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***How can we improve the exploitation
pattern of the Mediterranean fisheries?***

Fabio Fiorentino

Institute for Coastal Marine Environment (IAMC)

Italian National Research Council (CNR)

...fisheries sector in Mediterranean is undergoing a deep crisis, whose main causes are:

- the overfishing of main demersal stocks;
- the climate change and the environment degradation;
- the oldness of fleet and the high energetic consumption,
- **the inadequacy of the catch processes and their poor selectivity;**
- the inappropriateness of preservation, processing and marketing of fish products;
- the difficulties in an effective management in all phases of fisheries sector, from net to table .

One of the main challenges of the European Fisheries, mainly in the Mediterranean is to improve the exploitation patterns of fisheries.....

In order to avoid the capture of juveniles main activities should be focused to:

- increase the mesh size;**
- establish temporary bans in recruitment areas;**
- introduce escape route systems in cod-end mesh (grids and other) of trawl nets.**

.....from EFTP WG 1 on Sustainability and Management

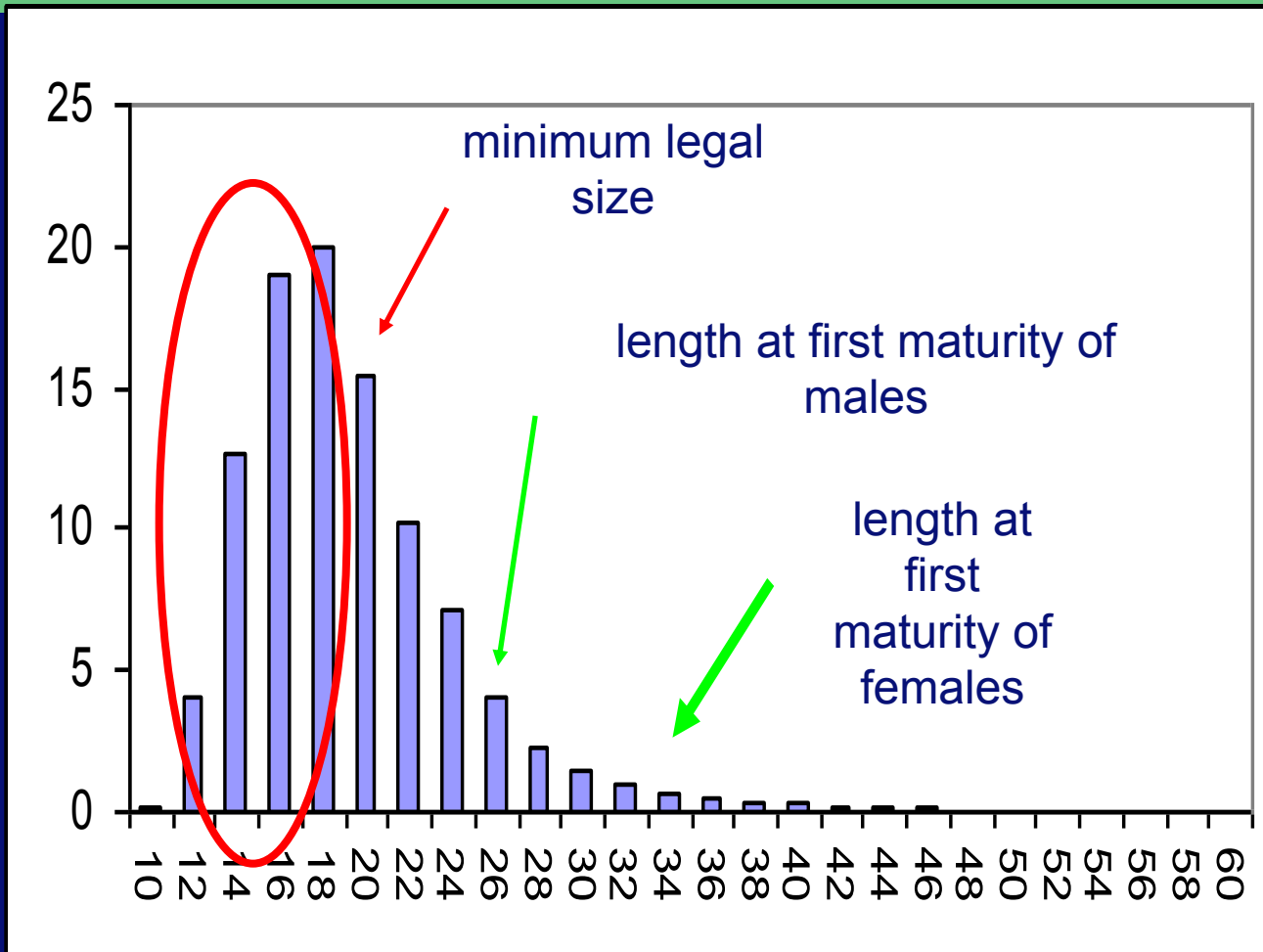
Some general aspects of demersal fisheries in the Mediterranean

