



# WKEMBYC

REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

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## Common dolphins in the Bay of Biscay

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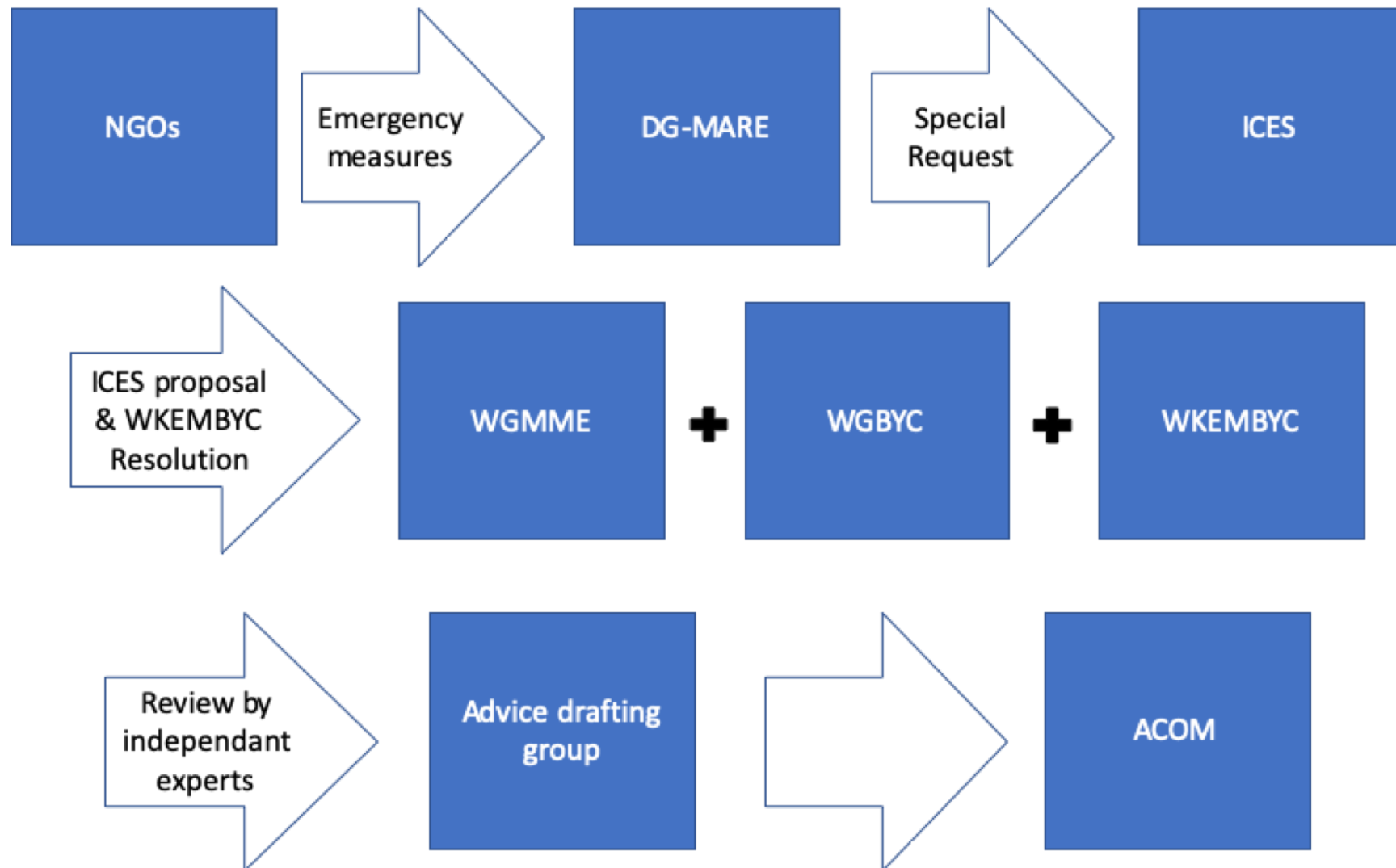
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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

- Meeting initially planned to be held in Copenhagen from 1<sup>st</sup>-3<sup>rd</sup> April;
- Conducted remotely via Webex due to Covid-19 sanitary rules, same dates with extension to 24<sup>th</sup> April to adopt recommendations;
- 26 participants at 26 different sites;
- Build upon extensive work conducted during WGMME (Feb 2020) and WGBYC (March 2020) meetings;
- BoB common dolphin section of WKEMBYC report adopted 28<sup>th</sup> April.

