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Spanish Pelagic Redfish (*Sebastes mentella*) Fishery in the  
NAFO Regulatory Area (Division 1F) in 2000

by

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**Abstract**

In early October 2000 an exploratory fishing for oceanic redfish have been conducted by one Spanish pelagic trawler in the NAFO Regulatory Area of Div. 1F. One scientific observer was on board this vessel during the whole fishing period.

The seasonal and geographic distribution pattern of the fishing effort in the Spanish oceanic redfish fishery is presented. A shift in the fleet activity towards the south and west is observed between the second and third quarter, approaching the vicinity of the NAFO Convention area. In the fourth quarter no fishing activity occurred in the Irminger Sea, and the fleet activity concentrated in NAFO Div. 1F.

The length distribution in NAFO Div. 1F is similar to the one recorded in the NEAFC oceanic redfish fishery by the Spanish and German fleets in the upper 500 m layer.

Only 11 % of the females and 5 % of the redfish males caught in NAFO 1F were immature (juveniles). The majority of the adult females were sexually inactive, while 49 % of the adult males were at the fully ripe stage, so it could be a mating concentration.

**Introduction**

In early October 2000 an exploratory fishing for oceanic redfish have been conducted by one Spanish pelagic trawler in the NAFO Regulatory Area of Div. 1F. The existence of this resource was known after the Russian surveys and commercial fishery in this area, since the 80s (Anon 2000a). The pelagic ('oceanic') redfish, *S. mentella*, inhabits the central part of the North Atlantic (Rätz and Shibanov 2000) and is managed there by NEAFC as a single stock unit, though there are some uncertainties about the stock structure.

Besides the Russian (former USSR) surveys series started in 1980, there is a series of acoustic surveys which covered different parts of the oceanic redfish distribution area. The most recent one, conducted in 1999 covered the largest part of the stock distribution range. According to the results of this last survey the oceanic redfish stock straddles from ICES Div. XIV into NAFO Div. 1F (Rätz and Shibanov 2000). Also the redfish concentrations in NAFO area are reported to have a seasonal pattern of occurrence, in late summer and early fall (Anon. 2000a).

In this paper the results of the Spanish exploratory fishing and some stock biological parameters inferred from those catches are presented and compared with the ones in the Spanish NEAFC catches.

## Material and Methods

In 2000 six trawlers equipped with a 'Gloria' pelagic trawl (vertical opening of 90 – 120 m) have been fishing oceanic redfish in the Irminger Sea area (ICES Div. XII and XIVb) from April to August. Three scientific observer have been in the area during this period. Data on catches and discards, effort and positions haul by haul have been recorded by a scientific observer on board. Length distributions (total body length to the cm below) and other biological parameters have also been recorded.

The exploratory fishing in NAFO Div. 1F have been conducted by one pelagic trawlers in October. One scientific observer was on board this vessel during the whole fishing period, recording data as explained above.

## Results

The fishing activity of this vessel in Div. 1F has been very brief (less than one week) due to the poor results obtained. Apparently the vessel arrived to the area by the end of the redfish aggregation season there.

- Fishing effort, catches and CPUE.

The seasonal and geographic distribution pattern of the fishing effort in the Spanish oceanic redfish fishery is presented in Fig. 1. During the second quarter, the fleet operates in international waters of ICES Division XIV and depth of hauls is greater than 500 m. In the third quarter the fleet goes to the international waters of the ICES Division XII and works on depths less than 500m. A shift in the fleet activity towards the south and west is observed between the second and third quarter, approaching the vicinity of the NAFO Convention area. In the fourth quarter no fishing activity occurred in the Irminger Sea.

The unstandardized catch per unit effort are presented in Fig. 2. It can be observed that the catch rates obtained in NAFO Div. 1F are notably lower than the ones recorded in the Irminger Sea. Only five hauls have been made, in a total of 80 hours fishing. Fishing depth was between 400 and 460 m and the unstandardised mean CPUE was only 180 kg/h.

- Length composition of the catches.

The redfish length composition of the catches by sexes is presented in Fig. 3 and table 1. The most frequent length groups are 32 – 36 cm. This length distribution is similar to the one recorded in the NEAFC oceanic redfish fishery by the Spanish and German fleets (Anon. 2000b) in the upper 500 m layer.

- Other biological information.

Same as observed in the Russian oceanic redfish catches in Div. 1F (Anon. 2000), males were clearly dominant in the Spanish catches. In contrast, the proportion of sexes at similar depths was practically equal in NEAFC, at least in the Spanish catches. Only 11 % of the females and 5 % of the males caught in NAFO 1F were immature (juveniles). The majority of the adult females were sexually inactive, while 49 % of the adult males were at the fully ripe stage, so it could be a mating concentration.

