

Charleston

FISH COMMISSION OF OREGON  
TRAWL INVESTIGATION

Cruise Reports 66-8, 9, 10, 11 - Pacific Ocean Perch Surveys

**Introduction:** During the summer of 1966, a large reduction occurred in Pacific ocean perch (Sebastes alutus) landings in Oregon. Two explanations were expressed by industry on the effect the Russian fleet was having on our landings: (1) the Russians have caught all the fish; (2) American boats could not fish safely in the vicinity of the Russian fleet. Through the use of PL 88-309 funds, several cruises were made to determine if either one or both of these explanations were valid. The areas surveyed had produced large catches of Pacific ocean perch in the years immediately prior to 1966.

**Vessels:** Chartered trawlers Meldon, Lynda Dawn, Washington, and Miss Connie.

**Dates:** September 11-October 2, 1966.

**Objectives:** 1. To obtain Pacific ocean perch catch rates in pounds per hour in areas for which catch rates were known for previous years.  
2. To obtain length frequencies from the above areas.

**Materials:** 400-mesh eastern otter trawls with 92-foot headropes and 72-foot footropes with rollers were used.

**Results:** Each individual cruise report contains the results of the tows made by that vessel.

James M. Meehan  
February 16, 1967

Distribution

Astoria Lab - 12  
Charleston Lab  
OFC - Portland  
BCF - Seattle  
Alverson  
Moore  
Jow - CFG

Newport Lab - 5  
Library  
Van Hying  
Kruse  
Percy  
WDF - Olympia  
Verhoeven

FISH COMMISSION OF OREGON  
TRAWL INVESTIGATION

Cruise Report 66-8 - Pacific Ocean Perch Survey

Vessel: MV Meldon of Astoria

Dates: September 11-15 and 20-25, 1966

Methods: Twenty-five tows of approximately 2 hours each were to be made in preselected areas. Length-frequency and sex samples of approximately 100 S. alutus were to be taken from each tow.

Results: Twenty-five tows were successfully completed. Loran readings, depth in fathoms, time, and estimated poundages are recorded in Table 1. Length-frequency samples are recorded in Table 2.

Personnel: Larry Hreha - Party Chief 9/11-15/66  
Halbert Bailey - Party Chief 9/20-25/66  
Eddie Goodrich - Vessel Captain  
Phil Shoop - Crewman  
Gene Bearden - Crewman

James Meehan  
February 16, 1967

Table 1. Location and Catch in Pounds/Tow, MV Meldon.

Date	Tow No.	Depth (fms.)	Loran 2H4		Pacific Ocean Perch	Other Rock Fish	Flat- Fish	Round- Fish	Misc. Fish	Time Hr. & Min.
			Down	Up						
9-12	1	140	2510	-	3500 <sup>1/</sup>					2:45
	2	140	2510	-	5000					4:00
9-13	3	156	2655	-2647	600					2:30
	4	164	2650	-2647	150					2:00
	5	108	3005	-3100	200					2:00
9-14	6	108	3005	-3100	300					2:00
	7	150	3260	-3310	500					3:00
	8	150	3310	-3400	150					2:30
9-15	9	90-94	3460	-3505	50					2:15
	10	90-94	3475	-3500	20					1:00
9-20	11	105-102	4155	-4170	3500	200	75	150	0 <sup>2/</sup>	2:20
	12	105	4155	-4150	3500	400	5	115	T <sup>2/</sup>	3:05
	13	100-90	4140	-4070	2500	3500	30	10	100	2:55
9-21	14	90	3695	-3710	-	-	-	-	-	3:10
	15	96-84	3770	-3500	800	700	10	0	15	3:05
9-22	16	154-168	2510	-2512	100	400	50	0	0	2:15
	17	142	2510	-2520	100	150	0	0	0	2:05
	18	165-154	2660	-2655	75	125	0	0	0	2:00
	19	185	2660	-2700	250	200	0	30	0	2:05
9-23	20	110-95	3015	-3095	50	500	50	0	0	3:55
	21	98-100	3100	-3010	50	250	95	0	0	4:20
9-24	22	160-152	3240	-3335	250	400	60	400	T	3:05
	23	155-117	3350	-3400	400	100	100	150	0	2:30
	24	94	3470	-3470	50	100	0	0	0	2:15
9-25	25	94-88	3462	-3495	25	125	50	0	0	2:25

<sup>1/</sup> Associated rockfish were weighed with S. alutus in tows 1-10; no record of other species taken. Rockfish included were: S. crameri, S. diploproa, S. elongatus, S. saxicola.

