

Oregon Department of Fish & Wildlife
Marine Region
Groundfish & Shrimp Investigations
Report of Cruise 76-1, Shrimp

Vessel: M/V Jeanoah, chartered trawler

Dates: March 8-16, 1976

- Objectives: 1. To determine the biomass and number of shrimp (*Pandalus jordani*) within the two survey areas between the Astoria Canyon (Columbia River) and Yaquina Head.
2. To determine age and sex composition of stocks as well as average size (number/pound) and length frequency.

Methods: The M/V Jeanoah is a steel Gulf-style shrimp trawler, built in Mobile, Alabama in 1970. She is 72 feet overall and has a breadth of 22 feet. The vessel is 98 gross tons and has a hold capacity of approximately 55 tons. She is powered by a 425 horsepower diesel engine. The vessel supplied 9'x 40" wood doors weighing approximately 450 pounds each and a tickler chain. We supplied a 41-52 foot (headrope-footrope) shrimp trawl (1-1/8 inch mesh except for a 1-1/2 inch codend with a 1/2-inch bobinette inner-liner).

We selected 28 sampling stations in the North area (Columbia River to Tillamook Bay); 24 sampling stations in the North-Central area (Tillamook Bay to Yaquina Head), based on a systematic sampling plan using 4.0 x 4.0 nautical mile-square grids. Tows were approximately one nautical mile long. We recorded Loran and depth (fathoms) at start and end of each tow, as well as time and ocean-weather conditions.

We sorted the catch of each tow and weighed or estimated the weight of major non-shrimp species in the catch. The shrimp catch was weighed and recorded to the nearest 1/2-pound for each tow. A randomly drawn 2-5 pound sample was taken for analysis on shore. Samples were frozen pending analysis.

Results: Twenty-four and twenty-eight stations were occupied in the North-Central and North areas, respectively. Shrimp were caught in 22 of 24 stations in the North-Central area. Catch/tow ranged from 0-687 pounds. Table 1 summarizes unweighted catch data:

Table 1. North-Central Area Catch and Composition Summary

Total Catch	3,687 lbs.		
Mean Catch/tow, (24 tows)	154 lbs.		
Range	0-687 lbs.		
Age Composition, (%/age)	Age	No.	Wt.
	1	7.5	1.8
	2	43.7	32.6
	3+	48.8	65.6
Average size (N/lb.)	98.3		

Shrimp were caught in all 28 stations in the North area. Catch/tow ranged from a trace to 688 pounds. Table 2 summarizes unweighted catch data:

Table 2. North Area Catch and Composition Summary

Total Catch	2,124 lbs.		
Mean Catch/tow, (28 tows)	76 lbs.		
Range	Trace-688 lbs.		
Age Composition, (%/age)	Age	No.	Wt.
	1	12.5	3.0
	2	39.6	30.2
	3+	47.9	66.8
Average size (N/lb.)	100.2		

Table 3 summarizes the cruise log for the North-Central area and Table 4 summarizes the cruise log for the North area. Figure 1 shows approximate locations of tows made.

Personnel: Gary Hettman, Party Chief
Ray Hall, Vessel Captain
Butch Hocken, Crewman
Jim Tripp, Crewman

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Table 3. Log of Oregon Department of Fish & Wildlife Shrimp Cruise 76-1, North-Central Area, March 8-13, 1976, M/V Jeanoah.

