

FISH COMMISSION OF OREGON
GROUNDFISH INVESTIGATIONS

Report of Cruise 70-11, Techniques for Proposed Charter Work

Vessel: M/V *Sunrise*, chartered trawler

Dates: June 15-19, 1970

Objectives: Develop techniques for a proposed PL 88-309 study aimed at estimating the standing crop of the common flat fishes off the Oregon coast. Specific objectives were: (1) Determine the time required to shoot and haul the gear and sort and weigh the catch; (2) determine the reliability of a sampling scheme for flat fishes caught by a small mesh trawl; and (3) collect samples of Rex sole, slender sole, and Pacific sand dab for age-weight-length distributions.

Methods: Fishing gear used was a small mesh trawl of 2.5-inch mesh (stretched measure) in the wings and body and 1.5-inch mesh in the cod end. Foot rope and head rope measures were 62 feet and 47 feet respectively. Each wing was attached to a 10 fathom bridle plus a 5 fathom dandy line.

The catch was dumped onto a sorting table measuring 6 feet by 6 feet by 8 inches and divided into six compartments each measuring about 2 x 3 feet.

We sampled three species: English sole, Rex sole, and Pacific sand dab. Mean length of each species by compartment was compared to the total mean length of each species.

Results: There were 10 tows for which each part of the routine was timed. For all tows time required to shoot the gear was 5 minutes or less. Maximum time to haul, bring the catch aboard, and dump was 25 minutes. The time required to sort and weigh the catch (by species) ranged from 10 to 60 minutes. Two catches of about 750 pounds required 35 and 50 minutes sort and weigh (Table 1). Based on this experiment and results from previous cruises we feel we can make a minimum of four tows per day.

Analysis of variance showed that the subsampling scheme tested was not reliable.

Samples of Rex sole, slender sole, and sand dabs were collected and frozen for later processing. These fish were collected for age-weight-length distributions.

Table 1. Station Location, Catch, and Time Required to Sort and Weigh the Catch, Cruise 70-11

Tow No.	Date	Loran				Depth fm	Towing Time	Total Catch Lbs	Total Time to Sort and Weigh
		2H4		2H5					
		Start	End	Start	End				
1	6/15	3483	3468	3478	3479	25-24	30	375	40 min.
2	6/15	3460	3475	3477	3476	31-30	30	645	60 min.
3	6/16	3481	3471	3475	3475	31-32	15	752	50 min.
4	6/16	3476	3475	3470	3470	40-43	15	156	-
5	6/17	3464	3445	3473	3473	36-38	30	712	45 min.
6	6/17	3448	3469	3470	3470	45-41	30	333	35 min.
7	6/17	3438	3459	3466	3466	50	30	751	35 min.
8	6/17	3478	3486	3478	3478	30-26	15	269	30 min.
9	6/18	3451	3443	3474	3474	37-39	10	210	-
10	6/18	3444	3455	3482	3482	25-28	15	223	-
11	6/18	3451	3468	3486	3486	16-13	30	117	30 min.
12	6/19	3492	3478	3485	3485	15	30	110	10 min.
13	6/19	3479	3456	3468	3468	44-46	30	418	22 min.

Personnel: Robert L. Demory, Party Chief
 Brent O. Forsberg, Biologist
 Rudy Lovvold, Captain
 Tom Lovvold, Crewman

Robert L. Demory
 Brent O. Forsberg
 December 3, 1970