Workshop

16-17 March 2023, Brest, France

Potentialities of incentive-based approaches to reduce dolphin bycatch in the Bay of Biscay

The Bay of Biscay case study

Hélène Peltier and Vincent Ridoux

Observatoire Pelagis, UAR 3462, La Rochelle Université/CNRS
5 allées de l'océan, 17000 La Rochelle, France

Delmoges

WP4

This presentation of the Bay of Biscay case study is the perception of two environmental scientists.

Hélène and I have been involved in the topic since the 2005 for Hélène and 1991 for me.

We are biologists and ecologists by training, not economists nor social scientists. Our core activity is to contribute to producing knowledge on the biology, ecology and conservation status of marine mammals in the area in order to inform environmental policies.

In parallel, we had the opportunity to meet with and observe most of the actors or stakeholders involved in the topic, notably during numerous working group meetings, both at national and international levels.

Hence, this overview of the Bay of Biscay case study is from our own perspective, with its inevitable biases.

It covers the period from 1990 to present.

Introduction

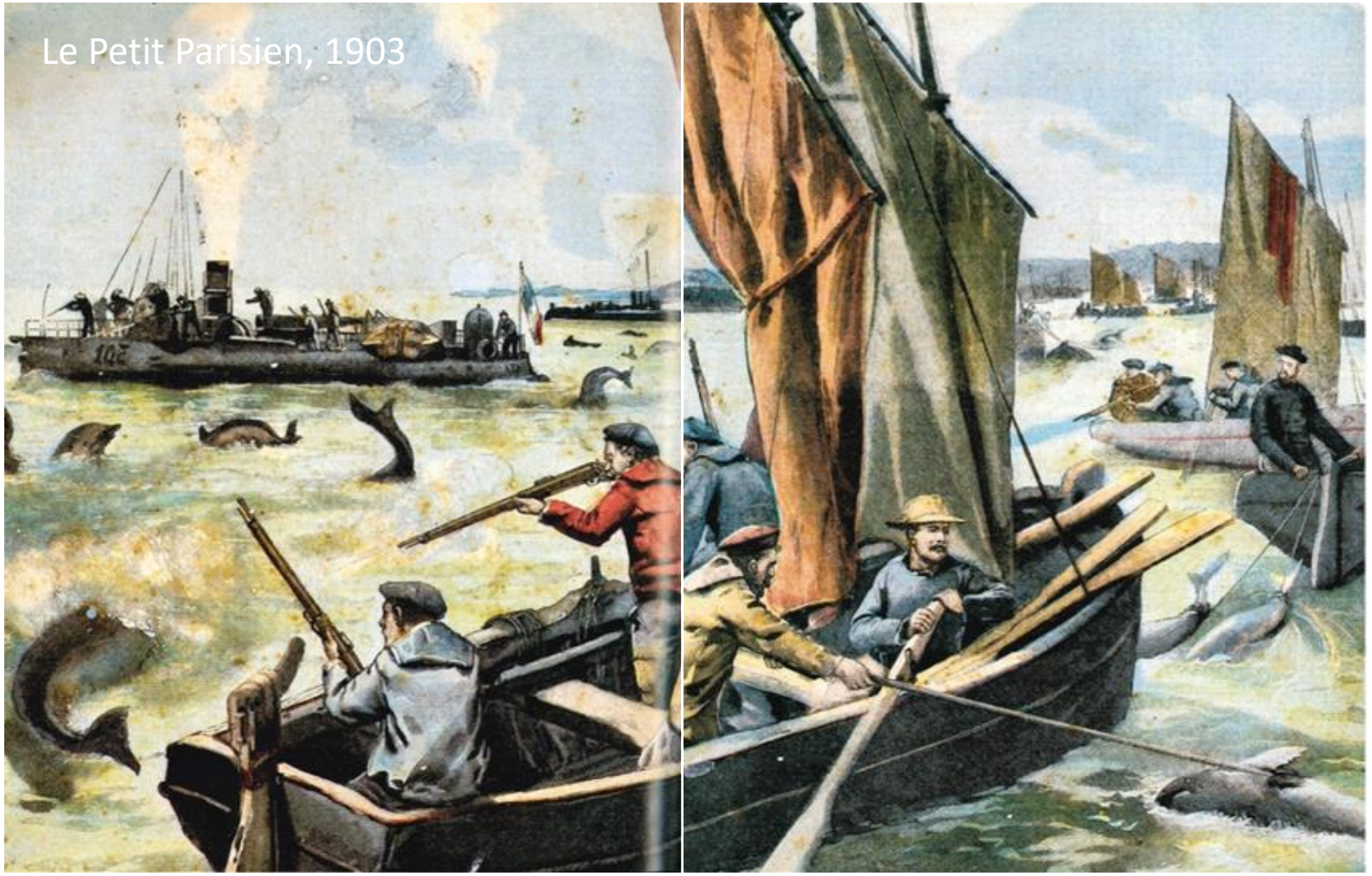
1990’s

2000’s

2010’s to present

Concluding remarks

Before we start, it is worth noting that there is a long tradition of dolphin and porpoise killing in the Bay of Biscay.
It includes deliberate destruction of animals perceived as competitors from 1900-1960’s,…



Introduction

1990's

2000's

2010's to present

Concluding remarks

….. intentional catch for subsistence (before, during and after WW-2), local marketing of dolphin meat (until early 1970s) and incidental catches (often opportunistically used as food).

Today's fishermen and commentators often refer to this history to put the current bycatch issue into a cultural perspective: "in recent time, dolphins and porpoises used to be a marine resource".

A postcard from *Piriac sur mer*, early XXth century

Agence France Presse, 1935

Introduction

1990's

2000's

2010's to present

Concluding remarks

This perception coexisted with the view that dolphins and porpoises could help herding pelagic fish into the nets (mainly in the southern BoB and off the Iberian coasts; Baulaz & Morin-Repinçay, 2010).

1e Année. — N° 7 JUILLET 1903

La Conserve Alimentaire

Bulletin Mensuel de Vulgarisation théorique & pratique de fabrication

Paraissant le 15 de chaque mois

Rédigé par un groupe de Fabricants-Industriels et de Chefs d'Emplois de cette Industrie

LA SARDINE

Clupea Sardina (Cuvier)

(Suite)

Des différentes Pêches à la Sardine et à l'Anchois. — Du Marsouin et de son utilité comme auxiliaire pour la Pêche des Sardines et Anchois. — De la Méthode de Pêche des Basques et des Espagnols à l'aide du Marsouin

(N. B. — Les dessins de cet article ont été exécutés à la plume par l'auteur)

SENNE A SARDINES. — (1) Fune d'arrière, (2) Fune d'avant, (3) Coulisse de serrage servant à former la poche, (4) Gros plombs de sonde maintenant le filet perpendiculairement.

(Fig. 3)
Marsouins faisant le mouçaou et lancement du filet

(Fig. 4)
Filet près de former

(Fig. 5)
Filet fermé vu de face, rempli de sardines

Introduction

1990’s

2000’s

2010’s to present

Concluding remarks

All cetaceans are legally protected in France since 1970, prohibiting intentional catch, trade, transport, consumption and so on. Reinforced by EU Directive Habitats, Annex IV, 1992.

Yet limited illegal consumption still exists in the 2020’s.

Now incidental catches in fishing gears is widespread in various *métiers*.

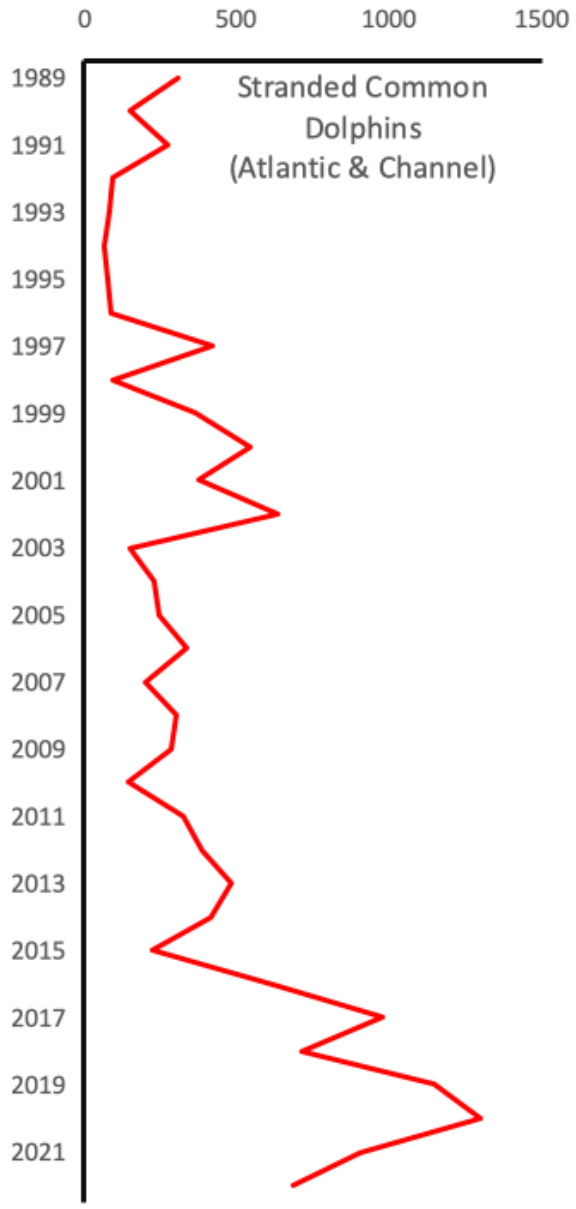
Introduction

1990’s

2000’s

2010’s to present

Concluding remarks



There has been extensive variation in common dolphin stranding over the last three decades, from 66 individuals in 1994 to almost 1300 in 2020. In general, ¾ of yearly strandings appear in Jan-March.

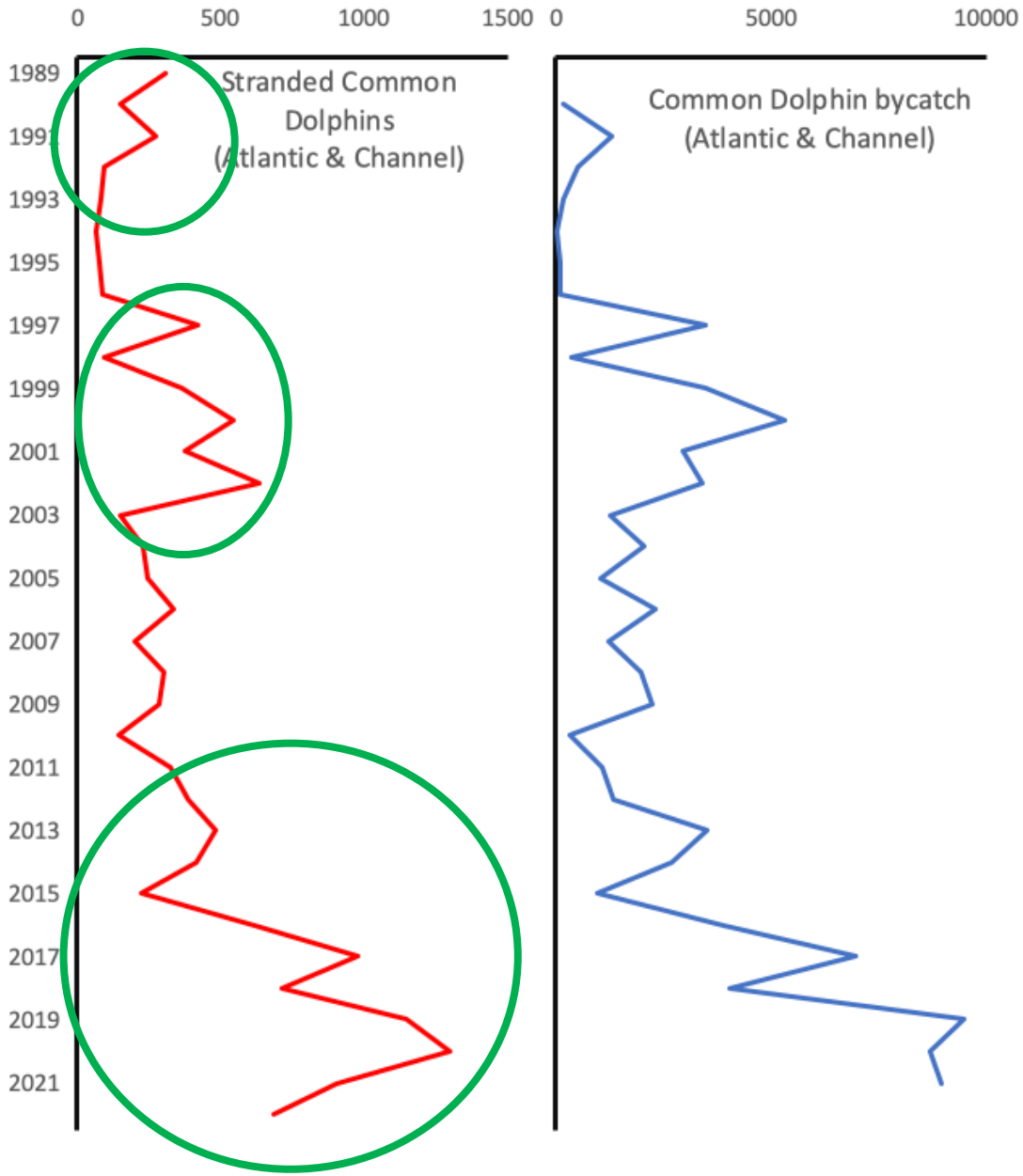
Introduction

1990's

2000's

2010's to present

Concluding remarks



Unusual stranding events were first recorded in 1989-1991, then 1997-2002, and in 2012-14 and 2016-present, with ever increasing intensity.

