

Oregon Department of Fish & Wildlife  
Marine Region  
Groundfish & Shrimp Investigations  
Report of Cruise 77-2, Shrimp

Vessel: M/V *Rhoda Alice*

Dates: March 2, 5, 20, 21, 25, 1977

- Objectives:
1. To determine biomass and number of shrimp (*Pandalus jordani*) within an offshore survey area between Coos Bay and the Siuslaw River in 50-145 fathoms.
  2. To determine age and sex composition of this shrimp stock as well as average size (number/pound) and carapace length frequency.

Methods: The M/V *Rhoda Alice* is a steel Rysco Gulf-style shrimp trawler. She is 62 feet overall length with a beam of 20 feet. The vessel weighs 50 gross tons and is powered by a 300 hp diesel engine. The vessel uses 5 x 7 feet "V" type steel otter boards (doors).

We supplied a 41-foot headrope Gulf semi-balloon trawl made of 1-1/8-inch stretched mesh with a codend of 1-1/2-inch mesh. An inner liner of 1/2-inch mesh was in the codend. Plastic rollers were attached to the 52-foot footrope. Eleven 8-inch spherical floats were equally spaced on the headrope. The vessel supplied 24-foot bridles and an 82-foot, 3/8-inch tickler chain attached to the ends of the footrope and 18-foot doglegs. The net was towed in a single rig-style off the stern of the vessel.

We selected 28 sampling stations, based on a systematic sampling plan using 4.0 x 4.0 nautical mile-square grids, in the 435 square nautical mile survey area. Tows were 1.0 nautical mile long and made towing as near true north (0°) as possible. We recorded loran and depth at the 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 selected 4-6 pound shrimp sample was retained from each tow. This was placed in a plastic bag, iced, and subsequently frozen ashore pending analysis.

Results: We occupied all 28 stations in the survey area. Shrimp were caught at all stations. Catch/tow ranged from a trace to 119 pounds. Table 1 summarizes unweighted catch data:

Table 1. Coos Bay Shrimp Catch and Composition Summary

Total Catch	667 lbs.		
Average Catch/Tow, (28 tows)	24 lbs.		
Range	Trace-119 lbs.		
Age Composition, (%/age)	Age	No.	Wt.
	1	18.3	6.2
	2	54.1	50.7
	3+	27.5	43.1
Average size (N/lb)	128.3		

Table 2 summarizes the cruise log for the Coos Bay shrimp survey. Figure 1 shows approximate locations of tows made.

**Addendum:** Catches from the 28 tows in the Coos Bay shrimp bed survey area were below what they had been in the past years. The 1977 unweighted total catch of 667 pounds was only 13.3% of the 1976 total unweighted catch from this same area. Hence, five additional tows were made in 1977. Tows 29 and 30 were duplicates of tows 6 and 3, respectively. Tows 31-33 were to the south of the survey area using a 4.0 x 4.0 nautical mile-square grids in about 100 fathoms. There was 766 pounds of shrimp caught from these five tows for an average of 153 lbs/tow.

**Personnel:** Michael Hosie, Party Chief  
Dennis Degner, Vessel Captain  
Roy Hannah, Crewman  
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Dana Hopkins, Neighborhood Youth Corps Technician  
Bill Hines, Fish and Wildlife Biologist  
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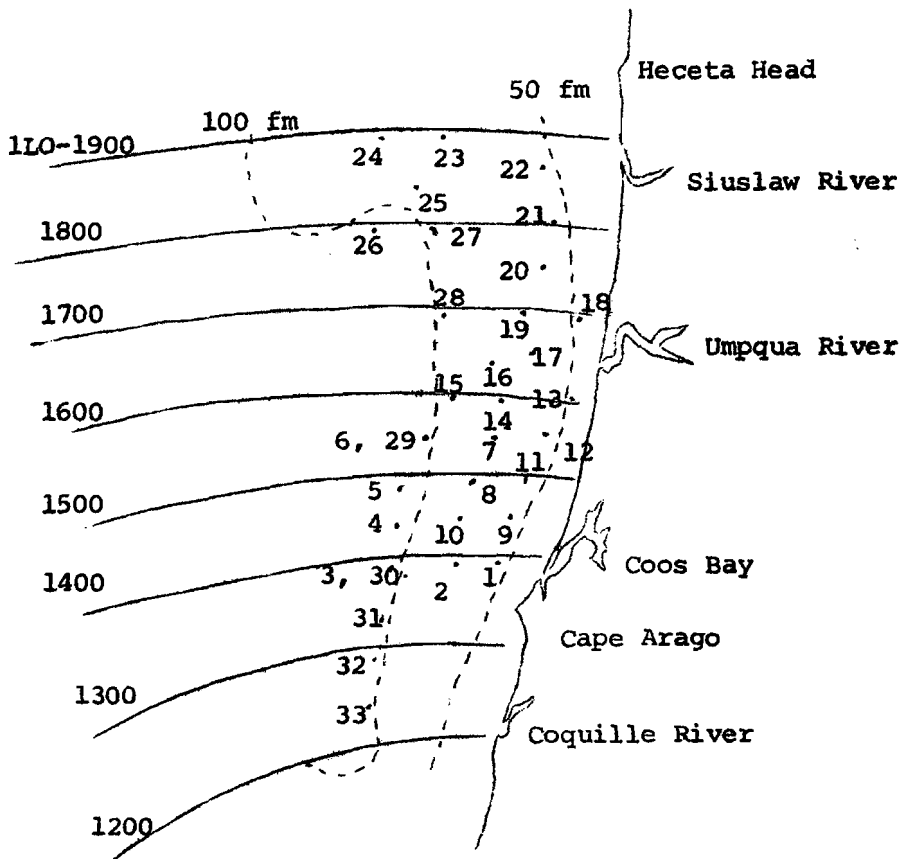


