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Socio-economic evaluation of the scallop restocking program of the Bay of Brest

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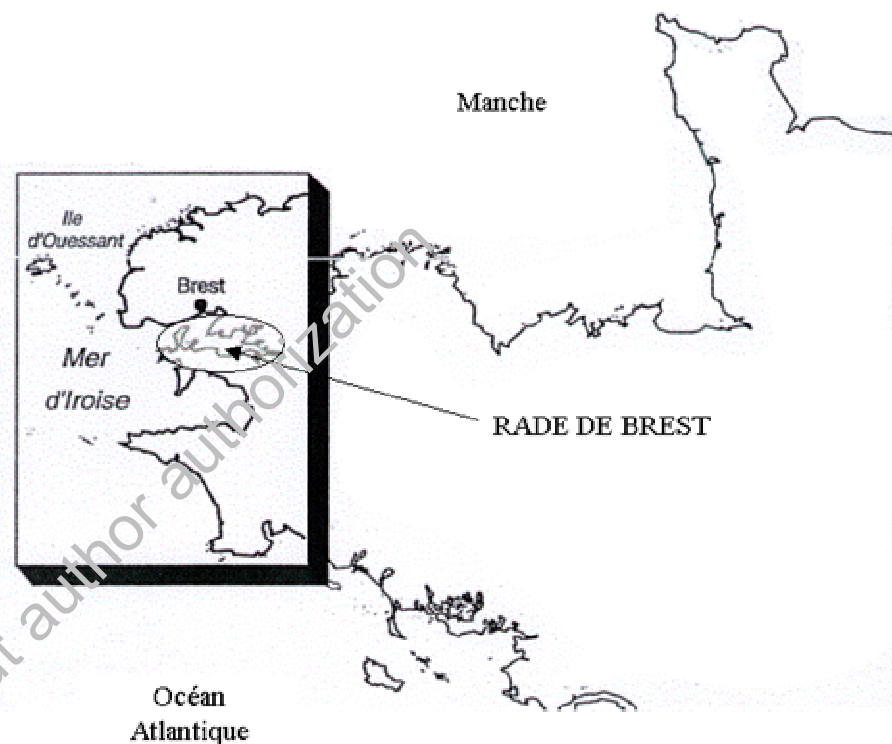
** Comité Local des Pêches Maritimes et des Elevages Marins du Nord-Finistère (France)

This paper makes use of the results of a survey realised for the local fisheries committee of North Finistère, and of the EC funded VALFEZ research project ((QLK5-CT1999-01271).

A quick description of the case-study

The Bay of Brest shellfish fishery

- Inshore winter fishery (October to March)
- Main species targeted : common scallop and warty venus
- Gear used : dredges
- small-size fishery : 363 tons of scallop (< 2% of French landings) and 131 tons of warty venus (17% of French landings) in 2003-2004



The fleet

- 70 licensed boats in 2004
- length < 11 metres, with exceptions
- crew : 1 or 2 persons, including skipper

Management of the fishery

- Limited entry licence system (regulation of access to the resource mainly based on effort control)
- A restocking program for common scallop (started in the 80')

