Table 20. Other waterbird species, Southwest Asia.

		Azerbaijan		Iran	Kazakhstan	Kyrgyzstan	Oman		Qatar	
		1995 Total	1996 Total	1995 Total	1996 Total	1996 Total	1995 Total	1996 Total	1995 Total	1996 Total
Little Grebe	*Tachybaptus ruficollis*		6,890	2,714	20	70	27	44	4	6
Great Crested Grebe	*Podiceps cristatus*		490	3,688		2	1			
Red-necked Grebe	*Podiceps grisegena*		10							
Slavonian Grebe	*Podiceps auritus*			98						
Black-necked Grebe	*Podiceps nigricollis*		3,595	487		50	56	109	4	5
Great Cormorant	*Phalacrocorax carbo*		1,553	21,807			155	242	46	131
Socotra Cormorant	*Phalacrocorax nigrogularis*						5,022		1,320	
Pygmy Cormorant	*Phalacrocorax pygmaeus*		9,384	284						
Great White Pelican	*Pelecanus onocrotalus*		1	179						
Dalmatian Pelican	*Pelecanus crispus*		280	709	2					
Pink-backed Pelican	*Pelecanus rufescens*									
Great Bittern	*Botaurus stellaris*		50	56						
Black-crowned Night-heron	*Nycticorax nycticorax*		108	430			3	10		
Striated Heron	*Butorides striatus*						11	5		
Squacco Heron	*Ardeola ralloides*			31			28	14		
Indian Pond Heron	*Ardeola grayii*			416			4	4		
Cattle Egret	*Bubulcus ibis*		4	1,135			115	114		
Western Reef Egret	*Egretta gularis*			493			796	744	85	79
Little Egret	*Egretta garzetta*		185	2,981			52	60		
Great Egret	*Casmerodius albus*		1,300	2,603	93		44	45	2	2
Grey Heron	*Ardea cinerea*		281	2,341	1		854	782	35	67
Purple Heron	*Ardea purpurea*			101			13	6		
Goliath Heron	*Ardea goliath*									
Black Stork	*Ciconia nigra*			7						
White Stork	*Ciconia ciconia*		26	620			64	120		
Glossy Ibis	*Plegadis falcinellus*			287			26	12		
Sacred Ibis	*Threskiornis aethiopicus*			22						
Eurasian Spoonbill	*Platalea leucorodia*			590			327	219		
Greater Flamingo	*Phoenicopterus ruber roseus*	5,200	5,350	114,596			1,445	1,088	440	395
Lesser Flamingo	*Phoenicopterus minor*							190		
Water Rail	*Rallus aquaticus*		1,000	81	3					

Table 20 continued. Other waterbird species, Southwest Asia.

		Azerbaijan		Iran	Kazakhstan	Kyrgyzstan	Oman		Qatar	
		1995 Total	1996 Total	1995 Total	1996 Total	1996 Total	1995 Total	1996 Total	1995 Total	1996 Total
Spotted Crake	*Porzana porzana*						2	2		
Little Crake	*Porzana parva*						3	2		
Baillon's Crake	*Porzana pusilla*						9	2		
Moorhen	*Gallinula chloropus*		4,330	339			346	236	12	66
Purple Swamphen	*Porphyrio porphyrio*		1,376	665						
Common Crane	*Grus grus*			7,446			4			
Demoiselle Crane	*Grus virgo*									
Sooty Gull	*Larus hemprichii*						9,886	9,516		
White-eyed Gull	*Larus leucophthalmus*									
Great Black-headed Gull	*Larus ichthyaetus*		32	8,434			2,343	1,006	10	34
Little Gull	*Larus minutus*		30							
Black-headed Gull	*Larus ridibundus*		10	26,537		100	12,958	8,576	175	232
Slender-billed Gull	*Larus genei*		1	6,071			2,448	6,456	328	304
Common Gull	*Larus canus*		10	740						
Lesser Black-backed Gull	*Larus fuscus*						124	51	289	160
Yellow-legged Gull	*Larus cachinnans*		20	5,556		5	35,872	28,931		
unidentified Gulls	*Larus spp*			12,480						
Gull-billed Tern	*Gelochelidon nilotica*			13			21	16	2	
Caspian Tern	*Sterna caspi*			200			521	355	25	21
Great Crested Tern	*Sterna berg*						4,883	4,735	24	2
Lesser Crested Tern	*Sterna bengalensis*			410			664	670	1,500	111
Sandwich Tern	*Sterna sandvicensis*			1			2,136	5,664	1,595	393
Common Tern	*Sterna hirundo*						71	23		
Arctic Tern	*Sterna paradisaea*									2
White-cheeked Tern	*Sterna repressa*						14	100		
Bridled Tern	*Sterna anaethetus*			12						
Saunders' Tern	*Sterna saundersii*			17			510	91	7	2
Whiskered Tern	*Chlidonias hybridus*		10	226			40	23		
White-winged Black Tern	*Chlidonias leucopterus*						4	28		
unidentified Terns	*Sterna spp.*			5,962						
	Sum of all species	**5,200**	**36,326**	**231,865**	**119**	**227**	**81,902**	**70,291**	**5,903**	**2,012**

Table 20 continued. Other waterbird species, Southwest Asia.

		Saudi Arabia		Turkmenistan		Uzbekistan	United Arab Emirates		Overall area totals	
		1995 Total	1996 Total	1995 Total	1996 Total	1996 Total	1995 Total	1996 Total	1995 Total	1996 Total
Little Grebe	*Tachybaptus ruficollis*		275	405	99		23	20	3,173	7,424
Great Crested Grebe	*Podiceps cristatus*		10	62	120				3,751	622
Red-necked Grebe	*Podiceps grisegena*			14					14	10
Slavonian Grebe	*Podiceps auritus*				25				98	25
Black-necked Grebe	*Podiceps nigricollis*		90				107	68	654	3,917
Great Cormorant	*Phalacrocorax carbo*	41	13,596	11,470	4,926	178	1,070	444	34,589	21,070
Socotra Cormorant	*Phalacrocorax nigrogularis*		8,581				37,265	3,248	43,607	11,829
Pygmy Cormorant	*Phalacrocorax pygmaeus*			970	320				1,254	9,704
Great White Pelican	*Pelecanus onocrotalus*	1		64	115				244	116
Dalmatian Pelican	*Pelecanus crispus*			156	146				865	428
Pink-backed Pelican	*Pelecanus rufescens*	941	741						941	741
Great Bittern	*Botaurus stellaris*								56	50
Black-crowned Night-heron	*Nycticorax nycticorax*	120					33	35	586	153
Striated Heron	*Butorides striatus*	13	5				4	4	28	14
Squacco Heron	*Ardeola ralloides*	8	20					1	67	35
Indian Pond Heron	*Ardeola grayii*						1	7	421	11
Cattle Egret	*Bubulcus ibis*	964	1,160				73	154	2,287	1,432
Western Reef Egret	*Egretta gularis*	739	1,467				420	255	2,533	2,545
Little Egret	*Egretta garzetta*	152	299				28	17	3,213	561
Great Egret	*Casmerodius albus*		44	223	365	290	56	54	2,928	2,193
Grey Heron	*Ardea cinerea*	384	887	201	505	44	308	251	4,123	2,818
Purple Heron	*Ardea purpurea*	4	6						118	12
Goliath Heron	*Ardea goliath*	15	20						15	20
Black Stork	*Ciconia nigra*	11	49						18	49
White Stork	*Ciconia ciconia*	300	351						984	497
Glossy Ibis	*Plegadis falcinellus*	426	345				3	2	742	359
Sacred Ibis	*Threskiornis aethiopicus*								22	0
Eurasian Spoonbill	*Platalea leucorodia*	1,868	1,868				93	71	2,878	2,158
Greater Flamingo	*Phoenicopterus ruber roseus*	2,338	8,066				732	1,538	124,751	16,437
Lesser Flamingo	*Phoenicopterus minor*		44						0	234
Water Rail	*Rallus aquaticus*								81	1,003

Table 20 continued. Other waterbird species, Southwest Asia.

