

Bycatch Assessment work through ICES and OSPAR working groups

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ICES Working Group on Bycatch of Protected Species (WGBYC)

2018 – 2020 : Co-Chairs Kelly Macleod (UK) & Sara Königson
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Science for sustainable seas

WGBYC role & Terms of Reference



- Collate and assess information on bycatch for protected species, including mammals, birds, turtles and fish.
 - ToR F – Maintain WGBYC database & populate through formal Data Call
- Council Regulation (EC) 812/2004 has been the main driver: repealed 2019
 - ToRs A & B – summarise reports with respect to monitoring, bycatch estimates and mitigation
- Provides scientific outputs for ICES advice process
 - ToR C – evaluate impacts of bycatch & prioritise areas where additional monitoring is needed

Roadmap for ICES bycatch advice on protected, endangered, and threatened species



ICES
CIEM

International Council for
the Exploration of the Sea
Conseil International pour
l'Exploration de la Mer



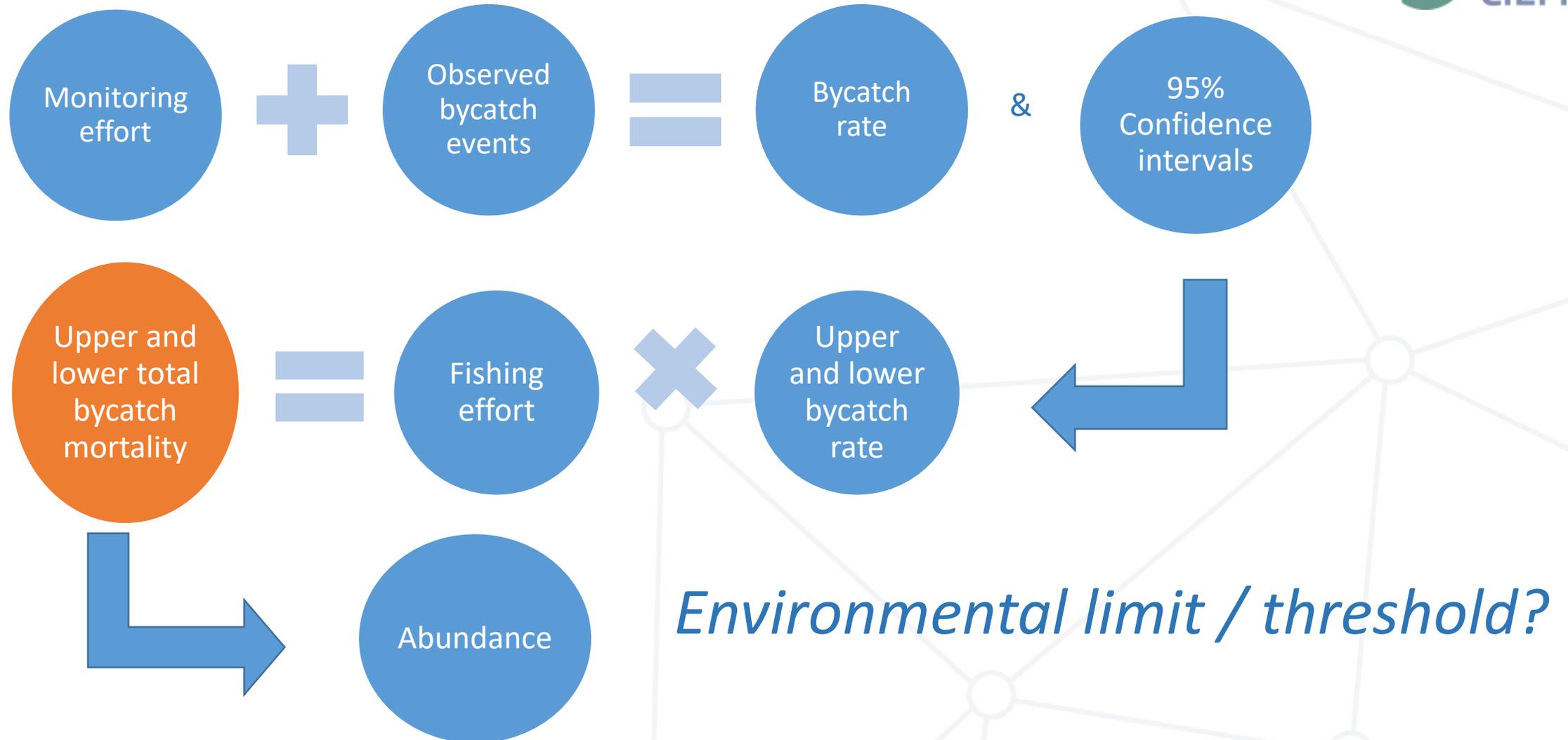
Data call & WGBYC database



- Fishing effort, sampling effort and bycatch records
 - Regulation 812/2004 and Data Collection Framework (DCF), EU-MAP
- In 2020, 19 of the 24 countries contacted responded (ICES and non-ICES members)
- Quality and quantity of submitted data varies



ICES WGBYC: Bycatch Risk Approach



Bycatch Risk Approach example

Table 1.6.1.1.1. Harbour porpoise bycatch mortality estimated by assessment unit, based upon compiled fishing effort of all setnet vessels and high and low estimates of bycatch.

