

Fish Commission of Oregon
Trawl Investigations
Report of cruise 70-1, shrimp

Vessel: M/V Sunrise, chartered vessel.

Dates: January 4-5, 1970.

- Objectives:
1. To determine distribution of pink shrimp (Pandalus jordani) by age and sex in the area off Tillamook Head, Oregon.
 2. To determine the location of zero-age shrimp (1969 year class) in the study area.
 3. To collect associated oceanographic data.
 4. To tag any incidentally caught linecod (Opibiodon elongatus) and yellowtail rockfish (Sebastes flavidus).

Methods: The study area for cruise 70-1 included 18 stations (Figure 1). All stations except 1-3 are four 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 1/2-inch mesh. A liner in the cod-end was made of 1/4-inch mesh.

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

Results: Four tows were completed the first day of the cruise and the results are summarized in Table 1. Strong winds and rough seas on the second day prevented operations and forced us to terminate the cruise. The average catch for the four stations was 11.5 pounds.

An inshore-offshore pattern of distribution based on sex and age composition in percent was indicated by the four samples. At the offshore stations (20 and 12) a higher percentage of the catch consisted of males. The highest percentage of females occurred in the catch at the inshore station (18).

A greater percentage of zero-age shrimp occurred in the catches at offshore stations than at inshore stations. A relatively high percentage of age III+ shrimp were at the inshore station (18). No definite pattern of distribution is evident with the age I and II shrimp.

One XBT cast at station 19 recorded a bottom temperature of 47.2° F.

Five yellowtail rockfish were tagged.

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Table 1 Summary of sex and age composition in percent of shrimp catches, cruise 70-1.

Station no.	Depth (fms)	Catch (lbs)	No. per pound ^{1/}	Sample Size (no.)	Sex composition % ^{1/}			Age composition %			
					Males	Trans.	Females	0	I	II	III+
18	62-63	4.0	90	398	52.6	0.0	47.4	7.8	58.3	4.5	29.4
19	72	16.0	103	400	64.2	0.0	35.8	12.0	63.5	4.2	20.3
20	77	13.5	124	403	71.1	0.0	28.9	45.9	45.2	2.5	6.4
12	82	7.5	126	398	73.3	0.0	26.7	56.8	36.9	0.5	5.8

^{1/} Does not include zero-age shrimp.