		Saudi Arabia		Turkmenistan		Uzbekistan	United Arab Emirates		Overall area totals	
		1995 Total	1996 Total	1995 Total	1996 Total	1996 Total	1995 Total	1996 Total	1995 Total	1996 Total
Spotted Crake	*Porzana porzana*								2	2
Little Crake	*Porzana parva*								3	2
Baillon's Crake	*Porzana pusilla*		1						9	3
Moorhen	*Gallinula chloropus*	1	49				13	7	711	4,688
Purple Swamphen	*Porphyrio porphyrio*							1	665	1,377
Common Crane	*Grus grus*	9	118						7,459	118
Demoiselle Crane	*Grus virgo*		4						0	4
Sooty Gull	*Larus hemprichii*	6,912	8,057				1,622	83	18,420	17,656
White-eyed Gull	*Larus leucophthalmus*	56	158						56	158
Great Black-headed Gull	*Larus ichthyaetus*	15			3		709		11,511	1,075
Little Gull	*Larus minutus*								0	30
Black-headed Gull	*Larus ridibundus*	377	2,161	340	402	74	12,909	26,739	53,296	38,294
Slender-billed Gull	*Larus genei*	10,719	7,655				1,483	1,488	21,049	15,904
Common Gull	*Larus canus*								740	10
Lesser Black-backed Gull	*Larus fuscus*		1				1	21	414	233
Yellow-legged Gull	*Larus cachinnans*	1	1,677		10,315		17,243	7,551	58,672	48,499
unidentified Gulls	*Larus spp.*						334		12,814	0
Gull-billed Tern	*Gelochelidon nilotica*	684	173				98	175	818	364
Caspian Tern	*Sterna caspia*	199	247				93	71	1,038	694
Great Crested Tern	*Sterna bergii*	98	197				12	7	5,017	4,941
Lesser Crested Tern	*Sterna bengalensis*	1,940	1,962				677	77	5,191	2,820
Sandwich Tern	*Sterna sandvicensis*	15	509				2,495	46	6,242	6,612
Common Tern	*Sterna hirundo*							5	71	28
Arctic Tern	*Sterna paradisaea*								0	2
White-cheeked Tern	*Sterna repressa*						390		404	100
Bridled Tern	*Sterna anaethetus*								12	0
Saunders' Tern	*Sterna saundersii*	381	349				167	307	1,082	749
Whiskered Tern	*Chlidonias hybridus*	56	184				49	6	371	223
White-winged Black Tern	*Chlidonias leucopterus*						2		6	28
unidentified Terns	*Sterna spp.*								5,962	0
	Sum of all species	**29,788**	**61,426**	**13,905**	**17,341**	**586**	**78,513**	**42,753**	**447,076**	**231,081**

Table 21. Other waterbird species, West Mediterranean.

		Algeria				France South		Italy			
		1995		1996		1995	1996	1995		1996	
		Total	Reduced	Total	Reduced	Reduced	Reduced	Total	Reduced	Total	Reduced
Red-throated Diver	*Gavia stellata*					1		21	13	14	7
Black-throated Diver	*Gavia arctica*					1	30	118	79	157	95
Great Northern Diver	*Gavia immer*							1	1		
Little Grebe	*Tachybaptus ruficollis*	1,789	1,216	793	324	308	439	5,265	3,913	4,094	3,564
Great Crested Grebe	*Podiceps cristatus*	130	115	70	70	4,616	6,234	15,319	12,748	10,372	8,815
Red-necked Grebe	*Podiceps grisegena*							63	51	105	90
Slavonian Grebe	*Podiceps auritus*						2	24	20	5	5
Black-necked Grebe	*Podiceps nigricollis*	300	300	2	2	9,032	12,130	10,021	9,172	12,128	11,087
Great Cormorant	*Phalacrocorax carbo*	324	305	314	135	12,340	9,459	39,004	32,195	31,240	25,860
Pygmy Cormorant	*Phalacrocorax pygmaeus*							25	25	16	16
Great White Pelican	*Pelecanus onocrotalus*									1	1
Great Bittern	*Botaurus stellaris*						1	48	30	50	50
Little Bittern	*Ixobrychus minutus*										
Black-crowned Night-heron	*Nycticorax nycticorax*							96	94	111	93
Squacco Heron	*Ardeola ralloides*										
Cattle Egret	*Bubulcus ibis*	260	65	1,370		586	892	86	85	205	200
Western Reef Egret	*Egretta gularis*										
Little Egret	*Egretta garzetta*	274	59	264	49	2,314	1,814	4,142	3,780	4,708	4,346
Great Egret	*Casmerodius albus*	3	3	26	20	98	63	1,334	1,166	1,121	1,049
Grey Heron	*Ardea cinerea*	166	29	364	55	1,186	975	6,703	5,028	5,650	4,635
Purple Heron	*Ardea purpurea*										
Black Stork	*Ciconia nigra*									1	1
White Stork	*Ciconia ciconia*			24	6		2	10	10	14	13
Glossy Ibis	*Plegadis falcinellus*	16	16	81	55			28	25	5	3
Waldrapp	*Geronticus eremita*										
Eurasian Spoonbill	*Platalea leucorodia*			17	17			125	117	191	190

Table 21 continued. Other waterbird species, West Mediterranean.

		Algeria				France South		Italy			
		1995		1996		1995	1996	1995		1996	
		Total	Reduced	Total	Reduced	Reduced	Reduced	Total	Reduced	Total	Reduced
Greater Flamingo	*Phoenicopterus ruber roseus*	300	210	5,950	2,950	24,616	19,694	10,468	9,726	7,919	7,446
Water Rail	*Rallus aquaticus*					13	4	172	117	178	126
Moorhen	*Gallinula chloropus*	691	20			55	112	4,571	2,953	4,021	3,069
Purple Swamphen	*Porphyrio porphyrio*	3	3	2	2			124	95	126	110
Crested Coot	*Fulica cristata*										
Common Crane	*Grus grus*	4,000		418	18			28	28	69	21
Mediterranean Gull	*Larus melanocephalus*					565	2,623	4,071	2,955	2,585	973
Little Gull	*Larus minutus*					3	3	289	52	33	14
Black-headed Gull	*Larus ridibundus*			756	450	46,540	51,323	118,239	93,286	84,176	69,621
Slender-billed Gull	*Larus genei*					7		1,100	828	1,704	1,603
Audouin's Gull	*Larus audouinii*							126	28	73	29
Common Gull	*Larus canus*					8	29	2,756	2,235	2,427	1,954
Lesser Black-backed Gull	*Larus fuscus*					28	28	70	51	186	117
Herring Gull	*Larus argentatus*						4,516	3	1	797	750
Yellow-legged Gull	*Larus cachinnans*			1,563	163	22,157	21,760	47,264	30,064	45,463	34,619
Black-legged Kittiwake	*Larus tridactyla*									1	1
Gull-billed Tern	*Gelochelidon nilotica*										
Caspian Tern	*Sterna caspia*									1	1
Lesser Crested Tern	*Sterna bengalensis*										
Sandwich Tern	*Sterna sandvicensis*					160	107	738	513	830	545
Common Tern	*Sterna hirundo*										
Arctic Tern	*Sterna paradisaea*									4	1
Little Tern	*Sterna albifrons*										
Whiskered Tern	*Chlidonias hybridus*					99	58	2	2	1	1
Black Tern	*Chlidonias niger*					8		1	1	1	1
	Sum of all species	**8,256**	**2,341**	**12,014**	**4,316**	**124,741**	**132,298**	**272,455**	**211,487**	**220,783**	**181,122**

Table 21 continued. Other waterbird species, West Mediterranean.

