Annual report on the implementation of Council Regulation (EC) No 812/2004 – (2011)

Member State: Ireland

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Summary

The second year of an independent dedicated observer programme for cetacean bycatch in Irish pelagic trawl fisheries has just been completed. A total of 201 days at sea have been carried out as part of this programme across a range of pelagic trawl fisheries from August 2010 to March 2012 and no cetacean bycatch or significant bycatch event of other protected species has been observed as part of the programme. In addition to the independent observer programme, the Irish Sea Fisheries Board (BIM) and Marine Institute (MI) carry out onboard observer work as part of tachnical trials and surveys under the Data Collection Framework (DCF). Figures combined from these programmes show the following:

No cetacean bycatch was observed in 57 days at sea onboard Midwater otter trawl (OTM) vessels targeting small pelagic fish, 168 days at sea onboard Midwater pair trawlers targeting (PTM) small pelagic fish nor 48 days onboard Midwater pair trawlers targeting large pelagic fish (albacore tuna) in 2011. Apart from 4 common dolphins observed as bycatch by an OTM research vessel targeting small pelagic fish in 2006, no cetacean bycatch incidences have occurred in 703 days of observations onboard Irish pelagic trawlers since 2005. Data compiled by Ireland and the UK since monitoring commenced in 2005 have demonstrated that cetacean bycatch incidents are very rare in pelagic trawling operations for small fish (mackerel, herring, horse mackerel etc.) and it is difficult to justify the high costs associated with compliance with legal requirements to continue dedicated observer programmes in these fisheries. Indeed the European Commission has acknowledged this and a process of changing observer coverage from dedicated observer programmes to monitoring under the DCF has commenced.

A total of 81 days at sea were observed on Irish set net vessels involved in gill netting, tangle netting and trammel netting in 2011. This work was primarily conducted as part of an ongoing study on interactions between Irish set net fisheries and seals. The study is due to be completed in 2012 and results will be summarised in the next report to the EC.

ACOUSTIC DETERRENT DEVICES

1. General Information

No administrative measures were taken in relation to gillnet pingers in 2011. Dolphin Disuasive Devices (DDDs) which have worked well in reducing bycatch in the UK pair pelagic trawl fishery for bass have been provided to 12 vessels involved in the Irish pair pelagic trawl fishery with 6 more due to receive these devices in 2012. A total of 144 days at sea have been observed in this fishery since 2005 with no cetacean bycatch observed. DDDs are easy to deploy and can further reduce the likelihood of any bycatch occurring if fishermen feel there is a risk of this type of event occurring.

2. Acoustic Deterrent Devices (Article 2 and 3)

2.1 Mitigation measures

Four pinger models, Airmar, Aquamark 100, Fumunda and Savewave, have previously been tested in Irish fisheries. Vessels previously involved in pinger testing trials remained in possession of the devices at the end of the trial but it is not known if these vessels continue to use the devices. DDDs were deployed in pelagic trawl fisheries during 2011 as described above.

3. Monitoring and assessment

3.1 Monitoring and assessment of the effects of pinger use (Article 2.4)

Extensive research on the practicalities and spacing of gillnet pingers has previously been carried out by BIM in Ireland and has been reported in previous reports under 812/2004 and at WGBYC. BIM have also been heavily involved in the development and testing of pelagic trawl pingers as also reported previously. No cetacean bycatch occurred in the tuna fishery by vessels with or with out DDDs in 2011 so the effectiveness of these devices in reducing cetacean bycatch in this specific fishery remains unknown.

3.2. Report on measures to control specifications when pingers are in use by fishermen (Article 2.4)

3.3. Derogation

Based on pinger spacing research carried out by Ireland and Denmark, a temporary derogation under Article 3(2) of Regulation 812/2004 allowed for an increase in maximum spacing between pingers to 500m for digital devices from 13 June 2007 for a period of two years. This derogation has not yet been renewed.

