

Shannon dolphin tour boat monitoring report – 2002

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Introduction

The Shannon estuary is a candidate SAC for bottlenose dolphins *Tursiops truncatus*. Commercial dolphin-watching is carried out within the estuary and consent is given by Dúchas providing operators adhere to certain conditions. These include “providing monitoring data for each trip in the prescribed form as outlined in the data sheet Tour Boat Monitoring Protocol 2000”. The Shannon Dolphin and Wildlife Foundation (SDWF) were contracted by Dúchas to co-ordinate this monitoring during the 2002 season. This report is

Methodology

Operators are required to fill out a logsheet for each dolphin-watching trip they carry out. Each logsheet prompts for information on trip length, time to locate dolphins, number of groups and dolphins observed, presence and estimated number of calves, location of dolphins and time for which each group was watched.

Of the 468 logsheets received, 53 (11.3%) logsheets had basic trip data missing: 48 of these sheets were from Kilrush. Most of these incomplete trip records omitted information on number of groups and dolphins observed and the length of time for which dolphins were watched.

Results

1. Number of operators and trips

Four companies/individuals operating up to seven dolphin-watching vessels were given consent by Dúchas to dolphin-watch during 2002. Of these, three companies only used four vessels during the season and these are listed in Annex I. One individual operating from Doon near Ballybunion (Robert Stack) did not launch his vessel this season due to the unfavourable weather conditions. Another vessel (Anna M) departed the Shannon estuary between 22 June and 7 August, again due to unfavourable weather. Data from the Anna M is presented separately, apart from in Table 1 as this vessel is a yacht and the duration and direction of her route is strongly influenced by other factors such as wind direction and passenger requirements.

During the 2002 season trip records were received for a total of 468 trips. Of these 241 (51.5%) departed from Kilrush and 227 (48.5%) departed from Carrigaholt in Co. Clare (see Table 1). One trip was carried out in March (29) and 13 trips in April, six more than last season. Ten trips were carried out in October, seven more than last season and the last trip was on 30 October. As with previous seasons, most trips (68.8%) were carried out during July and August.

The total reported number of trips five less than 2001 but the two main operators increased their trip numbers by 9.2% (Scattery Island Ferries, Kilrush) and 4.3% (Dolphinwatch Carrigaholt) compared to 2001.

Table 1. Number of dolphin-watching trips carried out in the Shannon estuary during 2002 season.

Month	Port		Total (%)
	Carrigaholt	Kilrush	
March	-	1	1
April	8	7	15 (3.2)
May	15	27	42 (8.8)
June	17	29	46 (9.8)
July	74	78	152 (32.5)
August	88	82	170 (36.3)
September	19	13	32 (6.8)
October	6	4	10 (2.1)
TOTAL	227	241	468

2. *Length of trip*

The mean length of each dolphin-watching trip was very similar between the two ports, Kilrush and Carrigaholt. Trip length by the Anna M is much greater than by the powered vessels and Anna M also operates from both ports, often starting from one port and ending in another. Mean trip lengths were very similar to 2001 with differences of only 1-4 minutes.

Table 2. Mean length (minutes) of dolphin watching trips from 2000 - 2002.

Port	Year		
	2000	2001	2002
Carrigaholt	119.6	124.9	123.6
Anna M	258.8	194.5	192.0
Kilrush	133.1	129.7	125.6

3. *Time to locate dolphins*

Dolphins were located on 96.0% of trips from all ports combined (not including Anna M), with only 13 trips from Kilrush and 5 trips from Carrigaholt failing to see dolphins. Dolphins were located more quickly from Carrigaholt (mean 33 minutes) than from Kilrush (mean 50 minutes), which is similar to previous years. There was an increase of 4 - 6 minutes in the mean time to locate dolphins from Kilrush and Carrigaholt. Previous years monitoring has shown remarkably consistent mean times to locate so this increase is of interest.

Table 3. Mean time to locate dolphins (minutes) from different ports in the Shannon estuary during 2002 season. Only those trips which located dolphins are included.