<sup>2/</sup> T. Trace - less than 10 pounds.

Table 2. Pacific Ocean Perch Length-Frequency Distributions,

MV Meldon

Length (cm)	Tow #11			Tow #12			Tow #14			Tow #22		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
25												
26												
27												
28					4	4						
29	1		1				1		1			
30				1		1					2	2
31					1	1			1	1		
32							1	3	4		1	2
33	1	1	2		1	1		1	1	2	1	3
34	1		1		3	3	2	1	3	1		1
35				1	2	3	3	2	5	4	4	8
36	4	1	5	4	5	9	4	3	7	12	3	15
37	8	1	9	10	3	13	12	3	15	15	4	19
38	3	3	6	13	3	16	10	6	16	11	4	15
39	10	1	11	7	4	11	7	3	10	15	8	23
40	7	5	12	9	1	10	4	3	7	4	7	11
41	8	6	14	1	3	4	2	7	9	1	6	7
42	6	4	10	8	3	11	1	7	8		7	7
43	1	6	7		8	8		11	11		1	1
44		11	11		6	6		5	5		2	2
45	1	1	2		6	6		2	2		3	3
46		2	2		1	1					1	1
Total	51	42	93	54	54	108	47	58	105	66	54	120

*Charleston*

FISH COMMISSION OF OREGON  
TRAWL INVESTIGATIONS

Cruise Report 66-6 - Pacific Ocean Perch Survey

Vessel: MV Sunrise of Astoria

Dates: September 3-12, 1966

- Objectives:
1. To obtain Pacific ocean perch catch ratios in pounds per hour in areas for which catch rates are known for previous years.
  2. To obtain length-frequency samples from the above areas.
  3. To make a series of bathythermograph casts off the mouth of the Columbia River while in passage to and from the perch grounds.

This cruise was the second of a series of cruises to be made by the MV Sunrise over areas known to produce large landings of Pacific ocean perch, S. alutus (and others), in years immediately prior to 1966.

Materials and Methods: A 3½-inch mesh Eastern otter trawl with a 54-foot head rope, a 76-foot foot rope with rollers, and a 320-mesh body was used.

Twenty, 1-hour tows were to be made in preselected areas. Length-frequency and sex samples of 100 S. alutus were to be taken from each tow.

B. T. casts were to be made to 150' except where water depth was shallower.

- Results:
1. Nineteen tows were successfully completed. Loran readings, depth in fathoms, time, and estimated poundages were recorded and pounds per hour were computed and recorded (Table 1).
  2. A sample of S. alutus was taken from each tow having greater than 25-30 pounds, and was sexed and measured (Tables 2 and 3).
  3. Twelve B. T. casts were made and surface temperatures taken (Table 4).

Personnel: Halbert Bailey - Party Chief  
Rudy Lovvold - Skipper of Sunrise  
Tom Lovvold - Crewman  
Kurt Wesley - Crewman

Halbert Bailey  
October 12, 1966

Table 1. Location and catch of tows in pounds/tow (pounds/hour).

Date	Tow no.	Depth fms.	Loran		Pacific ocean perch	Other rockfish	Flat-fish	Misc.	Time hours
			2H4	2H5					
9-3	1	96	3425	3410	0	0	0	0	10 min.(Hung up)
9-4	2	140	3400-3360	3390-3395	25 (25)	10 (10)	14 (14)	60 (60)	100
9-4	3	142	3355-3385	3395-3395	350 (350)	15 (15)	25 (25)	275 (275)	1.0
9-5	4	145	3115-3128	3400-3392	1,000 (1,000)	75 (75)	55 (55)	25 (25)	1.0
9-5	5	155	3115-3330	3400-3390	150 (163)	20 (22)	15 (16)	5 (5)	55 min. (.92 hr.)
9-5	6	115	3075-3050	-	175 (175)	80 (80)	60 (60)	0 (0)	1.0
9-5	7	115	3070-3035	3420	100 (93)	25 (23)	4 (4)	10 (9)	1 hr. 5 min. (1.08 hr.)
9-8	8	110	3035-3005	3420-3420	20 (20)	30 (30)	0 (0)	100 (100)	1.0
9-8	9	110	3010-3040	3420-3420	300 (300)	610 (610)	90 (90)	100 (100)	1.0
9-8	10	136	2670-2635	3410-3410	0	0	0	0	1.0
9-8	11	140	2640-2662	3410-3415	300 (300)	30 (30)	10 (10)	100 (100)	1.0
9-9	12	150	2505-2530	3362-3360	7,000 (7,000)	0 (0)	0 (0)	0 (0)	1.0

cont.