		Morocco		Portugal			Tunisia	Overall area totals			
		1995		1995		1996	1995	1995		1996	
		Total	Reduced	Total	Reduced	Reduced	Reduced	Total	Reduced	Total	Reduced
Red-throated Diver	*Gavia stellata*							22	14	14	7
Black-throated Diver	*Gavia arctica*							119	80	187	125
Great Northern Diver	*Gavia immer*							1	1	0	0
Little Grebe	*Tachybaptus ruficollis*	1,941	265	184	184	49		9,487	5,886	5,375	4,376
Great Crested Grebe	*Podiceps cristatus*	1,685	722	16	10	7		21,766	18,211	16,683	15,126
Red-necked Grebe	*Podiceps grisegena*							63	51	105	90
Slavonian Grebe	*Podiceps auritus*							24	20	7	7
Black-necked Grebe	*Podiceps nigricollis*	568	64	66	66	14		19,987	18,634	24,274	23,233
Great Cormorant	*Phalacrocorax carbo*	2,265	917	4,449	4,329	3,476		58,382	50,086	44,489	38,930
Pygmy Cormorant	*Phalacrocorax pygmaeus*							25	25	16	16
Great White Pelican	*Pelecanus onocrotalus*							0	0	1	1
Great Bittern	*Botaurus stellaris*							48	30	51	51
Little Bittern	*Ixobrychus minutus*	1	1					1	1	0	0
Black-crowned Night-heron	*Nycticorax nycticorax*							96	94	111	93
Squacco Heron	*Ardeola ralloides*	11	9					11	9	0	0
Cattle Egret	*Bubulcus ibis*	798	580			400		1,730	1,316	2,867	1,492
Western Reef Egret	*Egretta gularis*	1						1	0	0	0
Little Egret	*Egretta garzetta*	633	341			96		7,363	6,494	6,882	6,305
Great Egret	*Casmerodius albus*							1,435	1,267	1,210	1,132
Grey Heron	*Ardea cinerea*	998	507	446	435	356		9,499	7,185	7,345	6,021
Purple Heron	*Ardea purpurea*	18	3					18	3	0	0
Black Stork	*Ciconia nigra*							0	0	1	1
White Stork	*Ciconia ciconia*	280	140	171	170	26		461	320	66	47
Glossy Ibis	*Plegadis falcinellus*	86	86	7	7			137	134	86	58
Waldrapp	*Geronticus eremita*	77	77					77	77	0	0
Eurasian Spoonbill	*Platalea leucorodia*	325	255	147	147	38		597	519	246	245

Table 21 continued. Other waterbird species, West Mediterranean.

		Morocco		Portugal			Tunisia	Overall area totals			
		1995		1995		1996	1995	1995		1996	
		Total	Reduced	Total	Reduced	Reduced	Reduced	Total	Reduced	Total	Reduced
Greater Flamingo	*Phoenicopterus ruber roseus*	4,506	3,041	2,858	2,858	373	2,500	45,248	42,951	33,936	30,463
Water Rail	*Rallus aquaticus*	3	3					188	133	182	130
Moorhen	*Gallinula chloropus*	298	150			33		5,615	3,178	4,166	3,214
Purple Swamphen	*Porphyrio porphyrio*	8	8					135	106	128	112
Crested Coot	*Fulica cristata*	540	425					540	425	0	0
Common Crane	*Grus grus*	2,398	362			5	1,200	7,626	1,590	492	44
Mediterranean Gull	*Larus melanocephalus*	252						4,888	3,520	5,208	3,596
Little Gull	*Larus minutus*	1				21		293	55	57	38
Black-headed Gull	*Larus ridibundus*	9,555	3,255			115		174,334	143,081	136,370	121,509
Slender-billed Gull	*Larus genei*	182	66					1,289	901	1,704	1,603
Audouin's Gull	*Larus audouinii*	4,507	732					4,633	760	73	29
Common Gull	*Larus canus*							2,764	2,243	2,456	1,983
Lesser Black-backed Gull	*Larus fuscus*	50,811	4,522			2		50,909	4,601	216	147
Herring Gull	*Larus argentatus*							3	1	5,313	5,266
Yellow-legged Gull	*Larus cachinnans*	1,660	559					71,081	52,780	68,786	56,542
Black-legged Kittiwake	*Larus tridactyla*							0	0	1	1
Gull-billed Tern	*Gelochelidon nilotica*	4						4	0	0	0
Caspian Tern	*Sterna caspia*	938	65					938	65	1	1
Lesser Crested Tern	*Sterna bengalensis*	2						2	0	0	0
Sandwich Tern	*Sterna sandvicensis*	1,106	213			2		2,004	886	939	654
Common Tern	*Sterna hirundo*	32						32	0	0	0
Arctic Tern	*Sterna paradisaea*	5						5	0	4	1
Little Tern	*Sterna albifrons*	32	23					32	23	0	0
Whiskered Tern	*Chlidonias hybridus*							101	101	59	59
Black Tern	*Chlidonias niger*							9	9	1	1
	Sum of all species	**86,527**	**17,391**	**8,344**	**8,206**	**5,013**	**3,700**	**504,023**	**367,866**	**370,108**	**322,749**

Table 22. Other waterbird species, summary of all areas.

		Baltic/Nordic countries				Central Europe				East Mediterranean and Black Sea			
		1995		1996		1995		1996		1995		1996	
		Total	Reduced	Total	Reduced	Total	Reduced	Total	Reduced	Total	Reduced	Total	Reduced
Red-throated Diver	*Gavia stellata*	333	331	93	86	39	37	11	8	18	18	39	38
Black-throated Diver	*Gavia arctica*	274	272	62	49	88	86	69	67	174	155	129	101
Great Northern Diver	*Gavia immer*	0	0	0	0	1	1	0	0	0	0	0	0
Little Grebe	*Tachybaptus ruficollis*	807	755	582	539	5,561	4,152	4,784	3,121	9,116	8,653	7,986	7,449
Great Crested Grebe	*Podiceps cristatus*	2,880	2,800	2,115	2,027	41,554	38,125	21,424	17,774	47,327	46,897	37,265	32,027
Red-necked Grebe	*Podiceps grisegena*	17	15	12	10	211	198	98	84	21	13	61	15
Slavonian Grebe	*Podiceps auritus*	60	60	53	53	14	9	12	9	11	8	15	15
Black-necked Grebe	*Podiceps nigricollis*	0	0	16	16	1,849	1,659	1,413	1,160	40,802	40,132	23,176	21,093
Great Cormorant	*Phalacrocorax carbo*	8,584	8,568	4,473	3,956	16,896	12,553	13,821	9,786	56,045	52,240	59,470	52,151
Socotra Cormorant	*Phalacrocorax nigrogularis*	0	0	0	0	0	0	0	0	0	0	0	0
Pygmy Cormorant	*Phalacrocorax pygmaeus*	0	0	0	0	0	0	3	1	14,510	13,694	16,739	14,131
Great White Pelican	*Pelecanus onocrotalus*	0	0	0	0	0	0	0	0	504	504	475	475
Dalmatian Pelican	*Pelecanus crispus*	0	0	0	0	0	0	0	0	1,937	1,833	2,868	2,748
Pink-backed Pelican	*Pelecanus rufescens*	0	0	0	0	0	0	0	0	0	0	0	0
Great Bittern	*Botaurus stellaris*	9	8	4	3	10	4	12	9	60	28	69	25
Little Bittern	*Ixobrychus minutus*	0	0	0	0	0	0	0	0	4	4	9	9
Black-crowned Night-heron	*Nycticorax nycticorax*	0	0	0	0	0	0	0	0	1,107	1,107	1,456	1,452
Striated Heron	*Butorides striatus*	0	0	0	0	0	0	0	0	0	0	0	0
Squacco Heron	*Ardeola ralloides*	0	0	0	0	0	0	0	0	6	6	15	15
Indian Pond Heron	*Ardeola grayii*	0	0	0	0	0	0	0	0	0	0	0	0
Cattle Egret	*Bubulcus ibis*	0	0	0	0	0	0	0	0	1,163	1,163	710	710
Western Reef Egret	*Egretta gularis*	0	0	0	0	0	0	0	0	0	0	1	1
Little Egret	*Egretta garzetta*	0	0	0	0	0	0	0	0	2,664	2,611	4,559	4,418
Great Egret	*Casmerodius albus*	0	0	12	0	249	81	146	71	6,652	6,335	9,580	9,018
Grey Heron	*Ardea cinerea*	2,190	2,035	1,198	946	2,418	1,626	2,358	1,514	8,457	7,871	9,946	9,139
Purple Heron	*Ardea purpurea*	0	0	0	0	0	0	0	0	206	6	15	15
Goliath Heron	*Ardea goliath*	0	0	0	0	0	0	0	0	0	0	0	0
Black Stork	*Ciconia nigra*	0	0	0	0	0	0	0	0	552	552	831	831
White Stork	*Ciconia ciconia*	0	0	0	0	0	0	1	1	1,078	1,078	555	554
Glossy Ibis	*Plegadis falcinellus*	0	0	0	0	0	0	0	0	245	245	685	685
Waldrapp	*Geronticus eremita*	0	0	0	0	0	0	0	0	0	0	0	0
Sacred Ibis	*Threskiornis aethiopicus*	0	0	0	0	0	0	0	0	0	0	0	0
Eurasian Spoonbill	*Platalea leucorodia*	0	0	0	0	0	0	0	0	780	780	588	588
Greater Flamingo	*Phoenicopterus ruber roseus*	2	2	0	0	0	0	0	0	23,891	22,941	26,866	26,736
Lesser Flamingo	*Phoenicopterus minor*	0	0	0	0	0	0	0	0	0	0	0	0
Water Rail	*Rallus aquaticus*	5	5	5	5	5	2	8	6	164	132	153	153
Spotted Crake	*Porzana porzana*	1	1	0	0	0	0	0	0	0	0	0	0
Little Crake	*Porzana parva*	0	0	0	0	0	0	0	0	1	1	0	0
Baillon's Crake	*Porzana pusilla*	0	0	0	0	0	0	0	0	0	0	0	0

Table 22 continued. Other waterbird species, summary of all areas.