## References

- Anon. (2000a).- Russian research and fishery for pelagic redfish (*Sebastes mentella*) in the NAFO Regulatory area (Div. 1F). *NAFO SC Working Paper* N° 00/37.
- Anon. (2000b).- Report of the north-western Working Group. *ICES CM 2000/ACFM:15*.
- Rätz, H.J and V. Shivanov (2000).- Information on stock structure and the geographic distribution of oceanic redfish (pelagic redfish fishery) in NEAFC and NAFO Regulatory Areas. *NAFO SC Working Paper* N° 00/44.

Tab. 1.- Length distribution by depth strata of the Spanish oceanic redfish (*Sebastes mentella*) catches in NAFO Div. 1F and ICES Div. XII-XIVb.

ICES Division XII-XIV			
0- 500 meters			
Length (cm)	%		Total
	Males	Females	
26	0.02	0.00	0.02
27	0.08	0.09	0.16
28	0.18	0.15	0.33
29	0.54	0.16	0.71
30	0.78	0.74	1.52
31	1.26	0.68	1.94
32	2.37	0.65	3.01
33	5.90	1.24	7.14
34	12.32	2.22	14.55
35	13.58	5.14	18.72
36	9.85	8.02	17.87
37	5.17	7.70	12.87
38	3.14	5.52	8.65
39	1.62	2.51	4.13
40	0.71	1.42	2.12
41	0.62	0.71	1.33
42	0.68	0.65	1.32
43	0.44	0.72	1.16
44	0.52	0.75	1.27
45	0.32	0.38	0.69
46	0.09	0.23	0.32
47	0.00	0.14	0.14
48	0.00	0.02	0.02
49			
50			
51			
Total	60	40	100
N° Fish Sampled	3470	2422	5892
N° Samples	35		

ICES Division XII-XIV					
500-1000 meters					
Length (cm)	%		Inder.	Total	
	Males	Females			
26	0	0			
27	0.01	0.04	0.00	0.05	
28	0.06	0.03	0.00	0.09	
29	0.08	0.09	0.00	0.17	
30	0.23	0.15	0.00	0.37	
31	0.22	0.27	0.00	0.49	
32	0.43	0.29	0.00	0.72	
33	0.66	0.57	0.01	1.24	
34	1.27	1.06	0.01	2.33	
35	1.68	1.83	0.01	3.52	
36	1.90	2.56	0.00	4.46	
37	2.52	2.90	0.00	5.42	
38	3.47	2.91	0.00	6.37	
39	5.52	2.97	0.00	8.49	
40	6.89	4.44	0.00	11.34	
41	6.28	5.14	0.00	11.43	
42	5.79	6.09	0.00	11.88	
43	4.99	6.43	0.00	11.43	
44	3.50	5.85	0.00	9.36	
45	1.77	4.15	0.00	5.93	
46	0.91	2.34	0.00	3.25	
47	0.19	0.99	0.00	1.18	
48	0.03	0.35	0.00	0.38	
49	0.01	0.07	0.00	0.08	
50	0.00	0.01	0.00	0.01	
51	0.00	0.00	0.00	0.00	
Total	48.43	51.54	0.02	100.00	
N° Fish Sampled	8790	9504	8	18302	
N° Samples	107				

NAFO 1F			
0-500 meters			
Length (cm)	%		Total
	Males	Females	
26	0.00	0.32	0.32
27	0.00	0.00	0.00
28	0.32	0.46	0.78
29	0.32	0.00	0.32
30	0.78	0.32	1.10
31	1.70	0.08	1.78
32	8.77	1.56	10.33
33	11.28	1.24	12.52
34	14.38	4.28	18.67
35	11.47	7.14	18.61
36	8.99	9.07	18.06
37	4.41	5.31	9.72
38	1.44	3.78	5.22
39	0.52	1.84	2.36
40	0.00	0.14	0.14
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
Total	64	36	100
N° Fish Sampled	268	133	401
N° Samples	4		