Bycatch mortality follows the same general pattern, but differs slightly in details, because of the particular wind regime experienced each winter.

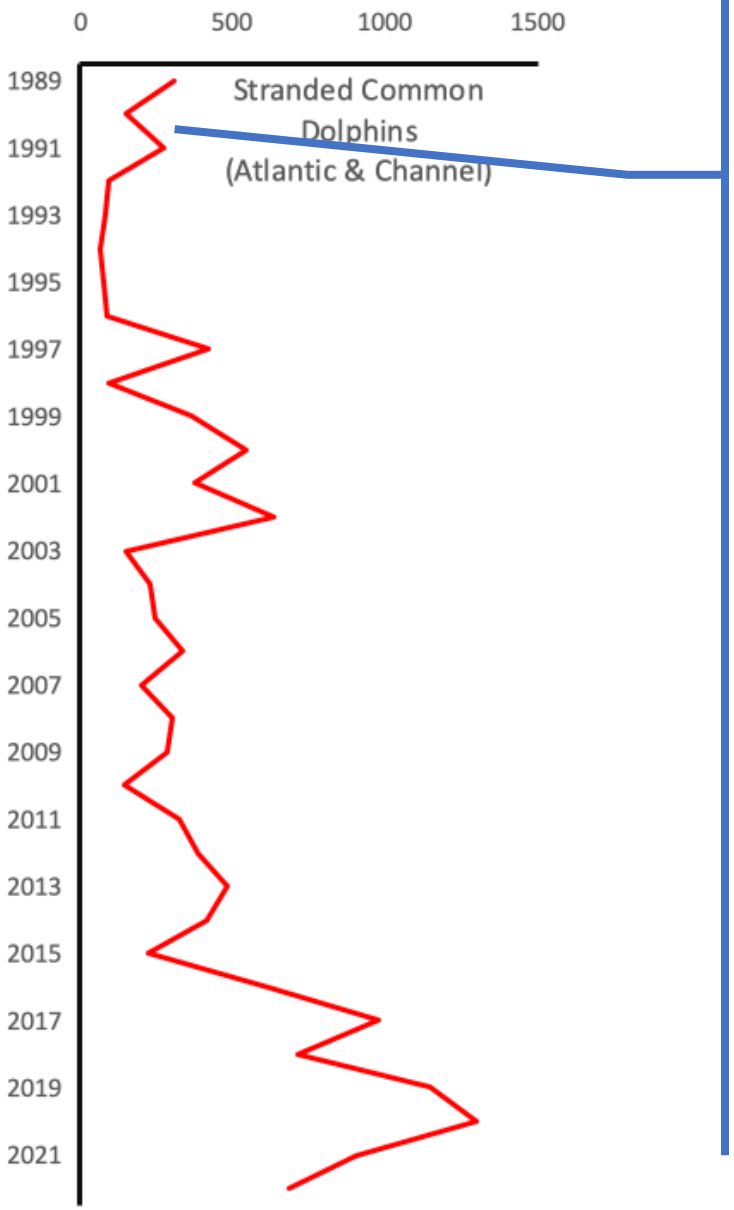
Introduction

1990’s

2000’s

2010’s to present

Concluding remarks



Winter 1989 : first unusual multiple stranding events of common dolphins, , with a large proportion of individuals wearing bycatch marks.

In the late 80’s : the tuna fishery *vs* dolphin bycatch controversy originating from the ETP in the 1960’s and early 70’ is present in the media.

In French media, a connexion is erroneously made between the albacore tuna drift-net fishery and dolphin strandings.

CRMM says : Winter stranding of common dolphins are inconsistent with bycatch in summer tuna fisheries; stranding would result from bycatch in seabass pair trawls.

Ifremer says: we are not going to open a second front, let’s focus on bycatch in the tuna fishery => GERDAU and MICA projects 1992-93.