Plan of the presentation

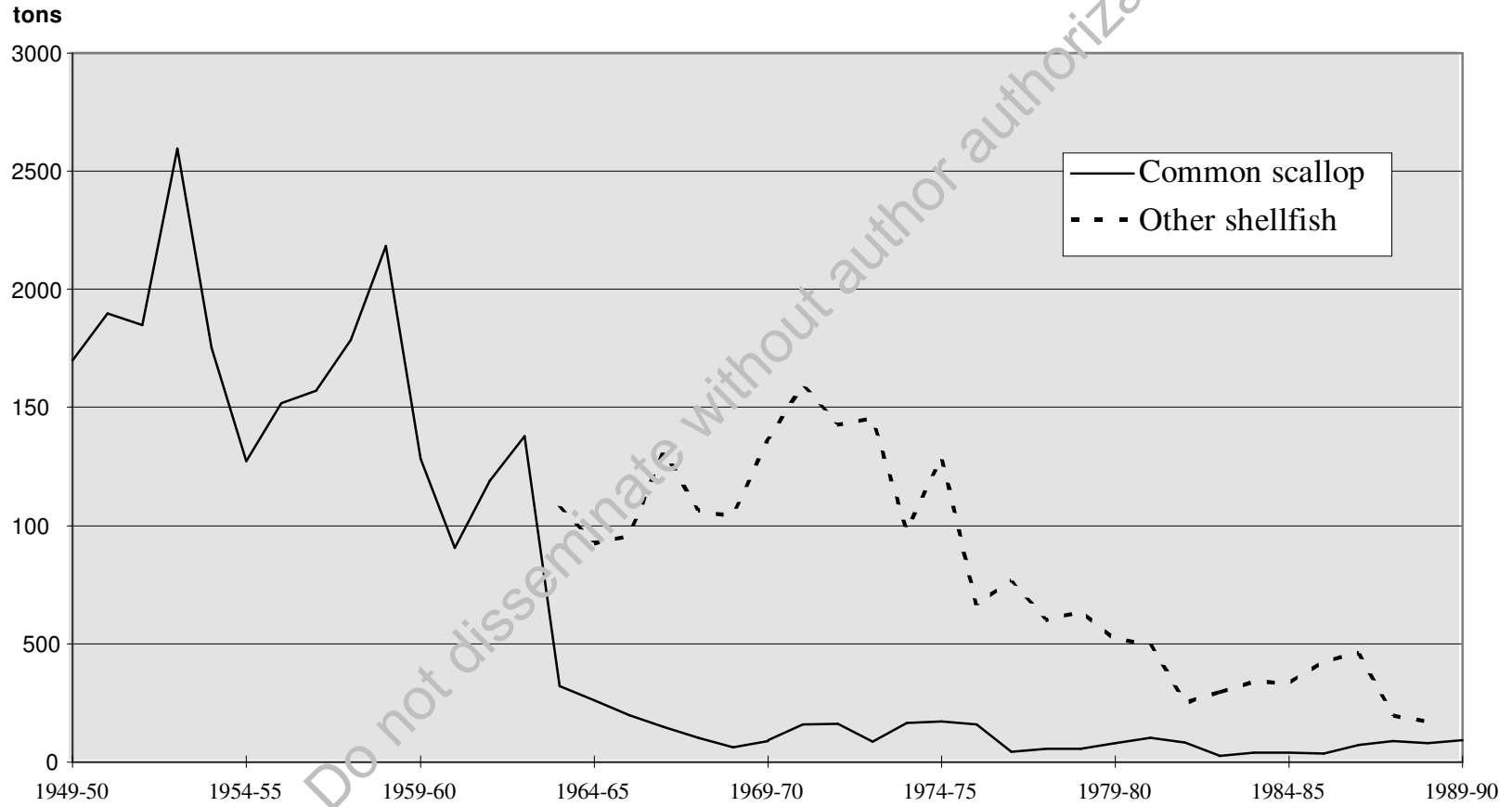
- 1. The common scallop restocking program of the bay of Brest**
 - Reasons for the program
 - Main features of the program
- 2. Assessing the impact of the program (2001 survey)**
 - Technical and financial performance
 - Contribution to the economic performance of the fleet
 - Opinions of fishers
- 3. Concluding remarks in regards to the recent evolution of the fishery**