		Baltic/Nordic countries				Central Europe				East Mediterranean and Black Sea			
		1995		1996		1995		1996		1995		1996	
		Total	Reduced	Total	Reduced	Total	Reduced	Total	Reduced	Total	Reduced	Total	Reduced
Moorhen	*Gallinula chloropus*	91	84	128	123	200	188	317	191	2,524	2,479	2,144	2,095
Purple Swamphen	*Porphyrio porphyrio*	0	0	0	0	0	0	0	0	301	301	0	0
Crested Coot	*Fulica cristata*	0	0	0	0	0	0	0	0	0	0	0	0
Common Crane	*Grus grus*	0	0	0	0	0	0	0	0	2,677	2,634	1,257	834
Demoiselle Crane	*Grus virgo*	0	0	0	0	0	0	0	0	0	0	0	0
Sooty Gull	*Larus hemprichii*	0	0	0	0	0	0	0	0	0	0	0	0
White-eyed Gull	*Larus leucophthalmus*	0	0	0	0	0	0	0	0	0	0	1	1
Great Black-headed Gull	*Larus ichthyaetus*	0	0	0	0	0	0	0	0	202	200	766	687
Mediterranean Gull	*Larus melanocephalus*	0	0	0	0	0	0	0	0	1,826	1,561	555	445
Little Gull	*Larus minutus*	12	12	0	0	0	0	0	0	112	99	322	318
Black-headed Gull	*Larus ridibundus*	20,430	18,752	10,124	8,312	35,300	30,538	36,523	28,798	114,244	93,403	95,080	88,899
Slender-billed Gull	*Larus genei*	0	0	0	0	0	0	0	0	5,437	5,378	4,252	4,247
Audouin's Gull	*Larus audouinii*	0	0	0	0	0	0	0	0	1	1	0	0
Common Gull	*Larus canus*	24,977	24,316	14,418	10,241	6,062	5,885	4,148	3,361	6,181	5,909	8,180	6,683
Lesser Black-backed Gull	*Larus fuscus*	20	9	36	33	1	1	4	3	361	272	466	336
Herring Gull	*Larus argentatus*	32,103	25,671	25,933	20,467	252	109	588	454	0	0	0	0
Yellow-legged Gull	*Larus cachinnans*	0	0	0	0	413	413	502	488	50,654	45,752	53,002	42,112
Iceland Gull	*Larus glaucoides*	0	0	0	0	0	0	0	0	0	0	0	0
Glaucous Gull	*Larus hyperboreus*	0	0	0	0	0	0	0	0	0	0	0	0
Great Black-backed Gull	*Larus marinus*	2,054	1,745	1,370	1,108	0	0	1	1	1	0	0	0
Ross's Gull	*Rhodostethia rosea*	0	0	0	0	0	0	0	0	0	0	0	0
Black-legged Kittiwake	*Larus tridactyla*	0	0	0	0	0	0	0	0	0	0	0	0
unidentified Gulls	*Larus spp.*	0	0	0	0	0	0	0	0	0	0	0	0
Gull-billed Tern	*Gelochelidon nilotica*	0	0	0	0	0	0	0	0	0	0	0	0
Caspian Tern	*Sterna caspia*	0	0	0	0	0	0	0	0	24	24	34	34
Great Crested Tern	*Sterna bergii*	0	0	0	0	0	0	0	0	0	0	0	0
Lesser Crested Tern	*Sterna bengalensis*	0	0	0	0	0	0	0	0	0	0	0	0
Sandwich Tern	*Sterna sandvicensis*	0	0	0	0	0	0	0	0	641	628	656	656
Common Tern	*Sterna hirundo*	0	0	0	0	0	0	0	0	11	11	0	0
Arctic Tern	*Sterna paradisaea*	0	0	0	0	0	0	0	0	0	0	0	0
White-cheeked Tern	*Sterna repressa*	0	0	0	0	0	0	0	0	0	0	0	0
Bridled Tern	*Sterna anaethetus*	0	0	0	0	0	0	0	0	0	0	0	0
Little Tern	*Sterna albifrons*	0	0	0	0	0	0	0	0	0	0	0	0
Saunders' Tern	*Sterna saundersii*	0	0	0	0	0	0	0	0	0	0	0	0
Whiskered Tern	*Chlidonias hybridus*	0	0	0	0	0	0	0	0	9	9	42	42
Black Tern	*Chlidonias niger*	0	0	0	0	0	0	0	0	3	3	0	0
White-winged Black Tern	*Chlidonias leucopterus*	0	0	0	0	0	0	0	0	8	8	0	0
unidentified Terns	*Sterna spp.*	0	0	0	0	0	0	0	0	0	0	0	0
	Sum of all species	**94,849**	**85,441**	**60,634**	**47,974**	**111,123**	**95,667**	**86,243**	**66,907**	**402,712**	**367,679**	**371,018**	**331,981**

Table 22 continued. Other waterbird species, summary of all areas.