Porpoise assessment unit	Year	Fishing effort	Estimates of bycaught porpoises		Best estimate of abundance	% mortality using lower bycatch estimate	% mortality using higher bycatch estimate
		days-at-sea	Lower 95% CI	Higher 95% CI			
Celtic and Irish Seas	2005	32 930	1 137	1 472	105 000	1.07%	1.39%
North Sea, including Divisions VIIId and IIIa	2005	44 165	1 235	1 990	227 000	0.54%	0.88%
Kattegat and Belt Seas – Division IIIa (south) and Subdivisions 22 and 23	2005	7 526	110	219	14 800	0.74%	1.48%
	2012	7 526	110	219	40 000	0.27%	0.55%

Bycatch of protected and potentially vulnerable marine vertebrates – review of national reports under Council Regulation (EC) No. 812/2004 and other information

Elaboration on the advice

In 2017, there were at least 46 incidents of bycatch (observed days-at-sea with bycatch) of marine mammals recorded in the Council Regulation (EC) 812/2004 (EU, 2004) annual reports from EU Member States. Five species of cetaceans were reported as bycatch: 74 common dolphins (*Delphinus delphis*), 15 harbour porpoises (*Phocoena phocoena*), five long-finned pilot whales (*Globicephala melas*), four bottlenose dolphins (*Tursiops truncatus*), and two striped dolphins (*Stenella coeruleoalba*). Furthermore, five grey seals (*Halichoerus grypus*) were reported (Table 1). In addition to the national reports, ICES announced a data call. This resulted in bycatch records of 44 harbour porpoises, 34 harbour seals (*Phoca vitulina*), 14 grey seals, four harp seals (*Pagophilus groenlandicus*), three common dolphins, two ringed seals (*Pusa hispida*), one striped dolphin, one bottlenose dolphin, one long-finned pilot whale, and one Delphinidae (Table 1).

At least 178 incidents of seabird bycatch were recorded through the ICES data call, amounting to 528 specimens of at least 22 species, along with 15 turtles of two species (*Caretta caretta* and *Dermochelys coriacea*) (Table 2). Turtle bycatch was only reported in the Western Mediterranean longline fishery.

ICES estimates that the percentage mortality of harbour porpoise population in 2017 in nets in the Greater North Sea was between 0.33% and 0.59% (corresponding to 1175–2126 individuals per annum), and in the Celtic Seas in nets and trawls between 0.29% and 0.80% (240–653 individuals per annum). The estimated bycatch mortality of harbour porpoise subpopulation in the Celtic Seas assessment unit (including also the eastern Bay of Biscay Shelf) ranged between 2.12% and 5.57% (536–1409 individuals per annum). **The latter estimates exceed the 1.7% limit for total anthropogenic removal set by ASCOBANS (ASCOBANS, 2016).**

Impacts of bycatch: strandings

Bay of Biscay and the Channel (WGBYC 2018)

Year	Common dolphin bycatch estimations inferred from strandings (95% CI)	Harbour porpoise bycatch estimations inferred from strandings (95% CI)
2012	1950 (1210-3760)	1120 (690-2150) ★
2013	4890 (3040-9410) ★	1830 (1140-3520) ★
2014	3750 (2330-7220) ★	1490 (930-2870) ★
2015	1470 (910-2830)	800 (500-1540) ★

★ Mortality exceeds the ASCOBANS anthropogenic removal limit of 1.7% of best estimated abundance

