



# Introduction

- 512 km, 6 big ports, 86 sites of artisanal fisheries (social and economical interest)



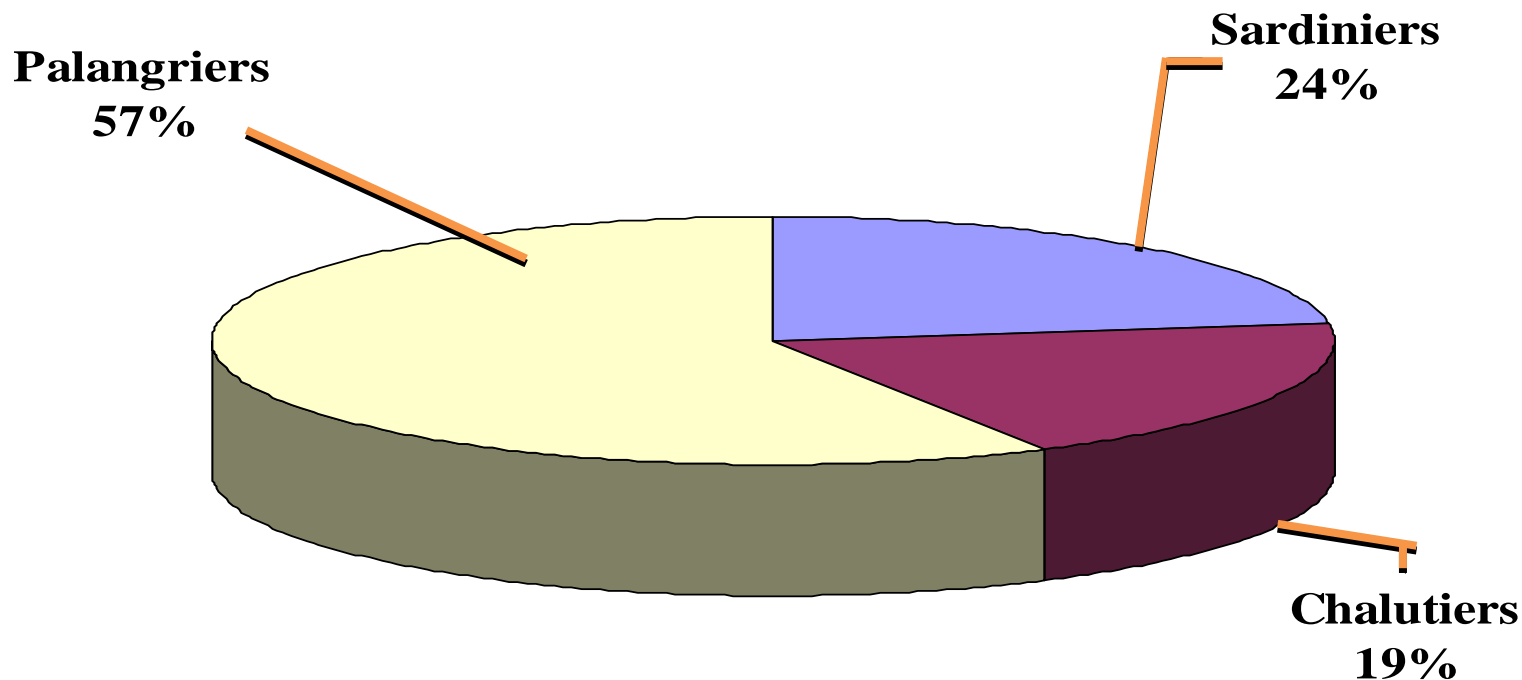
# Fisheries

■ In 2009 : 230 longliners, 114 trawlers, 150 senners, 2550 artisanal boats,

■ Catches of Demersal species:

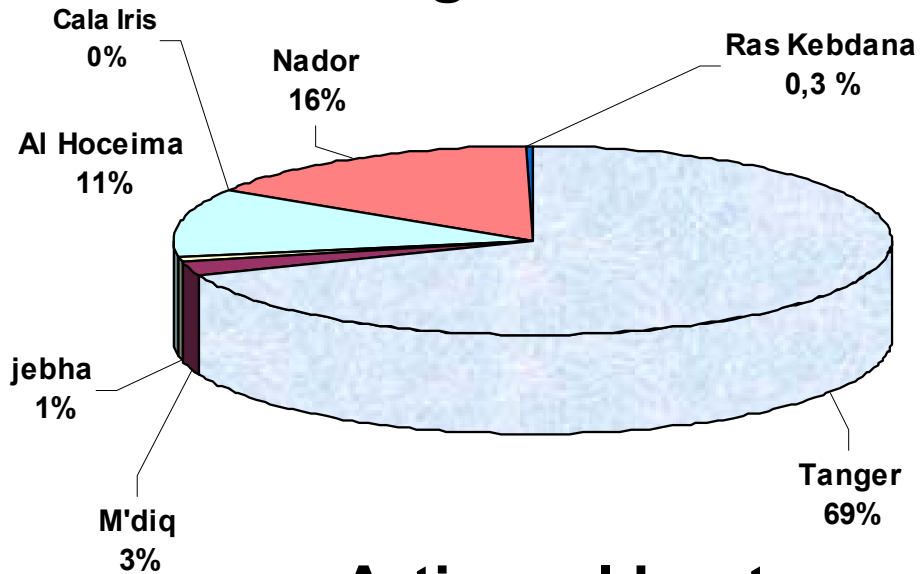
≈ 10000 tonnes (2007 et 2009),

≈ 11000 tonnes (2008) : 3 % in weight , 6 % in value,

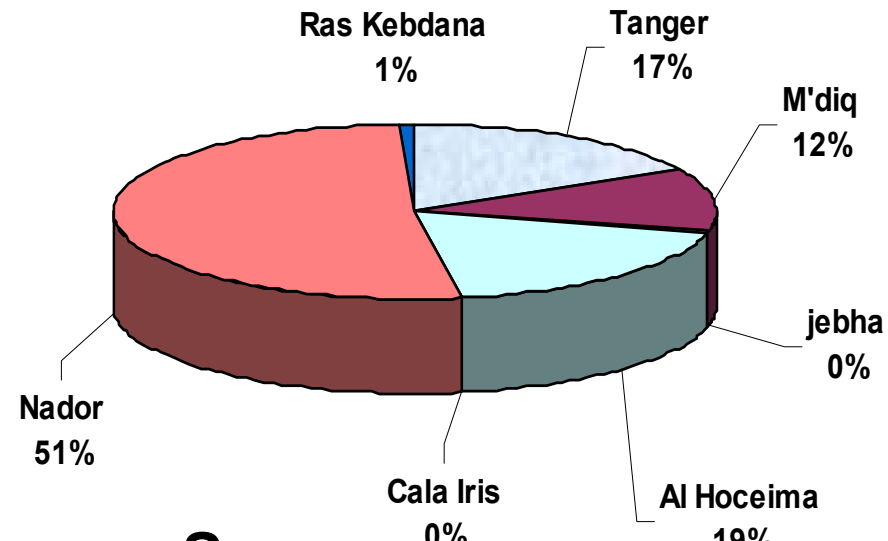


# Fisheries

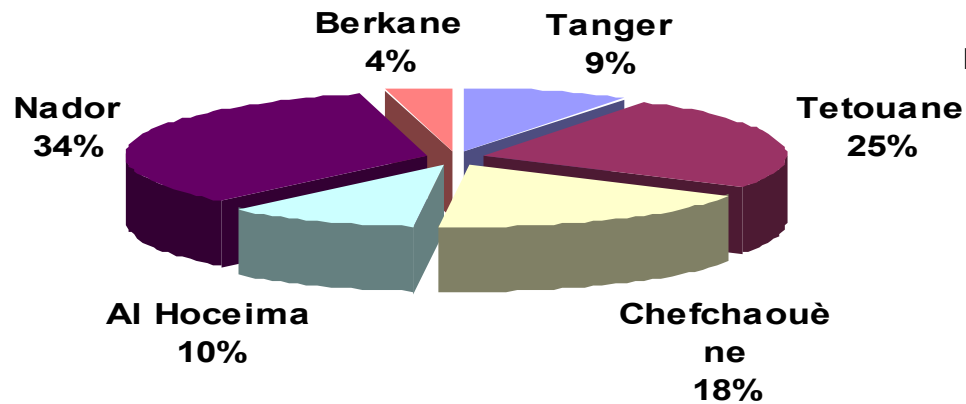
## Longliners



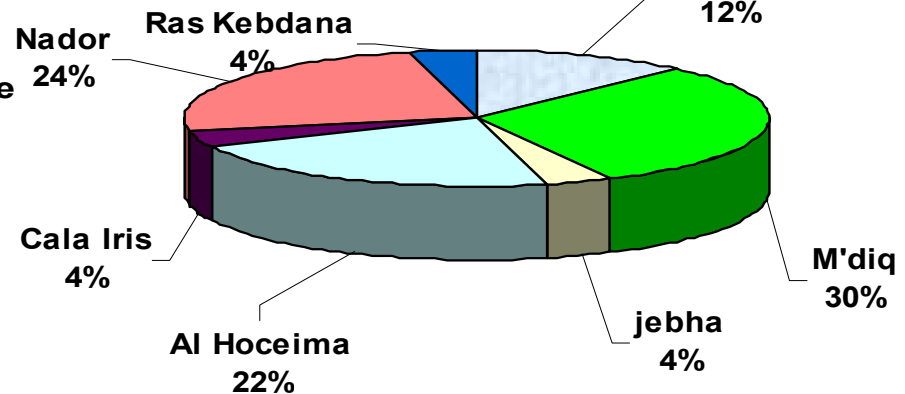
## Trawlers



## Artisanal boats



## Senners

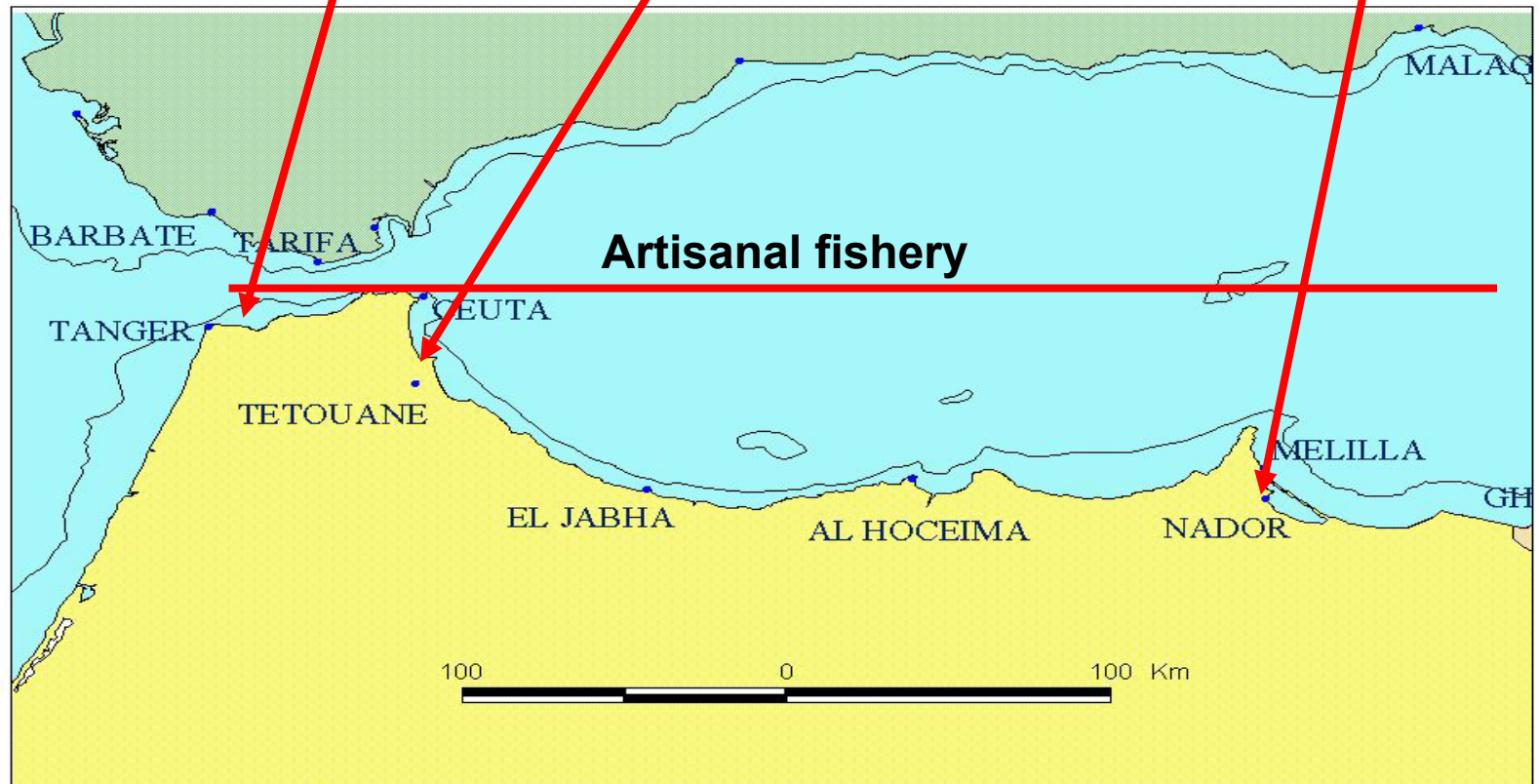


# Fisheries

Tangier port  
Longliners : 69%

M'diq port  
senners : 30%

Nador port  
Trawlers : 51%



# *Fisheries : Characteristics of Fishing boats*

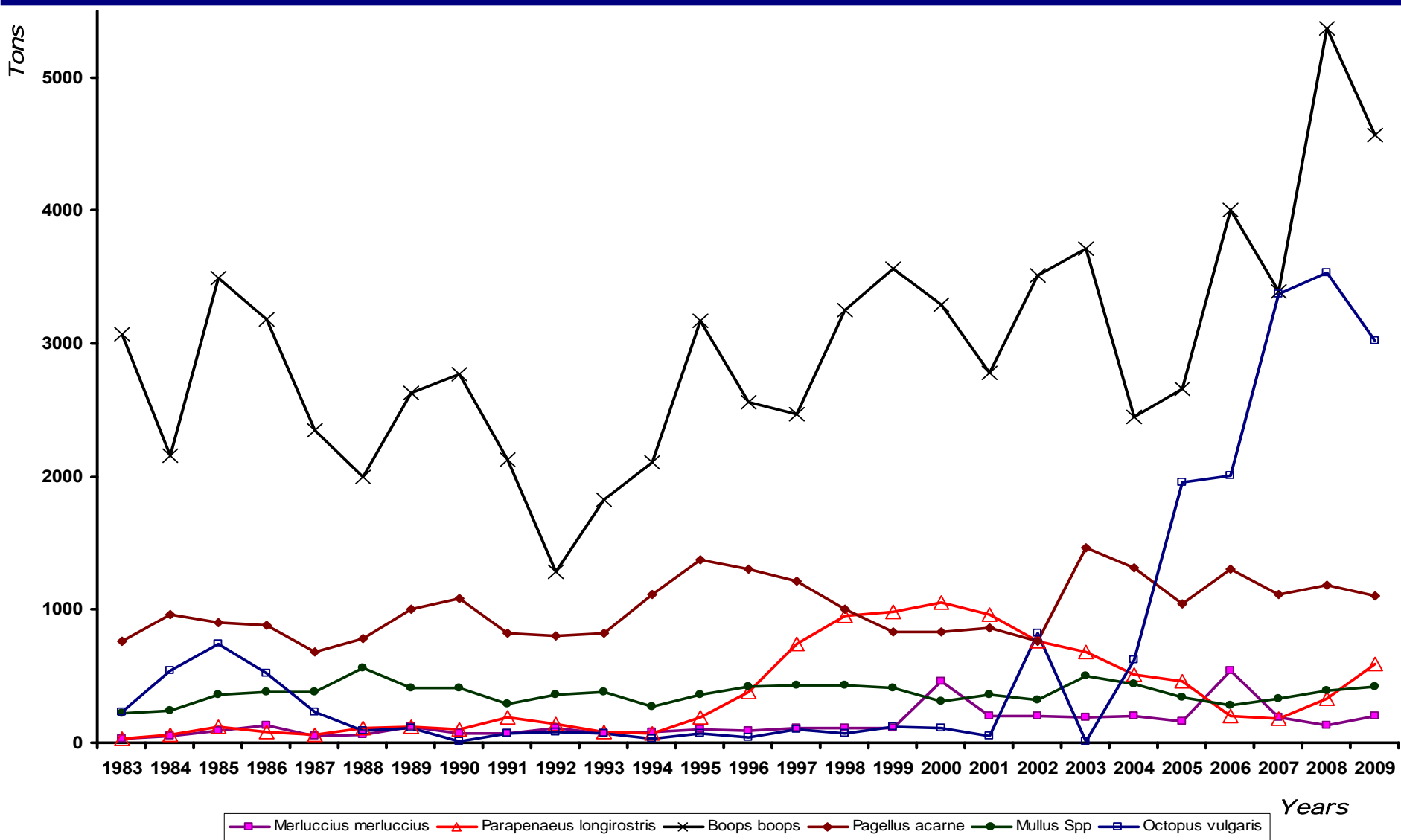
- **Longliners : 160 CV, 20 TJB; L = 14m, many fishing gears (GN, Hooks, Trammelnets, Traps);**
- **Trawlers : 230 CV, 50 TJB; L = 18m, Local Trawls (Spanish);**
- **Artisanal boats : 15 CV,  $\leq 2$  TJB, L = 4-6m, many fishing gears (GN, Hooks, Trammelnets, Traps);**
- **Senners : 330 CV, 50 TJB, L = 20m, surrounding net.**

# Demersal Fishery : Coastal

- Many fishing gears, Multispecific Fishery.

