

ICES Working Group on Bycatch of Protected Species

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Science for sustainable seas

WGBYC Role and ICES advice process



- The Working Group on Bycatch of Protected Species (WGBYC) collates and assesses information on bycatch monitoring for protected species, including mammals, birds, turtles, and fish.
- Council Regulation (EC) 812/2004 has been the main driver
- Provides advice to ICES Advisory committee

2016
MS
monitoring

June 2017
MS submit
Reg.812
report to
EC

March 2018
ICES requests
Reg 812
reports for
WGBYC

May 2018
ICES
WGBYC
meeting

June/July
2018
ICES
Review
Group

Sept 2018
ICES Advice
Drafting
Group &
publication
of advice

Terms of Reference

- A - summarise Reg812/2004 reports with respect to monitoring and bycatch estimates
- B - summarise Reg812/2004 reports & other material with respect to mitigation
- C – evaluate impacts of bycatch & prioritise areas where additional monitoring is needed
- D – coordinate with other ICES WGs
- E – develop collaborative research projects amongst WGBYC members
- F – Maintain WGBYC database & populate through formal Data Call
- G – PETSAMP – joint workshop WGCATCH & WGBYC

http://ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2018/WGBYC/wgbyc_2018.pdf



Data call & WGBYC database



- Data call issued end February 2018 – deadline 1st April 2018
- Asks for data describing fishing effort, monitoring/sampling effort and protected and endangered species bycatch records
 - collected through Regulation 812/2004 and Data Collection Framework (DCF/EU-MAP)
- Out of 24 countries, 18 EU MS submitted data through the call and 1 of 3 non-EU Member States
- Format is specified and asked to use an Excel “data submission template”
- The quality and quantity of submitted data varied widely
- Future, data will come from the ICES regional database and estimating system (RDBES) as a result of the implementation of the EU Multiannual Programme
- WGBYC work relies on data in the Reg 812 reports & the database

Key messages: Reporting & data submission



- Not all MS submit Reg. 812 reports: 14/ 17 EU Member States in 2016
- Within MS, needs to be communication between fisheries & species specialists to **ensure data & reports**
 - **align**
 - **are as complete as possible**
 - **adhere to format requests**
 - **submitted on time**

2016 EU-MS bycatch records

	Areas caught	Gear	Number Incidents	Number of specimens
Harbour porpoise	North Sea, Celtic Sea, Biscay	Nets	14	47
Common dolphin	Celtic Seas, Biscay	Nets, bottom trawl, pelagic trawl	25	64
Pilot whale	Celtic Sea	Nets	2	2
Striped dolphin	Celtic Sea, Mediterranean	Pelagic trawls	2	2
Grey seal	North Sea, Celtic Sea	Nets	8	8
Harbour seal	North Sea, Biscay	Pelagic trawls, nets	4	4*
Bearded seal	Mid-Atlantic	Bottom trawl	1	1
Total			56	124

Impacts of bycatch: Bycatch Risk Assessment

Biases in BRA- use numbers as an indication of a possible scale of bycatch within each assessment unit



- Use monitoring data to estimate metier-specific bycatch rate and confidence interval (CI)
- Scale up CIs using best estimates of fishing effort
- Estimate min & max bycatch estimates as % best available abundance

Harbour porpoise

Area	Year	Fishing Effort	Estimate of bycatch rate (number of bycatch events/observed DaS)		Estimate of porpoise bycatch		Best estimate of abundance	% mortality using lower bycatch estimate	% mortality using higher bycatch estimate
			Lower 95% CI	Upper 95% CI	Lower 95% CI	Upper 95% CI			
7 of the Celtic Sea Ecoregion	2015/2016	17,465.59	0.035	0.079	620	1391	57,491	1.08	2.42

Previous years assessments: HP& North Sea

- 2006-2013 bycatch data, 2013 fishing effort

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 VIId 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%

- 2014 bycatch & fishing data:

Table 1.6.1.1.1 Estimates of bycatch rates of harbour porpoise in the Kattegat and Belt Seas.