3.4 Overall assessment

ADDs can reduce harbour porpoise bycatch in set net fisheries. Numerous trials have shown that pingers of several types can reduce porpoise bycatch by around 90%. ADDs are, however, expensive, where many are required (e.g. for set net fisheries), require periodic maintenance to check and replace batteries and can interfere with net setting and hauling. A combination of these factors has meant uptake by fishermen has remained sporadic despite regulation. There is still ambivalence towards ADDs from NGOs due to perceived habitat exclusion and environmental noise effects. The seriousness of these effects are unproven. Habituation has also been cited as a reason that ADDs don't work although again there is no evidence that this is an issue. DDD devices have good potential to work in pelagic trawl fisheries where incidental bycatch of common dolphins may occur. These devices will continue to be deployed in Irish albacore pelagic trawl fishery in 2012.

OBSERVER SCHEMES

4. General information on implementation of Articles 4 and 5

Four fleets/metiers >15m in size were identified as requiring observer coverage in relation to Articles 4 and 5 of 812/2004. These metiers are defined according to Appendix IV of Commission Decision 2008/949/EC as:

Metier Code	Level 4	Level 5
1.	Set gillnets (GNS)>15	Demersal fish
2.	Midwater otter trawl (OTM)	Small pelagic fish
3.	Midwater pair trawl (PTM)	Small pelagic fish
4	Midwater pair trawl (PTM)	Large pelagic fish

An additional metier consisting of set gillnet vessels <15m in size was sampled in 2011 linking in with the requirement to carry out pilot observer schemes on smaller vessels under EC 812/2004. This metier was defined as:

Metier Code	Level 4	Level 5
5.	Set gillnets (GNS) <15	Demersal fish

- Under 15m vessels

Pelagic trawling by vessels under 15m remains relatively insignificant in Ireland. A total of 115 days at sea were carried out on pelagic trawlers < 15m in 2011. This effort was restricted to vessels in metiers 2 and 3 and represented less than 5% of total pelagic trawl effort for these metiers. Eight days observer coverage were carried out on pelagic trawling vessels under 15m in 2011 with no cetacean bycatch recorded.

Some 6 days at seas were carried out on gillnet vessels <15in 2011 as part of a study examining interactions between fisheries and seals.

Provide information on:

- Legislative or administrative measures following provisions of Art.4 or 5.

An independent observer programme dedicated to provisions under 812/2004 initiated in 2010 continued during 2011.

The objectives of the programme were to carry out observer coverage on Irish vessels in the following fisheries in a representative manner:

- 10% coverage of the albacore tuna (Large pelagic) midwater pair trawl in 2010 covering at least 3 different vessels.
- 10% coverage of the pelagic trawl fisheries (single and pair) >15m for Mackerel, Herring, Horse Mackerel, Blue whiting and other relevant species (small pelagic) covering at least 3 vessels during the pilot period specified in 812/2004 of December to March.

A total of 90 days observer coverage were achieved from August 2011 to March 2012 across the fisheries outlined above with zero cetacean bycatch reported. The full report is provided in an additional PDF document.

- Difficulties implementing articles 4 and 5 of 812/2004

Pelagic trawl monitoring during the independent observer programme in accordance with the EC regulation 812/2004 resulted in zero cetacean bycatch being observed. Based on this result, it is impossible to design a sampling strategy aimed at achieving a co-efficient of variation no higher than 0.30 for the most frequently caught species. Ireland will therefore continue to implement pilot monitoring schemes in accordance with Annex III of 812/2004.

- Nature of onboard observations

Onboard observations were also carried out as part of discard and stock surveys carried out under the Data Collection Framework (DCF) by the Marine institute, technical trials carried out by BIM and provision of data on tuna fishing under DCF and ICCAT requirements.

