

DEAD DOLPHINS IN THE ENGLISH CHANNEL

A report by WDCS for Greenpeace



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June 2004

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Photo credits: Gavin Newman/Greenpeace, Kate Davison/Greenpeace, Marijke de Boer/WDCS, Simon Keith/WDCS, Ellie Dickson/WDCS, Laura Stansfield/WDCS

Part 1. Basic report

Introduction

A joint cetacean survey by Greenpeace and the Whale and Dolphin Conservation Society (WDCS) took place aboard the MV Esperanza during January-March 2004. During this expedition, which mainly surveyed the Western Approaches of the English Channel, a total of 12 dead dolphins of which 10 were identified as common dolphins (*Delphinus delphis*) were found floating in the water. These dolphins were likely to be the victims of by-catch in pelagic trawl fisheries.

This report summarises the information gathered about each of the dead dolphins, including photographs of characteristic markings and details of the tags attached.

Should you find any of the tagged dolphins or should you recognise any of the dead dolphins described in this report please contact WDCS¹ or GREENPEACE²

Methods

Throughout the expedition a dedicated cetacean sighting survey was maintained. When a dead dolphin was sighted the following data were collected: time, date, position, sea state, swell height, cloud, visibility, wind force, wind direction, bearing and distance to the dead dolphin. To help to retrieve the dolphin a marker buoy was immediately placed in the vicinity of the dolphin and a RIB was launched (*see* photo 1) as swiftly as possible. In some cases, the dolphins were brought aboard (where a belt around the tailstock was placed in order to lift the animal onto the decks using the ship's crane, *see* photo 2). When the animals were already in an advanced state of decomposition, the animals were sexed, measured, photographed and, when possible, tagged in the water and then left.



Photo 1. Marker buoy and RIB

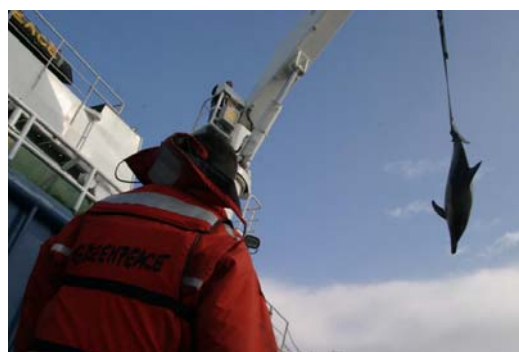


Photo2. Recovering procedure

For each dead dolphin that was found in a relatively fresh state, the following features were photographed: whole animal, dorsal fin (left and right side), both flippers, head side view, top of the head/blowhole, eyes, close-up of the beak, fluke, flanks, anal and genital regions and any obvious scarring.

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² Greenpeace, Oceans Campaign, Canonbury Villas, London, N1 2PN, 020 7865 8100

Those dead dolphins that were recovered and brought onboard were furthermore identified to species, sexed and an assessment of the maturity status was made based on length and size. In addition to this, basic body measurements (*see* Appendix I), body temperature measurements and detailed morphological external examinations (based on Tregenza *et al.*, 1997³) were carried out.

The body temperatures of dolphins 1-4 were taken by a digital thermometer (810-926 ETI-Ltd), using a 17 cm probe into the body via the anus. The body temperatures of dolphins 8 and 12 were taken by inserting a 50 cm probe into the body via the anus with a digital thermometer (MM2050; TM-electronics). Temperatures collected in both ways are regarded as minimum temperatures because the probe did not reach the core of the body (*see* Morizur *et al.*, 1999⁴).

The retrieved animals were tagged around the tail stock (*see* photo 3). Tags were made of metal, showing tag-ID and a telephone number where to report the animal. The tag was attached using a thick plastic cable-tie. Tagged dolphins were then returned to the sea.



Photo 3. Dolphin Tag

³ Tregenza, N.J.C; Berrow, S.D; Hammond, P.S; Leaper, R. 1997. Harbour porpoise (*Phocoena phocoena* L.) by-catch in set gillnets in the Celtic Sea. *ICES Journal of Marine Science* **54**: 896-904.

