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Monitoring of incidental catches of cetaceans by
Dutch pelagic trawlers, July 2004 – December 2005

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Summary

This report contains the results of the ongoing monitoring program on the incidental bycatch of cetaceans in Dutch pelagic fisheries under EU Council Regulation 812/2004 for the period June 2004 till December 2005. The regulation requires 10% observer coverage in ICES area's VI, VII and VIII in the period 1 December – 31 March. In the Dutch situation the monitoring is integrated with the collection of discards data under the EC Data Collection Regulations 1543/2000 and 1639/2001.

In 2004 and 2005, during 8 fishing trips, lasting 122 days in total, 274 hauls were observed. (In fact 299 hauls were covered, but parts of the trips were in areas not covered by the EU regulation observer scheme). The period of this report covers the whole season of 2004/2005 and part of the season 2005/2006 (due to the obligation to report over the period 1 June 2004 - 31 December 2005, as mentioned in the EU Council Regulation 812/2004).

The period of 1 December 2004 – 31 March 2005 was covered as follows: 1 trip of 17 days, was targeting herring (*Clupea harengus*) and horse mackerel (*Trachurus trachurus*) in the Channel; two trips of 32 days each, were targeting horse mackerel and mackerel (*Scomber scombrus*) west of Ireland; two trips of 49 days each were targeting blue whiting at Porcupine Bank and deep water west of Ireland. With a total 834 days for the whole fleet in the area, the coverage was 11.8%.

In the second season, 1 December 2005 – 31 March 2006, three trips (21 days) for herring and horse mackerel were carried out in the Channel in December. For that part of the season the coverage was 31.2 % (total number of fleet days was 77).

Two bycatch incidents have been recorded during a trip for horse mackerel and mackerel. In these incidents, three common dolphins were accidentally caught, 1 female in a haul at the end of January and two males in a haul in the first week of February. Both incidents occurred after a haul in the morning. In the first incident, the catch consisted of 15 tonnes mackerel with 18% horse mackerel; the second haul consisted of 35 tonnes horse mackerel (1 % mackerel).

The number of recorded bycatch incidents is too low to make a reliable estimate of the annual mortality. The observed bycatch rate of 0.05 dolphins per day, suggests a yearly number in the order of magnitude of tens. Comparison with earlier observer projects from the period 1993-1996, indicates a large inter-annual variability: in some years the bycatch numbers can be as high as several hundreds.

The EU Council Regulation itself indicates that a clear season and area of bycatch, apparently across a number of fisheries, is recognized. It is therefore recommended to report in the future under the EU Council Regulation 812/2004 by season, and not by year.

Samenvatting

Dit rapport bevat de resultaten van het doorlopende waarnemersprogramma naar de bijvangst van dolfijnen in de Nederlandse pelagische visserij onder EU Verordening 812/2004 in de periode juni 2004 tot en met december 2005. De verordening vereist dat 10% van de vlootinspanning gedekt wordt in de ICES gebieden VI, VII en VIII in de periode van 1 december tot en met 31 maart. In de Nederlandse situatie, is het waarnemersprogramma geïntegreerd met het verzamelen van vangst- en discard- gegevens onder EU Verordeningen 1543/2000 en 1639/2001.

In de jaren 2004 en 2005 zijn waarnemingen uitgevoerd van in totaal 274 trekken, uitgevoerd tijdens 8 visreizen van in totaal 122 dagen (de totale lengte van deze reizen bedroeg 180 dagen en 299 trekken, maar een deel van de reizen viel buiten het in de verordening bepaalde gebied en tijdsbestek). Dit rapport dekt het seizoen 2004/2005 en een gedeelte van het seizoen 2005/2006 (dit is een direct gevolg van de verplichting te rapporteren over de periode 1 juni 2004 - 31 december 2005 in EU verordening 812/2004). De periode van 1 december 2004 tot en met 31 maart 2005 werd als volgt gedekt: een reis, van 17 dagen, was gericht op haring (*Clupea harengus*); twee reizen, van 32 dagen elk, was gericht op horsmakreel (*Trachurus trachurus*) en makreel (*Scomber scombrus*); twee reizen, van 49 dagen elk, was gericht op blauwe wijting bij Porcupine Bank en in diep water ten westen van Ierland. De dekking ten opzichte van de hele vloot in het gebied (834 dagen) was 11.8%.

Tijdens het tweede seizoen, 1 december 2005 – 31 maart 2006, werden alleen in de maand december reizen uitgevoerd. De waarnemingen werden uitgevoerd tijdens drie visreizen op haring en horsmakreel met een dekking van 21 dagen. Voor dat deel van het seizoen, was de dekking 31.2 % (op een totaal van 77 vlootdagen in het gebied).

Er werden twee bijvangst incidenten gerapporteerd tijdens een reis op horsmakreel en makreel. Hierbij werden respectievelijk een vrouwelijke gewone dolfijn en twee mannelijke gewone dolfijn gevangen. Beide trekken vonden plaats in de ochtend, voor het grootste gedeelte in het donker. Voor de trek van het eerste incident werd gehaald tijdens de schemer, terwijl de vangst bestond uit 15 ton makreel met 18% horsmakreel. Bij het halen van het tweede incident was het al licht. De vangst bestond uit 35 ton makreel (1% horsmakreel).

Het aantal gerapporteerde bijvangst incidenten is te laag om een betrouwbare schatting te maken van de jaarlijkse mortaliteit. De waargenomen bijvangst van 0.05 dolfijn per dag, duidt op een getal in de orde van grootte van enkele tientallen per seizoen. Een evaluatie met behulp van gegevens van waarnemerprojecten in de periode 1993-1996, wijst op een grote variatie tussen de jaren: in sommige jaren kan het aantal bijgevangen dieren in de honderden lopen. Een verschuiving van de visserij inspanning van horsmakreel en makreel naar blauwe wijting, maakt een feitelijke afname aannemelijk aangezien er in de blauwe wijting visserij nog nooit bijvangsten zijn waargenomen.

De inhoud van EU Verordening 812/2004 geeft aan dat er sprake is van een seizoen van december tot en met maart. Het zou daarom voor de hand liggen om de rapportage over de voortgang van het waarnemersprogramma, in de toekomst per seizoen te laten plaatsvinden en niet per jaar.

1. Introduction

Council Regulation No 812/2004¹ is obliging Member States to monitor bycatches of cetaceans in certain fisheries, certain periods of the year and in certain European Waters and to report on the results of the monitoring to the European Commission. In the Netherlands, the monitoring was commissioned by the Ministry of Agriculture, Nature Conservation and Food Quality to the Netherlands Institute for Fisheries Research and started on 1 January 2005.

The aim of this study is to assess the incidental bycatch of cetaceans in the Dutch pelagic fisheries. This report covers the ongoing monitoring of Dutch pelagic fisheries over the period July 2004 – December 2006. Under the regulation 10% of the fleet effort in the period of 1 December till 31 March in ICES area VI, VII and VIII has to be covered. Hence this report deals with one full season, December 2004 – March 2005 and part of the next season, December 2005. In the Dutch situation the monitoring is integrated with the collection of discards data under the EC Data Collection Regulations: C.R. 1543/2000² and C.R. 1639/2001³ amended by C.R. 1581/2004⁴.