**1. The common scallop
restocking program of the bay
of Brest**

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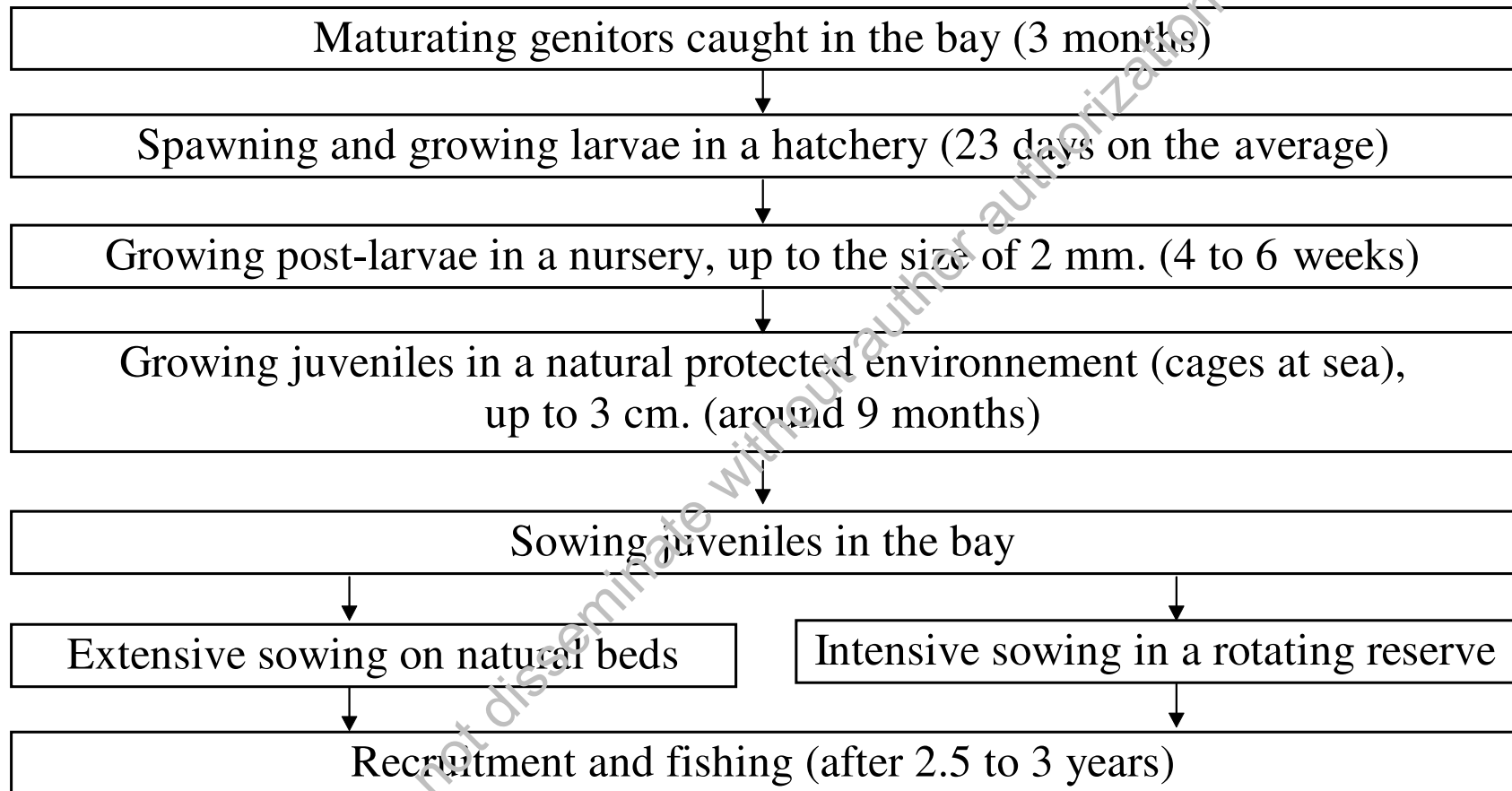
Reasons for the program...

Bay of Brest shellfish fishery : long term evolution of landings, 1949-1990
(source : Local fisheries committee)



Main features of the program

Restocking program : operational chain



Fishing on natural beds :
effort control (time limitation)

Fishing in the rotating reserve :
output control (individual quota)

