

THE OREGON GROUND FISH FISHERY AND ITS INVESTIGATION IN 1982

By

R.L. Demory

J. Butler

Prepared for the  
TWENTY-FOURTH ANNUAL MEETING

of the

Technical Sub-Committee

of the

CANADA-UNITED STATES GROUND FISH COMMITTEE

June 15-17, 1983

Palo Alto, California

State of Oregon

Oregon Department of Fish and Wildlife

Marine Region

June 1983

AGENDA ITEM VI - REVIEW OF AGENCY GROUND FISH PROGRAMS - OREGON

A. Activities

The Marine Region staff and its functions were much the same as in 1981. Ms. Teresa Goldade resigned the data processing position in November. This position was subsequently filled by Ms. Kathy Murphy. Mr. Clayton Creech of Oregon State University was contracted as a programmer-consultant to modify the Cyber trawl data processing system.

Major emphasis of 1982 activities was on monitoring of the fishery, particularly the trawl fishery. Widow rockfish, canary rockfish, rockfish species composition and Dover sole were the primary recipients of detailed attention. The number of biological samples and rockfish species composition samples obtained in 1982 was 675. This was nearly double the sampling level in 1981 (Table 1). Most of the increase was due to increased species composition sampling.

Table 1. Biological samples taken in 1982.

Species	Statistical Area						Total
	1C	2A	2B	2C	3A	3B	
Dover sole	0	0	17	5	11	2	35
English sole	0	0	9	6	9	1	25
Petrale sole	0	14	4	0	2	1	21
Rockfish:							
<i>Sebastes alutus</i>	0	0	0	8	19	2	29
<i>S. crameri</i>	0	2	0	0	0	0	2
<i>S. entomelas</i>	0	2	8	13	13	0	36
<i>S. flavidus</i>	0	3	2	0	8	3	16
<i>S. pinniger</i>	0	2	10	7	0	1	20
<i>S. proriger</i>	0	0	4	10	1	0	15
<i>S. reedi</i>	0	0	0	2	0	0	2
<i>Sebastolobus alascanus</i>	0	0	2	5	0	0	7
Spp. comp.	8	43	138	92	130	47	458
Sablefish	0	0	9	0	0	0	9
Total	8	66	203	148	193	57	675

Commitments to the Pacific Fishery Management Council continued to occupy much staff time, particularly in preparing trip analyses for various ground-fish species, especially rockfish and sablefish. Preparation of status of stock reports for canary rockfish and Dover sole also received substantial effort.

A short term task was undertaken to obtain data on discard of Pacific ocean perch in the directed Dover sole fishery. A total of 12 trips were made during the period February to mid-July.

B. Completed Reports

The following reports were completed:

- Barss, W.H. 1982. Results of Dover sole tagging off the central Oregon coast in 1969-75. Oregon Department of Fish and Wildlife. Processed Report. 21 p.
- Barss, W.H., S.L. Johnson and R.L. Demory. 1982. Biological studies on rockfish and associated species from Heceta Bank off Oregon, 1980-81. Oregon Department of Fish and Wildlife. Processed Report. 28 p.

AGENDA ITEM VII - REVIEW OF NORTHEASTERN PACIFIC GROUND FISH FISHERIES

A. Canada-United States Fisheries - Oregon

1. Commercial Fisheries

Oregon commercial groundfish landed catch in 1982 was 41,155 mt (preliminary) by all gear types. This was a 9% increase over the previous record landing of 37,740 mt in 1981 (Table 2). As in previous years the trawl fishery accounted for most of the landing, 37,681 mt, or 92% of the commercial landed catch (Table 3). Rockfish was the most important species group in the trawl fishery, comprising 53% of the landing, 21,214 mt. Species of note (preliminary data) were widow rockfish at 8,852 mt; canary rockfish, 3,758 mt; and yellowtail rockfish 2,541 mt. Landed catch of widow rockfish declined because of reduced effort, regulatory action and declining abundance in the Oregon-Washington area.