⁴ Morizur, Y; Berrow, S.D; Tregenza, N.J.C; Couperus, A.S; Pouvreau, S. 1999. Incidental catches of marine-mammals in pelagic trawl fisheries of the northeast Atlantic. *Fisheries research* **41**:297-307

Results

A total of 12 dead dolphins were reported during the survey (*see* Fig. 1). All but one of the carcasses were found in an area of approximately 13-22 nmiles south of Plymouth Harbour and Start Point. The first 5 dead dolphins (dolphin 1-5) were reported on the 6th of February and were all found in vicinity of each other. A large piece of green netting (approximately 35 m in length) was also found in vicinity of the dolphins (*see* photo 4). These animals were found typically floating on their sides (*see* photo 5), with their bodies relatively deep in the water, showing only little of the body above the surface and exposing one flipper. Dolphins 1-4 were brought on deck, sexed, measured and a temperature reading was taken before the bodies were stored in the ship's freezer to facilitate full post-mortem at a later date. The fifth dolphin was lost in the relatively rough seas. Gulls were observed feeding on the carcasses of dolphin 4 and dolphin 9 (*see* photo 6).

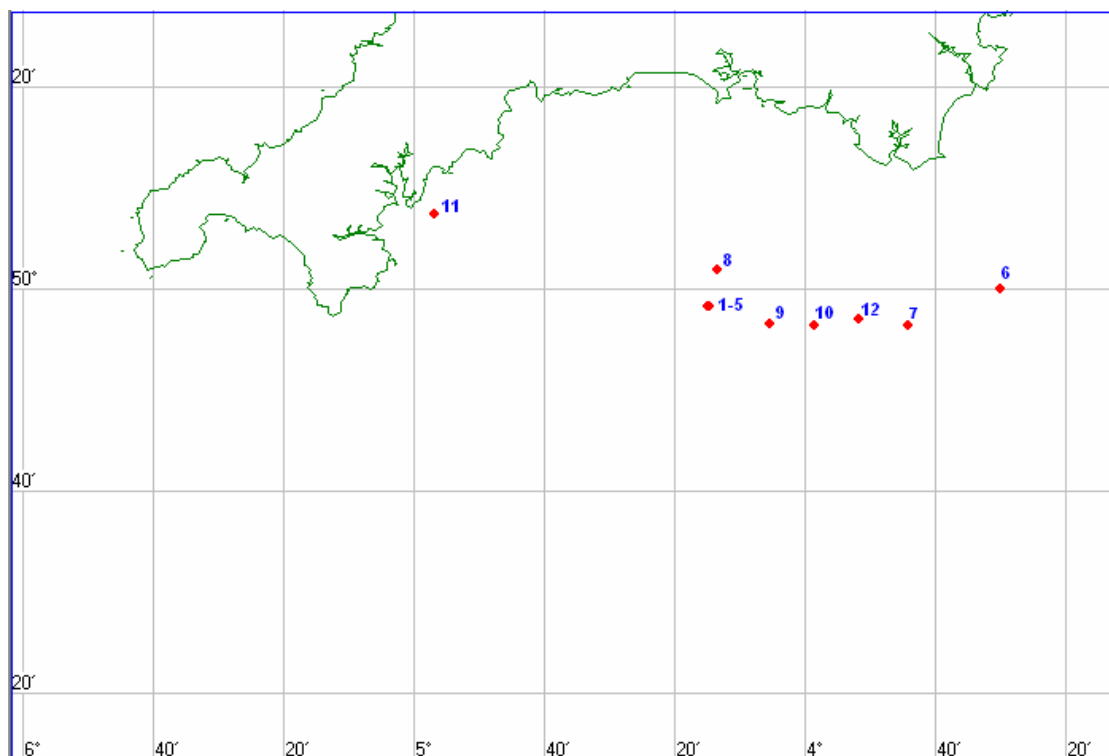


Fig. 1. Map showing locations of dead dolphins (red dots 1-12).

Dolphins 6 and 7 (found on the 8th of February at 11:59 and 14:26 respectively) and 9 and 10 (found on the 15th and 16th of February) were all in an advanced state of decomposition and were floating in a belly-up position (*see* photo 7). These animals were not taken aboard but were photographed, sexed, and measured in the water instead.

Dolphin 8 was located on the on 14th of February and was brought onboard for detailed external morphological examinations and was also tagged.