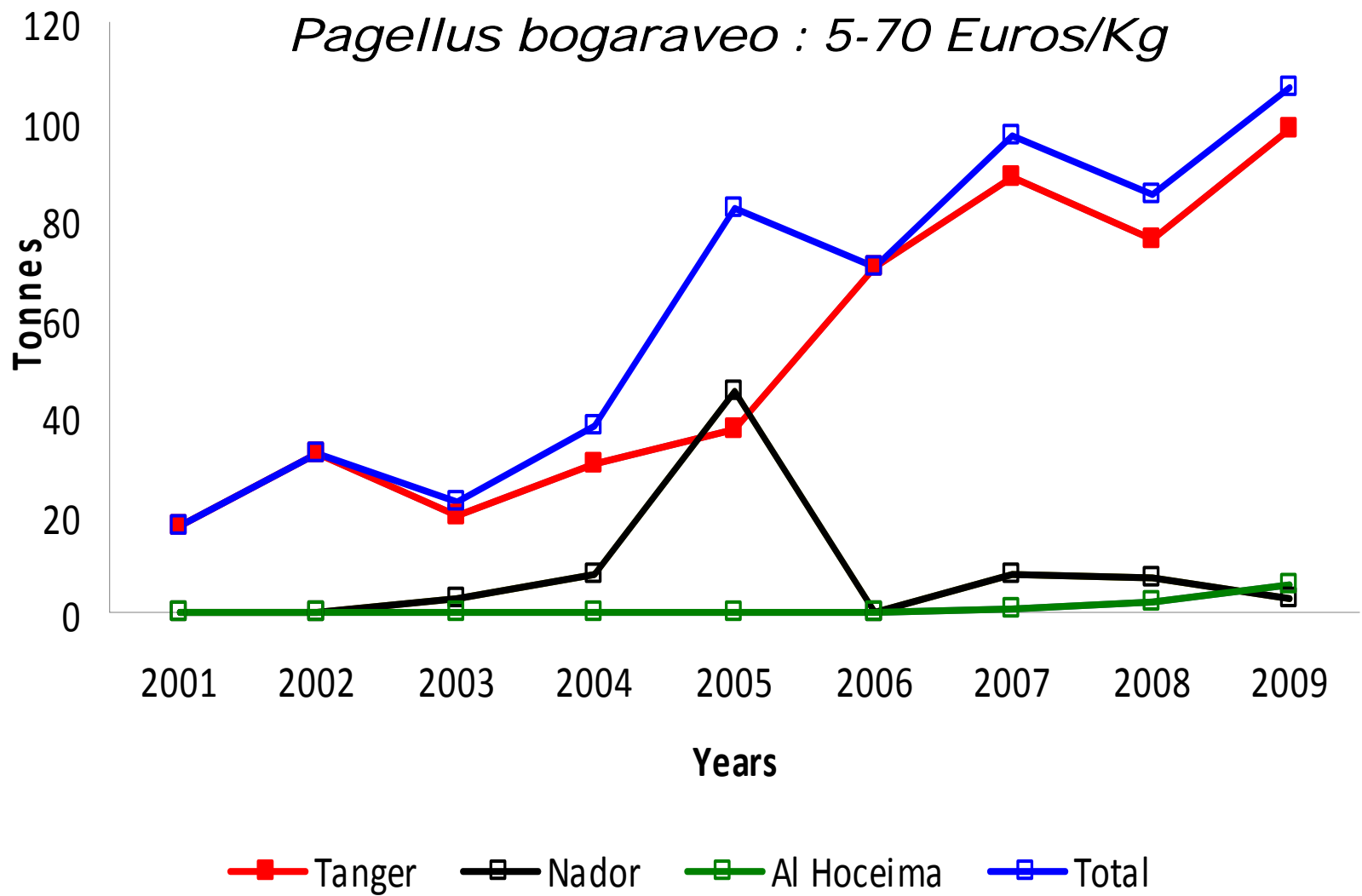


# Demersal Fishery : Catches (Tons)



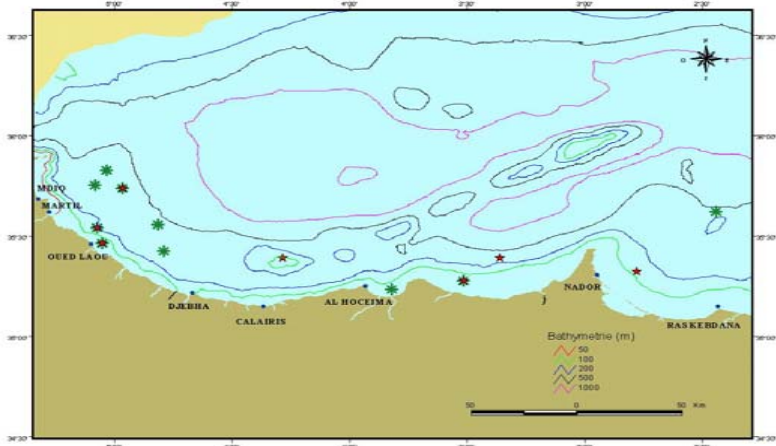
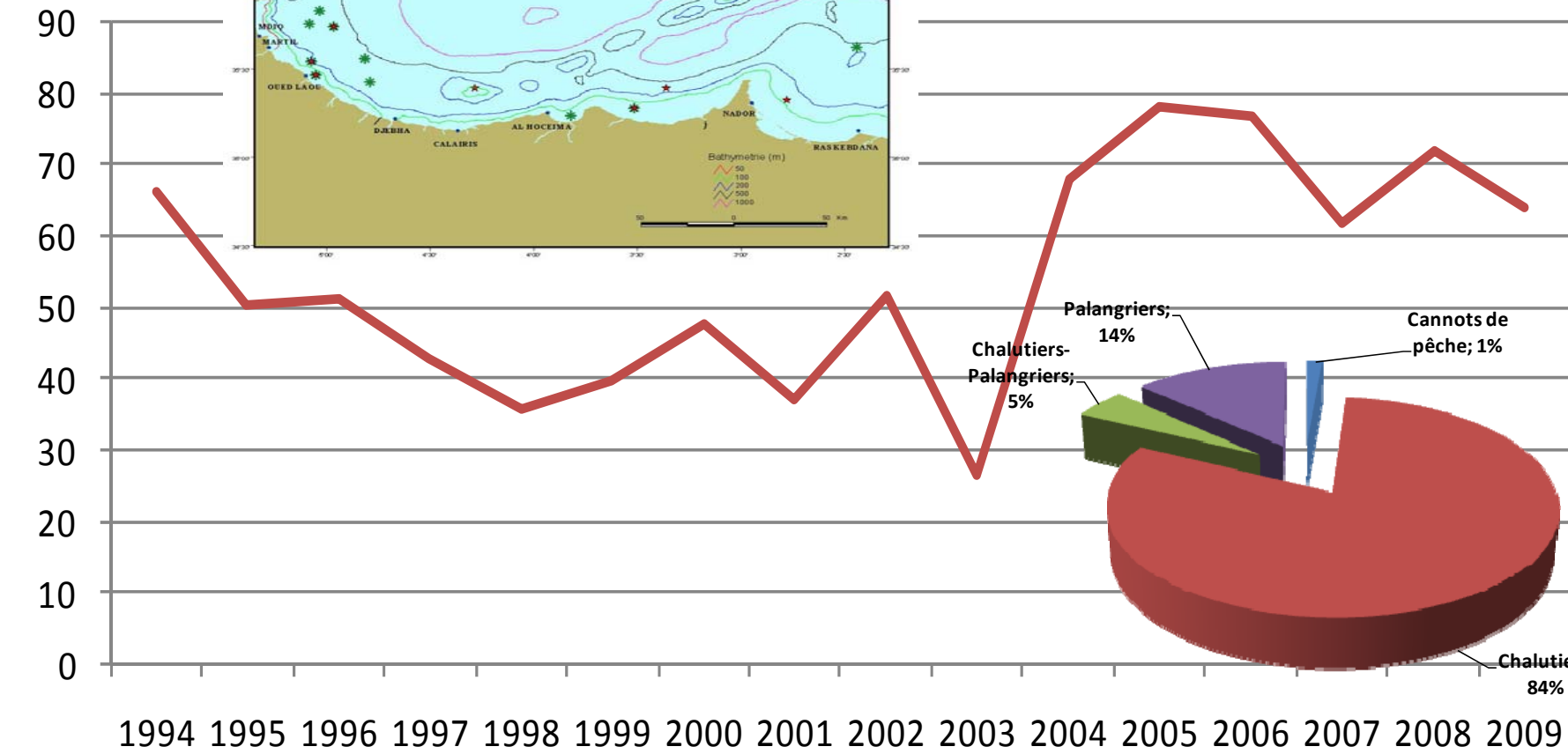


# Demersal Fishery : Catches

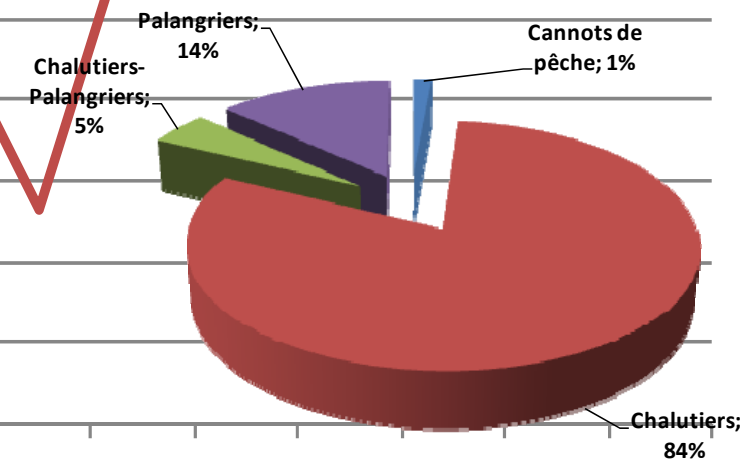


# Demersal Fishery : Catches (Tons)

Tons



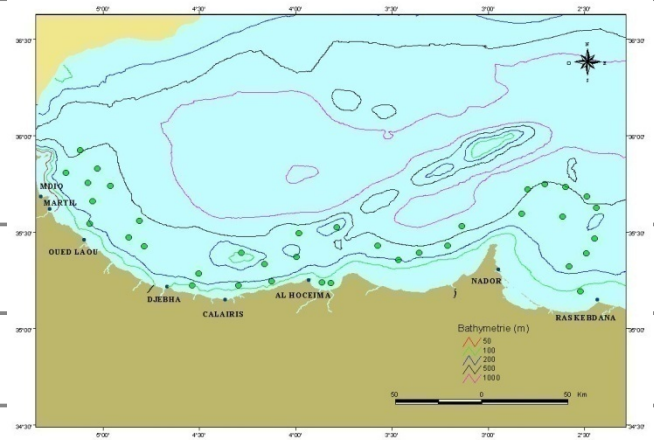
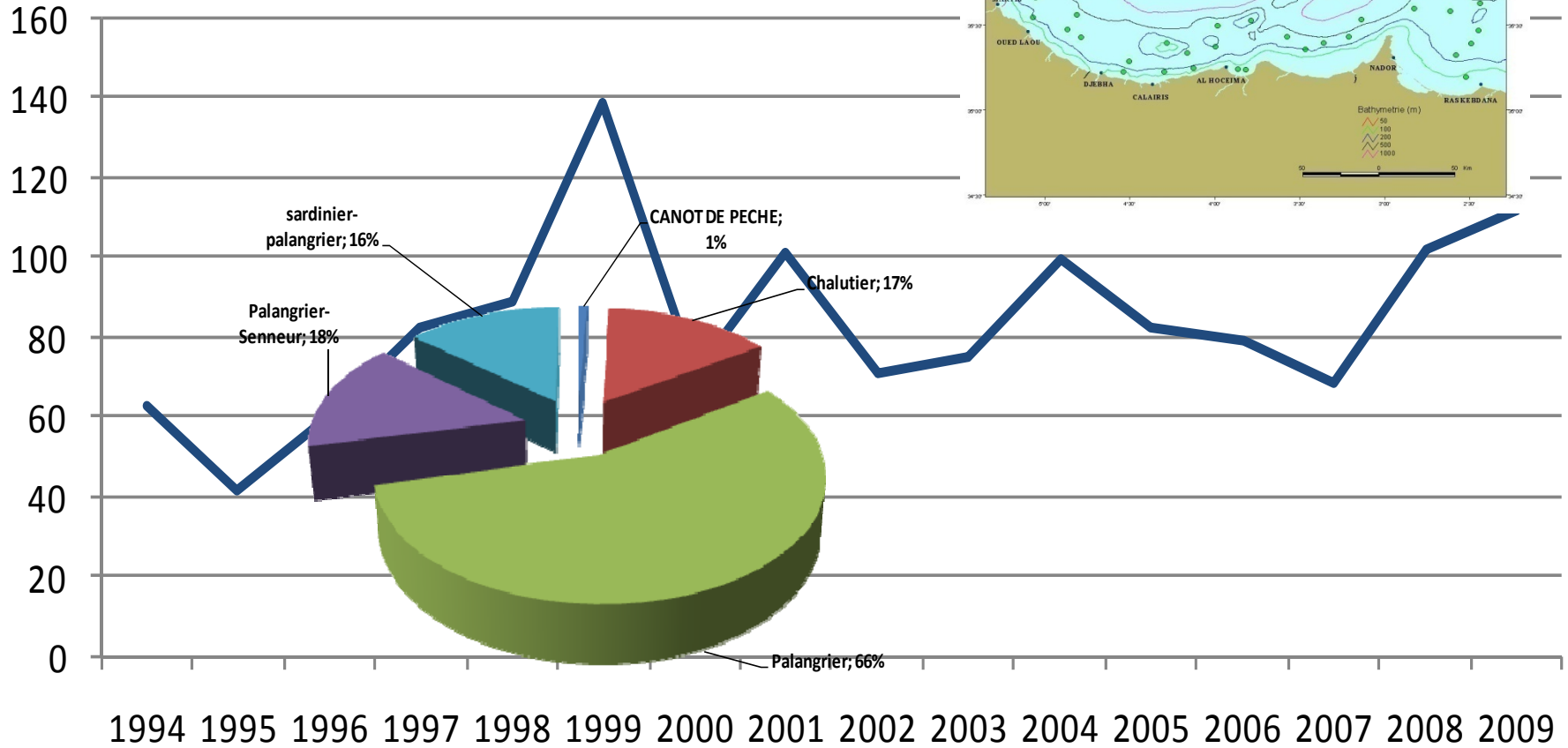
*Rajidae*