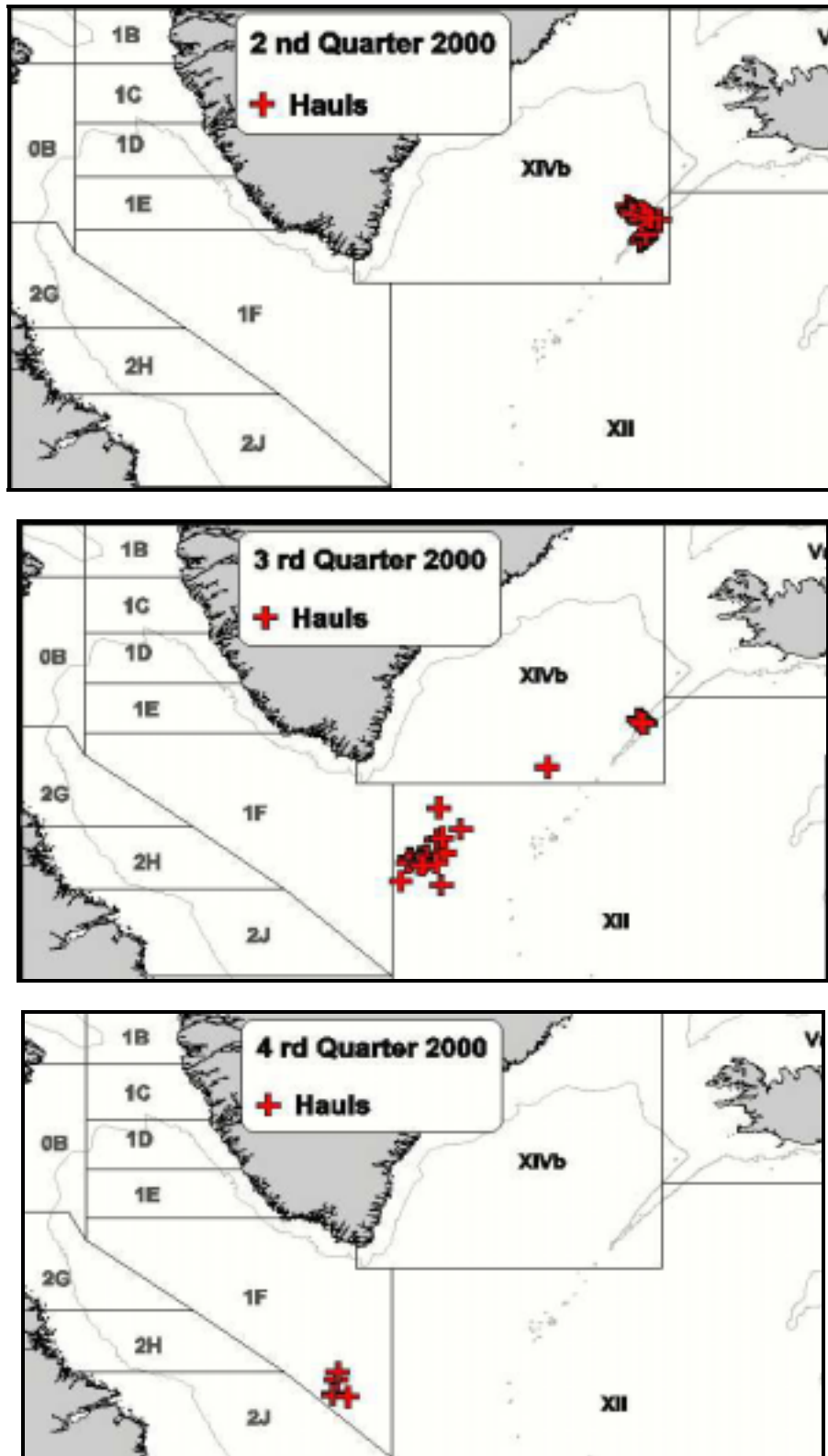


Fig. 1.- Fishing effort distribution by quarter in the Spanish oceanic redfish fishery in 2000.

	XII	XIVb	1F
CPUE (KG./hour)	814	1273	181
Hauls Observed	30	131	5

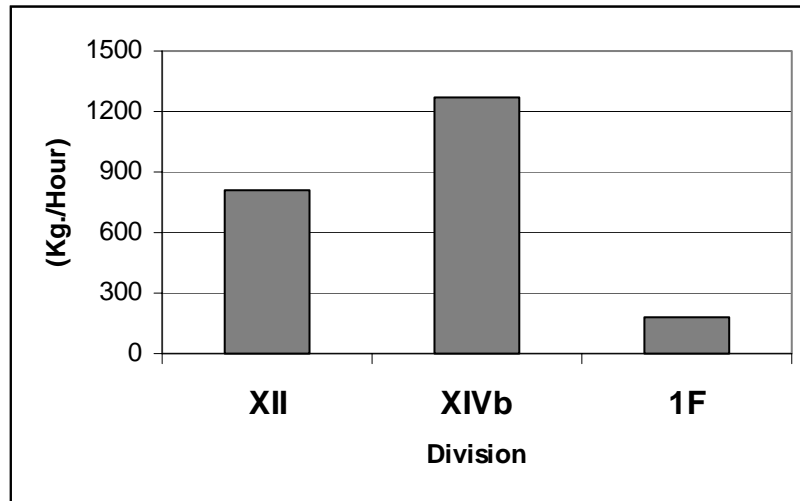


Fig. 2- Unstandardized catch per unit effort in the Spanish oceanic redfish in 2000.

