

APPENDIX V

Table showing by-caught cetacean species, the area and dates where by-catch took place, the fishing fleet and gear type involved, the target species and the by-catch estimation methods. The table also shows the calculated annual by-catch rates and percentage (%) of the population lost to by-catch if known (nd = no data).

No	By-caught species	Area	Fleet	Year study	Gear Type	Target Species	Estimation Method	By-catch Information	Annual By-catch rate	Net population growth	% population by-caught per year	Data source	Notes
1a	Dd, La	FC,CS, WA,BB	11 un-named	'93 – '95	MWT	M	OO	3.8 dolphins/100 tows or 1 dolphin/100 trawling hrs	nd	nd	nd	Tregenza & Collet 1998	CHAPEL
1b	Dd, Sc	BB	F	'92 – '93	D	AT	OO	1 dolphin/1232 tuna	nd	nd	nd	Tregenza & Collet 1998	
1b	Dd, Sc	BB	UK	'92 – '93	D	AT	OO	1 dolphin/211 tuna	nd	nd	nd	Tregenza & Collet 1998	
2	Pp	CS	UK	'92 – '94	G	H	OO	13.4 Pp/100 days at sea	740 (95% cl 383 – 1097)	nd	6.3%	Tregenza <i>et al.</i> 1997a	4 Dd also caught
2	Pp	CS	I	'92 – '94	G	H	OO	nd	1497 (95% cl. 566 – 2428)	nd	nd	Tregenza <i>et al.</i> 1997a	
3	Dd, La	NEA	D	nd	PT	HM	OO	nd	nd	nd	nd	Morizur <i>et al.</i> 1999	
3	Dd, La	NEA	F	nd	PT	H	OO	nd	nd	nd	nd	Morizur <i>et al.</i> 1999	
3	Dd, La	NEA	F	nd	PT	T	OO	0.061/tow	nd	nd	nd	Morizur <i>et al.</i> 1999	
3	Dd, La	NEA	F	nd	PT	SB	OO	0.1/tow	nd	nd	nd	Morizur <i>et al.</i> 1999	
3	Dd, La	NEA	AA	nd	PT	AA	OO	1/20.7 tows	nd	nd	nd	Morizur <i>et al.</i> 1999	
4	Pm, Gg, Tt, Sc, Xc, Gm	IC	It	'86 – '88	D	Sw	nd	10/boat/season	≥ 7000	nd	nd	Notarbartolo di Sciara 1990	
5	Pp	SW	Sw	'95	G	C	OO	32Pp/10,000km*hrs	53	4%	nd	Carlstrom & Berggren 1996	
5	Pp	SW	Sw	'96	G	C	OO	36Pp/10,000km*hrs	53	4%	nd	Carlstrom & Berggren 1996	
6a	Pp	GNS	nd	'90	G	nd	VR	nd	0	nd	nd	Benke 1994	Expected to be underestimate
6a	Pp	GNS	nd	'91	G	nd	VR	nd	4	nd	nd	Benke 1994	Expected to be underestimate
6a	Pp	GNS	nd	'93	G	nd	VR	nd	2	nd	nd	Benke 1994	Expected to be underestimate
6a	Pp	GNS	nd	'94	G	nd	VR	nd	6	nd	nd	Benke 1994	Expected to be underestimate

No	By-caught Species	Area	Fleet	Year of study	Gear Type	Target Species	Estimation Method	By-catch Information	Annual By-catch rate	Net population growth	% of population by-caught	Data source	Notes
6b	Pp	B	nd	'90	G	nd	VR	nd	21	nd	nd	Benke 1994	Expected to be underestimate
6b	Pp	B	nd	'91	G	nd	VR	nd	26	nd	nd	Benke 1994	Expected to be underestimate
6b	Pp	B	nd	'93	G	nd	VR	nd	6	nd	nd	Benke 1994	Expected to be underestimate
6b	Pp	B	nd	'94	G	nd	VR	nd	5	nd	nd	Benke 1994	Expected to be underestimate
7	Dd, Sc	WM, AS	S	'93	D	Sw	OO	0.11/km net	366 (95% cl 268 – 464)	nd	nd	Silvani <i>et al</i> 1999	
7	Dd, Sc	WM, AS	S	'94	D	Sw	OO	0.15/km net	289 (95% cl 238 – 340)	nd	1%	Silvani <i>et al</i> 1999	Fishing operations halted owing to UN Moratorium on driftnet use
8	Pp	DW	nd	'86 – '89	G&T	T, Lu, Pl, C	CC - F	58 collected over duration	Several thousand	nd	nd	Kinze 1994	
8	Pp	DW	nd	'86 – '89	G&T	T, Lu, Pl, C	CC - S	94 collected over duration	Several thousand	nd	nd	Kinze 1994	
8	Pp	DW	nd	'86 – '89	G&T	T, Lu, Pl, C	FI	Max by-catch/vessel/yr = 100 – 200 Max by-catch/cruise = 50 Max by-catch/day = 25 Max/net set = 8	Several thousand	nd	nd	Kinze 1994	
9	“D”	CS	D	'89 – '94	MWT	nd	FR	312 by-caught over duration	nd	nd	nd	Couperus 1997a	
10	Dd	CS	I	'92 – '94	G	H	OO	1.4/1000km net	180	4 – 6%	<1%	Tregenza <i>et al.</i> 1997b	
10	Dd	CS	UK	'92 – '94	G	H	OO	1.4/1000km net	54	4 – 6%	<1%	Tregenza <i>et al.</i> 1997b	
11	Dd	BB	nd	nd	D	AT	nd	nd	400	nd	nd	Goujon <i>et al.</i> 1993	
12	Pp	CS	I, UK	'93 – '94	G	H	OO	0.6/trip	1825 - 2049	nd	nd	Rogan & Berrow 1996	
13	Dd, La, Gm	NEA	D	'95 – '96	MWF T	M, HM	OO	8 in 142 trawls	nd	nd	nd	Couperus 1997b	MAMDIS
14	Pp	nd	D	nd	G	C, So, T	OO	nd	7000	nd	nd	Vinther 1995	
15	Pp	NS, WS	UK	'96 – '98	G	C, Df, So, Mo, Sk, T, Cr, Sm, SB, Hg	OO	8.1/10,000 net km*hr	750 - 1000	nd	nd	Northridge & Hammond 1999	