Harbour porpoise assessment region	Year	Static net fishing effort (days at sea)	Estimate of bycaught porpoises (Low–high)		Best estimate of abundance (CV)	% mortality using lower bycatch estimate	% mortality using higher bycatch estimate
Kattegat and Belt Seas – subdivisions 27.3.a.21, 27.3.b.23, 27.3.c.22	2014	10625	165	263	40475 (0.235)	0.41	0.65

Impacts of bycatch: Bycatch Risk Assessment

Biases in BRA- use numbers as an indication of a possible scale of bycatch within each assessment unit

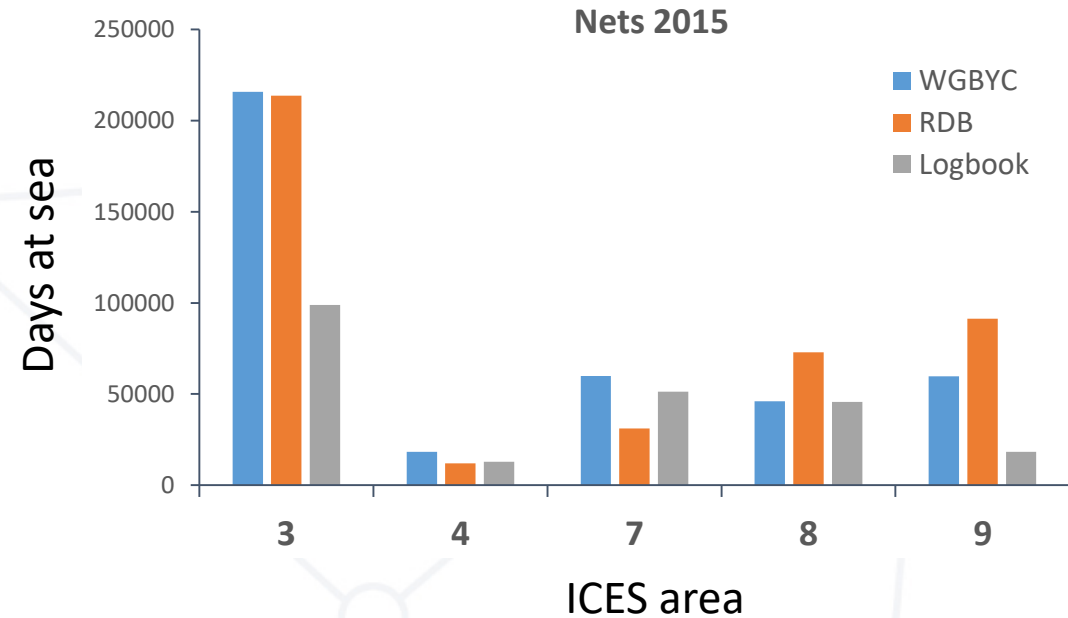
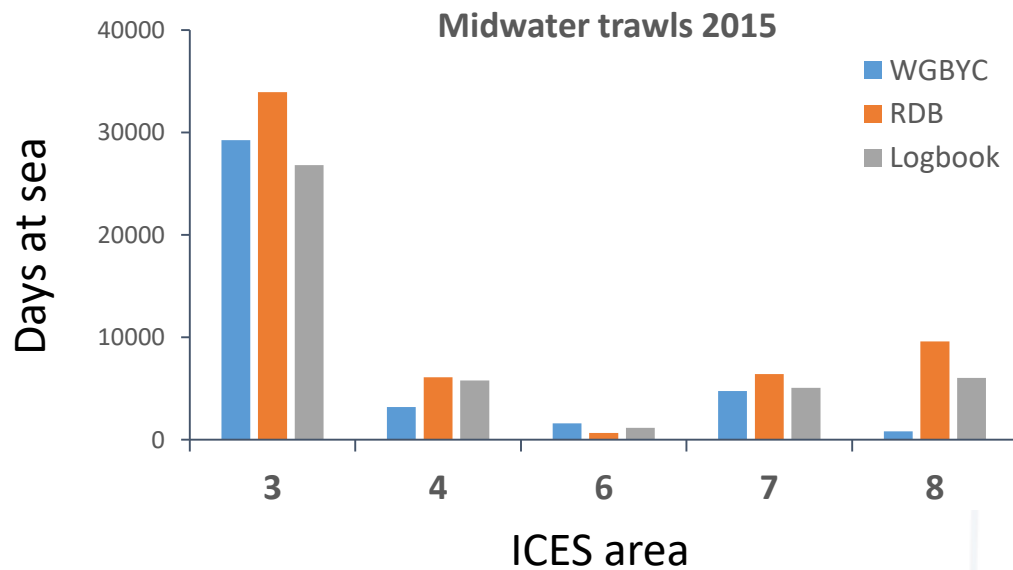


Common dolphin

Area	Metier	Year	Fishing Effort (DaS)	Estimate of bycatch rate (number of by-catch events/observed DAS)		Estimate of bycatch common dolphin		Best estimate of abundance	% mortality using lower bycatch estimate	% mortality using higher bycatch estimate
				Lower 95% CI	Upper 95% CI	Lower 95% CI	Upper 95% CI			
Celtic Sea Ecoregion 7 (a-c, g-h, j-k)	Mid-water trawl (OTM, PTM)	2015/2016	4,767	0.010	0.075	49	355	221933	0.02	0.16
	Nets (GNS, GND, GTR)		17,485	0.006	0.031	104	549		0.05	0.25
Bay of Biscay 8 (a-e)	Mid-water trawl (OTM,)	2015/2016	10,962	0.084	0.199	924	2187	111990	0.83	1.95
Bay of Biscay and Iberian sea 8 (a-e)	Nets (GNS, GND, GTR)	2015/2016	61,124	0.011	0.035	683	2168		0.61	1.94
Total	Mid-water trawls and Nets	2015/2016	94,338			1760	5259	333,923	0.53	1.57