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## From Emergency Measure Request To ICES Advice



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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

- ToR a) : assess, and if applicable, propose alternative appropriate emergency measures that could be used to ensure a satisfactory conservation status of these stocks;
- ToR b) : suggest emergency measures that are necessary to ensure a satisfactory conservation status of these stocks;
- Central to this are the emergency measures proposed by a consortium of European NGOs (Annex I of the special request from DG MARE).

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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

### Conservation objectives as from EU legislation

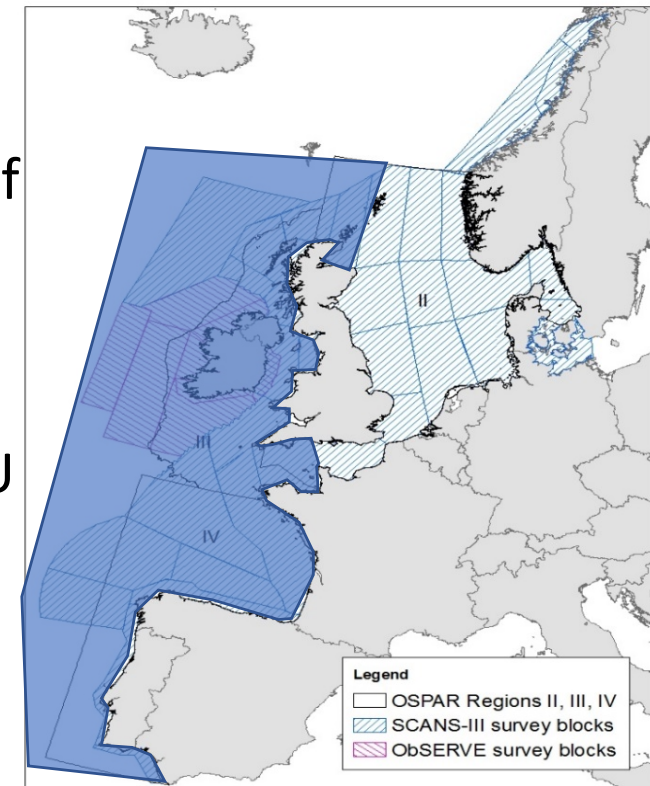
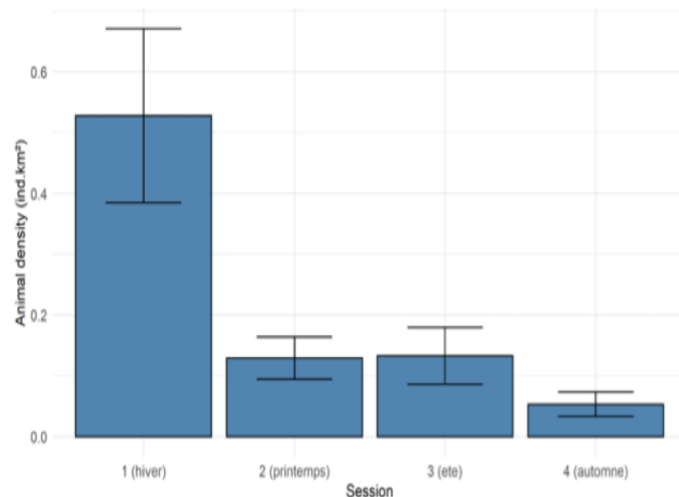
- Common Fishery Policy and Technical Measures refer to **minimising impact** of fishery or by-catch on cetaceans;
- MSFD and HD refer to ensuring impact of bycatch **does not have significant negative** effect on long-term viability of populations;
- Art 12 of HD could require strict protection from killing protected species and bycatch but difficult to reconcile with the ToRs for WKEMBYC.

