



# Outline

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# European marine fisheries: quick facts

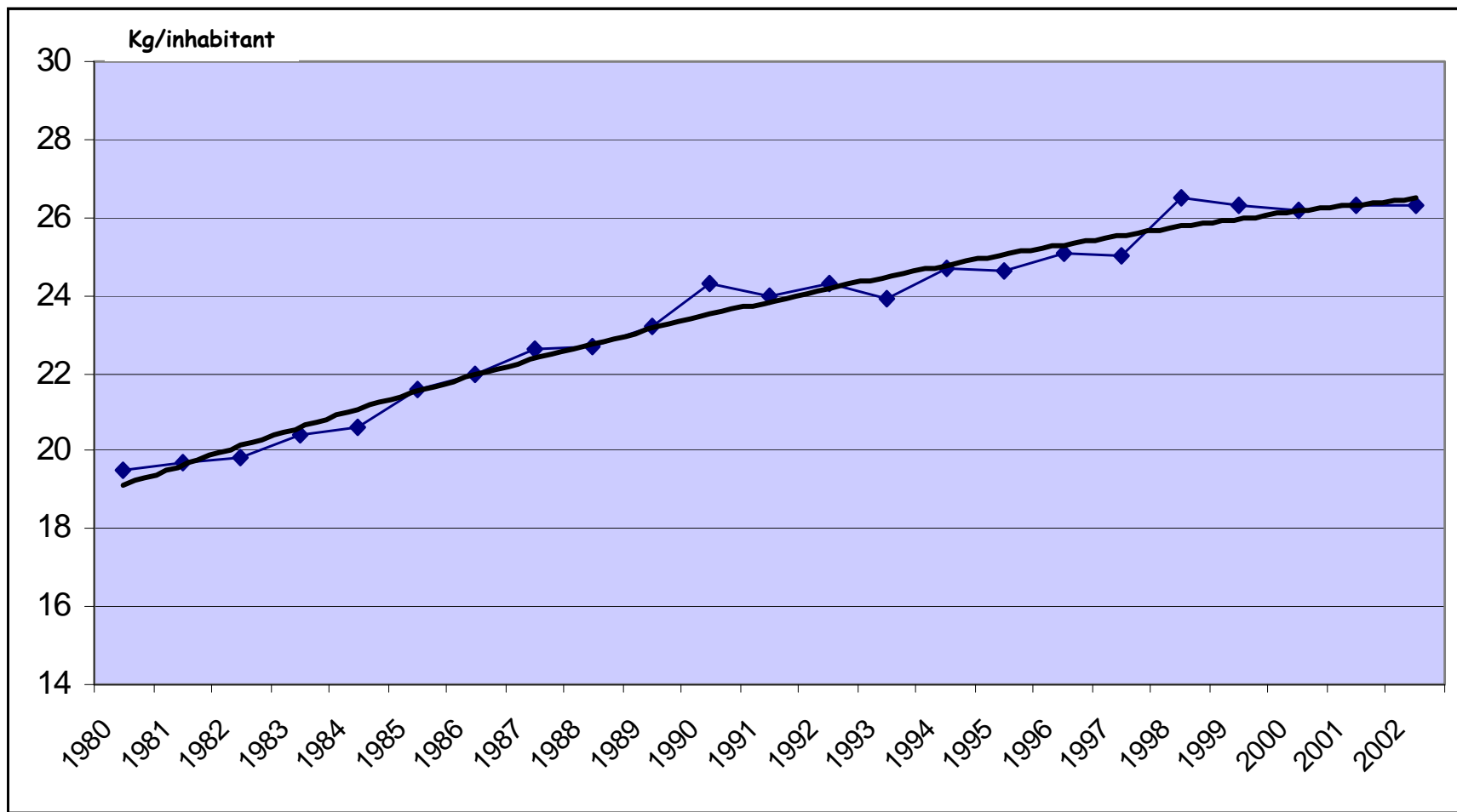
Employment	415 851 fishers
No. Vessels 2007	88 520 (Trawl: 18%; Non Trawl: 82%)
Total landings by EU vessels worldwide, 2006	5 632 000 T (73% in NEA; 9% in Med.)
Landings EU M.S. ports, 2006	4 442 000 T
Landings value 2006	6 702 million €
Total imports 2006	14 500 million €
Total exports 2006	8 356 million €
Trade deficit 2006	<b>-6 157 million €</b>

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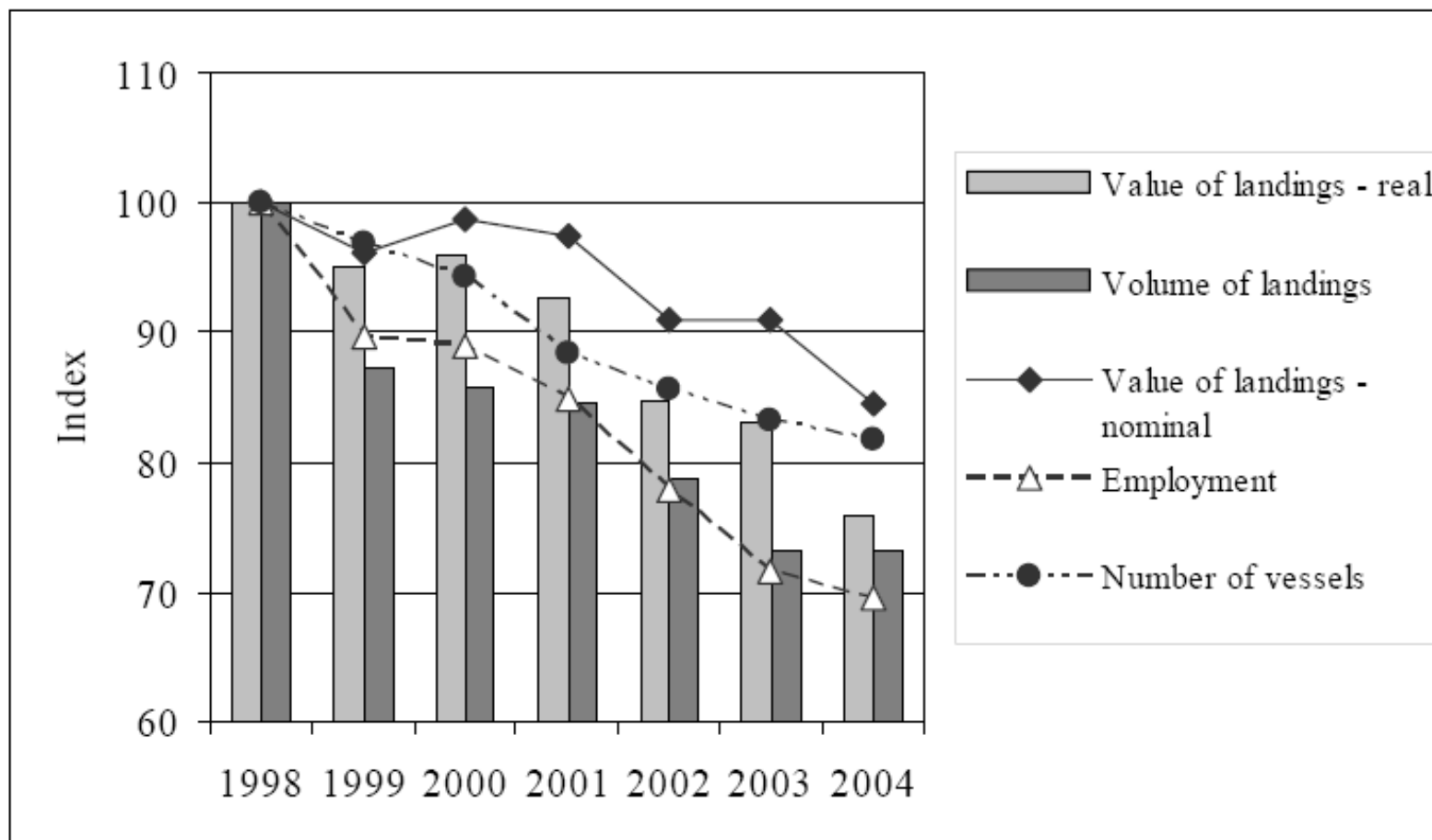