Month	Port		
	Carrigaholt	Kilrush	(Anna M)
March	-	85.0	-
April	36.0	45.3	-
May	33.5	48.5	-
June	20.1	46.0	56.0
July	17.9	40.6	-
August	35.8	37.7	-
September	38.8	51.3	-
October	49.2	43.8	-
MEAN	33.0	49.7	56.0

4. *Location of dolphin groups*

Most dolphins were located in areas 1 (56.7%) and 2 (24.4%) for tour boats operating from Carrigaholt (Table 4). Kilrush boats tended to carry out most dolphin-watching in areas 3 (45.0%), 5 (17.2%) and 6 (19.5%). Thus boats from Carrigaholt spent more time this year in the outer estuary, in area 2 compared with area 3 last year and boats from Kilrush spent more time further up river in area 6, off Moneypoint, compared to last season.

Last season 41.2% of trips by powered vessels from Kilrush and Carrigaholt were spent observing dolphins in area 3. This season this has declined to 32.6% of all trips and the impact on the dolphins in this area may have been reduced.

Table 4. Zone in which tour boats watched dolphins during 2002 (see Appendix III for map).

Zone	Carrigaholt	Anna M	Kilrush	Total
	No (%)	No (%)	No (%)	No (%)
1	123 (56.7)	0	5 (2.2)	128 (27.2)
2	53 (24.4)	0	8 (3.4)	61 (12.9)
3	41 (18.9)	0	105 (45.0)	146 (31.0)
4	0	0	10 (4.3)	10 (2.1)
5	0	5 (100)	40 (17.2)	45 (9.6)
6	0	0	46 (19.5)	46 (9.8)
7	0	0	4 (1.7)	4 (0.8)

5. *Time on dolphins*

The total time on dolphins for all vessels during 2002 was calculated as 13,857 minutes or 231 hours (Table 5) Although this is a decline of 27% from 2001 these figures are not accurate as the time on dolphins was not recorded for 132 groups watched from Carrigaholt.

The mean time on dolphins per group per trip was 35.6 minutes for boats from Kilrush and 13.1 minutes for boats from Carrigaholt. As shown previously, it can be very difficult to determine what constitutes a group of dolphins or when an encounter starts and finishes and uncertainty is reflected in the data from the trip records and undermines the objectives of the monitoring programme.

6. *Number of dolphins and groups*

As in previous seasons, boats from Carrigaholt tend to watch more groups of dolphins on each trip (Table 6). The number seen per trip was slightly lower from Carrigaholt (from 2.5 groups per trip in 2001 to 2.1 per trip in 2002) but much lower from Kilrush in 2002 (from 1.8 in 2001 to 1.0 in 2002). The number of dolphins watched per trip is considerably different in 2002 compared to 2001. During April to June there was little difference in the number of dolphins watched per trip from Carrigaholt but from July to October numbers have doubled with a peak of 37 dolphins per trip in September. The number of groups watched from Carrigaholt during this period also increased in September suggesting there were a huge number of dolphins in the area (mainly area 1) during this period. Tour boats from Kilrush also reported an increase in the number of dolphins per trip during June to September although the increase was not as dramatic and the number of groups per trip was stable throughout the season.

The monitoring records suggest a change in the behaviour of dolphins in the estuary during the latter part of the 2002 season.

Table 6. Mean number of dolphins and dolphin groups encountered from different ports in the Shannon estuary during 2002 season.

Month	Carrigaholt (Draiocht)		Carrigaholt (Anna M)		Kilrush	
	Groups	Dolphins	Groups	Dolphins	Groups	Dolphins
March	-	-	-	-	1.0	7.0
April	1.8	11.3	-	-	1.0	2.8
May	2.2	9.0	-	-	0.9	7.0
June	1.8	11.0	1.6	8.8	1.6	11.5
July	2.3	17.8	-	-	0.9	9.7
August	2.1	25.8	-	-	1.0	9.3
September	3.4	36.9	-	-	0.9	11.5
October	1.3	27.3	-	-	1.2	7.0
MEAN	2.1	19.9	1.6	8.8	1.0	8.2

7. *Number of groups with calves*

Calves were present in groups watched from tour boats on 250 (52.9%) of all trips (23.2% from Kilrush, 89.8% from Carrigaholt (Draiocht), 56.7% from Carrigaholt (Anna M) and 7.7% from Doon) showing that breeding groups are subjected to dolphin-watching in the Shannon estuary.