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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

### Background information (from WGMME)

- Single management unit, approximated by SCANS-III and ObSERVE survey areas west of British Isles and Biscay-Iberian coasts;
- Most recent abundance estimate (summer 2016):  $N = 634,286$  individuals ( $CV = 0.307$ )
- Dynamic short-term movements within MU

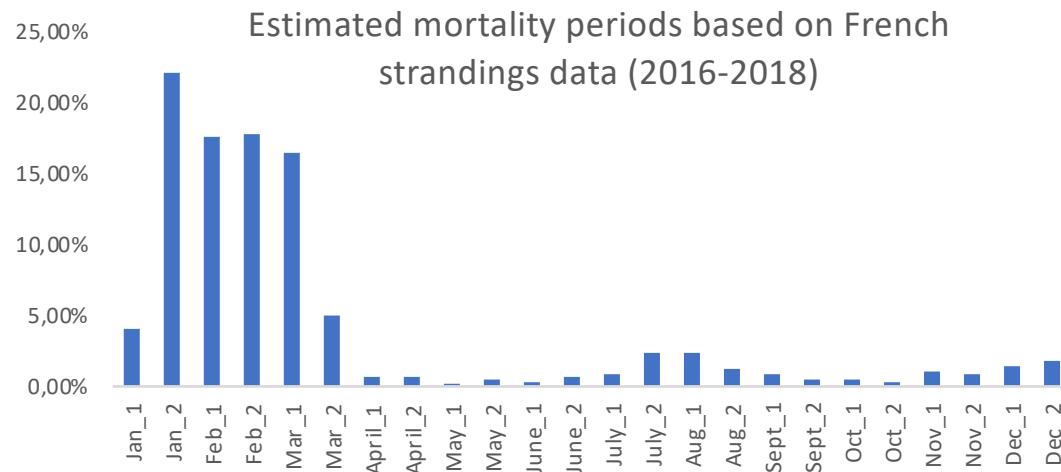


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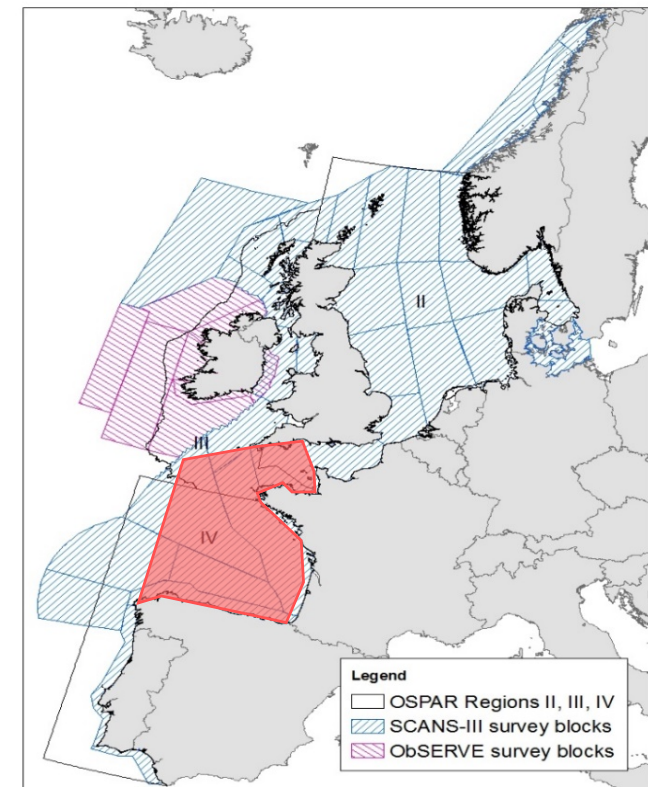
## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

