

C. J. ...

FISH COMMISSION OF OREGON
GROUNDFISH AND SHRIMP INVESTIGATIONS

Report of Cruise 73-5, Resource Survey

Vessel: R/V Commando, chartered research vessel.

Dates: September 4 - October 5, 1973

Objectives: The purpose of the survey was to provide data for biomass estimates of flatfish and age data for forecasting year-class strength of important commercial flatfish. The survey was the third of four planned for accessing fish stocks on the Continental Shelf off Oregon. In 1973, the outer depth limit was increased from 110 fathoms to 250 fathoms, a change from the 1971 and 1972 surveys.

Methods: Tows on the Continental Shelf were made on stations occupied in 1971. Tows outside 110 fathoms were added along existing track lines at 5-mile intervals. Tows were 1.0 nautical miles in length and all were made towing south.

The trawl was a 400 mesh eastern type constructed entirely of 3.5-inch mesh. Footrope-headrope measurements were 77 and 60 feet, respectively. Seeplines were a 5 fathom dandy line and a 10 fathom bridle. The footrope, a chain-rubber disc type, was 4.5 inches in diameter. There were twelve 8-inch floats attached to the headrope. A 71 foot, 5/16-inch tickler chain was attached to each wing tip. The "V"-type otter boards measured 5 x 7 feet and weighed 1,050 pounds each.

Results: As originally scheduled the survey was to terminate at Newport at the Yaquina Head trackline. In addition to the stations

Results (Cont): plotted on the Continental Shelf (83), there were 40 stations plotted on the upper continental slope out to a depth of 250 fathoms. The demolition of one of two trawls on a slope station at the beginning of the cruise necessitated a change in the cruise plan. All shelf stations were occupied through the Yaquina Head trackline, then another attempt was made to occupy the slope stations. Severe trawl damage again resulted, thus the slope stations were abandoned and shelf stations south of the Yaquina Head trackline were occupied until the charter period ended. In all there were 102 hauls made, 96 on the shelf and 6 on the slope. Snags were encountered on 7 tows.

Catch rate by species and tow locations are shown in Table 1. For convenience in the format of Table 1, rockfish species that totaled less than 100 pounds for the survey and infrequently caught species are listed in the miscellaneous category. Table 2 lists common and scientific names of fish caught.

There were about 10,000 fish sampled for age, size, and sex composition (Table 3).

Prior to departure from the Puget Sound area, the trawl opening was measured by divers. The horizontal opening was 30 feet while the vertical opening was 5-6 feet.

XBT casts were made along every other trackline.

Other work performed was the tagging of 975 sablefish. Also various requests were fulfilled for specimens.

Personnel: Robert Demory, Party Chief 9/4-10/5
Brent Forsberg, Biologist 9/4-10/5
Mike Hosie, Biologist 9/4-10/5
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January 22, 1974

Table 1. Station Location and Catch of Principle Species by Haul, Groundfish Survey, Cruise 73-5, September 4 to October 5, 1973

Haul Numbers	1	2	3	4	5	6
Date	9/7	9/7	9/7	9/7	9/7	9/8
Loran 110						
Start	3478	3479	3478	3477	3466	3412
End	3466	3467	3466	3465	3454	3397
Depth	17-18	40-41	60-61	72-71	83	76-77
Catch:						
Spiny dogfish	2		10	5	4	13
Skate	126	89	43	31	104	152
Ratfish	3	102	17	26	24	62
Pacific cod		68	10			
Pacific hake	5	73	36			
Flatfish						
Pacific sanddab	277	40				
Arrowtooth flounder		34	47	61	116	98
Slender sole		T	9	5	3	3
Petrale sole	24	4	2	2	2	
Flathead sole			2			5
Sand sole	19					
Butter sole	6					
English sole	104	29	T			
Rock sole	2					
Dover sole		22	184	438	226	202
Rex sole	10	269	61	53	17	80
Starry flounder						
Curlfin sole						
Rockfish						
Shortspine thornyhead			3		6	16
Pacific ocean perch				15	7	7
Green striped rockfish				11	32	2
Yellowtail rockfish			6			
Canary rockfish		3	5	17		10
Blackmouth rockfish			2	50	12	35
Splitnose rockfish						
Stripetail rockfish						
Sablefish	1	4	70	64	46	20
Lingcod			7		28	3
Miscellaneous <u>1/</u>	T	4	36	3		4
Totals	577	741	550	781	627	712

1/ See Table 2 for species listed in this category.