5. Monitoring

5.1 Description of fishing effort and observer effort in towed gear

Metier	Ices area	Season	Trips EF	Days EF	Hauls Ef	Trips Ob	Days Ob	Hauls Ob
2	IIa	1-3	9	24	17	9	24	17
2	IVa	10-12	18	101	42			
2	VIa	10-12	61	178	138	2	15	23
2	VIa	1-3	37	166	91	2	6	9
2	VIa	7-9	1	3	4	1	3	4
2	VIIa	10-12		1	2		1	2
2	VIIb	10-12	4	18	7			
2	VIIb	1-3	15	80	48			
2	VIIb	4-6	1	3	1			
2	VIIb	7-9	1	11	2		4	8
2	VIIc	10-12	5	24	20			
2	VIIc	1-3	3	15	17	1	5	4
2	VIIc	7-9	1	6	4	1	1	1
2	VIIe	7-9	2	9	7			
2	VIIg	10-12	25	64	49	1	11	16
2	VIIg	7-9	6	17	9		1	1
2	VIIh	10-12	8	65	17			
2	VIIh	1-3	2	9	4			
2	VIIh	7-9	2	20	7		2	2
2	VIIIIa	7-9		1	1		1	1
2	VIIj	10-12	7	50	30	1	2	4
2	VIIj	1-3	4	25	16			
2	VIIj	7-9	1	5	11	1	5	11
2	VIIk	1-3	0	4	1	1	4	1
3	IIa	1-3	9	17	10	2	6	6
3	IVa	10-12	43	182	61	2	7	6
3	Vb	10-12	1	4	1			
3	VIa	10-12	195	534	318	11	47	22
3	VIa	1-3	159	283	167	12	42	23
3	VIa	7-9	5	5.5	4.5			
3	VIIa	10-12	2	4	2	2	4	4
3	VIIa	1-3	4	6	2	4	6	4
3	VIIb	10-12	44	69.5	33.5	1	3	2
3	VIIb	1-3	92	158	85	3	8	7
3	VIIb	4-6	3	5	2.5			

3	VIIb	7-9	2	2	2			
3	VIIc	10-12	7	11.5	0			
3	VIIc	1-3	1	3	2	1	3	4
3	VIIg	10-12	188	220	141	6	14	8
3	VIIg	1-3	1	3	3.5	1	2	7
3	VIIg	7-9	24	37.5	17	1	2	1
3	VIIh	10-12	10	34.5	9.5			
3	VIIj	10-12	48	81	94	2	11	5
3	VIIj	1-3	40	66.5	44	3	8	4
3	VIIj	7-9	12	22.5	9	1	1	1
4	VIIIe	7-9	3	14	2.5	1	4	5
4	VIIj	7-9	21	71.5	25			
4	VIIk	7-9	47	151	72.5	5	44	32

5.2 Description of fishing effort and observer effort in static gear

Metier	Ices	Season	Trips EF	Days EF	Hauls Ef	Trips Ob	Days Ob	Hauls Ob
1	VIa	4-6	0	0	8			
1	VIIa	1-3	17	95	162			
1	VIIa	4-6	11	65	28			
1	VIIa	7-9	3	16	4			
1	VIIb	10-12	24	62	827	10	10	38
1	VIIb	1-3	27	67	667			
1	VIIb	4-6	56	110	1490	2	7	10
1	VIIb	7-9	53	89	6112	13	13	60
1	VIIg	10-12	5	32	399			
1	VIIg	1-3	17	76	5909	2	2	4
1	VIIg	4-6	14	76	1506	1	5	6
1	VIIg	7-9	24	164	2622			
1	VIIj	10-12	27	101	1851	8	9	24
1	VIIj	1-3	21	122	2196	3	6	6
1	VIIj	4-6	23	126	2169	11	11	37
1	VIIj	7-9	13	67	1263	3	13	15
5	VIa	1-3	4	12	33			
5	VIa	4-6	3	9	13			
5	VIa	7-9	5	6	10			
5	VIIa	10-12	2	2	2			
5	VIIa	1-3	41	81	547			
5	VIIa	4-6	15	24	2806			
5	VIIa	7-9	4	10	5082			
5	VIIb	10-12	11	11	130			
5	VIIb	1-3	21	32	4815			
5	VIIb	4-6	16	18	103	2	2	7
5	VIIb	7-9	29	42	1221	4	4	17
5	VIIg	10-12	65	71	374			
5	VIIg	1-3	194	287	1675			

