	-	-	-	-	0.7	-	-	-	-	73.8
113	338.7	2201.0	-	55.7	-	-	4.3	-	-	1.2	-	-	-	-	2667.8
114	-	-	-	6.4	-	-	0.0	-	-	8.7	-	-	-	-	862.1
115	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	1395.6
117	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	270.3
118	-	0.0	-	5.3	-	-	0.0	-	-	3.5	-	-	-	-	334.2
119	-	-	-	7.7	-	-	-	-	-	2.6	-	-	-	-	219.5
120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	322.7
121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
123	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6
124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9
125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.3

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
133	-	-	-	3.2	-	-	-	-	-	-	-	-	-	2.8	-
134	-	-	-	-	-	-	0.0	-	12.5	3.7	-	-	-	8.2	0.4
135	-	-	-	1.7	1.4	-	-	-	-	0.0	-	-	-	1.0	0.5
136	-	-	-	-	0.5	-	-	-	0.0	-	-	-	-	-	1.3
137	-	-	-	-	-	-	2.2	-	18.5	4.4	-	-	-	-	0.9
138	-	-	-	-	0.7	-	3.5	-	34.0	3.5	-	-	-	1.2	2.2
139	-	-	-	1.4	0.0	6.5	-	-	-	-	-	-	-	-	1.4
140	-	-	-	-	0.0	-	0.4	-	7.6	0.9	-	-	-	0.6	0.5
141	-	-	-	-	-	-	2.2	-	16.1	0.4	-	-	-	0.5	0.9
142	-	-	1.3	1.7	-	-	2.6	-	-	-	-	-	-	0.5	0.4
143	-	-	-	-	-	-	0.4	-	9.2	0.4	-	-	-	-	0.4
144	-	-	-	-	2.0	-	1.8	-	0.0	0.0	1.8	-	-	-	0.0
145	-	-	-	0.5	0.5	-	1.5	-	0.0	0.0	-	-	-	-	-
146	-	-	-	-	-	-	-	-	5.7	0.8	-	-	-	-	0.0
147	-	-	-	-	12.1	-	-	-	7.6	13.3	-	-	-	-	-
148	-	-	-	-	5.7	-	-	-	2.0	-	-	-	-	-	0.0
149	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-
150	-	-	-	-	10.8	-	-	-	-	-	-	-	-	-	-
151	-	-	-	-	19.4	-	-	-	0.0	6.9	-	-	-	44.4	0.0
152	-	-	-	-	3.5	-	-	-	0.0	0.0	-	-	-	7.3	0.6
153	-	-	-	-	3.6	-	-	-	-	1.8	-	-	-	-	0.7
154	-	-	-	-	4.7	-	-	-	-	0.8	-	-	-	-	0.0
155	-	-	-	-	8.1	-	-	-	-	5.7	-	-	-	-	1.6
156	-	-	-	-	27.1	-	-	-	-	5.4	-	-	-	-	0.0
157	-	-	-	-	3.5	-	-	-	-	-	-	-	-	-	-
158	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	0.0
159	-	-	-	-	7.8	-	-	-	-	7.8	-	-	23.5	4.6	0.0
160	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-
161	-	-	-	-	11.1	-	-	-	-	-	-	-	-	-	-
162	-	-	-	-	7.1	-	-	-	-	0.6	-	-	-	-	0.0
163	-	-	-	-	14.0	-	-	-	-	1.3	-	-	-	-	-
164	-	-	-	-	23.2	-	-	-	-	0.0	-	-	-	-	-
165	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-
166	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-
167	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-
168	-	-	-	-	9.3	-	-	-	-	-	-	-	-	-	-
169	-	-	-	-	2.3	-	-	-	-	-	-	-	-	-	-
170	-	-	-	-	6.1	-	-	-	-	-	-	-	-	-	-
171	-	-	-	-	5.4	-	-	-	-	0.0	-	-	-	-	-
172	-	-	-	-	1.9	-	-	-	-	0.5	-	-	-	-	-
173	-	-	-	-	3.2	-	-	-	-	-	-	-	-	-	-
174	-	-	-	-	1.9	-	-	-	-	-	-	-	-	-	-
175	-	-	-	-	10.2	-	-	-	-	-	-	-	-	-	-
176	-	-	-	-	5.7	-	-	-	-	-	-	-	-	-	-
177	-	-	-	-	23.1	-	-	-	-	-	-	-	-	0.3	-
178	-	-	-	-	2.8	-	-	-	-	-	-	-	-	-	-
179	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.2
180	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0
181	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0
182	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-

CATCHES (KG) PER STANDARD TOW BY STATIONS

STATION	SPECIES														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
133	0.0	0.1	-	-	-	-	-	0.5	-	-	0.9	-	-	-	38.4
134	-	8.1	-	-	-	-	-	0.0	-	-	1.7	-	-	3.2	39.7
135	-	0.5	-	-	-	0.0	-	0.5	1.2	-	3.2	-	0.5	-	53.5
136	-	7.6	-	-	-	-	-	0.1	0.1	-	0.4	-	0.4	-	25.1
137	-	9.3	-	1.4	-	-	-	3.0	12.8	-	0.5	-	7.9	-	40.5
138	-	0.0	-	-	-	-	-	3.5	4.3	-	2.1	-	19.2	0.7	77.7
139	-	5.6	-	-	-	-	-	0.0	-	0.0	0.5	-	12.5	-	73.0
140	-	0.7	-	1.2	-	-	-	2.7	12.8	-	0.4	-	1.6	0.0	23.4
141	-	1.2	-	2.1	-	-	-	2.2	12.3	-	0.4	0.4	1.3	-	37.2
142	-	3.2	-	0.7	-	-	-	0.0	-	-	3.5	0.4	-	5.7	53.4
143	-	0.1	-	0.9	-	-	-	0.0	4.4	-	0.7	0.0	-	0.9	36.9
144	-	2.8	-	0.4	-	-	-	0.0	0.9	-	2.2	-	0.0	0.2	28.9
145	-	1.0	-	0.2	-	-	-	0.0	8.4	-	5.9	-	4.4	1.7	32.9
146	-	-	-	-	-	-	-	3.8	10.1	-	9.7	0.0	1.6	0.0	84.5
147	-	-	-	-	-	-	-	0.7	10.8	-	0.0	0.7	-	0.0	290.6
148	-	0.1	-	3.0	-	-	-	0.0	1.1	-	2.6	0.0	-	0.7	80.6
149	-	0.1	-	3.6	-	-	-	1.4	52.8	-	6.9	5.4	-	2.7	273.9
150	-	-	-	5.7	-	-	-	1.9	1.4	-	0.6	2.8	-	28.1	198.1
151	-	-	-	1.3	-	-	-	3.1	5.9	-	1.8	1.3	-	4.4	84.3
152	-	-	-	-	-	-	-	3.2	2.5	-	1.6	0.9	0.0	3.5	42.7
153	-	-	-	-	-	-	2.4	0.0	39.5	-	0.0	37.7	-	31.4	119.0
154	-	-	-	-	-	-	3.2	0.0	-	-	1.6	15.4	-	25.4	111.3
155	-	-	-	-	-	-	-	0.0	-	-	0.0	32.5	-	17.0	475.9
156	-	-	-	-	-	-	-	0.0	-	-	0.8	-	1.0	0.2	31.0
157	-	0.0	-	1.9	-	-	0.0	0.2	-	-	0.2	1.1	0.2	0.2	9.9
158	-	0.6	-	2.5	-	-	0.0	0.8	0.0	-	3.1	0.0	1.6	3.7	128.3
159	-	-	-	-	-	-	21.4	-	16.3	-	-	6.6	-	-	96.9
160	-	-	-	-	-	-	26.6	0.0	10.5	-	-	5.6	-	-	151.9
161	-	-	-	-	-	-	5.8	0.6	11.9	-	0.0	6.5	1.3	51.8	107.1
162	-	-	-	-	-	-	3.8	0.0	7.2	-	-	15.3	89.0	3.2	164.3
163	-	-	-	-	-	-	-	0.0	0.8	-	4.0	6.1	51.5	0.0	124.9
164	-	0.0	-	-	-	-	-	0.0	-	-	0.7	1.3	1.3	0.0	10.7
165	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	0.0	-	4.0
166	-	-	-	-	-	-	0.0	-	-	-	0.0	-	2.1	-	17.7
167	-	-	-	-	-	-	0.5	-	-	-	0.2	0.0	-	-	19.0
168	-	0.0	-	-	-	-	-	-	-	-	0.9	0.0	-	-	31.5
169	-	-	-	-	-	-	1.3	-	-	-	-	0.0	-	-	54.5
170	-	-	-	-	-	-	0.5	-	0.0	-	1.5	1.5	0.0	0.0	44.0
171	-	0.1	-	-	-	-	0.0	-	0.6	-	-	12.0	0.0	0.5	34.3
172	-	-	-	-	-	-	0.0	-	2.1	-	-	1.4	0.9	-	30.8
173	-	-	-	-	-	-	4.6	-	3.1	-	1.9	0.0	-	-	24.9
174	-	-	-	-	-	-	29.3	-	40.2	-	-	2.5	-	0.5	179.3
175	-	-	-	-	-	-	11.3	-	5.9	-	-	33.2	-	5.4	99.1
176	-	-	-	-	-	-	2.8	-	5.1	-	0.0	26.8	0.9	1.0	103.6
177	-	-	-	-	-	-	0.0	-	-	-	1.1	0.0	2.2	0.2	14.5
178	-	0.0	-	-	-	-	-	-	-	-	0.0	-	0.2	-	6.0
179	-	0.4	-	-	-	-	-	-	-	-	2.0	-	36.6	0.7	92.0
180	0.0	3.6	-	-	-	-	-	0.7	-	-	3.6	-	24.3	0.7	74.5
181	0.0	4.9	-	-	-	-	-	0.0	-	-	5.9	0.0	16.3	1.3	59.7
182	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CATCHES (KG) PER STANDARD TOW BY STATIONS

STATION	SPECIES														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
183	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-
184	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	2.5
185	-	-	-	-	22.9	-	-	-	-	-	-	-	-	-	0.8
186	-	-	-	-	3.5	-	-	-	-	1.2	-	-	-	-	0.6
187	-	-	-	-	0.0	-	-	-	-	1.6	-	-	-	-	-

CATCHES (KG) PER STANDARD TOW BY STATIONS

STATION	CATCHES (KG) PER STANDARD TOW BY STATIONS										SPECIES									
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	26	27	28	29	30
183	-	1.4	-	-	-	-	-	-	-	-	5.6	-	7.4	0.5	48.3	-	-	-	-	-
184	-	0.0	-	-	-	3.8	-	-	-	-	5.1	-	33.1	1.3	152.7	-	-	-	-	-
185	-	0.3	-	-	-	-	-	-	-	-	3.8	0.0	1.5	2.3	85.6	-	-	-	-	-
186	-	0.3	-	-	-	0.6	-	0.6	-	-	4.6	-	0.0	2.5	70.4	-	-	-	-	-
187	-	0.8	-	-	-	-	-	2.4	-	-	0.8	-	4.0	2.4	63.1	-	-	-	-	-