* Snag

T = Trace = <1 pound

Table 1. Continued

Haul Numbers	7	8	9	10	11	12
Date	9/8	9/8	9/8	9/8	9/8	9/9
Loran, 1LO						
Start	3403	3396	3324	3331	3345	3346
End	3391	3383	3315	3320	3335	3334
Depth	85-88	148	210-226	107	86-84	79-80
Catch:						
Spiny dogfish		6			17	
Skate	39	100	43	40	52	78
Ratfish	16	13	7	17	8	22
Pacific cod						
Pacific hake	5	49	148	3	15	13
Flatfish						
Pacific sanddab						
Arrowtooth flounder	76	46	7	38	213	16
Slender sole	2	3	T		2	9
Petrale sole	2				3	
Flathead sole	2				16	13
Sand sole						
Butter sole						
English sole						
Rock sole						
Dover sole	256	374	72	99	208	132
Rex sole	44	48	15	19	112	52
Starry flounder						
Curfin sole						
Rockfish						
Shortspine thornyhead	15	120	29	76	15	36
Pacific ocean perch	40	1,040	136	50	1	1
Green striped rockfish	60			9	15	1
Yellowtail rockfish	19				11	3
Canary rockfish	15				13	5
Blackmouth rockfish	58	68		4	3	45
Splitnose rockfish		2		3		
Stripetail rockfish	16			11		
Sablefish	184	174	230	50	166	14
Lingcod	26	8		18		
Miscellaneous	3	29	59	5	44	5
Totals	878	2,080	746	442	914	445

Table 1. Continued

Haul Numbers	13	14	15	16	17	18
Date	9/9	9/9	9/9	9/9	9/10	9/10
Loran, 1LO						
Start	3352	3417	3420	3427	3415	3355
End	3340	3405	3408	3415	3403	3343
Depth	65-68	64-66	52-53	36-38	14-16	34-36
Catch:						
Spiny dogfish		4	7	5		10
Skate	22	81	18	24	176	18
Ratfish	14	20	85	51	3	25
Pacific cod	6	11	62			4
Pacific hake	140	2	23	196	52	135
Flatfish						
Pacific sanddab			31	110	7	101
Arrowtooth flounder	30	27	19	53		2
Slender sole	6	5	2	T		T
Petrale sole		2	10	37	3	15
Flathead sole	25	1				
Sand sole					44	
Butter sole					14	T
English sole			3	37	85	44
Rock sole						
Dover sole	162	286	75	4	3	6
Rex sole	95	25	51	136	T	48
Starry flounder					8	
Curlfin sole						
Rockfish						
Shortspine thornyhead	28	9				
Pacific ocean perch						
Green striped rockfish	1	12	2			
Yellowtail rockfish	22	3	5			
Canary rockfish	9	102	3			7
Blackmouth rockfish	14					
splitnose rockfish						
Stripetail rockfish						
Sablefish	26	48	8			
Lingcod		11	33			17
Miscellaneous			T	13	39	7
Totals	600	649	437	666	434	439