Trawl landing of flatfish totaled 13,020 mt. Dover sole was the principle species and comprised 8,086 mt, a record. With the exception of starry flounder, landed catch of all important flatfish species increased over 1981, particularly petrale sole which increased by 71%.

Trawl landings of roundfish were dominated by sablefish, which comprised 2,977 mt and lingcod at 1,337 mt. This represented an increase of 124% and 44% respectively over the 1981 totals.

There was substantial controversy surrounding sablefish during the fall months of 1982. Coastwide landings of sablefish had exceeded the OY of 17,400 mt in late September when the Fishery Management Plan was also implemented. The PFMC and the industry were upset by the short notice that landings had exceeded the OY. The 3,000 lb trip subsequently imposed was particularly upsetting to some trawl vessel skippers who had been targeting on small sablefish. The controversy was further heightened when a 22-inch

Table 2. Oregon landed catch (mt) of groundfish by gear type in 1982 (preliminary). Data source: Fish tickets collated by the Pacific Fishery Information Network (PACFIN).

Species	Trawl	Shrimp Trawl	Pot	Jig	Long Line	Troll	Other Gear <sup>1/</sup>	Recreational	Total
English sole	983	1			Tr				984
Rock sole	30	Tr		Tr	Tr				30
Petrале sole	1,502	3		Tr	Tr	Tr			1,505
Dover sole	8,086	53	Tr		Tr	Tr			8,139
Rex sole	840	5			Tr				845
Starry flounder	218	Tr				Tr			218
Pacific halibut				Tr	101	3			104
Other flatfish	1,361	13	Tr	Tr	Tr	Tr			1,374
Pacific cod	116	2			Tr				118
Lingcod	1,346	48	3	30	8	23		91	1,549
Sablefish	2,979	42	1,466	1	592	Tr			5,080
Pacific ocean perch	534	4							538
Rockfish	19,608	683	7	194	90	94		525	21,201
Misc. species	77	1	Tr	Tr	3	1	3	21	106
Dogfish (see misc. sp.)									-
Pacific whiting	1								1
Animal food									0
Reduction									0
<b>Total</b>	<b>37,681</b>	<b>855</b>	<b>1,476</b>	<b>225</b>	<b>794</b>	<b>121</b>	<b>3</b>	<b>637</b>	<b>41,792</b>

<sup>1/</sup> Includes scallop dredge and set net

Table 3. Oregon trawl landings (mt) of groundfish species, effort (hrs) and CPUE (mt/hr) 1972-82 (preliminary).

Species	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1972-82
English sole	996	1,075	792	982	1,643	1,001	1,041	1,084	718	725	983	1,006
Rock sole	1	tr	2	13	7	10	12	6	13	7	30	7
Petrale sole	991	994	1,221	1,202	793	822	1,000	1,040	850	878	1,502	979
Dover sole	2,695	2,003	2,542	2,168	2,262	1,818	3,374	5,066	4,008	5,226	8,086	3,116
Rex sole	596	570	590	464	477	425	642	734	524	608	840	563
Starry flounder	199	154	185	371	773	283	489	284	193	352	218	328
Other flatfish	272	298	264	459	566	435	564	888	615	1,068	1,361	543
Total flatfish	5,750	5,094	5,596	5,659	6,521	4,794	7,122	9,102	6,921	8,864	13,020	6,542
Pacific cod	485	205	311	265	277	364	398	401	156	42	116	290
Lingcod	612	907	879	694	439	381	445	686	652	936	1,346	663
Sablefish	183	380	248	305	442	326	958	1,493	1,026	1,331	2,979	669
Pacific ocean perch	131	109	147	186	567	424	486	848	1,288	882	534	491
Other rockfish	1,990	1,748	1,383	1,379	2,528	2,398	4,388	8,450	15,354	22,704	19,608	6,232
Misc. species	16	8	13	13	294	153	185	187	92	210	77	117
Dogfish	tr	tr	5	2	6	122	56	40	23	4	0	26
Animal food	327	270	321	264	56	85	3	0	0	138	0	146
Pacific hake	4	25	14	2	218	450	383	129	257	162	1	164
Reduction	0	0	0	0	0	0	0	0	0	0	0	0
Total landings	9,498	8,746	8,917	8,769	11,348	9,497	14,424	21,339	25,609	35,273	37,681	15,342
Total trawl hrs.	29,206	28,243	27,258	28,468	33,259	26,683	38,447	56,444	46,606	68,297	-	38,291
CPUE	0.325	0.310	0.327	0.308	0.341	0.356	0.375	0.366*	0.362*	0.303*	-	0.337*