### Background information (from WGBYC)

- Bycatch mortality temporal pattern



- allows bycatch estimates from reverse carcass drift modelling

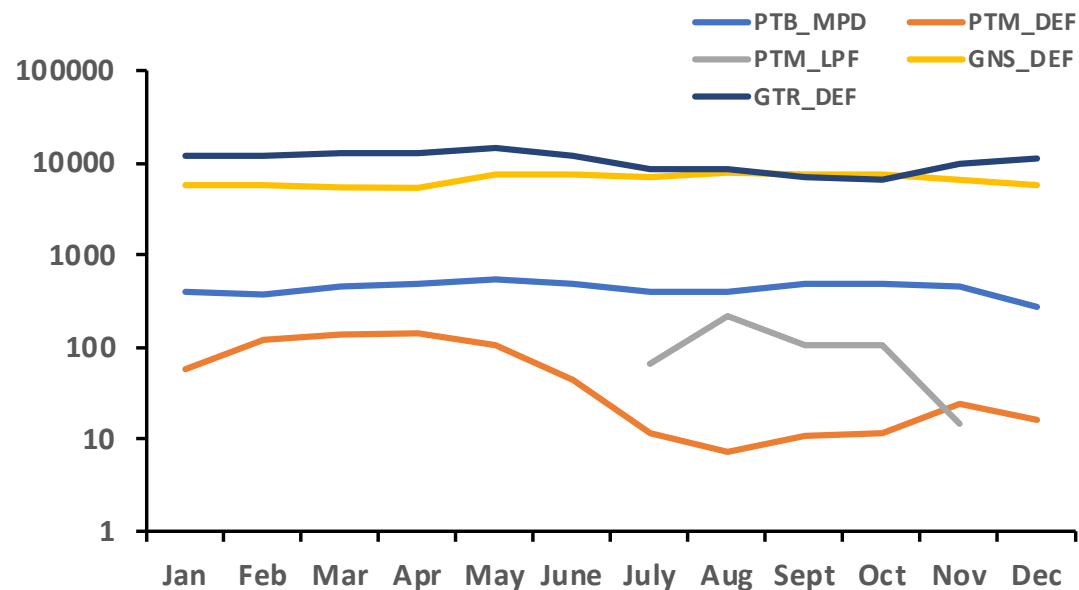


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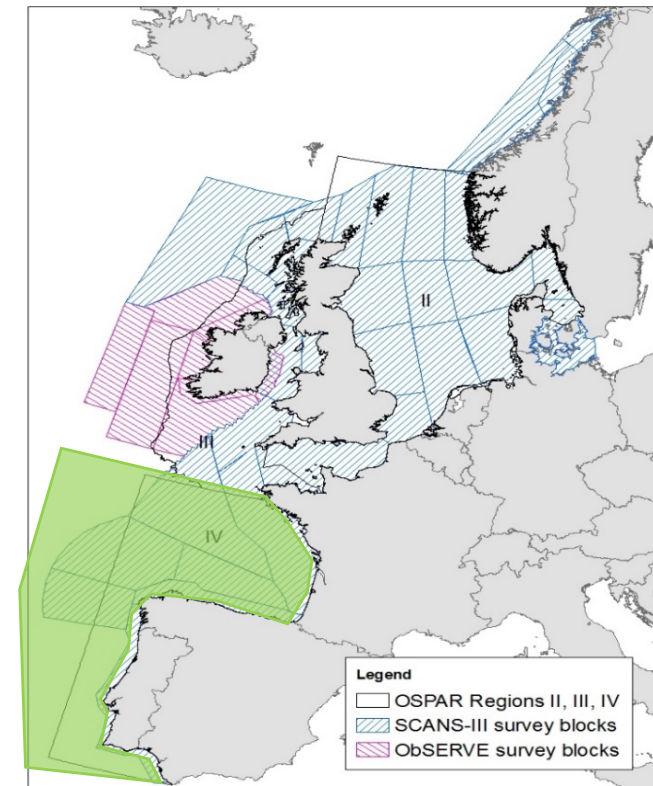
## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