Table 1. Continued

Haul Numbers	19	20	21	22	23	24
Date	9/10	9/10	9/10	9/10	9/10	9/12
Loran, 1LO						
Start	3296	3228	3235	3300	3353	3291
End	3283	3216	3223	3287	3340	3278
Depth	40-41	23-24	46	52-54	50-51	71
Catch:						
Spiny dogfish	6	22		2	3	
Skate	72	120	52	66	43	16
Ratfish	34	22	56	72	70	17
Pacific cod	4		8	9	17	
Pacific hake			60	234	47	10
Flatfish						
Pacific sanddab	134	4	55	98	83	
Arrowtooth flounder			11	38	41	12
Slender sole	T				T	14
Petrale sole	14	20	49	15	43	
Flathead sole						4
Sand sole		1				
Butter sole		5				
English sole	35	10	50	78	73	
Rock sole						
Dover sole	4		1	44	72	66
Rex sole	79		30	14	13	63
Starry flounder						
Curlfin sole						
Rockfish						
Shortspine thornyhead						
Pacific ocean perch						
Green striped rockfish				1		
Yellowtail rockfish				254	68	
Canary rockfish						24
Blackmouth rockfish						T
Splitnose rockfish						
Stripetail rockfish						
Sablefish			2	12	3	3
Lingcod	14	22	5	26	5	
Miscellaneous	9	T	22	9	2	
Totals	405	226	401	972	583	229

Table 1. Continued

Haul Numbers	25	26	27	28	29*	30
Date	9/12	9/12	9/12	9/12	9/13	9/13
Loran, 1LO						
Start	3223	3230	3423	3291	3275	3280
End	3211	3218	3422	3279	3270	3268
Depth	68	81	85-87	81	80	110
Catch:						
Spiny dogfish						
Skate	5	14	48	48	11	110
Ratfish	11		23	6		17
Pacific cod					16	
Pacific hake	31		5			143
Flatfish						
Pacific sanddab	T					
Arrowtooth flounder	82	20	65	42	41	28
Slender sole	5	14	4	8	T	T
Petrale sole						
Flathead sole	5	4	8	11		
Sand sole						
Butter sole						
English sole						
Rock sole						
Dover sole	80	25	20	78	82	189
Rex sole	13	11	11	21	42	35
Starry flounder						
Curlfin sole						
Rockfish						
Shortspine thornyhead			13	36		26
Pacific ocean perch			1			16
Green striped rockfish	7	4		1	16	3
Yellowtail rockfish	6					
Canary rockfish					35	
Blackmouth rockfish	5	T	5	9		2
Splitnose rockfish						
Stripetail rockfish						
Sablefish	24	4	12	39	35	54
Lingcod					7	8
Miscellaneous			3	2	31	2
Totals	274	96	218	301	316	633

Table 1. Continued

Haul Numbers	31	32	33*	34	35	36
Date	9/13	9/13	9/13	9/14	9/14	9/14
Loran, 110						
Start	3277	3210	3220	3168	3100	3110
End	3265	3197	3208	3155	3088	3097
Depth	175-176	176-180	109-110	26-28	17-15	46-47
Catch:						
Spiny dogfish						4
Skate	88	39		29	110	43
Ratfish	21	16		49	128	10
Pacific cod						4
Pacific hake	413	300		3		130
Flatfish						
Pacific sanddab				81	22	48
Arrowtooth flounder	32	27				20
Slender sole						T
Petrale sole	2			12	52	25
Flathead sole						
Sand sole					5	
Butter sole					15	
English sole				13	50	36
Rock sole				2		
Dover sole	156	228				12
Rex sole	21	19		9	1	35
Starry flounder						
Curlfin sole						
Rockfish						
Shortspine thornyhead	164	164				
Pacific ocean perch	10	124				
Green striped rockfish						
Yellowtail rockfish						
Canary rockfish						
Blackmouth rockfish	7	8				
Splitnose rockfish	40	19				
Stripetail rockfish						
Sablefish	84	72				
Lingcod						21
Miscellaneous	52	18		4	14	28
Totals	1,090	1,034	202	202	397	416