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
188			0.2					0.0						0.0	
189			0.2					0.0						0.0	
190															
191			0.2					0.0						0.0	
192			0.9					0.0						0.0	
193			19.0					15.2							
194			0.0							0.0					
195									47.4						
196									103.3			0.0			
197			5.6								0.0				
199	1.4								4.5						
200															
201															
202															
203										2.8					
204															
205			0.6							0.3				0.0	
206			0.0												
207			0.0												
208															
209								0.0							
210								0.2							
211				1.2											
212															
213	5.8		0.0					4.9							
214			2.6					5.6							
215	5.2		0.0					0.0		162.7					
216	0.0					0.0				125.4					
217										211.9					
218			0.0							75.0					
219	4.0		0.7								0.1				
220	15.4									217.6	17.9				
221	53.5						5.1			446.1	31.2				
222	25.1						0.0								
223	3.0		13.9					3.3							
224	0.0		6.0												
225			0.0			0.0				104.0					
226										417.1					
227	0.0									71.8					
228	2.3									248.6					
229	3.3										2.2				
230	5.8										4.4				
231										403.2	28.8				
232										198.0	15.4				
233											4.3				
234	4.1		0.0					0.0		257.4	0.0				
235	4.2		0.0								2.0				
236	0.0									700.7	23.8				
237	0.0									188.1	15.4				
238	0.0									1381.0	9.5				11.9

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
188	0.0									0.0			0.4		1.8
189	0.0									0.0			0.2		4.8
190	1.6														3.3
191													0.4		10.7
192	0.4	0.9													30.7
193	467.4	763.8													1280.6
194	0.0	0.2													6.7
195	0.0	0.0								0.1					58.3
196															107.9
197	0.0	98.8													139.8
199												0.0			11.4
200															10.5
201					0.3								4.9		80.5
202					0.2								77.0		34.8
203													32.7		3.1
204															1.1
205	0.0				5.1										9.6
206					0.3								0.2		0.8
207					0.3								1.1		2.2
208					0.3								7.1		9.3
209															0.0
210													0.1		0.9
211	0.0												50.8		65.6
212	0.0												30.4		37.2
213	854.0	588.9													1460.8
214	300.0	197.4								0.1		0.0			509.2
215	839.4	267.5								0.4		0.0			1280.1
216															142.5
217												0.0			218.6
218	7.0	28.0										0.0			118.0
219		0.6													10.0
220		0.0													271.4
221				5.1								0.0			530.8
222				0.0											435.3
223	150.5	209.0		0.0											442.0
224															181.7
225															457.1
226	71.8	302.3													487.9
227															257.6
228	146.8	112.9		11.3								2.2			317.6
229	60.5	7.7													135.3
230		23.0		59.1								0.0			743.5
231		4.4										0.0			257.4
232		0.0													180.6
233	7.8	33.8										0.0			312.0
234	14.3	185.3		10.2								4.1			294.7
235		112.0		9.8								4.2			196.0
236				46.2											917.0
237				0.0											209.0
238				35.7											1500.1

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
239	2.8											2.1			
240															
241															
242															
243			0.3			0.3									
244			3.8			1.8		0.0					5.3	0.0	
245			223.5			0.0							0.8		
246			16.7												
247			0.0												
248				1.4				0.2					1.4		
249								0.2			4.8				
250			0.4					1.0			8.7				
251											6.8			0.8	
253	1.5									5.1					
254											27.5				
255											3.8				
257	0.0										0.7				
258			2.7												
259			8.6					2.5							
260			9.5					1.0			1.1				
261			0.0		1.6			9.5			0.5				
262			0.0	1.1				15.1			0.3				
263	0.0		0.0					5.2			0.5		0.4	0.1	
264	2.5		1.7					54.6			20.1			0.0	
272			3.8					11.6							
273			0.6		3.7			0.4			2.6		1.2	0.0	
274			2.7	0.5	1.2			9.8			4.0			0.6	
275	2.6							7.8			3.7			0.2	
276								2.6			0.9			0.7	
277										235.9					
278			1.6	0.4				3.1			37.4				
279			0.9	1.5				2.3			2.9		2.4	0.0	
280			0.0	1.5				0.6			0.4		3.2	0.2	
281	3.1		0.0					7.8					0.9	0.1	
282															
283			0.3							0.0					
284			6.6	0.3				1.4			7.0				
285								0.6							
287	0.0							3.3					8.9		
288	6.4														
289															
290	2.8				8.0					6.4					
291	5.5									0.0					
292	106.0		2.2	14.3											
293															
294	0.0							2.4							
295	0.6		2.6		0.2	0.9		0.9					6.8		
296	1.2					0.0		1.6							
297															
298								0.0							

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	SPECIES														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
239	-	21.0	-	7.0	-	-	3.5	-	-	-	-	2.1	0.2	-	67.5
240	-	-	-	-	5.0	-	-	-	-	-	-	-	0.2	-	7.2
241	-	-	-	-	2.6	-	-	-	-	-	-	-	0.3	-	4.7
242	-	-	-	-	1.0	-	-	-	-	-	-	-	0.3	-	3.3
243	0.3	1.3	-	-	0.3	0.1	-	-	-	-	-	-	0.3	-	3.0
244	5.2	5.2	-	-	4.9	21.0	-	-	-	-	-	-	0.9	-	24.1
245	30.4	12.5	-	-	4.7	-	-	-	-	0.0	-	-	-	-	308.8
246	0.4	1.9	-	-	4.0	-	-	-	-	0.0	-	-	-	-	28.8
247	0.9	3.0	-	-	1.8	-	-	-	-	-	-	-	0.0	-	13.8
248	-	1.8	-	-	5.6	-	-	-	-	-	-	-	1.6	-	14.2
249	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	23.9
250	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	53.9
251	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	34.5
253	-	-	-	7.5	-	1.0	-	-	-	0.1	-	0.0	-	-	57.1
254	-	-	-	14.1	-	-	4.5	-	-	-	-	5.8	-	-	60.2
255	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	3.9
257	3.2	3.2	-	-	3.2	-	-	-	-	0.0	-	-	0.5	-	63.7
258	-	-	-	-	23.0	-	-	-	-	-	-	-	75.8	-	139.9
259	-	28.2	-	-	-	-	-	-	-	-	-	-	3124.7	-	3204.1
260	370.3	1095.7	-	-	-	0.7	-	-	-	0.1	-	-	-	-	1502.7
261	-	-	-	-	3.2	-	-	-	-	-	-	-	4.1	-	16.7
262	225.7	1176.0	-	-	18.2	10.9	-	-	-	0.0	-	0.0	0.0	-	1549.6
263	1.7	66.9	-	-	5.8	-	-	-	-	0.4	-	0.0	0.0	-	94.7
264	1.3	116.0	-	0.0	5.0	-	-	-	-	0.1	-	0.0	2.5	-	175.4
272	-	-	-	-	10.3	-	-	-	-	-	-	-	-	-	37.8
273	-	-	-	-	1.7	-	-	-	-	-	-	-	0.1	-	16.7
274	-	-	-	-	13.7	1.8	-	-	-	-	-	-	0.5	-	49.5
275	2.6	80.6	-	3.9	1.3	-	-	-	-	-	-	19.4	276.9	-	382.2
276	-	-	-	22.2	-	-	1.4	-	-	2.7	-	-	-	-	195.6
277	-	-	-	11.9	-	-	3.0	-	-	6.0	-	-	-	-	725.8
278	-	0.4	-	-	7.4	-	-	-	-	-	-	-	0.8	-	149.9
279	-	-	-	-	12.9	-	-	-	-	0.0	-	-	1.5	-	36.9
280	-	-	-	-	9.3	-	-	-	-	0.0	0.6	-	0.0	-	28.3
281	27.9	411.2	-	-	1.6	-	-	-	-	0.0	-	-	-	-	458.7
282	-	97.9	-	-	-	-	-	-	-	3.1	-	-	-	-	884.4
283	-	2.4	-	-	-	-	-	-	-	3.4	-	-	-	-	98.0
284	-	-	-	8.6	9.0	-	-	-	-	-	-	26.2	0.6	-	43.6
285	4.9	301.7	-	5.6	4.9	-	-	-	-	-	-	-	0.0	-	349.0
287	4.5	89.6	-	-	1.3	-	-	-	-	0.0	-	-	-	-	106.9
288	-	3.2	-	40.0	-	-	-	-	-	0.0	-	-	-	-	476.8
289	-	-	-	7.0	-	-	0.0	-	-	0.6	-	0.0	-	-	569.5
290	-	19.6	-	0.0	-	-	-	-	-	-	-	-	-	-	217.4
291	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-	139.4
292	19.3	149.3	-	-	-	-	-	-	-	0.0	-	-	-	-	375.7
293	3.8	40.0	-	-	2.4	0.2	-	-	-	0.0	-	-	0.0	-	61.6
294	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	23.5
295	-	4.9	-	-	-	-	-	-	-	0.3	-	-	-	-	26.4
296	1.7	18.6	-	-	-	-	-	-	-	0.6	-	0.6	0.0	-	56.3
297	17.7	3.3	-	-	-	-	-	-	-	-	-	0.0	-	-	23.4
298	5.1	7.3	-	-	-	-	-	-	-	-	-	0.0	-	-	21.9

CATCHES (kg) PER STANDARD TOW BY STATIONS

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	-	-	-	-	-	-	-	0.4	-	-	-	-	-	0.0	-
301	0.8	-	-	-	-	-	-	5.4	-	-	-	-	-	0.0	-
302	1.4	-	-	-	-	0.0	-	8.2	-	-	-	-	-	0.0	-
303	3.2	-	-	-	0.0	-	-	3.2	-	-	-	-	-	-	-
304	1.8	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-
305	0.4	-	-	-	0.0	-	-	0.4	-	-	0.0	-	-	-	-
306	0.5	-	-	-	0.5	-	-	1.0	-	-	-	-	-	-	-
307	0.0	-	-	-	0.5	-	-	1.7	-	-	-	-	-	-	-
308	0.0	-	-	-	0.0	-	-	1.6	-	-	0.6	-	-	-	-
309	32.6	-	-	-	-	-	-	-	-	-	2.0	27.2	-	-	-
310	1.3	-	-	-	-	-	-	-	-	2428.5	-	-	-	-	-
311	37.9	-	-	-	-	-	-	-	-	-	28.9	-	-	-	-
313	501.4	-	-	-	-	-	-	-	-	947.2	-	133.1	-	-	-
314	10.2	-	-	-	-	-	-	-	-	2203.8	-	-	-	-	-
315	-	-	-	-	-	-	-	-	-	837.3	-	-	-	-	-
316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CATCHES (Kg) PER STANDARD TOW BY STATIONS