Dolphin 11 was located in low light on the evening of the 16th of February and could not be studied or recovered. Dolphin 12, located on the 7th of March, was taken onboard for external morphological examinations and was also tagged.



Photo 4. Recovered green netting and dolphins



Photo 5. Gull feeding on dead dolphin



Photo 6. Body position of 'freshly' dead dolphin



Photo 7. Body position of 'long' dead dolphin

Conclusion

The appearance of the dolphin bodies, in some cases their body temperatures and their proximity to vessels that had been actively trawling, strongly indicate that dolphins 1-4, 6-8 and 12 were likely to be victims of bycatch (*see* details below and supplemented photo series), although dolphins 9-10 were found in a too advanced state of decomposition to properly examine the bodies for net-related damage.

The body temperatures of dolphins 1-4 were relatively high. However, dolphins due to their thick, insulating, layer of blubber, may maintain a high body temperature many hours after death (Penrose, pers com). Morizur *et al* (1999) reported on body temperatures of Atlantic white-sided dolphins (*Lagenorhynchus acutus*) measuring between 26.6 and 38 °C in animals that had only just been by caught. The maximum temperature measured (at a depth of only 17 cm) during this survey was 22.4°C. Experts may be able to calculate the real core temperature of dolphins 1-4, but so far results indicate that these dolphins possibly only just died (probably during the previous late night or early morning hauling of the nets of pelagic trawlers, which were actively trawling in the immediate survey area at the time). We hope that future post mortem studies on dolphins 1-4 will support our findings here.

Cetaceans when caught in gillnets have approximately neutral buoyancy and Tregenza *et al.* (1997) has reported that half of discarded by-caught porpoises (*Phocoena phocoena*) sink immediately. Many bycaught cetaceans sink and are lost and those that do float are difficult to spot at the sea surface. The chance of finding a dead dolphin can therefore be regarded as rather small, although, dead animals which are in an advanced state of decomposition (where gas fills up the interior of the body) are more likely to be reported as they are positioned significantly higher in the water.

Considering the above and taking into account the presence of periods of bad weather, makes the finding of 12 dead dolphins, which would easily go unnoticed, in an area where intense pelagic trawl fisheries is taking place, a major cause for concern. Our findings only represent a fraction of the real number of by caught animals.

We very much hope that the information presented here will aid Local Stranding Networks in recognising any of these animals when found stranded on beaches or on rocky coastlines. Furthermore, we hope that this report will function as a photo-library showing relatively 'fresh' scars and markings of dolphins thought to be victims of bycatch. Results on live cetacean sightings will be reported elsewhere.

Acknowledgements

We would like to thank everyone – including volunteers, WDCS staff, crew and captain of the MV Esperanza – who all helped with making this survey possible. Special thanks go to Nick Tregenza for expert advice and, last but not least, a big thank you for Greenpeace photographers Gavin Newman and Kate Davison.

Part 2. Fact sheets for dead dolphins



Dolphin 1

Date: 06/02/2004

Time: 11:16

Position: 49°58.137N, 004°14.527W

Sea Surface Temperature: 9.8°C

Sea state: 2.5

Tag details: n/a

Time of drop off: (stored in freezer)

Position of drop off: n/a

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	199	<p><i>This dolphin was found in a very fresh state.</i></p> <p><i>The maximum temperature reading at 17cm depth was 16.4 °C.</i></p> <p><i>Rigor mortis established.</i></p> <p><i>The dolphin was found floating on its side exposing one of its flippers.</i></p> <p><i>The beak showed deep line markings and the dorsal fin showed a deep cut near the tip.</i></p> <p><i>Fluid foaming from blowhole</i></p> <p><i>A likely victim of bycatch</i></p> <p><u><i>This dolphin was stored in a freezer for future post mortem</i></u></p>
Length from tip of upper jaw to the front of the dorsal fin	89	
Length from tip of upper jaw to the blowhole	34.5	
Length from tip of upper jaw to the centre of the eye	35	
Length from tip of upper jaw to the corner of the mouth	29.5	
Length from tip of upper jaw to front of the pectoral flipper, where it joins the body	46	
Length from tip of upper jaw to the anus, measured along the belly or side	144	
Length of the pectoral flipper from the tip to the body wall, measured along the front edge	34	
Maximum width of the flipper	16.2	
Height of dorsal fin from the base to the tip	23.5	
Width of flukes	42.2	
Temperature readings by depth (cm) Taken at 12:12	Temperature (°C)	<p><i>See Appendix II for Temperature graph.</i></p>
5	10.9	
6.3	12.0	
10	13.1	
11.4	13.8	
13.6	14.6	
14.6	15.0	
14.9	15.3	
16.4	16.3	
17	16.4	