Table 1. Continued

Haul Numbers	37	38	39	40	41	42
Date	9/14	9/14	9/14	9/14	9/15	9/15
Loran, 1LO						
Start	3108	3175	3174	3169	3160	3158
End	3095	3163	3161	3157	3148	3145
Depth	72	51-52	75-76	81-80	99-101	115
Catch:						
Spiny dogfish	8	7			12	5
Skate	26	63	32	102	52	8
Ratfish	13	36	21	16	22	8
Pacific cod						
Pacific hake	8	117		10		21
Flatfish						
Pacific sanddab		28				
Arrowtooth flounder	38	72	33	53	82	83
Slender sole	7		9	3	3	T
Petrale sole	1	8	2		1	
Flathead sole	1		7		17	
Sand sole						
Butter sole						
English sole		148				
Rock sole						
Dover sole	93	19	44	47	95	179
Rex sole	13	14	27	2	64	21
Starry flounder						
Curlfin sole						
Rockfish						
Shortspine thornyhead					74	66
Pacific ocean perch					2	42
Green striped rockfish	2		1	1	3	22
Yellowtail rockfish						
Canary rockfish						
Blackmouth rockfish	T		T		2	1
Splitnose rockfish					T	4
Stripetail rockfish					24	1
Sablefish	5	1	5		11	68
Lingcod	3	14		17		
Miscellaneous		1			3	85
Totals	218	528	181	251	467	614

Table 1. Continued

Haul Numbers	43*	44	45	46*	47	48
Date	9/15	9/15	9/15	9/16	9/16	9/16
Loran, 110						
Start	3144	3102	3045	3043	2981	2982
End	3132	3090	3032	3031	2969	2970
Depth	132-139	106-110	118-121	89	109	90-91
Catch:						
Spiny dogfish		8	6		7	9
Skate		79	82	2	214	50
Ratfish		21	19	7	2	11
Pacific cod						
Pacific hake		203	75		47	
Flatfish						
Pacific sanddab						
Arrowtooth flounder		107	88	2	113	6
Slender sole		5	T	T		2
Petrale sole			3		2	
Flathead sole		5				
Sand sole						
Butter sole						
English sole						
Rock sole						
Dover sole		151	145	62	132	9
Rex sole		81	8	1	8	T
Starry flounder						
Curlfin sole						
Rockfish						
Shortspine thornyhead		126	106	8	18	9
Pacific ocean perch		38	92		26	2
Green striped rockfish		1	1	3	6	4
Yellowtail rockfish						
Canary rockfish						
Blackmouth rockfish		135	8		24	2
Splitnose rockfish		37	16		T	
Stripetail rockfish		8			17	T
Sablefish		32	170		362	8
Lingcod						
Miscellaneous			22		5	5
Totals		1,037	841	85	983	117

Table 1. Continued

Haul Numbers	49	50	51	52	53	54
Date	9/16	9/16	9/16	9/16	9/22	9/23
Loran, 110						
Start	2982	2990	3050	3047	2366	2367
End	2970	2978	3038	3035	2354	2354
Depth	64-65	30	42-41	63-66	38-39	54-56
Catch:						
Spiny dogfish		18	12		222	18
Skate	8	16	11	9	28	79
Ratfish	65	44	42	39	37	42
Pacific cod			34			
Pacific hake	268		239	746	60	78
Flatfish						
Pacific sanddab	4	54	106	11	37	15
Arrowtooth flounder	9	3	16	23	8	T
Slender sole	2	T		T		T
Petrale sole	14	14	17	13		155
Flathead sole	2					
Sand sole						
Butter sole		T			2	
English sole	7	27	58	1	186	7
Rock sole		5			2	6
Dover sole	41	2	3	80	3	11
Rex sole	4	24	39	T	8	4
Starry flounder						
Curlfin sole					3	
Rockfish						
Shortspine thornyhead						
Pacific ocean perch						
Green striped rockfish	2			19		26
Yellowtail rockfish	28					
Canary rockfish	16					
Blackmouth rockfish				T		
Splitnose rockfish						
Stripetail rockfish						T
Sablefish	5			4		
Lingcod	62		2		4	130
Miscellaneous		13			T	53
Totals	537	220	579	945	600	624