Earlier studies on the incidental bycatch of cetaceans have been reported by Couperus (1995 and 1997), covering the period 1992-1996.

1.1 Description of the fleet

A description of the Dutch pelagic fleet is given in Couperus et al. 2004. However, an important feature of the pelagic fishery is that it changes rapidly over time. These changes are caused by developments in the fish market, quota regulations and variation in the stock distribution and migration patterns over time. Compared to 2002, the number of Dutch freezer trawlers has decreased from 16 (and one pair) to 14 and one pair in 2005. Landings from Mauritanian waters decreased from 41% in January 2003 to 29% in 2004 and 23% in 2005 (data from the national logbook database). Landings in 2002 were more or less equally divided between horse mackerel, herring and blue whiting and a small part mackerel. In 2004, blue whiting became more important and in 2005 the landings were dominated by blue whiting (Figure 1).

¹ Council Regulation (EC) No 812/2004 of 26.4.2004 laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98

² Council Regulation (EC) No 1543/2000 of 29 June 2000 establishing a Community framework for the collection and management of the data needed to conduct the common fisheries policy

³ Commission Regulation (EC) No 1639/2001 of 25 July 2001 establishing the minimum and extended Community programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) No 1543/2000

⁴ Commission Regulation (EC) No 1581/2004 of 27 August 2004 amending Regulation (EC) No 1639/2001 establishing the minimum and extended Community programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) No 1543/2000

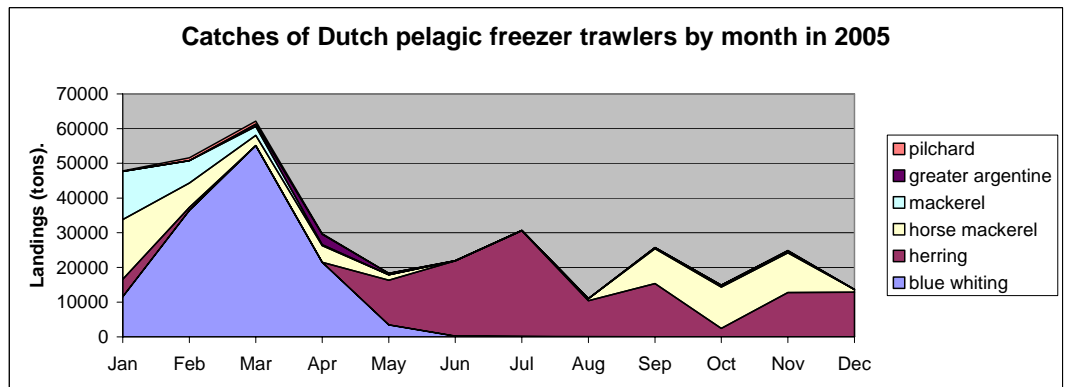
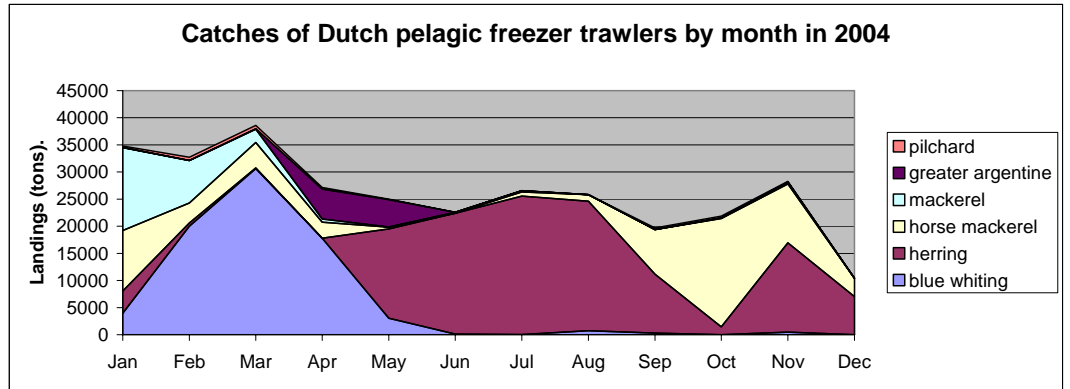


Figure 1. Registered landings from European waters by Dutch freezer trawlers in 2004 and 2005.

1.2 Fishing effort in 2004 and 2005

The changes in target species mentioned above, caused changes in distribution of the effort. In 2005 the effort was more concentrated off the west of Ireland compared to the preceding years. Annex 1 and 2 show the "fish calendars" of 2004 and 2005.

2. Methods

2.1 Observer effort

The monitoring is integrated with the collection of discards data under the EC Data Collection Regulations 1543/2000 and 1639/2001 (EC 2000, 2001). In this programme the observer effort is spread quasi random over the year. Internally the observers and the observer trips are scheduled equally over the year and join the first trawler that comes in. However, the choice of area and target species are often last minute decisions and may even alter during the trip itself. Therefore it is impossible to foresee or plan the exact effort in the area that has to be monitored under the EC Regulation No 812/2004.

In total, 8 trips have (partly) covered the study area and period. Of these, 6 trips (partly) covered season 2004/2005. Part of the 2 remaining trips fell in December, thus covering part of the 2005/2006 season. Table 2 provides the period and target species covered in this observer programme.

*Table 1. Period, target species and ICES area's covered during the trips conducted in this observer programme. *Number of days of the observed fishing trip; **number of days within the period and area to be covered under EC regulation No 812/2004: 1 December till 31 March, area VI, VII and VIII.*

Trip no	period	trip days*	observer days**	target species	bycatch and/or second target	ICES areas
1	4/12 to 20/12/2004	17	17	herring horse mackerel	mackerel/pilchard	VII d,e,h
2	21/1 to 8/2/2005	19	19	horse mackerel	mackerel	VII b,c,j,k
3	22/1 to 15/2/2005	35	35	blue whiting	mackerel/ horse mackerel	VII b,c,j,k
4	14/2 to 7/3/2005	22	14	blue whiting	none	VII c,k, XII
5	2/3 to 14/3/2005	13	13	horse mackerel mackerel	none	VII j,h VIII a
6	31/10 to 4/12/2005	35	4	horse mackerel	herring	VI a,VII d,h
7	15/11 to 5/12/2005	21	5	horse mackerel	herring/mackerel	VII d,e,h
8	28/11 to 15/12/2005	18	15	herring	mackerel	VII d

According to the national logbook database, the number of fleet days in area VI, VII and VIII during season 2004/2005 was 834. With 98 observer days the coverage was 11.4%. The overall coverage during the period was still 10.4%, showing that most of the fleet have been operating in area VI, VII and VIII. The coverage for the month December 2005 was 31.2 % (table 3).

Table 2. Observer coverage by area and by total fleet effort.

	coverage by area	coverag e by fleet	observer days	fleetdays VI VII VIII	fleet days total
season04/05 :	11.8%	10.4%	98	834	943
season05/06 :	31.2%	30.8%	24	77	78

Table 3 provides information on the vessels. The vessels are assumed to be representative for the fleet. The vessel during trip number five was one of two pair trawlers.