STATION	SPECIES														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
299	4.2	2.8	-	-	0.0	-	-	-	-	-	-	-	0.0	-	21.7
300	2.8	5.6	-	-	0.0	-	-	-	-	-	-	-	1.2	-	22.4
301	12.4	24.0	-	-	0.0	-	-	-	-	0.1	-	-	-	-	75.6
302	116.2	44.8	-	-	0.0	-	-	-	-	0.0	-	-	-	-	202.4
303	-	11.5	-	2.6	-	3.4	-	-	-	2.5	-	0.6	-	-	88.5
304	0.9	30.6	-	12.6	-	-	-	-	-	11.9	-	0.9	-	-	112.1
305	0.0	20.2	-	5.0	-	4.3	-	-	-	1.0	-	2.9	-	-	59.0
306	18.5	9.5	-	-	3.0	-	-	-	-	0.0	-	-	0.5	-	68.2
307	2.4	1.2	-	-	0.5	-	-	-	-	0.0	-	-	0.0	-	13.6
308	4.3	5.8	-	0.8	3.1	0.2	-	-	-	0.0	-	-	-	-	33.6
309	7.0	5.4	-	5.4	-	-	-	-	-	0.0	-	0.0	-	-	114.2
310	0.7	0.1	-	0.2	-	-	-	-	-	1.3	-	0.0	-	-	10.2
311	-	25.3	-	-	-	-	-	-	-	-	-	-	-	-	2909.1
313	0.0	9.2	-	-	-	-	-	-	-	-	-	-	-	-	622.3
314	-	-	-	15.4	-	-	0.0	-	-	-	-	-	-	-	1141.8
315	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2215.4
316	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	837.3

Appendix Table-5a 1統曳網の袖先間隔と各層のえい網回数

SURVEY AREA, WING SPREAD AND NO OF TOWS IN EACH STRATUM

STRATA (m)	SURVEY AREA (n.m2)	WING SPREAD (m)	NO OF TOWS
11(51-)	149	11.6	8
12(76-)	185	11.6	12
13(101-)	296	11.6	20
14(151-)	501	11.6	21
15(201-)	232	11.6	13
16(301-)	51	11.6	3
17(401-)	(43)	-	0
21(51-)	69	11.6	6
22(76-)	104	11.6	7
23(101-)	145	11.6	7
24(151-)	27	11.6	2
25(201-)	44	11.6	2
26(301-)	(41)	-	0
27(401-)	(41)	-	0
31(51-)	70	11.6	5
32(76-)	56	11.6	4
33(101-)	86	11.6	3
34(151-)	(16)	-	0
35(201-)	(23)	-	0
36(301-)	22	11.6	1
37(401-)	28	11.6	1
TOTAL SURVEYED	2065		115
(NOT SURVEYED)	(164)		

* S. TRAWL (First round)

SURVEY AREA, WING SPREAD AND NO OF TOWS IN EACH STRATUM

STRATA (m)	SURVEY AREA (n.m2)	WING SPREAD (m)	NO OF TOWS
11(51-)	149	12.0	8
12(76-)	185	12.0	12
13(101-)	296	12.0	19
14(151-)	501	12.0	21
15(201-)	232	12.0	13
16(301-)	51	12.0	2
17(401-)	(43)	-	0
21(51-)	69	12.0	6
22(76-)	104	12.0	8
23(101-)	145	12.0	7
24(151-)	27	12.0	3
25(201-)	44	12.0	3
26(301-)	(41)	-	0
27(401-)	(41)	-	0
31(51-)	70	12.0	5
32(76-)	56	12.0	4
33(101-)	86	12.0	4
34(151-)	16	12.0	1
35(201-)	23	12.0	3
36(301-)	22	12.0	1
37(401-)	28	12.0	1
TOTAL SURVEYED	2104		121
(NOT SURVEYED)	(125)		

* S. Trawl (Second round)

Appendix Table-5a 1 梳曳トイ-メ網の袖先間隔と各層のえい網回数

SURVEY AREA, WING SPREAD AND NO OF TOWS IN EACH STRATUM

STRATA (m)	SURVEY AREA (n.m2)	WING SPREAD (m)	NO OF TOWS
11(51-)	149	14.9	8
12(76-)	185	14.9	12
13(101-)	296	14.9	19
14(151-)	501	14.9	22
15(201-)	232	14.9	14
16(301-)	51	14.9	3
17(401-)	(43)	-	0
21(51-)	69	14.9	6
22(76-)	104	14.9	7
23(101-)	145	14.9	7
24(151-)	27	14.9	3
25(201-)	44	14.9	3
26(301-)	(41)	-	0
27(401-)	(41)	-	0
31(51-)	70	14.9	5
32(76-)	56	14.9	4
33(101-)	86	14.9	4
34(151-)	16	14.9	1
35(201-)	23	14.9	1
36(301-)	22	14.9	1
37(401-)	28	14.9	1
TOTAL SURVEYED	2104		121
(NOT SURVEYED)	(125)		

* S. Trawl (Third Round)

SURVEY AREA, WING SPREAD AND NO OF TOWS IN EACH STRATUM

STRATA (m)	SURVEY AREA (n.m2)	WING SPREAD (m)	NO OF TOWS
11(51-)	149	14.9	8
12(76-)	185	14.9	11
13(101-)	296	14.9	19
14(151-)	501	14.9	22
15(201-)	232	14.9	15
16(301-)	51	14.9	1
17(401-)	(43)	-	0
21(51-)	69	14.9	6
22(76-)	104	14.9	7
23(101-)	145	14.9	6
24(151-)	27	14.9	3
25(201-)	44	14.9	3
26(301-)	(41)	-	0
27(401-)	(41)	-	0
31(51-)	70	14.9	4
32(76-)	56	14.9	4
33(101-)	86	14.9	5
34(151-)	16	14.9	1
35(201-)	23	14.9	1
36(301-)	22	14.9	1
37(401-)	(28)	-	0
TOTAL SURVEYED	2076		117
(NOT SURVEYED)	(153)		

* S. Trawl(Fourth round)

SURVEY AREA, WING SPREAD AND NO OF TOWS IN EACH STRATUM

STRATA (m)	SURVEY AREA (n.m2)	WING SPREAD (m)	NO OF TOWS
11(51-)	149	24.0	7
12(76-)	185	24.0	10
13(101-)	296	24.0	16
14(151-)	(501)	-	0
15(201-)	(232)	-	0
16(301-)	(51)	-	0
17(401-)	(43)	-	0
21(51-)	69	24.0	4
22(76-)	104	24.0	6
23(101-)	(145)	-	0
24(151-)	(27)	-	0
25(201-)	(44)	-	0
26(301-)	(41)	-	0
27(401-)	(41)	-	0
31(51-)	70	24.0	4
32(76-)	56	24.0	3
33(101-)	(86)	-	0
34(151-)	(16)	-	0
35(201-)	(23)	-	0
36(301-)	(22)	-	0
37(401-)	(28)	-	0
TOTAL SURVEYED	929		50
(NOT SURVEYED)	(1300)		

* D. Trawl (First round)

Appendix Table-5b 2統曳網の袖先間隔と各層のえい網回数

SURVEY AREA, WING SPREAD AND NO OF TOWS IN EACH STRATUM

STRATA (m)	SURVEY AREA (n.m ²)	WING SPREAD (m)	NO OF TOWS
11(51-)	149	24.0	7
12(76-)	185	24.0	11
13(101-)	296	24.0	16
14(151-)	(501)	-	0
15(201-)	(232)	-	0
16(301-)	(51)	-	0
17(401-)	(43)	-	0
21(51-)	69	24.0	5
22(76-)	104	24.0	6
23(101-)	(145)	-	0
24(151-)	(27)	-	0
25(201-)	(44)	-	0
26(301-)	(41)	-	0
27(401-)	(41)	-	0
31(51-)	70	24.0	4
32(76-)	56	24.0	4
33(101-)	(86)	-	0
34(151-)	(16)	-	0
35(201-)	(23)	-	0
36(301-)	(22)	-	0
37(401-)	(28)	-	0
TOTAL SURVEYED	929		53
(NOT SURVEYED)	(1300)		

D. Trawl (Second round)

SURVEY AREA, WING SPREAD AND NO OF TOWS IN EACH STRATUM

STRATA (m)	SURVEY AREA (n.m2)	WING SPREAD (m)	NO OF TOWS
11(51-)	149	24.0	7
12(76-)	185	24.0	10
13(101-)	296	24.0	16
14(151-)	501	24.0	5
15(201-)	(232)	-	0
16(301-)	(51)	-	0
17(401-)	(43)	-	0
21(51-)	69	24.0	4
22(76-)	104	24.0	6
23(101-)	(145)	-	0
24(151-)	(27)	-	0
25(201-)	(44)	-	0
26(301-)	(41)	-	0
27(401-)	(41)	-	0
31(51-)	70	24.0	4
32(76-)	56	24.0	3
33(101-)	(86)	-	0
34(151-)	(16)	-	0
35(201-)	(23)	-	0
36(301-)	(22)	-	0
37(401-)	(28)	-	0
TOTAL SURVEYED	1430		55
(NOT SURVEYED)	(799)		

* D. Trawl (Third round)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	3	0	0	0	0	0	10	182	0	12	0	5	2	0
12(76-)	0	0	17	8	0	3	0	9	9	0	129	0	15	2	0
13(101-)	62	0	17	12	11	6	0	11	0	0	81	0	3	3	0
14(151-)	416	0	2	0	0	12	0	15	0	1515	17	154	0	0	0
15(201-)	233	0	0	0	0	3	88	0	0	1929	2	57	0	0	0
16(301-)	0	0	0	0	0	0	48	0	0	12	0	55	0	0	0
17(401-)	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	3	0	1	0	0	0	1	2	0	12	0	0	1	0
22(76-)	1	0	1	3	29	3	0	2	0	1	2	1	7	2	0
23(101-)	207	0	55	1	14	1	0	15	7	0	4	1	9	0	0
24(151-)	53	0	0	0	0	0	0	0	0	0	0	52	0	0	0
25(201-)	23	0	0	0	0	0	2	0	0	4	0	19	0	0	0
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	16	0	0	0	0	0	1	6	0	0	0	0	0	0
32(76-)	0	0	0	1	0	0	0	2	0	0	1	0	2	1	0
33(101-)	12	0	0	6	0	5	0	0	0	0	1	0	0	0	0
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	527	16	60	16	34	15	167	28	183	2453	154	191	19	5	0
COE VAR (%)	20	61	31	25	49	25	50	17	86	34	30	21	32	21	75

* S. Trawl (1)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRAITS (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	1	8	0	0	0	0	0	0	20	0	5	0	4	0	222
12(76-)	4	10	0	2	11	0	1	0	0	6	11	2	56	0	188
13(101-)	99	28	1	34	13	0	5	0	0	3	12	8	992	0	1151
14(151-)	28	424	0	24	0	0	5	0	0	16	0	340	900	0	1831
15(201-)	0	0	0	65	11	0	23	0	0	9	0	43	0	0	2159
16(301-)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	114
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	1	1	0	0	0	0	0	0	0	2	0	3	0	18
22(76-)	3	7	1	0	0	0	0	0	0	0	4	0	3	0	40
23(101-)	0	3	1	0	23	0	0	0	0	0	39	0	0	0	390
24(151-)	4	11	0	0	0	0	0	0	0	2	0	0	0	0	73
25(201-)	0	0	0	138	0	0	0	0	0	14	0	0	0	0	216
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	4	89	0	1	0	0	92	9	0	0	0	3	0	148
32(76-)	0	0	0	0	1	0	0	1	0	0	1	0	6	0	10
33(101-)	0	9	24	0	10	0	0	0	0	0	0	0	0	0	79
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	103	426	93	158	34	0	27	92	22	24	43	342	1341	0	3119
COE VAR (%)	42	43	73	35	23	100	30	64	39	24	34	68	40	-	15