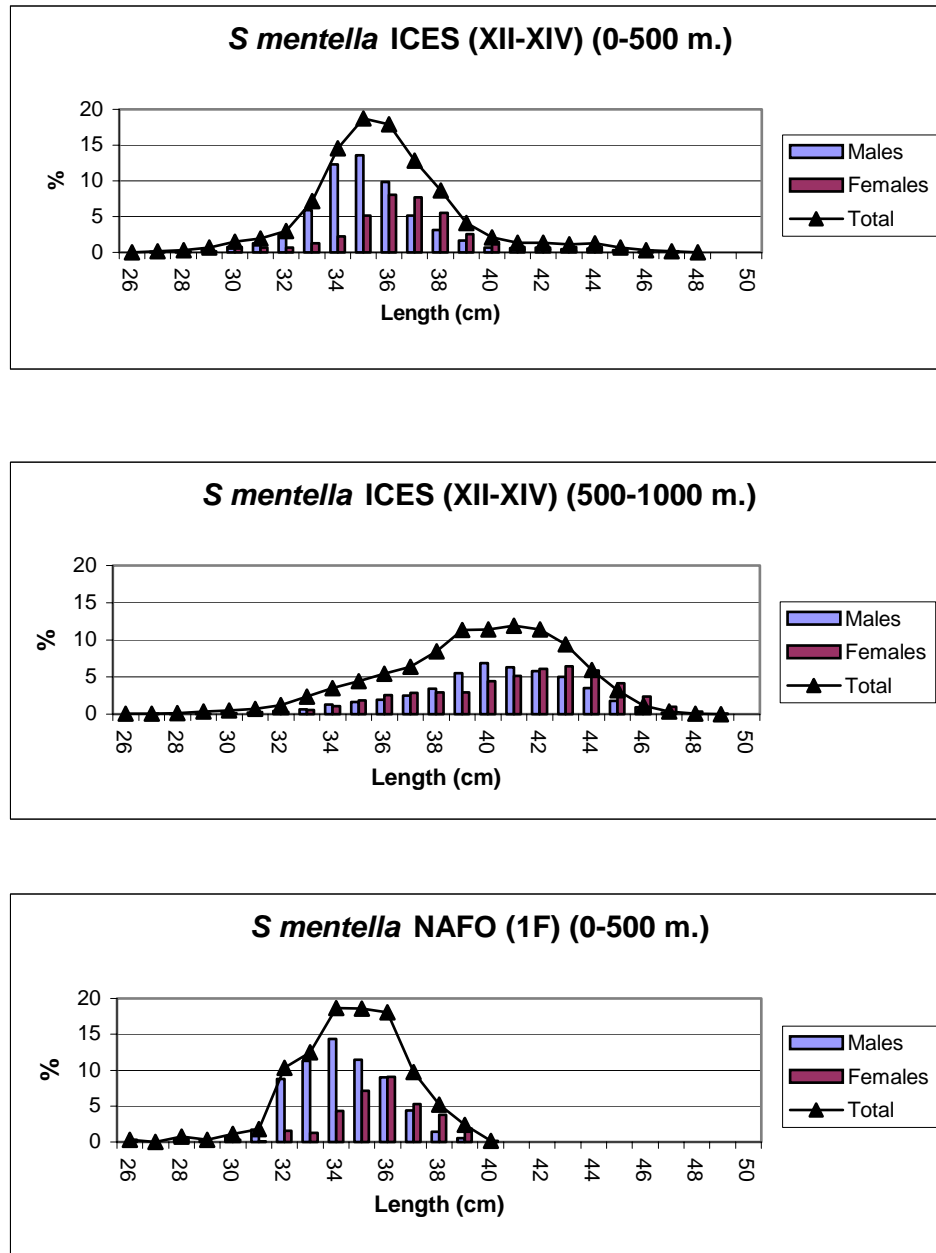


Fig. 3.- Length distribution by depth strata of the Spanish redfish (*Sebastes mentella*) catches in NAFO Div. 1F and ICES Div. XII-XIVb.