Table 3. Information on the vessels.

trip no	built in	length (m)	power (kW)	gear used during the trip	comment
1	1989	115	13400	pelagic trawl 5600M	
2	1986	90	6900	pelagic trawl 5600M	
3	1998	112	18200	pelagic trawl 8000M	
4	1990	111	12200	pelagic trawl 7400M	
5	2002	56	3900	pelagic trawl 8400M	one of a pair
6	1993	120	9000	pelagic trawl 5600M	
7	1989	115	13400	pelagic trawl 5600M	
8	1986	90	6900	pelagic trawl 4300M	

2.2 Registration of bycatch

For each tow, the observer was present on the bridge during shooting and hauling. Position and time were noted at the beginning of each haul. The time was noted again when hauling started. The rear window of the bridge gives a good view on the rear deck, so that possible bycatch of cetaceans can be recorded from there. Of any bycatch, length and sex were recorded. If the crew agreed, the animals were labelled and frozen for further examination at RIVO.

3. Results

3.1 Haul information and bycatches

In total 299 hauls have been observed during the 8 observer trips. Figure 2 shows the plotted positions of all these hauls.

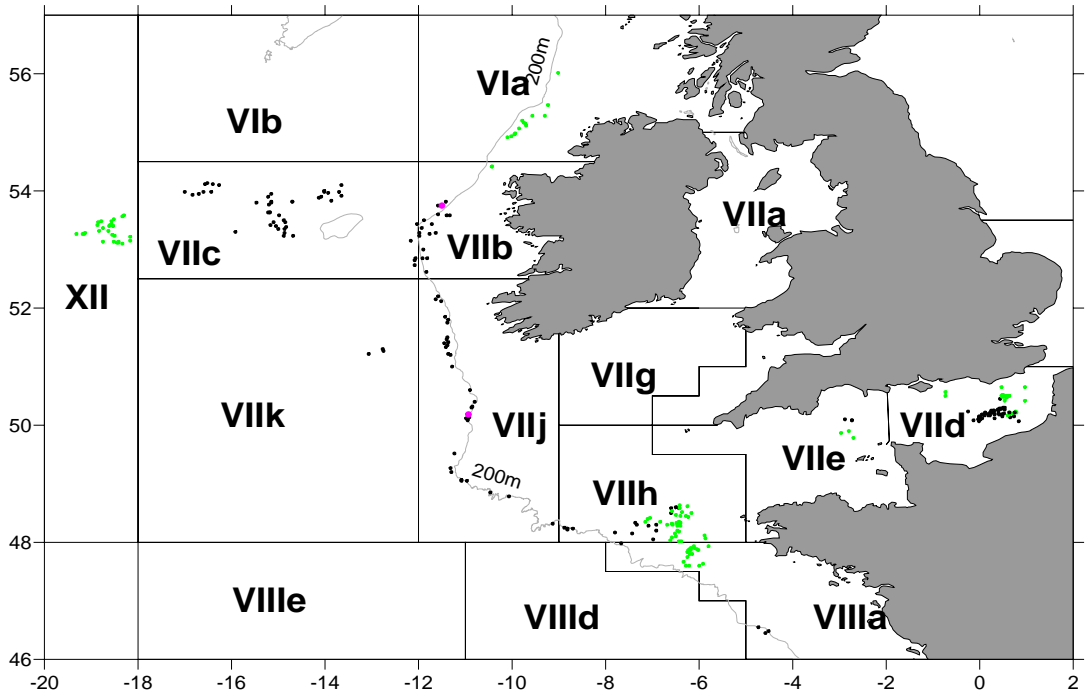


Figure 2. Map with plotted position of the observed trawl hauls during the 8 trips dealt with in this report. The black dots refer to hauls within the period-area which falls under EU council regulation No 812/2004. The pink dots refer to bycatch incidents within the period-area. The green dots refer to hauls outside the period-area of the council regulation.

Of these hauls, 174 were from 1 December till 31 March in area VI, VII and VIII. In the hauls that fell outside the area and period dealt with here, no bycatch incidents were observed.

Incidental catches of cetaceans were observed in two hauls; both during trip 2 (haul numbers 20 and 42). In these incidents three short beaked common dolphins (*Delphinus delphis*) have been caught. Thus, the bycatch rate by haul in the area and period covered here is approximately 1.7 dolphins per 100 hauls. Table 4 provides data on species, length and sex of the specimens.

Bycatches occurred in trawl hauls which were carried out in darkness. In haul 20, the gear had been hauled up at 08.00 o'clock (Dutch time) at dawn. In haul 42 the net was hoisted up at 09.10, during daylight. In both incidents the animals were discovered when the

entrance of the fish pump was disconnected from the codend after the catch had been pumped on board. The animals were dead.

The catch in haul 20 consisted of 15 tonnes of mackerel with 18% horse mackerel. The catch in haul 42 consisted of 35 tonnes of horse mackerel with 1 % of mackerel.

Table 4. Catch data of the three bycaught common dolphins.

bycatch no.	trip no.	haul no.	date	latitude	longitude	sex	length (cm)
1	2	20	30-01-2005	53°45N	11°30W	V	200
2	2	42	06-02-2005	50°11N	10°56W	M	208
3	2	42	06-02-2005	50°11N	10°56W	M	210

4. Discussion

The number of reported bycatches was too small to necessitate further analysis. The bycatch rates will be compared to rates from an earlier project in the 90ies and be evaluated in the light of developments in the fishery.

Table 5 shows the bycatch rates from observer trips in the 90ies and the season 2004/2005. The catch rate, for example of dolphins per day, is highly variable due to the low number of incidents. The highest rate from the observer trips is found in 1995, but we know from accounts of skippers and dolphin specimens that have been brought ashore, that the number of bycatches in 1994 was probably much higher than in 1995 (Couperus 1995). However, from the number of days in the area (834 in 2004/2005) one may carefully conclude from these figures that the number of bycaught animals is in the range of tens per year and in some years in the range of several hundreds.

*Table 5. Bycatch rates by haul and day between 1 January and 31 March in 1993-1996 and between 1 December and 31 March in the season 2004/2005 in ICES area's VI, VII and VIII. Data from the period 1993-1996 are from 6 observer trips reported in Couperus (1994), Couperus (1995), and Couperus (1997). Dolphin species involved were Atlantic white-sided dolphin (*Lagenorhynchus acutus*; n=7), short beaked common dolphin (*Delphinus delphis*; n=6) and long-finned pilotwhale (*Globicephala melas*; n=1).*

	haul s	days	inci dent s	dolphin s	inc/ haul	dolphins/ haul	inc/day	dolphins/da y
1993	75	25	0	0	0.00	0.00	0.00	0.00
1994	105	48	5	6	0.05	0.06	0.10	0.13
1995	37	13	1	3	0.03	0.08	0.08	0.23
1996	47	26	4	5	0.09	0.11	0.15	0.19
04/05	143	63	2	3	0.01	0.02	0.03	0.05

Has the rate of bycatch increased or decreased? In the 90ies, bycatch incidents within the study area have been found to be related to the target species. Incidental bycatches are exclusively encountered on observer trips heading for horse mackerel and mackerel, along the shelf edge, west of Ireland. In the blue whiting fishery, generally in deeper waters west and northwest of Porcupine Bank, no bycatch incidents have been recorded both in the 90ies and in this study. Apart from chance this may explain the relatively low rates in 1993 and 2004/2005, because the observer effort in both years was concentrated on the blue whiting fishery. In addition, in the 2004/2005 season 15 days of effort was spent on a mixed fishery for herring and horse mackerel in the Channel. The increased observer effort in the blue whiting fishery reflects the increased fishery effort for this species (See figure 1). Therefore it seems likely that the number of cetacean bycatches have decreased compared to the period 1993-1996.

