2022

WP5.9 Materials for high school related with fisheries, to help teachers deal with cetacean bycatch

CETAMBICION

acean Assessment, Monitoring and Management Strategy in the Bay of Biscay and Iberian Coast sub-region

Workpackage 5

Published in the framework of the CetAMBICion project:

Coordinated Cetacean Assessment, Monitoring and Management Strategy in the Bay of Biscay and Iberian Coast sub-region (CetAMBICion).

The CetAMBICion project, coordinated by the Spanish National Research Council (CSIC) and which includes 15 partners from Spain, France and Portugal, aims to strengthen collaboration and scientific work between the three countries to estimate and reduce cetacean bycatch in the subregion Bay of Biscay and Iberian Coast, in close collaboration with the fishing sector. Until 2023, the project will work to improve scientific knowledge on population abundance, incidental bycatch and its mitigation measures.

The project is part of the European Commission's DG ENV/MSFD 2020 (Marine Strategy Framework Directive) call, and the objectives are aligned with the Habitats Directive and the Common Fisheries Policy.

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Current context

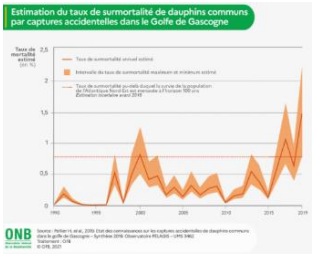
Key figures

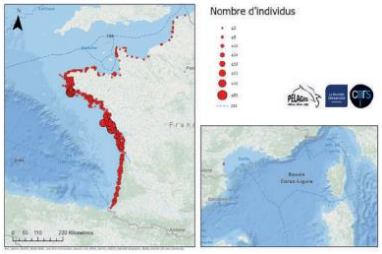
→ 1,123 cetacean strandings on the French Atlantic coast during winter 2019 (*RNE 2020*)

→ 400 to 500 referenced strandings in Portugal (porpoises and common dolphins) between 2016 and 2021

Referrers in France

National Stranding Network / Pelagis Observatory
French Biodiversity Office
Ministries DGAMPA and DEB





Presentation

- Strandings of marine mammals: Cetacean strandings are regularly observed on the coasts. However, since 2016, they seem to be increasing on the French and Spanish Atlantic coasts, in the Channel and on the Iberian coast, concerning mainly **common dolphins** (*Delphinus delphis*), **harbour porpoises** (*Phocoena phocoena*) and, to a lesser extent, **bottlenose dolphins** (*Tursiops truncatus*). Of the animals necropsied by stranding networks, 80% of the dolphins in France and 60-70% of the porpoises in Portugal show traces of accidental capture in fishing gears. .

- Threatened dolphin populations: It is estimated that in 2019, **1.49%** of the North-East Atlantic common dolphin population died, **accidentally caught in fishing gears,** which raises questions about the long-term survival of the species.

- Action plan to address incidental catches: Faced with this phenomenon, the French government launched a first action plan in 2017 with the establishment of a national working group, bringing together administrations, scientists, NGOs and fishing professionals. Seven **commitments were then made to mitigate and prevent incidental catches of small cetaceans.** Spain also has a national working group to discuss this subject.

- However, in 2020, given the lack of improvement, **the European Commission gave notice to France and Spain** to take measures to prevent by catch. This was followed in 2022 by a reasoned opinion, urging both countries to take additional and concrete measures.