* S. Trawl (1)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	0	0	0	0	0	0	2	0	0	24	0	0	1	0
12(76-)	0	0	16	0	0	8	0	4	0	0	41	0	10	2	0
13(101-)	41	0	9	0	11	9	0	16	0	0	34	3	1	0	0
14(151-)	913	0	15	0	0	5	0	29	0	1339	6	19	0	0	0
15(201-)	17	0	0	0	0	0	145	0	0	0	0	10	0	0	0
16(301-)	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	19	0	0	0	0	0	4	8	0	25	0	0	1	0
22(76-)	0	0	9	1	0	0	0	14	0	0	10	0	8	2	0
23(101-)	2	0	160	4	32	0	0	19	0	0	16	4	8	0	0
24(151-)	249	0	5	0	0	0	0	3	0	196	0	18	0	0	0
25(201-)	522	0	0	0	0	0	0	0	0	3622	0	106	0	0	0
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	2	0	0	0	0	0	4	1	0	0	0	0	0	0
32(76-)	0	0	0	1	0	0	0	5	0	0	1	0	0	1	0
33(101-)	0	0	2	1	0	0	0	8	0	0	1	0	0	1	0
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	137	0	0	0	0	0	38	0	0	0	0	8	0	0	0
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1291	19	162	4	34	13	150	43	8	3866	66	111	15	3	0
COE VAR (%)	33	90	46	52	75	36	49	15	93	46	17	32	43	18	-

*S. Trawl (2)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	1	23	11	0	0	0	0	2	2	0	1	0	2	0	35
12(76-)	2	8	0	0	11	0	0	0	0	3	1	0	98	0	142
13(101-)	12	27	0	11	27	0	0	0	0	8	0	3	15	0	189
14(151-)	0	33	0	26	0	0	0	0	0	26	0	85	45	0	2349
15(201-)	0	29	0	96	0	0	10	0	0	13	0	6	0	0	643
16(301-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	0	0	1	0	0	0	0	0	2	0	0	0	50
22(76-)	0	3	1	0	13	0	0	1	0	0	2	0	7	0	55
23(101-)	30	53	0	5	17	0	0	0	0	0	0	0	20	0	669
24(151-)	0	3	0	3	0	0	0	0	0	1	0	0	0	0	445
25(201-)	0	5	0	68	0	0	3	0	0	4	0	0	0	0	3437
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	1	0	0	0	0	14	14	0	0	0	0	0	37
32(76-)	0	0	1	0	7	0	0	11	0	0	0	0	36	0	56
33(101-)	1	2	0	0	12	0	0	0	0	0	0	0	35	0	58
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	0	0	0	14	0	0	4	0	0	6	0	0	0	0	127
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	32	78	11	123	39	0	11	19	14	31	3	85	122	0	4370
COE VAR (%)	56	22	80	18	15	-	38	55	72	21	20	26	37	-	19

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	1	4	1	0	0	0	27	0	0	13	0	0	3	0
12(76-)	0	0	84	0	0	2	0	36	0	0	39	0	5	1	0
13(101-)	9	0	114	0	3	7	0	41	0	0	5	0	12	1	0
14(151-)	1770	0	20	0	0	2	0	13	0	2317	0	96	0	0	0
15(201-)	60	0	0	0	0	0	10	0	0	1052	0	33	0	0	0
16(301-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	9	1	0	1	0	2	0	0	8	0	1	0	0
22(76-)	0	0	7	1	8	0	0	7	0	0	39	0	3	0	0
23(101-)	363	0	85	3	887	2	0	28	0	0	27	0	6	0	0
24(151-)	724	0	20	0	0	0	0	2	0	22	0	28	0	0	0
25(201-)	2519	0	0	0	0	0	132	0	0	827	0	162	0	0	0
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	8	1	3	0	0	0	14	0	0	64	0	1	0	0
32(76-)	0	0	2	0	0	0	0	25	0	0	0	0	2	0	0
33(101-)	53	0	14	0	0	12	0	56	0	0	12	0	1	1	0
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	3188	8	168	4	887	14	218	93	0	2676	91	193	15	3	0
COE VAR (%)	40	93	18	46	98	33	64	15	71	37	22	50	29	35	-

* S. Trawl (3)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	4	11	0	0	3	1	0	0	0	0	1	0	46	0	89
12(76-)	22	190	1	0	17	7	0	0	0	0	1	2	35	0	451
13(101-)	599	32	0	9	22	8	0	0	0	2	5	17	1394	0	1537
14(151-)	3665	7517	0	57	0	15	10	0	0	7	0	179	2	0	8428
15(201-)	0	2	0	68	0	0	7	0	0	13	0	16	0	0	1079
16(301-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	6	0	0	16	0	0	3	0	0	7	0	10	0	13
22(76-)	0	1	0	0	16	0	0	0	0	0	0	0	2	0	55
23(101-)	1	141	1	1	19	4	0	0	0	0	0	0	0	0	1176
24(151-)	0	19	0	6	0	0	1	0	0	4	0	15	0	0	1577
25(201-)	0	6	0	87	0	0	8	0	0	19	0	6	0	0	2165
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	23	0	0	1	0	0	0	0	0	4	0	0	0	72
32(76-)	0	756	1	0	10	0	0	0	0	0	0	0	1	0	773
33(101-)	1460	468	0	0	37	0	0	0	0	0	0	0	1621	0	1781
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	3990	7573	1	181	56	19	32	3	0	24	9	181	2139	0	9458
COE VAR (%)	42	46	53	25	19	38	48	100	-	26	36	53	64	-	16

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0
12(76-)	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0
13(101-)	31	0	27	0	0	1	0	20	0	0	2	0	8	0	0
14(151-)	884	0	14	0	0	0	0	6	0	898	51	48	0	0	0
15(201-)	74	0	0	0	0	0	6	0	0	3678	0	154	0	0	0
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	3	2	1	0	0	7	0	0	6	0	3	0	0
22(76-)	0	0	253	2	0	2	0	3	0	0	43	0	10	1	0
23(101-)	194	0	4	27	0	0	0	14	0	0	2	0	0	0	0
24(151-)	4	0	0	0	0	0	0	0	0	4	0	386	0	0	0
25(201-)	0	0	0	0	9	0	0	0	0	269	0	417	0	0	0
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	1	2	0	0	0	7	0	0	10	0	1	1	0
32(76-)	0	0	11	0	4	0	0	53	0	0	20	0	0	1	0
33(101-)	3	0	5	0	2	0	0	19	0	0	3	0	2	1	0
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	908	0	256	27	10	2	6	62	0	5041	71	592	13	2	0
COE VAR (%)	64	-	64	80	57	48	100	26	-	29	40	27	38	42	-

* S. Trawl (4)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	0	0	0	0	7	0	0	0	0	0	0	0	78	0	97
12(76-)	2	0	0	0	7	0	0	0	0	0	0	0	104	0	103
13(101-)	1161	1127	0	1	6	4	0	0	0	1	0	1	2	0	2251
14(151-)	1491	1746	0	34	0	10	8	0	0	24	0	9	0	0	2375
15(201-)	73	136	0	98	0	0	52	0	0	12	0	5	0	0	3932
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	5	5	0	0	11	0	0	0	0	0	1	0	1	0	32
22(76-)	35	345	0	0	14	24	0	54	0	0	0	0	2	0	444
23(101-)	56	725	0	7	4	0	0	0	0	0	0	0	520	0	782
24(151-)	0	67	0	19	0	0	1	0	0	2	0	14	0	0	419
25(201-)	0	3	0	7	0	0	3	0	0	5	0	30	0	0	645
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	0	0	4	0	0	0	0	0	0	0	6	0	44
32(76-)	245	1269	0	0	22	12	0	0	0	0	0	0	3372	0	3228
33(101-)	491	1378	0	0	7	1	0	0	0	1	0	0	3	0	1865
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1970	2450	0	109	32	29	53	54	0	28	1	36	3414	0	7247
COE VAR (%)	37	26	-	25	16	49	36	100	-	30	100	44	79	-	15

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	6	1	1	0	0	0	18	347	0	23	0	9	4	0
12(76-)	0	0	32	15	0	5	0	17	17	0	242	0	27	4	0
13(101-)	94	0	26	18	16	9	0	16	0	0	122	0	5	5	0
14(151-)	381	0	2	0	0	11	0	14	0	1389	16	142	0	0	0
15(201-)	363	0	0	0	0	5	136	0	0	3004	4	89	0	0	0
16(301-)	0	0	0	0	0	0	164	0	0	40	0	187	0	0	0
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	10	0	5	0	0	0	2	7	0	43	0	0	5	1
22(76-)	3	0	3	8	74	9	0	6	0	4	4	4	17	5	0
23(101-)	379	0	100	1	26	2	0	27	13	0	8	3	16	5	0
24(151-)	280	0	0	0	0	0	0	0	0	0	0	274	0	0	1
25(201-)	73	0	0	0	0	0	8	0	0	12	0	61	0	0	0
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	51	0	0	0	0	0	2	19	0	0	0	0	0	0
32(76-)	0	0	1	3	0	0	0	7	0	0	2	0	6	3	0
33(101-)	24	0	0	13	0	10	0	0	0	0	2	0	0	0	0
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	26	1	3	1	2	1	8	1	9	119	7	9	1	0	0

* S. Trawl (I)

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	2	16	0	0	0	0	0	0	39	0	10	0	8	0	422
12(76-)	7	19	0	4	21	0	1	0	0	11	20	3	106	0	352
13(101-)	150	42	1	51	20	0	7	0	0	5	18	12	1502	0	1743
14(151-)	26	389	0	22	0	0	4	0	0	15	0	311	825	0	1678
15(201-)	0	0	0	101	17	0	35	0	0	14	0	67	0	0	3363
16(301-)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	388
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	1	2	5	0	0	0	0	0	0	0	7	0	11	0	62
22(76-)	8	18	2	0	20	0	0	0	0	1	11	0	7	0	103
23(101-)	0	6	2	0	43	0	1	0	0	1	72	0	0	0	714
24(151-)	23	57	0	0	0	0	0	0	0	13	0	0	0	0	384
25(201-)	0	0	0	445	0	0	0	0	0	45	0	0	0	0	694
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	14	286	0	3	0	0	294	28	0	0	0	8	0	473
32(76-)	1	1	0	0	4	0	0	3	0	0	3	0	21	0	36
33(101-)	0	18	49	1	20	0	1	0	0	0	0	0	1	0	159
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	5	21	4	8	2	0	1	4	1	1	2	17	65	0	151

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	5	0	1	0	0	0	0	4	0	0	47	0	0	1	0
12(76-)	0	0	30	1	0	15	0	8	0	0	80	0	20	4	0
13(101-)	63	0	14	0	16	14	0	24	0	0	52	5	1	0	0
14(151-)	866	0	14	0	0	4	0	28	0	1270	5	18	0	0	0
15(201-)	28	0	0	0	0	0	234	0	0	0	0	16	0	0	0
16(301-)	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	69	1	1	0	0	0	13	28	0	91	0	0	4	0
22(76-)	0	0	25	2	0	0	0	38	0	0	29	0	23	5	0
23(101-)	3	0	303	7	61	0	0	36	0	0	31	8	14	0	0
24(151-)	1658	0	34	0	0	0	0	22	0	1301	0	121	0	0	0
25(201-)	2132	0	0	0	0	0	1	0	0	14780	0	435	0	0	0
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	7	0	0	0	0	0	13	2	0	0	0	0	0	0
32(76-)	0	0	1	3	0	0	0	18	0	0	3	0	0	3	0
33(101-)	0	0	4	3	0	0	0	20	0	0	1	0	0	1	0
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	1066	0	0	0	0	0	296	0	0	0	0	64	0	0	0
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	64	1	8	0	2	1	7	2	0	191	3	5	1	0	0