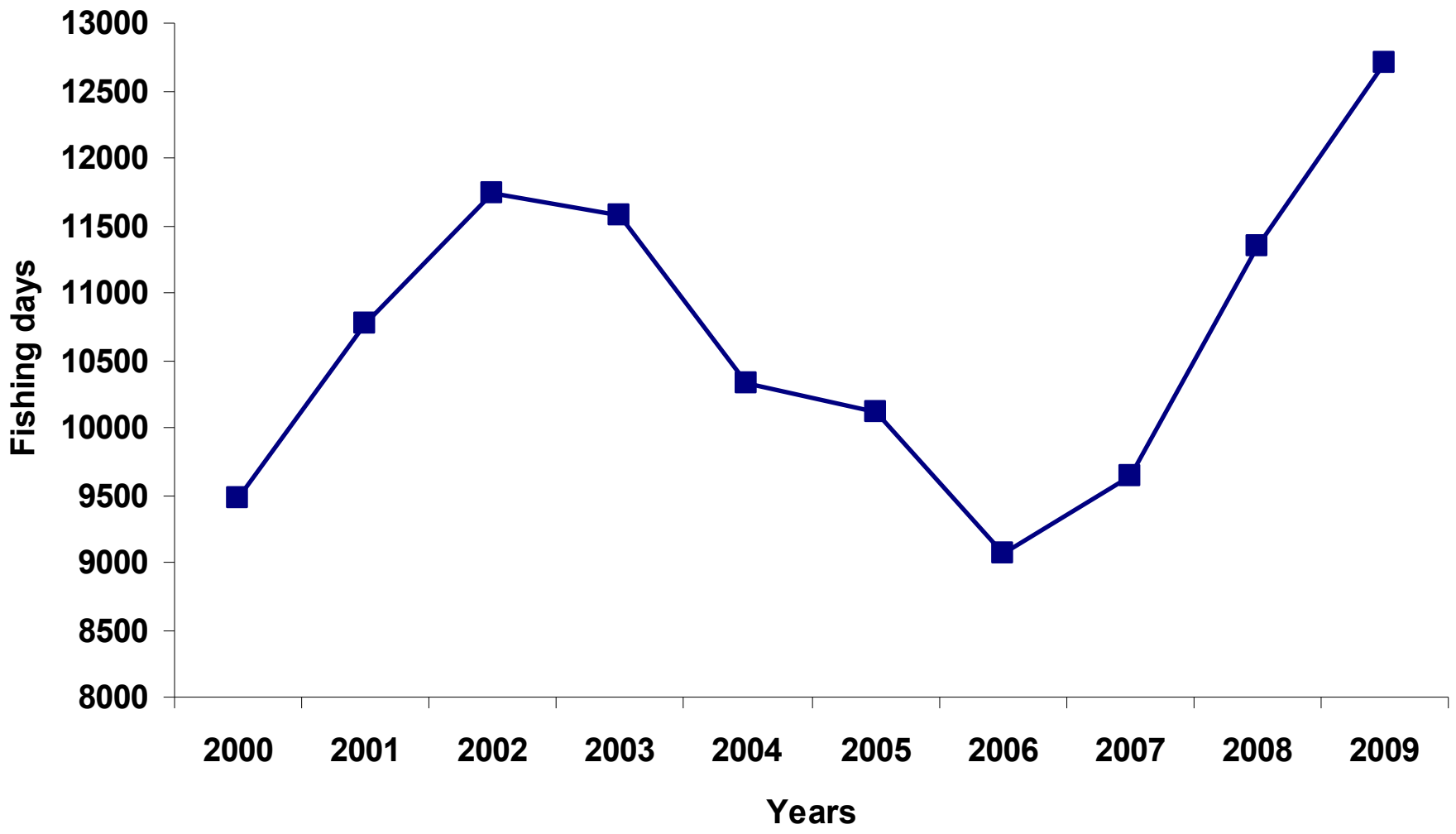
# Fisheries : Longliners Catches

Production en tonnes

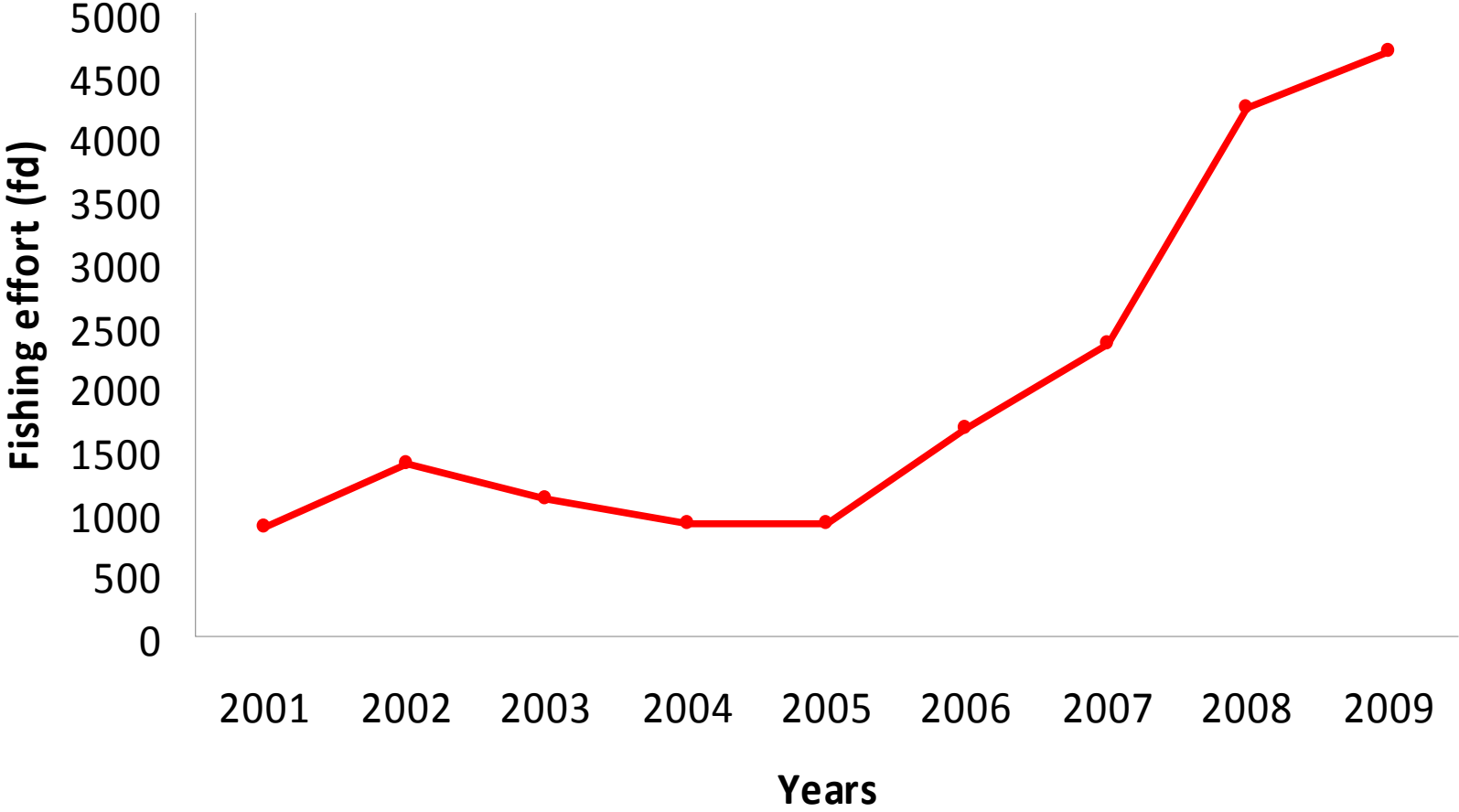
## Requins



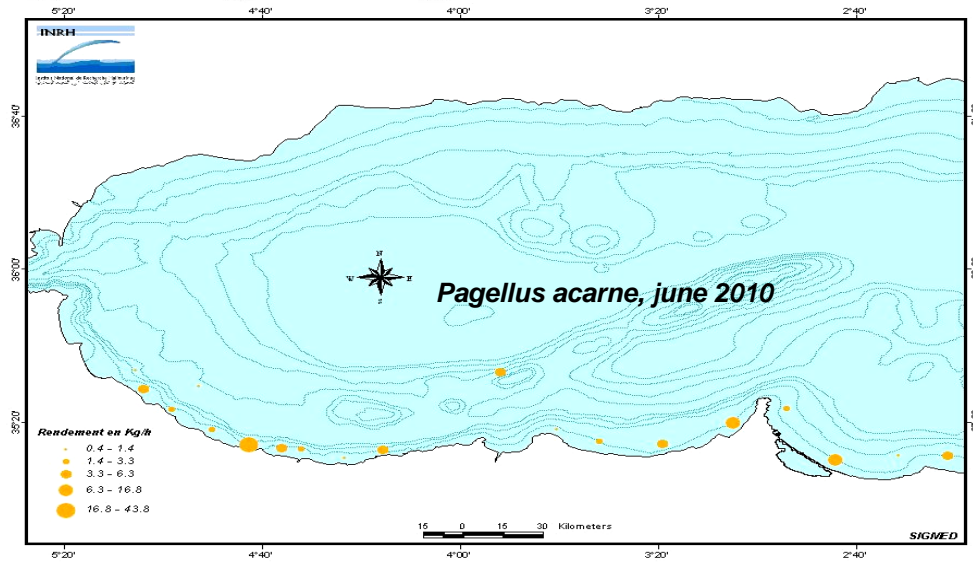
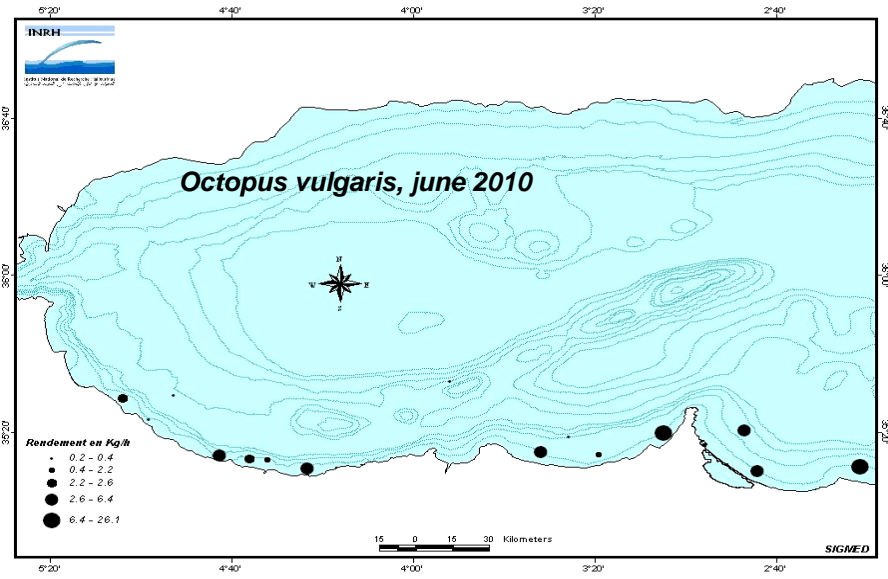
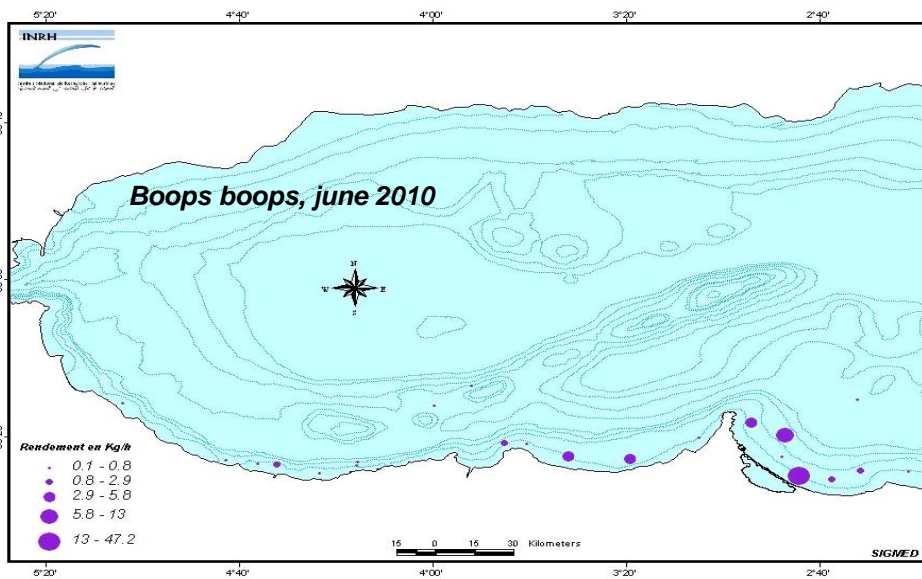
# Demersal Fishery : Global Trawlers Effort



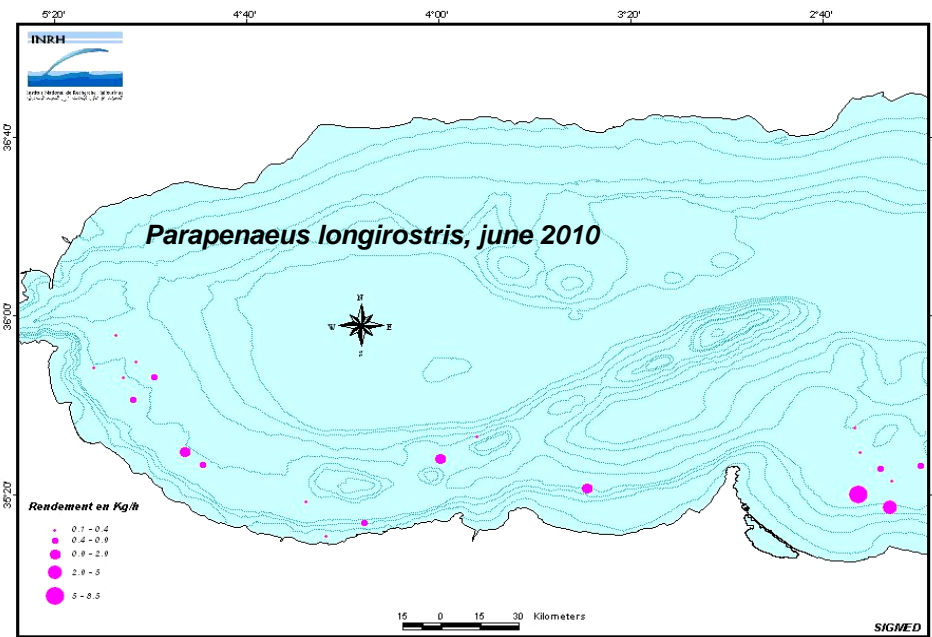