To learn more

1. Strandings in France and by year
2. Incidental capture of common dolphins in fishing gear
3. Commitments in France to combat by catch (state, fishers and scientists)
4. https://www.cetambicion-project.eu/?lang=es
5. https://www.miteco.gob.es/
6. https://intemares.es/
7. https://cetaceos.com/
8. https://www.azti.es/avistamiento-cetaceos-golfo-bizkaia/
9. https://www.miteco.gob.es/es/biodiversidad/planes-y-estrategias/plannacionaldereducciondelascapturasaccidentalesenlaactividadpesquera-301221_tcm30-535254.pdf

Marine mammals in the Bay of Biscay and the Iberian coast

Key figures

→ In France, 14 species of cetaceans are permanently present in the Bay of Biscay (*DCSMM Assessment 2018*)

→ More than 242,000 km have been surveyed between 2005 and 2020, by plane and boat, in the Bay of Biscay and the Iberian coasts to monitor marine mammal populations (*Deliverable Cetambicion 2.2, 2022*)

Referrers in France

Pelagis Observatory
French Biodiversity Office
Instituto Español Oceanografico
AZTI

Presentation

- Regular monitoring at sea: In order to gain a better understanding of the marine environment and the species that live there, **monitoring by boat or plane** is regularly organised in French and European waters. They allow us to take stock of the species present in coastal and offshore waters, estimate their abundance and follow their evolution over time.

- Several species of marine mammals have been recorded in the Bay of Biscay and the Iberian coast: In France, **14 species of cetaceans** and one **species of seal** are permanently present: two baleen whales (minke whales and fin whales), five toothed whales (killer whale, sperm whale, pygmy sperm whale, beaked whale, Sowereby's beaked whale), four species of dolphins (common dolphin, bottlenose dolphin, striped dolphin, Risso's dolphin), one species of harbour porpoise, pilot whales and grey seals. Eight other species of cetaceans can also be observed occasionally.

- The Marine Strategy Framework Directive (MSFD): This European directive aims to **evaluate the good ecological status of the** environment through several criteria. To do this, assessments are carried out in each European country every six years, making it possible to monitor the health and evolution of marine mammal populations over time. During these assessments, the main pressures on the marine environment are identified and environmental objectives are set to remedy them.

To go further

1. Monitoring of marine megafauna by boat
2. Monitoring of marine megafauna by aircraft (national campaigns)
3. Monitoring of marine megafauna by aircraft (European campaigns)
4. Learning to recognise marine mammals
5. The Marine Strategy Framework Directive
6. DCSMM 2018 assessment: marine mammals in the Bay of Biscay

Interactions between marine mammals and fishing activities

Key figures

→ Approximately 4,250 common dolphins have died during the winter of 2021 from accidental captures in fishing gears (*Bilan 2022 Observatoire Pelagis*)

Referrers in France

Pelagis Observatory (overflights)
French Biodiversity Office
Ministries DGAMPA and DEB

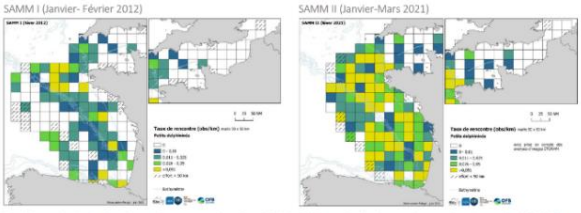
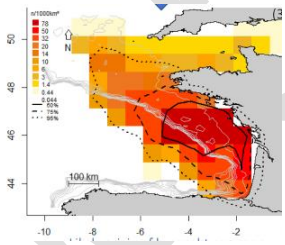


Fig. 2. Cartes de distribution des taux de rencontre de petites delphininés (observation/km) comparées entre les deux cycles de SAMM.



Presentation

- Fishers and marine mammals occupy the same spaces at sea: Interactions between fishers and marine mammals can occur at sea for several reasons. Firstly, dolphins and seals can be attracted by fish caught in fishing gear and adopt a depredation behaviour where they come to feed directly in the nets, risking damage or injury. However, in the Bay of Biscay, these interactions are mostly involuntary, with fishers and marine mammals using the same fishing grounds, resulting in accidental catches in gear. **These catches are the main cause of the worldwide decline in marine mammal populations.**

- A change in the distribution of common dolphins in the Bay of Biscay: Thanks to overflights and monitoring, **a change in the distribution of common dolphins at sea** has recently been observed. It appears that this species, which used to be mainly present offshore, has moved closer to the coast. The number of common dolphins remains similar, but the groups of animals are smaller and more diffusely distributed on the continental shelf. This could explain why the interactions of this species with fishing activities have increased in recent years.

