

FISH COMMISSION OF OREGON
GROUNDFISH & SHRIMP INVESTIGATIONS

Report of Cruise 71-7, Shrimp

Vessel: M/V Kangaroo, chartered trawler.

Dates: September 4-10, 1971

- Objectives:
1. To determine biomass and number of shrimp (Pandalus jordani) within the survey area between Siuslaw River and Cape Arago.
 2. To determine age and sex composition of stocks as well as average size (number/pound) and length-frequency.

Methods: The M/V Kangaroo is a wooden western seiner-trawler 50.8-feet registered length, of 16 net tons capacity. She is powered by a 165 h.p. diesel engine. We furnished a $\frac{1}{2}$ -inch mesh nylon liner for the codend. The vessel furnished a 57-72-foot (headrope-footrope length) of 1-9/16-inch mesh.

We selected 26 sample stations within the survey area between the Siuslaw River and Cape Arago using a systematic random sampling scheme based on grid intersects 4.0 nautical miles apart. Each Station was the center of a $\frac{1}{2}$ -mile (radius) circle in which the tow was made. Tows were approximately 1-nautical mile long. We recorded Loran (1L0) and depth (fathoms) at the start and end of each tow, time and ocean-weather conditions.

We sorted the catch of each tow to fish, miscellaneous invertebrates and shrimp. We then weighed the shrimp catch. Particularly fishy catches were sorted to large fish and shrimp-small fish. The mixed small fish and shrimp were then sub-sampled (20-pound sample), sorted and weighed. This estimate of the shrimp catch (in per cent) was then applied to the balance of the unsorted catch for an estimate of the total shrimp catch.

Fish catch was estimated in pounds for major species in each catch. We randomly drew a 2-4 pound sample from each shrimp catch. This we placed in a plastic bag and froze ashore for later analysis.

Results: We occupied 26 stations. One of these was inadvertently made in the wrong location; another was inadvertently made over a previously-completed station. No gear problems were encountered. Trouble with the Loran set delayed completion of the cruise. Shrimp were captured on 22 of the 26 tows. Catches were fair and ranged from 41 to 690 pounds (excluding the four 0-catches). Average catch was 140 pounds per tow. Age I shrimp dominated most catches and ranged from 37-99% by number, averaging 78% by number (65% by weight) in catches. Table 1 summarizes cruise data.

Personnel: William Barss, Party Chief
Fred Holland, Vessel Captain
Two Crewmen

Jack G. Robinson
Research Division
October 14, 1971

Table 1. Mean Unweighted Catch and Catch Composition in Area 2 - Siuslaw River to Cape Arago ,
for Cruise 71-7.

Area	Tows	% Age Composition by No. and (Weight)						N/LB	Mean Catch
		I	II	III	I	II	III		
427 mi. ²	26	78	11	11	(65)	(16)	(19)	150	140 Lbs.