Figure 1. Location of Tows Made During Shrimp Cruise 77-2, March 2, 5, 20, 21, 25, 1977

Table 2. Log of Oregon Department of Fish & Wildlife Shrimp Cruise 77-2, Coos Bay Area, March 2, 5, 20, 21, 25, 1977, M/V Rhoda Alice.<sup>1/</sup>

Tow	Date	Time Start PST	Tow		Loran Down	ILO Haul	Depth (fms)	Shrimp Catch (lbs)	Shrimp Grade (N/lb)	I	II	III	Predominant species of fish caught (lbs)
			Duration Min	Miles									
1	3/02	0837	24	1.0	1391	1403	54-56	35	167	40.9	34.5	24.6	26# Miscellaneous sole, 4# smelt
2	3/02	0945	25	1.0	1389	1401	65-67	48	144	14.4	71.2	14.4	4# Miscellaneous fish, 13# smelt
3	3/02	1105	25	1.0	1391	1403	108-109	58	121	1.5	71.3	27.2	6# Lanternfish
4	3/02	1200	25	1.0	1432	1444	122-125	119	132	0.5	98.0	1.5	13# Miscellaneous fish
5	3/02	1308	24	1.0	1483	1495	148-147	2	163	13.6	86.4	0.0	2# Miscellaneous fish
6	3/02	1418	25	1.0	1530	1542	103	72	98	0.0	40.2	59.8	8# Smelt
7	3/02	1526	24	1.0	1531	1543	72	80	121	3.9	71.1	25.0	12# Miscellaneous fish, 10# smelt
8	3/02	1655	21	1.0	1491	1503	73-72	13	152	7.7	76.9	15.4	16# Miscellaneous fish
9	3/05	0752	26	1.0	1436	1448	58-60	11	212	62.2	27.4	10.4	9# Miscellaneous fish
10	3/05	0905	25	1.0	1442	1454	74-75	9	155	39.2	42.7	18.1	34# Miscellaneous fish, 18# smelt
11	3/05	1028	27	1.0	1490	1502	61-63	4	92	2.2	51.5	46.3	26# Smelt
12	3/05	1147	25	1.0	1540	1552	56-55	52	115	14.9	46.5	38.6	18# Miscellaneous fish
13	3/05	1247	26	1.0	1587	1599	57-56	11	101	12.6	26.1	61.3	50# Miscellaneous fish
14	3/05	1357	26	1.0	1594	1606	65-64	4	107	15.0	51.0	34.0	6# Miscellaneous fish, 8# smelt
15	3/05	1515	25	1.0	1589	1601	84	21	207	48.3	47.3	4.5	20# Miscellaneous fish
16	3/05	1620	25	1.0	1628	1640	66-64	2	165	35.3	54.2	10.5	11# Smelt
17	3/05	1717	24	1.0	1646	1658	60	8	128	22.6	49.0	28.4	20# Miscellaneous fish
18	3/20	1120	27	1.0	1685	1697	47-45	trace	-	-	-	-	35# Miscellaneous fish, 15# smelt
19	3/20	1224	25	1.0	1687	1699	59	6	131	21.8	41.6	36.6	7# Miscellaneous fish, 36# smelt
20	3/20	1328	27	1.0	1748	1760	60-59	14	105	5.0	44.6	50.4	7# Miscellaneous fish, 31# smelt
21	3/20	1430	26	1.0	1796	1808	56-55	1	159	15.8	65.3	18.9	9# Miscellaneous fish, 27# smelt
22	3/20	1523	28	1.0	1835	1847	54-53	trace	-	-	-	-	16# Miscellaneous fish, 14# smelt
23	3/20	1719	26	1.0	1876	1888	76-75	21	88	5.4	42.1	52.5	7# Miscellaneous fish, 6# smelt
24	3/21	0723	27	1.0	1880	1892	75-72	10	155	12.9	86.6	0.5	3# Miscellaneous fish, 12# smelt
25	3/21	0906	27	1.0	1833	1845	85-83	trace	-	-	-	-	1# Smelt
26	3/21	1112	28	1.0	1780	1792	134-123	66	114	0.5	78.0	21.5	2# Miscellaneous fish
27	3/21	1246	24	1.0	1782	1794	95-93	trace	-	-	-	-	30# Miscellaneous fish
28	3/21	1437	37	1.0	1681	1693	98-96	trace	-	-	-	-	43# Miscellaneous fish
29	3/21	1654	26	1.0	1538	1550	103	206	154	1.6	92.5	5.9	7# Smelt
30	3/25	0727	23	1.0	1393	1405	115-108	10	121	1.0	73.5	25.5	1# Miscellaneous fish
31	3/25	0907	30	1.0	1330	1342	100-101	407	170	22.9	72.2	4.9	6# Miscellaneous fish
32	3/25	1034	26	1.0	1293	1305	119-120	143	179	26.0	68.5	5.5	20# Miscellaneous fish
33	3/25	1204	28	1.0	1253	1265	100-96	trace	-	-	-	-	2# Miscellaneous fish

<sup>1/</sup> Tows 29-33 were in addition to the regular 28 tows in the Coos Bay shrimp bed survey area. Tows 29 and 30 were duplicates of tows 6 and 6, respectively. Tows 31-33 were to the south of the Coos Bay bed survey area.