# Trends 1: a growing demand for fish products

Increasing trend in the consumption of aquatic products in the E.U. - 15, 1980-2002 (kg/inhabitant)



## Trends 2: a declining production system

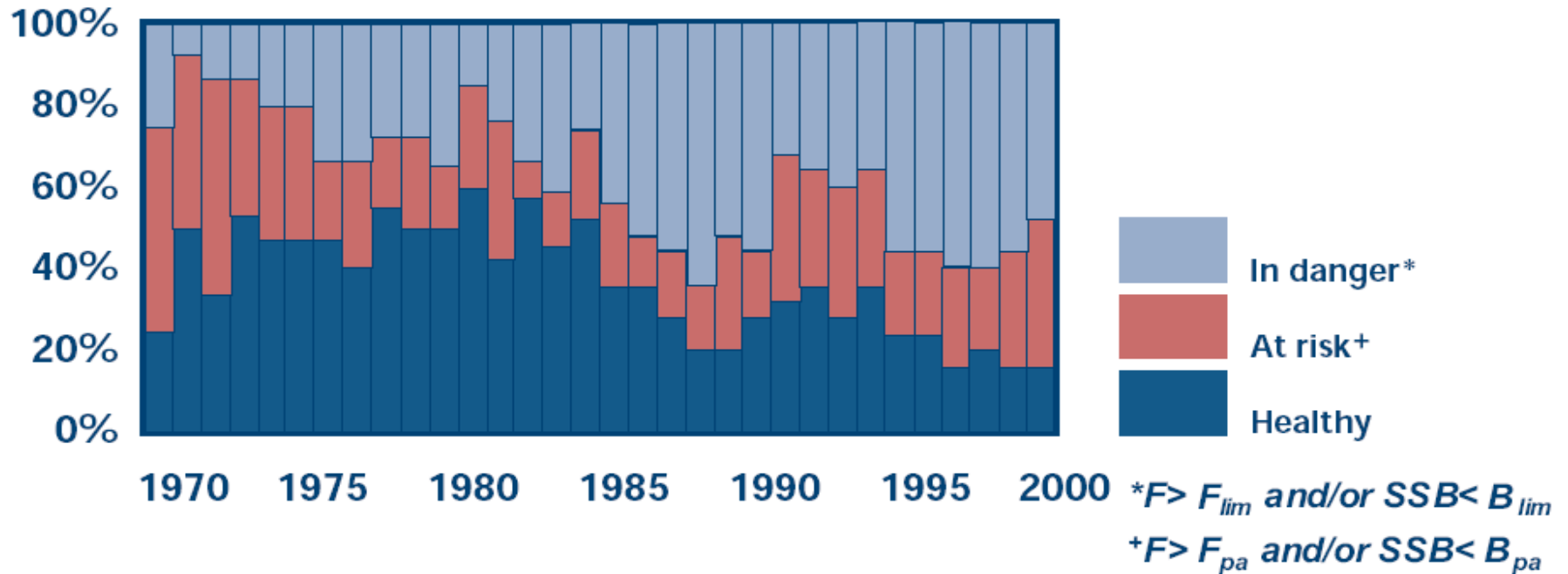


Source: EAEF Annual Report, 2006, p12

→ decline in production, fleet size and employment

## Trends 3: declining fish stocks

### Quota stocks



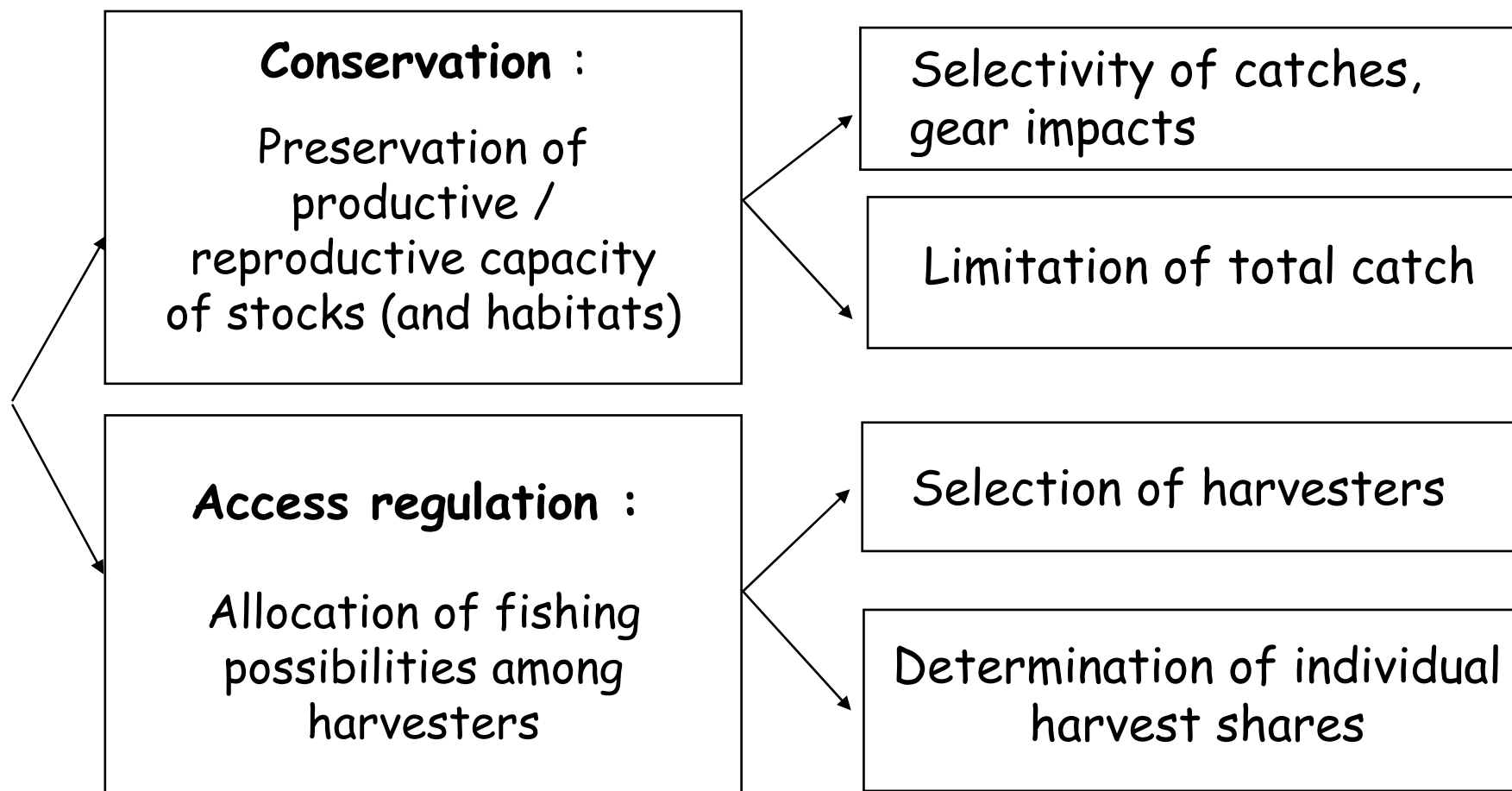
Source: Net Benefits: a sustainable and profitable future for UK fishing, March 2004, p52

