

Fish Commission of Oregon  
Trawl Investigations  
Report of Cruise 69-4, Shrimp

Vessel: M/V Sunrise, chartered vessel.

Dates: September 8-10, 1969

- Objectives;
1. To determine distribution of pink shrimp (Pandalus jordani) by age and sex in the area off Tillamock Head, Oregon.
  2. To determine the location of 0-age shrimp (1969 year class).
  3. To collect associated oceanographic data.

Methods: The study area for cruise 69-4 incorporated 18 stations (Figure 1). All stations except 1-3 are 4 nautical miles apart.

We used a 41-foot headrope Gulf semi-balloon trawl. The body and intermediate of the trawl were made of 1 1/8-inch stretch mesh netting and the cod-end consisted of 1 1/2-inch mesh. An innerliner in the cod-end was made of 1/2-inch mesh.

One, 1/2-mile tow was made at each station. Approximately 400 shrimp were sampled from the catch of each tow.

Results: Table 1 summarizes the shrimp catches and the sex and age composition in per cent. No pink shrimp were caught at station 3; therefore, no tows were attempted at stations 1 and 2. The average catch was 79 pounds per 1/2-mile towed.

No definite pattern was found in the shrimp distribution either by sex or age. However, a few stations did show definite segregation by sex and/or age. Station 10, one of the inshore stations, had a high percentage of age-I

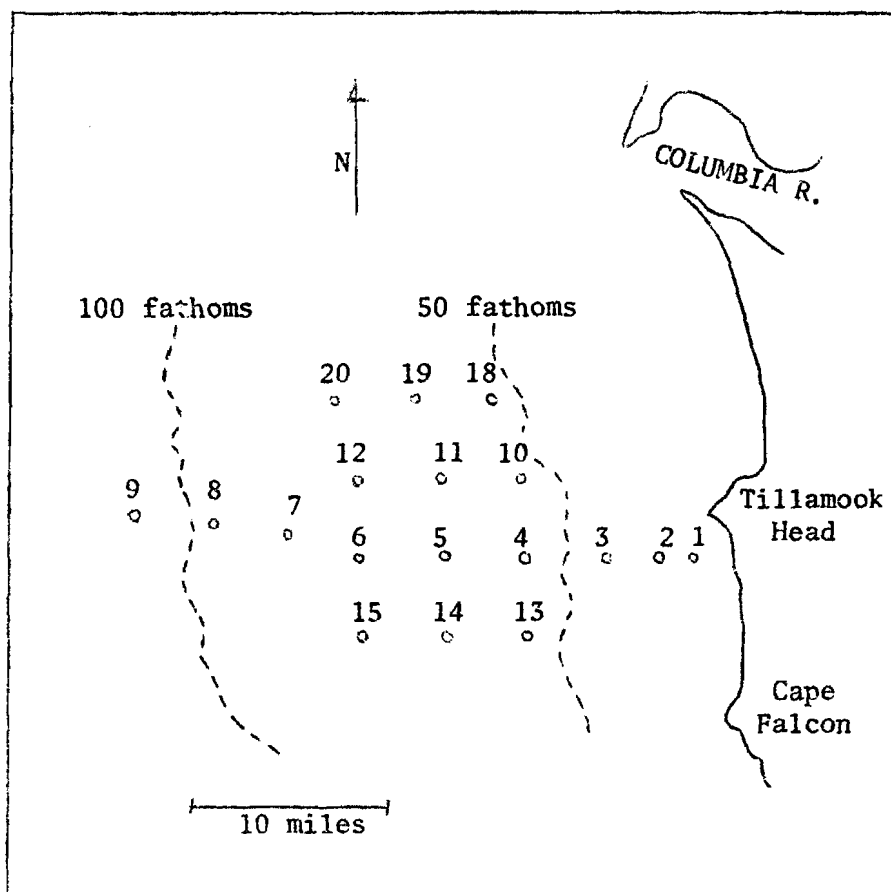


Figure 1. Location of trawl stations, Cruise 69-4

Table 1. Summary of sex and age composition in per cent of shrimp catches, cruise 69-4

Station no.	Depth (fms)	Catch (lbs)	No. per pound <u>1/</u>	Sample size (no.)	Sex composition (%) <u>1/</u>			Age composition (%)			
					Male	Trans.	Female	0	I	II	III+
18	59-60	172	119	408	51.4	9.5	39.1	0.2	61.8	9.3	28.7
19	70-71	88	123	429	64.8	7.3	27.9	0.7	67.1	7.7	24.5
20	76	168	139	431	75.3	4.9	19.8	0.5	79.6	2.8	17.2
10	56	14	113	402	8.7	46.3	45.0	-	69.2	11.9	18.9
11	68	64	114	382	58.7	8.6	32.7	-	63.9	9.7	26.4
12	76	82	118	384	57.6	10.5	31.9	0.5	59.9	11.7	27.9
3	51	0	-	-	-	-	-	-	-	-	-
4	65	75	110	478	51.5	15.7	32.8	-	58.4	11.1	30.5
5	75	116	109	534	52.7	14.5	32.8	3.0	56.6	9.2	31.3
6	78-79	130	95	373	36.2	13.1	50.7	1.6	41.0	13.4	44.0
7	82-83	35	119	461	58.8	8.3	32.9	0.4	65.5	9.6	24.5
8	92-93	25	139	538	65.7	10.2	24.1	2.0	77.5	5.8	14.7
9	118	12	80	315	10.8	9.8	79.4	-	23.5	10.8	65.7
13	72	48	123	540	67.4	5.4	27.2	0.4	68.0	5.9	25.7
14	78	58	97	420	40.4	13.5	46.1	1.0	41.7	12.4	45.0
15	81	93	127	547	61.9	7.4	30.7	4.0	65.1	6.0	24.9

1/ Does not include 0-age shrimp.

transitionals and the lowest percentage of males. Station 9 the farthest offshore, also had a very low percentage of males; however, it did not have a high percentage of transitionals. Instead, the percentage of age II and III+ females was the highest of all stations. The next station (8), 4 miles inshore, had a high incidence of males and one of the lowest percentages of females. Station 20, at the northwest corner of the study area, had the largest percentage of males and the lowest percentages of transitionals and females.

Zero-age shrimp were found at all but four stations. There was no definite pattern to the distribution of this year class. Their greatest abundance appeared to be in the south-central portion of the study area.

XBT casts at 16 stations showed temperature regime to be similar at all stations. A thermocline was present at approximately 25-100 feet throughout the area. Bottom temperatures were about 44.0 F at all stations except station 10 where it was 44.9 F.

Personnel: Gerald Lukas, Party Chief  
Michael Hosie, Aquatic Biologist  
Rudy Lovvold, Vessel Captain  
Tom Lovvold, Crewman (Chief Engineer)

Gerald Lukas  
Fish Commission of Oregon  
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