- How to better understand these interactions: Improving our knowledge of the context of these catches is essential in order to find a solution to this problem. Several methods are currently being developed to try to gain a better understanding of the fishing gear and practices that can have an impact as well as the areas and periods at risk. **Fishing risk analysis** allows the potential presence of animals to be juxtaposed with areas of fishing effort. **The so-called reverse drift method** seeks to retrace the route of a stranded dolphin in order to find the area where the animal was caught. Finally, the **OBSCAMe and Delmoges projects** seek to better understand the context of interactions, with the installation of on-board cameras (@OBSCAMe) and the deployment of modern technologies to better understand the habitat and behaviour of dolphins as well as their relations with preys and fishing gears (@Delmoges).

To learn more

1. Depredation
2. Incidental catches
3. Change in the distribution of common dolphins in the Bay of Biscay
4. Explanation of the Fisheries Risk Analysis method
5. State of knowledge on incidental catches of common dolphins in the Bay of Biscay

Technical or alternative solutions to reduce the incidental capture of marine mammals

Key **figures**
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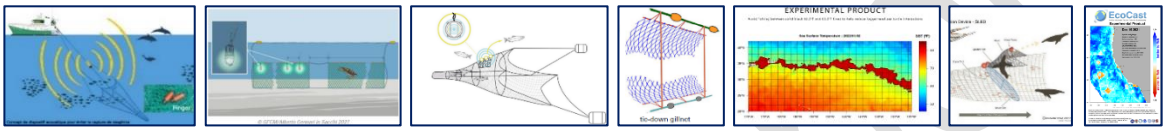
Referrers in France
Ministries DGAMPA/DEB
Fisheries Committees
Professional organisations
French Office for Biodiversity
Ifremer
University of La Rochelle



Presentation

- Multiple solutions but "case by case": Feedback from international studies shows that **there are no "turnkey" solutions** for reducing the incidental capture of marine mammals. These solutions depend greatly on the type of fishing gear and fleet, the species caught accidentally and those targeted by the fishery, and the periods, areas and environmental conditions in which the catches occur.

- A solution that must meet environmental, technical and socio-economic challenges: the reflections on how to solve the problem of bycatches must take into account several factors in order to ensure that this measure is adopted and used sustainably. Beyond the reduction of bycatches, each solution must also integrate a good yield of commercial species with the new device (to ensure the profitability of fishing trips), the ease of installation and handling on board and over time, the safety of the crew and the absence of impact on the catch of other species or in the marine environment.

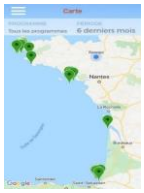
- Several major types of solutions exist to limit cetacean catches, by improving the visibility of underwater fishing gears, modifying fishing gears or practices to improve their selectivity or reduce their impact, or managing the fishing effort to avoid high-risk areas and periods. **Details of these solutions can be found on the websites described below**:

To learn more,

1. Solupêche website: https://solupeche.fr/ - https://solupeche.es/ - https://solupeche.pt/
2. Clean catch UK: https://www.cleancatchuk.com/
3. Consortium for wildlife bycatch reduction: https://www.bycatch.org/
4. Bycatch management information system: https://www.bmis-bycatch.org/
5. **State-of-the-art and measurement tests in the framework of the CetAMBIC ion project:** https://www.cetambicion-project.eu/
6. https://www.programapleamar.es/proyectos/ahuyemar-desarrollo-de-metodologias-innovadoras-para-evitar-la-interaccion-de-mamiferos
7. http://www.cemma.org/virada_gal.htm
8. https://circe.info/

Involvement of professional fishers in projects or initiatives to reduce catches

Key figures



Referrers in France

Ministries DGAMPA/DEB
Departmental, regional and national fisheries committees
Professional organisations
French Office for Biodiversity
Ifremer
PELAGIS Observatory

Presentation

- **French, Spanish and Portuguese fishers are involved in several projects** to 1) better understand the interactions between cetaceans and fishing activities in their fishing grounds, and 2) find solutions to reduce bycatches. These projects are carried out thanks to the involvement of professionals who test the various devices on their vesselsand during their fishing operations.

