

# Age estimation of the herring and the sprat from southern North Sea

Ifremer

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Herring  
*Clupea harengus*



Pelagic fishes



Sprat  
*Sprattus sprattus*

Herring is found in the North East Atlantic, from the White Sea and the northern part of Norway to Bay of Biscay.

This fish lives from the coast to 200 metres in depth.

Herring acquires its sexual maturity between 2 and 4 years old and its longevity is estimated at 11 years.

Sprat is found in the North East Atlantic, from Lofoten Islands to the Bay of Biscay, and also in the northern Mediterranean Sea and in the Black Sea.

This fish lives from the coast to 50 metres in depth.

Sprat acquires its sexual maturity between 0 and 2 years old and its longevity is estimated at 6 years.

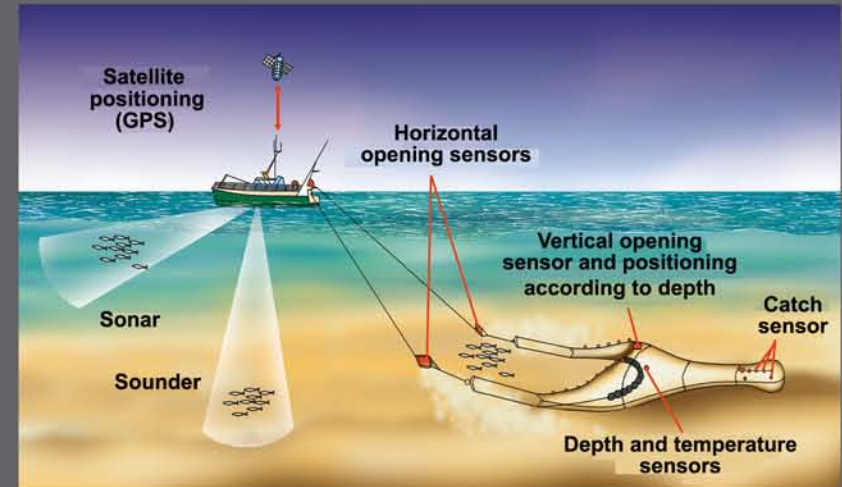
## Scientific survey : IBTS

### International Bottom Trawl Survey



#### Sample :

All otoliths are sampled during the scientific survey IBTS, which occurs every year at the first quarter and covers the southern North Sea. Stations are realized with Very High Vertical Opening (VHVO) bottom trawl.



#### Preparation and otolith reading :

All otoliths are cleaned, then placed in cavities of a black resin sheet (visible convex side), before being embedded in a translucent resin. After the resin drying, otoliths are read under microscope during the scientific survey.



Herring otolith

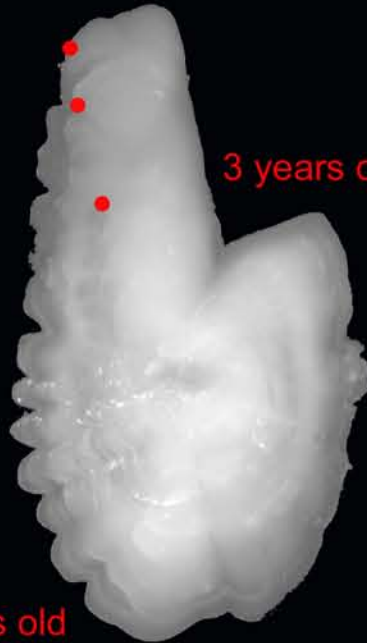
IBTS 2006		Secteur : 6		Carré : 3F3		Sp : Herring	
L: 1015	L: 800	L: 145	L: 155	L: 145	L: 145	L: 145	L: 145
Sm: F1	Sm: H2	Sm: F1	Sm: H1	Sm: F2	Sm: F2	Sm: F2	Sm: F2
Age: 2	Age: 2	Age: 2	Age: 1	Age: 2	Age: 2	Age: 2	Age: 2
L: 13	L: 105	L: 16	L: 12.5	L: 205	L: 205	L: 205	L: 205
Sm: F1	Sm: F1	Sm: F1	Sm: F1	Sm: H2	Sm: H2	Sm: H2	Sm: H2
Age: 1	Age: 1	Age: 1	Age: 1	Age: 2	Age: 2	Age: 2	Age: 2



Storage and inclusion sheets



3 years old

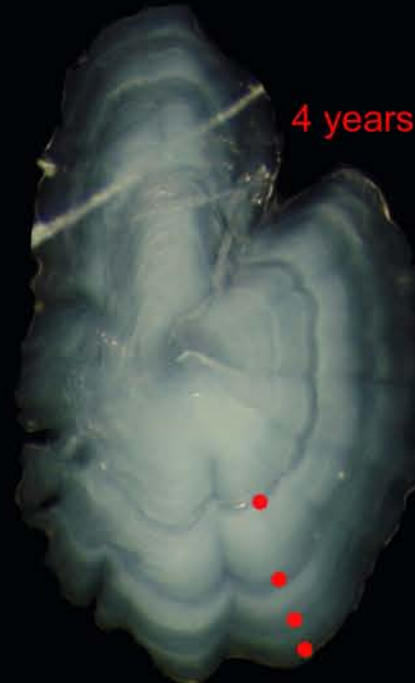


3 years old

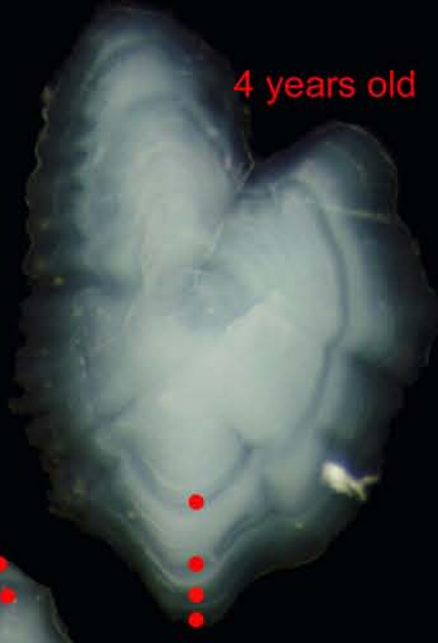


3 years old

Herring



4 years old



4 years old



3 years old

Sprat

#### Herring age estimation difficulty :

Herrings reproduce at spring-summer time or at fall-winter time. Though, depending on the reproduction period, the first winter increment occurs or not.

The differentiation between spring or winter herring is awkward, so herring age is expressed in winter increments.