* S. Trawl (2)

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	1	45	21	0	1	0	0	3	3	0	1	0	5	0	69
12(76-)	4	15	0	0	22	0	0	0	1	5	1	0	191	0	275
13(101-)	19	41	0	17	41	0	0	0	0	12	0	4	23	0	289
14(151-)	0	32	0	.24	0	0	0	0	0	25	0	81	43	0	2228
15(201-)	0	47	0	155	0	0	17	0	0	20	0	10	0	0	1036
16(301-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	0	0	3	0	0	0	0	0	7	0	1	0	183
22(76-)	0	8	1	0	36	0	0	3	0	1	5	0	19	0	182
23(101-)	56	100	0	9	32	0	0	0	0	0	0	0	39	0	1265
24(151-)	0	19	0	17	0	0	0	0	0	6	0	0	0	0	2960
25(201-)	0	20	0	276	0	0	11	0	0	17	0	0	0	0	14028
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	2	0	0	0	0	48	45	0	1	0	0	0	122
32(76-)	2	1	3	0	27	0	0	42	0	0	0	0	135	0	206
33(101-)	2	5	0	0	30	0	0	0	0	0	0	0	83	0	141
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	0	0	0	112	0	0	28	0	0	49	0	0	0	0	993
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	2	4	1	6	2	0	1	1	1	2	0	4	6	0	215

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	2	9	1	0	0	0	66	0	0	32	0	0	7	0
12(76-)	0	0	202	0	0	6	0	86	1	1	94	0	11	2	0
13(101-)	17	0	216	0	5	13	0	77	0	0	10	0	23	3	0
14(151-)	2133	0	24	0	0	2	0	15	0	2792	0	116	0	0	0
15(201-)	125	0	0	0	0	0	22	0	0	2184	0	69	0	0	0
16(301-)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	43	3	0	2	0	8	0	0	34	0	5	1	0
22(76-)	0	0	23	3	26	2	0	23	0	0	127	0	10	0	0
23(101-)	851	0	199	6	2083	4	0	66	0	0	63	0	13	0	0
24(151-)	5975	0	164	0	0	0	0	14	0	184	0	233	0	0	0
25(201-)	12764	0	0	0	0	0	668	0	0	4193	0	819	0	0	0
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	32	3	13	0	0	0	56	1	0	265	0	3	0	0
32(76-)	0	0	9	0	0	0	0	117	0	0	0	0	8	1	0
33(101-)	159	0	43	0	0	36	0	167	0	0	36	0	3	2	0
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	195	0	10	0	54	1	13	6	0	164	6	12	1	0	0

* S. Trawl (3)

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	9	26	0	0	8	3	0	0	0	0	3	0	112	0	217
12(76-)	53	459	2	0	42	16	0	0	0	0	2	5	85	0	1088
13(101-)	1136	60	0	16	42	14	0	0	0	5	10	33	2642	0	2914
14(151-)	4416	9059	0	68	0	18	13	0	0	9	0	216	2	0	10157
15(201-)	0	4	0	141	0	0	15	0	0	27	0	32	0	0	2240
16(301-)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	26	0	0	74	0	0	12	0	1	30	0	47	0	61
22(76-)	0	2	1	0	52	0	0	0	0	1	0	0	5	0	179
23(101-)	1	332	2	2	44	10	0	0	0	1	0	0	0	0	2762
24(151-)	0	159	0	46	0	0	12	0	0	35	0	123	0	0	13021
25(201-)	0	31	0	443	0	0	43	0	0	94	0	31	0	0	10969
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	93	0	0	5	0	0	0	0	0	15	0	0	0	297
32(76-)	2	3474	2	0	46	0	0	0	0	2	0	0	5	0	3552
33(101-)	4371	1402	0	0	110	0	0	0	0	0	0	0	4853	0	5331
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	244	463	0	11	3	1	2	0	0	1	1	11	131	0	579

STANDARD DEVIATIONS OF CATCHES (100 S) PER STANDARD TOW

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	0	2	0	4	0	0	1	0	1	0	0	0	0	0
12(76-)	0	0	1	0	0	0	0	0	0	15	0	0	0	0	0
13(101-)	58	0	52	0	0	2	0	38	0	0	5	0	16	0	0
14(151-)	1065	0	17	0	0	0	0	7	0	1082	62	58	0	0	0
15(201-)	159	0	0	0	0	0	13	0	0	7903	0	330	0	0	0
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	14	7	5	1	0	30	0	0	28	0	13	1	0
22(76-)	0	0	830	5	0	7	0	11	0	0	141	0	33	3	0
23(101-)	421	0	9	58	0	0	0	31	0	0	4	0	0	0	0
24(151-)	37	0	0	0	0	0	0	0	0	37	0	3189	0	0	0
25(201-)	0	0	0	0	46	0	0	0	0	1362	0	2115	0	0	0
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	2	6	0	0	0	24	0	0	35	0	2	4	0
32(76-)	0	0	51	0	19	0	0	243	0	0	92	0	0	3	0
33(101-)	11	0	17	0	7	0	0	64	0	0	11	0	5	4	0
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	56	0	16	2	1	0	0	4	0	313	4	37	1	0	0

* S. Trawl (4)

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	0	0	0	0	18	0	0	0	0	0	0	0	191	0	237
12(76-)	5	0	0	0	16	0	0	0	0	0	0	0	241	0	237
13(101-)	2201	2137	0	2	11	8	0	0	0	0	0	1	3	0	4267
14(151-)	1797	899	0	41	0	11	9	0	0	29	0	11	0	0	2862
15(201-)	156	292	0	211	0	-	112	0	0	27	0	12	0	0	8450
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	21	21	0	0	49	0	0	0	0	0	2	0	6	0	145
22(76-)	113	1131	0	0	45	78	0	176	0	0	0	0	6	0	1453
23(101-)	121	1577	0	16	9	0	0	0	0	0	0	0	1130	0	1701
24(151-)	0	556	0	157	0	0	8	0	0	17	0	112	0	0	3463
25(201-)	0	14	0	33	0	0	17	0	0	27	0	151	0	0	3268
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	0	0	15	0	0	0	0	0	0	0	21	0	162
32(76-)	1129	5835	0	0	101	55	0	0	0	0	0	0	15501	0	14842
33(101-)	1644	4611	0	0	24	3	0	0	0	2	0	0	11	0	6241
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	122	152	0	7	2	2	3	3	0	2	0	2	212	0	449

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
12(76-)	0	0	0	0	15	13	6	0	1	2	0	0	0	15	1
13(101-)	0	0	0	0	25	0	0	0	6	9	0	0	0	0	5
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	0	2	0	0	8	0	0	0	1	0	2	1	0
22(76-)	1	0	0	0	4	0	7	0	1	3	0	0	10	4	3
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	6	22	0	0	1	7	0	0	18	22	4	0	0
32(76-)	2	0	0	1	1	0	4	0	4	0	0	0	0	0	1
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	2	0	6	22	29	13	13	7	8	10	18	22	11	15	6
COE VAR (%)	39	100	100	67	27	100	31	100	19	24	55	51	41	38	30

* D. Trawl (1)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	0	7	0	0	0	0	0	0	0	1	2	0	1	0	17
12(76-)	0	4	0	0	0	2	1	2	9	5	5	1	13	1	43
13(101-)	0	1	0	0	0	1	6	5	16	5	9	12	3	9	95
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	5	0	0	6	1	0	0	1	1	0	0	1	1	13
22(76-)	0	5	0	1	1	5	0	0	3	7	3	0	0	5	27
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	1	1	36	10	4	0	0	0	0	3	0	0	2	2	91
32(76-)	0	4	0	1	0	0	0	2	5	14	5	0	2	0	11
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1	12	36	10	7	5	6	6	19	18	12	12	14	11	143
COE VAR (%)	85	10	100	77	66	27	22	24	16	25	27	22	42	27	10

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	1	0	0	1	0	0	1	0	0	0	0	0	0	2	0
12(76-)	0	0	0	0	6	0	2	0	4	1	0	0	0	5	1
13(101-)	0	0	0	0	4	0	1	0	3	4	0	0	0	1	1
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	0	0	0	0	0	0	2	0	0	0	0	3	1
22(76-)	0	0	0	0	2	0	1	0	3	0	0	0	0	4	1
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0
32(76-)	0	0	0	0	0	0	1	0	5	1	0	0	5	0	0
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1	0	0	2	8	0	3	0	8	4	0	0	5	7	2
COE VAR (%)	42	-	-	67	21	-	28	-	17	15	-	-	100	24	23

* D. Trawl (2)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	0	9	0	0	0	0	0	0	0	0	3	0	14	0	21
12(76-)	0	4	0	0	0	2	0	2	6	0	4	1	4	0	25
13(101-)	0	0	0	0	0	3	5	3	16	0	10	10	24	0	94
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	2	0	0	0	0	0	0	1	2	1	0	1	0	6
22(76-)	0	2	0	0	0	3	0	0	3	2	1	0	9	0	22
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	2	0	0	0	0	0	0	0	0	2	0	6	0	10
32(76-)	0	1	0	0	0	0	0	0	0	0	2	0	5	0	9
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	10	0	0	0	5	5	3	18	3	11	10	31	0	103
COE VAR (%)	-	16	-	100	-	24	27	17	17	33	20	30	21	89	9

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	0	0	0	15	0	0	0	0	7	0	0	0	0	9
12(76-)	0	0	0	0	73	0	0	0	0	25	0	0	74	15	2
13(101-)	0	0	0	0	85	0	0	0	0	23	0	0	0	111	4
14(151-)	0	0	0	0	49	0	0	0	0	0	0	0	0	0	0
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	7	8	2	32	11	0	0	0	9	0	0	0	3
22(76-)	0	0	0	0	47	0	8	0	47	52	0	0	0	3	4
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	0	16	2	0	0	0	0	0	0	0	0	38	6
32(76-)	0	0	0	0	7	0	18	0	111	5	0	0	0	7	9
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	0	0	0	0	9	1	1	0	3	2	0	0	3	6	1

* D. Trawl (3)

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	0	19	0	0	0	14	0	9	0	0	19	0	144	10	348
12(76-)	0	2	0	0	0	13	0	2	4	0	14	17	8	14	861
13(101-)	0	0	0	0	0	14	18	12	154	0	19	124	249	157	1108
14(151-)	0	0	0	0	0	0	104	0	149	0	8	135	0	101	594
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	19	0	0	0	4	0	0	4	0	27	0	19	8	57
22(76-)	0	5	0	0	0	35	0	16	31	0	36	3	8	23	980
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	42	0	0	0	7	0	2	1	25	6	0	39	16	73
32(76-)	0	3	0	0	0	0	0	16	60	0	16	0	95	4	128
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	0	1	0	0	0	2	16	1	25	1	2	22	14	18	119