Table 1. Continued

Haul Numbers	55	56	57	58	59	60
Date	9/23	9/23	9/23	9/23	9/26	9/26
Loran, 1LO						
Start	2357	2416	2483	2422	2361	2438
End	2345	2404	2471	2410	2349	2426
Depth	100-96	85-82	89-87	63-60	47-45	59-57
Catch:						
Spiny dogfish	250	26	72	9	14	
Skate	90	82	21	29	22	7
Ratfish	18	7	11	1		
Pacific cod				8		
Pacific hake	34	83	166	169	31	343
Flatfish						
Pacific sanddab				18	30	15
Arrowtooth flounder	31	44	71	29	14	86
Slender sole	6	6	2	1		T
Petrale sole	2		7	1	96	25
Flathead sole						
Sand sole						
Butter sole						
English sole					88	30
Rock sole					11	T
Dover sole	107	55	77	13	7	40
Rex sole	12	15	10	1	5	3
Starry flounder						
Curlfin sole					4	
Rockfish						
Shortspine thornyhead	60		32			
Pacific ocean perch	3		4			
Green striped rockfish	50	240	11	1		
Yellowtail rockfish	5	15	26			4
Canary rockfish				10		
Blackmouth rockfish			2			
Splitnose rockfish						
Stripetail rockfish	17					
Sablefish	301	150	113			1
Lingcod			2	14	122	6
Miscellaneous	15	3	49			
Totals	1,001	726	676	304	444	560

Table 1. Continued

Haul Numbers	61	62	63	64	65	66
Date	9/26	9/26	9/26	9/27	9/27	9/27
Loran, 110						
Start	2490	2549	2605	2869	2926	2927
End	2478	2537	2592	2857	2914	2915
Depth	76-74	90-88	111-108	37	18-17	50-51
Catch:						
Spiny dogfish	52	23	13	198	266	460
Skate	2	32	118	22	182	46
Ratfish	16	9	31	84		78
Pacific cod				7		22
Pacific hake	252	10	242	278		489
Flatfish						
Pacific sanddab				52	25	10
Arrowtooth flounder	9	120	139	5		23
Slender sole	T	2	4	T		T
Petrale sole	2	3	1	11	12	30
Flathead sole						
Sand sole					9	
Butter sole					10	
English sole				60	36	82
Rock sole			56	3		
Dover sole	10	97	142	12		29
Rex sole	5	12	10	124		38
Starry flounder						
Curlfin sole						
Rockfish						
Shortspine thornyhead						
Pacific ocean perch		T	68			
Green striped rockfish	T	38	4			
Yellowtail rockfish						
Canary rockfish	5					
Blackmouth rockfish		1	7			
Splitnose rockfish						
Stripetail rockfish						
Sablefish	171	43	45			3
Lingcod			6	16		32
Miscellaneous	4		12		8	
Totals	528	395	898	872	548	1,342

Table 1. Continued

Haul Numbers	67	68	69	70	71*	72
Date	9/27	9/27	9/27	9/27	9/28	9/28
Loran, 110						
Start	2924	2914	2856	2860	2809	2806
End	2912	2902	2843	2848	2702	2794
Depth	84-85	106-110	99-101	70-71	14-13	58-57
Catch:						
Spiny dogfish	12	4	28	9	152	94
Skate	7	41	59	12	136	85
Ratfish	8	1	1	15		62
Pacific cod						24
Pacific hake	507	21	3	328		902
Flatfish						
Pacific sanddab		T			T	5
Arrowtooth flounder	20	48	45	16		21
Slender sole	1	2	2	3		2
Petrale sole			3		5	28
Flathead sole	T					
Sand sole					10	
Butter sole					12	
English sole				3	2	28
Rock sole						
Dover sole	56	231	152	28		158
Rex sole	17	11	8	6		25
Starry flounder					21	
Curlfin sole						
Rockfish						
Shortspine thornyhead	98	4	40	2		
Pacific ocean perch		36	16			
Green striped rockfish		36	12	4		
Yellowtail rockfish						
Canary rockfish		9		5		
Blackmouth rockfish	1	T	12	T		
Splitnose rockfish						
Stripetail rockfish		142	52			
Sablefish	93		105	11		2
Lingcod		219	4		30	
Miscellaneous		10	41		13	2
Totals	820	815	583	442	381	1,438

