

FISH COMMISSION OF OREGON
GROUNDFISH & SHRIMP INVESTIGATIONS

Report of Cruise 73-7, Shrimp

Vessel: M/V Kathy Jo.

Dates: September 1-3, 1973.

- 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 twin 225 h.p. diesel engines. 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. The vessel furnished a tickler chain. 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. Tow 5 was re-done due to a lost biological sample. The replicate tow was No. 8. Shrimp were dispersed throughout the survey area. Catches ranged from 0-351 pounds and averaged 86 pounds per tow. Age III shrimp (1970 year class) dominated catches. Many 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
Henry Patterson, Crewman
Theodore Davis, Crewman

Edwin L. Niska
Management & Research Division
October 11, 1973

Table 1. Log of Fish Commission of Oregon Cruise 73-7, September 1-3, 1973, M/V Kathy Jo.

Tow No.	Date	Time Start PDT	Duration (min)	Loran 110 Start Stop	Depth (fms)	Shrimp Catch (lbs.)	Remarks
1	9-1-73	0742	22	3520 - 3508	57-58	46	15# Smelt, 28# Sable, 22# Hake, 71# Rock
2	"	0840	22	3475 - 3463	58-59	32	164# Hake, 101# Smelt, 28# Sable
3	"	0947	20	3470 - 3458	64-65	15	175# Rock, 45# Sable, 84# Sole, Seapens
4	"	1100	21	3420 - 3408	70	113	274# Sole, 106# Rock, 16# Sable
5	"	1207	20	3420 - 3407	66	35	174# Sole, 30# Rock
6	"	1336	22	3422 - 3410	55-56	8	953# Hake, 45# Smelt, 34# Sole, 15# Sole, 34# Rock
7	"	1451	21	3374 - 3362	53-54	0	867# Hake, 182# Rock, 54# Sole
8 (repeat)"		1631	20	3420 - 3408	66	101	99# Sole, 57# Rock, 17# Hake
9	9-1-73	1732	20	3374 - 3362	67	102	59# Sable, 98# Sole, 13# Smelt, 13# Hake
10	"	1833	20	3373 - 3361	72-73	122	176# Sole, 30# Sable, 18# Rock
11	9-2-73	0721	20	3365 - 3356	81	174	162# Sole, 61# Rock, 17# Ratfish & Skate
12	"	0830	21	3326 - 3314	81	191	87# Sole, 70# Rock
13	"	0936	21	3320 - 3308	78	192	139# Sole
14	"	1101	20	3322 - 3310	64	62	16# Sable, 45# Sole, 11# Shad, 15# Rock
15	"	1157	20	3280 - 3268	63	60	20# Sable, 47# Sole, 12# Hake
16	"	1310	20	3273 - 3261	75	116	90# Sole, 17# Rock
17	"	1407	20	3272 - 3259	78	56	61# Ling, 92# Sole, 16# Rock
18	"	1605	18	3220 - 3208	85	76	21# Slender Sole, 19# Rock
19	"	1705	20	3225 - 3215	83	136	50# Sole, 13# Rock
20	"	1758	20	3180 - 3168	82-83	60	60# Sole, 15# Smelt
21	"	1902	20	3180 - 3168	78-79	156	71# Smelt & Slender Sole, 35# Turbot
22	9-3-73	0756	20	3180 - 3168	90	126	54# Slender & Smelt, 43# Sole, 28# Rock
23	"	0903	20	3130 - 3118	89-90	96	39# Smelt, 21# Rock, 19# Sole
24	"	1024	22	3075 - 3063	79-80	3	100# Smelt & Slender, 30# Rock
25	"	1150	20	3075 - 3063	67-68	Trace	163# Rock, 24# Smelt, 11# Hake
26	"	1320	20	3130 - 3117	70	351	46# Smelt, 126# Hake, 22# Rock
27	"	1505	20	3180 - 3168	55-56	Trace	55# Hake, 32# Sable, 14# Ling, 12# Smelt
28	"	1630	20	3230 - 3218	57	0	90# Hake, 13# Rock, 200# Seapens & Basket Stars
29	"	1744	20	3228 - 3216	67	31	94# Sole, 23# Rock