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	2	0	0	3	3	0	0	0	1	1	0	0	0	3	1
12(76-)	1	0	0	0	62	53	26	0	4	6	0	0	0	59	21
13(101-)	1	0	0	0	81	0	1	0	19	29	0	0	0	1	7
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	2	0	0	11	0	0	55	0	1	0	9	0	11	5	1
22(76-)	5	0	0	0	25	0	42	0	8	16	0	0	56	21	16
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	3	0	42	153	0	0	9	50	0	0	120	148	24	0	1
32(76-)	13	0	0	4	5	0	28	0	31	2	0	0	0	0	5
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	1	0	2	6	8	3	3	2	2	2	5	6	3	4	2

* D. Trawl (1)

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	0	31	0	0	0	1	0	1	0	3	7	0	6	1	71
12(76-)	0	17	0	1	0	6	2	9	36	20	20	2	53	5	177
13(101-)	0	3	0	1	0	5	21	16	50	16	28	40	10	29	307
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	33	0	0	44	5	0	0	5	7	0	0	9	9	90
22(76-)	0	30	0	4	8	26	0	2	16	41	17	0	1	29	153
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	5	7	249	65	24	0	0	0	0	20	0	0	16	13	621
32(76-)	0	27	0	5	0	0	0	12	39	106	36	0	11	0	82
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	0	3	9	2	2	1	2	1	5	5	3	3	4	3	37

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	2	0	0	2	1	0	3	0	0	1	0	0	0	8	1
12(76-)	0	0	0	0	26	0	7	0	15	6	0	0	0	21	6
13(101-)	0	0	0	0	14	0	3	0	10	12	0	0	0	2	4
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	2	0	0	0	2	0	1	0	18	3	0	0	0	22	4
22(76-)	0	0	0	0	12	0	8	0	15	2	0	0	0	23	4
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	2	0	0	12	0	0	6	0	2	1	0	0	0	0	2
32(76-)	0	0	0	0	0	0	8	0	43	9	0	0	44	0	0
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	0	0	0	0	2	0	1	0	2	1	0	0	1	2	1

* D. Trawl (2)

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11(51-)	0	37	0	0	0	0	0	0	0	2	12	0	59	0	91
12(76-)	0	17	0	0	0	8	1	8	26	2	17	4	19	0	107
13(101-)	0	1	0	1	0	10	16	8	53	0	32	33	79	0	306
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	17	0	0	0	1	0	0	8	13	9	0	7	0	43
22(76-)	0	11	0	0	0	18	0	3	17	12	5	2	52	0	122
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	14	0	0	0	0	0	0	0	3	14	0	40	3	69
32(76-)	0	7	0	0	0	0	0	1	3	0	20	0	46	0	74
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	0	3	0	0	0	1	1	1	5	1	3	3	8	0	27

STANDARD DEVIATIONS OF CATCHES (100 g) PER STANDARD TOW

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	2	0	0	2	1	0	3	0	0	1	0	0	0	8	1
12(76-)	0	0	0	0	26	0	7	0	15	6	0	0	0	21	6
13(101-)	0	0	0	0	14	0	3	0	10	12	0	0	0	2	4
14(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	2	0	0	0	2	0	1	0	18	3	0	0	0	22	4
22(76-)	0	0	0	0	12	0	8	0	15	2	0	0	0	23	4
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	2	0	0	12	0	0	6	0	2	1	0	0	0	0	2
32(76-)	0	0	0	0	0	0	8	0	43	9	0	0	44	0	0
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STRATIFIED	0	0	0	0	2	0	1	0	2	1	0	0	1	2	1

* D. Trawl (3)

STANDARD ERRORS OF BIOMASS ESTIMATES (ton)

STRATA (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11(51-)	0	0	0	0	3	0	0	0	0	2	0	0	0	0	2
12(76-)	0	0	0	0	18	0	0	0	0	6	0	0	18	4	1
13(101-)	0	0	0	0	26	0	0	0	0	7	0	0	0	34	1
14(151-)	0	0	0	0	46	0	0	0	0	0	0	0	0	0	0
15(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21(51-)	0	0	1	1	0	5	2	0	0	0	1	0	0	0	0
22(76-)	0	0	0	0	8	0	1	0	8	9	0	0	0	1	1
23(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31(51-)	0	0	0	2	0	0	0	0	0	0	0	0	0	6	1
32(76-)	0	0	0	0	1	0	2	0	15	1	0	0	0	1	1
33(101-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(151-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35(201-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36(301-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37(401-)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	1	3	57	5	3	0	17	13	1	0	18	35	3
COE VAR (%)	-	-	100	41	18	100	30	-	20	29	100	-	100	64	25

Appendix Table-6

List of Major Species Caught
by Single Trawl

Species No.	Scientific Name	Common Name
01	<i>Argentina aliciae</i>	ニギス
02	<i>Calanus Brachysomus</i>	キンタイ
03	<i>Citharichthys platophrys</i>	ヒナメ
04	<i>Diplectrum eumelun</i>	ハタ(ヌメ)
05	<i>Epinephelus nigritus</i>	ハタ
06	<i>Hemanthias peruanus</i>	ハナダイ
07	<i>Heterocarpus vicarius</i>	カメ-ジョ(エビ)
08	<i>Loligopsis diomedea</i>	ツリイカ
09	<i>Lutjanus peru</i>	スナッパ-(ハタ北タ)
10	Munidae(Pleuronectodes sp.)	ゴシオリエビ
11	<i>Mustelus lunulatus</i>	ホンサメ
12	<i>Merluccius gayi</i>	メルル-サ
13	<i>Paralabrax loro</i>	ハタ(カブリ-ジヤ)
14	<i>Penaeus brevirostris</i>	ピンク(エビ)
15	<i>Penaeus californiensis</i>	チカウ(エビ)
16	<i>Peprilus medius</i>	シメ
17	<i>Peprilus snyderi</i>	シメ
18	<i>Pomadasys branickii</i>	イサキ
19	<i>Pontinus sierra</i>	アラカブ
20	Portunidae	ツタリガニ
21	<i>Brotula clarkae</i>	イサチイ
22	<i>Physiculus rastrelliger</i>	タラ
23	<i>Selene peruviana</i>	ヒラアジ
24	<i>Selene cerstedii</i>	ヒラアジ
25	<i>Solenocera agassissi</i>	フイヂ-ル(エビ)
26	<i>Synodus scituliceps</i>	アカエノ
27	<i>Trichiurus nitens</i>	タチウオ
28	<i>Prionotus stephanophrys</i>	ホ-ホ-
29		
30	All species total	全魚種

Appendix Table-7

List of Major Species Caught
by Double Rigged Trawl

Species No.	Scientific Name	Common Name
01	<i>Camaron colindra</i>	エビ
02	<i>Camaron aserrin</i>	エビ
03	<i>Cyclopsetta panamensis</i>	タヌガレイ
04	<i>Cyclopsetta querna</i>	タヌガレイ
05	<i>Cytharichthys platophrys</i>	タヌガレイ
06	<i>Cynoputiceps coniceps</i>	ハタ
07	<i>Diplectrum eumelum</i>	ハタ
08	<i>Haemulon maculicanda</i>	イサキ
09	<i>Hippoglossina tetraphthalmus</i>	タヌガレイ
10	<i>Hemanthias peruanus</i>	ハタ
11	<i>Lutjanus argentiventris</i>	フエダイ
12	<i>Lutjanus guttatus</i>	フエダイ
13	<i>Lutjanus colorado</i>	フエダイ
14	<i>Mustelus lunulatus</i>	ホシメ
15	<i>Portunidae sp. or Portunina sp</i>	ワカガエ
16	<i>Penaeus californiensis</i>	クルマエビ
17	<i>Penaeus brevirostris</i>	クルマエビ
18	<i>Pomadasys macracanthus</i>	イサキ
19	<i>Pomadasys branickii</i>	イサキ
20	<i>Pomadasys panamensis</i>	イサキ
21	<i>Paralabrax loro</i>	ハタ
22	<i>Pontinus sierra</i>	ヒオドシ
23	<i>Sycionia sp.</i>	シロ
24	<i>Solenocera agassissi</i>	クサビエビ
25	<i>Synodus scituliceps</i>	アカソ
26	<i>Synodus evermanni</i>	アカソ
27	<i>Physiculus nematopus</i>	チゴタ
28	<i>Prionotus stephanophrys</i>	ホホ
29	<i>Brotula clarkae</i>	イサキウオ
30	Total Catch	総計

Appendix Table-8 Catching Record of Day-Night Survey by Nisshinmaru no. 201

Net No.	126	127	128	132	265	266	267	271	318	319	324	
Date	721	721	721	722	822	922	922	923	1001	1001	1002	
No.	12	13	13	13	33	32	32	33	22	22	22	
Position of Start	Lat. (N)	1031	1034	1035	1034	944	944	944	943	1022	1022	1021
	Long (W)	8600	8600	8600	8600	8528	8528	8528	8527	8600	8600	8600
Time of Start	655	1053	1433	524	730	1112	1512	722	612	1000	532	
Time of Finish	725	1123	1503	554	800	1142	1542	752	642	1030	602	
Towing Time (min.)	30	30	30	30	30	30	30	30	30	30	30	
Towing Speed (knt)	3.1	3.4	3.2	3.2	3.3	3.2	3.1	3.4	3.2	3.2	3.2	
Depth (m)	96	102	102	102	100	99	98	100	91	91	91	
Day or Night	D	D	D	D	D	D	D	D	D	D	D	
Species												
<i>Brotula clarkae</i>	59								3		20	
<i>Bollmannia clamydes</i>	93	10	462	1100			7	0	52		5	
<i>Cytharichthys platophrys</i>	765	124	189	1260		0	86	0	442	1	40	
<i>Cynoscion nannus</i>					0		7		28	1		
<i>Diplectrum euryplectrum</i>	166	51	147	80					39	2	10	
<i>Engyophrys sanctilaurentii</i>	0	0	0	20	0	0	14	0	0	0		
<i>Gymnostrorax equatorialis</i>				10	8	9	6	14				
<i>Hemanthias Peruanus</i>	14	31	63	0		30	0	0	78	0	20	
<i>Hippoglossina Tetrophthalumus</i>								21		0		
<i>Kathetostoma auerunecus</i>					0	61		0			0	
<i>Loligo</i>	43	124	84	280	872	30	14	0	13	1	0	
<i>Lophiodes caulinaris</i>	14		21	0							0	
<i>L. spirulus</i>									26			
<i>Lepophidium prorates</i>	0			0								
<i>Lepophidium sp.</i>												
<i>Mustelus lunulatus</i>			17		9				5			
<i>Onnastrephes bartrami</i>												
<i>Penaeus brevirostris</i>	0			1							0	
Portunidae sp.	7	10	21	60	0	0	50	28	39	1	0	
<i>Peprilus medius</i>	14	165	42	40	1709	1064	79	7389	130	97	100	
<i>P. snyderi</i>	86	1246	294	560	3903	8815	816	1994	949	83	110	
<i>Pararabrax loro</i>	18	16	44						18			
<i>Physiculus nematopus</i>	21	51	42	0	0		65		26	0	20	
<i>Porichthys nectopaedium</i>	0		0	0			0		0			
<i>Prionotus albirostris</i>	0	10	168	20					26		0	
<i>P. gymnostethus</i>					0	0	7					
<i>P. stephanophrys</i>	7	103	252	0					9			
<i>Remora</i>											10	
<i>Solenocera agassissi</i>	0	0	4	34	0	0	3		78		17	
<i>Sycionia sp.</i>	0				0	0	14		13			
<i>Synodus evermanni</i>	50	10	189	60					52		0	
<i>Squilla</i>				20		0	7				0	
<i>Trichiurus nitens</i>				20								
<i>Torpedo tremens</i>							19					
<i>Zalieutes elater</i>	28	10	0	20		0	7			0		
All species	1415	1964	2039	3585	16503	10082	1362	9507	2029	187	352	