The two incidents in this study seem to fit in this picture. However, there are a few observations which are worth to mention.

According to Couperus (1997) 90% of the incidental bycatches in Dutch pelagic fisheries occurred in the period January – April, along the shelf edge, west of Ireland. The most frequently caught species was the Atlantic white-sided dolphin (85%), followed by common dolphin (7%), long-finned pilot whale (7%) and bottlenose dolphin (1%). This figure was based on specimens brought ashore and voluntary accounts of crewmembers. In contrast, the number of recorded common dolphins (6) in six observer trips during the same years was similar to the number of white-sided dolphins (7). Strikingly, in the two recorded incidents in this observer study, again common dolphins were caught.

Both bycatch incidents occurred earlier in the season compared to the observations in the 90ies (Couperus 1997) when – with a few exceptions - the bycatches started in the second half of February. While the freezer trawlers west of Ireland were targeting horse mackerel, the start of the bycatches seemed to be related with the occurrence of mackerel. The latter species had been overwintering north of the North Sea and migrates in January and February southwards along the shelf edge. During the observer trips in the 90ies, mackerel was absent from the catches in January and the first half of February. Hence the observation of bycatch incidents at the end of January and the beginning of February seems to suggest that something has changed. In both catches mackerel, together with horse mackerel, were present. Mackerel apparently had arrived earlier in the area than was normal in 1994-1996, which is possibly related to the timing of the two incidents.

How high are the observed bycatch rates in comparison to other fisheries in the region?

The ICES Working Group for Marine Mammal Ecology (WGMME) collected rates for some fisheries in the area (ICES 2006). The UK bass fishery which operates in the western approaches of the Channel was reported to have a catch rate of 0.66 dolphins/haul in 2004-2005 with an estimated total mortality of 145 specimens (Northridge, Mackay et al. 2005) for the whole fleet. The Irish pair pelagic trawl fishery for albacore revealed high catch rates in 1998, 1999 and 2002 (respectively 0.31, 0.44 and 0.14), but much lower rates in 2003 and 2004 (0.02 and 0.06), which was explained by some improvements in avoidance techniques by the Irish fleet (ICES 2006).

In 2004 - 2005 a European pilot project PETRACET was carried out. It assessed the impact of pelagic trawling in winter in area VII and VIII (ICES 2006). In 2004 and 2005, 952 tows were observed (amongst it hauls from a Dutch freezer trawler trip in March 2004). Of these, 371 were targeting anchovy, 295 bass, 44 horse mackerel, 92 mackerel and 150 tuna. Of these 21 tows had some bycatch in which 93 dolphins were involved, mainly (96%) common dolphin. The main bycatch was concentrated on a few occasions in the bass and tuna fishery. For example, from the French bass fishery in 2004 and 2005, 1 trip with 5 incidents has been recorded, with one incidental catch of 44 dolphins at once. The UK bass fishery was not included in PETRACET, but was assessed during the main period by a national project. Extrapolation of the observed hauls, together with the observations in the UK bass fishery, resulted in an annual bycatch of less than 1000 dolphins in ICES area's VII and VIII, which is supposed unlikely to exceed 1.7% of the population estimate (roughly 500.000) given by ICES (2006). However, it was noted that the PETRACET project covered only trawl fisheries, whereas it is known that dolphins are caught in other fisheries in the area. Moreover, the estimate was based on a 12 month period and does not reflect any inter-annual changes, which may be substantial. In the Irish pelagic trawl fishery and the UK bass fishery a more than ten fold difference was observed over five years of sampling. Given the findings in the 90ies, the same may be true for the Dutch pelagic fishery. Similar as in the Irish tuna fishery, Couperus (1994) found in the Dutch pelagic fishery that the total number of bycatches was greatly influenced by a few incidents in which tens of dolphins were involved.

It seems not possible to estimate the bycatch rate with any accuracy with the current observer effort, due to the high number of hauls without bycatches. At present, the bycatch rate found so far in the Dutch pelagic fishery is relatively low, compared to some other fisheries in the region. The total mortality caused by Dutch pelagic freezer trawlers in the 2004-2005 season is in the order of magnitude of several tens. However, data from the 90ies suggest that the bycatch rate may vary, partly induced by changes in the quota's of pelagic target species.

There is a clear season and area during which the probability of bycatch is increased, apparently across a number of fisheries. It is therefore recommended to report in the future under the EU council regulation 812/2004 by season, and not by year.

Bycatch rates in the ICES WGMME are generally expressed as dolphins or incidents per haul, which enables comparisons between observed rates in different fisheries. However, direct extrapolation to the national fleet(s) is difficult because the official records of the fishery effort and landings, is expressed as days at sea and not as number of hauls per day or hours of hauling. It should be emphasized that, in the pelagic fishery, the search of fish concentrations is also part of the effort.

5. Acknowledgements

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Annexes

1. Fishing days 2004
2. Fishing days 2005
3. Trawl list

Annex 1

Fishing days by ICES area in 2004. her=herring; hor=horse mackerel; bw=blue whiting; mac=mackerel; arg=greater argentine; hke=hake. Codes between brackets refer to much less important target species. Cells with bold borders indicate the area and period of this monitoring programme. Data from the national logbook database.

fishing days 2004

ICES area	January	February	March	April	May	June	July	August	September	October	November	December	total
IIA				arg 5	her/arg/ bw86	her/(bw)/ (mac)17	her 3	her/bw 19	her/(bw) 39		her/(mac) 2		171
IIIA							her 1						1
IVA	mac/(her) 42		mac 1		her/(mac)/ (arg)59	her/(mac) 121	her/(mac) 132	her 28	her 1	hor 15	mac 6		405
IVB	her 3				her 6	her 10	her 24	her 92	her/(hor) 28	hor 1	hor 1		165
IVC	her/hor 14	hor 2	hor 4					hor/(her) 20	hor/(mac) 15	hor/her 35	hor/(her) 22	hor 6	118
VB				bw/(arg) 28	arg 1						bw 7		36
VIA	mac/her/ (hor)/(arg)65	bw/(hor)/ (mac)23	bw/(hor)/ (mac)/(arg)127	bw/(arg)/ (mac)158	arg/(bw) 59	her 4	her 13	her 9	hor 5	hor/(mac) 35	mac 2		500
VIB		bw 1	bw/(arg) 6	arg/bw 2									9
VIIA											her 2		2
VIIIB	hor/mac 50	mac/hor/ (bw)52	mac/hor 13						hor 1	hor/(mac) 24	hor/(mac) 4		144
VIIIC	bw/(hor) 14	bw/(hor) 50		25									89
VIIID	her/hor/ (mac)30	her/hor 28	hor/(mac)/ (her)47	mac 7	mac/hor 4			hor 2	hor 53	hor/(her) 51	her/(hor) 88	her 48	358
VIIIE	hor 3		hor 1					hor 1	hor 21	hor 25	hor/her 21	hor 2	74
VIIIF								hor 4	hor 2				6
VIIH	hor/her/ (mac)13	hor 5							hor 11	hor 55	hor/(her) 47	hor/(her) 12	143
VIIIA	hor/(mac) 5	mac/hor 1	mac/(hor) 3	hor/mac 3				her 5	hor 1	hor/mac 1	hor 3		22
VIIID			mac 5	hor/mac 8	hor/mac/ bw 1		arg 2	her 3					19
VIIJ	hor/mac 56	hor/mac 29	mac/hor/ bw 14	hor/(mac)/ (bw)27	hor 9		hor/(bw)/ (mac)10			hor 4	her 6		155
VIIK	bw 1	bw 30	bw 3										34
total	296	221	249	238	225	152	185	183	177	246	211	68	2451