Dolphin 2

Date: 06/02/2004

Time: 11:20

Position: 49°58.215N, 004°14.690W

Sea Surface Temperature: 9.8°C

Sea state: 2.5

Tag details: n/a

Time of drop off: (stored in freezer)

Position of drop off: n/a

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	190	<p><i>This dolphin was found in a very fresh state.</i></p> <p><i>The maximum temperature reading at 17cm depth was 22.4 °C.</i></p> <p><i>Rigor mortis established.</i></p> <p><i>The dolphin was found floating on its side exposing one of its flippers.</i></p> <p><i>The beak showed deep line markings, the dorsal fin and flippers showed several deep cuts. Fluid foaming from blowhole</i></p> <p><i>A likely victim of bycatch</i></p> <p><u><i>This dolphin was stored in a freezer for future post mortem</i></u></p>
Length from tip of upper jaw to the front of the dorsal fin	87.5	
Length from tip of upper jaw to the blowhole	33	
Length from tip of upper jaw to the centre of the eye	32.2	
Length from tip of upper jaw to the corner of the mouth	28	
Length from tip of upper jaw to front of the pectoral flipper, where it joins the body	43	
Length from tip of upper jaw to the anus, measured along the belly or side	139.5	
Length of the pectoral flipper from the tip to the body wall, measured along the front edge	35	
Maximum width of the flipper	17	
Height of dorsal fin from the base to the tip	19	
Width of flukes	45.8	
Temperature readings by depth (cm) Taken between 12:12 and 13:24	Temperature (°C)	<p><i>See Appendix II for Temperature graph.</i></p>
5.5	14.7	
8	16.4	
10	18.1	
11.2	18.8	
12.7	19.5	
14.6	20.8	
15.6	21.4	
16	21.7	
16.5	22.2	
16.9	22.4	



Dolphin 3

Date: 06/02/2004

Time: 11:20

Position: 49°58.215N, 004°14.690W

Sea Surface Temperature: 9.8°C

Sea state: 2.5

Tag details: n/a

Time of drop off: (stored in freezer)

Position of drop off: n/a

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	229	<p><i>This dolphin was found in a very fresh state.</i></p> <p><i>The maximum temperature reading at 17cm depth was 20.1 °C.</i></p> <p><i>Rigor mortis established.</i></p> <p><i>The dolphin was found floating on its side exposing one of its flippers.</i></p> <p><i>The beak showed deep line markings and the flippers showed a several deep cuts. Bird feeding markings on head area and possibly on the eye. Fluid foaming from blowhole</i></p> <p><i>A likely victim of bycatch</i></p> <p><u><i>This dolphin was stored in a freezer for future post mortem</i></u></p>
Length from tip of upper jaw to the front of the dorsal fin	97	
Length from tip of upper jaw to the blowhole	37.5	
Length from tip of upper jaw to the centre of the eye	36	
Length from tip of upper jaw to the corner of the mouth	29	
Length from tip of upper jaw to front of the pectoral flipper, where it joins the body	51.5	
Length from tip of upper jaw to the anus, measured along the belly or side	164	
Length of the pectoral flipper from the tip to the body wall, measured along the front edge	37	
Maximum width of the flipper	18.3	
Height of dorsal fin from the base to the tip	23	
Width of flukes	50.5	
Temperature readings by depth (cm) Taken between 12:12 and 13:24	Temperature (°C)	<p><i>See Appendix II for Temperature graph.</i></p>
4.8	12.3	
7.7	13.7	
10	15.2	
12.3	17.1	
14.1	18	
14.9	18.6	
16	19.6	
17	20.1	



Dolphin 4

Date: 06/02/2004

Time: 11:20

Position: 49°58.215N, 004°14.690W

Sea Surface Temperature: 9.8°C

Sea state: 2.5

Tag details: n/a

Time of drop off: (stored in freezer)