Table 1 (Continued)

Date	Tow no.	Depth fms.	Loran		Pacific ocean perch	Other rockfish	Flat-fish	Misc.	Time hours
			2H4	2H5					
9-9	13	150	2510-2530	3360-3360	1,500 (1,630)	0 (0)	0 (0)	0 (0)	5.5 (.92 hr.)
9-10	14	133	2125-2150	3355-3355	400 (400)	100 (100)	5 (5)	10 (10)	1.0
9-10	15	133	2142-2110	3358-3355	30 (30)	75 (75)	0 (0)	15 (15)	1.0
9-10	16	110	2153-2180	3355-3360	20 (20)	120 (120)	55 (55)	15 (15)	1.0
9-11	17	135	1260-1237	3348-3350	10 (10)	0 (0)	5 (5)	30 (30)	1.0
9-11	18	145	1225-1243	3344-3342	1,000 (1,087)	300 (326)	25 (27)	20 (22)	55 min. (.92 hr.)
9-11	19	170	1245-1215	3338-3338	20 (20)	200 (200)	5 (5)	105 (105)	1.0
9-11	20	170	1220-1235	3332-3338	30 (30)	100 (100)	30 (30)	375 (375)	1.0

Table 2. Pacific ocean perch length-frequency distributions.  
Males

Length (cm)	Tow	2	3	4	5	6	8&9	11	12	13	14	18	Total
25													
26													
27													
28			1										1
29	1	0											1
30	0	3			1			2					6
31	0	0			0		1	4				1	6
32	0	2	1		2		1	8				0	14
33	0	5	6		4		5	4	2	1		0	30
34	0	5	12		11		1	8	9	4		3	58
35	1	6	19		11		2	1	7	13	1	3	72
36	0	8	14		14		4	7	5	10	3	9	83
37	4	7	9		11	10	7	3	5	11	2	4	73
38	3	4	9		6	11	6	3	6	9	5	7	69
39	0	4	2		5	8	2	1	1	3	2	0	28
40	0	2			3	3	1		1	0	1	0	11
41	0								1	1	1	1	4
42	1										0	1	2
43											1		1
44													
45													
46													
47													
48													
49													
50													
Total	10	47	72		67	58	30	41	37	52	16	29	459
$\bar{X}$	36.8	35.4	35.6		36.0	36.6	36.0	34.0	35.9	36.4	38.1	36.5	$u = 36.1$ $\bar{X}$



Table 3. Pacific ocean perch length-frequency distributions.  
Females

Length (cm)	Tow 2	3	4	5	6	8&9	11	12	13	14	18	Total
24		1										1
25		0										0
26		0										0
27		0										0
28		0										0
29		0			1		1					2
30		0			0		0				1	1
31		0			1	1	1				0	3
32		2			1	2	1		1	1	3	11
33		2			2	2	5		0	1	0	12
34	1	5	5	3	0	1	9	1	0	6	0	31
35	1	5	6	3	3	7	15	1	0	3	0	44
36	2	6	7	7	3	9	18	7	1	1	2	63
37	0	6	6	4	7	7	10	1	4	6	2	53
38	1	6	12	3	5	6	13	9	9	5	4	73
39	0	6	10	5	4	4	1	8	9	4	9	60
40	2	6	3	2	2	8	6	16	9	5	11	70
41	2	4	2	2	1	1	1	9	5	6	10	43
42	1	7	1	3	0	4	1	9	2	2	8	38
43	3	5	1		0	2		2	3	2	4	22
44	1	1			2	1				2		7
45		0										0
46		1										1
47												
48												
49												
50												
Total	14	63	53	32	32	55	82	63	43	44	54	535
$\bar{x}$	39.7	38.1	37.5	37.6	37.0	37.6	36.1	39.4	39.2	38.2	39.5	$\bar{x} = 38.2$

Table 4. Bathythermograph stations.