Annex 2

Fishing days by ICES area in 2005. her=herring; hor=horse mackerel; bw=blue whiting; mac=mackerel; arg=greater argentine; hke=hake. Codes between brackets refer to much less important target species. Cells with bold borders indicate the area and period of this monitoring programme. Data from the national logbook database.

fishing days 2005

ICES area	January	February	March	April	May	June	July	August	September	October	November	December	total
IIA					her/bw 59	her/(bw) 22	her/(bw) 65	her/(bw) 27	her/(bw) 47				220
IIB						2		her/(bw) 1	her/(bw) 19				22
IVA	mac/hor/ (her)63		arg/hke 1	bw/(arg) 4	bw/(arg) 33	her 113	her 117	her 15	hor/(her) 2	hor/(mac)/ (her)13			361
IVB	hor 1				her 22	her 14		her 34	her 26	hor/hor 4	her/hor 3		104
IVC	hor/(her) 19	hor 9	hor 3					hor 1	hor/(her) 11	hor/(her) 24	hor/(her) 29	hor 1	97
VB	mac 3			bw/(hor)/ (mac)35	bw 1		1						40
VIA	mac/(hor)/ (her)26		bw/(arg) 181	bw/(arg) 175	arg/bw 23	her 1	her 15	her 2	hor/(mac) 27	hor/(mac) 32	hor 6		488
VIB			16	1									17
VIIA								hor 2					2
VIIIB	hor/mac 31	mac/(hor)/ (bw)28	bw 1				hor 4		hor/(mac)/ 4	hor/(mac)/ 22	hor 1		91
VIIIC	bw/(hor)/ (mac)41	bw/(hor)/ (mac)137	bw 27										205
VIIID	her/(hor)/ (mac)49	her/hor 22	hor 9	mac 6					hor 23	her/hor 54	her/(hor) 93	her 70	326
VIIIE	2							hor 5	hor 45	hor 7	hor 9		68
VIIIG		hor 1											1
VIIIH	hor/(her)/ (mac)27	hor/ 6	hor/mac 8							hor 15	hor/(her) 26	her/(hor) 2	84
VIIIA	hor 13	hor/(mac) 8	mac/hor 28	hor/arg/ (mac)9					mac 1	hor/(mac) 6	hor/(mac) 22		87
VIIID	hor 2		hor 1								hor 2		5
VIIJ	mac/hor 40	mac/hor 50	hor/mac 18	hor/(bw)/ (mac)40	hor 17		hor 4		hor 1		hor/(mac) 4	hor 5	179
VIIK		bw 4											4
total	317	265	293	270	155	152	206	85	208	177	195	78	2401



Annex 3

Trawl hauls during the 8 trips dealt with in this report. The shaded records refer to hauls which do not fall under EU council regulation No 812/2004 period-area.

Trip no.	Haul no.	day	month	year	time (NL)	Haul Duration (min.)	lat	lon	main catch	cetacean bycatch
1	1	04	12	2004	11:30	30	50°17N	000°26E	herring	
1	2	04	12	2004	13:30	35	50°18N	000°30E	herring	
1	3	04	12	2004	15:30	90	50°17N	000°28E	herring	
1	4	04	12	2004	23:25	105	50°11N	000°25E	herring	
1	5	05	12	2004	5:30	180	50°17N	000°25E	herring	
1	6	05	12	2004	9:45	105	50°18N	000°32E	herring	
1	7	05	12	2004	17:30	30	50°17N	000°27E	herring	
1	8	05	12	2004	20:30	90	50°29N	000°35E	herring	
1	9	05	12	2004	23:15	240	50°27N	000°26E	herring	
1	10	06	12	2004	8:50	85	50°12N	000°24E	herring	
1	11	06	12	2004	15:15	60	50°11N	000°29E	herring	
1	12	08	12	2004	17:30	195	50°06N	000°01E	herring	
1	13	08	12	2004	22:15	100	50°04N	000°01W	herring	
1	14	09	12	2004	2:20	115	50°05N	000°08W	herring	
1	15	09	12	2004	5:30	60	50°06N	000°02W	herring	
1	16	09	12	2004	8:00	45	50°07N	000°03E	herring	
1	17	09	12	2004	16:45	235	50°07N	000°19E	herring	
1	18	09	12	2004	21:50	220	50°09N	000°29E	herring	
1	19	10	12	2004	4:30	180	50°08N	000°39E	herring	
1	20	10	12	2004	9:15	55	50°12N	000°31E	herring	
1	21	10	12	2004	16:00	60	50°11N	000°28E	herring	
1	22	11	12	2004	20:00	90	48°36N	006°30W	horse m.	
1	23	11	12	2004	23:15	105	48°30N	006°36W	horse m.	
1	24	12	12	2004	2:15	340	48°35N	006°36W	horse m.	
1	25	12	12	2004	10:50	250	48°35N	006°26W	horse m.	
1	26	12	12	2004	22:30	165	48°18N	007°20W	horse m.	
1	27	13	12	2004	2:15	195	48°09N	007°26W	horse m.	
1	28	13	12	2004	7:30	180	48°20N	007°22W	horse m.	
1	29	16	12	2004	0:15	260	50°05N	002°44W	horse m.	
1	30	16	12	2004	7:15	235	50°05N	002°44W	horse m.	
1	31	16	12	2004	18:15	190	50°06N	002°53W	horse m.	
1	32	18	12	2004	9:30	120	48°18N	006°55W	horse m.	
1	33	18	12	2004	13:20	60	48°12N	006°55W	horse m.	
1	34	18	12	2004	16:00	285	48°03N	006°59W	horse m.	
2	1	23	1	2005	18:45	90	48°17N	007°05W	horse m.	
2	2	24	1	2005	13:20	130	50°18N	010°52W	horse m.	
2	3	24	1	2005	17:35	190	50°19N	010°51W	horse m.	
2	4	25	1	2005	2:15	105	50°24N	010°48W	horse m.	
2	5	25	1	2005	12:40	140	51°25N	011°22W	horse m.	
2	6	25	1	2005	17:20	190	51°30N	011°23W	horse m.	
2	7	26	1	2005	9:50	130	51°28N	011°24W	horse m.	