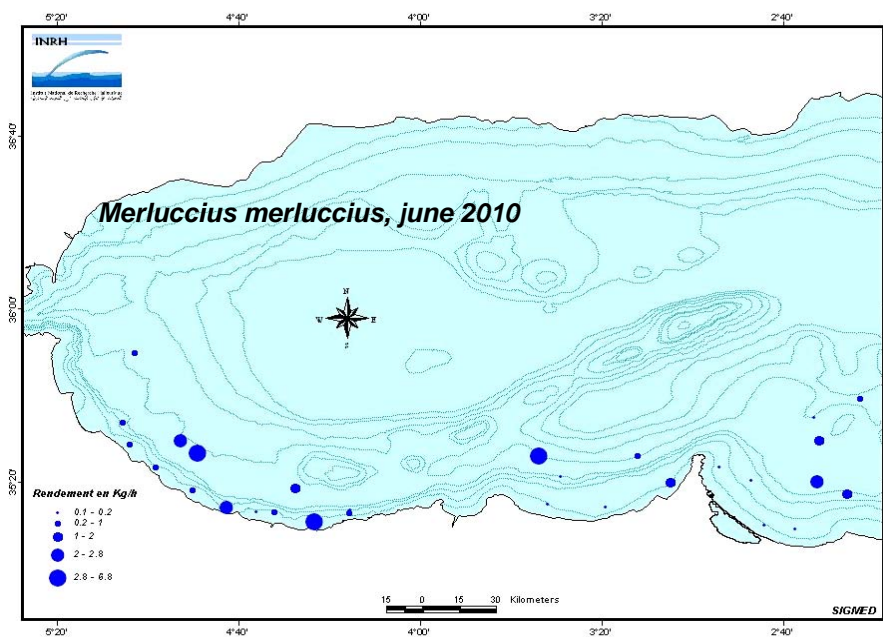
# Demersal Fishery : *Pagellus bogaraveo* Effort



# Surveys



# Surveys



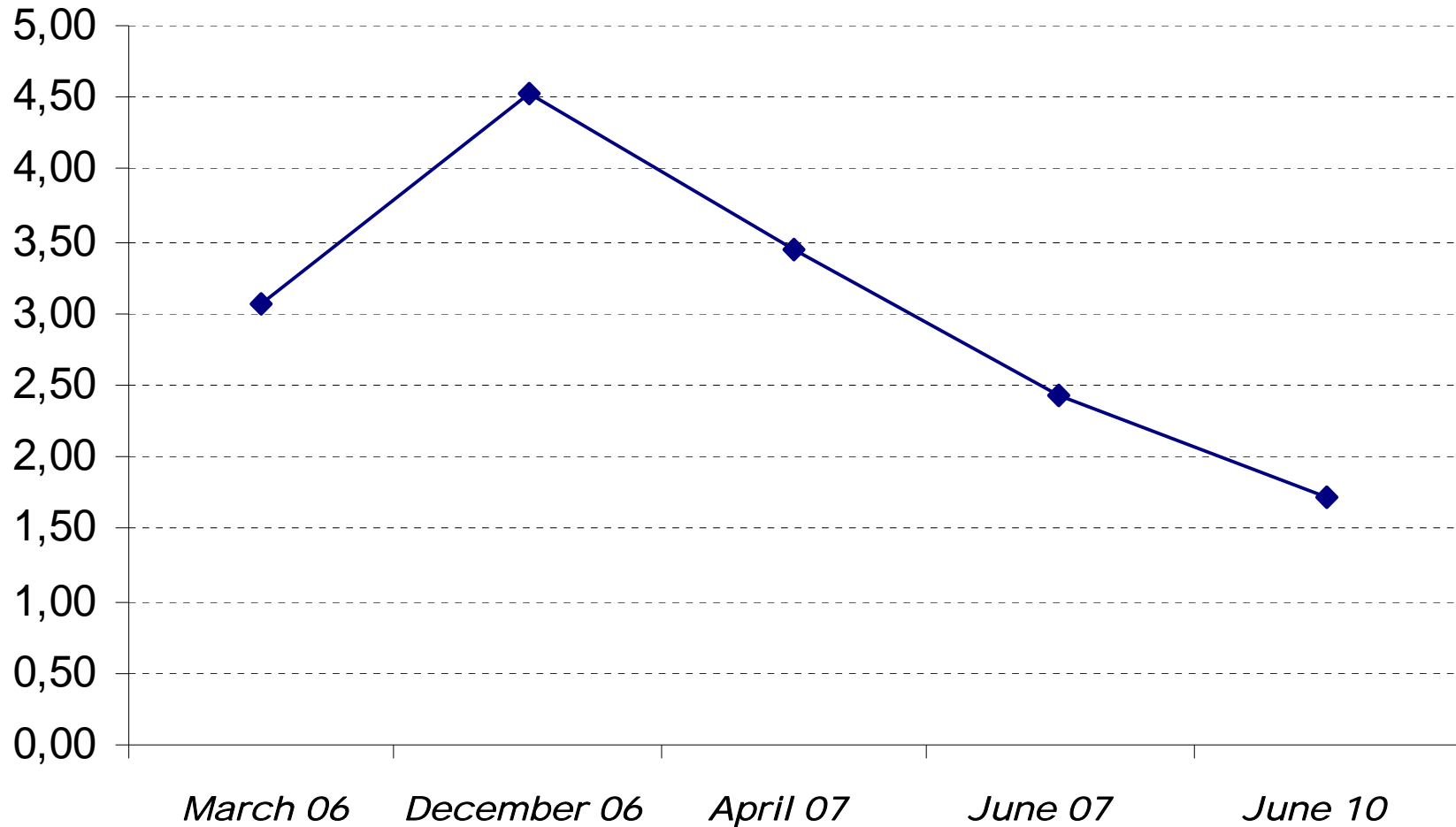
**June 2010 :**

Species	I.A. (kg/h)
<i>Parapenaeus longirostris</i>	0,96
<i>Octopus vulgaris</i>	5,37
<i>Pagellus acarne</i>	6,31
<i>Merluccius merluccius</i>	1,32
<i>Boops boops</i>	4,03