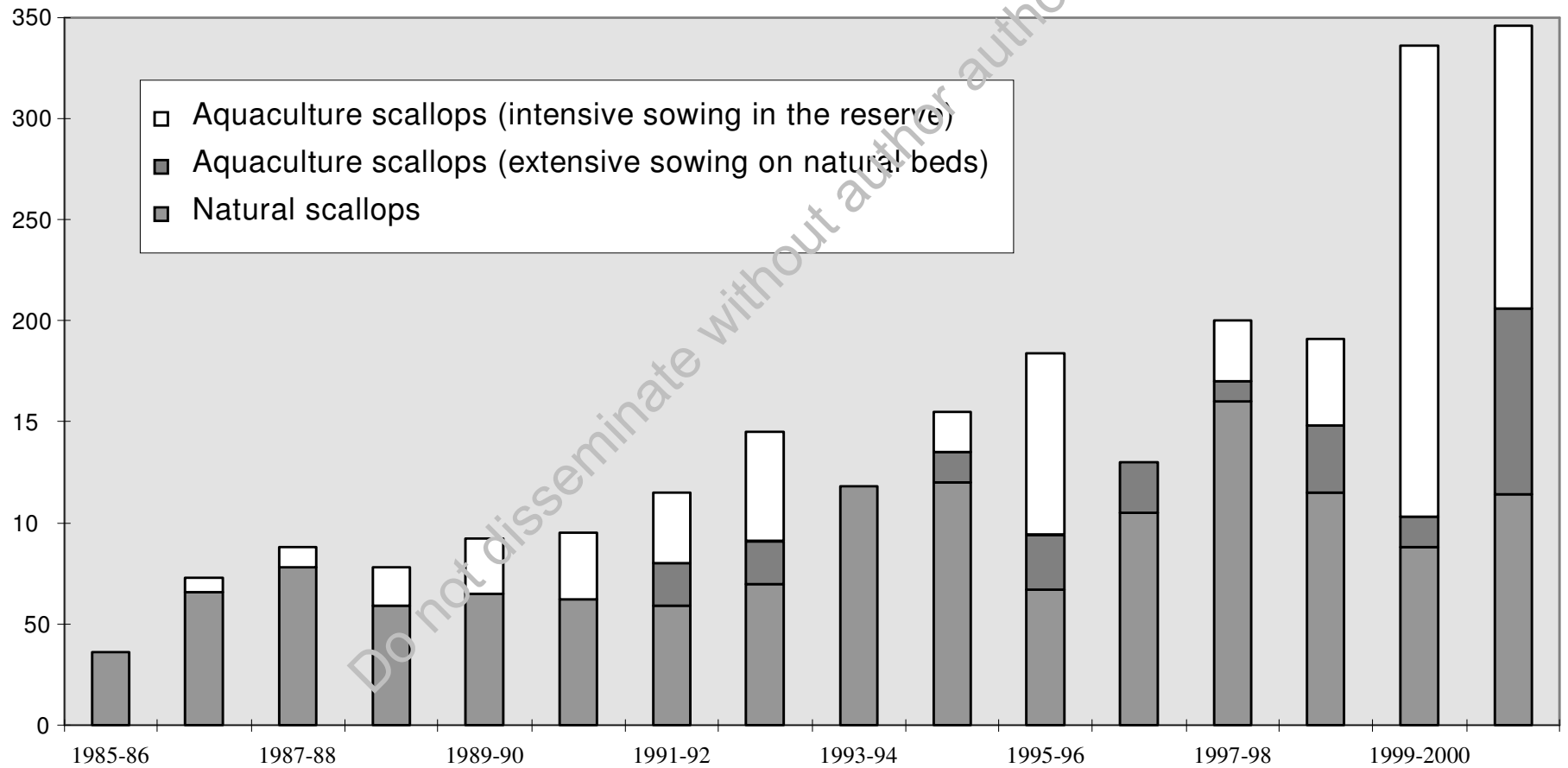
2. Assessing the results of the program (2001 survey)

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Technical performance

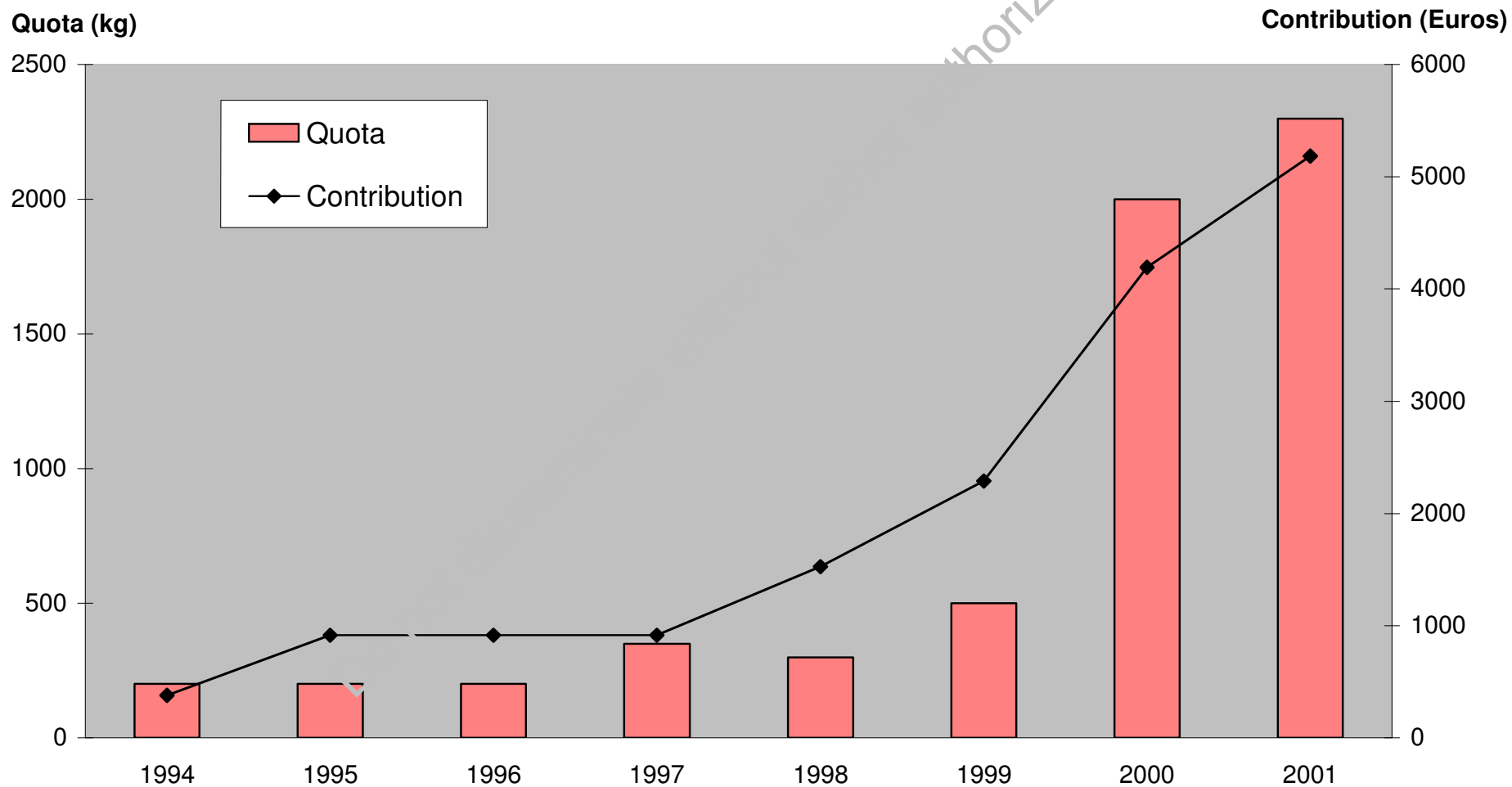
Landings of common scallops in the bay of Brest, according to origin (tons)

