

Oregon Department of Fish & Wildlife
Marine Region
Groundfish & Shrimp Investigations
Report of Cruise 77-1, Shrimp

Vessel: M/V *New Life*, chartered trawler

Dates: March 13-17, 1977

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

Methods: The M/V *New Life* is a steel Gulf-style shrimp trawler, built in Rockport, Texas in 1966. She is 76 feet overall and 69 gross tons. She is powered by a 350 horsepower diesel engine. The vessel supplied 4x6 steel 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 24 sampling stations in the North-Central area (Tillamook Bay to Yaquina Head), based on a systematic sampling plan using 4.0x4.0 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 stations were occupied in the North-Central area. Shrimp were caught in all 24 stations. Catch-tow ranged from a trace to 259 pounds. Table 1 summarizes unweighted catch data:

Table 1. North-Central Area Catch and Composition Summary

Total Catch	1,596 lbs.		
Mean Catch/tow, (24 tows)	67 lbs.		
Range	Trace - 259 lbs.		
Age Composition, (%/age)	Age	No.	Wt.
	1	2.6	0.7
	2	46.0	35.3
	3+	51.4	64.0
Average size (N/lb)	79.2		

Table 2 summarizes the cruise log for the North-Central area. Figure 1 shows approximate locations of tows made.

Personnel: Gary Hettman, Party Chief
Ray Hall, Vessel Captain
Butch Hocken, Crewman
George Marshall, Crewman

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Table 2. Log of Oregon Department of Fish & Wildlife Shrimp Cruise 77-1, North-Central Area, March 13-17, 1977, M/V *New Life*.

Tow	Date	Time Start PST	Tow		Loran Down	110 Haul	Depth (fms)	Shrimp Catch (lbs)	Shrimp Grade (N/lb)	I	II	III	Predominant species of fish caught (lbs)
			Duration Min	Miles									
1	3/14	0732	35	1.0	2480	2490	95	25	91	0.5	63.5	36.0	30# smelt, 14# Miscellaneous sole
2	3/14	0940	31	1.0	2478	2489	79	208	67	4.5	20.5	75.0	36# smelt, 9# Miscellaneous sole
3	3/14	1112	28	1.0	2527	2537	76	24	71	11.0	13.0	76.0	110# smelt
4	3/14	1228	32	1.0	2583	2595	82	50	71	3.5	37.5	59.0	186# smelt
5	3/14	1442	33	1.2	2630	2646	91-92	259	83	0.0	58.5	41.5	40# smelt
6	3/14	1620	30	1.1	2680	2695	67	9	63	0.0	4.5	95.5	47# Miscellaneous fish
7	3/15	0720	45	1.0	2525	2535	150-143	7	74	0.0	21.0	79.0	52# Miscellaneous sole
8	3/15	0911	39	1.0	2526	2538	90	45	95	6.0	69.0	25.0	34# smelt
9	3/15	1032	34	1.0	2578	2590	112-110	132	91	1.0	65.5	33.5	21# smelt
10	3/15	1149	35	1.0	2630	2642	124-125	47	74	0.0	17.0	83.0	2# smelt
11	3/15	1320	30	1.0	2673	2685	96	109	87	0.0	70.0	30.0	142# smelt
12	3/15	1435	32	1.0	2730	2742	93	52	84	0.5	58.5	41.5	61# smelt
13	3/15	1550	35	1.0	2775	2787	104	56	95	1.0	72.0	27.0	39# smelt
14	3/15	1710	32	1.1	2826	2839	110	trace	-	-	-	-	75# Miscellaneous fish
15	3/16	0720	38	1.0	2728	2740	66-65	34	71	12.0	17.5	70.5	42# smelt
16	3/16	0844	34	1.0	2779	2791	78	102	70	2.5	31.0	66.5	108# smelt
17	3/16	1000	34	1.0	2825	2837	88	94	73	0.0	39.5	60.5	96# smelt
18	3/16	1115	33	1.0	2874	2886	87	29	67	0.0	41.0	59.0	
19	3/16	1240	30	1.0	2924	2936	80	67	69	1.5	25.0	73.5	67# smelt and anchovie
20	3/16	1350	34	1.0	2974	2986	81	37	82	11.0	45.0	44.0	150# Miscellaneous fish
21	3/16	1548	33	1.0	3023	3035	105	20	99	2.5	79.5	18.0	39# smelt
22	3/17	0752	39	1.2	2868	2882	97	99	96	0.5	70.5	29.0	8# Miscellaneous fish
23	3/17	0926	46	1.0	2925	2937	96	20	91	0.5	61.5	38.0	28# Miscellaneous fish
24	3/17	1100	35	1.0	2973	2985	95	71	97	0.5	77.5	22.0	41# Miscellaneous fish