No	By-caught Species	Area	Fleet	Year of study	Gear Type	Target Species	Estimation Method	By-catch Information	Annual By-catch rate	Net population growth	% of population by-caught	Data source	Notes
14	Pp	DW	nd	nd	G	C,T	nd	nd	4400	nd	nd	Vinther 1995	
15	Pp	S	Sw	nd	G	C	nd	nd	110	nd	nd	Northridge & Hammond 1999	
16	Sc	LS	nd	'88	D	nd	nd	37 by-caught over duration	nd	nd	nd	Podestà & Magnaghi 1989	
17	Pp	B	nd	'73 – '87	G	C, Fla, Lu	VR	127 by-caught over duration	nd	nd	nd	Lindstedt & Lindstedt 1989	
18	Pp	SWNS, Ch	D	nd	WN	nd	nd	nd	3000	nd	nd	Clausen & Andersen 1988	
18	Pp	SWNS, Ch	G	'87 – '90	TN	C	nd	41 by-caught over duration	nd	nd	nd	Benke <i>et al</i> 1991	
19	Pp, Tt	CB	nd	'91 – '92	G, TN	R, Th	nd	12Pp by-caught over duration	nd	nd	nd	Thomas 1993	
11	Dd	A	F	'92 – '93	D	AT	OO	nd	1700	nd	1.5%	Goujon <i>et al.</i> 1993	
11	Sc	A	F	'92 – '93	D	AT	OO	nd	1700	nd	3%	Goujon <i>et al.</i> 1993	
20	Pp	NS	D	nd	nd	T	nd	nd	4449	nd	1.7%	Jaaman 1998	
20	Pp	NS	UK,D	'93 – '94	G	C, Hg	OO	112/1000km net*hr	nd	nd	nd	Jaaman 1998	Data refers to highest recorded rate in ICES statistical rectangles

Explanation of the abbreviations used in the table

By-Caught Species	Area	Fleet	Gear Type	Target Species	Estimation Method
Dd = Delphinus delphis	NS = North Sea	F = French	G = Gillnet	H = Hake	OO = Observers
La = Lagenorhynchus acutus	SWNS = South West North Sea	UK = United Kingdom	T = Trawl	Hg = Herring	Onboard
Sc = Stenella cueruleoalba	Ch = Channel	I = Irish	MWT = Midwater Trawl	AT = Albacore Tuna	CC = Carcass
Tt = Tursiops truncatus	A = Atlantic	D = Dutch	BT = Bottom Trawl	T = Turbot	Collection
Pp = Phocoena phocoena	CB = Cardigan Bay	AA = All of the Above	D = Driftnet	C = Cod	CC-F = Carcass
Pm = Physeter macrocephalus	B = Baltic	S = Spanish	WN = Wreck Net	R = Ray	Collection from
Xc = Xiphius cavirostris	LS = Ligurian Sea	G = German	MWFT = Midwater	Th = Thornback	Fishermen
Gm = Globicephalus malaena	S = Skaggerak	It = Italian	Freezer Trawl	Lu = Lump sucker	CC-S = Carcass
Gg = Grampus griseus	DW = Danish Waters	Sw = Swedish	TN = Trammel Net	Fla = Flatfish	Collection by
	WS = West coast of Scotland			So = Sole	Salvage programme
	BB = Bay of Biscay			M = Mackerel	FI = Fishermen
	CS = Celtic Sea			HM = Horse mackerel	Interviews
	WM = Western Mediterranean			PI = Plaice	VR = Voluntary
	AS = Alboran Sea			Sw = Swordfish	Reports
	GNS = German North Sea			Df = Dogfish	
	SW = Swedish Waters			Sk = Skate	
	IC = Italian Coast			Sm = Salmon	
	NEA = Northeast Atlantic			SB = Seabass	
	FC = French Coast			Cr = Crayfish	
	WA = Western Approaches			Mo = Monkfish	