

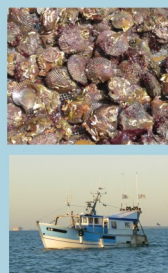
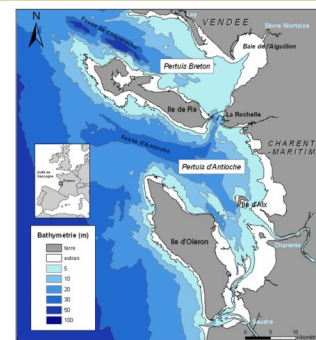
Surveying the stock of variegated scallop (*Chlamys varia*) in pertuis charentais strait (France)

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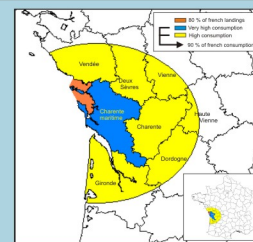
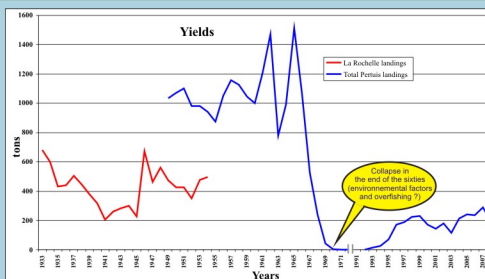
The variegated scallop is a major fishing resource in the pertuis charentais strait, together with the common scallop and the glass eel.

Aims : Improvement of the quality of an annual abundance survey to monitor the abundance of variegated scallop in the Pertuis



Biology : hermaphroditic bivalve mollusc.
Habitat : sandy or muddy bottom with scattered stones or shells on which it is fixed.
Salinity : from 30 to 40 ‰
Temperature : between 8 and 19 ° C

Fishing : Gear : 1 m large dredge (mesh 42 mm)
 Commercial length : 35 mm
 Management : Access to the fishery controlled by licence, days and hours (165 boats allowed but 70 to 90 boats fishing)

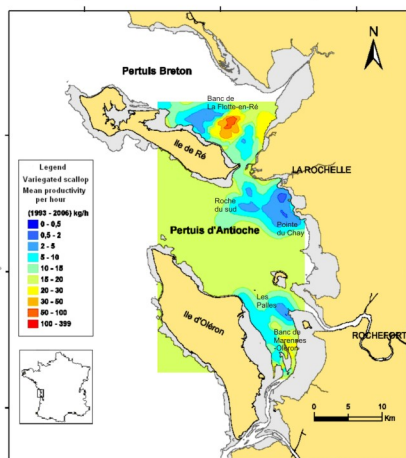


Market : Product mainly sold in the vicinity (90 %) of the Pertuis (~200 km)

Process to build up a new sampling plan

Since 1992, annual surveys of the Pertuis's stock have been carried out in a science-industry partnership by performing dredge hauls on the variegated scallop banks

However, until 2006 these surveys were a non-random search of the best areas of abundance. This process impeded to produce a fair estimate of change in abundance between years.



Map of average yield (kg.h⁻¹) over 1993-2006. A major area : the La Flotte bank (NE Ré Island).

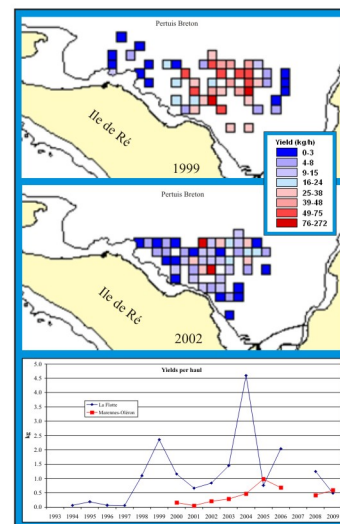
Problems:

- Surveyed areas have been different from year to year
- Many sectors rarely surveyed (1 or 2 times in 14 years)
- Large variations in abundance between close areas and succeeding years (e.g. opposite)

Conclusion

- Essential to standardize the surveyed areas in order to compare years between them.
- Need to carry out close hauls in order to properly assess the abundance

A sampling grid with hauls every 500 m



Designing a new survey

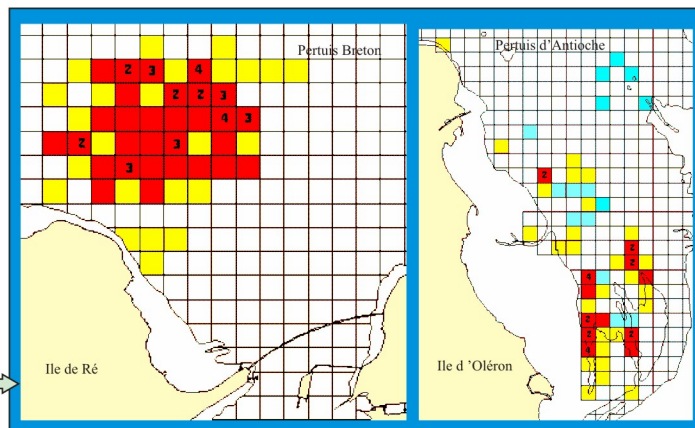
- Method : Number of hauls proportional to the past abundance and its variability
- Résultats : La Flotte (77%), Roche du Sud (<1 %), Pointe du Chay (<1 %), Les Palles (<1 %), Marennes-Oléron (22 %)

- * About 25 hauls per day
- * A single professional boat to avoid sampling bias.

Pertuis Breton (La Flotte bank) 2 days
 50 hauls of first priority and 24 of secondary priority

Pertuis d'Antioche (Marennes-Oléron bank) 1 day + 1 day for extra work
 23 hauls of first priority, 24 of secondary priority and 15 of last priority

First priority square (red) : 1 to 4 hauls
 Secondary square (yellow) : 1 haul
 Tertiary square (blue) : 1 haul
 (empty coloured square = 1 haul)



The sampling plan had been implemented on september 2008 and results had allowed to improve the 2009 survey .