Trip no.	Haul no.	day	month	year	time (NL)	Haul Duration (min.)	lat	lon	main catch	cetacean bycatch
2	8	26	1	2005	17:45	135	52°12N	011°35W	horse m.	
2	9	27	1	2005	8:00	195	53°36N	011°35W	horse m.	
2	10	27	1	2005	17:00	165	53°35N	011°20W	horse m.	
2	11	27	1	2005	21:40	155	53°35N	011°24W	horse m.	
2	12	28	1	2005	3:50	330	53°30N	011°53W	horse m.	
2	13	28	1	2005	10:50	60	53°22N	011°56W	horse m.	
2	14	28	1	2005	13:15	165	53°17N	011°59W	horse m.	
2	15	28	1	2005	17:50	325	53°26N	012°02W	no catch	
2	16	29	1	2005	1:15	210	53°14N	011°59W	mackerel	
2	17	29	1	2005	7:20	150	53°09N	012°10W	mackerel	
2	18	29	1	2005	14:25	250	53°45N	011°35W	horse m.	
2	19	29	1	2005	20:45	375	53°49N	011°25W	horse m.	
2	20	30	1	2005	4:15	225	53°45N	011°30W	mackerel	1 D. delphis
2	21	30	1	2005	14:45	60	53°00N	011°54W	horse m.	
2	22	30	1	2005	17:30	80	52°51N	011°55W	mackerel	
2	23	30	1	2005	20:45	85	52°44N	012°05W	mackerel	
2	24	30	1	2005	23:40	185	52°49N	012°05W	mackerel	
2	25	31	1	2005	6:45	170	52°51N	012°04W	mackerel	
2	26	31	1	2005	11:40	30	52°37N	011°50W	horse m.	
2	27	31	1	2005	16:45	105	52°09N	011°38W	no catch	
2	28	31	1	2005	21:50	220	52°07N	011°31W	mackerel	
2	29	1	2	2005	10:15	150	51°22N	011°23W	horse m.	
2	30	1	2	2005	15:15	265	51°12N	011°19W	horse m.	
2	31	2	2	2005	13:20	210	51°00N	011°17W	horse m.	
2	32	2	2	2005	19:40	150	50°36N	010°54W	no catch	
2	33	2	2	2005	5:00	170	51°20N	011°25W	no catch	
2	34	3	2	2005	11:40	90	51°51N	011°26W	mackerel	
2	35	3	2	2005	15:00	125	51°48N	011°22W	horse m.	
2	36	4	2	2005	2:45	330	51°45N	011°23W	mackerel	
2	37	4	2	2005	17:00	150	51°24N	011°27W	mackerel	
2	38	5	2	2005	11:25	60	50°07N	010°59W	horse m.	
2	39	5	2	2005	13:30	90	50°05N	010°57W	horse m.	
2	40	5	2	2005	16:50	40	50°06N	010°57W	horse m.	
2	41	5	2	2005	23:10	220	50°08N	010°55W	horse m.	
2	42	6	2	2005	5:40	210	50°11N	010°56W	horse m.	2 D. delphis
3	1	23	1	2005	0:30	25	51°13N	011°22W	mackerel	
3	2	23	1	2005	14:30	120	52°51N	011°49W	mackerel	
3	3	23	1	2005	20:45	65	53°16N	011°46W	mackerel	
3	4	23	1	2005	23:35	195	53°26N	011°43W	mackerel	
3	5	24	1	2005	6:00	120	53°17N	011°38W	mackerel	
3	6	24	1	2005	23:10	140	53°14N	014°41W	b. whiting	
3	7	25	1	2005	5:30	150	53°17N	014°52W	b. whiting	
3	8	25	1	2005	14:30	130	53°21N	014°52W	b. whiting	
3	9	25	1	2005	20:00	140	53°14N	014°53W	b. whiting	
3	10	26	1	2005	10:45	50	53°18N	015°55W	b. whiting	
3	11	26	1	2005	16:30	60	53°23N	014°50W	b. whiting	
3	12	27	1	2005	0:45	135	53°28N	014°51W	b. whiting	
3	13	27	1	2005	7:15	100	53°30N	014°53W	b. whiting	
3	14	27	1	2005	12:40	80	53°21N	015°00W	b. whiting	

Trip no.	Haul no.	day	month	year	time (NL)	Haul Duration (min.)	lat	lon	main catch	cetacean bycatch
3	15	27	1	2005	19:40	50	53°24N	015°03W	b. whiting	
3	16	28	1	2005	2:30	45	53°28N	015°06W	b. whiting	
3	17	28	1	2005	12:00	75	53°35N	014°59W	b. whiting	
3	18	28	1	2005	16:10	90	53°25N	015°10W	b. whiting	
3	19	28	1	2005	21:15	60	53°38N	015°11W	b. whiting	
3	20	29	1	2005	2:45	40	53°38N	015°11W	b. whiting	
3	21	30	1	2005	0:40	120	53°46N	015°12W	b. whiting	
3	22	30	1	2005	7:00	105	53°38N	015°13W	b. whiting	
3	23	30	1	2005	12:10	180	53°54N	015°13W	b. whiting	
3	24	30	1	2005	19:30	45	53°57N	015°09W	b. whiting	
3	25	31	1	2005	0:20	90	53°48N	015°09W	b. whiting	
3	26	31	1	2005	5:00	120	53°49N	015°09W	b. whiting	
3	27	31	1	2005	10:45	75	53°48N	015°28W	b. whiting	
3	28	9	2	2005	11:30	105	54°07N	016°24W	b. whiting	
3	29	10	2	2005	10:45	180	54°08N	016°31W	b. whiting	
3	30	11	2	2005	5:00	150	54°07N	016°34W	b. whiting	
3	31	11	2	2005	11:45	135	54°06N	016°16W	b. whiting	
3	32	11	2	2005	16:20	345	53°59N	016°26W	b. whiting	
3	33	12	2	2005	2:15	120	53°59N	016°36W	b. whiting	
3	34	12	2	2005	9:20	220	53°56N	016°50W	b. whiting	
3	35	12	2	2005	18:00	210	53°59N	017°00W	b. whiting	
3	36	13	2	2005	2:00	360	53°57N	016°42W	b. whiting	
4	1	17	2	2005	13:30	60	51°18N	012°46W	b. whiting	
4	2	17	2	2005	19:00	75	51°16N	012°45W	no catch	
4	3	18	2	2005		75	51°13N	013°04W	no catch	
4	4	19	2	2005	1:15	160	53°08N	018°25W	b. whiting	
4	5	19	2	2005	6:00	230	53°07N	018°25W	b. whiting	
4	6	19	2	2005	11:00	360	53°13N	018°10W	b. whiting	
4	7	19	2	2005	16:45	195	53°07N	018°27W	b. whiting	
4	8	19	2	2005	1:00	120	53°09N	018°10W	b. whiting	
4	9	20	2	2005	4:00	180	53°14N	018°30W	b. whiting	
4	10	20	2	2005	10:00	170	53°06N	018°20W	b. whiting	
4	11	20	2	2005	15:50	240	53°19N	018°38W	b. whiting	
4	12	20	2	2005	22:50	120	53°34N	018°20W	b. whiting	
4	13	21	2	2005	1:00	90	53°35N	018°18W	b. whiting	
4	14	21	2	2005	8:30	150	53°08N	018°45W	b. whiting	
4	15	21	2	2005	19:00	190	53°08N	018°31W	b. whiting	
4	16	22	2	2005	7:00	170	53°25N	018°34W	b. whiting	
4	17	22	2	2005	10:00	120	53°24N	018°37W	b. whiting	
4	18	22	2	2005	14:30	250	53°19N	018°50W	b. whiting	
4	19	23	2	2005	19:00	240	53°15N	018°33W	b. whiting	
4	20	23	2	2005	7:00	200	53°22N	018°45W	b. whiting	
4	21	23	2	2005	12:00	280	53°24N	018°32W	b. whiting	
4	22	23	2	2005	23:00	200	53°31N	018°31W	b. whiting	
4	23	24	2	2005	6:15	240	53°29N	018°34W	b. whiting	
4	24	24	2	2005	20:00	130	53°25N	018°36W	b. whiting	
4	25	25	2	2005	2:00	300	53°26N	018°34W	b. whiting	
4	26	25	2	2005	10:20	280	53°17N	019°08W	b. whiting	
4	27	25	2	2005	18:00	240	53°29N	018°47W	b. whiting	