The Mediterranean fisheries is typically multi specific and multi gears...Mesh size at cod end of the towed nets is a compromise to catch several species of fish, crustaceans and cephalopods

The existing minimum mesh size is not reliable for fish that reach large size such as hake, anglerfish, sharks and skate

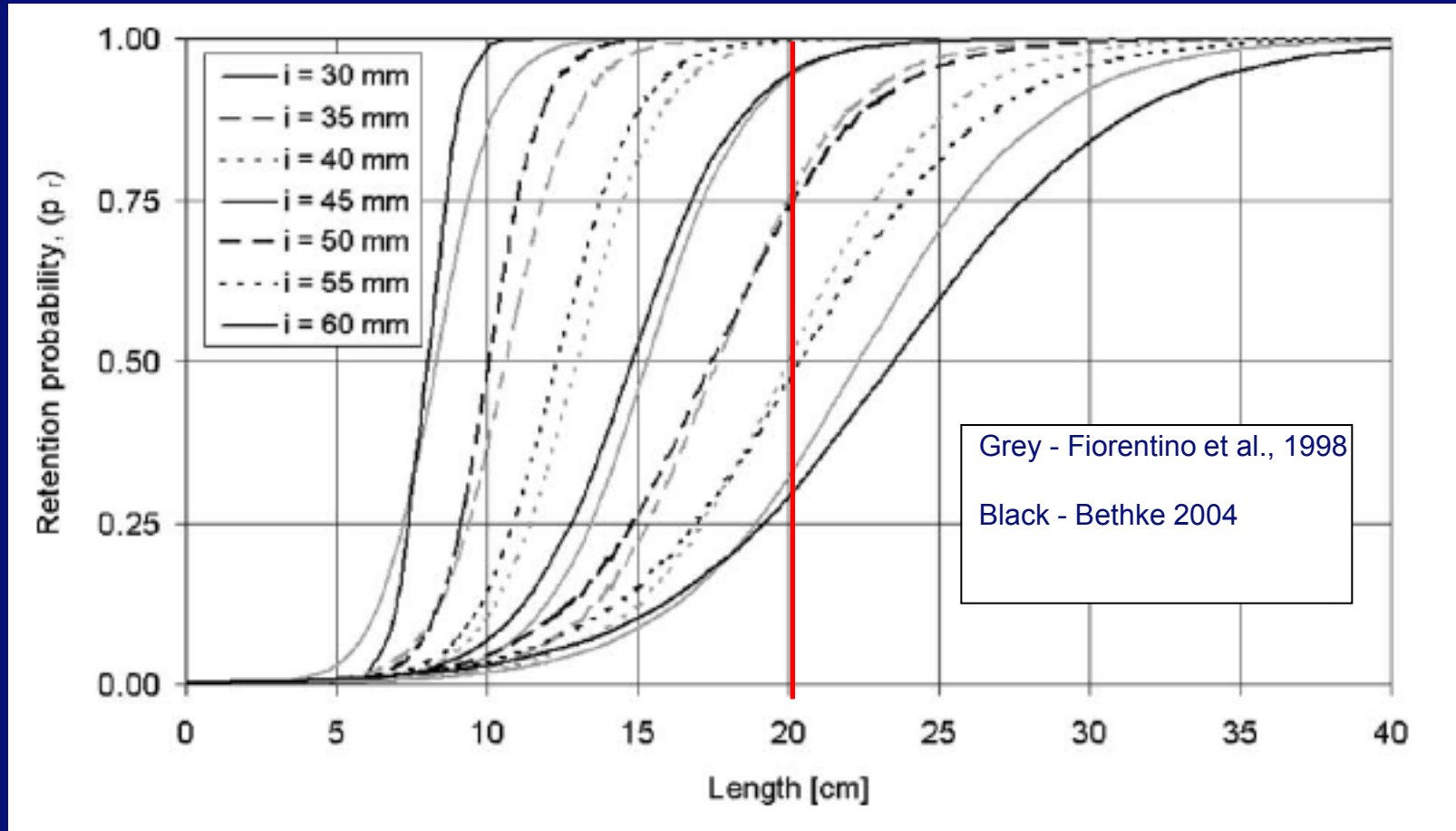
The adoption of new minimum mesh size larger than the 40mm square or 50mm diamond implies stopping catch of deep water shrimp, cephalopods and small size species of fish that is one of the main features of Mediterranean fisheries