### Background information (from WGBYC)

- Fisheries temporal pattern



- allows bycatch estimates from fishing effort and bycatch rate data



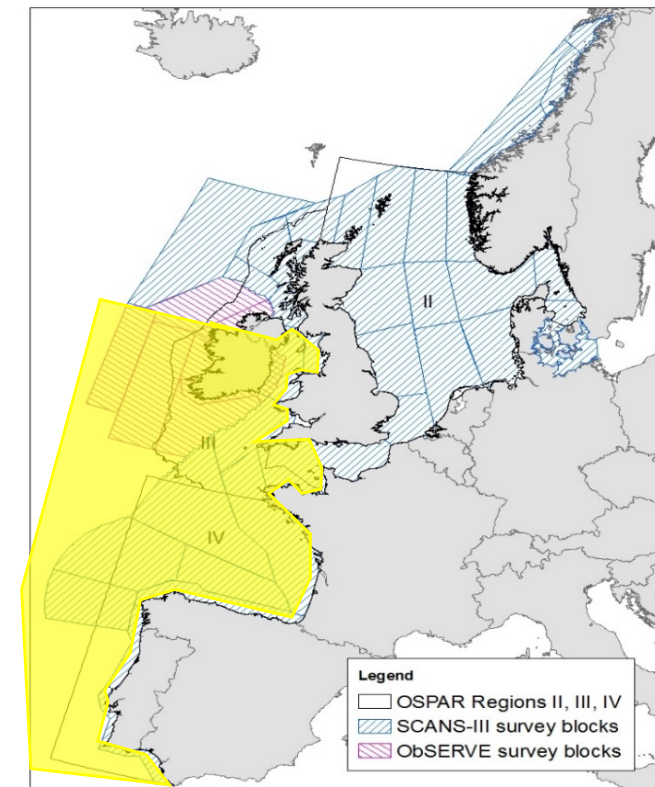


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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

### NGOs' request

- Closure of responsible fisheries (*ad minima* PTM and GNS) from Dec-Mar, NE Atlantic;
- Monitoring and dynamic closure
- Technical measures (daylight fishing; move-on procedure)
- Enhanced monitoring



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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

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### WKEMBYC consideration

- Responsible fisheries = PTM, PTB, OTM, OTB, OTT, GNS, GTR and PS ; should reduce bycatch significantly but other scenarios to be explored.
  - Feasibility questioned
- Not enough data to evaluate suitability
- Enhanced monitoring (observer or EM) needed in particular for smaller vessels

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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

Exploration of other scenarios based on various combinations of spatiotemporal closures and pingers deployment

- Two Management objectives were used
  - 1: Reduce bycatch to 50% of PBR (approximates long term viability)
  - 2: Reduce bycatch to 10% of PBR (approximates minimizing bycatch)
- Bycatch values from monitoring programmes and from strandings were considered to be two views of the same phenomenon and their uncertainty ranges were considered to contain the true bycatch level

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- 3 199 common dolphin bycatches (95%CI [1557; 5413]) from at-sea monitoring (areas 8 & 9, mean 2016-2018)
- 6 620 common dolphin bycatches (95%CI [4 411; 10 827]) from stranding data (mainly area 8, mean 2016-2018)

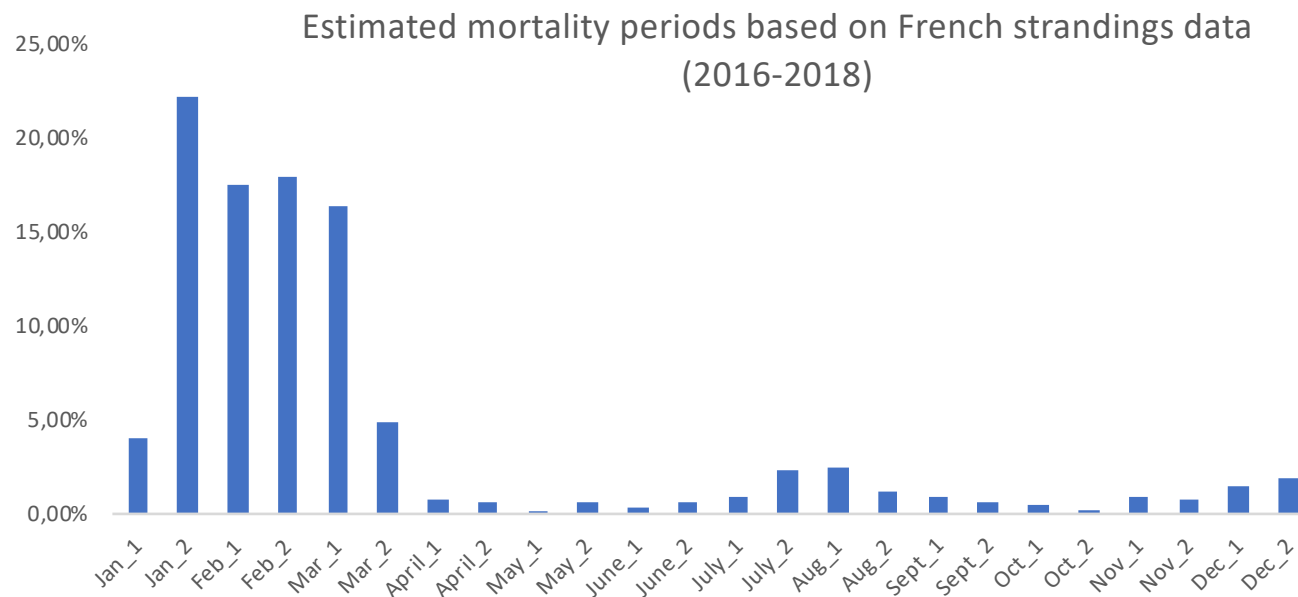
| Ecoregion                           | Metier 4 | Metier 5 | RDB Fishing Effort (DaS) | At sea Monitoring estimate | Stranding estimate |
|-------------------------------------|----------|----------|--------------------------|----------------------------|--------------------|
| Bay of Biscay<br>& Iberian<br>Coast | PTM      | DEF      | 682                      | 430                        | 890                |
|                                     | PTB      | MPD      | 5195                     | 775                        | 1605               |
|                                     | GTR      | DEF      | 58365                    | 1379                       | 2856               |
|                                     | OTM      | DEF      | 243                      | 297                        | 614                |
|                                     | PS       | SPF      | 35564                    | 207                        | 428                |
|                                     | GNS      | DEF      | 36839                    | 106                        | 219                |
|                                     | PTM      | LPF      | 510                      | 4                          | 8                  |
| TOTAL                               |          |          |                          | 3199                       | 6620               |