Trip no.	Haul no.	day	month	year	time (NL)	Haul Duration (min.)	lat	lon	main catch	cetacean bycatch
4	28	26	2	2005	21:30	270	53°16N	019°11W	b. whiting	
4	29	26	2	2005	1:00	240	53°16N	019°09W	b. whiting	
4	30	26	2	2005	11:00	360	53°28N	018°51W	b. whiting	
4	31	26	2	2005	15:00	220	53°16N	019°19W	b. whiting	
4	32	27	2	2005	21:00	200	53°25N	018°52W	b. whiting	
4	33	28	2	2005	8:00	150	54°06N	013°39W	b. whiting	
4	34	28	2	2005	13:00	140	53°55N	013°39W	b. whiting	
4	35	28	2	2005	18:00	220	54°00N	014°01W	b. whiting	
4	36	28	2	2005	23:45	205	53°59N	013°42W	b. whiting	
4	37	1	3	2005	4:15	290	53°50N	013°52W	b. whiting	
4	38	1	3	2005	10:00	180	53°58N	013°56W	b. whiting	
4	39	1	3	2005	20:00	270	53°59N	014°01W	b. whiting	
4	40	2	3	2005	7:00	245	53°54N	014°05W	b. whiting	
4	41	2	3	2005	12:00	200	53°53N	014°08W	b. whiting	
4	42	2	3	2005	18:00	180	53°49N	014°42W	no catch	
5	1	5	3	2005	7:30	435	49°31N	011°14W	mackerel	
5	2	7	3	2005	2:15	90	48°15N	008°53W	→ pair	
5	3	7	3	2005	5:30	120	48°14N	008°42W	mackerel	
5	4	7	3	2005	10:45	60	48°14N	008°49W	→ pair	
5	5	7	3	2005	21:15	90	48°19N	009°08W	→ pair	
5	6	8	3	2005	6:30	120	48°47N	010°04W	horse m.	
5	7	8	3	2005	12:15	75	48°51N	010°28W	→ pair	
5	8	8	3	2005	7:12	60	49°03N	011°05W	horse m.	
5	9	8	3	2005	20:00	210	49°03N	010°58W	mackerel	
5	10	9	3	2005	11:30	300	49°12N	011°18W	→ pair	
5	11	9	3	2005	18:30	120	49°04N	011°05W	mackerel	
5	12	10	3	2005	8:15	90	49°16N	011°19W	→ pair	
5	13	10	3	2005	22:45	90	48°13N	008°49W	mackerel	
5	14	11	3	2005	8:30	60	48°10N	007°48W	→ pair	
5	15	11	3	2005	11:45	120	47°59N	007°40W	mackerel	
5	16	12	3	2005	4:00	150	46°33N	004°44W	horse m.	
5	17	12	3	2005	8:15	255	46°27N	004°35W	mackerel	
5	18	12	3	2005	14:45	120	46°29N	004°31W	horse m.	
6	1	4	11	2005	5:35	255	56°01N	009°01W	horse m.	
6	2	4	11	2005	17:00	355	55°07N	009°42W	mackerel	
6	3	5	11	2005	2:25	340	54°55N	010°06W	mackerel	
6	4	5	11	2005	10:30	175	54°56N	010°01W	horse m.	
6	5	5	11	2005	15:30	300	55°12N	009°47W	horse m.	
6	6	8	11	2005	16:55	185	55°17N	009°18W	mackerel	
6	7	9	11	2005	10:25	285	54°25N	010°26W	horse m.	
6	8	10	11	2005	5:50	85	54°25N	010°26W	mackerel	
6	9	10	11	2005	11:55	165	54°59N	009°56W	horse m.	
6	10	10	11	2005	17:50	105	55°04N	009°51W	mackerel	
6	11	10	11	2005	22:10	155	55°09N	009°43W	mackerel	
6	12	13	11	2005	0:45	390	55°28N	009°14W	horse m.	
6	13	13	11	2005	10:55	235	55°17N	009°34W	mackerel	
6	14	13	11	2005	18:00	270	55°10N	009°45W	mackerel	
6	15	14	11	2005	5:30	230	54°58N	009°57W	mackerel	
6	16	15	11	2005	23:35	265	48°32N	006°35W	horse m.	

Trip no.	Haul no.	day	month	year	time (NL)	Haul Duration (min.)	lat	lon	main catch	cetacean bycatch
6	17	16	11	2005	10:10	125	48°11N	006°26W	horse m.	
6	18	16	11	2005	13:35	160	48°05N	006°35W	horse m.	
6	19	16	11	2005	17:50	275	48°19N	006°26W	horse m.	
6	20	17	11	2005	0:10	320	48°02N	006°37W	horse m.	
6	21	17	11	2005	7:05	160	48°09N	006°31W	horse m.	
6	22	17	11	2005	12:45	225	48°19N	006°35W	horse m.	
6	23	17	11	2005	17:55	170	48°37N	006°15W	mackerel	
6	24	17	11	2005	23:15	155	48°28N	006°3W	horse m.	
6	25	18	11	2005	3:30	255	48°38N	006°25W	mackerel	
6	26	18	11	2005	9:25	260	48°35N	006°25W	horse m.	
6	27	18	11	2005	18:20	100	48°20N	006°29W	no catch	
6	28	19	11	2005	5:05	215	47°52N	006°11W	horse m.	
6	29	19	11	2005	11:30	135	47°52N	006°14W	no catch	
6	30	19	11	2005	17:30	75	47°48N	006°12W	horse m.	
6	31	19	11	2005	20:30	155	47°45N	006°15W	horse m.	
6	32	20	11	2005	1:15	360	47°36N	006°17W	horse m.	
6	33	20	11	2005	10:40	90	47°36N	006°13W	horse m.	
6	34	20	11	2005	20:20	65	47°38N	005°55W	mackerel	
6	35	21	11	2005	1:25	365	47°52N	006°01W	horse m.	
6	36	21	11	2005	7:50	150	47°54N	006°10W	horse m.	
6	37	21	11	2005	11:50	145	47°56N	006°07W	boarfish	
6	38	21	11	2005	22:10	65	47°54N	006°06W	mackerel	
6	39	22	11	2005	2:30	340	48°01N	006°23W	horse m.	
6	40	22	11	2005	10:45	300	48°20N	006°24W	horse m.	
6	41	22	11	2005	18:50	115	48°17N	006°28W	horse m.	
6	42	22	11	2005	22:40	340	48°21N	006°26W	horse m.	
6	43	23	11	2005	7:15	300	48°06N	006°30W	horse m.	
6	44	23	11	2005	13:35	340	48°17N	006°24W	horse m.	
6	45	23	11	2005	21:05	145	48°26N	006°14W	horse m.	
6	46	24	11	2005	1:15	215	48°30N	006°10W	mackerel	
6	47	24	11	2005	7:10	195	48°27N	006°17W	horse m.	
6	48	24	11	2005	13:15	245	48°18N	006°41W	horse m.	
6	49	24	11	2005	20:40	200	48°21N	006°50W	horse m.	
6	50	25	11	2005	5:35	95	48°25N	007°03W	horse m.	
6	51	26	11	2005	22:00	120	50°30N	000°37E	herring	
6	52	27	11	2005	1:30	195	50°30N	000°35E	herring	
6	53	27	11	2005	5:50	310	50°30N	000°32E	herring	
6	54	28	11	2005	13:45	75	50°39N	000°58E	herring	
6	55	28	11	2005	21:50	130	50°29N	000°35E	herring	
6	56	29	11	2005	1:30	225	50°30N	000°28E	herring	
6	57	29	11	2005	7:40	30	50°30N	000°35E	herring	
6	58	29	11	2005	10:25	55	50°29N	000°31E	herring	
6	59	29	11	2005	14:30	90	50°31N	000°29E	herring	
6	60	29	11	2005	20:30	240	50°28N	000°34E	herring	
6	61	30	11	2005	3:00	270	50°29N	000°29E	herring	
6	62	30	11	2005	10:00	25	50°39N	000°28E	herring	
6	63	30	11	2005	16:30	60	50°31N	000°30E	no catch	
6	64	30	11	2005	22:10	35	50°12N	000°41E	herring	
6	65	1	12	2005	0:20	165	50°13N	000°18E	mackerel	