Date	Loran		Depth fms.	Surface Temp. °F	Feet of line out	Time of day	Station no.
	2H4	2H5					
9-3-66	Buoy #1		13	59.2	50	1247	1
9-3-66	3530	3470	31	59.2	150	1308	2
9-3-66	3528	3460	47	58.5	150	1338	3
9-3-66	3528	3455	64	58.6	150	1400	4
9-3-66	3530	3448	118	58.5	150	1424	5
9-3-66	3523	3438		58.8	150	1452	6
9-12-66	3375	3448	61	59.8	150	1532	7
9-12-66	3405	3455	55	60.8	150	1555	8
9-12-66	3425	3458	49	58.7	150	1615	9
9-12-66	3460	3467	44	57.0	150	1645	10
9-12-66	Lightship		34	57.0	150	1710	11
9-12-66	3517	3473	18		50	1740	12

FISH COMMISSION OF OREGON  
TRAWL INVESTIGATION

Cruise Report 66-9 - Pacific Ocean Perch Survey

**Vessel:** MV Lynda Dawn

**Dates:** September 13-October 2, 1966

**Methods:** Tows of approximately 2 hours each were to be made in preselected areas. Length-frequency and sex samples of approximately 100 S. alutus were to be taken from each tow.

**Results:** Loran readings, depth in fathoms, time, and estimated poundages are recorded in Table 1. A sample of S. alutus from 12 tows was sexed and measured (Table 2).

**Personnel:** Gary Milburn - Party Chief 9/13-17/66  
Ed Niska - Party Chief 9/27-10/2/66  
Don Nichols - Vessel Captain  
Ward Nichols - Crewman  
Dick Donovan - Crewman

James Meehan  
February 16, 1967

Table 1. Location and Catch in Pounds/Tow, MV Lynda Dawn.

Date	Tow No.	Depth (fms.)	Loran 2H4 Down Up	Pacific Ocean Perch	Other Rock Fish	Flat-Fish	Round-Fish	Misc. Fish	Time Hr. & Min.
9-13	1	143-149	3112-3140	12000 <sup>1/2</sup>	(Lost one split approx. 2500#) (Hung up)				2:15
	2	143-150	3115-3133	13000					1:40
	3	133-127	3130-3149	19000					2:15
9-14	4	165-152	2657-2670	2000					0:45
	5	165-152	2657-2670	1500					0:45
9-15	6	158-167	2500-2533	1500					1:45
	7	158-153	2500-2525	1800					2:15
	8	163-158	2443-2415	2000					2:10
9-16	9	163-158	2443-2414	500					2:10
9-17	10	80-85	2388-2398	No Fish (Boulder in net)					0:30
	11	133-127	3130-3149	11000	(Tore up)				2:30
9-27	12	174-155	3353-3370	6375	4125	3	22	7	1:50
	13	155-170	3351-3370	4241	1759	72	2	8	2:17
	14	172-170	3373-3364	392	8	3	10	0	0:30
9-28	15	161-149	2443-2430	11335	2665	21	20	0	2:37
	16	158-160	2444-2412	2040	460	9	2002	0	2:54
9-29	No set ran north								
9-30	17	102-76	3475-3498	1362	2658	130	2652	0	3:07
	18	75-95	3498-3498	0	265	49	1000	50	2:17
	19	90-100	3460-3490	600	477	62	180	24	3:17
10-1	20	97-98	4183-4185	120	181	6	1612	60	1:50
	21	112-115	4068-4049	5246	781	24	20	5	2:00
	22	100-112	4070-4095	7424	76	0	10	30	2:27
10-2	23	112-116	3888-3845	4737	1263	4	30	20	3:38
	24	110-112	3910-3882	7418	82	0	0	0	2:58
	25	110-125	3869-3820	2543	300	44	0	0	2:30

<sup>1/2</sup> Associated rockfish were weighed with S. alutus in tows 1-11; no record of other species taken. Rockfish included were S. crameri, S. diploproa, S. elongatus, S. saxicola.

Table 2. Pacific Ocean Perch Length-Frequency Distributions,

MV Lynda Dawn.