Table 1. Continued

Haul Numbers	73	74	75	76	77	78
Date	9/28	9/28	9/28	9/28	9/29	9/29
Loran, 1LO						
Start	2795	2730	2742	2740	2677	2678
End	2783	2718	2730	2728	2665	2666
Depth	89-91	95	58-60	23	39	74-72
Catch:						
Spiny dogfish	32	34	100	16	142	72
Skate	20	42	39	68	25	13
Ratfish	2	3	110	19	88	12
Pacific cod						
Pacific hake	73	179	1,368		187	796
Flatfish						
Pacific sanddab			3	7	19	
Arrowtooth flounder	21	69	15			27
Slender sole	T	2	T			2
Petrale sole			9	20	26	T
Flathead sole	T					
Sand sole				5		
Butter sole				24	2	
English sole			2	9	186	
Rock sole					36	
Dover sole	31	54	75	4	4	30
Rex sole	17	13	7	3	36	4
Starry flounder				10		
Curlfin sole				4	1	
Rockfish						
Shortspine thornyhead	64	66	3			22
Pacific ocean perch	1	T				
Green striped rockfish	3	4				2
Yellowtail rockfish			106			5
Canary rockfish			7			
Blackmouth rockfish	9	7		30		T
Splitnose rockfish						
Stripetail rockfish						
Sablefish	68	96	6		3	67
Lingcod			22	26		
Miscellaneous	9	3			T	
Totals	350	572	1,872	245	755	1,052

Table 1. Continued

Haul Numbers	79	80	81	82	83	84
Date	9/29	9/29	9/29	9/29	9/29	9/30
Loran, 1LO						
Start	2772	2608	2617	2556	2547	2494
End	2760	2596	2605	2544	2535	2482
Depth	109-108	75-76	42	32-31	67-68	52-51
Catch:						
Spiny dogfish	14	56	138	54	34	84
Skate	66	26	28	26	46	27
Ratfish	8	20	36	19	24	8
Pacific cod						
Pacific hake	174	1,238	68		593	1,820
Flatfish						
Pacific sanddab			16	9	T	16
Arrowtooth flounder	79	64	4			18
Slender sole	2	T		T	T	
Petrale sole		3	32	40	2	15
Flathead sole						
Sand sole						
Butter sole				3		
English sole			109	45	14	39
Rock sole			3	2		3
Dover sole	113	97	4		8	22
Rex sole	37	1	66	2	1	18
Starry flounder						
Curlfin sole						
Rockfish						
Shortspine thornyhead	17	15				
Pacific ocean perch	49					
Green striped rockfish	7	5			5	
Yellowtail rockfish		6				
Canary rockfish	10	14	4		14	
Blackmouth rockfish	8	T				
Splitnose rockfish	T					
Stripetail rockfish	T					
Sablefish	183	103		T	81	2
Lingcod				9		
Miscellaneous	5			T	2	
Totals	772	1,648	508	209	824	2,072

Table 1. Continued

Haul Numbers	85	86	87	88 *	89	90
Date	9/30	9/30	9/30	10/1	10/2	10/2
Loran, 1LO						
Start	2498	2430	2375	2367	2310	2309
End	2486	2418	2363	2359	2298	2297
Depth	23-24	30	20-19	174-152	28	43-45
Catch:						
Spiny dogfish	9	50	40		22	50
Skate	71	32	226	10	160	10
Ratfish	140	210	16	15	22	22
Pacific cod						
Pacific hake	3			198		263
Flatfish						
Pacific sanddab		12	T		31	35
Arrowtooth flounder				2		
Slender sole				T		T
Petrale sole	9	5	T		28	13
Flathead sole						
Sand sole			3		1	
Butter sole	18	7	38		7	T
English sole	18	46	93		186	249
Rock sole	1	4			2	2
Dover sole	1	3	4	86		16
Rex sole	T	6		19	3	19
Starry flounder						
Curlfin sole		2			1	5
Rockfish						
Shortspine thornyhead				38		
Pacific ocean perch				10		
Green striped rockfish						
Yellowtail rockfish	4					
Canary rockfish					4	
Blackmouth rockfish				3		
Splitnose rockfish				162		
Stripetail rockfish						
Sablefish				64	T	
Lingcod	5	8	8		29	
Miscellaneous	7	26	20	11		
Totals	286	411	448	618	496	684

