

FISH COMMISSION OF OREGON
GROUNDFISH AND SHRIMP INVESTIGATION

Report of Cruise 74-2, Shrimp

Vessel: M/V Christina J., chartered trawler.

Dates: March 15-18, 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 shrimp stocks as well as the average size (number/pound) and carapace length frequency.

Methods: The M/V Christina J. is a wooden combination fishing vessel, 45.7 feet registered length. She has a 13 net ton capacity. The vessel is powered by a 335 hp Cummins diesel engine. The boat provided a 46 foot, 5/16-inch tickler chain. We furnished a 41-52 foot (footrope-headrope) shrimp trawl (1 1/8-inch mesh wings and a body and 1 1/2-inch cod end with a 1/2-inch bobinette innerliner).

We selected 28 sample stations using a systematic random sampling scheme based on grid intersects of 4.0 nautical miles. The survey area was located between Coos and the Siuslaw rivers. Each station was the center of one 1/2 mile (radius) circle in which the tow was made. Tows were approximately one nautical mile long. We recorded Loran (1L0 and 1L1) 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. Catches were often so fishy that we subsampled the shrimp-small fish portion. Fish catch was estimated in pounds for major species. We randomly drew a 2-4 pound sample of shrimp from each tow. This was placed in a plastic bag, iced, and subsequently frozen ashore for later analysis.

Results: We occupied 28 stations in the survey area. Shrimp were captured on 27 of 28 completed tows and were abundant. Catch totaled 15,903 pounds, ranged from 0 to 815 pounds per tow, and averaged 211 pounds. Samples by number were composed of 38.56% age I (1973 year class), 43.89% age II, and 17.55% age III shrimp. Samples by weight were composed of 12.5% age I, 51.5% age II, and 36% age III shrimp. Table 1 summarizes the cruise log.

Personnel: Bill Barss, Party Chief
Mike Easley, Vessel Captain
Ted Dorsey, Crewman

William H. Barss
Management and Research Division
April 15, 1974

Table 1. Log of Fish Commission of Oregon Cruise 74-2, March 15-18, 1974, M/V Christina J

Tow No.	Date	Time Start PDT	Duration (min)	Loran 110 Start Stop	Depth (fms)	Shrimp Catch (lbs)	Remarks
1	3/15/74	0835	32	1393 - 1407	110	450 $\frac{1}{2}$	100# smelt, 46# rock, 23# slender sole
2	3/15/74	0945	30	1440 - 1455	120	158	100# smelt, 125# small sole, 21# ling
3	3/15/74	1050	30	1487 - 1500	145	13 $\frac{1}{2}$	35# slender sole, 27# small sable
4	3/15/74	1210	30	1538 - 1551	100	74	50# slender sole, 35# smelt, 13# rock
5	3/15/74	1330	30	1536 - 1549	71	52	131# small smelt and sole
6	3/15/74	1550	30	1546 - 1559	56	288	40# smelt, 18# sole
7	3/15/74	1735	30	1495 - 1509	60	75	150# stickfish, 50# small sole
8	3/16/74	0825	30	1443 - 1455	57-57 $\frac{1}{2}$	26	90# small fish
9	3/16/74	1005	30	1390 - 1403	55-57	6	52# small fish, 30# skate
10	3/16/74	1115	30	1388 - 1401	64-64	43 $\frac{1}{2}$	100# stickfish, 53# small fish
11	3/16/74	1222	30	1436 - 1449	75-74	126	55# small fish
12	3/16/74	1330	30	1485 - 1497	72-71	210	195# small fish ($\frac{1}{2}$ rex)
13	3/16/74	1505	30	1584 - 1596	84-83	269	134# small fish ($\frac{1}{2}$ smelt, $\frac{1}{4}$ rex)
14	3/16/74	1632	33	1591 - 1603	64 $\frac{1}{2}$ -64	366	131# small fish ($\frac{1}{2}$ rex, $\frac{1}{4}$ smelt)
15	3/16/74	1743	31	1596 - 1609	57-57 $\frac{1}{2}$	224	152# small fish ($\frac{1}{2}$ rex)
16	3/17/74	0835	30	1638 - 1650	65-64	68 $\frac{1}{2}$	250# stickfish, 40# rex
17	3/17/74	1005	30	1681 - 1694	99-99	815	83# small sole and rock
18	3/17/74	1140	30	1778 - 1791	95-95 $\frac{1}{2}$	793	205# small fish (1/3 rex)
19	3/17/74	1300	30	1787 - 1800	122-112	267	156# ling, 312# small sole
20	3/17/74	1422	30	1835 - 1847	88-87	412	494# small fish, 42# Dover
21	3/17/74	1540	30	1880 - 1893	73-71	36	333# small fish (3/4 rex)
22	3/17/74	1655	30	1882 - 1894	77-75	626	380# small fish (2/3 rex) 34# petrale
23	3/18/74	0850	30	1839 - 1852	55-54	0	270# small fish (85% sole) 8# petrale
24	3/18/74	1017	30	1785 - 1796	57-58	1	210# small fish, 50# stickfish
25	3/18/74	1135	30	1738 - 1750	59-59 $\frac{1}{2}$	2	200# small fish (80% sole) 75# stickfish
26	3/18/74	1305	30	1693 - 1709	46-48	240	147# small fish (English and rex) 54# ling
27	3/18/74	1420	30	1680 - 1693	59-59	59	90# small fish (rex and dabs), 75# stickfish
28	3/18/74	1535	30	1640 - 1652	58-58	200	70# small fish (rex and dabs), 100# stickfish