Position of drop off: n/a

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	170	<p><i>This dolphin was found in a very fresh state.</i></p> <p><i>The maximum temperature reading at 17cm depth was 17.8 °C.</i></p> <p><i>Rigor mortis established.</i></p> <p><i>The dolphin was found floating on its side exposing one of its flippers.</i></p> <p><i>The beak showed deep line markings and dorsal fin and flippers showed several deep cuts, the flanks showed line markings. Fluid foaming from blowhole</i></p> <p><i>A likely victim of bycatch</i></p> <p><u><i>This dolphin was stored in a freezer for future post mortem</i></u></p>
Length from tip of upper jaw to the front of the dorsal fin	83.5	
Length from tip of upper jaw to the blowhole	29.2	
Length from tip of upper jaw to the centre of the eye	30.5	
Length from tip of upper jaw to the corner of the mouth	25.5	
Length from tip of upper jaw to front of the pectoral flipper, where it joins the body	43	
Length from tip of upper jaw to the anus, measured along the belly or side	125	
Length of the pectoral flipper from the tip to the body wall, measured along the front edge	37.5	
Maximum width of the flipper	14.8	
Height of dorsal fin from the base to the tip	17.6	
Width of flukes	38	
Temperature readings by depth (cm) Taken at 13:24	Temperature (°C)	<p><i>See Appendix II for Temperature graph.</i></p>
4.4	11.7	
8.8	13.9	
11.8	14.7	
13.6	15.5	
14.9	16.8	
16.1	17.3	
17	17.8	

Dolphin 5

Date: 06/02/2004

Time: 11:20

Position: 49°58.215N, 004°14.690W

Sea Surface Temperature: 9.8°C

Sea state: 2.5

Tag details: n/a

Time of drop off: n/a

Position of drop off: n/a

Sex: unknown

Species: unknown

Notes: This dolphin was not recovered as it was lost out of sight



Dolphin 6

Date: 08/02/2004

Time: 11:59

Position: 50°00.092N, 003°30.017W

Sea Surface Temperature: 9.7°C

Sea state: 5

Tag details: n/a

Time of drop off: n/a

Position of drop off: n/a

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	210	<p><i>This dolphin was found in a more decomposed state.</i></p> <p><i>The dolphin was found floating belly up exposing both its flippers.</i></p> <p><i>The beak and head area showed line markings</i></p> <p><i>A likely victim of bycatch</i></p> <p><i>This dolphin was not recovered or tagged, photographs were taken in the water</i></p>



Dolphin 7

Date: 08/02/2004

Time: 14:26

Position: 49°56.362N, 003°44.238W

Sea Surface Temperature: 9.7°C

Sea state: 5.5

Tag details: n/a

Time of drop off: n/a

Position of drop off: n/a

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	220	<p><i>This dolphin was found in a more decomposed state.</i></p> <p><i>The dolphin was found floating belly up exposing both its flippers.</i></p> <p><i>The beak was distorted and flippers showed deep cuts.</i></p> <p><i>A likely victim of bycatch</i></p> <p><i>This dolphin was not recovered or tagged, photographs were taken in the water</i></p>



Dolphin 8

Date: 14/02/2004

Time: 12:27

Position: 50°01.929N, 004°13.425W

Sea Surface Temperature: 9.8°C

Sea state: 1.5

Tag details: B

Time of drop off: 14:30

Drop off at: 50°00.320N, 004°18.595W

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	199	<p><i>This dolphin was found in a relatively fresh state.</i></p> <p><i>The temperature reading at 41cm depth was 10.1 °C.</i></p> <p><i>Past rigor mortis</i></p> <p><i>The dolphin was found floating on its side although exposing more of its belly and also one of its flippers.</i></p> <p><i>The beak showed fractures and the left flipper and fluke showed deep cuts, the body showed extensive line markings.</i></p> <p><i>A likely victim of bycatch</i></p> <p><i>This dolphin was tagged (tag B) and deposited over board</i></p>
Length from tip of upper jaw to the front of the dorsal fin	86	
Length from tip of upper jaw to the blowhole	31	
Length from tip of upper jaw to the centre of the eye	35	
Length from tip of upper jaw to the corner of the mouth	31	
Length from tip of upper jaw to front of the pectoral flipper, where it joins the body	51	
Length from tip of upper jaw to the anus, measured along the belly or side	43	
Length of the pectoral flipper from the tip to the body wall, measured along the front edge	36	
Maximum width of the flipper	12	
Height of dorsal fin from the base to the tip	22.5	
Width of flukes	46	
Temperature readings by depth (cm) Taken at 13:35	Temperature (°C)	<p><i>See Appendix II for Temperature graph.</i></p>
6	10.5	
10	10.2	
14	10	
19	10	
25.5	10	
30	10	
38	10.1	
40	10.1	
41	10.1	



