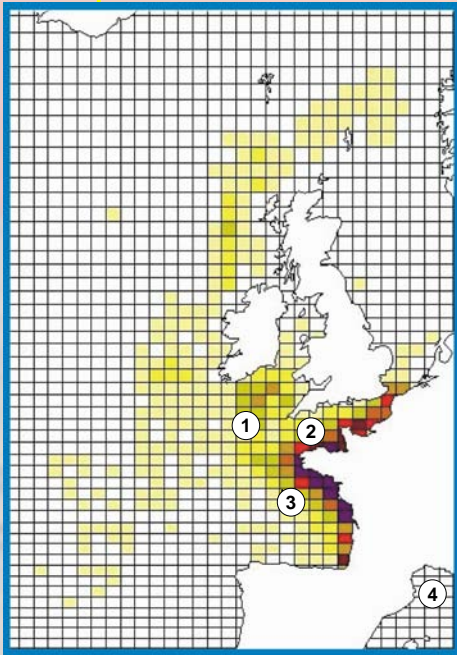


# The French experience in sampling discards at sea in the European waters - CM 2006/K:27

Alain Tétard\*, Olivier Gaudou\*\*, Patrick Lespagnol\*\*, Yvon Morizur\*\*\*, Isabelle Peronnet\*\*, Marie-Joëlle Rochet\*\*\*\* and Joël Vigneau\*

\* Ifremer avenue du Général de Gaulle BP 32 - 14520 Port-en-Bessin, \*\* Ifremer rue François Toulliec - 6100 Lorient, \*\*\* Ifremer Technopole de Brest-Iroise BP 70 - 29280 Plouzané, \*\*\*\* Ifremer rue de l'Île d'Yeu BP 21105 - 44311 Nantes Cedex 03

## French historical studies before DCR (Data Collection Regulation)



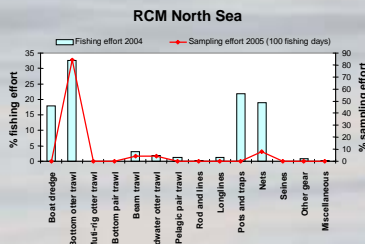
Relative distribution of French fishing effort per ICES rectangle - source SIH.

- 1. An analysis of discards from the French trawler fleet in the Celtic Sea during the 80's and 90's:**  
Sampling operations were carried out in 1984 and 1991 by the mean of "self-sampling" and, in 1997, by onboard observers (400 days at sea). The major objectives of the 1997 study were (i) the estimation of the total discarded biomass, (ii) the estimation of discards length and age structure for stocks assessed by WG, (iii) the optimization of the sampling schemes and (iv) the search of appropriate prediction factors capable of completing data for non-sampled years (Rochet M.-J. *et al.*, 2002).
- 2. Discards in the French artisanal fleets operating in the West English Channel (1992-93):**  
This study covered a one year period using onboard observers (117 days at sea). The aim was to sample "métiers" known for their discarding side effects: fixed netting, inshore and offshore trawling. The objectives were (i) the collection of information on the demographic structure of the catches for the main exploited species and (ii) the identification of factors explaining discards, in order to find relevant management measures (Morizur Y. *et al.*, 1996).
- 3. By-catch and discarding in pelagic trawl fisheries (1994-95):**  
The French contribution on an EC study (100 days at sea) concerned trawl fishery targeting: anchovies, pilchards, horse mackerels, hakes, tunas, black brems and bass. The objectives included both the estimation of incidental mammal catch and length composition of discards and landings (EC Study Contract 93/017).
- 4. Collection and management of data for the assessment of the Spanish and French Mediterranean fisheries, Meda2001:**  
The objective of this EC study was to improve the national data collection programmes of Spain and France in the Mediterranean by combining all the information and assess which were the main fishing activities to sample onboard. In this context, a test program was developed with observers onboard fishing vessels together with a sampling of the French trawl fleet fishery in the Gulf of Lion (19 daily trips during 2001) (EC Study Contract 00/21).