Table 1. Continued

Haul Numbers	91	92	93*	94	95	96
Date	10/2	10/2	10/3	10/3	10/3	10/3
Loran, lLO						
Start	2250	2180	2303	2234	2236	2163
End	2238	2168	2295	2222	2224	2151
Depth	36-37	38	7	64-63	119-99	75-72
Catch:						
Spiny dogfish	12	51	130	258	235	180
Skate	26	13	13	16	13	32
Ratfish	166	29	8	14	38	20
Pacific cod			5			19
Pacific hake		60		70	44	122
Flatfish						
Pacific sanddab	38	96		11		T
Arrowtooth flounder		1	2	26	28	38
Slender sole		T	T	T	13	5
Petrale sole	12	20		2	2	
Flathead sole						
Sand sole						
Butter sole	T					
English sole	536	1,232		13	4	90
Rock sole	21					
Dover sole	7	12	45	69	94	157
Rex sole	89	132	7	9	18	12
Starry flounder						
Curfin sole		T				
Rockfish						
Shortspine thornyhead					76	
Pacific ocean perch					14	
Green striped rockfish			16		7	
Yellowtail rockfish			3	23	4	
Canary rockfish	15	1		4		21
Blackmouth rockfish					2	
Splitnose rockfish					82	
Stripetail rockfish						
Sablefish			59	126	140	174
Lingcod	32	4			15	
Miscellaneous		1	1		20	11
Totals	954	1,652	289	641	849	881

Table 1. Continued

Haul Numbers	97	98	99	100	101	102	Total
Date	10/4	10/4	10/4	10/4	10/4	10/4	
Loran, 1LO							
Start	2133	2140	2195	2182	2124	2112	
End	2121	2128	2183	2170	2112	2100	
Depth	39	22-23	25-24	42-43	45-46	52-54	
Catch:							
Spiny dogfish	32		38	99	26	61	4,208
Skate	34	147	166	70	38	32	5,539
Ratfish	34	4		40	30	21	3,032
Pacific cod							338
Pacific hake				5	408	322	15,992
Flatfish							
Pacific sanddab	96	74	68	118	45	23	2,218
Arrowtooth flounder				T	5	1	3,199
Slender sole							180
Petrale sole	11	22	30	66	13	1	1,175
Flathead sole							128
Sand sole		27	7				131
Butter sole		16	6				185
English sole	482	90	207	337	83	56	5,536
Rock sole	1	4	T	6		2	172
Dover sole	34		T	16	43	44	7,209
Rex sole	180	2	3	55	38	17	2,986
Starry flounder		2	2				43
Curlfin sole		8		3			31
Rockfish							
Shortspine thornyhead							1,700
Pacific ocean perch							1,851
Green striped rockfish						42	755
Yellowtail rockfish							626
Canary rockfish			152	8			547
Blackmouth rockfish							581
Splitnose rockfish							365
Stripetail rockfish							288
Sablefish							4,350
Lingcod		100	58	20		25	1,303
Miscellaneous	T	22	49			T	978
Totals	904	518	786	843	729	647	65,626