		Northwest Europe				Southwest Asia		West Mediterranean				Overall regional totals			
		1995		1996		1995	1996	1995		1996		1995		1996	
		Total	Reduced	Total	Reduced	Total	Total	Total	Reduced	Total	Reduced	Total	Reduced	Total	Reduced
Red-throated Diver	*Gavia stellata*	765	411	573	190	0	0	22	14	14	7	1,177	811	730	329
Black-throated Diver	*Gavia arctica*	176	148	152	128	0	0	119	80	187	125	831	741	599	470
Great Northern Diver	*Gavia immer*	400	216	265	132	0	0	1	1	0	0	402	218	265	132
Little Grebe	*Tachybaptus ruficollis*	10,132	7,029	10,679	7,312	3,173	7,424	9,487	5,886	5,375	4,376	38,276	26,475	36,830	22,797
Great Crested Grebe	*Podiceps cristatus*	69,346	58,367	63,695	53,232	3,751	622	21,766	18,211	16,683	15,126	186,624	164,400	141,804	120,186
Red-necked Grebe	*Podiceps grisegena*	243	166	468	442	14	10	63	51	105	90	569	443	754	641
Slavonian Grebe	*Podiceps auritus*	401	318	387	327	98	25	24	20	7	7	608	415	499	411
Black-necked Grebe	*Podiceps nigricollis*	3,374	3,345	3,453	3,442	654	3,917	19,987	18,634	24,274	23,233	66,666	63,770	56,249	48,944
Great Cormorant	*Phalacrocorax carbo*	64,555	52,024	56,139	46,521	34,589	21,070	58,382	50,086	44,489	38,930	239,051	175,471	199,462	151,344
Socotra Cormorant	*Phalacrocorax nigrogularis*	0	0	0	0	43,607	11,829	0	0	0	0	43,607	0	11,829	0
Pygmy Cormorant	*Phalacrocorax pygmaeus*	0	0	0	0	1,254	9,704	25	25	16	16	15,789	13,719	26,462	14,148
Great White Pelican	*Pelecanus onocrotalus*	0	0	0	0	244	116	0	0	1	1	748	504	592	476
Dalmatian Pelican	*Pelecanus crispus*	0	0	0	0	865	428	0	0	0	0	2,802	1,833	3,296	2,748
Pink-backed Pelican	*Pelecanus rufescens*	0	0	0	0	941	741	0	0	0	0	941	0	741	0
Great Bittern	*Botaurus stellaris*	42	23	137	76	56	50	48	30	51	51	225	93	323	164
Little Bittern	*Ixobrychus minutus*	0	0	0	0	0	0	1	1	0	0	5	5	9	9
Black-crowned Night-heron	*Nycticorax nycticorax*	47	47	68	58	586	153	96	94	111	93	1,836	1,248	1,788	1,603
Striated Heron	*Butorides striatus*	0	0	0	0	28	14	0	0	0	0	28	0	14	0
Squacco Heron	*Ardeola ralloides*	0	0	0	0	67	35	11	9	0	0	84	15	50	15
Indian Pond Heron	*Ardeola grayii*	0	0	0	0	421	11	0	0	0	0	421	0	11	0
Cattle Egret	*Bubulcus ibis*	233	233	448	448	2,287	1,432	1,730	1,316	2,867	1,492	5,413	2,712	5,457	2,650
Western Reef Egret	*Egretta gularis*	0	0	0	0	2,533	2,545	1	0	0	0	2,534	0	2,546	1
Little Egret	*Egretta garzetta*	7,008	6,725	6,008	5,723	3,213	561	7,363	6,494	6,882	6,305	20,248	15,830	18,010	16,446
Great Egret	*Casmerodius albus*	59	58	99	98	2,928	2,193	1,435	1,267	1,210	1,132	11,323	7,741	13,240	10,319
Grey Heron	*Ardea cinerea*	14,027	8,884	11,110	7,694	4,123	2,818	9,499	7,185	7,345	6,021	40,714	27,601	34,775	25,314
Purple Heron	*Ardea purpurea*	0	0	0	0	118	12	18	3	0	0	342	9	27	15
Goliath Heron	*Ardea goliath*	0	0	0	0	15	20	0	0	0	0	15	0	20	0
Black Stork	*Ciconia nigra*	0	0	0	0	18	49	0	0	1	1	570	552	881	832
White Stork	*Ciconia ciconia*	229	125	199	172	984	497	461	320	66	47	2,752	1,523	1,318	774
Glossy Ibis	*Plegadis falcinellus*	0	0	0	0	742	359	137	134	86	58	1,124	379	1,130	743
Waldrapp	*Geronticus eremita*	0	0	0	0	0	0	77	77	0	0	77	77	0	0
Sacred Ibis	*Threskiornis aethiopicus*	52	52	0	0	22	0	0	0	0	0	74	52	0	0
Eurasian Spoonbill	*Platalea leucorodia*	58	55	52	51	2,878	2,158	597	519	246	245	4,313	1,354	3,044	884
Greater Flamingo	*Phoenicopterus ruber roseus*	14	14	6	6	124,751	16,437	45,248	42,951	33,936	30,463	193,906	65,908	77,245	57,205
Lesser Flamingo	*Phoenicopterus minor*	0	0	0	0	0	234	0	0	0	0	0	0	234	0
Water Rail	*Rallus aquaticus*	557	318	589	308	81	1,003	188	133	182	130	1,000	590	1,940	602
Spotted Crake	*Porzana porzana*	0	0	4	4	2	2	0	0	0	0	3	1	6	4
Little Crake	*Porzana parva*	0	0	0	0	3	2	0	0	0	0	4	1	2	0
Baillon's Crake	*Porzana pusilla*	0	0	0	0	9	3	0	0	0	0	9	0	3	0

Table 22 continued. Other waterbird species, summary of all areas.

		Northwest Europe				Southwest Asia		West Mediterranean				Overall regional totals			
		1995		1996		1995	1996	1995		1996		1995		1996	
		Total	Reduced	Total	Reduced	Total	Total	Total	Reduced	Total	Reduced	Total	Reduced	Total	Reduced
Moorhen	*Gallinula chloropus*	31,779	10,999	36,868	14,158	711	4,688	5,615	3,178	4,166	3,214	40,920	16,928	48,311	19,781
Purple Swamphen	*Porphyrio porphyrio*	0	0	0	0	665	1,377	135	106	128	112	1,101	407	1,505	112
Crested Coot	*Fulica cristata*	0	0	0	0	0	0	540	425	0	0	540	425	0	0
Common Crane	*Grus grus*	563	328	7,064	7,064	7,459	118	7,626	1,590	492	44	18,325	4,552	8,931	7,942
Demoiselle Crane	*Grus virgo*	0	0	0	0	0	4	0	0	0	0	0	0	4	0
Sooty Gull	*Larus hemprichii*	0	0	0	0	18,420	17,656	0	0	0	0	18,420	0	17,656	0
White-eyed Gull	*Larus leucophthalmus*	0	0	0	0	56	158	0	0	0	0	56	0	159	1
Great Black-headed Gull	*Larus ichthyaetus*	0	0	0	0	11,511	1,075	0	0	0	0	11,713	200	1,841	687
Mediterranean Gull	*Larus melanocephalus*	405	372	464	413	0	0	4,888	3,520	5,208	3,596	7,119	5,453	6,227	4,454
Little Gull	*Larus minutus*	1,089	777	836	806	0	30	293	55	57	38	1,506	943	1,245	1,162
Black-headed Gull	*Larus ridibundus*	663,344	304,827	647,487	294,357	53,296	38,294	174,334	143,081	136,370	121,509	1,060,948	590,601	963,878	541,875
Slender-billed Gull	*Larus genei*	0	0	0	0	21,049	15,904	1,289	901	1,704	1,603	27,775	6,279	21,860	5,850
Audouin's Gull	*Larus audouinii*	0	0	0	0	0	0	4,633	760	73	29	4,634	761	73	29
Common Gull	*Larus canus*	186,775	55,686	214,658	86,920	740	10	2,764	2,243	2,456	1,983	227,499	94,039	243,870	109,188
Lesser Black-backed Gull	*Larus fuscus*	16,994	9,990	12,473	7,492	414	233	50,909	4,601	216	147	68,699	14,873	13,428	8,011
Herring Gull	*Larus argentatus*	248,201	142,808	265,541	157,423	0	0	3	1	5,313	5,266	280,559	168,589	297,375	183,610
Yellow-legged Gull	*Larus cachinnans*	696	696	845	844	58,672	48,499	71,081	52,780	68,786	56,542	181,516	99,641	171,634	99,986
Iceland Gull	*Larus glaucoides*	12	0	7	0	0	0	0	0	0	0	12	0	7	0
Glaucous Gull	*Larus hyperboreus*	22	5	21	5	0	0	0	0	0	0	22	5	21	5
Great Black-backed Gull	*Larus marinus*	23,748	9,509	22,513	6,975	0	0	0	0	0	0	25,803	11,254	23,884	8,084
Ross's Gull	*Rhodostethia rosea*	1	1	0	0	0	0	0	0	0	0	1	1	0	0
Black-legged Kittiwake	*Larus tridactyla*	687	145	542	474	0	0	0	0	1	1	687	145	543	475
unidentified Gulls	*Larus spp.*	0	0	0	0	12,814	0	0	0	0	0	12,814	0	0	0
Gull-billed Tern	*Gelochelidon nilotica*	0	0	0	0	818	364	4	0	0	0	822	0	364	0
Caspian Tern	*Sterna caspia*	0	0	0	0	1,038	694	938	65	1	1	2,000	89	729	35
Great Crested Tern	*Sterna bergii*	0	0	0	0	5,017	4,941	0	0	0	0	5,017	0	4,941	0
Lesser Crested Tern	*Sterna bengalensis*	0	0	0	0	5,191	2,820	2	0	0	0	5,193	0	2,820	0
Sandwich Tern	*Sterna sandvicensis*	92	90	127	127	6,242	6,612	2,004	886	939	654	8,979	1,604	8,334	1,437
Common Tern	*Sterna hirundo*	0	0	0	0	71	28	32	0	0	0	114	11	28	0
Arctic Tern	*Sterna paradisaea*	1	1	0	0	0	2	5	0	4	1	6	1	6	1
White-cheeked Tern	*Sterna repressa*	0	0	0	0	404	100	0	0	0	0	404	0	100	0
Bridled Tern	*Sterna anaethetus*	0	0	0	0	12	0	0	0	0	0	12	0	0	0
Little Tern	*Sterna albifrons*	0	0	0	0	0	0	32	23	0	0	32	23	0	0
Saunders' Tern	*Sterna saundersii*	0	0	0	0	1,082	749	0	0	0	0	1,082	0	749	0
Whiskered Tern	*Chlidonias hybridus*	0	0	0	0	371	223	101	101	59	59	481	110	324	101
Black Tern	*Chlidonias niger*	0	0	0	0	0	0	9	9	1	1	12	12	1	1
White-winged Black Tern	*Chlidonias leucopterus*	0	0	0	0	6	28	0	0	0	0	14	8	28	0
unidentified Terns	*Sterna spp.*	0	0	0	0	5,962	0	0	0	0	0	5,962	0	0	0
	Sum of all species	**1,346,127**	**674,792**	**1,363,977**	**703,422**	**447,076**	**231,081**	**504,023**	**367,866**	**370,108**	**322,749**	**2,905,910**	**1,591,445**	**2,483,061**	**1,473,033**

Table 23. Total numbers of waterbirds counted in the Western Palearctic and Southwest Asia in January 1995 and January 1996.