Length (cm)	9-13-66 Tow #1			9-13-66 Tow #2			9-15-66 Tow #6			9-15-66 Tow #8			9-27-66 Tow #12			9-27-66 Tow #14		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
25																		
6													1		1			
7																		
8																		
9													1		1			
30				1		1												
1					1	1		1	1									
2	1		1	1	1	2	1		1	1	1	1	1		1	1		1
3	1	1	2	3		3	3		3	4		4	1		1			
4	4	2	6	11	2	13	15		15	7	2	9	4		4	7	2	9
5	4	1	5	5	5	10	18		18	10	2	12	9	1	10	6	5	11
6	1		1	6	3	9	13	2	15	16	5	21	9	5	14	14	5	19
7	3	2	5	4	8	12	12	5	17	13	2	15	8	3	11	10	8	18
8	1	6	7	6	6	12	5	7	12	5	6	11	1	4	5	10	5	15
9	1	4	5		4	4	3	1	4	4	4	8	3	10	13	1	5	6
40	1	9	10	1	13	14		6	6	1	7	8		15	15	4	4	8
1		6	6	1	14	15		3	3		2	2		10	10	1	5	6
2					1	1		4	4		1	1		15	15		5	5
3		1	1		2	2		1	1					5	5		3	3
4		1	1		1	1								4	4		4	4
5														2	2		1	1
6																		
7																		
8																		
9																		
50																		
Total	17	33	50	39	61	100	70	30	100	61	31	92	38	74	112	54	52	106

Table 2. Pacific Ocean Perch Length-Frequency Distributions,

MV Lynda Dawn. (cont'd)

Length (cm)	9-28-66 Tow #15			9-30-66 Tow #17			10-1-66 Tow #21			10-1-66 Tow #22			10-2-66 Tow #23			10-2-66 Tow #24					
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total			
25																					
6																					
7																					
8					1	1															
9					1	1															
30													1		1						
1	1		1										1		1						
2													1		1						
3	1		1														2	2			
4	6		6										1		1	3	1	4			
5	4	2	6					2	2		1	3	4			1	2	3			
6	5	3	8		1	1		3	3		2	6	8		2	3	5	4	8	12	
7	10	1	11	1		1		5	5	10	5	6	11		1	2	3	6	10	16	
8	7	9	16	1	2	3		4	3	7	6	9	15		5	4	9	6	9	15	
9	6	4	10		2	2		11	9	20	4	9	13		4	4	8	4	6	10	
40	2	5	7					18	5	23	11	6	17		8	9	17	3	6	9	
1	2	11	13	2	2	4		13	5	18	8	4	12		6	11	17	4	6	10	
2		13	13	2	5	7		7	4	11	4	7	11		3	13	16		7	7	
3		4	4		11	11			2	2		5	5		13	13		1	7	8	
4		3	3		8	8		1	3	4		3	3		6	6			3	3	
5		2	2		11	11									1	1			1	1	
6					4	4															
7					1	1															
8					1	1															
9																					
50																					
Total	44	57	101	6	50	56	59	41	100	41	59	100	29	72	101	32	68	100			

FISH COMMISSION OF OREGON  
TRAWL INVESTIGATION

Cruise Report 66-10 - Pacific Ocean Perch Survey

**Vessel:** MV Washington of Astoria

**Dates:** September 13-22, 1966

**Methods:** At least 16 scheduled 2-hour tows were to be made in preselected areas with a standard perch trawl. Samples of S. alutus for length-frequency distribution by sex of approximately 100 fish were to be taken from each tow.

**Results:** Seventeen tows were completed. Loran readings, depth in fathoms, time, and estimated poundages are recorded in Table 1. A series of seven samples of Pacific ocean perch were measured by sex (Table 2).

**Personnel:** Edwin L. Niska - Party Chief 9/13-22/66  
Arthur A. Anderson - Vessel Captain  
John Viuhkola - Crewman  
Albert Pekkala - Crewman

James M. Meehan  
February 16, 1967

Table 1. Location and Catch in Pounds/Tow, MV Washington.