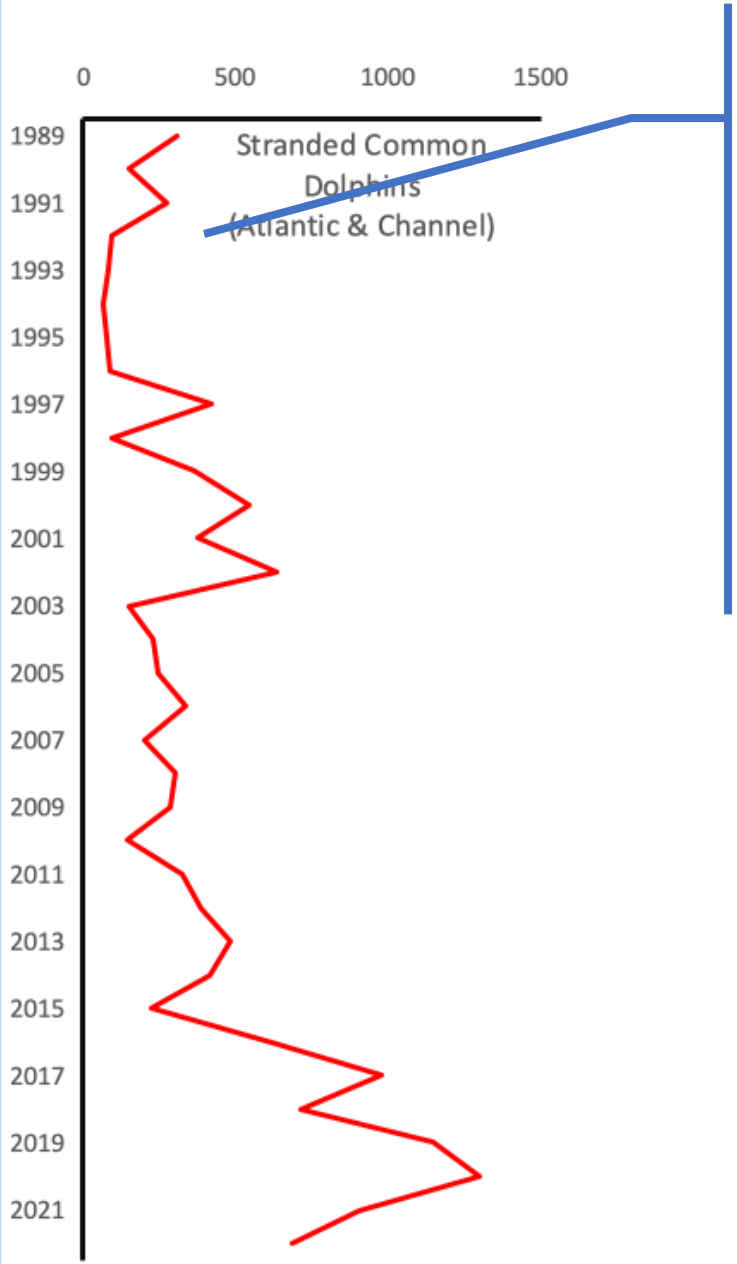
Introduction

1990's

2000's

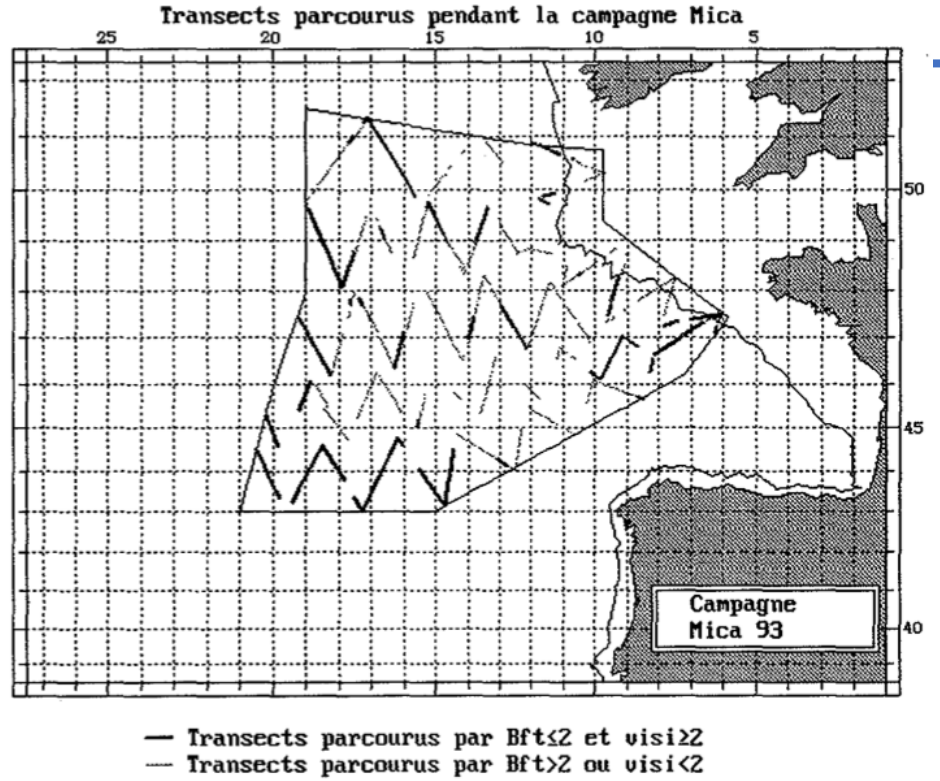
2010's to present

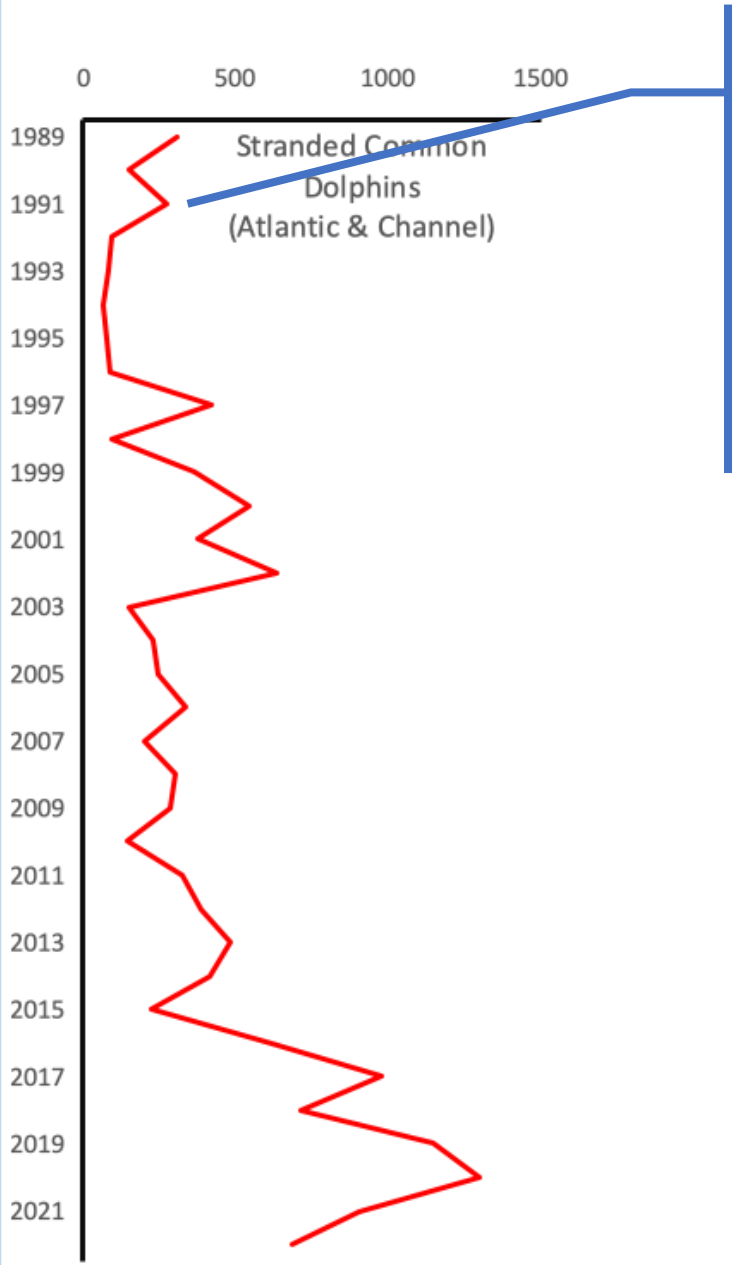
Concluding remarks



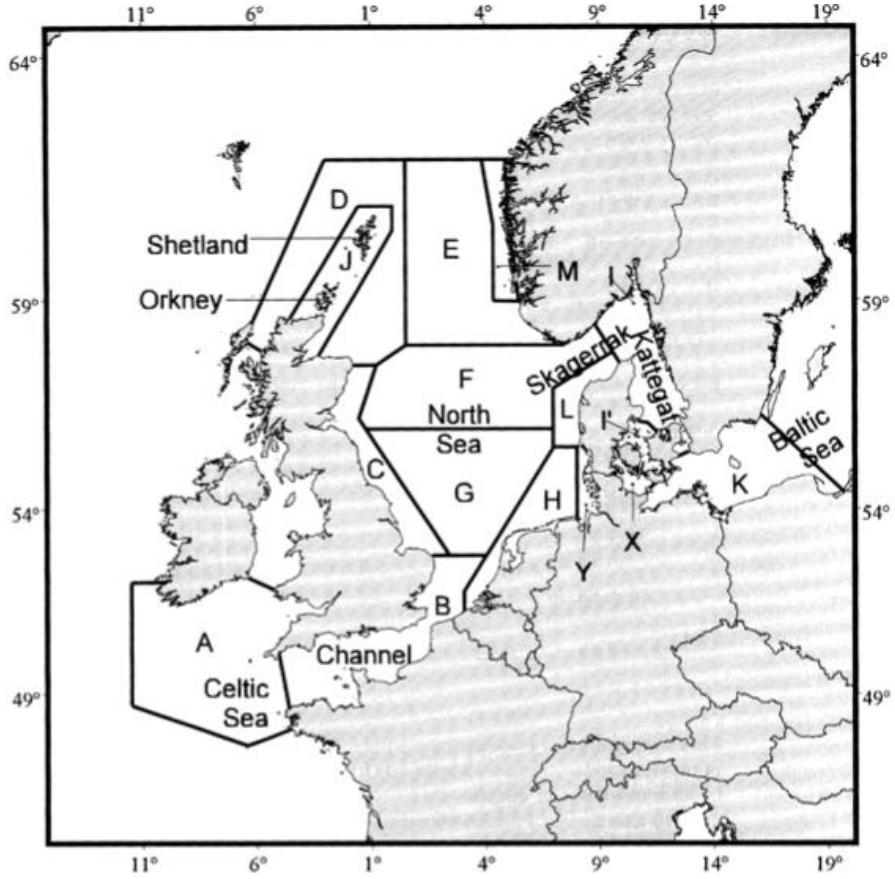
About 1750 dolphins caught per year (66% striped, 24% common); representing 1.6 and 0.7% of the respective populations, <4% considered sustainable (Antoine et Goujon, 1993).

Reduction in drift-net length to 2.5 km (EU, 1991); ban on tuna drift net fisheries (EU 1997) to be implemented at the latest on Jan 1, 2002. First and so far only real mitigation decision re. bycatch of small delphinids in the area.





In 1994 the first SCAN survey (Hammond et al, 2002) aimed at estimating harbour porpoise population to assess the impact of bycatch.
The survey did not cover much of the Atlantic shelf and the common dolphin was not a priority species.
Hence, the abondance of common dolphins across the NE Atlantic shelf remained poorly documented.



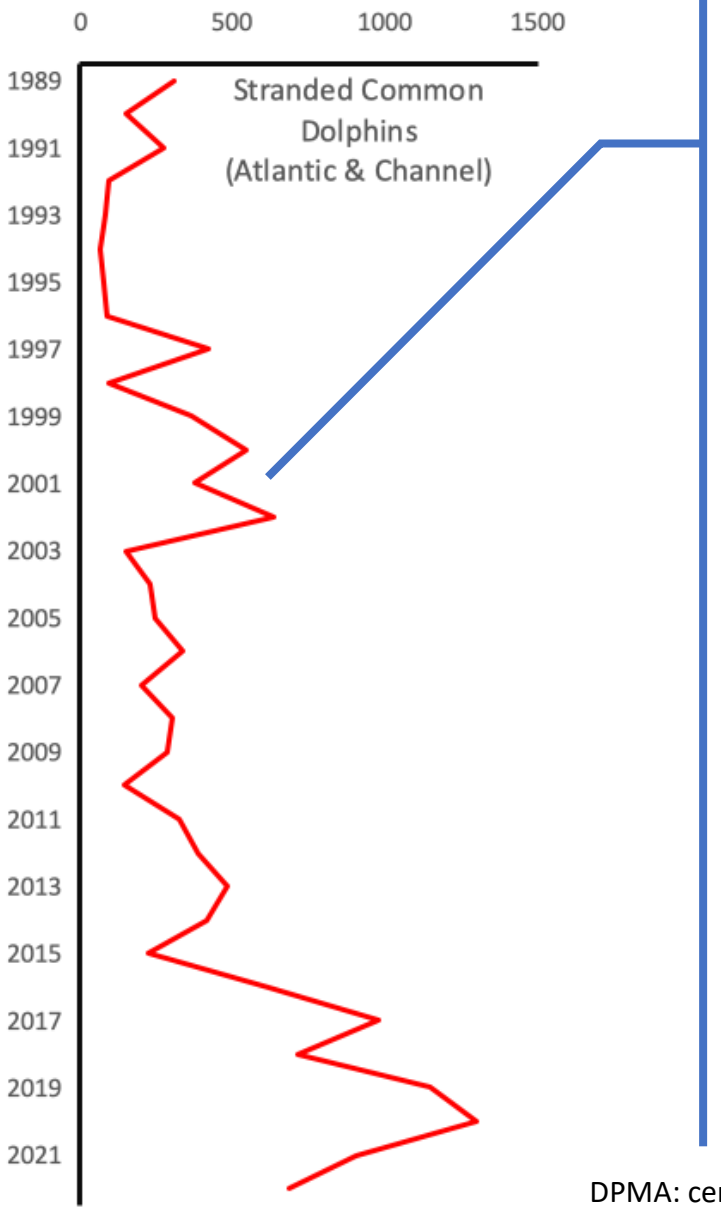
Introduction

1990's

2000's

2010's to present

Concluding remarks



After a period of low stranding levels, a new series of unusual multiple stranding events occured from 1997-2002, with a large proportion of individuals showing bycatch marks.
From 2002-2005, a national working group on bycatch is established under DPMA supervision, with DEB, CNPMEM, CRPMEM *Pays de La Loire*, CRMM, Ifremer.

The ToRs of the national bycatch working group were to share the diagnostic among stakeholders, identify mitigation measures and implement EU Regulation 812/2004. The initial stance of fishermen representative was denial of available evidence. Cooperation took time. The focus was on bycatch in pelagic trawls, in particular (but not only) during the winter seabass season in the Bay of Biscay and Western Channel.

EU Council Regulation 812/2004, in place from July 1, 2004, required pingers on gill nets for vessels > 15m and north of 48°N (*i.e.* out of BoB), and observers on 5% of gillnetters, and 10% of pelagic trawlers.

DPMA: central administration in charge of fisheries; DEB: central administration in charge of biodiversity; CNPMEM/CRPMEM: National/Regional committee for fisheries; CRMM: former name of Observatoire Pelagis

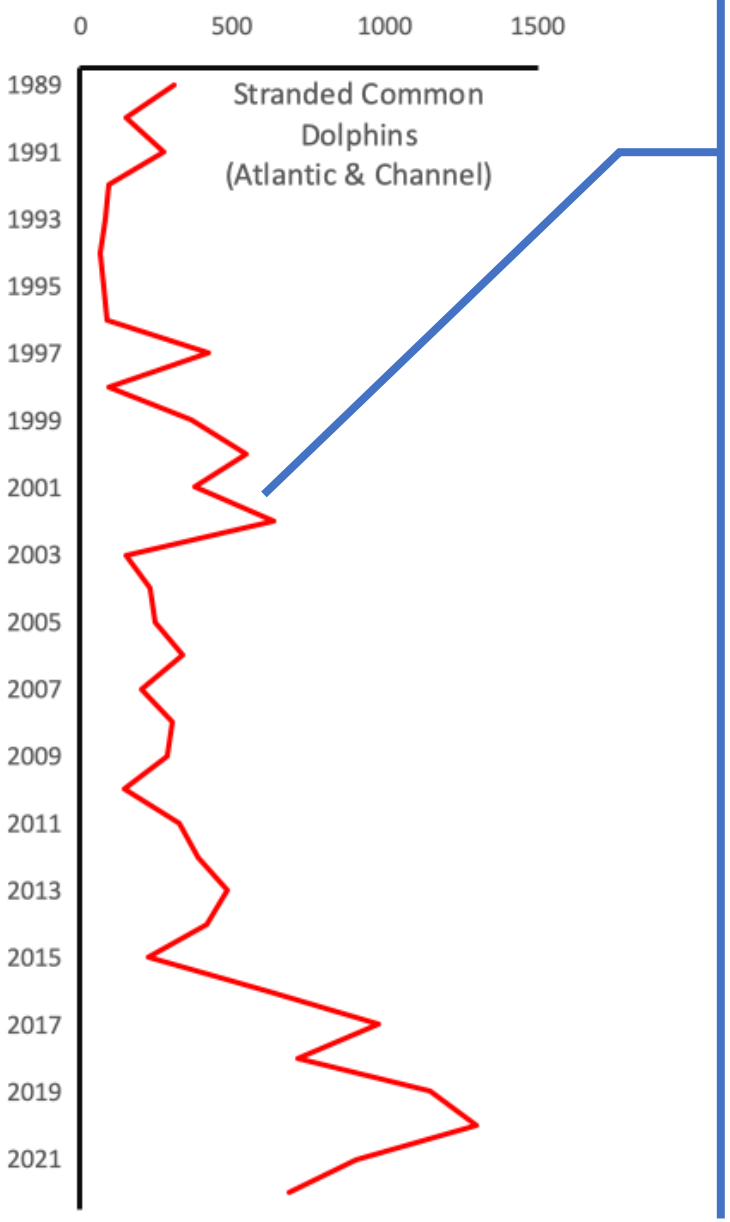
Introduction

1990's

2000's

2010's to present

Concluding remarks



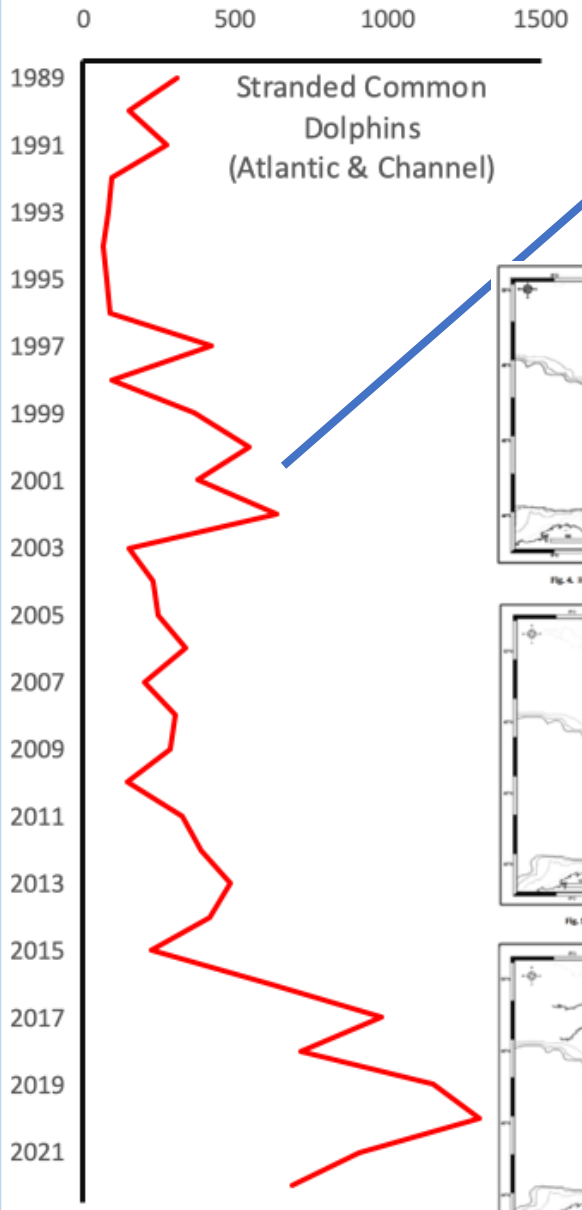
France implemented Regulation 812/2004 minimally: generally less than 1% observer coverage; no pinger on gill-nets. Dedicated observer until 2009, multitasked fisheries observer thereafter. Yearly reports consistently concluding than no extrapolation could be done to the population level.