		1995 Total	1996 Total			1995 Total	1996 Total
Red-throated Diver	*Gavia stellata*	1,177	730	Dark-bellied Brent Goose	*Branta bernicla bernicla*	249,608	217,561
Black-throated Diver	*Gavia arctica*	831	599	Light-bellied Brent Goose	*Branta bernicla hrota*	21,868	11,897
Great Northern Diver	*Gavia immer*	402	265	Red-breasted Goose	*Branta ruficollis*	58,873	21,247
Little Grebe	*Tachybaptus ruficollis*	38,276	36,830	unidentified geese	*Anser/Branta* spp.	136,973	27,564
Great Crested Grebe	*Podiceps cristatus*	186,624	141,804	Egyptian Goose	*Alopochen aegyptiacus*	3,095	3,766
Red-necked Grebe	*Podiceps grisegena*	569	754	Ruddy Shelduck	*Tadorna ferruginea*	15,122	7,912
Slavonian Grebe	*Podiceps auritus*	608	499	Common Shelduck	*Tadorna tadorna*	298,281	198,607
Black-necked Grebe	*Podiceps nigricollis*	66,666	56,249	Eurasian Wigeon	*Anas penelope*	1,764,190	1,676,390
Great Cormorant	*Phalacrocorax carbo*	239,051	199,462	Gadwall	*Anas strepera*	83,677	62,363
Socotra Cormorant	*Phalacrocorax nigrogularis*	43,607	11,829	Common Teal	*Anas crecca*	825,965	614,443
Pygmy Cormorant	*Phalacrocorax pygmaeus*	15,789	26,462	Mallard	*Anas platyrhynchos*	2,413,578	1,535,410
Great White Pelican	*Pelecanus onocrotalus*	748	592	Northern Pintail	*Anas acuta*	264,531	105,516
Dalmatian Pelican	*Pelecanus crispus*	2,802	3,296	Garganey	*Anas querquedula*	713	644
Pink-backed Pelican	*Pelecanus rufescens*	941	741	Northern Shoveler	*Anas clypeata*	205,508	200,758
Great Bittern	*Botaurus stellaris*	225	323	Marbled Teal	*Marmaronetta angustirostris*	4,299	311
Little Bittern	*Ixobrychus minutus*	5	9	Red-crested Pochard	*Netta rufina*	29,985	119,594
Black-crowned Night-heron	*Nycticorax nycticorax*	1,836	1,788	Common Pochard	*Aythya ferina*	832,270	931,207
Striated Heron	*Butorides striatus*	28	14	Ferruginous Duck	*Aythya nyroca*	2,123	684
Squacco Heron	*Ardeola ralloides*	84	50	Tufted Duck	*Aythya fuligula*	1,047,935	869,402
Indian Pond Heron	*Ardeola grayii*	421	11	Greater Scaup	*Aythya marila*	236,624	149,377
Cattle Egret	*Bubulcus ibis*	5,413	5,457	Unidentified Pochards	*Aythya* spp.	415	75
Western Reef Egret	*Egretta gularis*	2,534	2,546	Common Eider	*Somateria mollissima*	524,187	524,911
Little Egret	*Egretta garzetta*	20,248	18,010	Steller's Eider	*Polysticta stelleri*	11,740	10,108
Great Egret	*Casmerodius albus*	11,323	13,240	Long-tailed Duck	*Clangula hyemalis*	131,703	79,689
Grey Heron	*Ardea cinerea*	40,714	34,775	Common Scoter	*Melanitta nigra*	276,643	177,277
Purple Heron	*Ardea purpurea*	342	27	Velvet Scoter	*Melanitta fusca*	81,209	48,605
Goliath Heron	*Ardea goliath*	15	20	Common Goldeneye	*Bucephala clangula*	180,205	192,633
Black Stork	*Ciconia nigra*	570	881	Smew	*Mergellus albellus*	17,272	28,965
White Stork	*Ciconia ciconia*	2,752	1,318	Red-breasted Merganser	*Mergus serrator*	35,368	33,879
Glossy Ibis	*Plegadis falcinellus*	1,124	1,130	Goosander	*Mergus merganser*	90,911	87,743
Waldrapp	*Geronticus eremita*	77	0	Ruddy Duck	*Oxyura jamaicensis*	2,997	3,120
Sacred Ibis	*Threskiornis aethiopicus*	74	0	White-headed Duck	*Oxyura leucocephala*	5,142	2,020
Eurasian Spoonbill	*Platalea leucorodia*	4,313	3,044	Unidentified Ducks	*Anatinae* spp.	756,581	313,099
Greater Flamingo	*Phoenicopterus ruber roseus*	193,906	77,245	Water Rail	*Rallus aquaticus*	1,000	1,940
Lesser Flamingo	*Phoenicopterus minor*	0	234	Spotted Crake	*Porzana porzana*	3	6
Mute Swan	*Cygnus olor*	146,976	119,024	Little Crake	*Porzana parva*	4	2
Bewick's Swan	*Cygnus (columbianus) bewickii*	27,840	26,900	Baillon's Crake	*Porzana pusilla*	9	3
Whooper Swan	*Cygnus cygnus*	38,863	23,543	Moorhen	*Gallinula chloropus*	40,920	48,311
unidentified Bean Goose	*Anser fabalis*	154,658	784	Purple Swamphen	*Porphyrio porphyrio*	1,101	1,505
Taiga Bean Goose	*Anser fabalis fabalis*	32,009	27,378	Common Coot	*Fulica atra*	2,343,831	2,765,523
Tundra Bean Goose	*Anser fabalis rossicus*	167,909	108,490	Crested Coot	*Fulica cristata*	540	0
Pink-footed Goose	*Anser brachyrhynchus*	193,077	87,579	Common Crane	*Grus grus*	18,325	8,931
White-fronted Goose	*Anser albifrons albifrons*	1,279,122	867,037	Demoiselle Crane	*Grus virgo*	0	4
Greenland White-fronted Goose	*Anser albifrons flavirostris*	11,692	29,086	Eurasian Oystercatcher	*Haematopus ostralegus*	784,809	692,978
Lesser White-fronted Goose	*Anser erythropus*	71	14	Black-winged Stilt	*Himantopus himantopus*	8,628	2,142
Greylag Goose	*Anser anser*	340,294	130,044	Pied Avocet	*Recurvirostra avosetta*	59,125	43,699
Canada Goose	*Branta canadensis*	77,153	60,059	Crab Plover	*Dromas ardeola*	5,319	3,557
Barnacle Goose	*Branta leucopsis*	292,457	266,953	Stone Curlew	*Burhinus oedicnemus*	514	617

Table 23 continued. Total numbers of waterbirds counted in the Western Palearctic and Southwest Asia in January 1995 and January 1996.