# Surveys I.A. (Kg/h)

## Total Demersal species

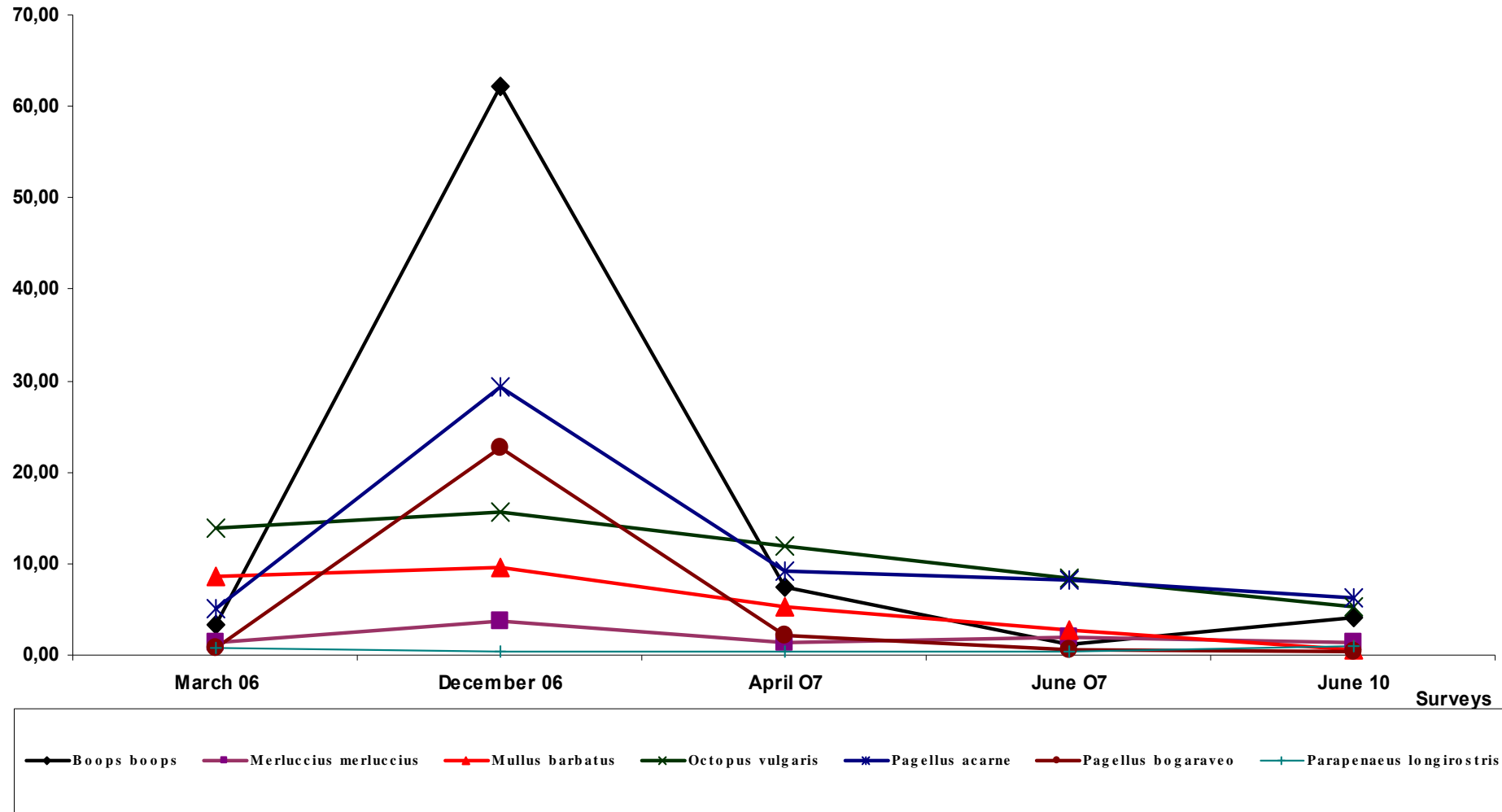
I.A. (kg/h)





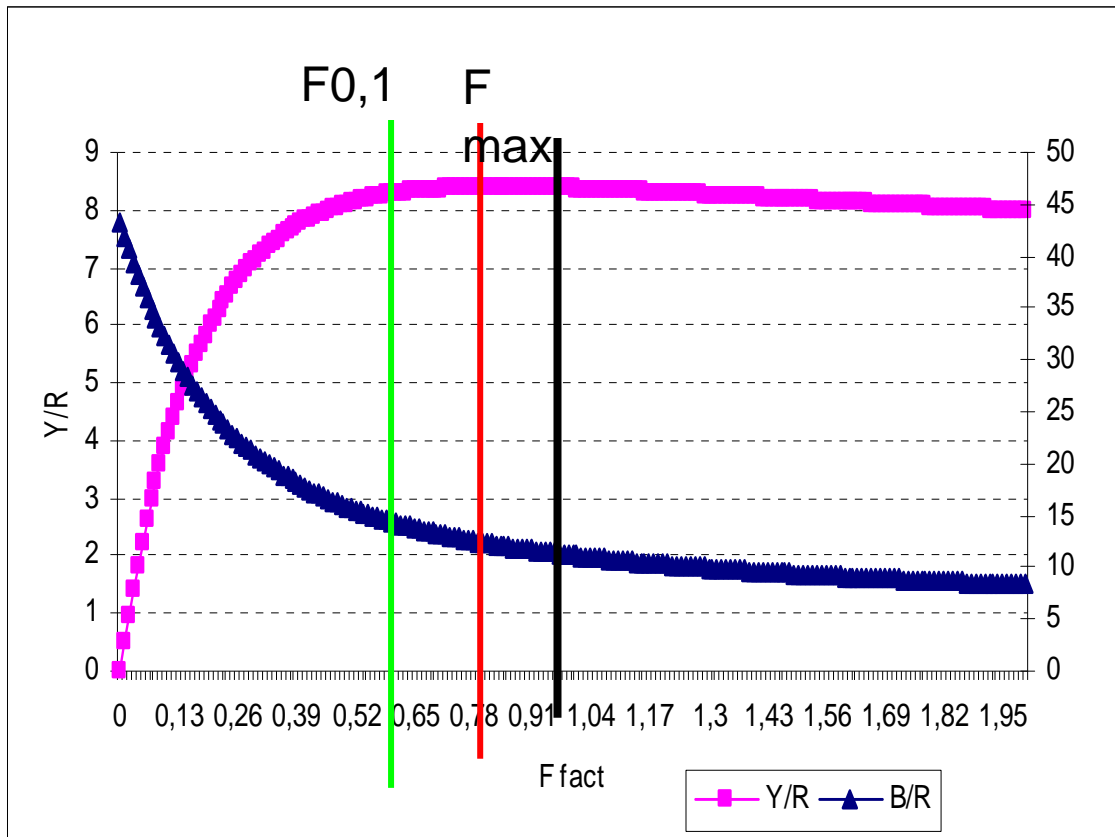
# Surveys I.A. (Kg/h)

I.A. (Kg/h)



