

Fish Commission of Oregon
Groundfish and Shrimp Investigations
Report of Cruise 74-10, Shrimp

Vessel: M/V Rhoda Alice, Chartered trawler

Dates: September 4-6, 1974

- Objectives:
1. To determine biomass and number of shrimp (*Pandalus jordani*) within the survey area between Coos Bay and the Siuslaw River.
 2. To determine age and sex composition of stocks as well as average size (number/pound) and length frequency.
 3. To compare the Fish Commission's survey net with a commercial shrimp net.

Methods: The M/V Rhoda Alice is a steel Gulf-style shrimp trawler, 62 feet overall length and 35 net tons capacity. She is powered by a 295 horsepower diesel engine. The vessel supplied a 57-foot, marinovitch semiballoon trawl having doglegs of 9 feet, a mesh size of 1½ inches, tickler chain and 13 balls on the head rope. We supplied a 52-41-foot (footrope-headrope) shrimp trawl (1 1/8 inch mesh except for a 1½ inch codend with a ½ inch bobinette innerliner). The vessel furnished a 46-foot, 3/8 inch tickler chain. Thirteen balls and 9-foot bridles were used on our survey net.

We selected 28 sampling stations within the survey area using a systematic random sampling scheme based on grid intersects of 4.0 nautical miles. Each station was the center of a ½-mile (radius) circle in which the tow was made. Tows were approximately one nautical mile long. We recorded Loran (1L0) and depth (fathoms) at the start and end of each tow, time, and ocean-weather conditions. The vessel towed our survey net and a commercial net simultaneously.

We sorted the catch of each tow and net and estimated the catch in pounds for major non shrimp species in the catch. We weighed the shrimp catch and recorded it to the nearest ½ pound. We randomly drew a 2-5 pound sample from each net's catch. Shrimp samples were placed in a plastic bag and labeled and placed in ice. Samples were frozen ashore for later analysis.

Results: Twenty-seven stations were occupied towing both nets and a single tow was done using two commercial nets. Shrimp were caught on 24 tows in our survey net. Catches ranged from 0 to 748.5 in the survey net and averaged 147.2 pounds and 124.7 shrimp per pound. Catch by number was composed of 68.6% age I, 25.5% age II, and 5.9% age III shrimp. Catch by weight was composed of 50.3% age I, 37.3% age II, and 12.4% age III shrimp.

Catches ranged from 0 to 717 pounds in the commercial net and average 123.7 pounds and 121.4 shrimp per pound. Catch by number was composed of 66.1% age I, 27.7% age II, and 6.3% age III shrimp. Catch by weight was composed of 47.2% age I, 40.1% age II, and 12.6% age III shrimp. Table 1 summarizes the cruise log.

Personnel: Bill Barss, Party Chief
Allan Dagner, Vessel Captain
Dennis Dagner, Crewman
Randy Wendbourne, Crewman

William H. Barss
Management and Research Division
October 9, 1974

Table 1. Log of Fish Commission of Oregon Shrimp Survey Cruise, Coos Bay, September 4 - 6, 1974, M/V Rhoda Alice