		1995 Total	1996 Total
Spotted Dikkop	*Burhinus capensis*	1	0
Great Thick-knee	*Burhinus recurvirostris*	38	0
Cream-coloured Courser	*Cursorius cursor*	14	3
Collared Pratincole	*Glareola pratincola*	0	2
Little Ringed Plover	*Charadrius dubius*	686	261
Common Ringed Plover	*Charadrius hiaticula*	53,834	30,935
Kentish Plover	*Charadrius alexandrinus*	48,868	9,438
Lesser Sandplover	*Charadrius mongolus*	14,730	11,496
Greater Sandplover	*Charadrius leschenaultii*	2,471	1,131
unidentified *Charadrius* plover	*Charadrius* spp.	8,798	4,666
Eurasian Dotterel	*Eudromias morinellus*	1	0
Eurasian Golden Plover	*Pluvialis apricaria*	295,824	239,526
Grey Plover	*Pluvialis squatarola*	129,100	110,422
Pacific Golden Plover	*Pluvialis fulva*	103	106
Spur-winged Plover	*Vanellus spinosus*	3,666	4,561
Red-wattled Lapwing	*Vanellus indicus*	2,970	74
Sociable Lapwing	*Vanellus gregarius*	2	0
White-tailed Lapwing	*Vanellus leucurus*	554	25
Northern Lapwing	*Vanellus vanellus*	1,041,256	870,465
Great Knot	*Calidris tenuirostris*	54	25
Red Knot	*Calidris canutus*	369,192	320,446
Sanderling	*Calidris alba*	29,865	22,434
Little Stint	*Calidris minuta*	46,723	17,111
Temminck's Stint	*Calidris temminckii*	1,142	28
Curlew Sandpiper	*Calidris ferruginea*	2,354	2,550
Purple Sandpiper	*Calidris maritima*	2,187	2,011
Dunlin	*Calidris alpina*	1,283,211	1,117,973
Broad-billed Sandpiper	*Limicola falcinellus*	713	650
unident. *Calidris* sandpiper	*Calidris* spp.	503	16,194
Ruff	*Philomachus pugnax*	4,554	2,432
Jack Snipe	*Lymnocryptes minimus*	275	153
Common Snipe	*Gallinago gallinago*	18,046	16,107
Great Snipe	*Gallinago media*	3	45
Pintail Snipe	*Gallinago stenura*	11	6
Swinhoe's Snipe	*Gallinago megala*	0	1
unidentified Snipes	*Gallinago* spp.	16	12
Long-billed Dowitcher	*Limnodromus scolopaceus*	1	0
Eurasian Woodcock	*Scolopax rusticola*	92	166
Black-tailed Godwit	*Limosa limosa*	71,955	54,242
Bar-tailed Godwit	*Limosa lapponica*	110,654	103,615
Whimbrel	*Numenius phaeopus*	2,082	1,062
Slender-billed Curlew	*Numenius tenuirostris*	10	0
Eurasian Curlew	*Numenius arquata*	332,774	238,885
unidentified Curlews	*Numenius* spp.	0	3
Spotted Redshank	*Tringa erythropus*	1,948	1,573
Common Redshank	*Tringa totanus*	142,427	115,512
Marsh Sandpiper	*Tringa stagnatilis*	1,149	65
Common Greenshank	*Tringa nebularia*	3,452	1,709
Greater Yellowlegs	*Tringa melanoleuca*	1	0
Green Sandpiper	*Tringa ochropus*	596	551
Wood Sandpiper	*Tringa glareola*	75	19
Terek Sandpiper	*Xenus cinereus*	685	1,148
Common Sandpiper	*Actitis hypoleucos*	1,059	1,118
Spotted Sandpiper	*Actitis macularia*	1	0
unidentified *Tringa* sandpiper	*Tringa* spp.	256	509
Ruddy Turnstone	*Arenaria interpres*	36,175	34,055
Red-necked Phalarope	*Phalaropus lobatus*	2,494	102
Grey Phalarope	*Phalaropus fulicarius*	2	3
unidentified Wader	*Charadrii* spp.	69,652	63,183
Sooty Gull	*Larus hemprichii*	18,420	17,656
White-eyed Gull	*Larus leucophthalmus*	56	159
Great Black-headed Gull	*Larus ichthyaetus*	11,713	1,841
Mediterranean Gull	*Larus melanocephalus*	7,119	6,227
Little Gull	*Larus minutus*	1,506	1,245
Black-headed Gull	*Larus ridibundus*	1,060,948	963,878
Slender-billed Gull	*Larus genei*	27,775	21,860
Audouin's Gull	*Larus audouinii*	4,634	73
Common Gull	*Larus canus*	227,499	243,870
Lesser Black-backed Gull	*Larus fuscus*	68,699	13,428
Herring Gull	*Larus argentatus*	280,559	297,375
Yellow-legged Gull	*Larus cachinnans*	181,516	171,634
Iceland Gull	*Larus glaucoides*	12	7
Glaucous Gull	*Larus hyperboreus*	22	21
Great Black-backed Gull	*Larus marinus*	25,803	23,884
Ross's Gull	*Rhodostethia rosea*	1	0
Black-legged Kittiwake	*Larus tridactyla*	687	543
unidentified Gulls	*Larus* spp.	12,814	0
Gull-billed Tern	*Gelochelidon nilotica*	822	364
Caspian Tern	*Sterna caspia*	2,000	729
Great Crested Tern	*Sterna bergii*	5,017	4,941
Lesser Crested Tern	*Sterna bengalensis*	5,193	2,820
Sandwich Tern	*Sterna sandvicensis*	8,979	8,334
Common Tern	*Sterna hirundo*	114	28
Arctic Tern	*Sterna paradisaea*	6	6
White-cheeked Tern	*Sterna repressa*	404	100
Bridled Tern	*Sterna anaethetus*	12	0
Little Tern	*Sterna albifrons*	32	0
Saunders' Tern	*Sterna saundersii*	1,082	749
Whiskered Tern	*Chlidonias hybridus*	481	324
Black Tern	*Chlidonias niger*	12	1
White-winged Black Tern	*Chlidonias leucopterus*	14	28
unidentified Terns	*Sterna* spp.	5,962	0
	TOTAL WATERBIRDS	**23,619,153**	**19,414,054**

4. Population trend analyses

One of the most valuable uses of waterbird count data is the investigation of changes in numbers of waterbirds with time. Analysis of these changes for 24 species of Anatidae, and Common Coot *Fulica atra* was undertaken for five areas of the Western Palearctic using an indexing and trend analysis program called TRIM (Pannekoek and van Strien 1998). Trial analyses were undertaken for additional species in the Western Palearctic, and for Anatidae and Common Coot *Fulica atra* in Southwest Asia, but data of adequate quality for a sufficiently long time series were only available for the species and areas presented.

Tables 24 to 27 and graphs in the individual species accounts which follow, illustrate population trends estimated using TRIM for 24 species of Anatidae and Common Coot *Fulica atra* in five areas of the Western Palearctic. For the Baltic/Nordic area, Northwest Europe, Central Europe, and the West Mediterranean, population trend estimates are presented for the 23 years 1974 to 1996, and additionally, for the 10 years 1987 to 1996. In the Black Sea/East Mediterranean area, data from the early years of IWC are sparse, and only trends from the more recent period, 1987 to 1996, are presented.

The base year for the analyses (see Methods) was 1989, and information is presented on tables for all species of which more than 20 were counted in an area in the base year, and for which fewer than 60% of the index values were imputed by the indexing programme. Trend analyses for one species, Mallard *Anas platyrhynchos* were split into more regions than the five used for analyses of the others. This was because Mallards were recorded at more sites in three regions than the indexing program can readily handle. The additional sub-regions used for estimation of Mallard population trends are described in the species account for Mallard (page 117).

Information necessary for interpretation of Tables 24 to 27 appears in part 8 of the Methods section above (pages 10–12), and in the descriptions below. Most of the trends are additionally illustrated on graphs and interpreted in the species accounts which follow.

4.1 Trends in Anatidae species, with diagnosis of trends (Tables 24–27)

Explanation of the columns (Tables 24 and 25): the actual base year (1989) total represents the numbers of individuals counted. The imputed base year total represents the sum of the observed numbers and the estimated numbers. The percent imputed stands for the number of imputed counts divided by the sum of imputed and actual counts in the whole period studied. The overall slope stands for the trend, expressed as a factor, describing the rate of change over the whole period. The standard error mentioned is the standard error of the overall slope. The diagnosis of the trend has been described in the Methods Section 8.2.4 and classifies the trends into significant decrease or increase, stable (due to small standard errors), poorly known (due to large standard errors), increase more likely (large standard errors, but skewed towards an increase), and decrease more likely (large standard errors, but skewed towards a decrease). Overdispersion reflects the congregatory behaviour of many waterbirds; serial correlation indicates the dependency between consecutive counts. Both phenomena complicate the computation of indices and standard errors.

Pochards at Burdur Golu, Turkey.

Gerrant Magnin.

Table 24. 1974–1996 Reduced Site List Trend.