Dolphin 9

Date: 15/02/2004

Time: 8:50

Position: 49°56.651N, 004°05.228W

Sea Surface Temperature: 9.5°C

Sea state: 1

Tag details: A

Time of drop off: 9:50

Drop off at: 49°56.606N, 004°06.388W

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	205	<p><i>This dolphin was found in a very decomposed state (body liquids and gases and extensive peeling of the skin.</i></p> <p><i>The dolphin was found floating belly up exposing both its flippers.</i></p> <p><i>The dorsal fin and the left flipper were cut.</i></p> <p><i>This dolphin was not recovered but was tagged (tag A), photographs were taken in the water</i></p>



Dolphin 10

Date: 16/02/2004

Time: 10:25

Position: 49°56.120N, 003°58.625W

Sea Surface Temperature: 9.8°C

Sea state: 1

Tag details: C

Time of drop off: 11:00

Drop off at: 49°56.124N, 003°59.111W

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	180	<p><i>This dolphin was found in a very decomposed state (body liquids and gases and extensive peeling of the skin.</i></p> <p><i>The dolphin was found floating belly up exposing both its flippers.</i></p> <p><i>The flippers showed possible cuts.</i></p> <p><i>This dolphin was not recovered but was tagged (tag C), photographs were taken in the water</i></p>

Dolphin 11

Date: 16/02/2004

Time: 17:40

Approximate position: 50°07.283N, 004°56.891W

Approximate Sea Surface Temperature: 10°C

Sea state: 0.5

Tag details: n/a

Time of drop off: n/a

Position of drop off: n/a

Sex: unknown

Species: unknown

Notes: This dolphin was not recovered or further studied



Dolphin 12

Date: 07/03/2004

Time: 13:01

Position: 49°56.857N, 003°51.505W

Sea Surface Temperature: 8.9°C

Sea state: 5

Tag details: D

Time of drop off: 14:30

Drop off at: 49°54.777N, 003°54.967W

Sex: Male

Species: Common dolphin

Basic Measurements	Measurement (cm)	Notes
Length from tip of upper jaw to the deepest point of the notch between the flukes	225	<p><i>This dolphin was found in a relatively fresh state but was past rigor mortis</i></p> <p><i>The max. temperature reading at 49cm depth was 12.7 °C.</i></p> <p><i>The dolphin was floating on its side although exposing more of its belly and one flipper</i></p> <p><i>Teeth were missing and flippers and fluke showed deep cuts</i></p> <p><i>A likely victim of bycatch</i></p> <p><i>This dolphin was tagged (tag D) and deposited over board</i></p>
Length from tip of upper jaw to front of dorsal	100	
Length from tip of upper jaw to the blowhole	34	
Length from tip of upper jaw to centre of eye	32	
Length from tip upper jaw to corner of mouth	28	
Length from tip of upper jaw to front of the pectoral flipper, where it joins the body	50	
Length from tip of upper jaw to the anus, measured along the belly or side	162	
Length of the pectoral flipper from the tip to the body wall, measured along the front edge	38	
Maximum width of the flipper	17	
Height of dorsal fin from the base to the tip	24.5	
Width of flukes	56	
Temperature readings by depth (cm) Taken at 13:35	Temperature (°C)	<p><i>See Appendix II for Temperature graph.</i></p>
3	9.9	
5.5	9.5	
8.5	9.5	
12	9.5	
13.5	9.7	
17	9.9	
20	10.1	
24	10.3	
28.5	10.9	
33	11.3	
36	11.9	
39.8	12.1	
43.5	12.4	
48	12.6	
49	12.7	

Part 3. Photo supplement

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