5	VIIg	4-6	103	149	1301
5	VIIg	7-9	76	110	954
5	VIIj	10-12	32	53	141
5	VIIj	1-3	68	97	573
5	VIIj	4-6	20	21	60
5	VIIj	7-9	51	101	372

6. Estimation of incidental catches

6.1 Incidental catch rates by fleet segment and target species

Metier	ICES AREA	Season	Incidentally caught species	No of specimens	Total bycatch estimate	Target Species	Mesh size
1	VIIg	1-3	0	0		Cod	120
1	VIIj	1-3	0	0		Pollack	120
1	VIIj	1-3	0	0		Pollack, haddock and whiting	120
1	VIIb	4-6	Common Seal	1		Hake	120
1	VIIb	4-6	0	0		Ray	320
1	VIIb	4-6	Grey Seal	1		Skate and crawfish	320
1	VIIb	4-6	0	0		Skate and crawfish	270
1	VIIg	4-6	0	0		Hake	120
1	VIIj	4-6	0	0		Hake	120
1	VIIj	4-6	0	0		Pollack and saithe	120
1	VIIj	4-6	0	0		Saithe	120
1	VIIb	7-9	Harbour porpoise	2		Crawfish	320
1	VIIb	7-9	Grey Seal	1		Crawfish	270
1	VIIb	7-9	0	0		Crawfish	270
1	VIIb	7-9	Common Seal	4		Crawfish	320
1	VIIb	7-9	Common Skate	9		Crawfish	320
1	VIIb	7-9	Grey Seal	12		Crawfish	320
1	VIIb	7-9	Sunfish	1		Crawfish	320
1	VIIb	7-9	0	0		Crawfish	320
1	VIIb	7-9	Spurdog	1		Pollack	120
1	VIIb	7-9	Harbour porpoise	1		Pollack	120
1	VIIb	7-9	0	0		Pollack	120
1	VIIb	7-9	Common Skate	1		Ray	320
1	VIIb	7-9	Grey Seal	5		Ray	320
1	VIIb	7-9	0	0		Saithe	120
1	VIIb	7-9	0	0		Skate	270
1	VIIb	7-9	0	0		Skate and crawfish	270
1	VIIb	7-9	0	0		Skate and crawfish	320
1	VIIb	7-9	Grey Seal	2		Skate and crawfish	320
1	VIIb	7-9	0	0		Skate and crawfish	120
1	VIIb	7-9	Grey Seal	1		Skate and crawfish	270

