



# Distribution of Juveniles of Anglerfish Caught by Spanish Trawl fishery in Northeast Atlantic Areas



Pérez N.\*, P. Díaz\*, J.M. Bellido\*\*, I. González Herraiz\*\*\*, and J. Ruiz \*\*\*

ICES CM 2007/ K-30

\* Instituto Español de Oceanografía. Centro Oceanográfico de Vigo. Cabo Estay, s/n. 36280 Vigo (Pontevedra). Spain

\*\* Instituto Español de Oceanografía. Centro Oceanográfico de Murcia. Varadero, 1. 30740 San Pedro del Pinatar (Murcia). Spain

\*\*\*AZTI - Tecnalia - Marine Research Division. Txaxarramendi Ugarte, z/g. 48395 Sukarrieta (Bizkaia). Spain

## INTRODUCTION & METHODS

Information on Anglerfish juveniles comes from "Spanish Discard Sampling Programme" carried in the North-eastern Atlantic. Onboard Sampling started in 1988, although in some cases it lacked continuity from year to year. The sampling level has varied along the time series stabilised since 2003 (Table 1), when the "Community Sampling Fishery Programme" was completely implemented in Spain. Observers are instructed to make a random sampling.

Information for three Bottom Otter Trawl (OTB) fisheries operating in different areas are represented in the figures. The former area is Rockall (ICES Subarea VI) and West of Ireland (VII). The second is Bay of Biscay (VIIIabd). The latter is the Northwest Spain and Cantabrian Sea (ICES Divisions VIIIc, IXa).

Anglerfish juveniles are considered as individuals smaller than 500 g, according with The Council Regulation (2406/96), that set up this minimum landing weight for anglerfish species.

Information is shown as locations of total number of juveniles of Anglerfish by fishing haul. Points with zero as value represent hauls where the fleet has been operated but not juveniles have been caught in. Results have been analysed by decades in order to compare possible differences along the sampled period.

## SUMMARY

The Spatial distribution of Anglerfish juveniles from discard program on board commercial vessels and possible differences along the time series is studied.

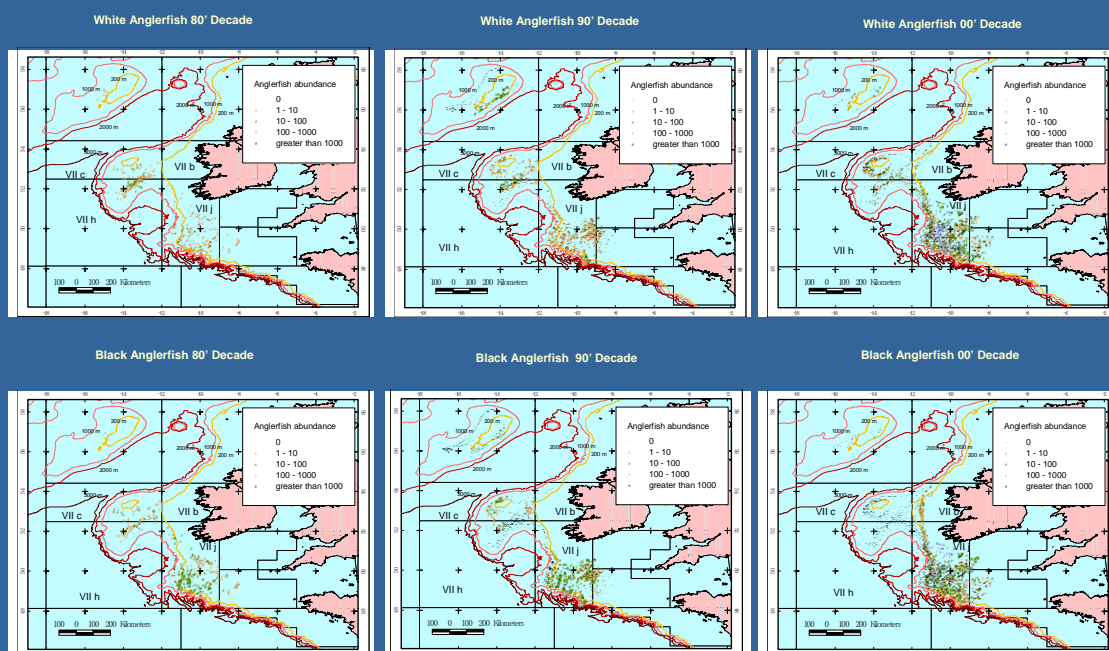
Data are presented on a base of different fisheries by the two anglerfish species (*L. piscatorius* and *L. budegassa*)