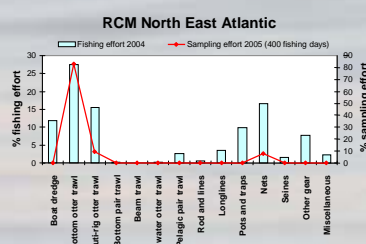
## Since DCR

A pilot study carried out in 2002 focused on the major "métiers" known to be prone to discarding. Eventually, the French sampling scheme highlights focused on all the "métiers" using trawls and nets, avoiding those operating with dredges, hooks and lines, and traps. The graphs below compare French relative fishing and sampling effort, both expressed as "fishing days", by RCM Regions. Sampling in the North Sea and in the North East Atlantic were carried out on a routine basis, whereas in the Mediterranean sea, it was performed in a 3 years period.

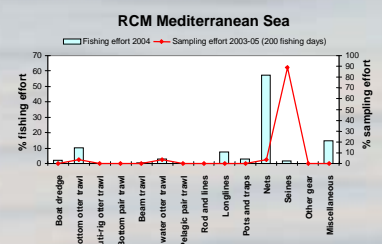
In a general overview, these graphs show that trawling is voluntarily "over" sampled compared to netting. One important point to be kept in mind is that the fishing activities are, in reality, much more diversified than displayed here below, and that the search of similar discarding behaviour must be considered on a regional scale in order to optimize the sampling stratification and to avoid bias.



RCM North Sea



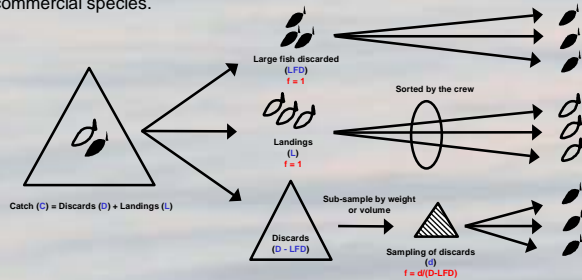
RCM North East Atlantic



RCM Mediterranean Sea

## Methodology

During the trip, the sampling rate mostly varied from 50 to 70% of the total number of fishing operations (FO). Discards and landings were both observed and all species were taken into account with a special care to the main commercial species.



## References:

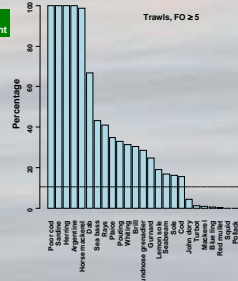
- Rochet, M.-J., I. Péronnet, et al. (2002). "An analysis of discards from the French trawler fleet in the Celtic Sea." *ICES Journal of Marine Science* 59(3): 538 - 552.
- Morizur, Y., S. Pouvreau, et al. (1996). Les rejets dans la pêche artisanale française de Manche occidentale.
- Morizur, Y., N. Tregenza, et al. (1996). By-catch and Discarding in Pelagic Trawl Fisheries. 213 p
- Anon. (2001). Collection and management of data for the assessment of the Spanish and French Mediterranean fisheries. Meda2001, EC Study Contract 00/21: 67 p.

## Some results

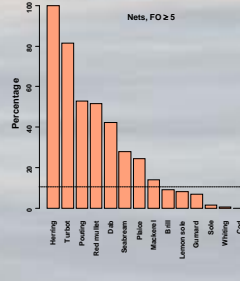
The graphs below summarize the discard ratio by weight and class of gear for the main species in 2005 for the North Sea and North East Atlantic Regions. Our first observation : **species diversity is the highest in trawls and in the Atlantic region.** (The 10% threshold line simulates the exemption rule in the EU Reg. 1584/2004 for sampling length and age).

These graphs are only indicative. Discard ratios actually depend on the precise fishing activities inside each class of gear, and the sampling design operated here is not fully proportional to these fishing activities, introducing some unknown bias.

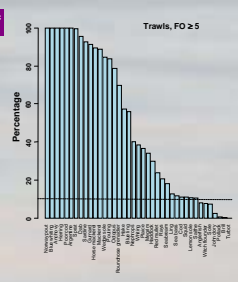
RCM North Sea discards ratio by weight



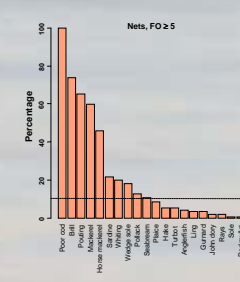
Nets, FO ≥ 5



RCM North East Atlantic discards ratio by weight



Nets, FO ≥ 5



www.ifremer.fr

Ifremer