Tow	Date	Time Start PST	Tow		Loran	1LO Haul	Depth (fms)	Shrimp Catch (lbs)	Shrimp Grade (N/lb)	Grade (%)			Predominant species of fish caught (lbs)
			Duration Min	Miles						Down	I	II	
1	3/8	0730	40	1.2	2480	2493	78-79	103	103	1.0	59.5	39.5	81# Misc. sole, 61# smelt
2	3/8	0925	30	1.4	2479	2495	95	12	118	3.5	71.5	25.0	52# smelt, 28# slender, 10# dogfish
3	3/8	1105	45	1.6	2525	2537	150	trace	-	-	-	-	128# rockfish, 12# slender, 7# lingcod
4	3/8	1245	50	1.6	2523	2537	90	trace	-	-	-	-	22# rockfish, 14# smelt, 7# slender
5	3/8	1425	40	1.2	2532	2545	76	687	67	1.0	12.0	87.0	18# rockfish, 15# dabs, 8# smelt
6	3/8	1550	28	1.4	2584	2597	82	403	72	4.5	15.0	80.5	32# smelt, 10# rex, 8# dabs
7	3/8	1702	30	1.3	2633	2647	91	153	116	5.5	57.5	37.0	23# slender, 14# smelt, 13# rex
8	3/9	0740	35	1.1	2574	2586	110	8	136	12.5	71.5	16.0	94# smelt, 51# slender, 37# rockfish
9	3/9	0905	35	1.1	2630	2642	125-124	18	116	1.0	67.0	32.0	18# Misc. sole, 10# blackcod, 5# smelt
10	3/10	0738	29	1.2	2675	2689	98-96	234	110	3.5	51.5	45.0	29# smelt, 13# Misc. sole
11	3/10	0850	44	1.0	2730	2742	93	117	83	3.0	27.0	70.0	31# smelt, 23# rockfish, 22# Misc. sole
12	3/10	1312	28	1.0	2777	2789	104	90	123	3.5	62.5	34.0	22# rockfish, 16# smelt, 14# Misc. sole
13	3/10	1440	40	1.0	2827	2839	104	152	118	1.5	65.5	33.0	40# smelt, 22# Misc. sole, 4# rockfish
14	3/10	1700	36	1.1	2876	2889	88-87	128	81	3.0	18.5	78.5	47# smelt, 24# Misc. sole, 13# rockfish
15	3/12	0735	25	1.0	2680	2692	67-68	0	-	-	-	-	10# dabs, 7# slender, 5# rex
16	3/12	0838	27	1.0	2729	2741	65	0	-	-	-	-	16# rex, 14# dogfish, 14# shiner perch
17	3/12	0950	30	1.0	2778	2790	79-78	394	75	7.5	15.9	76.6	26# dabs, 20# rex, 17# slender
18	3/12	1120	32	1.0	2827	2839	88-87	129	87	9.5	30.0	60.5	196# smelt, 24# rockfish, 16# slender
19	3/12	1245	28	0.9	2873	2884	97	5	125	8.5	67.0	24.5	55# smelt, 6# rockfish, 3# arrowtooth
20	3/12	1456	34	1.0	2926	2938	95	62	133	17.8	62.9	19.3	29# smelt, 26# slender, 16# rockfish
21	3/12	1615	32	1.1	2974	2986	95	138	120	27.4	37.8	34.8	42# slender, 18# rex, 9# rockfish
22	3/13	0730	30	1.0	2923	2935	80	336	74	4.5	7.0	88.5	54# slender, 32# dabs, 21# smelt
23	3/13	0845	32	1.1	2977	2989	81	222	106	23.5	31.5	45.0	94# smelt, 32# slender, 14# rockfish
24	3/13	1037	30	1.1	3025	3037	105	296	98	9.0	42.5	48.5	50# smelt, 27# slender, 17# rockfish

Table 4. Log of Oregon Department of Fish & Wildlife Shrimp Cruise 76-1, North Area, March 13-16, 1976, M/V Jeanoah.