# Exploitation status: Boops boops

- Method of assessment : LCA-Y/R
- Software : VIT

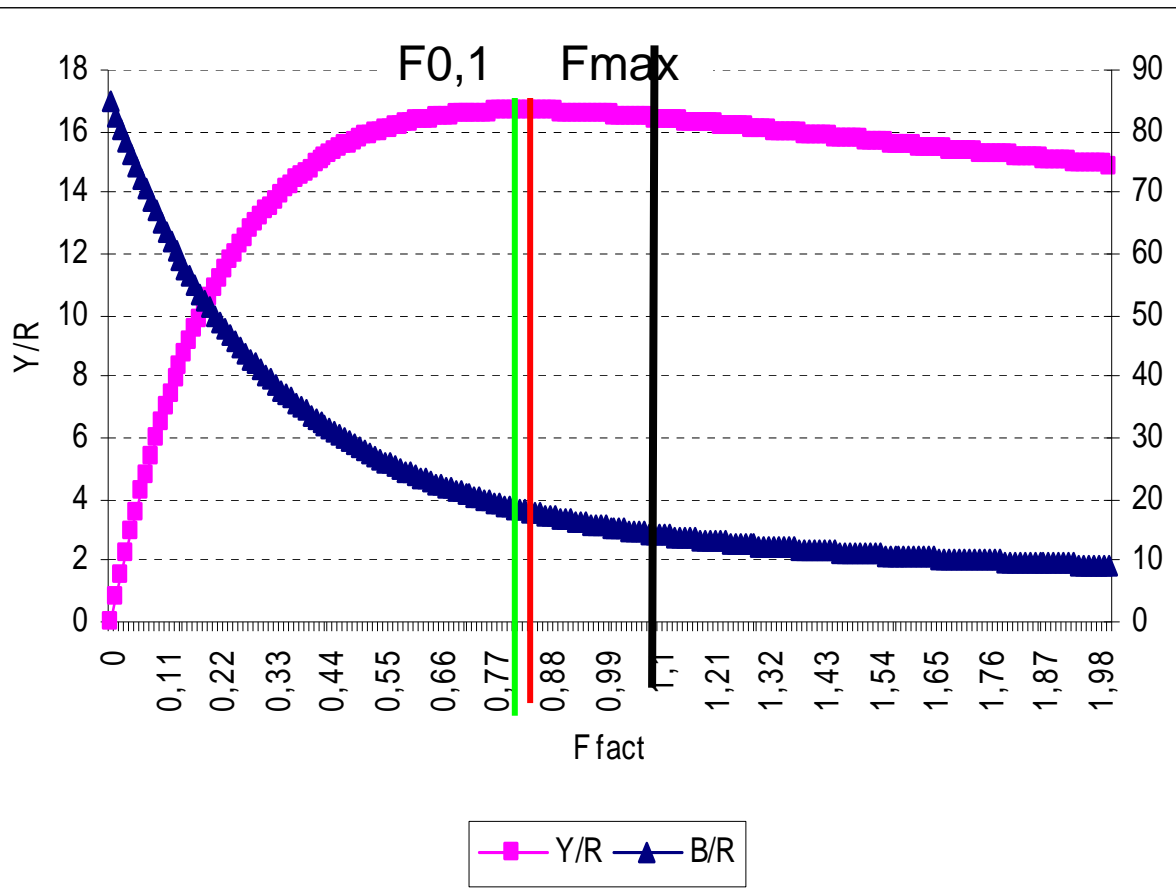


- Stock Overexploited

- Reduce the F

# Exploitation status: *Mullus barbatus*

- Method of assessment : LCA-Y/R
- Software : VIT

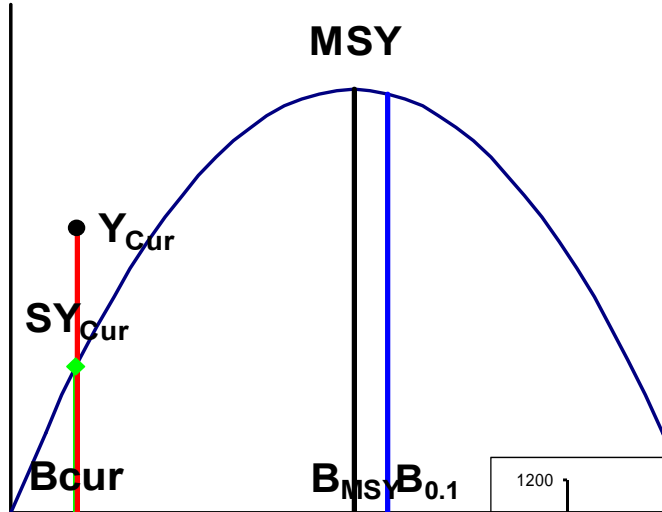


- Stock Overexploited

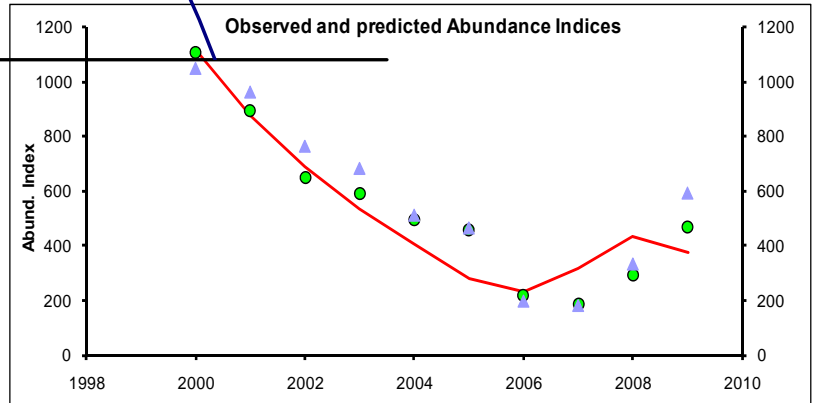
- Reduce the *F*

# Exploitation status: *Parapenaeus longirostris*

- Method of assessment : Dynamic Shaefer Production Model
- Software : Dynamic CECAF Shaefer Model



- $B/B_0 = 17\%$
- $F_{cur}/F_{0.1} = 392\%$
- $F_{cur}/F_{SYCur} = 353\%$



- Stock Overexploited
- Reduce the  $F$

*Exploitation status: Pagellus bogaraveo*  
*As a Shared stock between Spain and Morocco*  
*( organized by COPEMED II)*



- *Data combined (Spain+Morocco : Northern and Southern Alboran sea),*
- *Method of assessment : LCA-Y/R (length frequencies: 2005-2007),*
- *Software : VIT,*
- *Fishing gear : Hooks and lines,*
- *The fork length (for Moroccan data) was transformed into total length using the relation proposed by I. CZERWINSKI and al (2008) :*

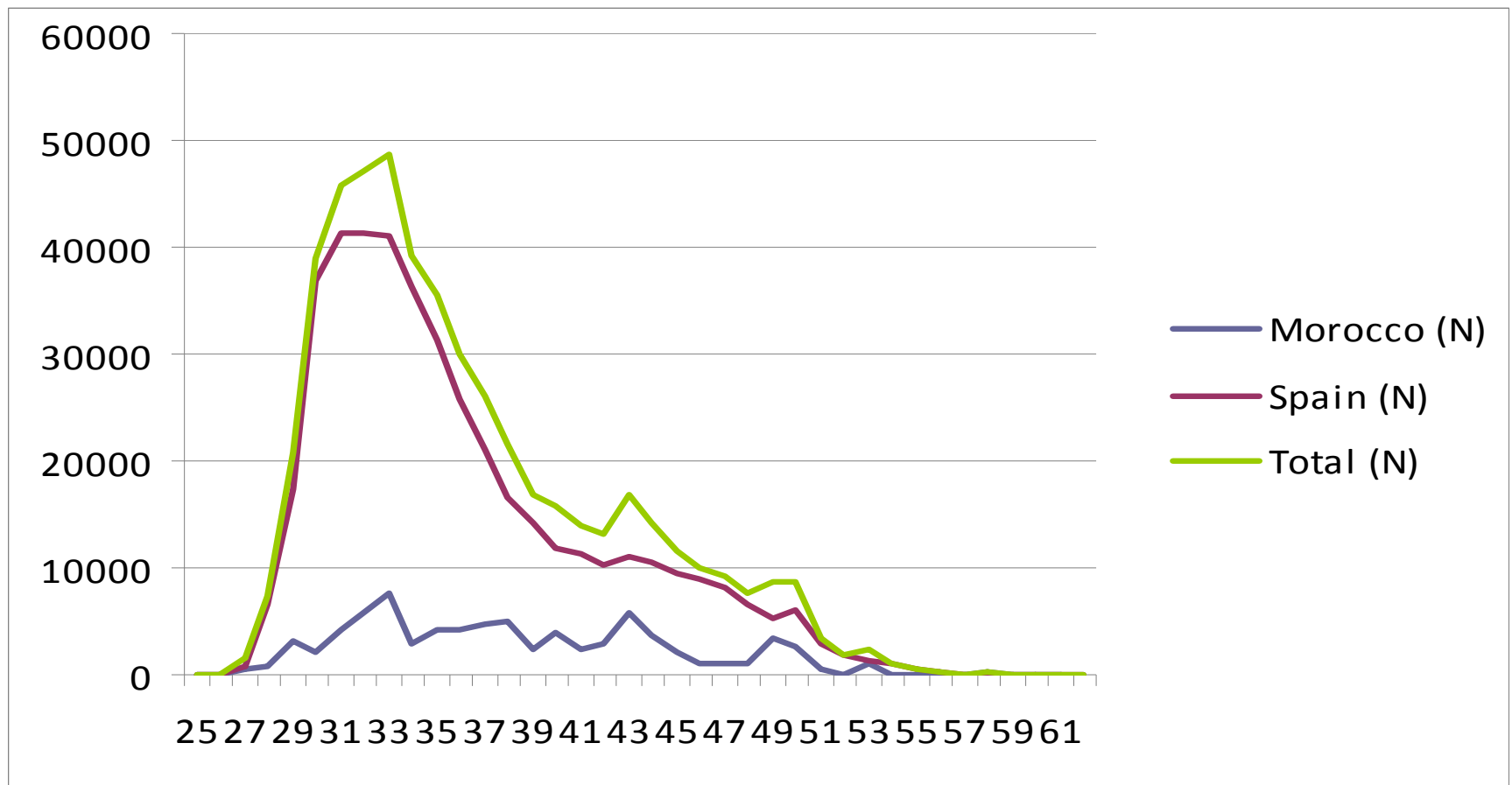
$$FL = -0,731 + 0,910 TL$$

- *Biological parameters : Spain (Strait of Gibraltar, Juan GIL HERRERA, COPEMED Doc, 2010).*

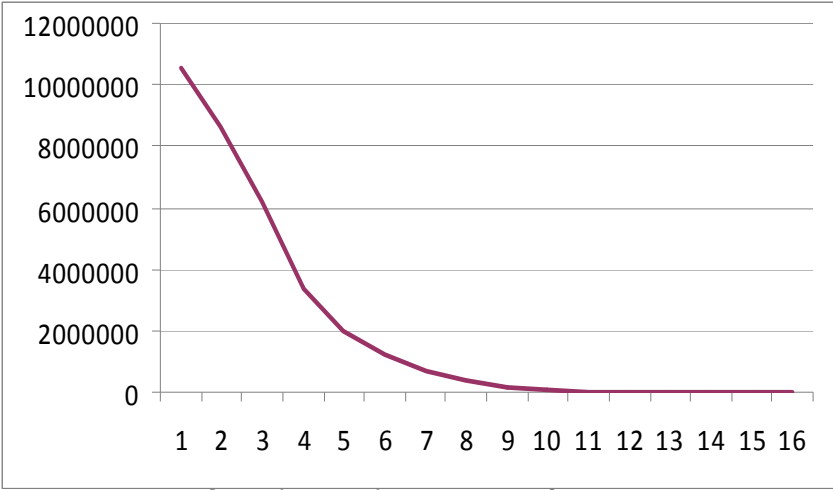
# *Exploitation status: Pagellus bogaraveo*

## *As a Shared stock : Spain and Morocco*

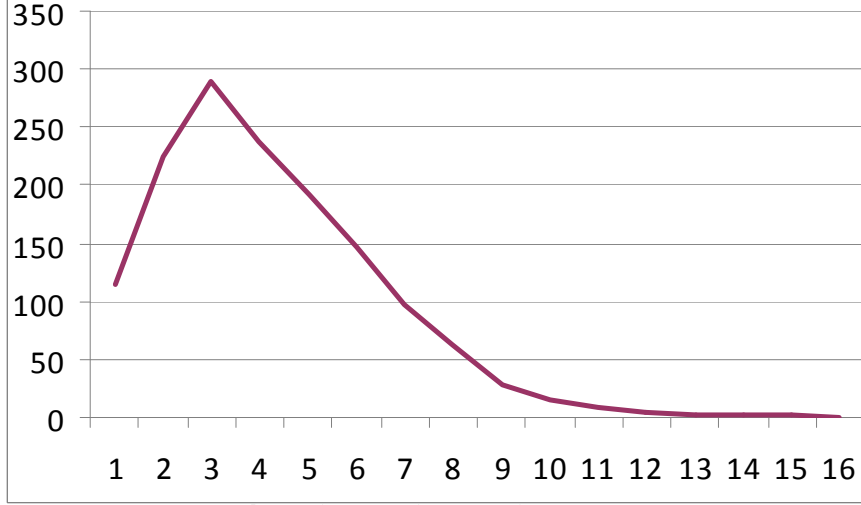
- *Size landing structure (Spain + Morocco : 2005-2007).*



