



# SUMARiS NEWSLETTER 3 - March 2019



**SAVE THE DATE**  
**16-17 May 2019**

European Regional Development Fund

**REGISTER** → **EUROPEAN STAKEHOLDER GROUPS  
two-days meeting in Canterbury**

## Why the SUMARiS project?

*" The National Sclerochronology Centre of the Institut Français de Recherche pour l'Exploitation de la Mer ([IFREMER](#)) in Boulogne-sur-Mer, specialises in the age estimation of marine organisms based on calcified structures. In general, we research on fish age using scales or otoliths of the inner ear. Age determination is very important for improving our understanding of fish life cycles, analysing and managing fish populations.*

*As coordinator of the National Sclerochronology Centre, I saw the launch of the SUMARiS project as a new challenge for my institution. This challenge is to study the age of cartilaginous fish, particularly skates, using the vertebrae.*

*As this method is not commonly used in my laboratory yet, all the steps of the protocol should be developed: extraction, preparation and interpretation of the vertebrae.*



Just like the main subject of the SUMARiS project, the main species of this study remains the **Thornback ray** (*Raja clavata*).

In close partnership with the **Belgian Institute for Agricultural, Fisheries and Food Research (ILVO)**, the **IFREMER's Sclerochronology centre** will use its internationally recognized expertise to implement an age estimation method for individuals of the **Thornback ray** (*Raja clavata*).

The method will be presented to several working groups of the **International Council for the Exploration of the Sea (ICES)** involved in research in biological parameters and elasmobranch stock assessment. The objective is to develop this method as an internationally recognized standard and to obtain the age/length research key for this species in the English Channel and the North Sea."

**Kelig Mahé, Coordinator of the National Sclerochronology Centre, IFREMER Boulogne-sur-Mer**

## What is going on in the SUMARiS project?

One of the aims of the project is to gather knowledge in order to implement a specific cross-border management strategy for rays and skates in the North Sea and the Channel. Therefore, we are creating two tools that will help decision-makers: a joint comprehensive stock database, and an atlas of the distribution of skates and rays.

### The database

In 2018, FROM Nord developed a database according to technical specifications by scientists and fishery industry representatives in Belgium, France and the United Kingdom.

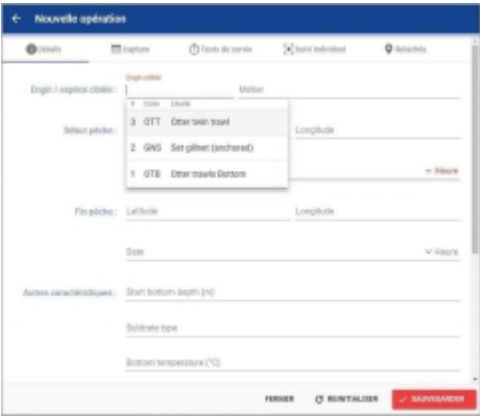
It is the first comprehensive cross-border database of ray and skate fisheries.



Its aim is to gather:

- Information on aggregated historical fisheries (2000 – 2017) in three countries
- Sea trip data (spatial distribution of species in the Eastern Channel and North sea, length, gender, gear used, etc.).
- Survival test results (using RAMP method) and monitoring information about individual species brought to our labs.

By the end of the project the data will be downloadable in an anonymized and aggregated by fisheries way.

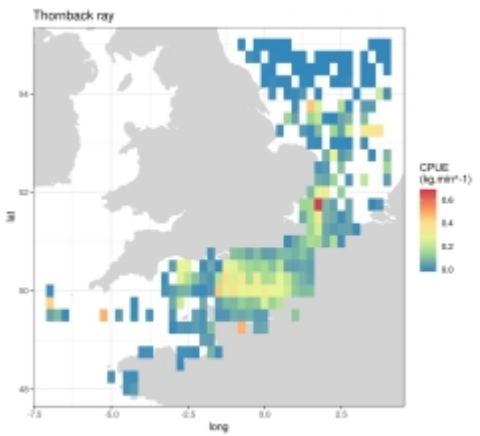


### The Atlas of the distribution of ray and skate species

In December 2018, **IFREMER** launched the Atlas of the distribution of rays and skates in the Channel and Southern North Sea.

The atlas presents the catch data per effort unit and provides monthly abundance maps. The focus is on wild distributed species, such as: **Thornback ray, Spotted ray, Cuckoo ray, Blonde ray, Small-eyed ray and Undulate ray.**

In 2019 IFREMER will make the atlas available for anyone to access it online and extract relevant data on ray and skate fishing.



The atlas combined with the database will lay foundations to proposals for cross-border management measures.