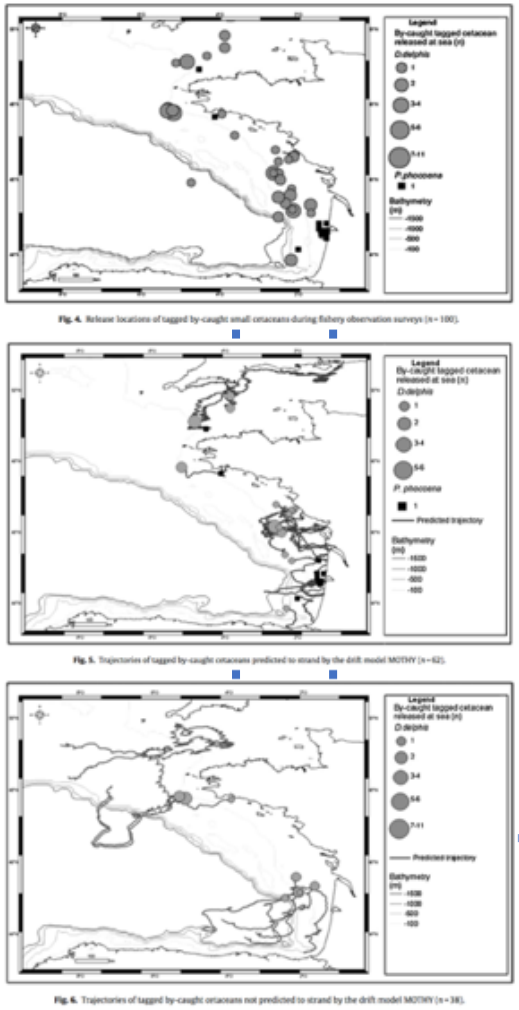
Multiple EU- or government-funded research projects were launched at that time.

NECESSITY (EU; 2004-7) looked at ecological aspects of bycatch (dolphin vital rates, population structure) and technical mitigation measures (excluder devices; pingers; acoustic deterrent) (vanMarlen et al. 2007).

PETRACET (EU; 2004-5) complemented by PROCET (F) tested various commercial pingers (DDD, toniping,…) and developed Cetasaver, a directional deterrent.

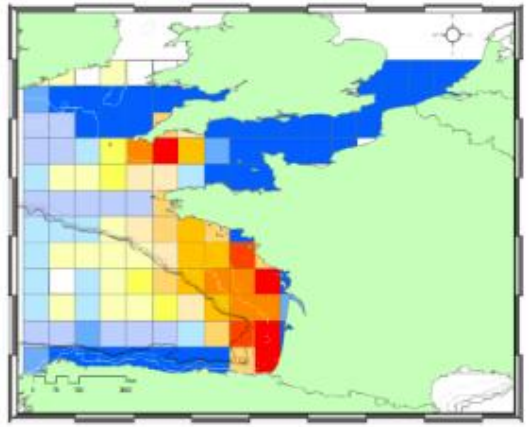
PROCET (Fr; 2007-8): Cetasaver, directive acoustic deterrent would reduce bycatch by 50-70% in pelagic trawls (Morizur et al., 2008) in line with UK results on DDD (Northridge et al.)

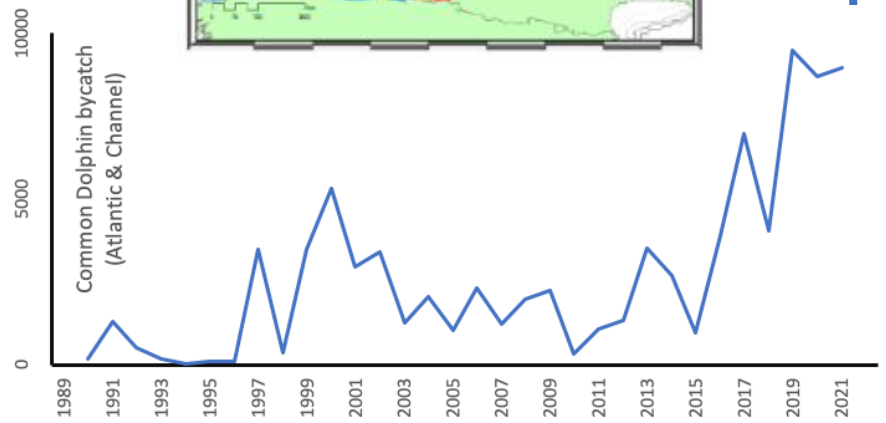




Observatoire Pelagis developed research to improve the use of stranding by studying the mechanisms involved in the process (carcass buoyancy, drift, recovery) from 2004 onwards. Collaboration with MétéoFrance for the use of MOTHY model and with fishermen for tagging carcasses.

Key importance to infer areas of origin and total mortality from stranding number.
(Peltier PhD thesis)





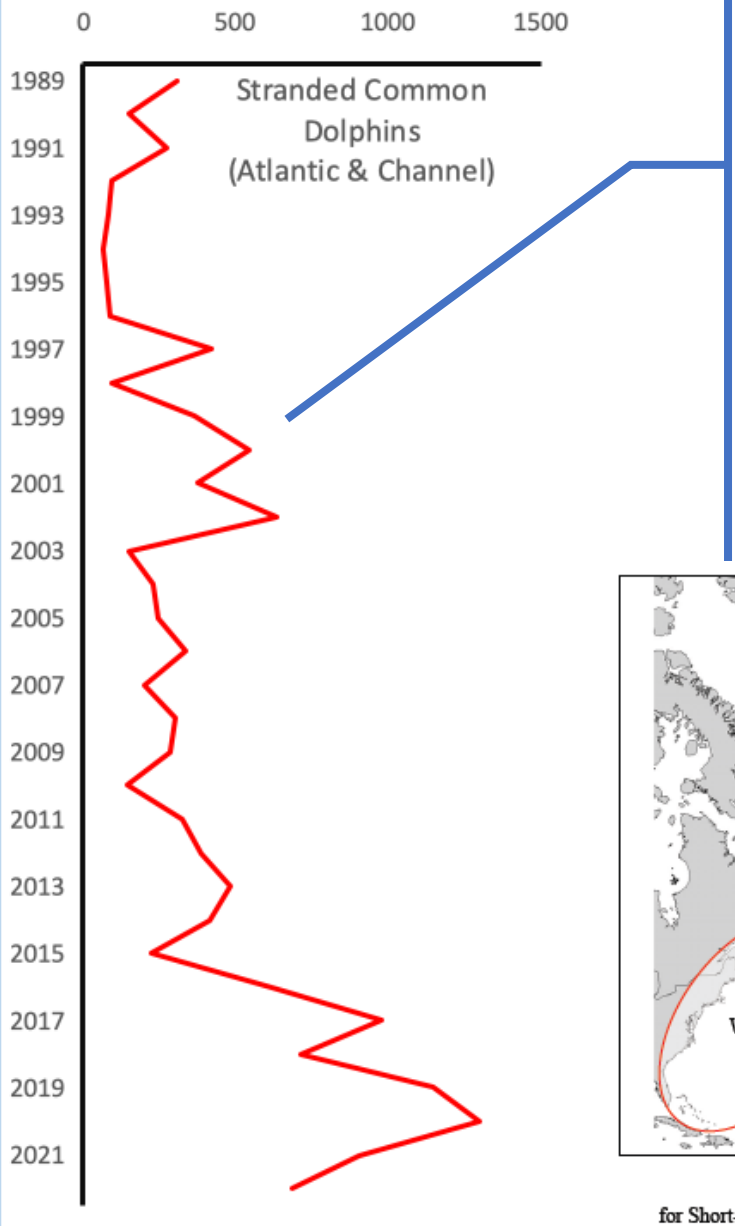
Introduction

1990's

2000's

2010's to present

Concluding remarks



EU- and government-funded SCANS-II and CODA surveys estimated common dolphin population in the NE Atlantic for the 1st time at 550-600.000 dolphins (Hammond et al., 2013, 2021); permitting bycatch limits to be assessed for the first time (0.1-1.1% of the abundance point estimate; Winship et al 2009).
ASCOBANS workshop recommended that NE Atlantic common dolphins should be considered as a single unit (Evans & Teilmann, 2009), but uncertainty remains (WGMME 2020).

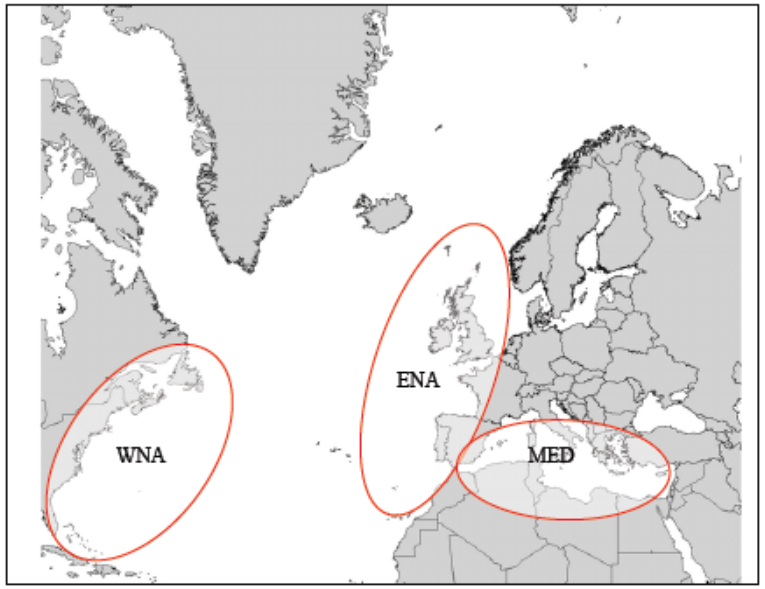
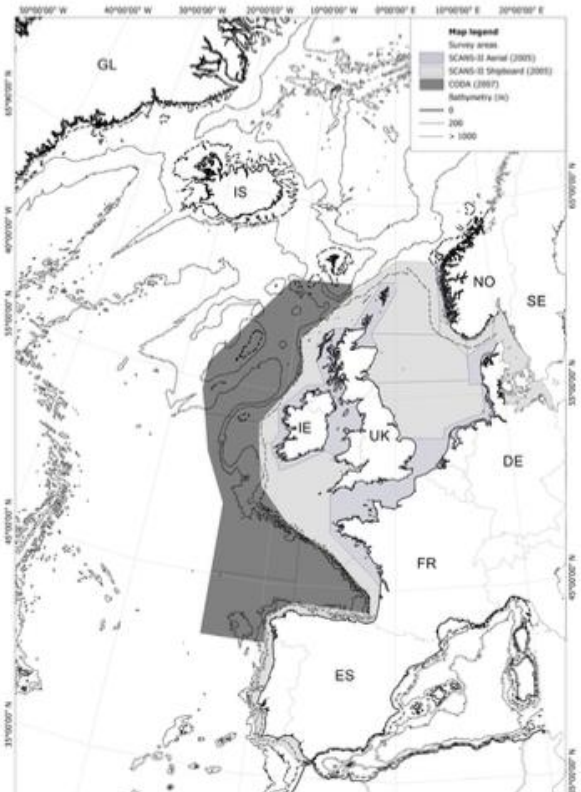


Figure 9. Map showing Recommended Management Units for Short-beaked Common Dolphin in the North Atlantic & Mediterranean Sea



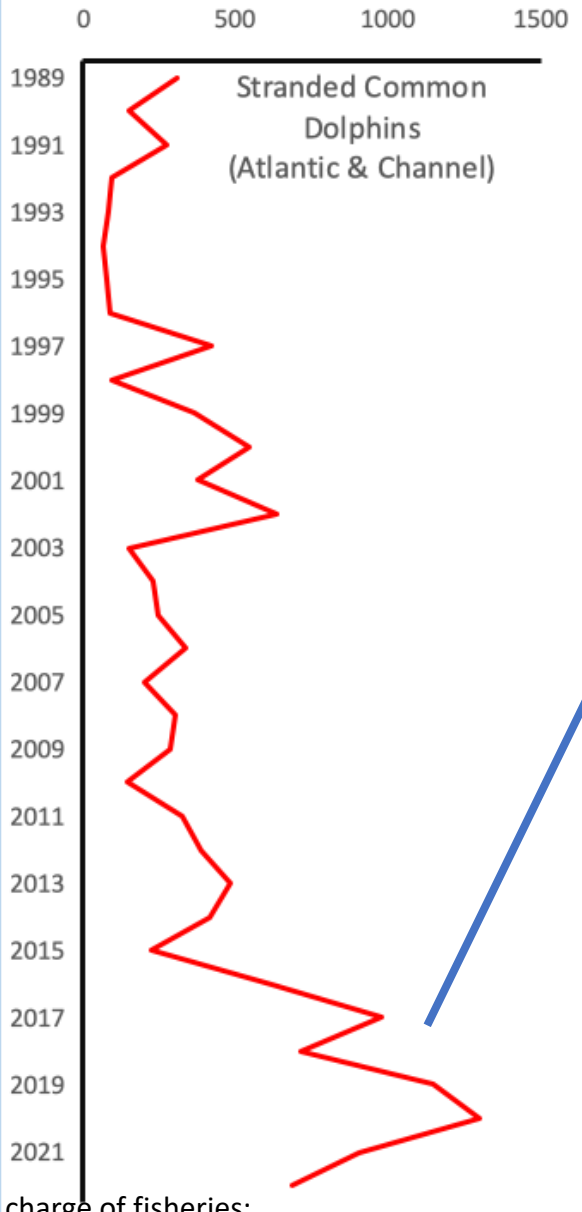
Introduction

1990's

2000's

2010's to present

Concluding remarks



After a period of intermediate stranding levels, another series of unprecedented unusual stranding levels started from 2016-onwards, with 80-90% individuals showing bycatch marks mostly in January to March (but significant catches also in summer time).