→ Declining stocks / excess capacity in E.U. fleets

## Categorizing fisheries management measures

Key drivers are economic / institutional:

**Fish = common pool resources** → Individual catches are a function of other's effort → "race to fish" → overcapacity; conflicts; depletion of fish stocks



# The Common Fisheries Policy: historical background

<p>&lt; 1983</p>	<ul style="list-style-type: none"> <li>•1946: NEAFC « recommends » management measures for international stocks (based on ICES advice)</li> <li>•1970: Earliest common agreement on CFP</li> <li>•1976: Extension of EU's EEZ</li> </ul>
<p>1983-1992</p>	<ul style="list-style-type: none"> <li>•1983: Common Fisheries Policy implemented               <ul style="list-style-type: none"> <li>- equal access to member states' fishery resources</li> <li>- TAC, technical measures, capacity reduction (MAGP)</li> </ul> </li> <li>•1986: Spain &amp; Portugal join the EU</li> <li>•1992: Mid-term review &amp; 1st CFP reform</li> </ul>
<p>1993-2002</p>	<ul style="list-style-type: none"> <li>•1998: Strengthening of conservation measures</li> <li>•1999: EU-Norway plans for North Sea stocks</li> </ul>
<p>2003-</p>	<ul style="list-style-type: none"> <li>•2003: 2<sup>nd</sup> CFP reform               <ul style="list-style-type: none"> <li>- multi-annual management/recovery plans, effort limits, end of MAGP</li> <li>- tools to strengthen stakeholders participation</li> <li>- ecosystem approach</li> </ul> </li> <li>2004: Most Baltic Sea countries join the EU</li> </ul>





## Recent diagnosis on CFP, in the perspective of its revision by 2012

« Fishing fleets are still too large, and as a result, it has not been possible to reduce overfishing to the extent necessary. Most European fish stocks are still overfished. The result is poor economic efficiency, high environmental impact, high fuel burn and low contribution of European fisheries to food supply. This largely explains why the recent fuel crisis has hit the fisheries sector so hard and exacerbated its structural problems ».

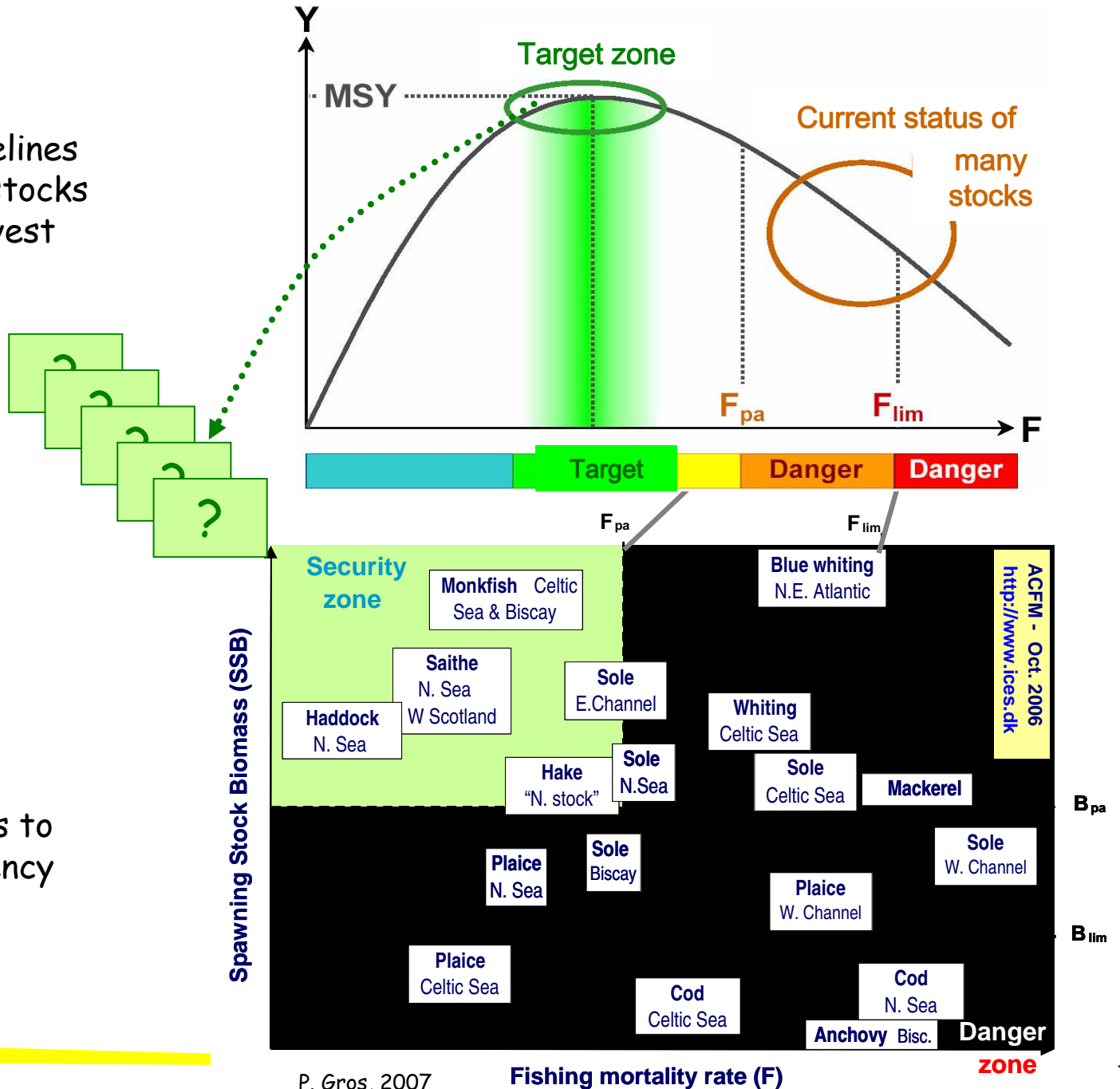
Source: European Commission, September 2008. Working Document entitled "Reflections on further reform of the Common Fisheries Policy" prepared for the Council of Ministers