x 2.07  


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| Ecoregion                     | Metier 4 | Metier 5 | RDB Fishing Effort (DaS) | At sea Monitoring estimate | Stranding estimate |
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|                               | PTM      | LPF      | 510                      | 4                          | 8                  |
| TOTAL                         |          |          |                          | 3199                       | 6620               |

Bycatch estimates for each *métier* were allocated to fortnight periods by using the temporal pattern in bycatch mortality obtained from strandings



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- PBR: 4927 common dolphins (NE Atlantic; from WGMME) used as a tool to compare scenarios;
- Management objective I: Reduce bycatch to 50% below PBR: annual bycatch threshold of 2,464 common dolphins;
- Management objective II: Reduce bycatch to 10% below PBR: annual bycatch threshold of 493 common dolphins;
- Effect of 15 scenarios tested against PBR thresholds, bycatch reduction rate and measure efficiency (bycatch reduction rate/ effort reduction rate) in this order.

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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

|  | A   | B   | C  | D   | E   | F   | G  | H   | I  | J  | K                         | L  | M  | N  | O  |
|--|---|---|--|---|---|---|--|---|--|--|---------------------------|--|--|--|--|
| <b>Scenario</b>                                | NGO proposed 4 month closure (Dec-Mar) all meters | Annual effort reduction of 40% all meters | 2 month closure (mid Jan - mid Mar) all meters | 6 week closure (mid Jan - end Feb) all meters | 4 week closure (mid Jan - mid Feb) all meters | 2 week closure (mid Jan - end Jan) all meters | Pinger PTM / PTB all year & same 6 week closure all other meters | 6 week closure (mid Jan - end Feb) all meters and pinger PTM / PTB rest of year | Pinger PTM / PTB all year and same 4 week closure all other meters | Pinger PTM / PTB all year and same 2 week closure all other meters | Pinger PTM / PTB all year | 2 month closure all meters + pinger PTB / PTM rest of year | 4 month closure all meters + pinger PTM / PTB rest of year | 3 month (Jan-Mar) + 1 month (mid-Jul-mid-Aug) closure all meters + pinger PTB / PTM rest of year | 3 month (Jan-Mar) + 1 month (mid-Jul-mid-Aug) closure all meters |
| total resulting bycatch - monitoring mortality | 441   | 1919                                      | 833  | 1357  | 1928  | 2488  | 1268   | 1026  | 1624   | 1972   | 2412                      | 630  | 334  | 299  | 397  |
| total resulting bycatch - strandings mortality | 914   | 3975                                      | 1726   | 2811  | 3992  | 5152  | 2627   | 2125  | 3363   | 4085   | 4996                      | 1306   | 693  | 619  | 822  |
| Bycatch reduction obtained                     | 0.86  | 0.40                                      | 0.74   | 0.58  | 0.40  | 0.22  | 0.60   | 0.68  | 0.49   | 0.38   | 0.25                      | 0.80   | 0.90   | 0.91   | 0.88   |
| Effort reduction needed                        | 0.3   | 0.40                                      | 0.17   | 0.12  | 0.08  | 0.04  | 0.11   | 0.12  | 0.07   | 0.04   | 0.00                      | 0.17   | 0.3  | 0.3  | 0.3  |
| Efficiency Score                               | 2.6   | 1.0                                       | 4.4  | 5.0   | 5.2   | 5.8   | 5.5  | 5.7   | 6.7  | 10.4   | N/A                       | 4.8  | 2.7  | 2.7  | 2.6  |