Tow	Date	Time Start PST	Tow		Loran 1LO	Depth (fms)	Shrimp Catch (lbs)	Shrimp Grade (N/lb)	I	II	III	Predominant species of fish caught (lbs)
			Duration Min	Miles								
1	3/13	1215	26	1.0	3075 3087	81	29	138	35.5	29.5	35.0	33# slender, 15# rex, 10# smelt
2	3/13	1345	33	1.2	3076 3088	60-59½	34	92	20.9	11.9	67.2	36# shiner perch, 24# dabs, 21# herring
3	3/13	1500	30	1.1	3125 3137	70-71	688	71	5.0	6.5	88.5	112# slender, 65# rex, 63# rockfish
4	3/13	1617	30	1.0	3177 3189	59	76	96	23.5	15.0	61.1	30# dabs, 24# herring, 16# rex
5	3/14	0726	29	1.0	3173 3185	79-78½	172	90	1.5	38.5	60.0	75# smelt, 28# slender
6	3/14	0855	30	1.0	3227 3239	67-66	278	74	10.5	8.0	81.5	39# smelt, 26# rex, 24# dabs
7	3/14	1001	30	1.0	3270 3282	63-62½	129	74	1.5	17.9	80.6	133# smelt, 30# dabs
8	3/14	1105	29	1.0	3316 3328	64	195	77	7.0	21.5	71.5	323# anchovie, 58# smelt, 34# dabs
9	3/14	1212	30	1.1	3365 3377	53	9	102	9.4	40.6	50.0	90# anchovie, 30# smelt, 38# dabs
10	3/14	1318	24	1.0	3415 3427	56-55	57	108	8.5	58.0	33.5	126# smelt, 14# shiner perch
11	3/14	1416	31	1.0	3467 3479	58	105	151	46.0	29.7	24.3	79# smelt, 56# rex, 36# English
12	3/14	1540	38	1.0	3512 3524	58	13	135	33.5	36.0	30.5	120# Dover, 78# rex, 28# smelt
13	3/14	1654	30	1.0	3462 3474	64	1	-	-	-	-	46# rex, 18# dabs, 16# Dover
14	3/15	0726	38	1.0	3120 3132	94-95	27	171	45.5	42.0	12.5	88# slender, 30# rockfish, 28# smelt
15	3/15	0834	31	1.1	3167 3179	94	4	112	15.6	44.4	40.0	64# smelt
16	3/15	1007	42	1.0	3221 3209	85½-86	2	103	1.5	54.0	44.5	51# smelt, 2# herring
17	3/15	1123	36	1.0	3221 3233	84-83½	3	101	2.0	48.5	49.5	37# smelt, 14# anchovie
18	3/15	1252	31	1.0	3270 3282	80	trace	-	-	-	-	275# anchovie, 10# rockfish
19	3/15	1411	30	0.9	3313 3324	81	3	112	1.5	68.2	30.3	26# smelt, 10# dogfish, 8# anchovie
20	3/15	1531	30	1.0	3363 3375	82-81	3	164	26.0	67.5	6.5	10# smelt, 9# rockfish
21	3/15	1645	30	1.0	3416 3428	73½-71½	2	153	15.8	81.0	3.2	4# rockfish
22	3/16	0910	30	1.0	3172 3184	81½-82	142	89	2.0	34.5	63.5	84# smelt, 34# slender, 6# arrowtooth
23	3/16	1025	28	1.0	3223 3235	79	22	81	0.0	37.5	62.5	28# rockfish, 19# smelt, 14# dogfish
24	3/16	1125	30	1.1	3267 3280	77½-78	40	87	0.0	42.8	57.2	30# smelt, 28# rockfish, 9# slender
25	3/16	1229	30	0.9	3315 3328	77-76	16	87	1.0	37.5	61.5	21# smelt, 20# slender
26	3/16	1338	29	1.0	3370 3382	68½-68	44	91	0.0	54.0	46.0	26# smelt, 19# slender, 14# arrowtooth
27	3/16	1440	30	1.0	3415 3427	67	20	91	3.0	44.3	52.7	52# dogfish, 19# smelt, 16# dabs
28	3/16	1619	30	1.0	3369 3381	76-75	10	131	6.0	72.1	21.9	24# smelt, 14# slender, 7# rex