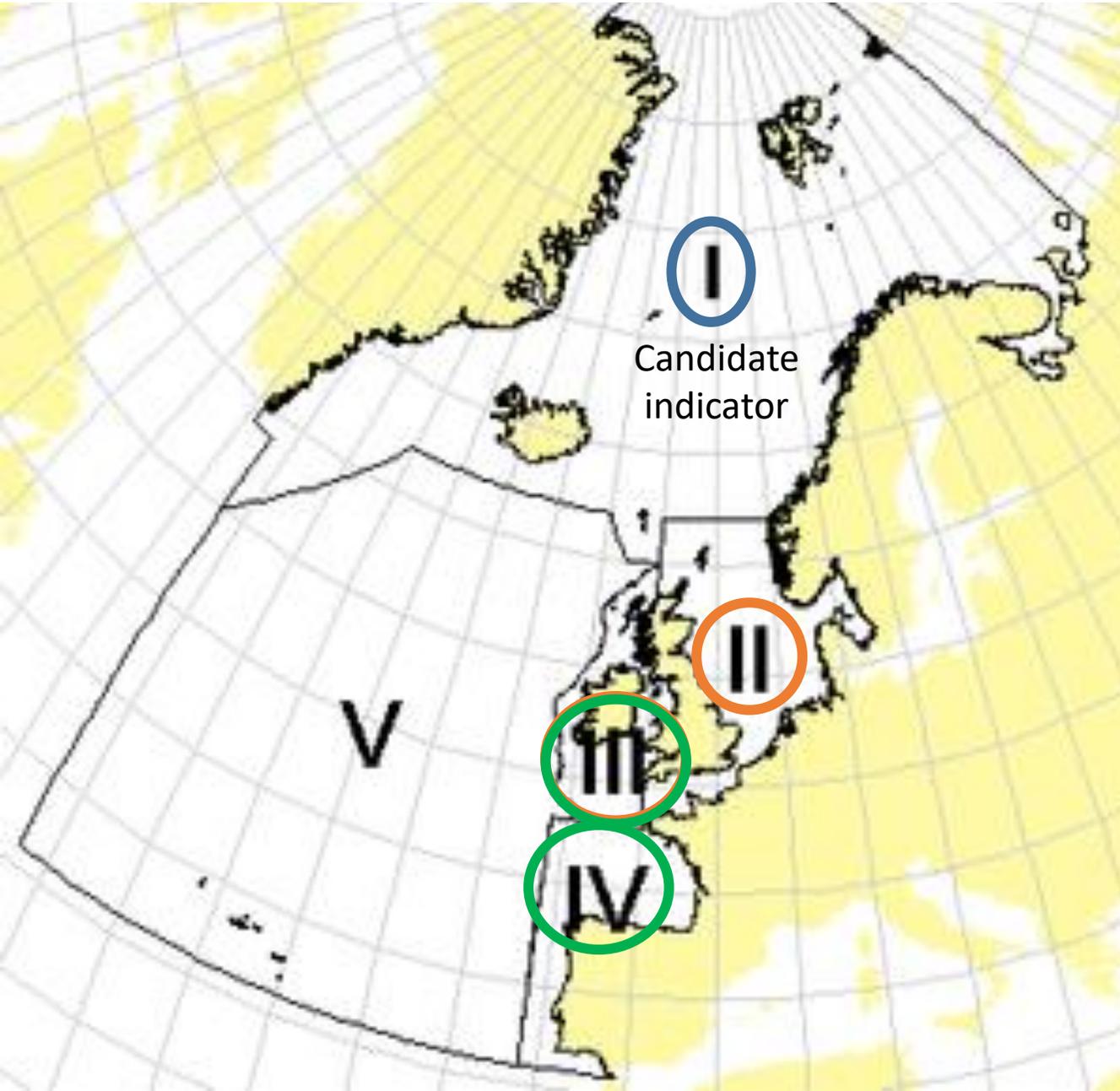
Special request from OSPAR to ICES 2021: mortality of marine mammals due to bycatch in the OSPAR region



Quality Status Report (QSR 2023)

- Assess the environmental status of the North East Atlantic against the objectives of the North East Atlantic Environmental Strategy 2010-2020 Part I (NEAES 2020)
- May be used by Contracting Parties that are also EU Member States to support their reporting obligations under the Marine Strategy Framework Directive
- OSPAR Marine Mammal Expert Group (OMMEG) tasked with delivery
- UK (Macleod, JNCC) leads marine mammal bycatch indicator

Indicator on marine mammal bycatch



Grey seal and
harbour porpoise



Common dolphin



Assessment approach

- Bycatch Risk Approach of ICES WGBYC (September 2021)
- Data call Spring 2021
- Thresholds to be provided by the OSPAR expert group (OMMEG)
- Currently, OSPAR has not agreed a conservation objective
- OSPAR-HELCOM workshop (September 2019) recommendations:
Minimise and where possible eliminate incidental catches of marine mammals, such that they do not represent a threat to the conservation status of the species
- Proposed for OSPAR's draft North East Atlantic Environment Strategy (NEAES) 2030 Part II