|                 |      |       |               |       |
|-----------------|------|-------|---------------|-------|
| % of PBR        | <10% | <50%  | ≥50% and ≤PBR | >PBR  |
| Number bycaught | <493 | <2464 | 2464 - 4927   | >4927 |

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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

- scenarios F and K showed the lowest conservation performance relative to PBR levels and scenario B had the lowest efficiency score.
- scenarios A, M, N and O performed the best in terms of conservation and bycatch reduction but less well in terms of the efficiency score because of the breadth of the proposed closure period.
- scenarios based on a temporary closure which includes the winter peak period of mortality are the most effective ones provided that the closure's duration is at least six weeks, longer closures can further reduce bycatch.



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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

- Proposed emergency measures to meet annual common dolphin mortality of 50% of the PBR (*i.e.* management objective I)

| Scenario  | Pros   | Cons   |
|---|--|--|
| L 2 month (mid-Jan. – mid-Mar.) closure all metiers + pinger PTB / PTM rest of year | Achieves high level bycatch reduction with shorter temporal closures (than A, for example) | Slightly less bycatch reduction than scenario A, M, N, O.<br><br>Assumption that pingers are as effective in PTB as in PTM.<br><br>Fisheries closures of all relevant metiers in subarea 8 |

- Proposed emergency measures to meet annual common dolphin mortality of 10% of the PBR (*i.e.* management objective II)

| Scenario  | Pros   | Cons  |
|---|--|---|
| N 3 month (Jan–Mar) + 1 month (mid-Jul–mid-Aug) closure all metiers + pinger PTB / PTM rest of year | Achieves the highest level of by-catch reduction | High cost to industry<br><br>Both winter and summer closures required in subarea 8<br><br>Assumption that pingers are as effective in PTB as in PTM |

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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

### Monitoring measures

- Adequate monitoring through dedicated observers or REM should be implemented in Subareas 8 and 9 ensuring representative coverage of the relevant métiers and vessel sizes; likewise, at-sea check if pingers are adequately deployed and in working order;
- For GNS and GTR, improved reporting of net dimensions (length and height); similarly vertical opening of trawls, in particular HVO and VHVO trawls;
- Encourage the use of REM on fishing vessels to ensure more complete monitoring;

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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

### Other monitoring measures

- Large scale surveys to estimate the abundance of common dolphins should be implemented more regularly;
- Regional scale (e.g. Bay of Biscay) abundance surveys should also be carried out on a seasonal basis to monitor short term changes in distribution and density of common dolphins which will also help determine the appropriateness of management measures;
- Maintain or reinforce existing stranding networks in the NE Atlantic common dolphin range states, and encourage joint analyses and experimentations, including tagging experiments of dolphin carcasses to refine key parameters allowing bycatch mortality to be estimated.

# ADGBYC

- The proposed measures by NGOs for the common dolphin in the Bay of Biscay are appropriate to reduce the bycatch.
- A combination of temporal closures of all métiers of concern and application of pingers on pair trawlers (see scenarios below).
- ICES recommends enhanced monitoring to assess the effectiveness of management measures and to augment precision in population abundance and bycatch mortality estimates
- ICES advice addresses not only the emergency measures, but also considers long-term measures.
- ICES notes that conservation objectives set out under relevant EU legislation need to be defined more quantitatively.

# ADGBYC

## **Tested management objective 1: Reduce bycatch to PBR**

The objective is to reduce bycatch to PBR and should ensure that the population is at 50% of carrying capacity (K) 95% of the time. This is one interpretation of "long-term viability" (EU, 2017) of the population.

## **Tested management objective 2: Reduce bycatch to < 75% of PBR**

Given the high levels of uncertainty around the bycatch estimates and the abundance estimate used in the PBR, a "precautionary approach" was taken and the objective of achieving levels of bycatch that are below 75% of the PBR was tested.