Trip no.	Haul no.	day	month	year	time (NL)	Haul Duration (min.)	lat	lon	main catch	cetacean bycatch
6	66	1	12	2005	9:00	125	50°13N	000°38E	herring	
6	67	1	12	2005	15:45	35	50°09N	000°44E	herring	
6	68	1	12	2005	21:10	110	50°15N	000°24E	no catch	
6	69	2	12	2005	3:15	90	50°13N	000°15E	herring	
6	70	2	12	2005	17:50	40	50°16N	000°32E	horse m.	
7	1	17	11	2005	1:25	60	49°47N	002°42W	no catch	
7	2	17	11	2005	3:30	270	49°52N	002°58W	horse m.	
7	3	17	11	2005	19:45	315	49°54N	002°48W	horse m.	
7	4	19	11	2005	5:00	270	47°53N	006°12W	horse m.	
7	5	19	11	2005	18:10	155	47°50N	006°15W	horse m.	
7	6	19	11	2005	23:15	320	47°40N	006°20W	horse m.	
7	7	20	11	2005	6:30	130	47°48N	006°09W	horse m.	
7	8	20	11	2005	19:30	270	47°36N	006°00W	mackerel	
7	9	21	11	2005	1:00	280	47°53N	006°03W	horse m.	
7	10	21	11	2005	7:30	180	47°54N	006°11W	horse m.	
7	11	22	11	2005	2:10	365	48°01N	006°26W	horse m.	
7	12	22	11	2005	10:30	230	48°18N	006°34W	horse m.	
7	13	22	11	2005	18:40	55	48°18N	006°27W	horse m.	
7	14	22	11	2005	21:15	465	48°12N	006°28W	horse m.	
7	15	23	11	2005	5:30	185	48°19N	006°28W	horse m.	
7	16	23	11	2005	18:45	175	48°27N	006°24W	horse m.	
7	17	24	11	2005	1:15	450	48°31N	006°22W	horse m.	
7	18	24	11	2005	15:15	150	48°24N	007°06W	horse m.	
7	19	25	11	2005	19:30	210	48°21N	007°09W	horse m.	
7	20	27	11	2005	13:15	165	50°30N	000°44W	herring	
7	21	27	11	2005	18:15	120	50°34N	000°44W	herring	
7	22	29	11	2005	5:25	230	48°07N	005°53W	horse m.	
7	23	29	11	2005	11:00	220	48°04N	005°52W	horse m.	
7	24	29	11	2005	19:30	60	47°56N	005°48W	no catch	
7	25	3	12	2005	6:50	55	50°14N	000°15W	herring	
8	1	29	11	2005	5:00	90	50°13N	000°38E	mackerel	
8	2	29	11	2005	11:55	55	50°25N	000°58E	herring	
8	3	29	11	2005	18:10	200	50°25N	000°32E	herring	
8	4	29	11	2005	22:30	175	50°30N	000°38E	herring	
8	5	30	11	2005	4:10	195	50°14N	000°46E	herring	
8	6	30	11	2005	9:30	105	50°13N	000°47E	no catch	
8	7	30	11	2005	15:30	205	50°10N	000°36E	herring	
8	8	30	11	2005	23:20	40	50°13N	000°14E	herring	
8	9	1	12	2005	6:40	110	50°10N	000°13E	herring	
8	10	1	12	2005	11:30	105	50°10N	000°11E	no catch	
8	11	1	12	2005	17:30	120	50°13N	000°45E	herring	
8	12	2	12	2005	17:45	45	50°04N	000°50E	no catch	
8	13	3	12	2005	16:30	60	50°16N	000°23E	herring	
8	14	3	12	2005	19:30	90	50°15N	000°18E	herring	
8	15	4	12	2005	0:20	230	50°15N	000°15E	herring	
8	16	4	12	2005	6:20	110	50°15N	000°24E	mackerel	
8	17	4	12	2005	10:10	10	50°14N	000°16E	herring	
8	18	5	12	2005	0:35	205	50°13N	000°14E	herring	
8	19	5	12	2005	17:45	10	50°14N	000°18E	herring	

Trip no.	Haul no.	day	month	year	time (NL)	Haul Duration (min.)	lat	lon	main catch	cetacean bycatch
8	20	6	12	2005	13:45	10	50°15N	000°18E	herring	
8	21	7	12	2005	1:00	25	50°12N	000°12E	herring	
8	22	7	12	2005	19:40	30	50°13N	000°15E	herring	
8	23	8	12	2005	1:30	135	50°14N	000°15E	herring	
8	23	8	12	2005	1:30	135	50°14N	000°15E	no catch	
8	24	8	12	2005	15:30	20	50°13N	000°15E	herring	
8	25	9	12	2005	8:05	210	50°11N	000°19E	herring	
8	26	12	12	2005	9:20	40	50°08N	000°01W	herring	
8	27	12	12	2005	11:40	110	50°09N	000°01W	no catch	
8	28	12	12	2005	14:10	20	50°13N	000°07E	herring	
8	29	12	12	2005	15:45	30	50°10N	000°06E	herring	
8	30	13	12	2005	12:50	60	50°12N	000°07E	herring	
8	31	13	12	2005	21:30	60	50°11N	000°03E	herring	
8	32	14	12	2005	9:00	80	50°09N	000°01E	herring	