## Did you know?

In the Channel and North Sea, one can find **between 10 and 20 species of rays and skates**. They have similar physical and biological characteristics (form of body, skeleton, feeding habits...), but specific features differentiate each species.

Six of them are landed more often than others: **Thornback ray, Spotted ray, Blonde ray, Cuckoo ray, Small-eyed ray and Undulate ray.**

To make fishing sustainable and have correct landing data of skates and rays, it is essential that both professionals and stakeholders know how to identify the species correctly.



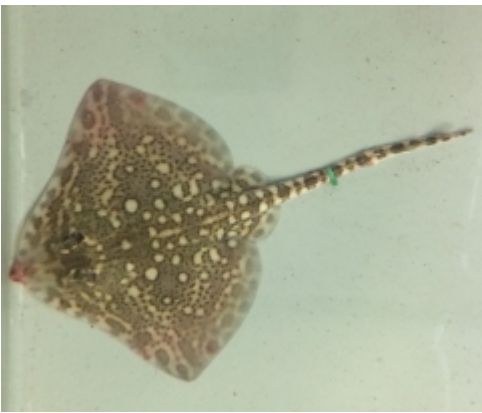
## How can we distinguish them?

### Thornback ray

*Raja clavata*

**FAO code : RJC**

The name of the Thornback ray comes from the big thorns present all over its back. You can recognize it by its rough skin and the dark and light bands on its tail. Keep in mind that this species is known to have highly variable colours and patterns. It is one of the most fished skates in the Channel and the North Sea, and you can find it on most fishmonger stalls.

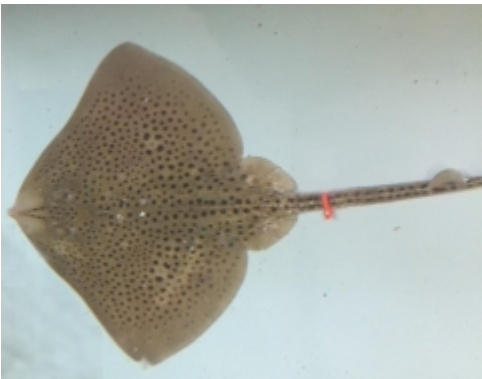


### Spotted ray

*Raja montagui*

**FAO code : RJM**

As its name suggests, this species is covered with many little dark spots. Unlike the Blonde ray, these spots do not extend to the very edge of the body. The eyespots are often in the middle of pectoral fins. Like most of rays and skates, it has a row of 20-30 thorns along midline, but its body has a smooth skin.

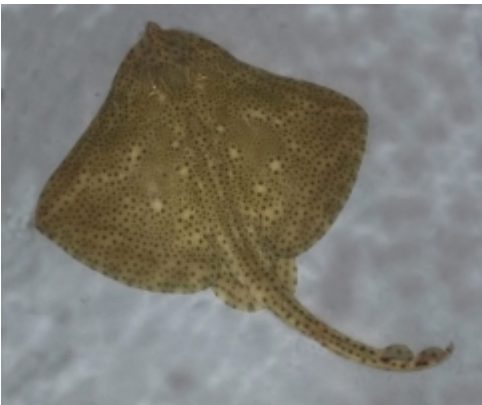


### Blonde ray

*Raja brachyura*

**FAO code : RJH**

Like the Spotted ray, the Blonde ray has a smooth skin and little dark spots on its back. However, these spots reach the very edge of pectoral fins. Most Blonde rays often have larger, paler spots on their back.



Watch out for the next newsletter to learn about Cuckoo ray, Small-eyed ray and Undulate ray.

## Latest events



During the **ICES annual conference in September 2018**, ILVO presented a poster "Establishing a vitality assessment protocol for rays" with a focus on the **RAMP (Reflex Action Mortality Predictors) method** used in the SUMARIS tests.



Sea trips on commercial fishing vessels took place **from June 2018 to December 2018** in Belgium, England, and France.

## What's up in 2019?

### THE EUROPEAN MEASURES ON RAY AND SKATE FISHERIES FOR 2019

On **18th December 2018**, the Council of the European Union voted the quota of ray and skate fisheries in Europe for 2019. For the first time, a fishing quota for the Undulate ray (*Raja undulata*) has been set up.

Since 2019, two quotas will be in place for "Undulate rays" and "Skates and rays".

It was also decided to increase by 10% the allowable catch of rays and skates in the Channel while in the North Sea, the TAC will stay the same as in 2018.



The Common Fisheries Policy was expected to enforce the landing obligation for all rays and skates in 2019. However, **the fishermen have obtained a "survival exemption"** for these species caught within the ICES areas of the North Sea and the Channel.

The SUMARIS project can add new evidence on the discard survival rates to extend the temporary exemption.