## **Tested management objective 3: Reduce bycatch to < 50% of PBR**

This is the "precautionary approach option" taken, using the objective of achieving levels of bycatch that are below 50% of the PBR.

## **Tested management objective 4: Reduce bycatch to < 10% of PBR**

This quantitative objective aims to provide an interpretation of what "minimise and where possible eliminate" might mean in the context of bycatch reduction.

# ADGBYC

| Scenario                                      | A  | B  | C   | D  | E  | F  | G   | H  | I   | J   | K                         | L   | M   | N   | O   |
|---|--|--|---|--|--|--|---|--|---|---|---------------------------|---|---|---|---|
| Description                                   | NGO proposed 4 month closure (Dec-Mar) all métiers | Annual effort reduction of 40% all métiers | 2-month closure (mid-Jan-mid-Mar) all métiers | 6-week closure (mid-Jan-end Feb) all métiers | 4-week closure (mid-Jan-mid-Feb) all métiers | 2-week closure (mid-Jan-end Jan) all métiers | Pinger PTM / PTB all year & same 6-week closure all other métiers | 6-week closure (mid-Jan-end Feb) all métiers and pinger PTM / PTB rest of the year | Pinger PTM / PTB all year and same 4-week closure all other métiers | Pinger PTM / PTB all year and same 2-week closure all other métiers | Pinger PTM / PTB all year | 2-month closure all métiers + pinger PTB / PTM rest of the year | 4-month closure all métiers + pinger PTM / PTB rest of the year | 3-month (Jan-Mar) + 1 month (mid-Jul-mid-Aug) closure all métiers + pinger PTB / PTM rest of the year | 3-month (Jan-Mar) + 1 month (mid-Jul-mid-Aug) closure all métiers |
| Total resulting bycatch: monitoring mortality | 548  | 2384                                       | 1034  | 1685   | 2392   | 3087   | 1593  | 1340   | 2077  | 2551  | 3151                      | 824   | 437   | 391   | 494   |
| Total resulting bycatch: strandings mortality | 913  | 3975                                       | 1725  | 2809   | 3989   | 5148   | 2657  | 2235   | 3463  | 4254  | 5254                      | 1374  | 729   | 651   | 824   |
| Bycatch reduction obtained                    | 0.86   | 0.40                                       | 0.74  | 0.58   | 0.40   | 0.22   | 0.60  | 0.66   | 0.48  | 0.36  | 0.21                      | 0.79  | 0.89  | 0.90  | 0.88  |
| Effort reduction needed                       | 0.3  | 0.4  | 0.2   | 0.1  | 0.1  | 0.0  | 0.1   | 0.1  | 0.1   | 0.0   | 0.0                       | 0.2   | 0.3   | 0.3   | 0.3   |
| Efficiency score                              | 2.6  | 1.0  | 4.4   | 5.0  | 5.2  | 5.8  | 5.4   | 5.5  | 6.5   | 9.7   | N/A                       | 4.8   | 2.7   | 2.7   | 2.6   |

Colour coding used in table above for PBR levels:

| % of PBR                       | < 10% PBR | < 50% PBR | < 75% PBR | < PBR  | > PBR  |
|--------------------------------|-----------|-----------|-----------|--------|--------|
| Number of bycaught individuals | < 493     | < 2464    | < 3695    | < 4927 | > 4927 |

# ADGBYC

**a) to reduce annual common dolphin mortality to the PBR limit,  
(E), (B), (J)**

**b) to reduce annual common dolphin mortality to less than 75% of the  
PBR,  
(G), (I), (D)**

**c) to reduce annual common dolphin mortality to less than 50% of  
PBR,  
(L), (C), (H)**

**d) to reduce the annual common dolphin mortality below 10% of the  
PBR,  
(M), (N), (O)**

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**THANK YOU**





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## REPORT ON SPECIAL REQUEST IN BYCATCH EMERGENCY MEASURES

### Other mitigation measures

- Importance of other fisheries (SDN, OTM) or areas (area 9) to be considered when appropriate data available;
- Emergency measures could be relaxed for fisheries demonstrating no or agreed low bycatch levels ;
- provision of funding to transition to alternative fishing practices, métiers with lower cetacean bycatch risk, while insuring that these measures are also safe to other Protected, Endangered or Threatened Species (PETS).