tr = less than 0.1 mt

\* Excludes pelagic trawl catch of *S. entomelas*

minimum size limit was proposed by some sectors of the industry as a reasonable means of keeping catches within OY constraints, maintain a year long season and reduce the catch of small juvenile sablefish.

Landed catch by other commercial gear types was 3,474 mt, of which pot gear and shrimp trawl were most important. Sablefish and rockfish were the principle species (Table 2).

## 2. Recreational Fisheries

Sampling of the 1982 ocean boat recreational fishery started on May 29, the opening day of the ocean recreational salmon fishery. Sampling continued at all ports until September 7, except in Gold Beach and Brookings, where sampling continued until October 3, and November 30, respectively. The total 1982 catch was estimated 410,989 fish (Table 4). This represented an eight percent increase over the estimated 1981 recreational catch of 379,117 fish. However, it should be noted that sampling in 1981 terminated in September at all ports; extended south coast sampling did not occur as it did in 1982. Catch estimate for 1982 through September 7, (more directly comparable to 1981) was 399,392 fish, only five percent above 1981.

Number of directed bottomfish trips in 1982 was estimated to be 49,918, an increase of 29% over the number occurring in 1981. Anglers on directed trips took 316,580 bottomfish, 77% of the total sport catch. Catch rate of directed effort was 6.3 fish per angler trip; this was down slightly from the 1981 level of 6.5 fish per directed angler trip.

The leading species in the 1982 bottomfish catch was again black rockfish, which made up 67% of the total catch (Table 5). The second most often landed bottomfish was canary rockfish, comprising 8% of the total. The leading seven fish (Table 4) were also the principal species landed in 1981; these species normally account for 90-95% of the total.

Table 4. Species composition of the 1982 Oregon recreational bottomfish ocean boat fishery.

Species	Percent of Catch	Number of Fish	Total wt. (mt)
<i>Sebastes melanops</i>	67.1	275,774	399.9
<i>S. pinniger</i>	7.9	32,468	25.6
<i>Ophiodon elongatus</i>	6.5	26,616	91.3
<i>S. flavidus</i>	5.0	20,549	34.3
<i>S. ruberrimus</i>	3.5	14,385	36.0
<i>Sebastes</i> species	3.3	13,721	19.3
<i>S. mystinus</i>	2.7	11,097	10.0
<i>Hexagrammos decagrammus</i>	1.5	6,165	5.2
Other fish	2.5	10,214	15.3
Total	100.0	410,989	636.9

Table 5. Estimated 1982 Oregon recreational bottomfish catch (mt) from the ocean boat fishery.

Species	PMFC Area				Total
	2A	2B	2C	3A	
Lingcod	13.1	5.1	70.3	2.8	91.3
Rockfish	149.2	51.6	316.8	7.5	525.1
Flatfish	0.5	0.3	3.9	0.2	4.9
Other fish	4.0	1.4	9.1	1.1	15.6
Total	166.8	58.4	400.1	11.6	636.9

PMFC area 2C accounted for 63% of the state's landings on a weight basis, which included the three leading ports of Newport, Depoe Bay, and Garibaldi (Table 6). Rockfish species comprised 90% of the total and were the dominant species group at all ports except Florence. Flatfish accounted for less than 1% of the landings; Pacific halibut was the most commonly seen flatfish species in this area, with an estimated 1,469 being landed. Kelp greenling and cabezon were most common species in the miscellaneous species group.

Table 6. Estimated 1982 Oregon recreational catch<sup>1/</sup> by port.