Data issues

1. Reliable estimate of total fishing effort
2. Patchy bycatch data and immeasurable bias in monitoring data



Impacts of bycatch: stranding's

- Drift model to predict the behaviour of strandings and the calculation of a buoyancy rate
- The 'best' annual mortality due to bycatch estimates ranged from 800-1800 for harbour porpoise and 1400-4800 for common dolphin over the period in Bay of Biscay, Celtic Sea and the Channel

Year	Common dolphin bycatch estimations inferred from strandings (95% CI)	Harbour porpoise bycatch estimations inferred from strandings (95% CI)	Abundance estimate SCANS-III blocks B,C,D	
			Common dolphin	Harbour porpoise
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) ★	-	-
2016	-	-	200212 (0.16)	26431 (0.24)

FishPi, WK PETSAMP and WGBYC.....



WKPetsamp: Workshop on sampling of by-catch and PET species includes WGCATCH and WGBYC

FishPi WP 4 Regional sampling plan for 2019 covering the collection of data on fisheries impacts on the ecosystem.

Identifying high risk metiers for monitoring: FishPi approach



GEAR TYPE	CODE	SUMMED RISK FACTOR	%RISK	% SAMPLING	DIFFERENCE (OVER/ UNDE SAMPLING)
Dredges	DRB	8	1.3	0	1.3
Stationary uncovered poundnets	FPN	33	5.2	0	5.2
Pots and traps	FPO	52	8.2	2.1	6.1
Fykenets	FYK	72	11.4	0	11.4
Driftnet	GND	0	0	0	0
Set gillnet (including semi-driftnet)	GNS	110	17.4	9.9	7.5
Trammelnet	GTR	80	12.6	2.5	10.2
Hand and Pole lines	LHM	16	2.5	0	2.5
Drifting longlines	LLD	0	0	1.3	-1.3
Set longlines	LLS	48	7.6	0.1	7.5
Trolling lines	LTL	0	0	0	0
Bottom otter trawl	OTB	48	7.6	4.2	3.4
Midwater otter trawl	OTM	48	7.6	79.8	-72.2
Multirig otter trawl	OTT	20	3.2	0	3.2
Purse-seine	PS	16	2.5	0	2.5
Bottom pair trawl	PTB	36	5.7	0.1	5.6
Midwater pair trawl	PTM	36	5.7	0	5.7
Beach and boat seine	SBV	10	1.6	0	1.6
Anchored seine	SDN	0	0	0	0
Fly shooting seine	SSC	0	0	0	0
Beam trawl	TBB	0	0	0	0

- Combines species (or species group) occurrence, bycatch risk, fishing effort and current monitoring levels by area.
- It is a useful tool to categorize the overall bycatch risk, highlight sampling needs and identify gaps or shortfalls in current monitoring levels.
- WGBYC 2018 applied approach to Baltic Sea

Conclusions & WGBYC going forward....



- Data call:
 - aim to issue before end 2018
 - Talk to relevant fisheries colleagues to stress importance of complete & timely response
- Work with WKPETSAMP and FishPi on sampling under EU-MAP
- Continue to review Reg 812/2004 reports until the regulation is being repealed
- Agenda items and tasks for next meeting not decided, collective decision on tasks and assessments to prioritize
- Next meeting is early March 2019, Portugal

Mitigation

Country	Pinger use obligatory under Reg 812/2004	Obligatory pinger use implemented	Other pinger trials	Information about other mitigation trials
Denmark	YES	YES	YES	YES
Estonia	NO	-	NO	NO
France	YES	YES	NO	NO
Germany	YES	YES	YES	NO
Iceland	NO	-	YES	NO
Ireland	YES	No information	NO	NO
Italy	NO	-	YES	NO
Latvia	NO	-	NO	NO
Lithuania	NO REPORT			
The Netherlands	YES	Not known	NO	NO
Poland	YES	YES	NO	NO
Portugal	NO	-	YES	NO
Slovenia	NO	-	-	NO
Spain	NO	-	NO	NO
Sweden	YES	NO	YES	YES
UK	YES	YES	NO	NO
USA	NO	-	NO	YES
Norway (Info from WGMME report)	NO	-	YES	NO