Date	Tow No.	Depth (fms.)	Loran 2H4 Down Up	Loran 2H5 Down Up	Pacific Ocean Perch	Other Rock- Fish	Flat- Fish	Round- Fish	Misc. Fish	Time Hr. & Min.
9-14	1	168-155	1250-1274		5283	1728	4	20	20	1:19
	2	168-155	1250-1274		3719	4286	7	90	11	2:20
	3	168-155	1250-1274		3291	2109	19	109	2	2:20
	4	168-155	1250-1274		386	614	9	175	41	1:55
9-15	5	100-107	2055-2132	3312	100	1635	390	255	20	3:25
	6	107-100	2130-2055	3352-3345	0	750	90	268	0	3:02
9-16	7	150-130	2500-2555	3390-3408	70	167	228	206	0	2:05
9-17	8	104-99	2792-2722		173	83	60	489	0	2:03
9-20	9	135-140	3125-3120		1905	2250	36	115	10	2:25
9-21	10	158-156	2520-2500	3365-3360	100	75	5	70	5	1:53
	11	158-145	2520	3360-3370	170	134	35	113	102	1:37
	12	153-160	2660-2668	3380	138	1126	0	0	6	0:54
	13	153-168	2668-2670		15	50	0	0	0	0:35
	14	104	2720-2795	3450-3430	50	20	65	151	0	2:05
9-22	15	133-130	3120-3140	3400	2600	152	240	25	10	0:55
	16	133	3152-3152		150	65	0	0	7	0:18
	17	135	3025-2985		36	3	5	0	0	2:00



Table 2. Pacific Ocean Perch Length-Frequency Distributions,

MV Washington.

Length (cm)	9-14-66 Tow #1			9-14-66 Tow #2			9-14-66 Tow #3			9-17-66 Tow #8			9-20-66 Tow #9			9-21-66 Tows #10&11			9-22-66 Tow #15			
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	
25																						
6																						
7																						
8																						
9								1		1		4										
30								1		1		4										
1	1		1		1	1					5			1		1		2		2		2
2											6	2	8	2	1	3		1	1	2	2	2
3	3		3	1		1		1	1		4	4	8	4	2	6	1	1	2	1	3	
4	4	3	7	1		1	3	1	4	7	6	13	3	4	7	6	4	10	5	1	6	
5	5		5	2		2	2	2	4	4	7	11	6	5	11	2	6	8	4	8	12	
6	5	4	9	7	6	13	5	2	7	4	11	15	6	7	13	8	3	11	5	4	9	
7	6	6	12	7	13	20	7	10	17	4	6	6	5	6	11	6	6	12	7	7	14	
8	6	3	9	6		6	3	12	15	4	5	9	1	5	6	1	11	12	7	8	15	
9	5	11	16	6	8	14	2	13	15		4	4	4	4	8	3	12	15	1	14	15	
40		12	12	1	12	13	2	13	15		10	10		3	3	1	13	14	2	7	9	
1		8	8	1	18	19	1	13	14		2	2		5	5		8	8		3	3	
2	1	5	6		8	8		6	6		3	3		7	7		3	3		10	10	
3		4	4		4	4								4	4							
4																	2	2				
5																						
6																						
7																						
8																						
9																						
50																						
Total	36	56	92	32	70	102	27	73	100	39	60	99	32	53	85	31	69	100	37	63	100	

FISH COMMISSION OF OREGON  
TRAWL INVESTIGATION

Cruise Report 66-11 - Pacific Ocean Perch Survey

**Vessel:** MV Miss Connie of Newport

**Dates:** September 20-28, 1966

**Methods:** Twenty-two 2-hour tows were to be made in preselected areas with a standard perch trawl. Length-frequency and sex samples of approximately 100 S. alutus were to be taken from each tow.

**Results:** Twenty tows were successfully completed. Loran readings, depth in fathoms, time, and estimated poundages are recorded in Table 1. A sample of S. alutus from 11 tows was sexed and measured (Table 2).

**Personnel:** Jack Robinson - Party Chief 9/20-22/66  
Gary Milburn - Party Chief 9/23-28/66  
Ray Hill - Vessel Captain  
Jack Hill - Crewman  
Mike Wertin - Crewman

James Meehan  
February 16, 1967

Table 1. Location and Catch in Pounds/Tow,  
MV Miss Connie.