1	VIIj	7-9	Harbour porpoise	6		Hake	120
1	VIIj	7-9	0	0		Hake	120
1	VIIj	7-9	0	0		Saithe	120
1	VIIb	10-12	0	0		Crawfish	270
1	VIIb	10-12	Grey Seal	6		Crawfish	270
1	VIIb	10-12	Common Seal	2		Crawfish	320
1	VIIb	10-12	0	0		Crawfish	320
1	VIIb	10-12	Common Skate	2		Crawfish	270
1	VIIb	10-12	Grey Seal	2		Crawfish	320
1	VIIb	10-12	Common Skate	1		Crawfish	320
1	VIIb	10-12	Seal	1		Crawfish	320
1	VIIb	10-12	0	0		Pollack and saithe	120
1	VIIb	10-12	0	0		Whitefish	120
1	VIIj	10-12	0	0		Hake	120
1	VIIj	10-12	0	0		Pollack and saithe	120
1	VIIj	10-12	0	0		Saithe	120
1	VIIj	10-12	0	0		Whitefish	120
2	IIa	1-3	0	0	0		
2	VIa	1-3	0	0	0	Blue Whiting	
2	VIa	1-3	0	0	0	Blue Whiting	
2	VIa	1-3	0	0	0	Mackerel	
2	VIa	1-3	0	0	0	NW Herring	
2	VIIc	1-3	0	0	0	Blue Whiting	
2	VIIk	1-3	0	0	0		
2	VIa	7-9	0	0	0	NW Herring	
2	VIIb	7-9	0	0	0	Boarfish	
2	VIIb	7-9	0	0	0	NW Herring	
2	VIIc	7-9	0	0	0	Boarfish	
2	VIIg	7-9	0	0	0	Boarfish	
2	VIIh	7-9	0	0	0	Boarfish	
2	VIIIIa	7-9	0	0	0	Boarfish	
2	VIIj	7-9	0	0	0	Boarfish	
2	VIa	10-12	0	0	0		
2	VIIa	10-12	0	0	0	C Sea Herr	
2	VIIg	10-12	0	0	0	C Sea Herr	
2	VIIj	10-12	0	0	0	C Sea Herr	
3	IIa	1-3	0	0	0	Herring	
3	IIa	1-3	0	0	0	Mackerel	
3	IIa	1-3	0	0	0	Mackerel	
3	VIa	1-3	0	0	0	Blue Whiting	
3	VIa	1-3	0	0	0	Blue Whiting	
3	VIa	1-3	0	0	0	Herring	
3	VIa	1-3	0	0	0	Horse Mackerel	
3	VIa	1-3	0	0	0	Mackerel	
3	VIa	1-3	0	0	0	Mackerel	
3	VIIa	1-3	0	0	0	Herring	
3	VIIb	1-3	0	0	0	Horse Mackerel	
3	VIIb	1-3	0	0	0	Mackerel, Horse mackerel	
3	VIIc	1-3	0	0	0	Blue Whiting	
3	VIIg	1-3	0	0	0	Pilchard	

3	VIIj	1-3	0	0	0	Mackerel	
3	VIIj	1-3	0	0	0	Mackerel, Horse mackerel	
3	VIIg	7-9	0	0	0	Herring	
3	VIIj	7-9	0	0	0	Sprat	
3	IVa	10-12	0	0	0	Herring	
3	IVa	10-12	0	0	0	Horse Mackerel	
3	IVa	10-12	0	0	0	Mackerel	
3	IVa	10-12	0	0	0	Sprat	
3	VIa	10-12	0	0	0		
3	VIIa	10-12	0	0	0	Herring	
3	VIIa	10-12	0	0	0	Herring & Sprat	
3	VIIb	10-12	0	0	0	Horse Mackerel	
3	VIIg	10-12	0	0	0	Herring	
3	VIIj	10-12	0	0	0	Boarfish	
4	VIIIe	7-9	0	0	0	Albacore Tuna	
4	VIIk	7-9	0	0	0	Albacore Tuna	
5	VIIb	4-6	Common Skate	1		Turbot	270
5	VIIb	4-6	Common Dolphin	1		Turbot	270
5	VIIb	4-6	Six Gill Shark	2		Turbot	270
5	VIIb	4-6	Tope	1		Turbot	270
5	VIIb	4-6	Grey Seal	2		Turbot	270
5	VIIb	4-6	0	0		Turbot	270
5	VIIb	7-9	0	0		Turbot	270
5	VIIb	7-9	Northen Minke whale	1		Turbot	270
5	VIIb	7-9	Common Skate	2		Turbot	270
5	VIIb	7-9	Common Seal	1		Turbot	270
5	VIIb	7-9	Grey Seal	1		Turbot	270
5	VIIb	7-9	0	0		Turbot/ monk	270
5	VIIb	7-9	Common Dolphin	1		Turbot/ monk	270
5	VIIb	7-9	Common Skate	2		Turbot/ monk	270
5	VIIb	7-9	Common Seal	1		Turbot/ monk	270