Source : local fisheries committee



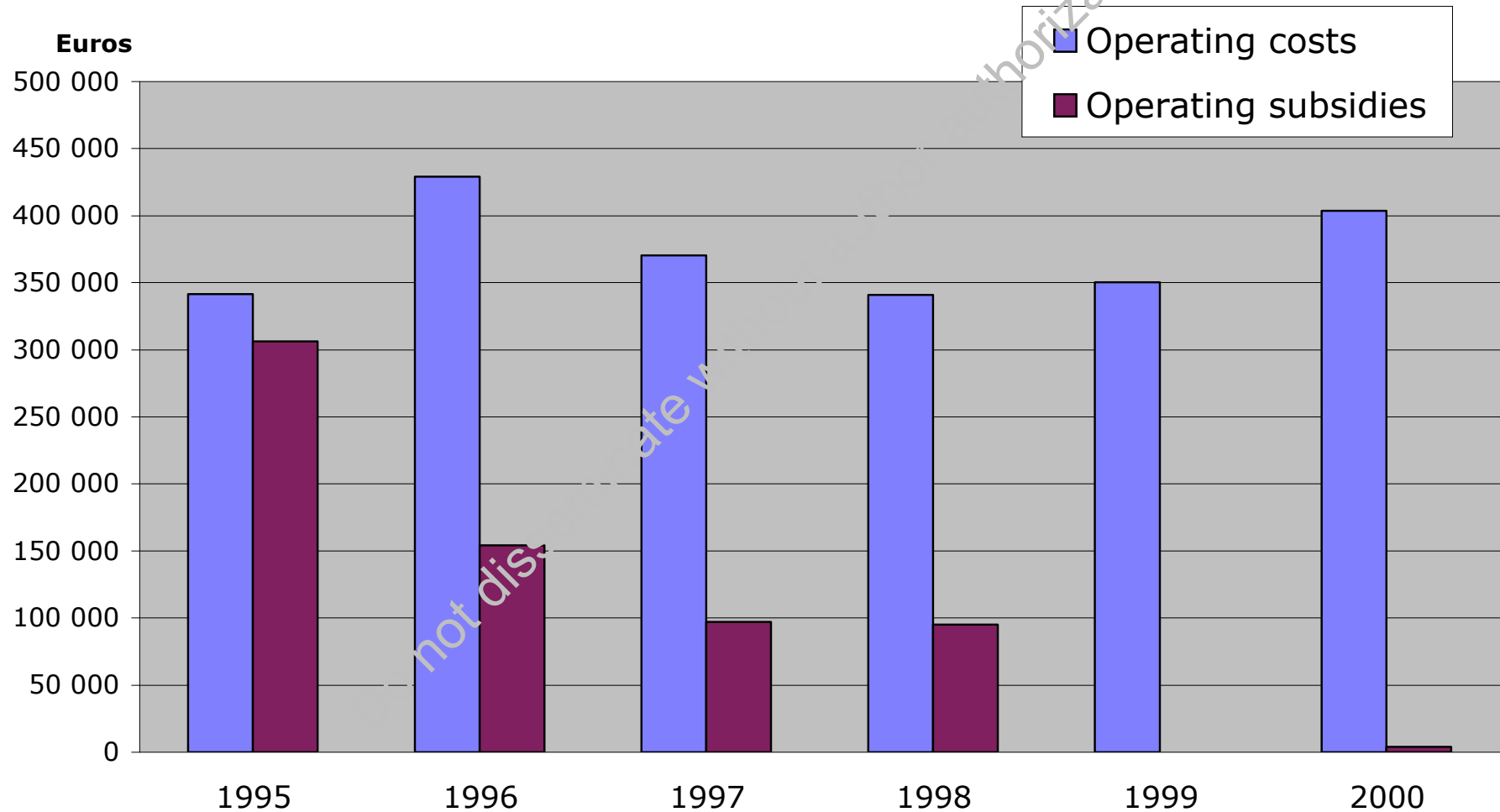
From technical performance to economic sustainability