# Conservation measures: a context dominated by restoration concerns

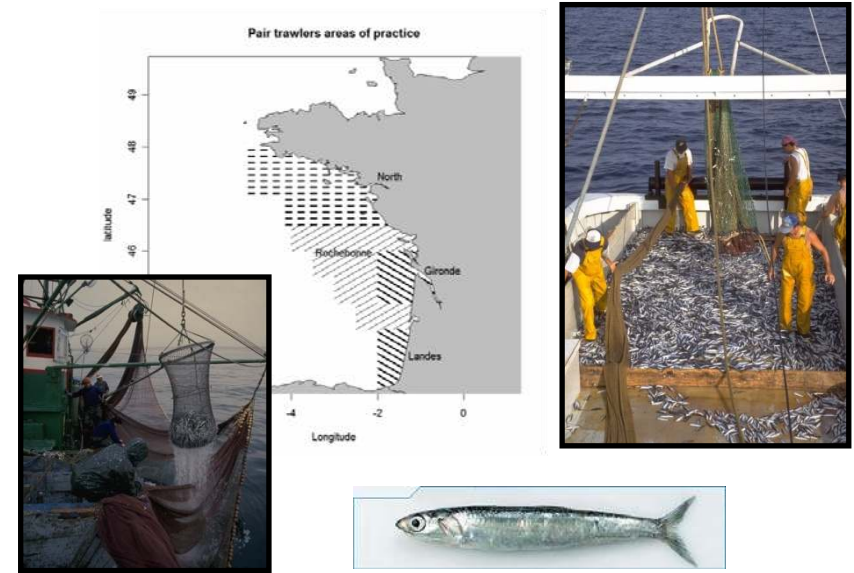
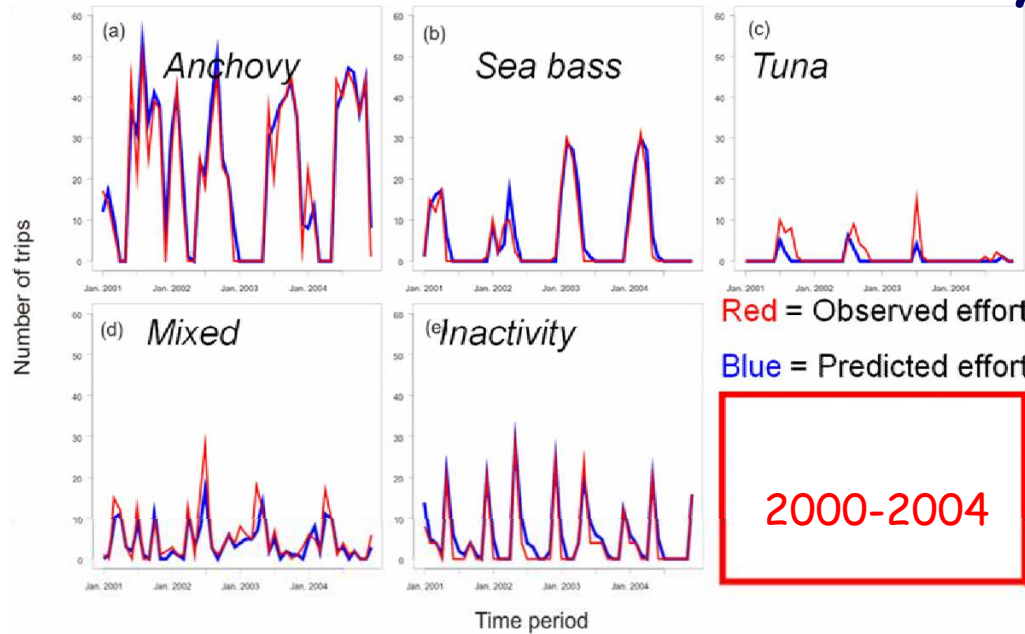
Distance between (i) baselines used to assess risks for stocks and (ii) conservation/harvest targets

Key issues:

- costs of transition
- trade-offs (speed of recovery, short-term economic viability, social impacts)
- response of fishing fleets to restoration plans (emergency / long term) ?

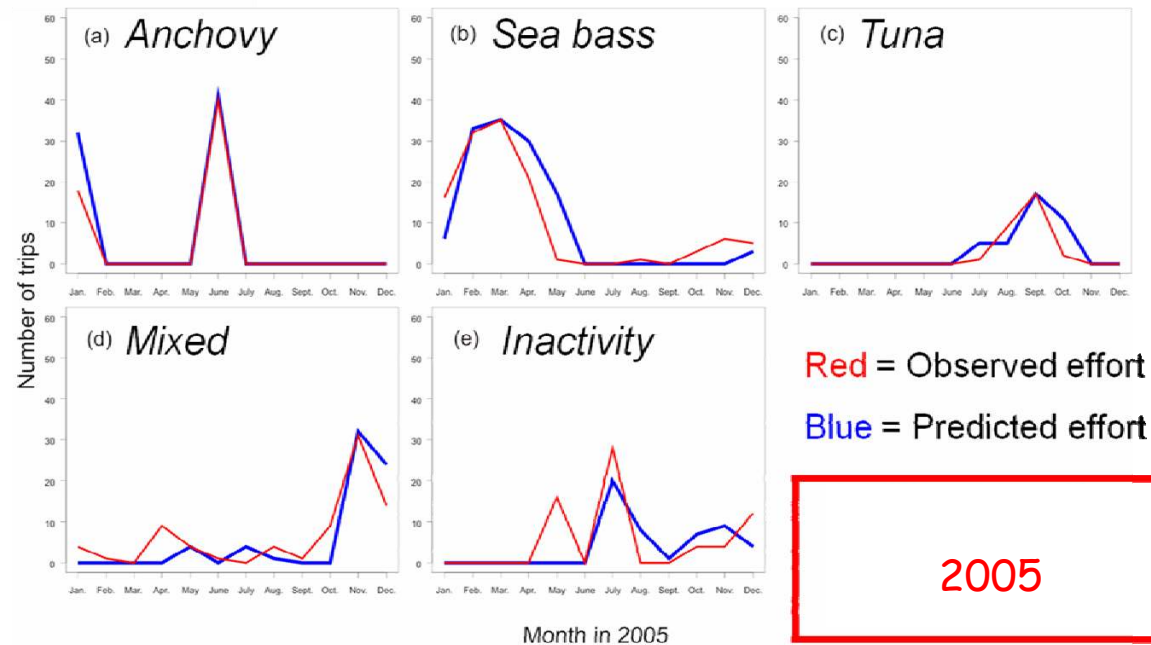


# Importance of fleet responses: short term shifts in effort allocation in the Biscay pelagic fishery



Modelling short-term effort allocation:

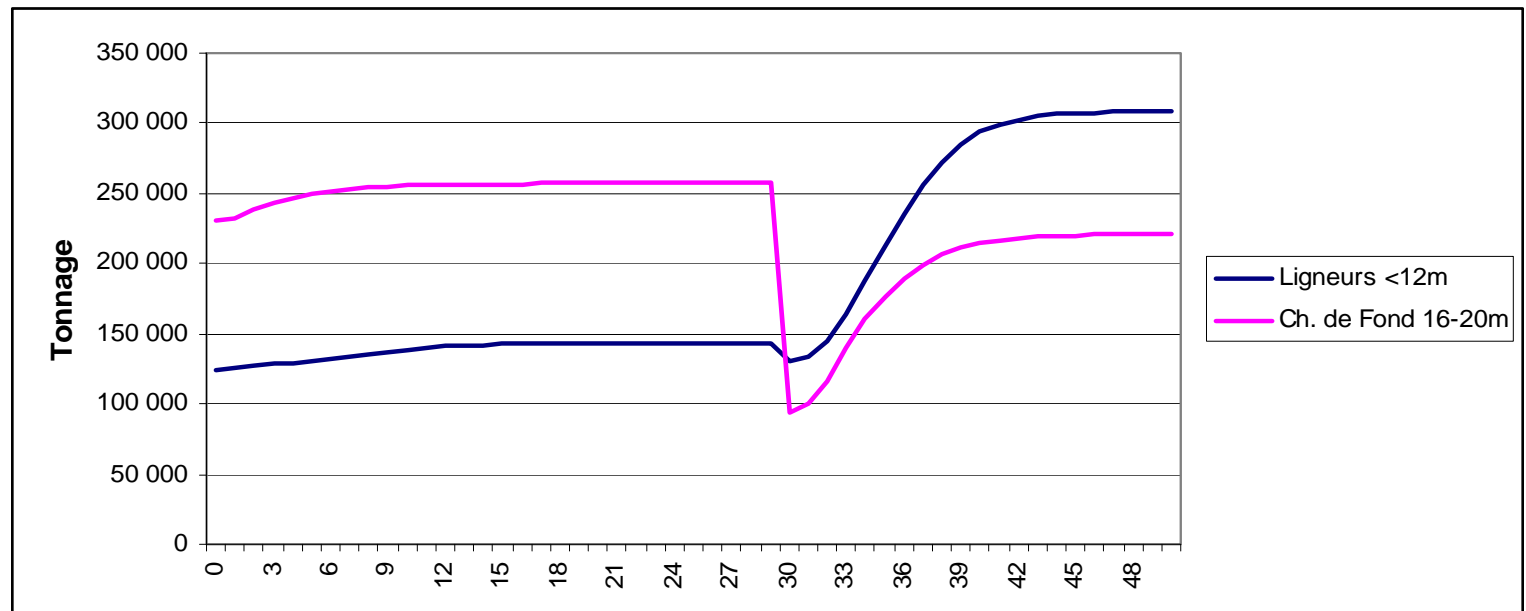
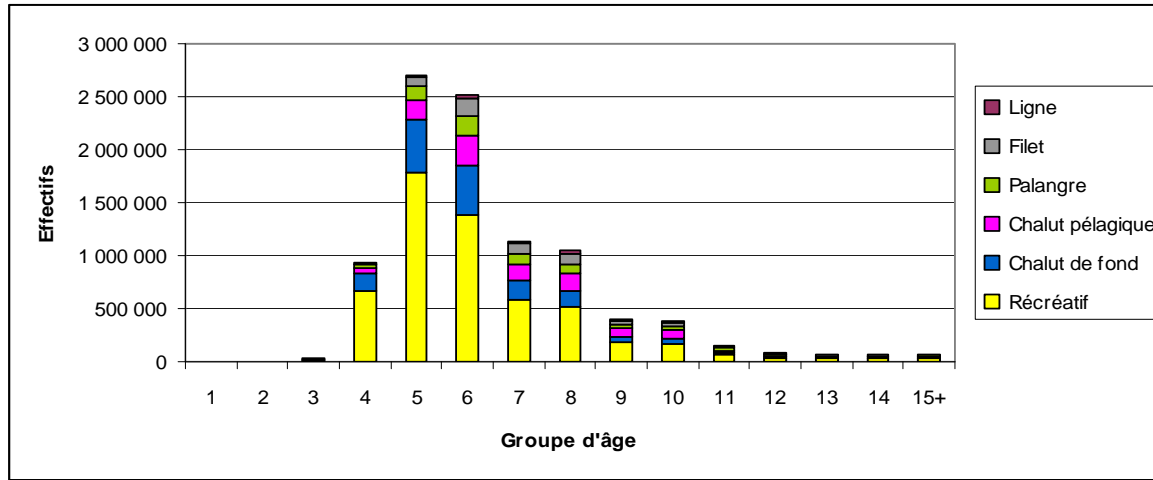
→ response of Biscay pelagic trawler fleets to the anchovy fishing ban in 2005: reallocation to alternative target species



Y. Vermard et al., 2008.

# Heterogeneity of fishing fleets with respect to short/long term economic consequences of conservation measures

Modelling the impacts of increasing minimum landing size for sea bass in French fleets to 45 cm (age 6)