.... the selectivity of Mediterranean trawlers is not enough to avoid catch of undersized specimens of species reaching large size



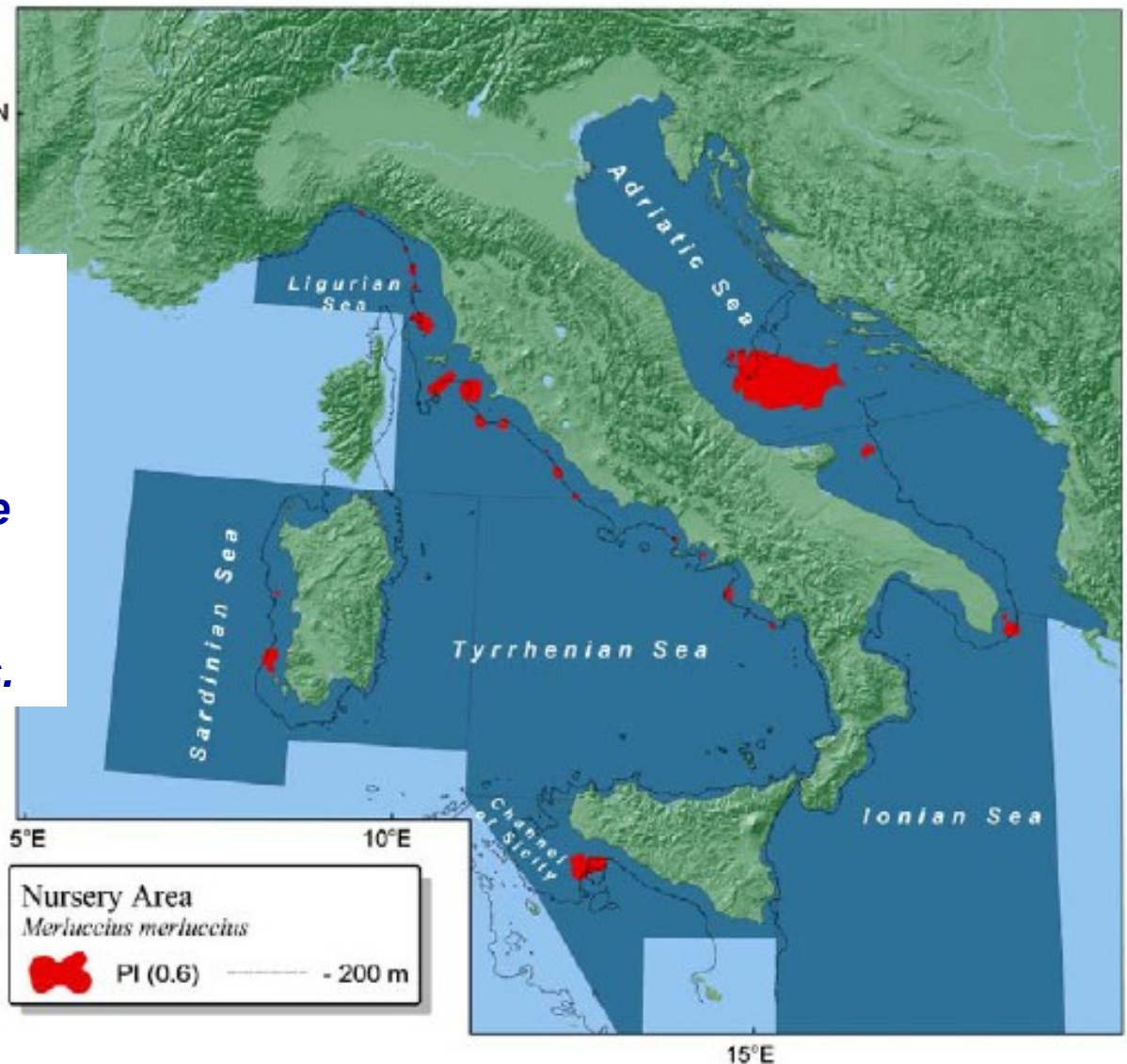
A typical length structure of hake catches in the Mediterranean trawlers with 40 mm diamond mesh

...the selectivity of Mediterranean trawl net for hake...



