

FISH COMMISSION OF OREGON
GROUNDFISH & SHRIMP INVESTIGATIONS

Report of Cruise 72-6, Shrimp

Vessel: M/V Kathy Jo.

Dates: September 1-4, 1972.

Objectives: 1. To determine biomass and number of shrimp (*Pandalus jordani*) within the survey area between the Columbia River and Tillamook Bay.

2. To determine age and sex composition stocks as well as average size (number/pound) and length-frequency.

Methods: The M/V Kathy Jo is a wood converted minesweeper (trawler) 126.3-feet (registered length) of 126 net tons capacity. She is powered by a 450 h.p. diesel engine. We furnished a 41-52-foot (headrope-footrope length) shrimp trawl of 1 1/8-inch mesh except for a 1 1/2-inch codend with a 1/2-inch bobinette innerliner. We selected 30 sample stations within the survey area, using a systematic sampling scheme based on grid intersects 4.0 nautical miles apart. Each station was the center of a 1/2-mile (radius) circle in which the tow was set. 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 catch. Particularly fishy catches were sorted to large fish and mixed small fish-shrimp. The mixed small fish and shrimp were then subsampled (20-pound sample), sorted, and weighed. This estimate of shrimp catch (in per cent) was applied to the balance of the unsorted catch for an estimate of total shrimp catch. Fish and invertebrate catch for major species was estimated each tow,

We randomly drew a 2-4 pound sample from each shrimp catch. This was placed in a plastic bag and frozen ashore for later analysis.

Results: We occupied all stations. Stations 2, 4, and 23 (Table 1) were on untrawlable bottom. A tow (4) was made south of the selected station. Tow 23 was immediately retrieved when the vessel fathometer showed very rough bottom. Tow 19 was re-done due to the codend not being tied shut. Shrimp were scarce throughout the survey area except for the south end (tows 21 and 24). Catches ranged from 0-250 pounds and averaged 40 pounds per tow. Age II shrimp (1970 year class) dominated catches, ranging from 64-97% (by number) of the sampled catch. Few age I and virtually no 0-age (1972 year class) shrimp were seen in catches. Table 1 shows the cruise log.

Personnel: Edwin L. Niska, Party Chief
George Moskovita, Vessel Captain
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October 24, 1972

Table 1. Log of Fish Commission of Oregon Cru. e 72-6, September 1-4, 1972, M/V Kathy Jo.

Tow No.	Date	Time Start PDT	Duration (min)	Loran 110 Start Stop	Depth (fms)	Shrimp Catch (lbs.)	Remarks
1	9-1-72	0817	22	3521 - 3509	57	Trace	65# hake, 94# smelt
2	"	0925	20	3470 - 3458	58	Trace	270# hake, smelt, urchins plentiful
3	"	1102	20	3470 - 3456	67	0	90# smelt, 50# hake, dogfish
4	"	1318	20	3392 - 3383	84-82	Trace	120# smelt, some small rockfish
5	"	1423	20	3367 - 3354	85-84	10	160# smelt, 135# hake
6	"	1613	20	3420 - 3405	76-75	3	65# smelt, 50# hake
7	"	1717	20	3375 - 3360	77-78	5	Smelt
8	"	1847	20	3378 - 3365	70-72	88	Fishy, smelt, dogfish, hake
9	9-2-72	0730	21	3420 - 3407	66	11	Smelt, hake, dogfish
10	"	0838	20	3422 - 3412	58	Trace	1205# hake
11	"	0933	20	3380 - 3368	58-59	0	92# rockfish, 750# hake
12	"	1030	20	3325 - 3312	66	0	1585# hake
13	"	1140	20	3320 - 3307	75-76	58	230# hake, 120# turbot
14	"	1300	20	3320 - 3308	80	63	660# hake, 40# turbot, 60# smelt
15	"	1357	21	3274 - 3262	80	79	77# rockfish, 50# hake, 45# turbot
16	"	1513	20	3271 - 3259	78	4	940# hake
17	"	1636	17	3275 - 3263	71-69	18	240# hake, smelt, dogfish, hung up
18	"	1730	20	3237 - 3225	71-73	117	Hake, smelt, slender sole, turbot
19	"	1857	25	3182 - 2170	64	0	Codend not tied. Redone - Tow 31
20	9-3-72	0639	--	3079 - 3067	66	0	Small tear-coral, 800# rockfish
21	"	0800	20	3080 - 3068	79-80	201	400# hake
22	"	0938	22	3130 - 3117	74	96	340# hake, 110# smelt
23	"	1050	1	3127 - --	75-78	--	Retrieved gear - rough bottom. No tow
24	"	1155	20	3124 - 3112	93	250	Fishy
25	"	1330	20	3171 - 3159	94-93	2	15# turbot
26	"	1446	20	3180 - 3168	78-79	2	Tore wing end of tow. Turbot, smelt
27	"	1615	17	3180 - 3168	78-79	49	Smelt, hake, small rockfish
28	"	1743	21	3225 - 3213	81-80	Trace	340# hake
29	"	1846	20	3223 - 3210	82-83	18	Fairly clean, 24# turbot
30	9-4-72	0730	21	3221 - 3209	85	47	Just south of shale bank. Smelt, hake, rockfish
31	"	1013	24	3182 - 3170	63	Trace	375# hake