From 2017-onwards, a new national working group on bycatch was established under DPMA supervision, with DEB, OFB, CNPMEM, Fisheries Organisations, *Pelagis*, Ifremer, regional administration of maritime affairs, later joined by several NGOs, and still more recently by EU commission DG MARE and DG ENV, many more fishermen organisations, and one consultancy.

The ToRs of the national bycatch working group were to: verify that existing laws are obeyed; improve and share knowledge on bycatch; develop mitigation strategies; involve fishermen by raising awareness.

DPMA: central administration in charge of fisheries;
DEB: central administration in charge of biodiversity; CNPMEM/CRPMEM: National/Regional committee for fisheries; OFB: French Office for Biodiversity

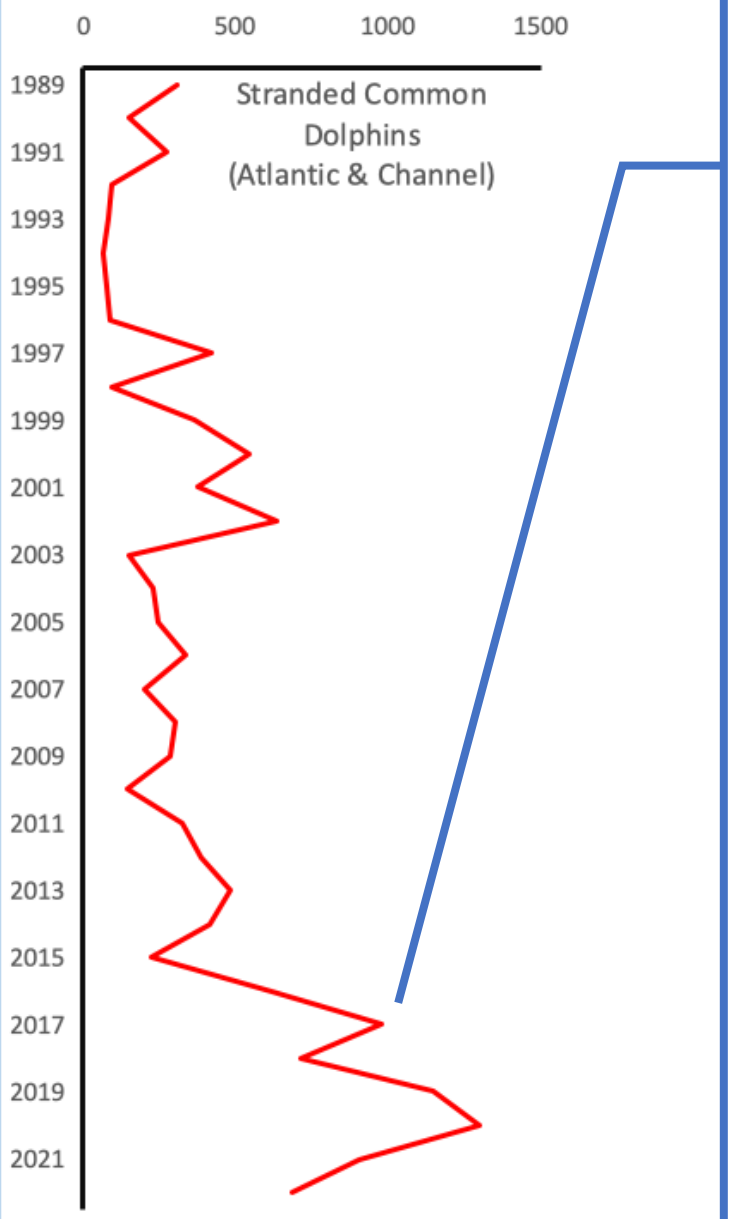
Introduction

1990’s

2000’s

2010’s to present

Concluding remarks



Initial effort of national bycatch working group was to rewrite a piece of legal text dating from 2011 about compulsory self-reporting of bycatch to eventually allow its proper implementation. After incorporation of new text into the law (self reporting compulsory, for knowledge enhancement, not for management), current reporting well below realistic levels. No compliance, no control.

One Fishermen Organisation (*Pêcheurs de Bretagne*) adopted a pro-active stance and deployed DDD pingers on all pelagic trawls across its membership after a short feasibility test (PIC, 2018). This measure was incorporated into the law later on.

This measure is the only real (yet small: small number of vessels) mitigation measure implemented so far.

Massive effort to collect and share available information within the working group (regular updates on stranding, surveys, analyses, self-reporting, digital cameras, tests of technical mitigation measures…). Spatiotemporal closures not envisaged.

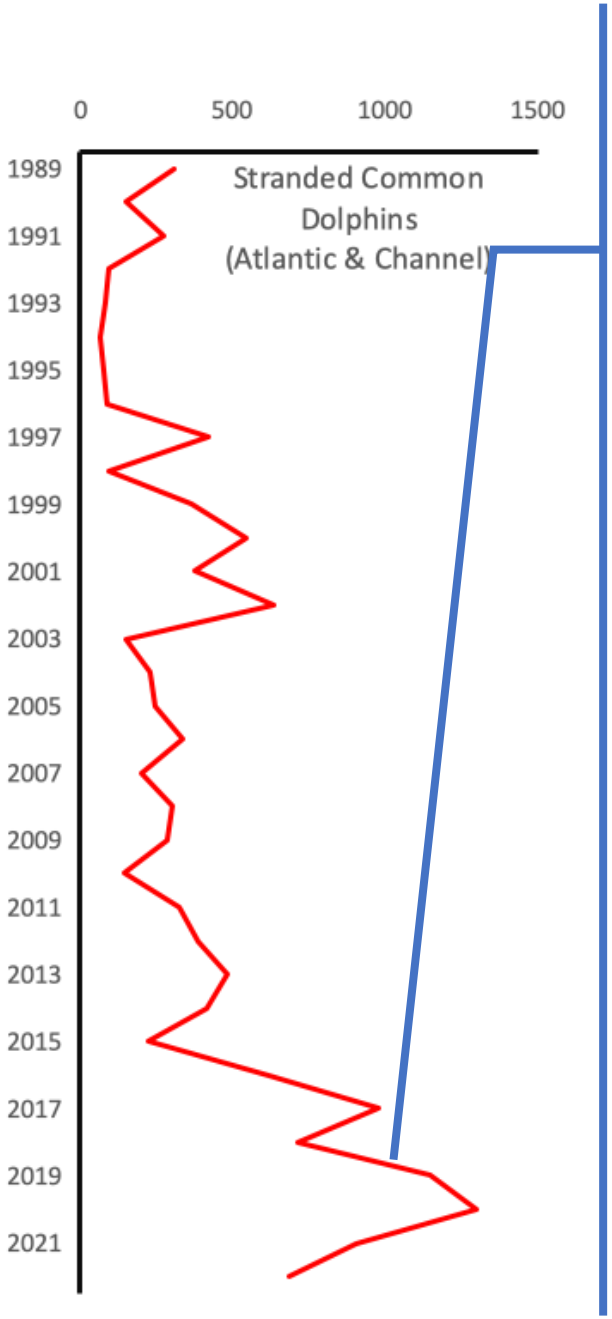
Introduction

1990’s

2000’s

2010’s to present

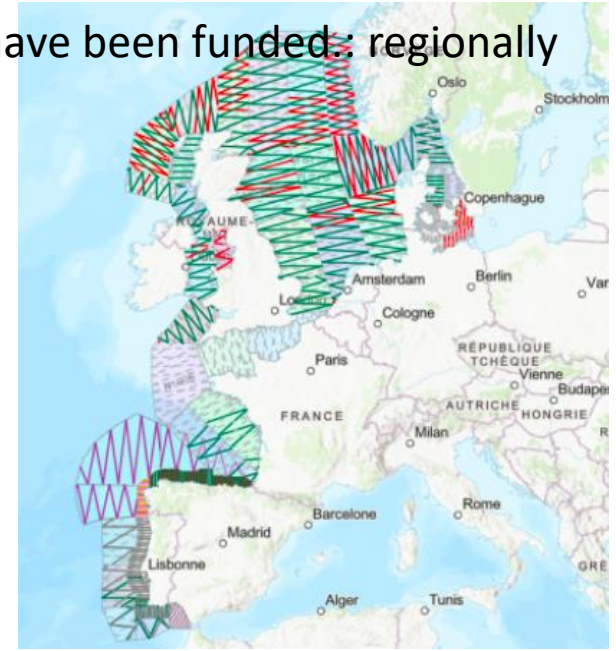
Concluding remarks



A number of research initiatives have been funded: regionally

SCANS-III & IV, 2016 & 2022 :
new cetacean surveys in
the NE Atlantic.

634,000 common dolphins



CETAmbition 2021-23
4 operational WPs:

1. Review of the 2018 Marine Strategy Framework Directive Good Ecological Status assessment reports for cetaceans

2. Assessment of the Good Ecological Status coordinated at the scale of the Bay of Biscay and the Iberian coasts for cetaceans

3. Assessment of Good Ecological Status coordinated at the scale of the Bay of Biscay and the Iberian coasts for cetacean by-catches

4. Coordinated measures to reduce cetacean catches

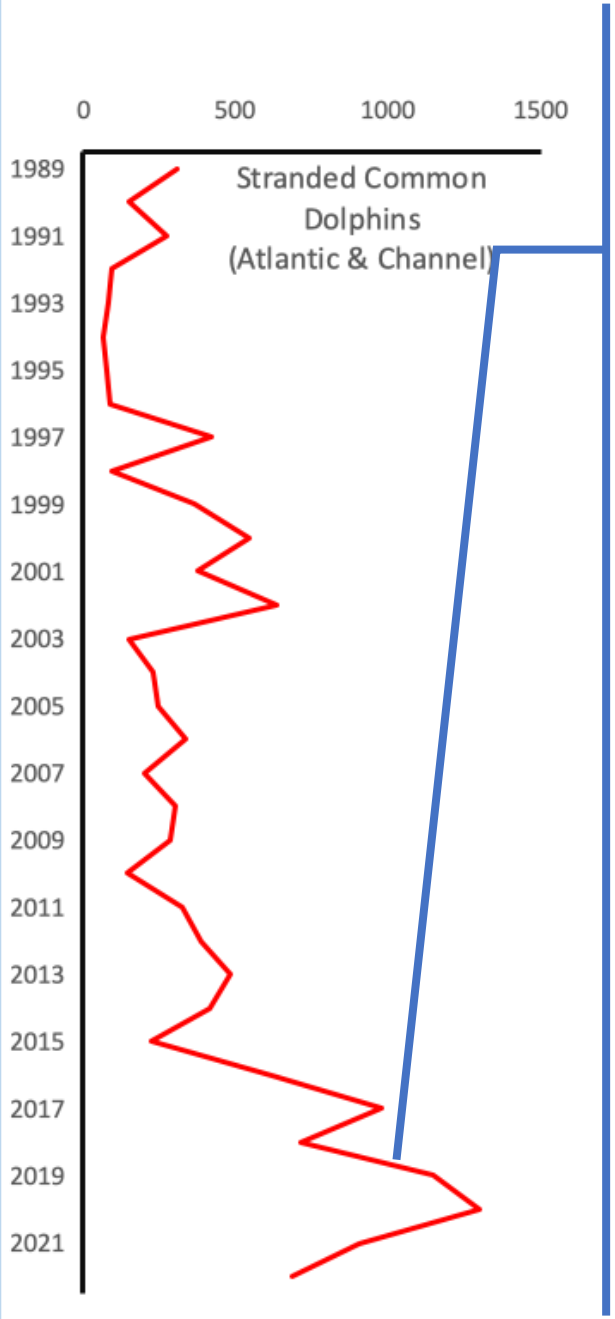
Introduction

1990’s

2000’s

2010’s to present

Concluding remarks



A number of research initiatives were funded : nationally

PIC 2018 (lead by *Pêcheurs de Bretagne*): a one-season feasibility test of DDD acoustic deterrents on 3 pairs of pelagic trawls, only 1 of which with an independent observer.