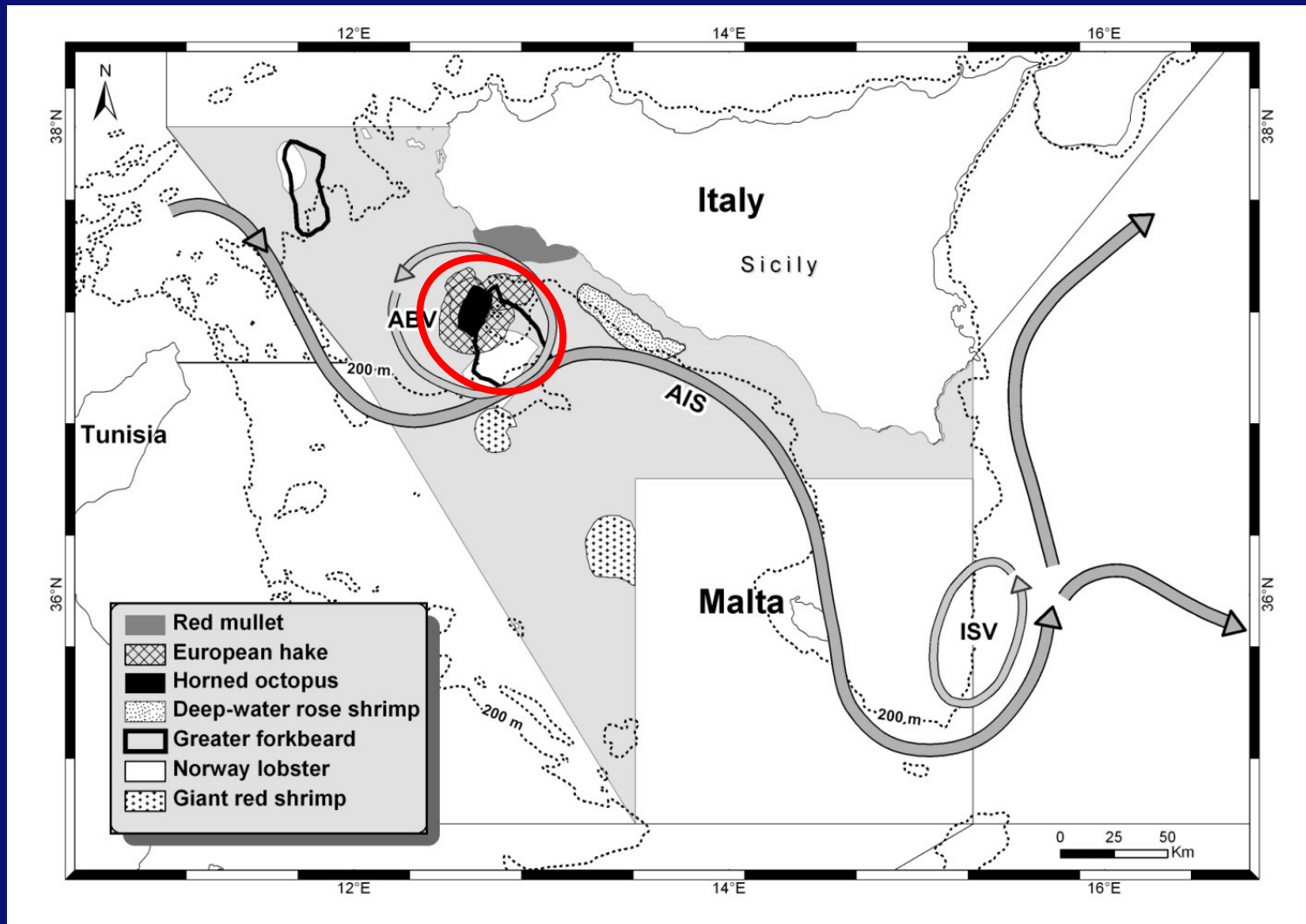
(From Bethke, 2004)

Main nurseries of hake off the Italian coasts.
Nurseries in the Adriatic Sea and the Strait of Sicily are located in international waters.



From Murenu et al., 2010

A synoptic view of nurseries of main groundfish in the Strait of Sicily



From Garofalo et al., 2011

...what could we do to improve the exploitation pattern of Mediterranean demersal fisheries?

- 1) An improvement of exploitation pattern of large size species, similar to an increase of mesh size, could be obtained adopting area and time closures targeted to postpone the size at first catch of species for which the current minimum mesh size is not adequate.
- 2) In case of species with continuous recruitment and wide nurseries, improvement in the exploitation pattern could be obtained limiting trawling in nurseries to gears with selectivity properties higher the standard ones (grids and others)
- 3) The technological progress of VMS allows making reliable the enforcement of fishery closures in offshore waters to protect nursery areas.