Appendix Table-8 Catching Record of Day-Night Survey by Nisshinmaru No. 201

Net No.	129	130	131	268	269	270	321	322	323	
Date	721	721	722	922	922	923	1001	1001	1002	
No.	13	13	13	33	33	33	22	22	22	
Position of Start	Lat. (N)	1034	1035	1034	944	943	943	1022	1021	1021
	Long. (W)	8600	8600	8600	8528	8527	8527	8600	8600	8600
Time of Start	1840	2300	220	1907	2310	303	1803	2227	200	
Time of Finish	1910	2330	250	1937	2340	333	1833	2257	230	
Towing Time (min.)	30	30	30	30	30	30	30	30	30	
Towing Speed (knt)	3.1	3.2	3.2	3.0	3.2	3.3	3.0	3.2	3.4	
Depth	103	103	103	100	100	101	92	91	90	
Day or Night	N	N	N	N	N	N	N	N	N	
Species:										
<i>Brotula clarkae</i>	141	75	210			52	3	61		
<i>Bollmannia clamydes</i>	216	27	700	10	3	2	1	7	7	
<i>Cytharichthys platophrys</i>	696	315	658	16	15	8	43	210	240	
<i>Cynoscion nannus</i>		0		5	0	2	1	0	7	
<i>Diplectrum euryplectrum</i>	92	18	140			0	17	21	30	
<i>Engyophrys sanctilaurentii</i>	15	27	14	10	6	5		0	0	
<i>Gymnostrorax equatorialis</i>	10		10	20	20	22				
<i>Hemanthias peruanus</i>	15	18	28	32	6	5	5	7	15	
<i>Hippoglossina tetropthalmus</i>				148	124	96				
<i>Kathetostoma auerruncus</i>					6				0	
<i>Loligo</i>	0	18		0			0		0	
<i>Lophiodes caularis</i>	30	18	0	5	0	0		0	0	
<i>L. spirulus</i>										
<i>Lepophidium prorates</i>	15	9	84	0						
<i>Lepophidium sp.</i>				69	12	43				
<i>Mustelus lunulatus</i>	37	5	10	24	24	4				
<i>Ommastrephes bartrami</i>					6	3				
<i>Penaeus brevirostris</i>		0			0					
<i>Portunidae sp.</i>	15	63	14	58	21	20			0	
<i>Peprilus medius</i>		18	14				4	14	37	
<i>Peprilus snyderi</i>	46	27	56				3	14	27	
<i>Pararabrax loro</i>		9	31				1	30	31	
<i>Physiculus nematopus</i>	263	171	112	42	24	23	33	217	120	
<i>Porichthys nectopaedium</i>	0	9	0	10		2				
<i>Peristedion crustosum</i>					3					
<i>Prionotus albirostris</i>	15	9	28	0	0	0	0		7	
<i>P. gymnotethus</i>	0	0	0	0		0				
<i>P. stephanophrys</i>	77	18	28					0	7	
<i>P. xenisma</i>					0					
<i>Raja velezi</i>	67	20	60	106	138					
<i>Solenocera agassizii</i>	70	91	100	22	17	12	12	142	144	
<i>Sycionia sp.</i>		0		16	9	8			0	
<i>Synodus evermanni</i>	61	27	70	42			0	7	15	
<i>Squilla sp.</i>	0		0		6	0	0	7	0	
<i>Torpedo tremens</i>				12						
<i>Zalieutes elater</i>	0	18	14	0	3					
All species	1890	1019	2381	614	411	467	125	744	755	

Appendix Table-9
Recording Data of Bottom Lony Line (SOKOTATENAWA, SOKOHAENAWA, 1988)

Series No. of Survey	1	2	3	4	5	6
Survey Area	3	3	3	3	3	3
Survey Date	Aug.13	Aug.13	Aug.15	Aug.16	Aug.17	Aug.18
Setting Time of Bottom L.L	8-00	15-55	6-55	7-10	7-30	7-30
Settins Lat(N)	9-33.0	9-47.0	9-41.7	9-47.4	9-46.5	9-44.6
Position Long(W)	85-12.0	85-30.1	85-29.8	85-29.3	85-38.0	85-36.8
Setting Depth(m)	65	84-82	69	68	102	114-120
Hauling Date	Aug.13	Aug.14	Aug.15	Aug.16	Aug.17	Aug.18
Hauling Time	10-10	8-10	11-50	10-40	11-50	11-50
No. of SOKOTATENAWA	30	90	90	60	60	60
Using Hooks SOKOHAENAWA	-	-	-	60	60	60
TOTAL	30	90	90	120	120	120
Weather	BC	C	BC	C	BC	BC
Wind Direction	W	W	N	W	calm	N
Wind Force	2	3	1	1	-	2
Atmosph. Pressure(mb)	1017	1016	1017	1017	1017	1017
Air Temperature	27.5	27.0	27.0	27.0	28.5	29.0
Surface Water Tem. (°C)	27.8	27.8	28.0	26.3	27.2	27.8
Bottom Materials	M R	R	R	M R	R	R
Current Direction			SW	SSW	NNW	
TOTAL CATCHES (pcs. kg)	1 3.5	9 14.4	17 47.3	23 32.4	3 4.1	28 22.2
Remarks No. of Lost Hooks		5	2	8	4	1
No. of Lost Sinkers				6		

Appendix Table-9

Recording Data of Bottom Lony Line (SOKOTATENAWA, SOKOHAENAWA), 1988

Series No. of Survey	7	8	9	10	11	12
Survey Area	3	2	2	2	2	1
Survey Date	Aug. 19	Aug. 20	Aug. 21	Aug. 22	Aug. 23	Aug. 24
Setting Time of Bottom L.L.	7-10	7-10	6-50	6-50	7-15	7-00
Setting Lat (N)	9-49.7	10-16.5	10-17.8	10-21.8	10-25.2	10-34.2
Setting Long (W)	85-34.4	85-56.8	85-57.5	86-05.8	86-05.8	85-53.4
Setting Depth (m)	55	73	76	112	105	81
Hauling Date	Aug. 19	Aug. 20	Aug. 21	Aug. 22	Aug. 23	Aug. 24
Hauling Time	10-45	10-50	10-30	10-45	10-20	10-30
No. of Using Hooks	60	60	75	75	75	75
	60	60	60	60	60	60
TOTAL	120	120	135	135	135	135
Weather	BC	BC	BC	BC	BC	BC
Wind Direction	N	N	NE	SW	SW	S
Wind Force	1	1	2	3	1	1
Atmosph. Pressure (mb)	1017	1016	1016	1016	1017	1016
Air Temperature	28.0	28.0	27.0	27.0	27.5	27.0
Surface Water Tem. (°C)	27.8	28.0	27.8	28.2	28.0	28.3
Bottom Materials	R	R	R M	R	R	R M
Current Direction	S	NNW	N	N	N	ENE
TOTAL CATCHES (pcs. kg)	19 34.7	27 64.8	7 5.2	48 63.4	39 55.8	0
Remarks No. of Lost Hooks	1	3	1	4	4	
No. of Lost Sinkers			1	4	2	

Appendix Table-9

Recording Data of Bottom Lony Line (SOKOTATENAWA, SOKOHAENAWA), 1988

Series No. of Survey	13	14		
Survey Area	1	3		
Survey Date	Aug. 25	Aug. 26		
Setting Time of Bottom L:L	7-05	8-05		
Setting Lat(N)	10-38.9	9-29.8		
Setting Long(W)	85-49.6	85-13.7		
Setting Depth(m)	73	95		
Hauling Date	Aug. 25	AUG. 26		
Hauling Time	10-15	10-20		
No. of SOKOTATENAWA	75	66		
Using Hooks SOKOHAENAWA	60	60		
TOTAL	135	126		
Weather	C	R		
Wind Direction	W	SW		
Wind Force	3	4		
Atmosph. Pressure (mb)	1016	1017		
Air Temperature (°C)	26.5	25.5		
Surface Water Tem. (°C)	27.9	26.8		
Bottom Materials	R	R		
Current Direction	ENE	S		
TOTAL CATCHES (pcs. kg)	1 2.2	27 31.3		
Remarks: No. of Lost Hooks	3	8		
No. of Lost Sinkers	2	8		

Appendix Table-9
Recording Data of Bottom Lony Line(SOKOTATENAWA, SOKOHAENAWA) , 1988

Series No. of Survey	15	16	17	18	19	20
Survey Area	3	3	3	2	2	2
Survey Date	Oct.9	Oct.10	Oct.11	Oct.12	Oct.13	Oct.14
Setting Time of L.L	8-20	7-10	7-30	7-45	7-30	8-15
Setting Lat(N)	9-33.2	9-26.0	9-49.7	10-03.2	10-22.7	10-21.3
Setting Long(W)	85-11.6	85-28.2	85-32.2	85-50.8	86-04.4	86-05.2
Setting Depth(m)	72-73	67	62	104	104	113
Hauling Date	Oct.9	Oct.10	Oct.11	Oct.12	Oct.13	Oct.14
Hauling Time	11-45	11-50	10-45	11-50	11-30	11-40
No. of SOKOTATENAWA	75	75	75	75	75	75
Using Hooks SOKOHAENAWA	60	60	60	60	60	60
TOTAL	135	135	135	135	135	135
Weather	C	C	BC	C	BC	BC
Wind Direction	SE	E	SE	SE	S	N
Wind Force	1	2	1	4	1	2
Atmosph. Pressure(mb)	1017	1017	1016	1017	1019	1018
Air Temperature	27.5	27.0	27.5	27.5	28.0	28.7
Surface Water Tem. (°C)	26.7	27.0	27.3	27.2	27.1	27.4
Bottom Materials	R	R	R	R M	R M	R
Current Direction		WNW 0.7'	NW 1.2'	NW 1.5'	N 1.4'	NW 1.0
TOTAL CATCHES(pcs. kg)	10 36.0	11 10.8	11 20.7	0	0	40 42.4
Remarks: No. of Lost Hooks	1	2	1	9	58	3
No. of Lost Sinkers	1	1	1	4	4	3