LICADO 2019-2022 (lead by CNPMEM): interview survey of fishermen’s perception; further development of the Cetasaver acoustic deterrent (directional and interactive to limit sound pollution); development of acoustic reflectors for gillnets.

Dolphin Free 2020-23 (lead by Univ. Montpellier): develop of an informative acoustic beacon (mimic the echo of an echolocation click train reflected by a dolphin carcass caught in a net as an informative and warning signal to live individuals nearby).

OBSCame (lead by OFB): deployment of digital cameras on 5 vessels in 2021, 20 vessels in 2022 for knowledge enhancement, not management.

PiFil : tests of pingers fitted to the hull to be activated during net setting.

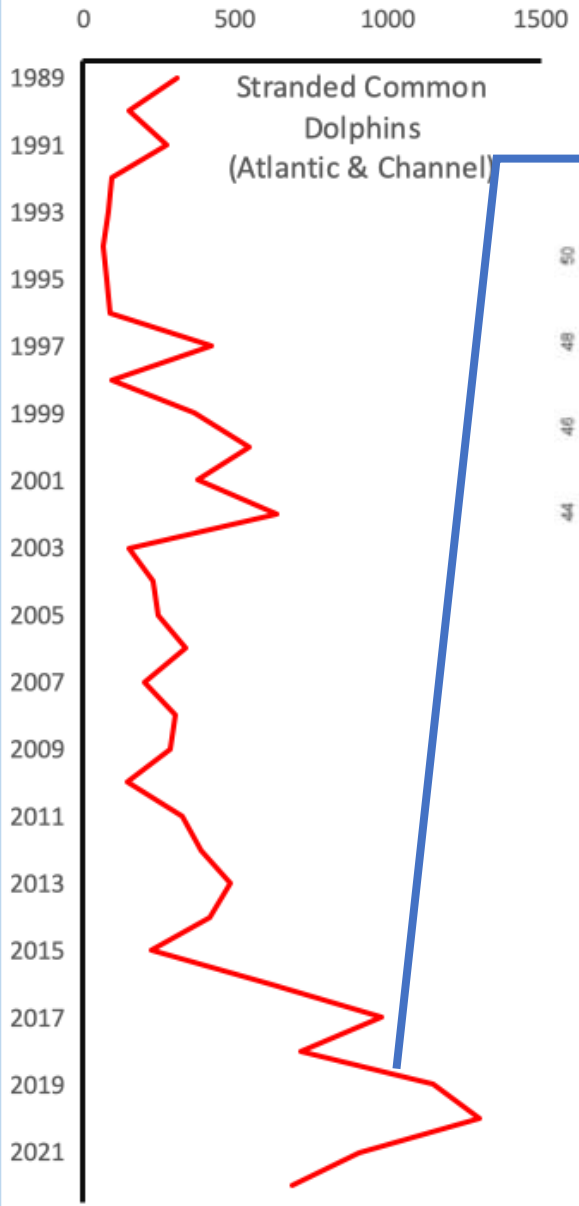
Introduction

1990's

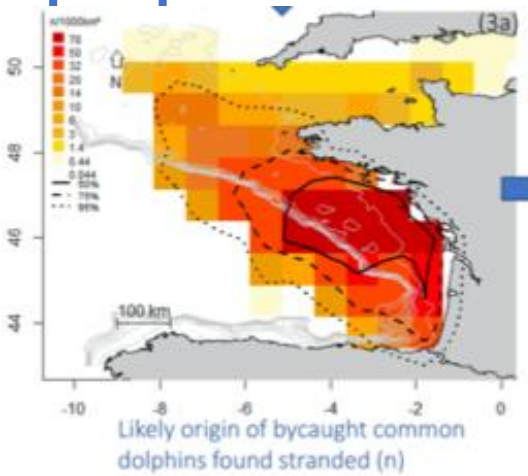
2000's

2010's to present

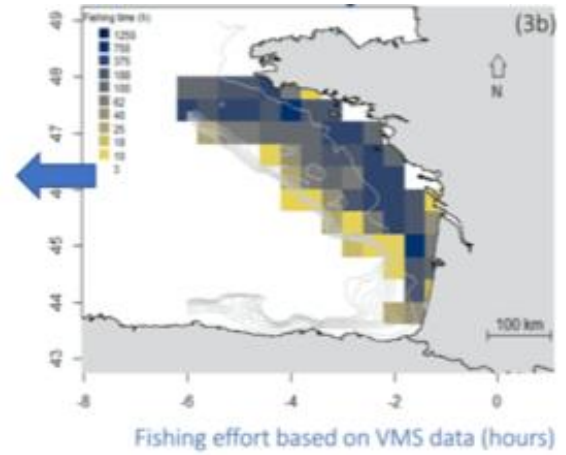
Concluding remarks



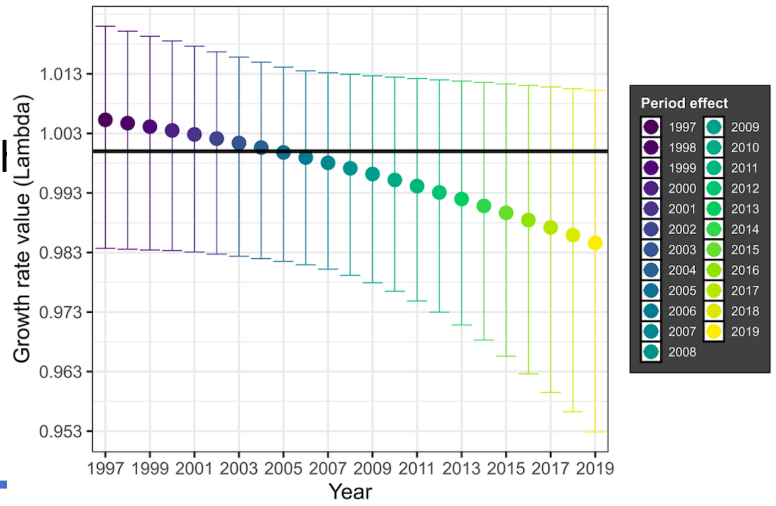
Research at *Observatoire Pelagis* continues on in two main directions of direct relevance to the topic:
1- analyses of stranding to reconstruct and map by-catch mortality in relation with fishing effort (Peltier et al, 2021)



métiers of concern
PTM; OTM;
GTR; GNS



2 – age structure and vital rates of common dolphin to determine population growth rate (E. Rouby PHD thesis, 2022).



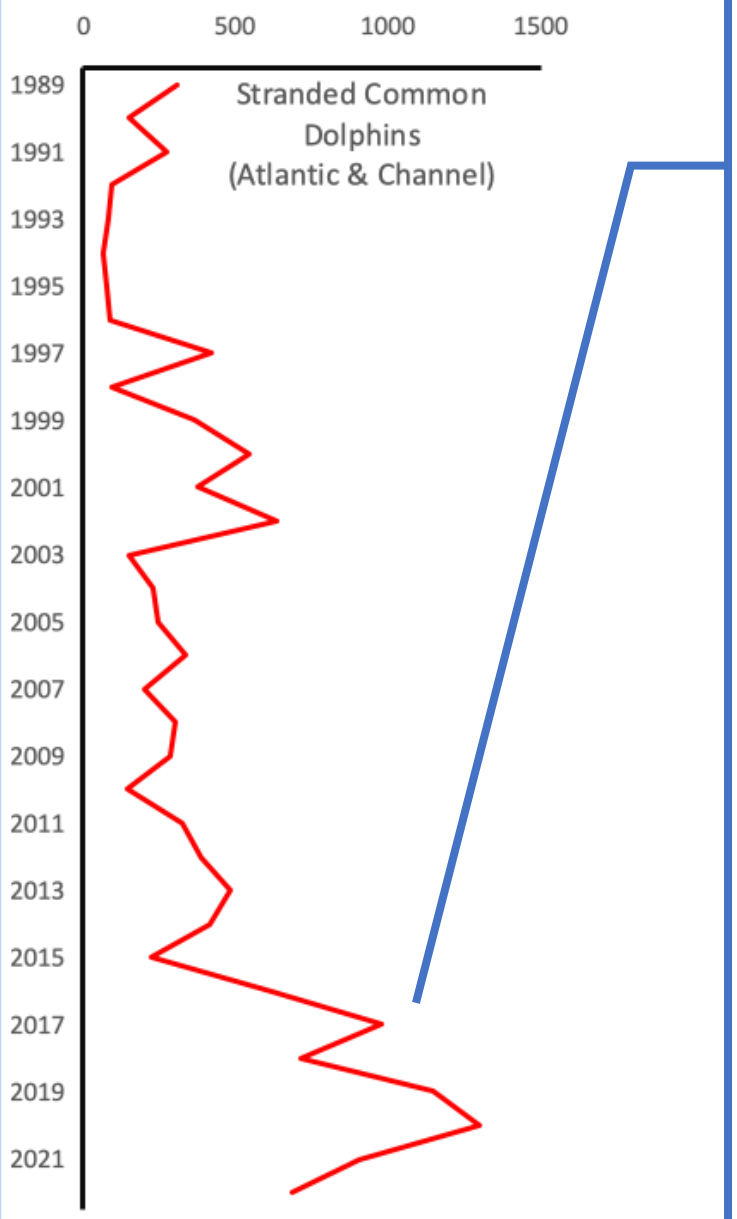
Introduction

1990’s

2000’s

2010’s to present

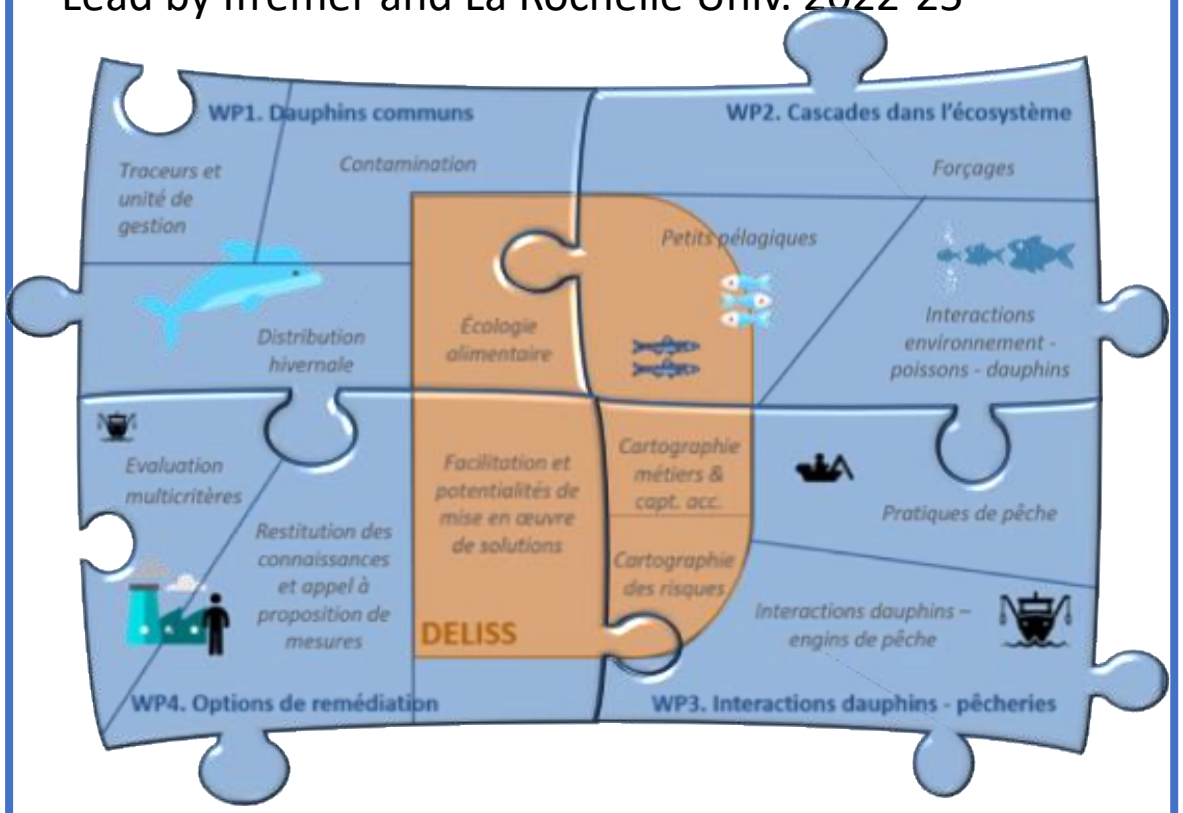
Concluding remarks



Finally DELMOGES, from a request of Ministry of Fisheries

4 operational WPs to enhance understanding of bycatch, its extent, effect on population, ecological drivers, operational drivers, and remediation options.