	Sub-area VI - VII										Divisions VIIIab			
	1988	1989	1994	1999	2000	2003	2004	2005	2006	2006	2003	2004	2005	2006
Trips	14	8	20	6	14	9	11	10	13	6	4	11	10	
Hauls	371	236	703	230	388	370	400	337	377	96	104	264	219	

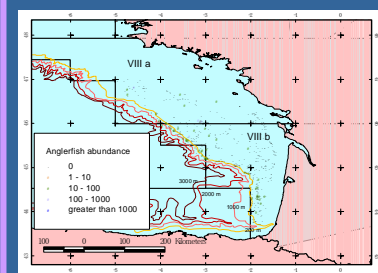
  

	Divisions VIIIc - IXa								
	1993	1994	1997	1999	2000	2003	2004	2005	2006
Trips	4	68	99	64	126	46	33	71	68
Hauls	9	468	480	268	444	167	178	268	213

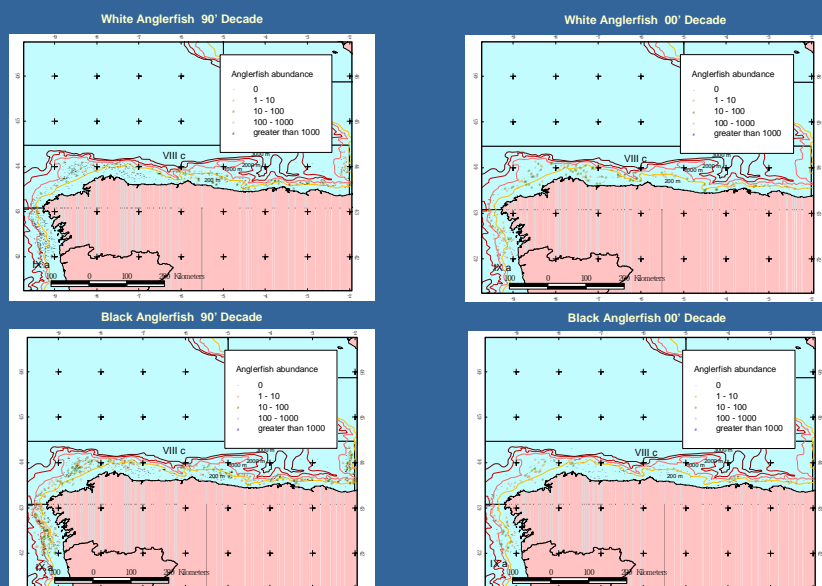
### ICES Subareas VI, VII



### ICES Divisions VIIIabd



### ICES Divisions VIIIc, IXa



## CONCLUSIONS

Information from observers on board on total catch distribution of juveniles for both Anglerfish species is shown. In Sub-area VII both Spanish métiers operating in the area (targeting megrim and targeting hake) catch juveniles of both Anglerfish species. Only OTB mixed fishery catch Anglerfish in Divisions VIIIc and IXa.

Differences in Anglerfish distribution along the period is observed, probably related with strong increase in abundance of juveniles in the last decade.

In Sub-area VII an increase of juveniles number along decades is observed, specially in White Anglerfish. This increase is even sharper in Division VIIj. Abundance of Black Anglerfish has decreased in Division VIIc. Opposite an increase of juveniles is observed in Division VIIb.

Regarding Divisions VIIIa,b juveniles are concentrated in deeper waters.

In Divisions VIIIc and IXa juveniles of both species are distributed all along the coast, nevertheless are more concentrated in West of Division VIIIc and in Divisions IXa in last decade. A decrease in Division VIIIc East in last decade is observed. A high decrease of Black Anglerfish juveniles in Division VIIIc is observed in last decade.

## Acknowledgements

The authors thank the stakeholders and fishermen their collaboration and so valuable contribution to the fishing monitoring project.