# Access regulations: a diversity of approaches in practice

III

## Regulation by effort

## Regulation by catches

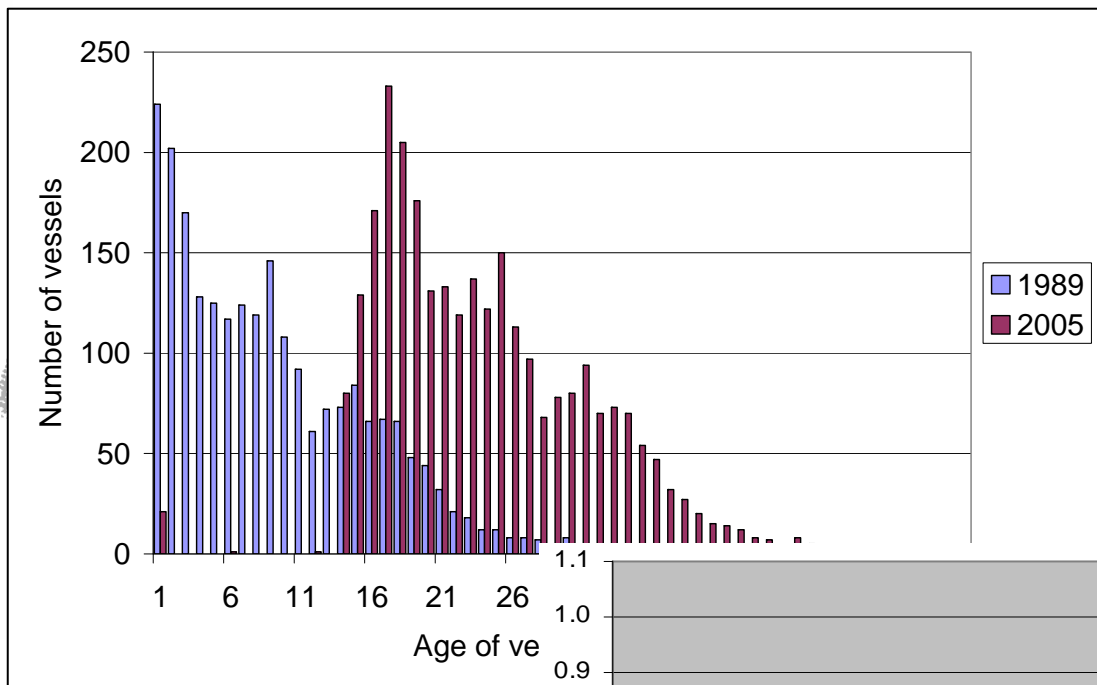
Country	Limited licences	Effort / vessel	Territ. Use Rights	Transferable limited licences	Transferable effort/vessel	Community quota	Quota / vessel	Individual quota	Transferable indiv. quota
Australia	X	X			X				X
Canada	X	X				X	X	X	X
Korea			X			X			
United-States	X	X	X		X	X	X	X	X
Iceland	X								X
Japan	X		X			X			
Mexico				X					
Norway				X			X	X	
New-Zealand									X
Germany							X	X	(X)
Belgium	X	X						X	
Denmark				X			X	X	X
Spain	X		X		X			X	
Finland			X						
France	X	X			(X)		X	X	
Greece	X								
Ireland							X		
Italy	X		X					X	
Netherlands	X	X		X					X
Poland									X
Portugal						X		X	
United-Kingdom	X	X		X			X	X	(X)
Sweden			X		X				

Source: Le Gallic, 2006

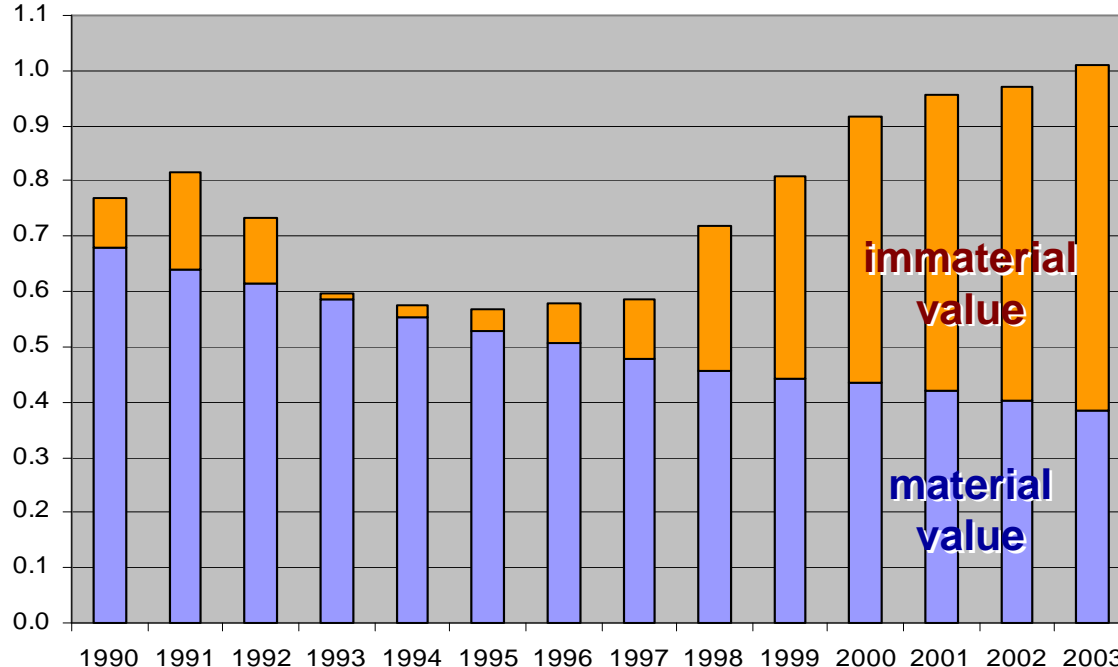
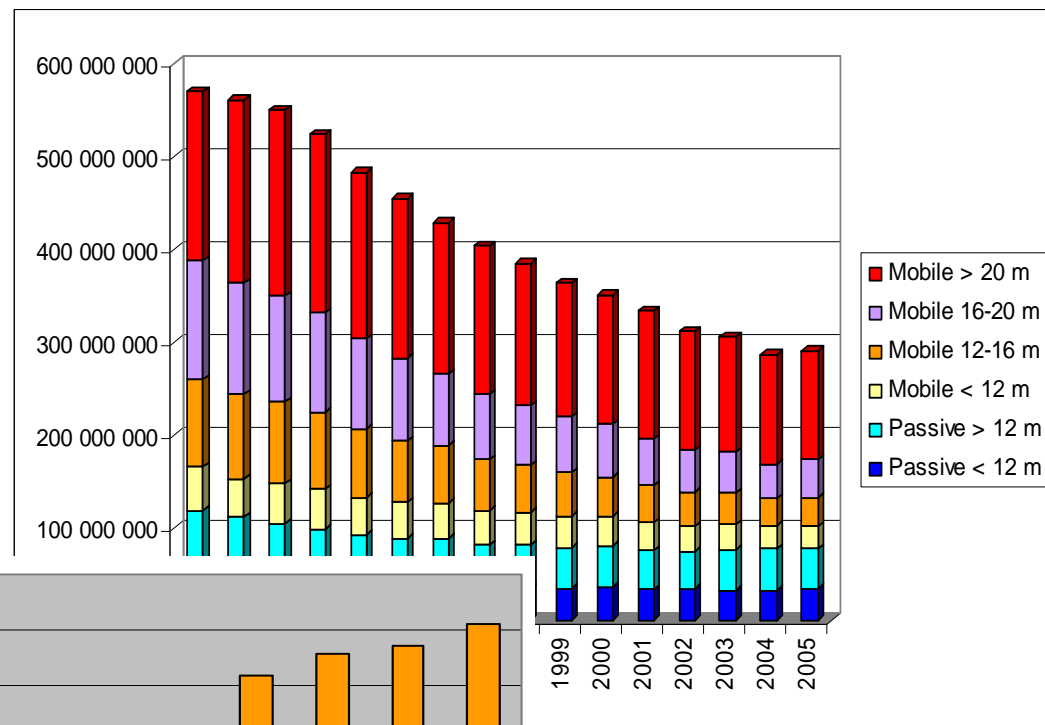
<http://www.umr-amure.fr/>