# Exploitation status: *Pagellus bogaraveo* As a Shared stock : Spain and Morocco

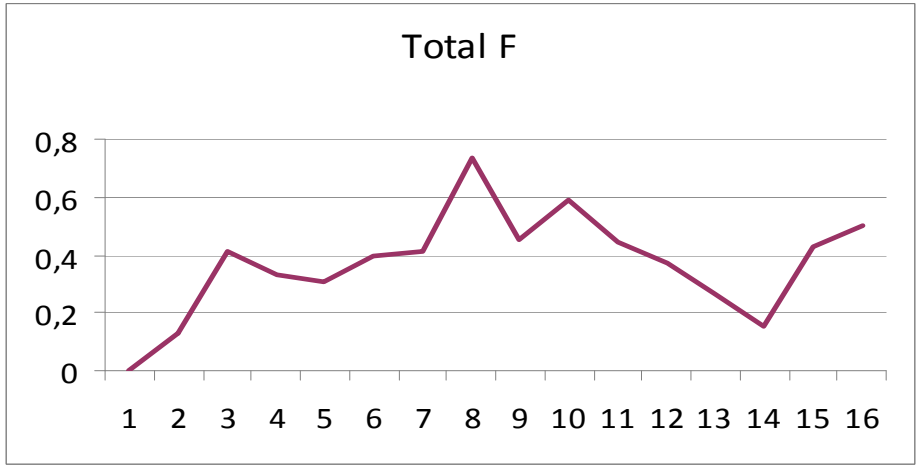


*Population in numbers*



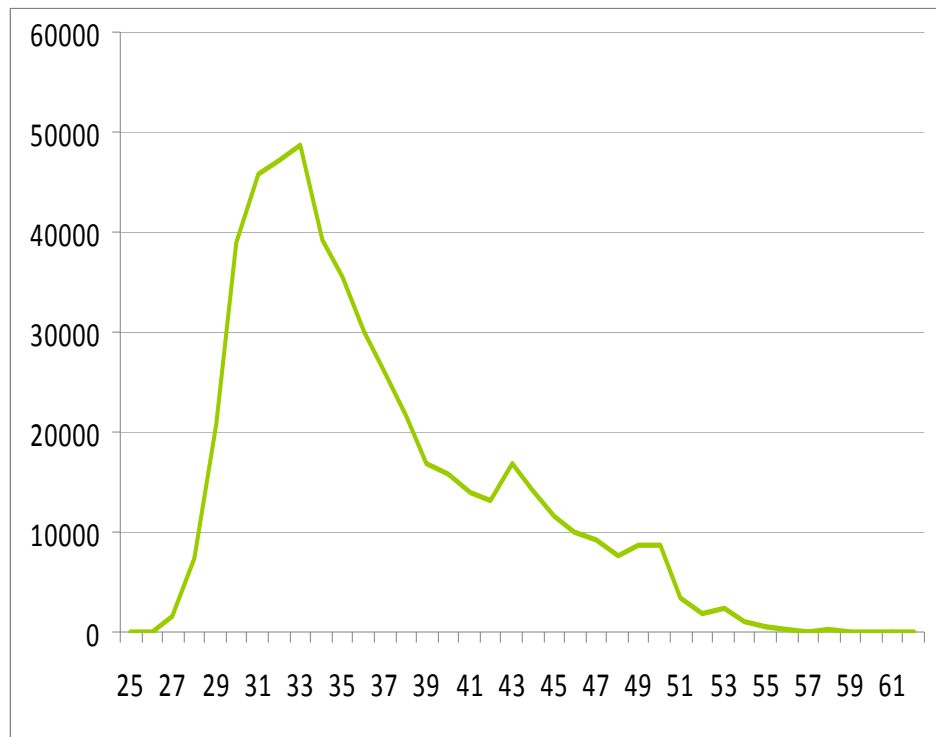
*Population in Biomass*

*Fishing Mortality*

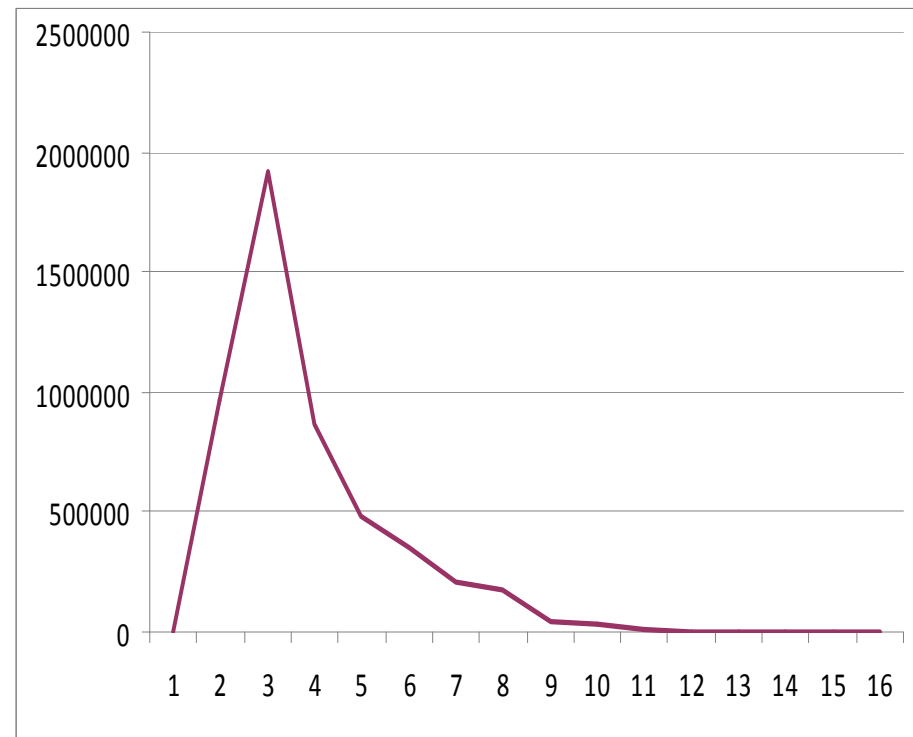


# *Exploitation status: Pagellus bogaraveo*

## *As a Shared stock : Spain and Morocco*



*Total catch at length distribution, in numbers (Pseudocohort 2005-2007)*

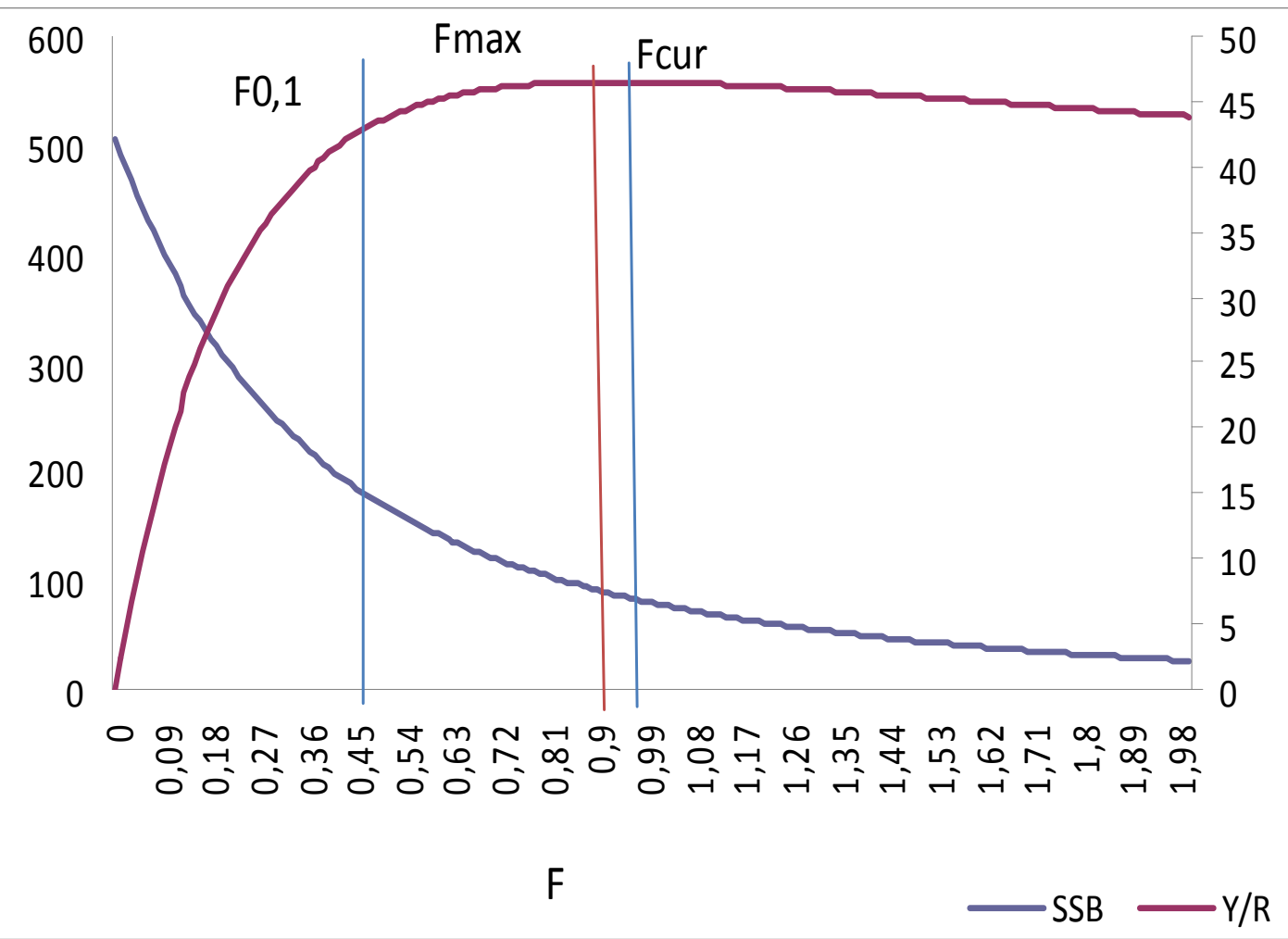


*Total catch at age distribution, in numbers (Pseudocohort 2005-2007)*



# Exploitation status: *Pagellus bogaraveo*

## As a Shared stock : Spain and Morocco



	Total
Current YR	46,496
Maximum Y/R	46,529
Y/R 0.1	42,999
F <sub>max</sub>	0,35
F <sub>0.1</sub>	0,18
Current B/R	139,069
Maximum B/R	147,541
B/R 0.1	243,649

# *Exploitation status: Pagellus bogaraveo*

## *As a Shared stock : Spain and Morocco*

*- Stock Overexploited,*

### *Recommandations :*

*- Reduce the F in both GSAs,*

*- Apply the same management measurement in both GSAs,*

*- Standardize the sampling methods between Morocco and Spain,*

*- Undertake biological studies of Pagellus bogaraveo in Morocco under regional project,*

*- Maintain the joint assessment for the next years.*



THANK YOU FOR

YOUR ATTENTION