Date	Tow No.	Depth (fms.)	Loran 2H4		Pacific Ocean Perch	Other Rock Fish	Flat-Fish	Round-Fish	Misc. Fish	Time Hr. & Min.
			Down	Up						
9-20	1	150-140	2412	2444	700	175	15	400	-	2:28 (Tore Net)
9-21	2	145-150	2518	2520	2000	400	T <sup>1/</sup>	200	T	2:00
9-21	3	135-165	2509	2515	1000	400	-	200	100	1:40
9-21	4	140-150	2445	2400	14000	150	50	1000	50	2:32 <sup>2/</sup>
9-22	5	145-180	2245	2230	300	35	T	T	T	2:15
9-22	6	140-150	2250	2240	500	35	T	50	T	1:20
9-22	7	135	2175	2125	250	325	T	100	50	2:00
9-22	8	125	2130	2180	500	200	T	75	T	2:00
9-25	9	145-180	1238	1280	2270	400	35	310	20	1:55
9-25	10	175-145	1278	1240	1150	200	15	150	-	2:02
9-25	11	152	1260	1215	2550	450	30	1000	15	2:20
9-25	12	155	1225	1275	3360	640	100	1440	15	1:55
9-26	13	156	1230	1275	1000	200	50	800	10	3:00
9-26	14	150	1235	1270	3700	300	150	220	50	2:20
9-27	15	135	2180	2130	20	80	10	300	T	2:00
9-27	16	125	2132	2182	40	360	80	100	-	2:00
9-27	17	150	2240	2240	120	30	T	15	10	1:45
9-27	18	142-150	2245	2235	130	60	15	75	-	1:35
9-28	19	150	2510	2532	200	1800	25	60	10	2:00
9-28	20	152	2525	2500	200	1800	T	30	-	2:00
9-28	21	142	2440	2410		No Fish (Door Unhooked)				1:45
9-28	22	145-160	2428	2395	900	100	T	200	T	1:15

<sup>1/</sup> T. Trace - less than 10 pounds.

<sup>2/</sup> Set 1450, snagged 1610. Raised gear part way, reset 1638. Lifted 1750.

Table 2. Pacific Ocean Perch Length-Frequency Distributions,

MV Miss Connie.

Length (cm)	9-20-66 Tow #1			9-21-66 Tow #2			9-21-66 Tow #3			9-22-66 Tow #5			9-22-66 Tow #7		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
24										1		1			
5															
6															
7							1		1	1		1	1	1	2
8															
9							1		1	1		1	1		1
30	1		1	1		1	6		6	2		2	2		2
1				4	1	5	5		5	1		1	1		1
2	3		3	1	2	3	4	1	5	3		3	2		2
3	3		3	3		3	3	1	4	9	3	12		4	4
4	3		3				1	1	2	1	1	2		3	3
5	3	1	4	4		4	4		4	16	3	19	4	2	6
6	9	2	11	2	1	3		3	3	8	4	12	5	3	8
7	2		2	1	2	3	1	1	2	8	6	14	4		4
8	8	3	11	2	2	4		2	2	7	5	12	1	1	2
9	1		1		2	2		2	2		5	5	1	4	5
40	1	6	7	1	10	11		2	2	4	6	10		5	5
1		1	1	2	5	7		1	1	1	3	4	2		2
2		1	1	1	1	2					1	1		2	2
3				1	1	2		1	1						
4		1	1												
5	1		1												
6															
7															
8															
9														1	1
50															
Total	35	15	50	23	27	50	26	15	41	63	37	100	24	26	50

Table 2. Pacific Ocean Perch Length-Frequency Distributions,

MV Miss Connie. (cont'd)

Length (cm)	9-25-66 Tow #9			9-25-66 Tow #11			9-26-66 Tow #13			9-28-66 Tow #19			9-28-66 Tow #22		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
24															
5															
6															
7															
8															
9															
30															
1															
2	1		1										1		1
3	4		4	2		2	3		3	2	1	3	1		1
4	8	1	9	4		4	7	1	8	3	1	4	3		3
5	12	1	13	4		4	15	1	16	8	1	9	4	2	6
6	21	1	22	6		6	16	1	17	7	3	10	6		6
7	16	5	21	13		13	21	3	24	7	1	8	2	1	3
8	12	4	16	5	4	9	11	5	16	1	6	7	1	5	6
9	2	5	7	4	1	5	6	3	9	2	3	5	4	2	6
40		2	2		2	2	2	4	6	1	5	6		5	5
1		6	6		6	6		3	3		1	1		5	5
2		3	3		2	2		2	2					7	7
3		2	2											2	2
4											1	1			
5															
6															
7															
8															
9															
50															
Total	76	30	106	38	15	53	81	23	104	31	23	54	22	29	51