- The main experiments currently being carried out in France **concern gillnetters** with the installation of acoustic repellents (DDD and Cetasaver pingers, Dolphinfree) and acoustic reflectors in nets. In Spain, DDD03H pingers and Cetacean Excluder Devices are also being tested in bottom trawls, while in Portugal interactive pingers (DiD) are installed in nets and DDD pingers are being tested in purse seines.

- Some professionals also contribute to improve knowledge by recordingtheir observations or catches of marine mammals in **the digital application Obsenpêche**. This geolocated tool allows these observations to be shared between all volunteer fishers and thus informs them in real time of the presence and risks of dolphin captures. Professionals operating in the area can then move from the indicated location to avoid further captures. **Obsenpêche is now available in several languages so** that foreign professionals operating in the Bay of Biscay and the Iberian coasts can access it.

To learn more

1. Description of the operation of pingers in nets
2. Licado project to test pingers and acoustic reflectors on nets (GoG)
3. Pifil project to test the activation of pingers only when spinning (GoG)
4. Dolphinfree project
5. Obsenpeche application

Current regulations on these subjects

Key **figures**

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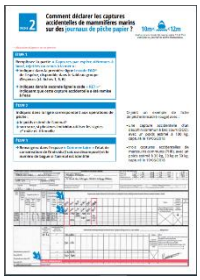

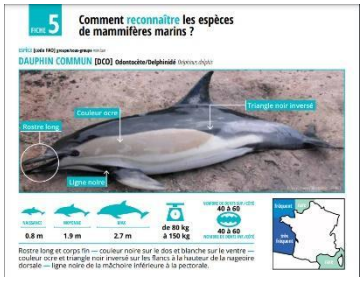

Referrers in France

Ministries DGAMPA/DEB
Departmental, regional and national fisheries committees
Professional organisations
French Office for Biodiversity

Presentation

- Cetaceans are protected animals: whales, dolphins and porpoises are all protected by the European Union's Habitats Directive, which requires EU countries to monitor the conservation status of these species. Within this framework, the EU has taken specific measures to ensure that **the impact of fishing activities is minimised**.

- Obligation to declare accidental catches of marine mammals: all professional fishers are now obliged to **declare accidental catches of marine mammals** in their logbooks (for vessels over 12m) or their fishing logs (< 12m). A declaration tool is available to assist professionals.

- Equipment of fishing vessels: Since 1st January 2020, by ministerial order (ministerial order of 26 December 2019 **on the obligation to equip pelagic trawlers in** the Bay of Biscay with **acoustic deterrent devices**), all French pelagic trawlers over 12 metres operating in the Bay of Biscay during the winter period are required to be equipped with pingers (acoustic deterrents).

- Obsmer programme: Obsmer is a sea observation programme implemented by the Directorate of Maritime Fisheries and Aquaculture and co-financed by the European Union, to allow scientific observers to be taken on board professional fishing vessels in order to observe catches and fishing conditions and to gain a better understanding of the interactions between fishing activity and marine resources and ecosystems. **Accidental catches of marine mammals are also reported in this context**.

To learn more,

1. European Regulation on measures concerning incidental catches of cetaceans in fisheries
2. A tool to assist in the identification and mandatory reporting of incidental catches
3. Ministerial order requiring the fitting of acoustic deterrent devices for pelagic trawls in the Bay of Biscay
4. Obsmer Programme