Port	Rockfish	Flatfish	Lingcod	Misc.	Total
Astoria	5,235	144	813	899	7,091
Garibaldi	70,106	145	5,216	826	76,293
Pacific City	14,175	788	2,730	472	18,165
Depoe Bay	41,235	174	4,210	2,203	47,822
Newport	96,562	1,629	8,321	4,004	110,516
Florence	26	94	0	20	140
Winchester Bay	4,920	28	19	168	5,135
Coos Bay	31,162	117	1,480	995	33,754
Gold Beach	14,951	8	1,241	280	16,480
Brookings	89,622	325	2,586	3,060	95,593
Total	367,994	3,452	26,616	12,927	410,989

<sup>1/</sup> Catch in number of fish

Data covers time period May 29-Sept. 7, except:

Gold Beach = May 29-Oct. 3, and  
 Brookings = May 29-Nov. 30.

D. Canada-U.S. Groundfish Management and Regulations - Oregon

As a result of Oregon Fish and Wildlife Commission (OFWC) action (at the request of the Pacific Fisheries Management Council), the 10,000 lb trip limit on *S. alutus* was reduced to 5,000 lbs or 10% of the trip weight, whichever is greater, effective February 1, 1982. Additional regulatory action

occurred in late 1982 when the Fishery Management Plan (FMP) for west coast groundfish was implemented by the Secretary of Commerce. This amounted to a widow rockfish trip limit of 75,000 lbs and a 3,000 lb trip limit on sablefish. Subsequent to Federal action, the OFWC adopted state regulations essentially identical to Federal Regulations, effective March 1, 1983.

In August 1982 Marine Region staff addressed the OFWC in regard to a petition filed by a group of charter boat operators to prohibit trawling inside three miles off northern Oregon. The Commission took no action to restrict the commercial fishery in state waters, but did express its strong concern for the rockfish resources inside 3 miles, should a significant trawl fishery develop. It instructed staff to closely monitor the area and prepare recommended action as necessary.

AGENDA ITEM VIII. GROUND FISH RESEARCH - OREGON

A. Stock Assessments

2. Rockfish

Work continued on a status of stock report on canary rockfish (*Sebastes pinniger*) in the INPFC Eureka, Columbia and Vancouver areas. Preliminary results suggest that estimated total instantaneous mortality rate (Z) is about 0.13, based on the Robson-Chapman method and age determinations based on the break and burn technique. Current annual catch probably is exceeding annual recruitment. We anticipate this report will be completed by early June 1983.

Work also progressed on aging studies of canary rockfish. Comparative readings were made on a sample of 867 otoliths. <sup>B/B is surface at 18-75x</sup> Results indicate that surface readings underage older fish but also overage younger fish (Tables 7 and 8). Maximum deviation of surface age from break and burn age was -21 yrs for males and +8 yrs for females. <sup>(mostly w/ young fish)</sup> Positive deviations, particularly for males, suggest that marks (rings) considered to be annuli were less prevalent or visible on broken and burned otoliths. <sup>of young fish</sup> The root problem however was interpretation of vague rings. <sup>in otoliths from young fish</sup>

4. Flatfish

Work is also continuing on a status of stock report of Dover sole in the Columbia-Vancouver areas. Preliminary results suggest a range of allowable biological catch (ABC) from 6,300 mt to 7,000 mt in the Columbia area and about 2,000 mt in the Vancouver area. Recent landings (1981-82) are greater than the estimated allowable biological catch, but not of immediate concern because deep water exploitation has not fully developed. This means our estimates of stock size and yield are likely underestimates.

An analysis of Dover sole tag returns was completed for fish tagged in PMFC area 2B. Little north-south movement was indicated although there was

Table 7. Deviations of surface ages from break and burn ages of 530 male *Sebastes pinniger* in Oregon 1982 market samples.