Lead by Ifremer and La Rochelle Univ. 2022-25



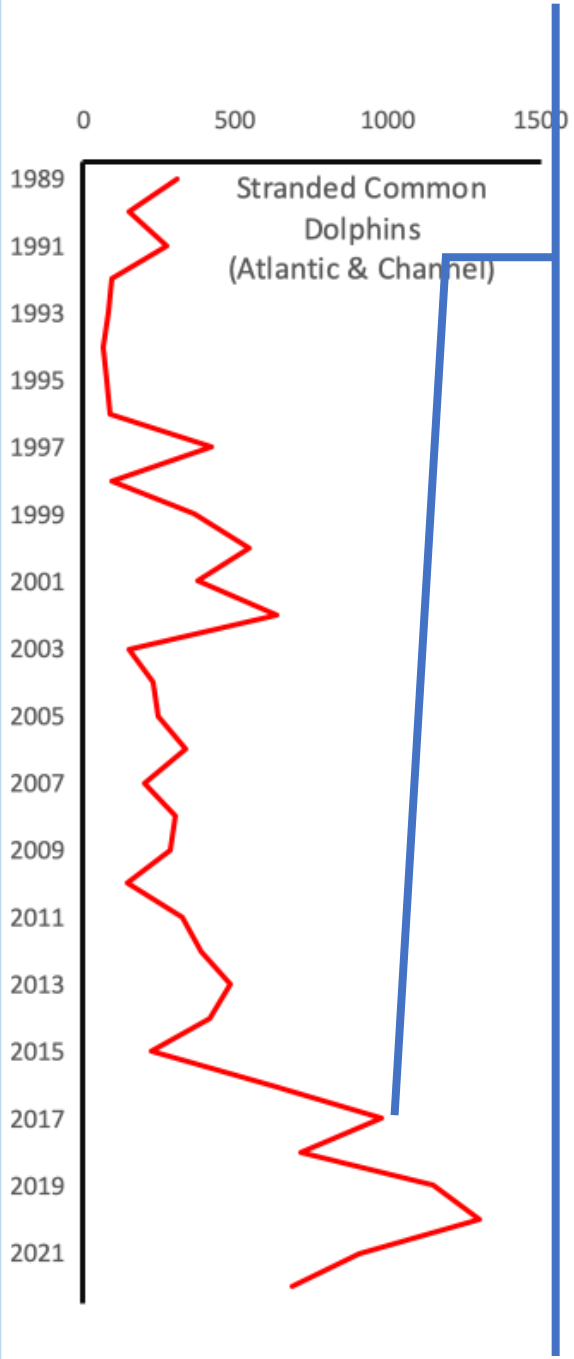
Introduction

1990's

2000's

2010's to present

Concluding remarks



A number of international expert groups have included the common dolphin bycatch in their agenda: IWC/SC; ICES/WGBYC, WGMME, WKEMBYC, ASCOBANS/ACCOBAMS JBCWG.
They all indicated that imperfect knowledge is not a reason to postpone decision on mitigation action.

Following a request to the EU Commission for emergency measures by a consortium of NGOs, several scenarios of spatiotemporal closures have been assessed (ICES, 2020, 2022).

Estimated bycatch 2019-21
Stranding
9000 ind/year
Onboard observers
6000 ind/year

Métiers of concern:
Netters (GNS, GTR)
Seiner (PS)
Long liners (LLS)
Trawlers (OTB, OTM, PTB, PTM)

Scenario	Basis	Total resulting bycatch - monitoring mortality	Total resulting bycatch - strandings mortality	Bycatch reduction obtained
A/M	Four-month closure (Dec–Mar) all métiers + pinger PTM/PTB rest of year	1188	1808	0.80
B	Annual effort reduction of 40% all métiers	3563	5424	0.40
C/L	Two-month closure (mid-Jan–mid-Mar) all métiers + pinger PTB/PTM rest of year	2019	3074	0.66
D/H	Six-week closure (mid-Jan–end-Feb) all métiers + all métiers and pinger PTM/PTB rest of year	2731	4158	0.54
E	Four-week closure (mid-Jan–mid-Feb) all métiers	3919	5966	0.34
F	Two-week closure (mid-Jan–end-Jan) all métiers	4869	7413	0.18
G	Pinger PTM/PTB all year & same six-week closure all other métiers	3381	5147	0.43
I	Pinger PTM/PTB all year and same four-week closure all other métiers	4328	6589	0.27
J	Pinger PTM/PTB all year and same two-week closure all other métiers	5085	7742	0.14
K	Pinger PTM/PTB all year	5938	9040	0.00
	Three-month (Jan–Mar) +			

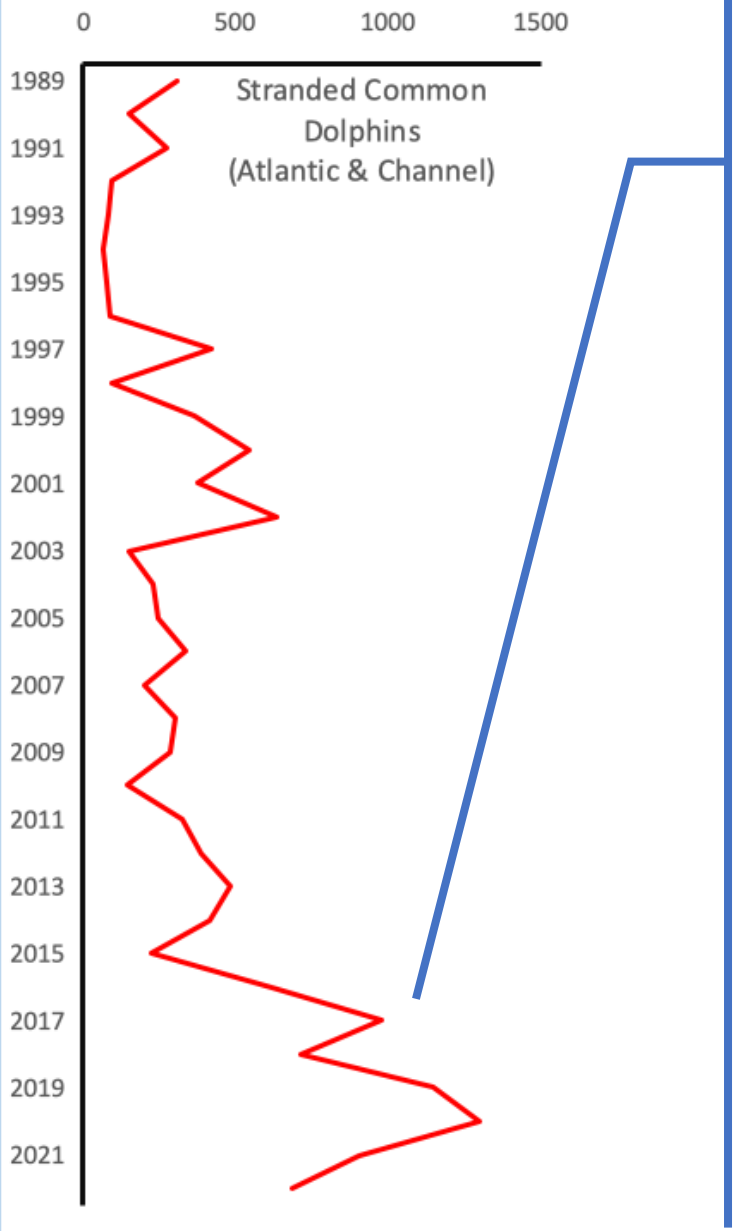
Introduction

1990's

2000's

2010's to present

Concluding remarks



France *vs* EU Commission infringement procedure.

1- Comments leading to the opening of bilateral discussions opened by the Commission on its own initiative

2- Exchanges with the States

3- Pre-litigation procedure:
- Letters of formal notice (request for specific information)
- Reasoned opinion (formal request to comply with EU law)

=> France's Action Plan 2023-24, next slide

4- Referral to the European Court of Justice

5- Sanctions of the Court if the country does not communicate measures

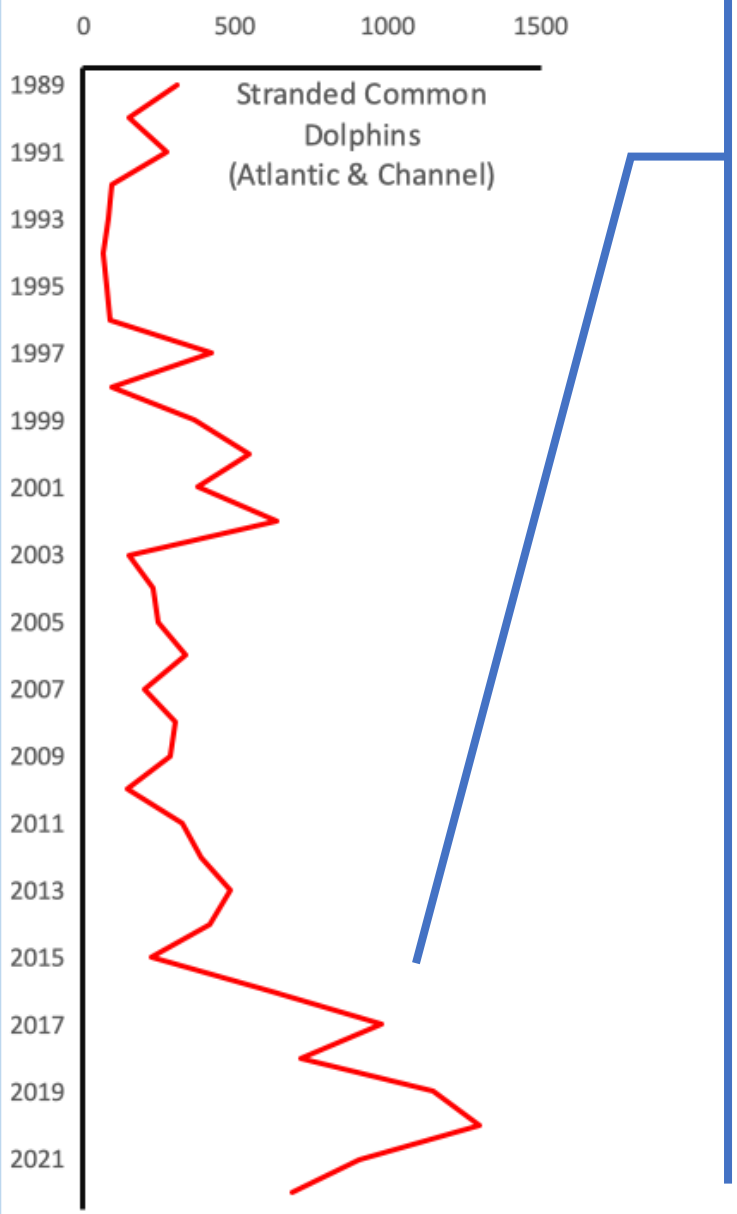
Introduction

1990’s

2000’s

2010’s to present

Concluding remarks



France Action Plan 2022-24 (version as of October 2022)

1- Compulsory contribution of gill netters to the test of one of the three technical mitigation measures in 2023-24:
- Hull pinger (PIFIL) : 130 vessels
- informative beacon on nets (DOLPHINFREE) : 45 vessels
– acoustic reflectors on nets : 40 vessels.

2 – monitoring of the above mentioned netters either by onboard observers (100 vessels) or by digital cameras (100 vessels).

3 – VMS on all pelagic trawlers and netters working in the BoB.

Time line : gradual implementation of the three items in 2023 (administrative and technical delays); fully operational in 2024; data analyses and conclusion in 2024; decision by end 2024* : expand successful measures/spatiotemporal closures if none.

*Not in line with EU action plan requiring mitigation measures to be taken by late 2023

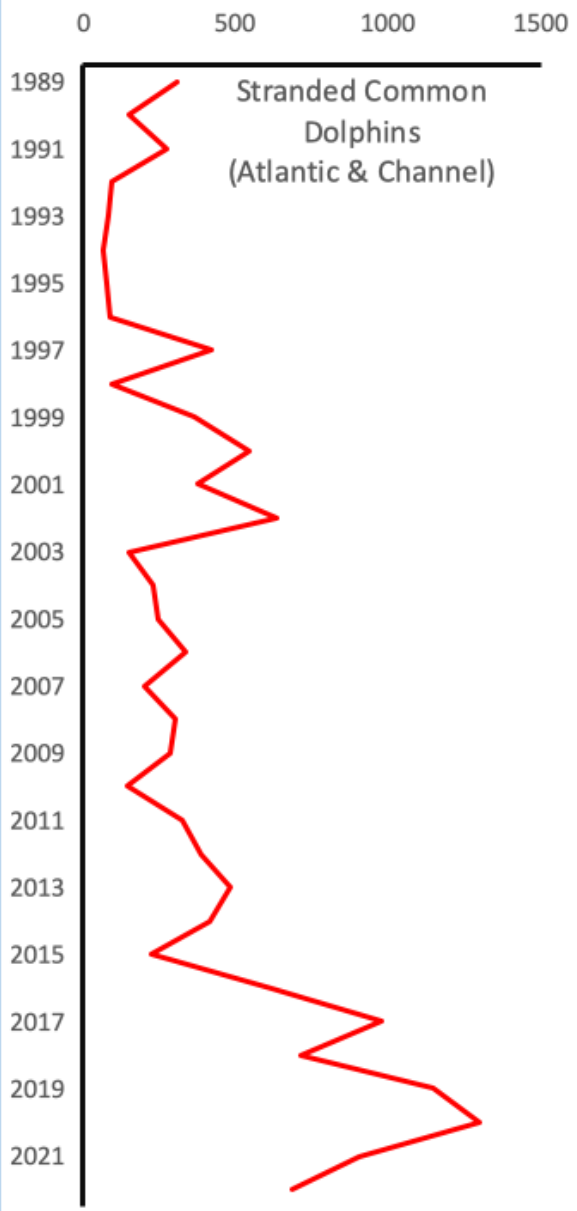
Introduction

1990’s

2000’s

2010’s to present

Concluding remarks



Throughout the last three decades, for each period of crisis triggered by unusual multiple stranding events, the response was : establish a working group, fund research, develop technical mitigation measures, postpone hard decisions, implement minor harmless decisions.