### ADVANCING FISHERY KNOWLEDGE

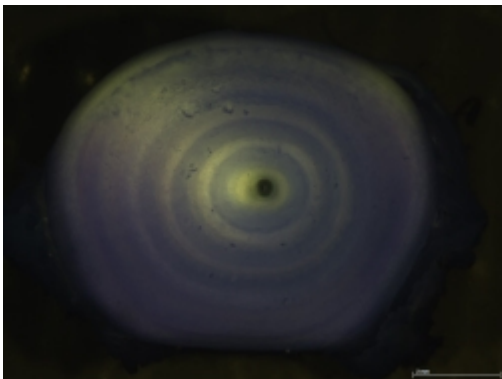
#### January 2019

Since December 2018, **IFREMER** and **ILVO** have been working together to create a common protocol for determining the age of rays and skates by means of their vertebrae.

After testing several cleaning techniques, the immersion of the vertebrae in a bath with an enzyme, the pepsin, showed good results.

The immersion time depended on the size of the vertebrae. Once the cleaning and separation steps were completed, the vertebrae underwent an EDTA (Ethylenediaminetetraacetic acid) treatment followed by a bath in a crystal violet solution.

The protocol will be submitted by the SUMARIS members to **ICES (International Council for the Exploration of the Sea)** working groups dealing with biological parameter investigations and elasmobranch stock assessment. The aim is to set it up as an internationally-agreed standard.



#### December 2019

Since October 2018, the aquariology team of **Nausicaá** has worked on the fecundity of Thornback rays and the egg survival rate.

After placing eggs in an incubation tank reproducing natural seasonal temperature, the team has been studying their development cycles.

Embryo maturation and hatching are being photographed and video-taped.





## TESTING A SURVIVAL RATE – SEA TRIPS

### October 2019

Since July 2018, several sea trips on commercial fishing vessels have taken place in Belgium, France and the UK.

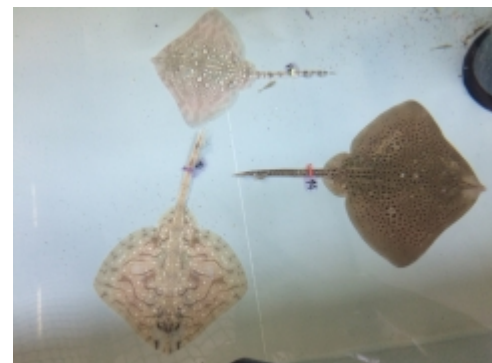
In six months, there have been two sea trips on a bottom trawler in Belgium, 5 on fishing boats with gill nets in England, two on an otter trawler and two on a fishing boat with trammel nets in France.



### July 2019

Since July 2018, the teams of ILVO and Nausicaá have been hosting rays caught during sea trips.

Their research on the survival rate has been focused mainly on Thornback rays, but other ray species such as the Undulate ray and Spotted ray, are being studied as well.



## TRAININGS ON HOW TO HANDLE RAYS AND SKATES

### January 2019 – July 2020

**Rederscentrale**, **FROM Nord** and **KEIFCA** will organise training sessions for fishermen about the identification and handling of rays and skates. Rederscentrale and ILVO prepare learning tools: a species **identification guide**, a **training video** and **educational materials**.

Several training sessions will be delivered to 10 to 20 professionals each time.

### MANAGING STOCKS TOGETHER IN A SUSTAINABLE WAY

#### 16-17 May 2019

**KEIFCA will organise a two-day meeting in Canterbury to gather European stakeholder groups** with interests in fisheries of rays and skates in the Channel and the Northern Sea.

The aim is to discuss the current management of rays and skates and make a list of new potential management measures to establish a cross-border strategy.

Each group and each country involved is welcome to attend and explain their points of view and motivations.

If you are interested or want more information, please contact us: [sc.rotzetter@fromnord.fr](mailto:sc.rotzetter@fromnord.fr)

## Connect with us

### The project SUMARiS is online !

- <https://www.nausicaa.co.uk/article/sumaris-project/>
- <http://www.fromnord.fr/le-from-nord/nos-projets-en-cours-de-realisation>
- <http://www.ilvo.vlaanderen.be/language/en-US/EN/Press-and-Media/Newsletter/Survey/articleType/ArticleView/articleId/4776/The-pursuit-of-rays-Towards-improved-mangement-of-ray-stocks-in-the-North-Sea-and-English-Channel.aspx#.WnHj6UxFyuU>
- <https://www.kentandessex-ifca.gov.uk/im-interested-in/research/rays-and-skates/>
- <https://www.rederscentrale.be/infoblad/>
- <https://www.visned.nl/aanlandplicht/259-sumaris-project-wellicht-bijdrage-aan-chokespeciesdiscussie>





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