| Tow | Date | Time Start PDT | Tow Duration Min Miles | | Depth fms | Loran In | LO Out | Shrimp Catch | | | | Fish Catch | | |
|-----|------|-------------------|------------------------------|-----|--------------|----------|--------|-----------------|--------------|-----------------|--------------|----------------------------|----------------------------|-----------|
| | | | | | | | | FCO Net | | Comm. Net | | | FCO Net | Comm. Net |
| | | | | | | | | Shrimp (lbs) | Shrimp lb | Shrimp (lbs) | Shrimp lb | | | |
| 1 | 9/4 | 0743 | 27 | 1.1 | 57-58 | 1597 | 1610 | 158 | 115.5 | 114.5 | 113.6 | 150# smelt, 35# hake | 35# smelt, 35# hake | |
| 2 | " | 0852 | 27 | 1.1 | 65-64 | 1591 | 1604 | 227 | 130.6 | 195 | 116.5 | 60# smelt | 30# smelt | |
| 3 | " | 1010 | 30 | 1.1 | 84-85 | 1591 | 1604 | 251 | 145.8 | 225 | 131.1 | Fairly clean | Fairly clean | |
| 4 | " | 1133 | 27 | 1.0 | 65-65 | 1640 | 1652 | 25 | 151.8 | 2.5 | 160.9 | 40# smelt | 20# smelt | |
| 5 | " | 1236 | 32 | 1.3 | 58-60 | 1647 | 1659 | 444 | 118.8 | 329 | 117.5 | 350# hake | 50# hake | |
| 6 | " | 1342 | 25 | 1.0 | 59-59 | 1684 | 1696 | 215.5 | 116.7 | 165 | 113.0 | 350# hake, 70# smelt | 275# hake, 20# smelt | |
| 7 | " | 1447 | 30 | 1.0 | 45-44 | 1700 | 1712 | 80.5 | 87.8 | 68.5 | 87.9 | 33# hake, 25# smelt | 12# hake, 20# smelt | |
| 8 | " | 1605 | 32 | 1.1 | 59-58 | 1744 | 1756 | 490 | 95.3 | 416 | 98.2 | 40# smelt, 20# hake | 30# smelt, 25# hake | |
| 9 | " | 1716 | 28 | 1.1 | 57 | 1793 | 1805 | 30 | 86.1 | 24.5 | 88.2 | 500# dogfish, 500# hake | 250# dogfish, 250# hake | |
| 10 | " | 1823 | 35 | 1.1 | 55-54 | 1844 | 1856 | 0 | ---- | 0 | ---- | 1000# hake | 300# hake | |
| 11 | 9/5 | 0749 | | 1.1 | 77-72 | 1888 | 1890 | 74.5 | 114.8 | 43 | 113.4 | 75# smelt | 10# smelt | |
| 12 | " | 0855 | 29 | 1.3 | 73-63½ | 1890 | 1904 | 21 | 136.2 | 15 | 142.3 | 200# smelt | 100# smelt | |
| 13 | " | 1034 | 25 | 1.1 | 89-87½ | 1839 | 1852 | 748.5 | 129.4 | 567.5 | 140.7 | 20# smelt | 5# smelt | |
| 14 | " | 1205 | 26 | 1.2 | 123-112 | 1797 | 1810 | 11 | 80.0 | 12 | 83.5 | 40# hake | 70# hake, 20# ling | |
| 15 | " | 1333 | 32 | 1.3 | 98-95 | 1793 | 1809 | 667 | 108.1 | 717 | 110.0 | 30# smelt | 20# smelt | |
| 16 | " | 1540 | 32 | 1.1 | 98-98 | 1690 | 1702 | 2 | 155.8 | 30.5 | 142.2 | 1.5# smelt | 5# smelt, 4# sable | |
| 17 | " | 1807 | 24 | 0.9 | 99-99 | 1544 | 1556 | 82.5 | 92.4 | 84.5 | 88.2 | 125# hake, 25# perch | 70# hake, 10# perch | |
| 18 | " | 1910 | 35 | 1.3 | 78-71 | 1544 | 1556 | 37 | 138.2 | 37 | 136.1 | 30# hake | 30# hake | |

Table 1. Continued

| Tow | Date | Time Start PDT | Tow | | Depth fms | Loran In | LO Out | Shrimp Catch | | | | Fish Catch | |
|-----|------|----------------|--------------|-------|-----------|----------|--------|----------------------|-----------|------------------------|-----------|--------------------------|-------------------------|
| | | | Duration Min | Miles | | | | FCO Net Shrimp (lbs) | Shrimp lb | Comm. Net Shrimp (lbs) | Shrimp lb | FCO Net | Comm. Net |
| 19 | 9/6 | 0749 | 30 | 1.2 | 53-55 | 1385 | 1399 | 0 | --- | 0 | --- | 60# smelt | 60# smelt |
| 20 | " | 0900 | 29 | 1.0 | 66-63 | 1400 | 1412 | tr | --- | 0 | --- | 10# smelt | 20# smelt |
| 21 | " | 1030 | 28 | 1.1 | 102-100 | 1398 | 1410 | 30.5 | 124.8 | 31.5 | 110.7 | 110# hake, 30# euphosids | 100# hake |
| 22 | " | 1136 | 30 | 1.1 | 120-123 | 1436 | 1448 | 7 | 116.3 | 7 | 104.6 | 30# perch | 15# perch |
| 23 | " | 1305 | 27½ | 1.0 | 145-146 | 1435 | 1497 | 15.5 | 108.9 | 10.5 | 101.3 | 65# hake, 20# perch | 13# sable, 12# perch |
| 24 | " | 1436 | 31½ | 1.0 | 73-72 | 1483 | 1495 | 108.5 | 131.0 | 80.5 | 132.5 | 400# hake, 40# smelt | 300# hake, 10# smelt |
| 25 | " | 1601 | 30 | 1.0 | 74-72 | 1444 | 1456 | 44 | 164.5 | 18.5 | 162.2 | 70# smelt, 25# hake | 40# smelt, 40#hake |
| 26 | " | 1704 | 28½ | 0.9 | 59-59 | 1443 | 1453 | 70 | 171.2 | 26 | 160.1 | 25# hake | 100# smelt |
| 27 | " | 1824 | 29 | 1.1 | 60-63 | 1487 | 1500 | 134 | 172.4 | 119 | 158.9 | 1500# dogfish, 50# smelt | 100# dogfish, 20# smelt |
| 28 | " | 0904 | 28 | 1.0 | 56 | 1554 | 1566 | 58 ^{1/} | 102.2 | 60 | 97.8 | 48# hake, 20# smelt | 15# smelt |

1/ Commercial Net used