National multi-stakeholder working groups work hard to maintain a climate favourable to sincere discussions. The balance is reached in the long term and threatened by any inclusion of new members. Lesser conflictual topics are dealt with at length (e.g. self reporting). Hot topics (e.g. spatio-temporal closures) are not dealt with. The working group needs to be spurred on by external actors : EU Commission, NGOs, Justice decisions.

For it to be considered the bycatch issue must be seen by the public, media, etc… (strandings; pictures and videos; social medias; NGOs like SeaShepherd or FNE + LPO) and at the same time high profile public visibility makes the subject more controversial and hard decisions more difficult to explore.

Shifting baseline syndrome: oblivion of older reference situations. Tendency to focus on short term changes rather long term trends.

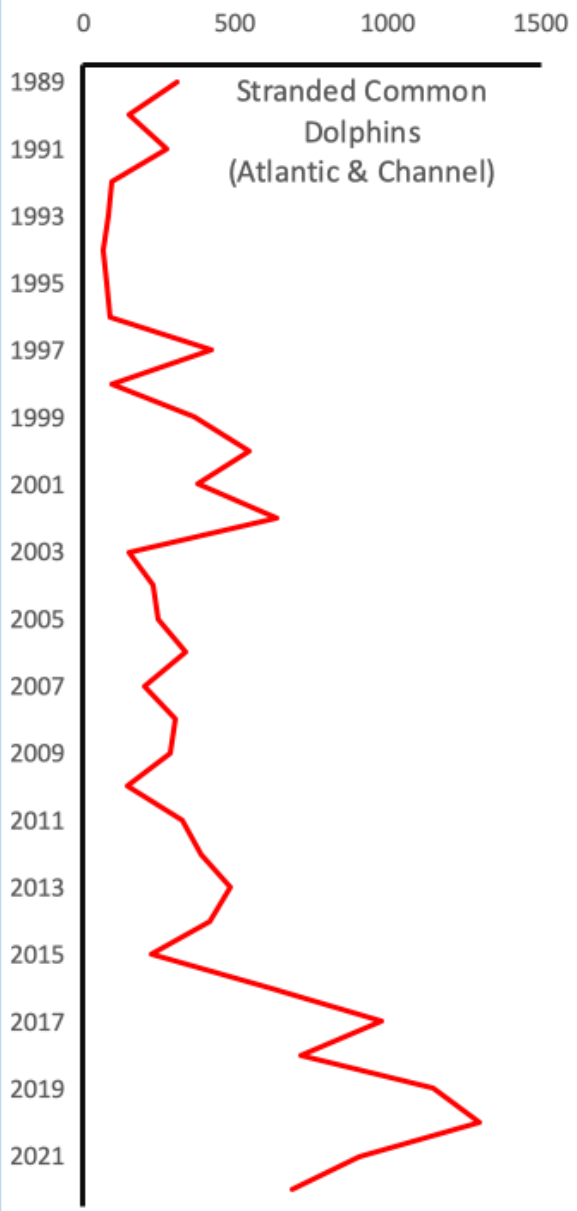
Introduction

1990's

2000's

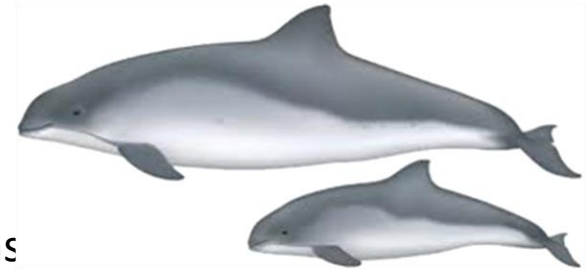
2010's to present

Concluding remarks

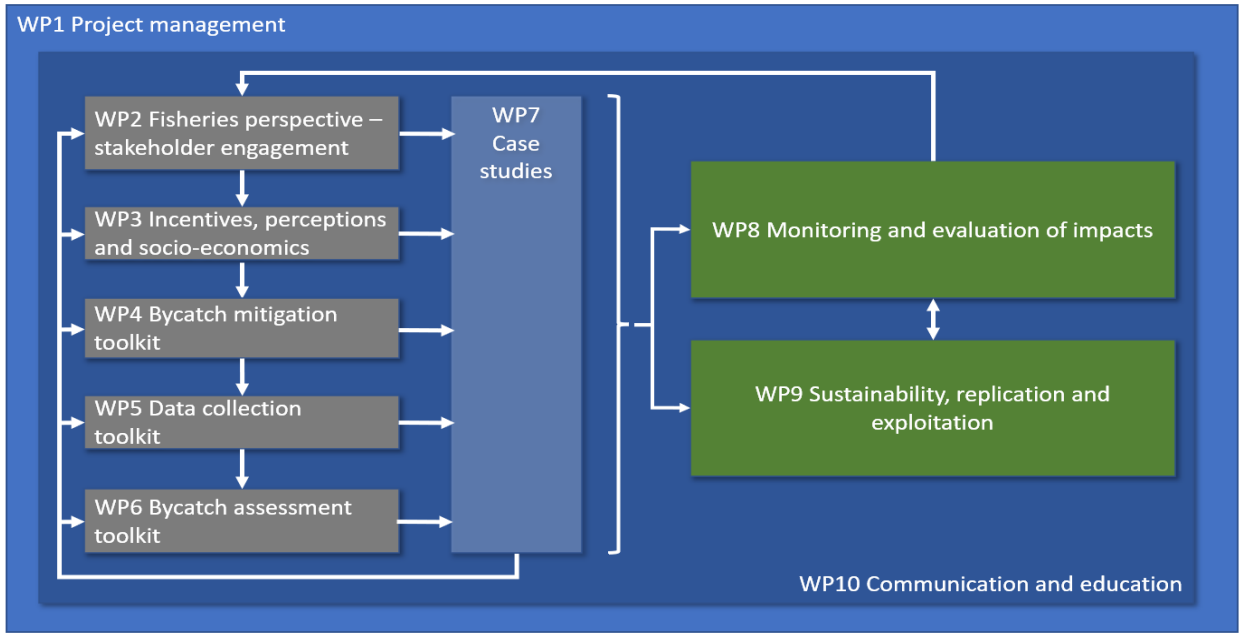


Life+ project CIBBRiNA (lead by A.M. Svoboda, NL; 2023-2028), accepted this week, is going to deal with bycatch of a variety of PET species (marine mammals, seabirds, turtles and non-commercial fish) with a focus on the harbour porpoise.

Harbour porpoise; 350,000 ind.
Multiple sub-populations, some of them critically endangered;
unsustainable bycatch in several regions



Smart mitigation strategies must address multiple PET species; too specific technical solutions should be avoided.



Introduction

1990’s

2000’s

2010’s to present

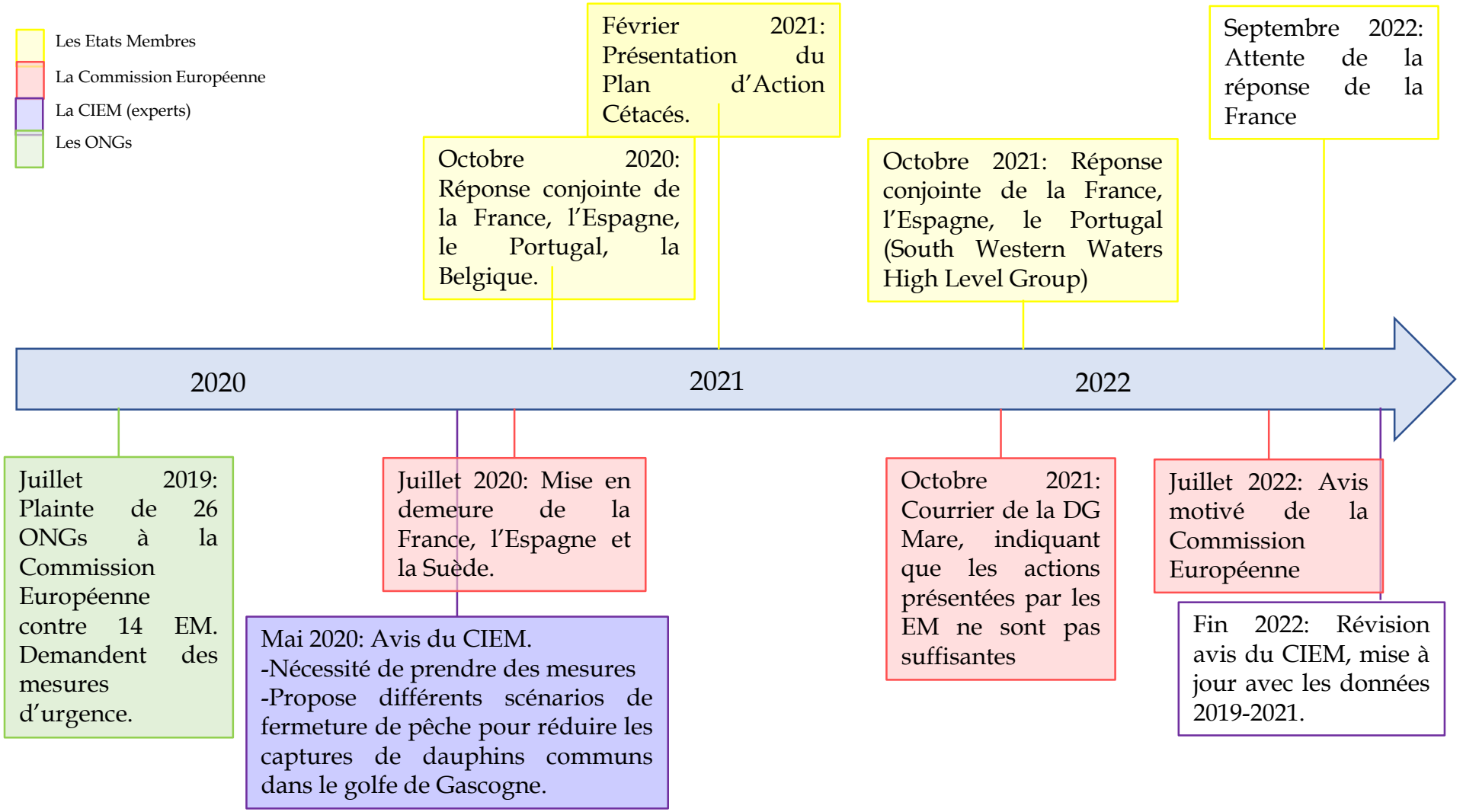
Concluding remarks

While effort is mostly put on knowledge acquisition and decisions are postponed,

total stranding records from 1990-2022 reach 13,000 common dolphins ;
total bycatch mortality from 1990-2022 is over 90,000 common dolphins.

Après la tempête

Mathurin Méheut, 1882-1958


Les Etats Membres
La Commission Européenne
La CIEM (experts)
Les ONGs
Février 2021: Présentation du Plan d'Action Cétacés.
Septembre 2022: Attente de la réponse de la France
Octobre 2020: Réponse conjointe de la France, l'Espagne, le Portugal, la Belgique.
Octobre 2021: Réponse conjointe de la France, l'Espagne, le Portugal (South Western Waters High Level Group)
2020
2021
2022
Juillet 2019: Plainte de 26 ONGs à la Commission Européenne contre 14 EM. Demandent des mesures d'urgence.
Juillet 2020: Mise en demeure de la France, l'Espagne et la Suède.
Mai 2020: Avis du CIEM.
-Nécessité de prendre des mesures
-Propose différents scénarios de fermeture de pêche pour réduire les captures de dauphins communs dans le golfe de Gascogne.
Octobre 2021: Courrier de la DG Mare, indiquant que les actions présentées par les EM ne sont pas suffisantes
Juillet 2022: Avis motivé de la Commission Européenne
Fin 2022: Révision avis du CIEM, mise à jour avec les données 2019-2021.