# Response to limited entry schemes: the French case

Limited entry from 1989 (North East Atlantic fleet)

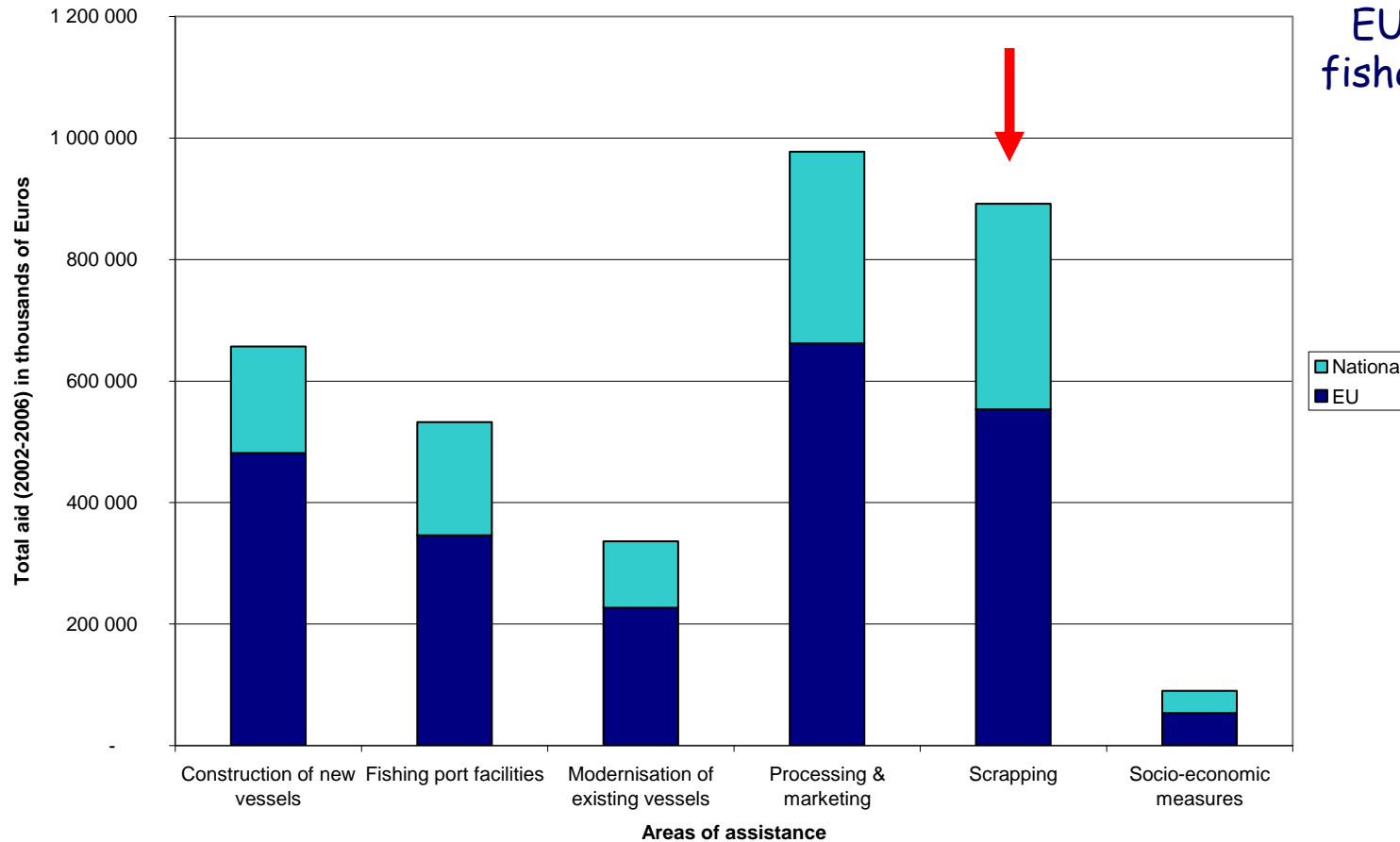


Change in capital stock (Biscay fleet), m€ 2005



Floc'h P., 2008.

# Other regulations & their implications for fisheries dynamics



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→ Total Aid, 2002-2006: 6 084 million Euros, of which 4 022 from Financial Instrument for Fisheries Guidance (FIFG) and 2 061 from national funds



# Firm responses: the case of the South-Brittany 16-20m trawler fleet, 1990-1998

Variable name	Definition	Interpretation	Sign
<b>Second-hand price of vessel</b>	Ratio of estimated value of the vessel on the second-hand market, to vessel length (logged value)	A measure of anticipations as regards the discounted value of owning a particular vessel in terms of future rents	-
<b>Decommissioning payment available for vessel</b>	Ratio of estimated decommissioning premium for the vessel, to vessel length (logged value)	A measure of the public incentives provided for decommissioning a given vessel	+
<b>Relative productivity of vessel</b>	Ratio of vessel gross return to vessel length, divided by the average ratio observed for the fleet (index)	A measure of the recently observed productivity of the vessel, relative to the average productivity of vessels in the fleet	-
<b>Interest rates</b>	Average interest rate (logged value)	A measure of the cost of (re)investment in a vessel and/or of preference for present revenues	-
<b>Crew size</b>	Vessel crew size (logged value)	A proxy for the size of the fishing unit, hence for vessel operating costs	-