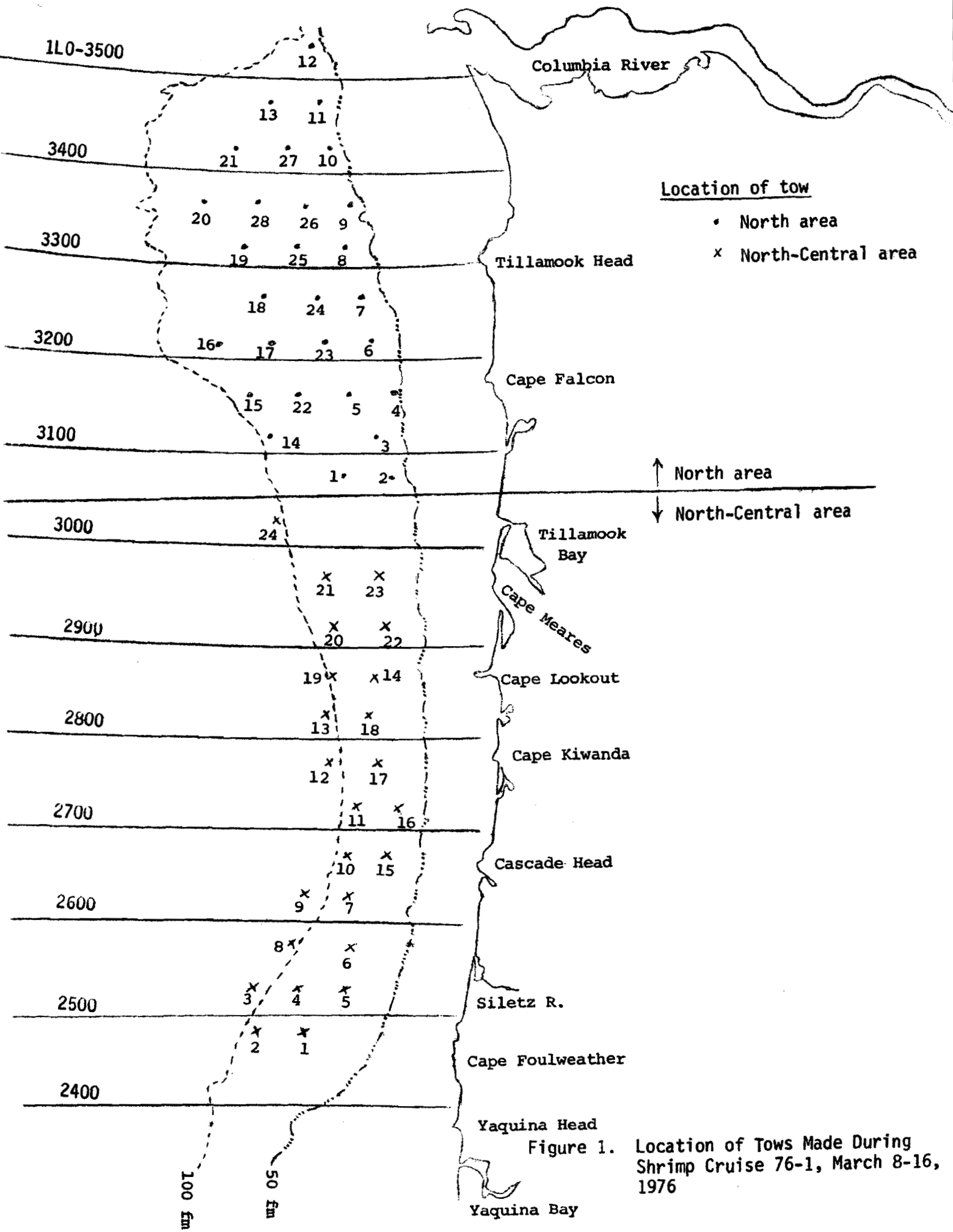


Figure 1. Location of Tows Made During Shrimp Cruise 76-1, March 8-16, 1976