B/B Age	≥-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	+7	+8	+9	≥+10
6										1											
7										3	4	7		2							
8										2	4	8	3	2		1					
9										6	13	16	5		3						
10								1		10	5	3	1	2	1						
11								1	2	5	7	10	4	2	1		1	1			
12									3	6	10	8	4	2	3	1	1		1		
13								1		6	9	8	7							1	
14				1		1	1	2	2	4	9	8	2	1	1						
15								2	2	7	2	3	2	1	3						
16								4	1	4	1	1	1								
17						1	2		3	2	4	2		3		1		1			
18						1		1	1	1		3		3	2						
19							2	2	3	1	2	3	5	1							
20					1	2	1	2	3	6	4	2	2								
21				1			2		2	7	5	2	1	2			1				1
22						1				3	4	1	2	1							1
23		1			1	2	3	2	1	2	3	2			1	1					
24	1		1		2		2	1	1	1									1		
25						1	1	2	2	3	1	3		1	2						
26				1			2														
27					2		1		2			2	3	1			1				
28				1	1		1	1		3	2				1						
29			1		1	1	1	1				1									
30				1		1	2		1	1	2		1								
31					1		1														
32				1								2			1						
33	1					1	1	1			1										
34	1	1			1			1		1			1								1
35	2				1			1	1	1		2									
36			1					1	1												
37			1	1				1		1									1		
38			1					1								1					
39						1					1										
40	1																				
41	2				1			1				1									
42	1					1															
>42	8			1	1	2		2	1												
T	17	2	5	8	13	16	23	28	35	84	96	98	44	25	19	5	4	3	2		3

Table 8. Deviations of surface ages from break and burn ages of 337 female *Sebastes pinniger* in Oregon 1982 market samples.

B/B Age	≥-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	+7	+8	+9	≥+10
6												1									
7																					
8											5	3	3								
9										4	5	7	4		1						
10										1	10	4	5		1						
11									3	8	4	5	4	3	1	2					
12									2	10	10	11	6	2	1						
13										8	11	8	5	4	2	1					
14						1	1	1	2	6	5	5	3		1					1	
15							1		2	3	5	3	4		1						
16							1	2	1	4	6	1	1	2							
17								3	2		1	2	2	1							
18										3		3	2				1				
19			1							4	1	3			1	3					
20							1	2	1	1	5	3		1							
21							1	3	2	7	1										
22								1	3	1	5		2								
23							1	1	1	1											
24									1			1		1							
25							3	1	1	1				1	1					1	
26						1				1	2	2									
27								1					2								
28						1					1										
29																					
30										1	1										
31									1											1	
32																					
33					1			1	1												
34																					
35																					
36																					
37									1												
38																					
39																					
40																					
41																					
42							1														
T				1	1	3	10	16	24	64	78	62	43	15	10	6	1	2	1		

pronounced inshore-offshore movement. Females exhibited greater movement and were recaptured mostly in 50-150 fms during the summer months. Males, on the other hand, were infrequently caught shoreward of 100 fms.

APPENDIX Table I

Tagged Fish Recoveries

Species tagged           Lingcod  
 Date tagged             July 1978  
 Number tagged         3,818 - Floy anchor  
 Depth tagged          40-83 fms  
 Area tagged            2B-2C  
 Agency tagged         Oregon Dept. Fish & Wildlife

Recoveries by year through 1982

Area	1978	1979	1980	1981	1982
3B	0	0	1	4	0
3A	0	0	2	3	1
2B-2C	188	180	109	49	37
Unk	17	2	1	9	1
Total	205	182	113	65	39

T

15.8%

Tagged Fish Recoveries

Species tagged           English sole  
 Date tagged             December 1977, March 1978  
 Number tagged         4,190 - Floy anchor  
 Depth tagged          28-63 fms  
 Area tagged            2B-2C  
 Agency tagged         Oregon Dept. Fish & Wildlife

Recoveries by year through 1982

Area	1978	1979	1980	1981	1982
5A	1	1	1	0	0
4B	3	0	0	0	0
3C	3	2	0	0	0
3B	13	6	1	1	0
3A	46	13	2	0	0
2B-2C	82	22	1	1	1
2A	2	0	0	0	0
1C	12	2	0	0	0
Unk	15	4	3	1	0
Total	177	50	8	3	1

5.7%