8. *Individual dolphins watched from tour boats*

The individual dolphins watched from tour boats was recorded using photo-identification. During 2002, 33 trips were accompanied from Kilrush but none from Carrigaholt. Dolphins were observed on 30 of these with photographs taken on all these trips. A total of individual 42 dolphins were identified and of these 36 had been previously recorded and six were previously un-recorded.

Of these 36 dolphins, 11 had been recorded from tour boats in 1999, 18 in 2000 and 24 in 2002. If results from photo-identification of dolphins from tour boats operating from Carrigaholt were available then this

percentage is likely to be much higher. This suggests that a high proportion of the same dolphins are watched each year by tour boats.

Table 7. Number of identifiable dolphins recorded from tour boats, 1999-2002.

Year	No. of trips	No of identified dolphins	Number (%) of dolphins recorded from tour boats in previous years		
			1999	2000	2001
1999	11	22	-	-	-
2000	25	35	13 (37%)	-	-
2001	27	33	10 (30%)	19 (58%)	
2002	31	42	11 (31%)	18 (50%)	24 (67%)

Summary

This is the third season of monitoring tour boats in the Shannon estuary. During the 2002 season trip records were received from 468 dolphin-watching trips. Although this total is four less than 2001 this actually masks an increase in the number carried out by the two main operators dolphin-watching operators. These two operators both increased trip numbers by 4 and 9%. The overall decline is due to the two smaller operators only carrying out 12 trips during 2002 as compared to trips 46 last season. This was due to unfavourable weather conditions.

This season there was an increase in the time to locate dolphins which may be significant as previous years have shown remarkable consistency in this monitoring index. The mean group size was also much greater from June to September which coincided with an increase in the number of groups observed per trip, especially from Carrigaholt. Whether this reflects an increase in the abundance of dolphins or a change in their behaviours is not known. The zones dolphins were watched also changed with Carrigaholt boats operating further west during 2002 and Kiltrush boats further east. This has resulted in fewer interactions in zone 3 which was subjected to a large proportion of trips during 2001.

Concern was expressed last season at the total time on dolphins exceeding the 200 hour limit by 58%. This season, the total time on dolphins as determined by logsheets was down to 231, which is 15% above the agreed limit. However there was a large number of dolphin groups for which the time watched was not recorded so this index is not accurate.

In summary, problems defining dolphin groups and incomplete logsheets has compromised the interpretation of monitoring indices derived from the logsheets completed during 2002. However, there was evidence of a change in dolphin abundance and behaviour which warrants further investigation.

Recommendations

The following recommendations for the 2002 season should be considered:

- i) the recording of dolphin groups needs to be defined and standardized between ports,
- ii) the fluidity of dolphins in groups off Carrigaholt needs to be investigated,
- iii) results from photo-ID of dolphins observed from tour boats from Carrigaholt should be available for monitoring,
- iv) logsheets should be completed each day in order to improve recording,
- v) given that this years monitoring data suggests a change in dolphin behaviour or tour boat activity, a study on the behaviour of dolphins in the estuary and the affect of dolphin boats should be initiated,
- vi) the monitoring programme and indices should be reviewed.

Appendix I: Vessels operating dolphin-watching trips in the Shannon estuary during 2002.

<i>Company</i>	<i>Vessel</i>	<i>Number of trips</i>
Dolphinwatch Carrigaholt	Draoicht	219
Saoirse SeaSports	Anna M	12
Scattery Island Ferries	Deva	20
	Dolphin Discovery	217

Appendix II: Checklist of monitoring indices collected during 2002.

Index	Biological aspect monitored ?	2002		
		C	AM	K
1. Trip length	Distribution, abundance,	v	v	v
2. Time to locate	Distribution, reaction to tour boat	v	-	v
3. Location	Distribution	v	v	v
4. Total time on dolphins	Behaviour, tolerance ?	-	v	v
5. No. dolphins	Abundance, behaviour	v	-	v
6. No. groups	Abundance, behaviour	v	-	v
7. % groups with calves	Behaviour, breeding	v	-	v
8. Dolphin ID	Distribution, behaviour	-	-	v

Appendix III: Map of zones in which dolphins are watched by tour boats