Setting thresholds for cetacean assessments

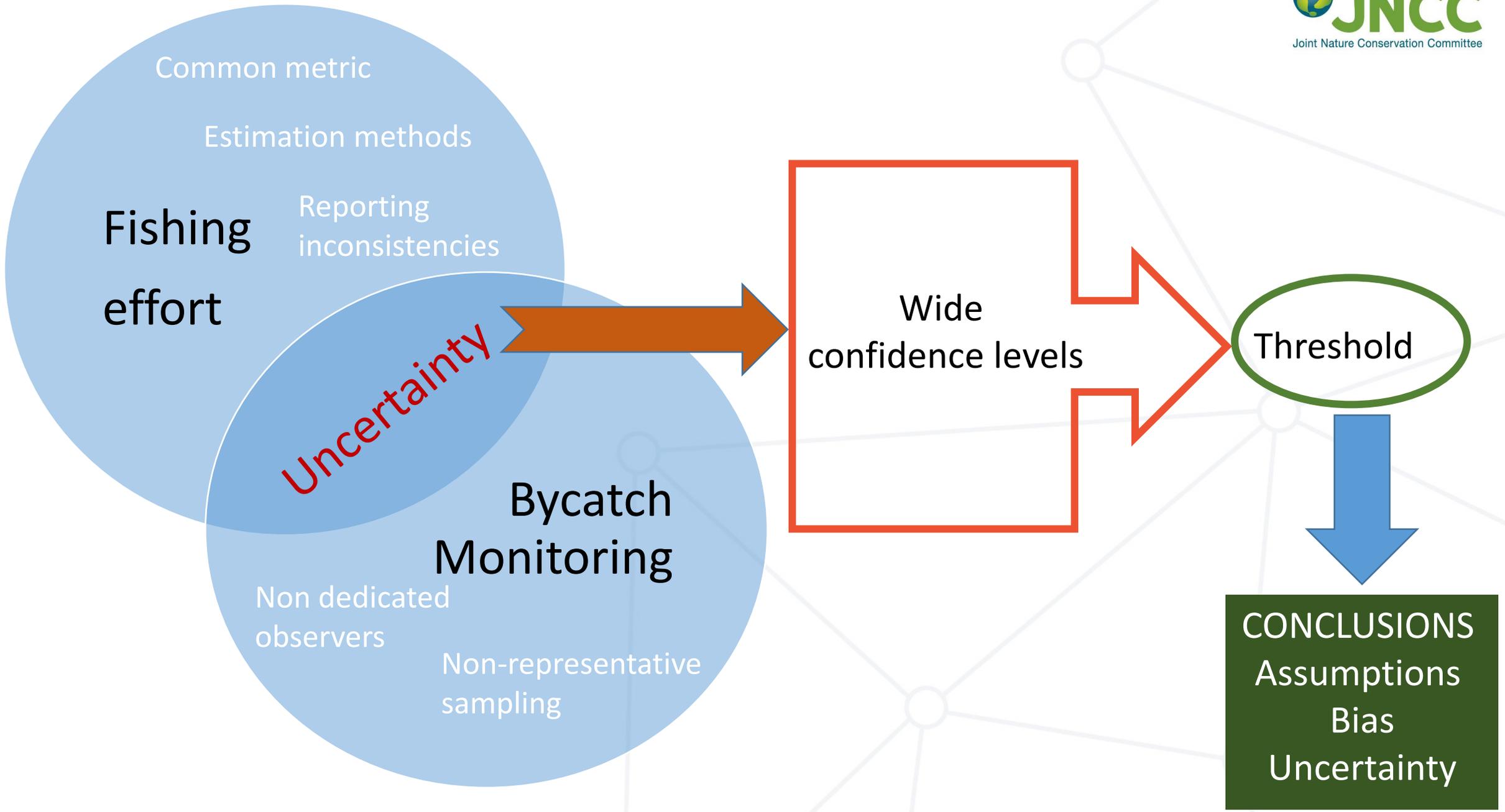
Data “rich”

- Removal Limit Algorithm (**RLA**): North Sea harbour porpoise
- Potential Biological Removal (**PBR**): harbour porpoise other regions and common dolphin
- 1% of the best available abundance estimate (ASCOBANS’ intermediate precautionary objective)

Data “poor”

Objectives for threshold procedures

- ASCOBANS “short-term practical sub-objective” “to **restore and/or maintain stocks/populations to 80% or more of the carrying capacity**” (Res.3.3).
- The population should recover to or be maintained at **80% of carrying capacity, on average, within a 100-year period**” (*RLA: Hammond et al. 2019*).
- Will adopt the Hammond et al. objective for the RLA and a “nouveau” PRB (*Matthieu Authier, La Rochelle University, France*)



Thank you!

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