Individual catch quota on the rotating reserve and individual contribution to the financing of the restocking program



A significant move towards cost-recovery

Tinduff hatchery-nursery : operating costs and subsidies, 1995-2000
(source : Association l'Écloserie du Tinduff, accounting books)



Impact of the program on the economic situation of the fleet : a simulation

Method :

- Comparison of the actual state of the fleet in 2000-2001 (reference level) with a hypothetical state corresponding to a “no sowing” scenario

Main assumptions of the “no sowing” scenario :

- No sowing of scallop juveniles
- No financial contribution of the fishers to the program
- Unchanged fishing effort, except for the canceling of effort in the reserve
- Catches per unit of effort proportional to stock biomass
- Natural recruitment not affected by variation of SSB due to sowing of juveniles
- No price effect

Simulation results

Estimated contribution of the program to the economic performance of the fleet (as a % of the reference level)*

Contribution to :	Contribution of		Total contribution of the program
	Intensive sowing in the rotating reserve	extensive sowing on natural beds	
Global yearly turnover of the fleet	11%	7%	18%
Net activity income of skippers-owners	17%	11%	28%

* 2000-2001 . Source : Alban and Boncoeur, 2003.

Opinions of fishers (1)

Skippers' opinions concerning the bay of Brest shellfish fishery* (winter 2000-2001 field survey)

Boat economic sustainability requires shellfish dredging in the bay	84%
Common scallop is critical to the sustainability of the bay shellfish fishery	71%
I am confident in the future concerning shellfish dredging in the bay	75%

* Frequencies of answers agreeing with the stated opinion. Source : Alban et al., 2001

Opinions of fishers (2)

Skippers' opinions concerning the restocking program * (winter 2000-2001 field survey)

The program is a technical success	75%
The present dual system for juvenile sowing (natural beds + reserve) is satisfying	81%
I agree with the principle of self-financing of the program	
–fully	56%
–partly	42%
I agree with the principle of a contribution based on a uniform lump sum for all boats	75%

* Frequencies of answers agreeing with the stated opinion. Source : Alban et al., 2001

3. Concluding remarks

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Several noticeable achievements

- An original combination of fishing and aquaculture, in the French context
- A take-off of the program in the 90', with a significant move towards cost-recovery
- An important contribution to fishers income
- An innovative and pragmatic management system
(e.g. use of the individual harvest quota on the reserve as an incentive to increase fishers willingness to pay for the program)

But...

- A questionable financial scheme :
 - the lack of long term involvement of fishers in the funding of the program paves the way for short-term opportunistic behaviours.
- Important exogenous factors of uncertainty:
 - Presence of a toxic phytoplankton (ASP) in 2004-2005 scallop fishing was prohibited during the major part of the season,
 - scallop landings dropped by 54% (198 tons instead of 363 tons in 2003-2004)
 - combined with low landing prices (2004-2005)
 - ➔ serious threat to the economic viability of the restocking program