Table 2. List of Common and Scientific Names of Fishes Caught on Cruise 73-5

Common Name	Scientific Name
Pacific hagfish <u>1/</u>	<i>Eptatretus stouti</i>
Brown cat shark <u>1/</u>	<i>Apristurus brunneus</i>
Spiny dogfish	<i>Squalus acanthias</i>
Pacific electric ray <u>1/</u>	<i>Torpedo californica</i>
Big skate	<i>Raja binoculata</i>
Black skate	<i>R. kincaidi</i>
Longnose skate	<i>R. rhina</i>
Starry skate	<i>R. stellulata</i>
Ratfish	<i>Hydrolagus collieri</i>
American shad <u>1/</u>	<i>Alosa sapadissima</i>
Eulachon <u>1/</u>	<i>Thaleichthys pacificus</i>
Pacific cod	<i>Gadus macrocephalus</i>
Pacific Hake	<i>Merluccius productus</i>
Pacific tomcod <u>1/</u>	<i>Microgadus proximus</i>
Walleye pollock	<i>Theragra chalcogramma</i>
Eelpouts <u>1/</u>	Zoarcidae
Pile perch <u>1/</u>	<i>Rhacochilus vacca</i>
Wolf-eel <u>1/</u>	<i>Anarrhichthys ocellatus</i>
Giant wrymouth <u>1/</u>	<i>Delolepis gigantea</i>
Rougheye rockfish <u>1/</u>	<i>Sebastes aleutianus</i>
Pacific ocean perch	<i>S. alutus</i>
Aurora rockfish <u>1/</u>	<i>S. aurora</i>
Silvergrey rockfish <u>1/</u>	<i>S. brevispinis</i>
Darkblotched rockfish	<i>S. crameri</i>
Splitnose rockfish	<i>S. diploproa</i>
Greenstriped rockfish	<i>S. elongatus</i>
Widow rockfish <u>1/</u>	<i>S. entomelas</i>
Yellowtail rockfish	<i>S. flavidus</i>
Rosethorn rockfish <u>1/</u>	<i>S. helvomaculatus</i>
Black rockfish	<i>S. melanops</i>
Bocaccio <u>1/</u>	<i>S. paucispinis</i>
Canary	<i>S. pinniger</i>
Redstripe rockfish <u>1/</u>	<i>S. proriger</i>
Yellowmouth rockfish <u>1/</u>	<i>S. reodi</i>
Redbanded rockfish <u>1/</u>	<i>S. babcocki</i>
Stripetail rockfish	<i>S. saxicola</i>
Sharpchin rockfish <u>1/</u>	<i>S. zacentrus</i>
Shortspine thornyhead	<i>Sebastolobus alascanus</i>
Sablefish	<i>Anoplopoma fimbria</i>
Kelp greenling <u>1/</u>	<i>Hexagrammos decagrammus</i>
Brown irish lord <u>1/</u>	<i>Hemilepidotus spinosus</i>
Threadfin sculpin <u>1/</u>	<i>Icelinus filamentosus</i>
Pacific staghorn sculpin <u>1/</u>	<i>Leptocettus armatus</i>
Cabezon <u>1/</u>	<i>Scorpaenichthys marmoratus</i>
Blacktail snailfish <u>1/</u>	<i>Careproctus melanurus</i>
Pacific sanddab	<i>Citharichthys sordidus</i>
Arrowtooth flounder	<i>Atheresthes stomias</i>

Table 2. Continued

Common Name	Scientific Name
Petrable sole	<i>Eopsetta jordani</i>
Rex sole	<i>Glyptocephalus zachirus</i>
Flathead sole	<i>Hippoglossoides elassodon</i>
Pacific halibut ^{1/}	<i>Hippoglossus stenolepis</i>
Butter sole	<i>Isopsetta isolepis</i>
Rock sole	<i>Lepidopsetta bilineata</i>
Slender sole	<i>Lyopsetta exilis</i>
Dover sole	<i>Microstomus pacificus</i>
English sole	<i>Parophrys retulus</i>
Starry flounder	<i>Platichthys stellatus</i>
Curffin sole	<i>Pleyronichthys decurrens</i>
Sand sole	<i>Psettichthys melanosticus</i>

^{1/} Species listed in the miscellaneous category of Table 1.

Table 3. Preliminary Number of Fish Sampled, Cruise 73-5

Species	Number
Rex sole	1,705
Dover sole	1,597
English sole	1,556
Pacific sanddab	1,451
Arrowtooth flounder	1,421
Slender sole	840
Petrable sole	744
Butter sole	450
Flathead sole	140
Sand sole	114
TOTAL	10,018