8. Conclusions

No cetacean bycatch was observed in 57 days at sea onboard Midwater otter trawl (OTM) vessels targeting small pelagic fish, 168 days at sea onboard Midwater pair trawlers targeting (PTM) small pelagic fish nor 48 days onboard Midwater pair trawlers targeting large pelagic fish (albacore tuna) in 2011. Apart from 4 common dolphins observed as bycatch by an OTM research vessel targeting small pelagic fish in 2006, no cetacean bycatch incidences have occurred in 703 days of observations onboard Irish pelagic trawlers since 2005. Data compiled by Ireland and the UK since monitoring commenced in 2005 have demonstrated that cetacean bycatch incidents are very rare in pelagic trawling operations for small fish (mackerel, herring, horse mackerel etc.) and it is difficult to justify the high costs associated with compliance with legal requirements to continue dedicated observer programmes in these fisheries. Indeed the European Commission has acknowledged this and a process of changing observer coverage from dedicated observer programmes to monitoring under the DCF has commenced.

A total of 81 days at sea were observed on Irish set net vessels involved in gill netting, tangle netting and trammel netting in 2011. This work was primarily conducted as part of an ongoing study on interactions between Irish set net fisheries and seals. The study is due to be completed in 2012 and results will be summarised in the next report to the EC.

Data on bycatch presented in Table 6.1 includes information on mesh size and target species as well as information on bycatch of all relevant species in line with requests by WGBYC. Total byctach estimates for defined strata were provided for pelagic trawl fisheries but it was not possible to provide total bycatch estimates in relation to set net operations as Fleet effort data were not reliably available by gear type eg. gillnet, tanglenet etc. Observer data collected to date show major differences in the properties of bycatch associated with these different gear types. This issue will be addressed as part of the seal study and also as part of a drive to develop responsible and sustainable fisheries in Ireland going forward.

9. Annexes

Table 9.1 Summary of Irish Fishing Effort and Observer Coverage in relation to 812/2004

Metier Code	Level 4	Level 5
1	Set gillnets (GNS) >15	Demersal fish
2	Midwater otter trawl (OTM)	Small pelagic fish
3	Midwater pair trawl (PTM)	Small pelagic fish
4	Midwater pair trawl (PTM)	Large pelagic fish
5	Set gillnets (GNS) <15	Demersal fish

Vessels

	Metier				
Year	1	2	3	4	5
2005	19	16	55	10	32
2006	14	20	53	8	41
2007	13	15	49	10	64
2008	16	13	45	18	71
2009	12	16	47	36	61
2010	9	16	45	31	53
2011	7	25	64	26	45

Total Effort (Days at sea)

	Metier				
Year	1	2	3	4	5
2005	1870	826	1211	118	845
2006	1537	483	1157	75	1036
2007	1772	533	1201	103	1232
2008	1603	574	1146	214	1486
2009	1474	861	1144	365	1733
2010	1454	1267	1359	305	1547
2011	1268	895	1743	237	1136

Observed Effort (Days at Sea)

	Metier				
Year	1	2	3	4	5
2005	84	8	12	14	
2006	51	40		11	
2007	10	24	14	7	
2008		43	17		
2009		48	31	5	
2010		52	45	59	
2011	75	57	168	48	6

Annual Observer Coverage (%)

	Metier				
Year	1	2	3	4	5
2005	4.49	0.97	0.99	11.91	0.00
2006	3.32	8.28	0.00	14.77	0.00
2007	0.56	4.50	1.17	6.80	0.00
2008	0.00	7.49	1.48	0.00	0.00
2009	0.00	5.57	2.71	1.37	0.00
2010	0.00	4.10	3.31	19.34	0.00
2011	5.91	6.37	9.64	20.30	0.53