Appendix Table-9

Recording Data of Bottom Lony Line (SOKOTATERAWA, SOKOHAENAWA), 1988

Series No. of Survey	21	22	23	24	25	26
Survey Area	2	2	2	2	2	3
Survey Date	Oct.15	Oct.16	Oct.17	Oct.18	Oct.19	Oct.20
Setting Time of Bottom L	8-50	8-15	7-25	7-45	7-50	7-50
Setting Lat(N)	10-20.1	10-13.4	10-08.0	10-03.4	9-46.3	9-32.8
Setting Long(W)	86-07.5	85-59.6	85-55.4	85-51.1	85-39.5	85-14.5
Setting Depth(m)	200	120	125	102	115	93
Hauling Date	Oct.15	Oct.16	Oct.17	Oct.18	Oct.19	Oct.20
Hauling Time	11-45	11-40	11-00	11-30	10-20	10-30
No. of SOKOTATERAWA	75	75	75	75	75	75
Using Hooks SOKOHAENAWA	60	60	60	60	60	60
TOTAL	135	135	135	135	135	135
Weather	BC	BC	BC	BC	BC	BC
Wind Direction	N	NNE	NE	NE	E	WNW
Wind Force	2	2	2	1	1	3
Atmosph. Pressure(mb)	1017	1016		1016	1015	1016
Air Temperature	30.0	30.0	28.5	30.0	29.0	27.0
Surface Water Tem. (°C)	27.6	27.2	27.2	28.7	27.9	27.6
Bottom Materials	R	R M	R M	R	R	R
Current Direction		WNW 0.5'		S 1.0'	WSW 0.7'	
TOTAL CATCHES (pcs. kg)	14 11.3	8 19.6	7 4.3	20 49.5	13 4.1	18 32.1
Remarks: No. of Lost Hooks	1				1	3
No. of Lost Sinkers	1					4

Appendix Table-9
Recording Data of Shrimp Pot, 1988

Series No. of Survey	1	2	3	4	5	6
Survey Area	3	3	3	3	3	3
Survey Date	Aug. 13	Aug. 14	Aug. 15	Aug. 16	Aug. 17	Aug. 18
Setting Time of Bottom L.L.	16-30	13-50	15-35	15-30	16-40	16-15
Setting Lat(N)	9-48.5	9-48.0	9-45.3	9-45.6	9-44.0	9-49.7
Setting Long(W)	85-31.3	85-26.8	85-34.3	85-38.2	85-32.6	85-35.3
Setting Depth (m)	89	55	105	112	140	78
Hauling Date	Aug. 14	Aug. 15	Aug. 16	Aug. 17	Aug. 18	Aug. 19
Hauling Time	9-05	8-10	8-30	8-30	8-30	7-50
No. of pot	36	35	36	36	36	36
Weather	C	C	C	C	BC	C
Wind Direction	W	W	W	Calm	SE	W
Wind Force	3	3	4	-	1	1
Atmosph. Pressure (mb)	1016	1018	1015	1016.0	1015	1015
Air Temperature	27.0	25.9	27.0	30.0	29.0	30.0
Surface Water Tem. (°C)	27.8	27.8	27.6	27.8	28.8	28.8
Bottom Materials	M	R M	R M	R M	R M	R M
Current Direction	SW	SW	NW	NNW		
TOTAL CATCHES (kg)	91.2	20.9	27.4	22.1	9.6	55.1
Remarks						

Appendix Table-9
Recording Data of Shrimp Pot, 1988

Series No. of Survey	7	8	9	10	11	12
Survey Area	2	2	2	2	1	1
Survey Date	Aug. 19	Aug. 20	Aug. 21	Aug. 22	Aug. 23	Aug. 24
Setting Time of Shrimp pot	17-05	16-50	17-10	17-05	16-30	16-50
Setting Lat (N)	10-15.0	10-16.5	10-21.5	10-25.8	10-35.8	10-39.8
Setting Long (W)	85-56.2	85-55.9	85-03.0	86-05.1	86-00.3	85-49.0
Setting Depth (m)	81	62	104	106	108	73
Hauling Date	Aug. 20	Aug. 21	Aug. 22	Aug. 23	Aug. 24	Aug. 25
Hauling Time	8-00	8-00	7-55	8-15	8-40	7-50
No. of pot	35	35	35	35	35	35
Weather	BC	R	BC	C	C	C
Wind Direction	W	SW	W	W	SW	SW
Wind Force	3	2	1	3	3	2
Atmosph. Pressure (mb)	1015	1015	1014	1014	1015	1014
Air Temperature (°C)	29.3	27.0	28.0	28.0	26.5	27.5
Surface Water Tem. (°C)	28.8	28.2	27.8	28.6	28.4	28.2
Bottom Materials	R.M.	R.M.	R.M.	R.M.	M	M
current Direction		N		NNE	N	ENE
TOTAL CATCHES (Kg)	36.0	12.9	62.4	37.1	14.3	5.1
Remarks						

Appendix Table-9
Recording Data of Shrimp Pot , 1988

Series No. of Survey	13	14	15	16	17	18
Survey Area	3	3	2	2	2	2
Survey Date	Oct.9	Oct.10	Oct.11	Oct.12	Oct.13	Oct.14
Setting Time of Shrimp Pot	17-00	16-50	16-50	16-35	17-00	16-50
Lat(N)	9-42.2	9-48.7	10-03.3	10-16.9	10-20.0	10-16.2
Long(W)	85-19.1	85-31.1	85-49.9	85-59.2	85-59.5	86-03.6
Setting Depth(m)	55	64	92	102	95	163
Hauling Date	Oct.10	Oct.11	Oct.12	Oct.13	Oct.14	Oct.15
Hauling Time	9-05	7-30	8-05	8-50	9-25	9-05
No. of pot	37	37	37	37	37	37
Weather	C	C	R	BC	BC	BC
Wind Direction	S	SW	SW	SSE	W	W
Wind Force	1	2	1	4	1	2
Atmosph. Pressure(mb)	1014	1015	1015	1017	1017	1015
Air Temperature(°C)	27.5	28.5	26.0	25.5	27.5	28.0
Surface Water Tem.(°C)	28.0	27.3	27.8	27.1	27.5	28.1
Bottom Materials	M	R M	M	M	H	
Current Direction			NNW 1.5	N 2.0	N 1.0	
TOTAL CATCHES	20.1	9.1	53.4	2.9	3.0	67.7
Remarks						

Appendix Table-9

Recording Data of Shrimp Pot, 1988

Series No. of Survey	19	20	21	22	23
Survey Area	2	2	2	3	3
Survey Date	Oct. 15	Oct. 16	Oct. 17	Oct. 18	Oct. 19
Setting Time of Shrimp Pot	16-45	16-50	16-55	16-35	16-45
Lat(N)	10-14.1	10-07.4	9-55.4	9-44.7	09-30.0
Long(W)	86-02.3	86-56.2	85-48.4	85-40.0	85-15.8
Setting Depth(m)	243	315	258	300	255
Hauling Date	Oct. 16	Oct. 17	Oct. 18	Oct. 19	Oct. 20
Hauling Time	8-45	7-45	9-00	8-15	18-30
No. of pot	37	37	37	37	37
Weather	BC	C	B	R	C
Wind Direction	N	N	SE	NNW	W
Wind Force	3	1	2	2	2
Atmosph. Pressure(mb)	1014	1013	1015	1015	1014
Air temperature(°C)	30.0	28.5	26.7	26.0	27.8
Surface water ten(°C)	28.1	27.8	28.5	28.0	27.6
Bottom materials					
Current direction	WNW 0.5	WNW 0.5	NW 1.0		
Total Catches (kg)	162.1	70.0	97.6	37.8	120.5
Remarks					

Appendix Table-10a 底たて縄の奇種別漁獲量

Catches by Bottom Long Line (SOKOTATENAWA)

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14												
Pcs.	kgPcs.																									
Auxis thazard		2	4.7																							
Brotula clarkae																										
Caranx Vinctus						1	2.0																			
Carangoides otrynter						1	1.7																			
Ceololatilus affinis		2	2.3	2	2.3	4	1.5	3	2.5	2	1.4	6	5.0	7	7.3											
Coryphaena hippurus														13	7.7											
Diplctrum euryplectrum																										
Epinephelus acanthistius																										
Epinephelus diioxvii																										
Epinephelus nigricus						6	6.7	4	2.9	1	0.7	9	7.4	5	6.5											
Epinephelus niveatus					1	2.0	3	7.5			2	2.2	10	30.9	4	5.1										
Gymnothorax equatorialis		5	2.7																							
Hemanthias signifer						4	1.1				5	1.1	2	0.6												
Hemanthias peruanus																										
Katsuwonus pelamis																										
Lutjanus Peru			3	2.7	9	10.7		4	4.0	3	9.4		5	12.5	2	5.8										
Mustelus lunulatus								1	2.3																	
Opichthus pacificus																										
Paralabrax loro			4	2.7		1	1.8			1	0.7	1	0.5													
Pomadourys macracanthus																										
Pontinus furcichinus					1	0.5																				
Pontinus Sierra						2	0.4				6	1.0	1	0.2												
Sarda chiliensis	1	3.5	2	7.0	2	5.0																				
Sarda orientalis															1	0.9										
Seriola rivoliana																										
Serranus aequidens					1	1.5																				
Thunnus albacores																										
Others																										
Total catches(pcs. kg)	1	3.5	9	14.4	14	24.7	14	19.0	2	3.8	19	17.2	9	12.6	13	23.5	6	4.8	41	57.9	22	27.5	0	0	20	25.9

Appendix Table-10a

Catches by Bottom Long Line (SOKOTATENAWA)

Species	15	16	17	18	19	20	21	22	23	24	25	26	Total
	Pcs. kg												
Auxis thazard	1 1.0												1 1.0
Brotula clarkae													2 4.7
Caranx Vinctus													1 2.0
Caranxoides otrynter													1 1.7
Caulolatilus affinis	3 3.0	2 2.2				6 5.5	3 2.7	2 1.3	5 3.2	2 1.5	3 1.4	7 4.1	72 54.9
Coryphaena hippurus	1 3.3										1 0.1		1 3.3
Diplectrum euryplectrum						1 2.5				2 33.0			3 35.5
Epinephelus acanthistius													1 12.7
Epinephelus dioxvii							1 5.8	1 0.7		2 2.1		1 0.4	32 37.2
Epinephelus nigritus						3 4.3	1 0.6	4 17.2		2 7.8			30 77.6
Epinephelus niveatus													5 2.7
Gymnothorax esuatorialis						4 1.1	1 0.3	1 0.4		1 0.4			18 5.0
Hemanthias signifer													
Hemanthias peruanus													
Katsuwonus pelamis													
Lutjanus peru			2 2.3										28 47.4
Mustelus lunulatus													1 2.3
Opichthus pacificus						2 0.4							2 0.4
Paralabrax loro	1 0.3								1 0.3			3 1.7	12 8.0
Pomadour macracanthus							4 1.0			3 0.8	5 0.9	1 0.2	1 0.5
Pontinus furcichinus													25 5.1
Pontinus sierra													
Sarda chiliensis			1 1.8										7 18.2
Sarda orientalis	2 3.6	1 2.5	2 3.1										7 12.1
Seriola rivoliana	6 13.0		1 1.8										9 18.0
Serranus aequidens							1 0.1						1 0.1
Thunnus albacores			2 8.8									3 14.5	11 47.3
Others													
Total catches (pcs. kg)	10 20.9	5 5.8	10 20.0	0	0	16 13.8	11 10.5	8 19.6	5 3.2	13 45.9	9 2.4	15 20.9	272 397.8