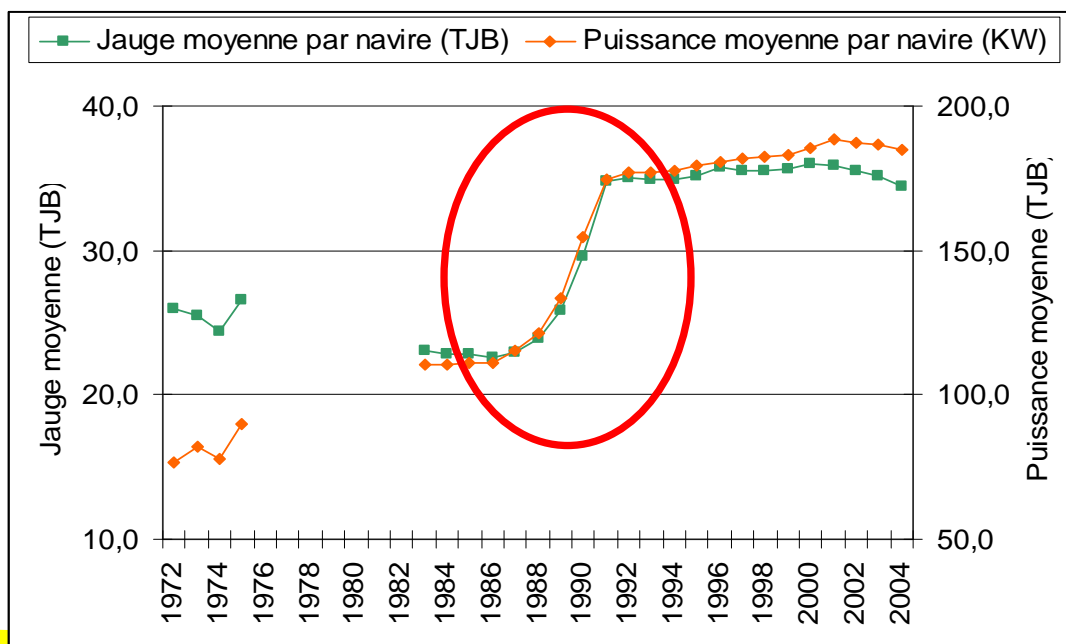
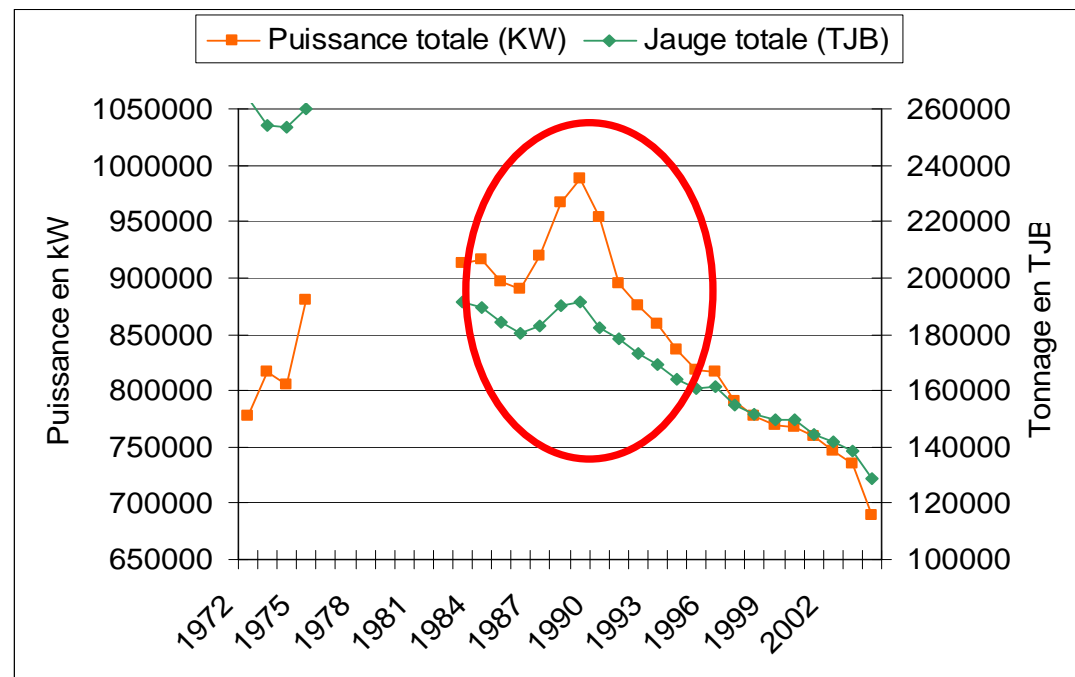
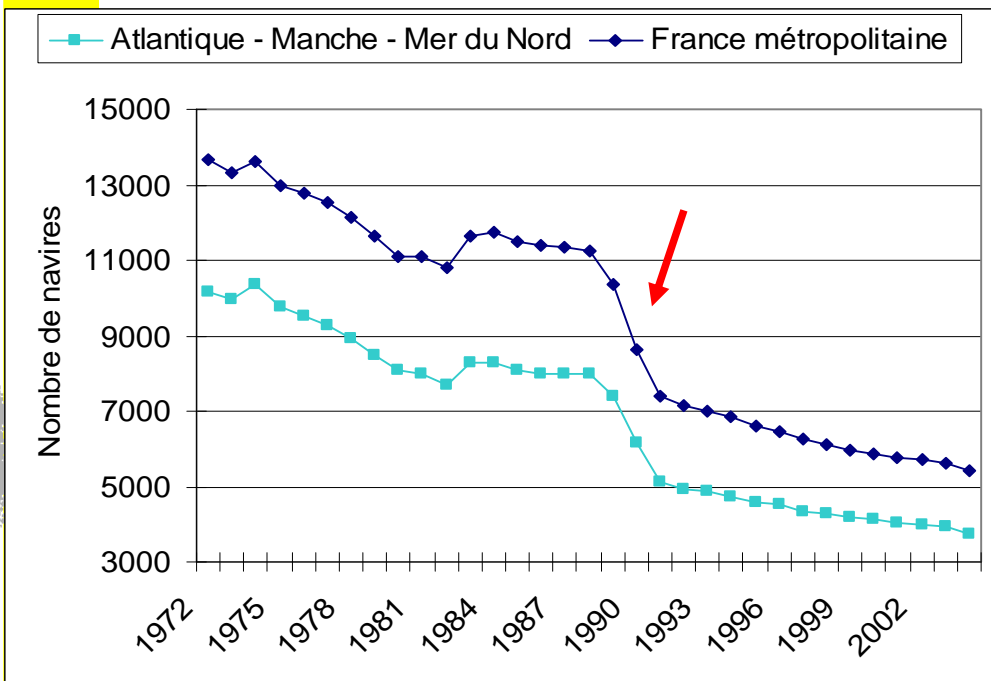
Thébaud et al., 2005

Decommissioning programs → exit of least productive and least valued vessels

Interest rate has negative influence on the probability of exit → a significant proportion of the vessel owners who decommissioned re-invested in another vessel



# Impacts of major decommissioning schemes in France



# Further issues

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## Ecological impacts of fishing:

→ Growing requirement to take these impacts into account in fisheries regulations: e.g. bycatch and discards, impacts on habitats, ...

will affect access regulation schemes, and the value to operators of any fishing rights hence fleet & fisheries dynamics

Key issue in economic terms: can prices of production (and, where these are tradeable, of fishing rights) be corrected to better reflect the « external benefits » of ecologically sound fishing techniques ?

## Uncertainty / variability in fisheries systems:

→ Monitoring problems, natural variability of fish stocks, and long term changes in the environment create both short-term and long-term uncertainty about the status of resources

→ Price uncertainties: both input (e.g. fuel) and output prices

Thank you for your attention