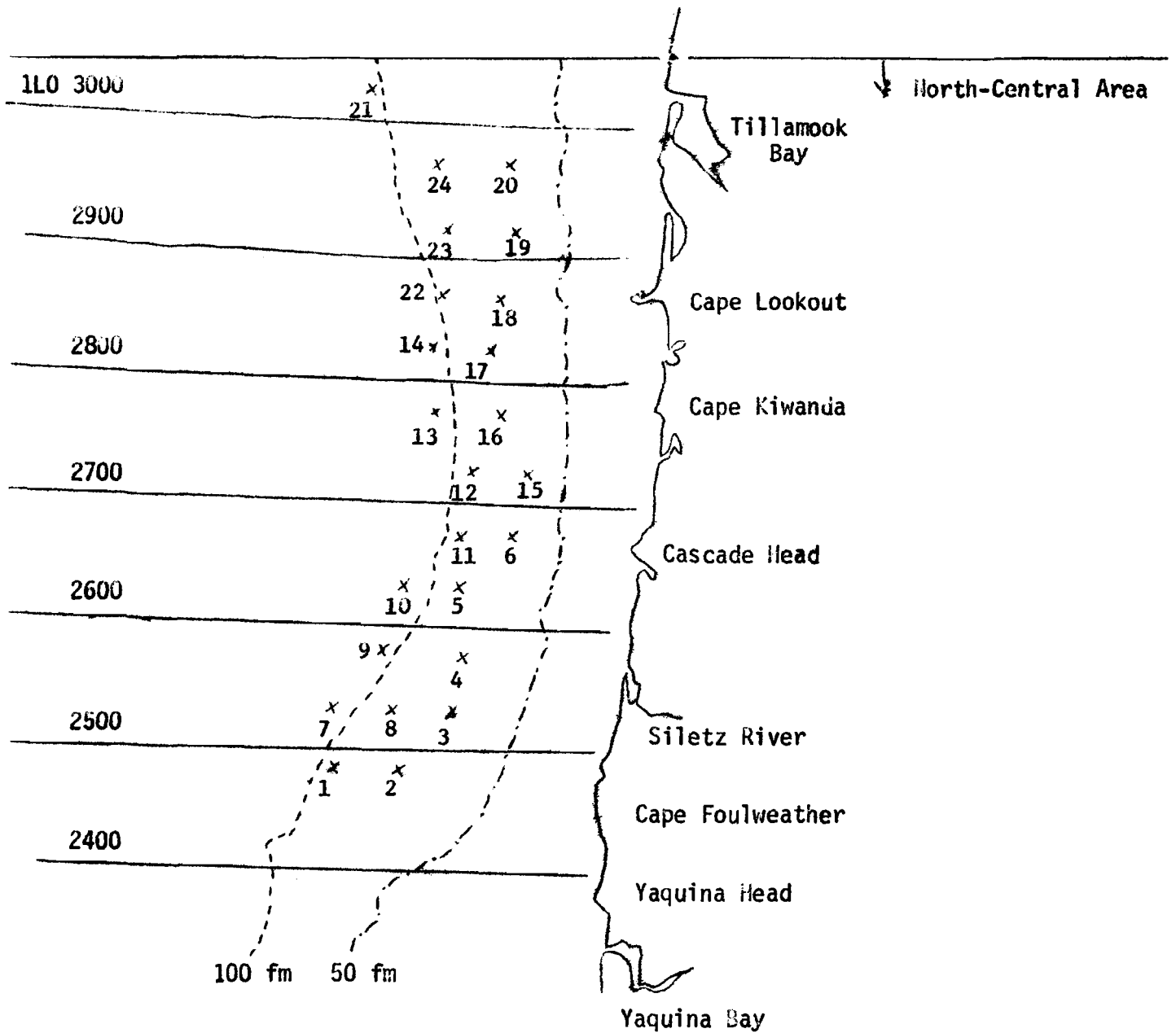


Figure 1. Location of Tows Made During Shrimp Cruise 77-1, March 13-17, 1977.