		1974–1996 Reduced Site List Trend							
		Base Year Total		Percent	Overall	Standard	Diagnosis	Over-	Serial
Species	Area	Actual	Imputed	Imputed	Slope	Error		dispersion	Correl'n
Cygnus olor	NW Europe	32577	38325	45.24	1.0197	0.0024	significant increase	57.186	0.175
Cygnus olor	Baltic	17170	34341	64.10	1.0252	0.0047	significant increase	52.366	-0.006
Cygnus olor	W Med	68	138	48.33	1.1061	0.0347	significant increase	20.609	0.169
Cygnus olor	C Europe	6996	8934	37.68	1.0024	0.0037	stable	24.375	0.236
Cygnus c. bewickii	NW Europe	10783	12920	33.86	1.0459	0.0047	significant increase	60.779	0.161
Cygnus cygnus	NW Europe	12714	18856	38.92	1.0665	0.0046	significant increase	40.489	0.084
Cygnus cygnus	Baltic	1642	4193	55.97	0.9696	0.0092	significant decrease	27.469	0.045
Cygnus cygnus	C Europe	441	466	28.57	1.0980	0.0113	significant increase	5.460	-0.068
Tadorna ferruginea	W Med	938	2047	53.98	1.0582	0.0366	poorly known	35.627	-0.071
Tadorna tadorna	NW Europe	208152	238770	39.34	1.0313	0.0029	significant increase	252.239	0.180
Tadorna tadorna	Baltic	10988	13159	46.88	1.0381	0.0141	significant increase	32.610	-0.052
Tadorna tadorna	W Med	30110	46689	48.40	1.0739	0.0074	significant increase	228.031	0.038
Anas penelope	NW Europe	731926	879916	41.99	1.0530	0.0031	significant increase	1060.209	0.175
Anas penelope	Baltic	8937	17688	46.80	1.0276	0.0078	significant increase	185.842	0.063
Anas penelope	W Med	217564	288505	53.36	1.0094	0.0058	increase more likely	1283.586	0.093
Anas penelope	C Europe	695	1853	32.08	1.0521	0.0101	significant increase	20.075	0.143
Anas strepera	NW Europe	8214	11228	38.37	1.0957	0.0060	significant increase	26.538	0.194
Anas strepera	W Med	32085	34751	49.30	1.0423	0.0065	significant increase	206.239	0.028
Anas strepera	C Europe	4840	6990	29.07	1.0517	0.0075	significant increase	34.749	0.203
Anas crecca	NW Europe	152316	222550	43.88	1.0244	0.0036	significant increase	306.062	0.173
Anas crecca	Baltic	1408	6563	52.98	1.1306	0.0186	significant increase	27.231	-0.005
Anas crecca	W Med	260104	305038	53.55	1.0488	0.0051	significant increase	821.099	0.216
Anas crecca	C Europe	11507	15435	39.80	1.0056	0.0059	stable- poorly known	64.767	0.099
Anas platyrhynchos 1	NW Europe	78525	100037	43.08	1.0171	0.0027	significant increase	207.124	0.240
Anas platyrhynchos 2	NW Europe	690576	881407	54.47	1.0128	0.0021	significant increase	766.887	0.195
Anas platyrhynchos 1	Baltic	86114	131979	63.04	1.0319	0.0040	significant increase	188.752	0.122
Anas platyrhynchos 2	Baltic	20456	139421	80.49	0.9953	0.0080	poorly known	158.287	-0.089
Anas platyrhynchos 1	W Med	9365	18336	72.63	1.0785	0.0169	significant increase	260.485	-0.026
Anas platyrhynchos 2	W Med	142894	161587	53.65	1.0707	0.0074	significant increase	697.784	0.311
Anas platyrhynchos 3	W Med	44034	64267	64.09	0.9915	0.0060	stable- poorly known	439.463	0.278
Anas platyrhynchos	C Europe	172132	360705	46.00	0.9844	0.0038	significant decrease	1013.135	0.109
Anas acuta	NW Europe	43860	51724	36.89	0.9958	0.0037	stable	118.090	0.233
Anas acuta	Baltic	3754	4406	46.97	1.3358	0.2952	poorly known	1280.100	0.005
Anas acuta	W Med	39952	53866	52.28	1.0000	0.0071	poorly known	378.761	0.110
Anas acuta	C Europe	425	557	32.39	0.9834	0.0091	decline more likely	6.116	0.126
Anas querquedula	W Med	188	564	40.21	1.0438	0.0594	poorly known	20.482	0.012
Anas clypeata	NW Europe	14223	24181	37.78	1.0064	0.0052	stable- poorly known	64.332	0.182
Anas clypeata	W Med	180688	226540	53.55	1.0570	0.0058	significant increase	799.324	0.107
Anas clypeata	C Europe	1316	1489	26.18	1.0012	0.0078	poorly known	12.852	0.118
Marmaronetta angustirostris	W Med	1759	1833	45.22	1.0804	0.0214	significant increase	45.265	0.031
Netta rufina	NW Europe	68	72	26.27	1.0223	0.0172	increase more likely	6.054	-0.012
Netta rufina	W Med	26530	27013	42.36	0.9996	0.0111	poorly known	357.029	0.422
Netta rufina	C Europe	399	402	21.29	1.1145	0.0341	significant increase	66.091	0.322
Aythya ferina	NW Europe	156460	194274	44.45	0.9962	0.0029	stable	444.531	0.180
Aythya ferina	Baltic	3599	13272	53.58	1.0523	0.0124	significant increase	67.485	0.021
Aythya ferina	W Med	104000	127476	53.16	0.9560	0.0054	significant decrease	1080.255	0.242
Aythya ferina	C Europe	104498	133728	39.71	1.0161	0.0051	significant increase	410.348	0.231
Aythya nyroca	W Med	82	194	44.07	1.0135	0.0126	increase more likely	21.432	0.016
Aythya nyroca	C Europe	24	616	37.29	0.9629	0.0165	significant decrease	3.018	-0.012
Aythya fuligula	NW Europe	267328	331902	45.04	1.0071	0.0039	stable- poorly known	691.779	0.056
Aythya fuligula	Baltic	70377	182151	57.70	1.0217	0.0052	significant increase	627.699	0.056
Aythya fuligula	W Med	21740	25869	49.30	1.0031	0.0054	stable- poorly known	242.390	0.130
Aythya fuligula	C Europe	242835	293236	38.18	1.0257	0.0037	significant increase	857.679	0.195
Bucephala clangula	NW Europe	47610	54319	40.42	1.0282	0.0039	significant increase	113.800	0.171
Bucephala clangula	Baltic	24211	51819	57.41	0.9992	0.0039	stable	91.131	0.078
Bucephala clangula	W Med	2026	2339	41.89	1.0229	0.0091	significant increase	29.795	0.040
Bucephala clangula	C Europe	27336	54304	38.48	1.0062	0.0031	significant increase	69.068	0.310
Mergellus albellus	NW Europe	2509	2760	37.22	1.0037	0.0079	increase more likely	28.252	0.072
Mergellus albellus	Baltic	942	2778	56.49	1.0217	0.0137	increase more likely	19.801	0.003
Mergellus albellus	C Europe	399	949	36.46	1.0455	0.0123	significant increase	9.241	0.021
Mergus serrator	NW Europe	15079	18231	35.52	1.0612	0.0047	significant increase	44.789	0.175
Mergus serrator	Baltic	8199	12103	57.07	1.0223	0.0058	significant increase	37.921	-0.029
Mergus serrator	W Med	659	838	42.80	1.0084	0.0179	poorly known	28.706	0.219
Mergus serrator	C Europe	21	40	26.32	1.0056	0.0143	poorly known	2.740	-0.004
Mergus merganser	NW Europe	20443	23202	40.09	0.9862	0.0052	significant decrease	102.066	0.032
Mergus merganser	Baltic	15393	33456	57.45	1.0205	0.0061	significant increase	90.188	0.031
Mergus merganser	C Europe	6331	8313	33.63	1.0319	0.0051	significant increase	25.754	0.160
Fulica atra	NW Europe	362320	435200	45.88	1.0021	0.0023	stable	607.606	0.203
Fulica atra	Baltic	11384	29827	57.99	0.9043	0.0083	significant decrease	180.608	0.129
Fulica atra	W Med	320037	468790	53.71	0.9985	0.0059	poorly known	2018.882	0.270
Fulica atra	C Europe	172050	202607	39.02	0.9962	0.0026	stable	362.926	0.255
Oxyura jamaicensis	NW Europe	1636	1653	16.84	1.1687	0.0134	significant increase	23.627	0.007
Oxyura leucocephala	W Med	573	794	50.59	1.0963	0.0257	significant increase	25.232	0.193

Table 25. 1987–1996 Reduced Site List Trend.

		1987–1996 Reduced Site List Trend							
		Base Year Total		Percent	Overall	Standard		Over-	Serial
Species	Area	Actual	Imputed	Imputed	Slope	Error	Diagnosis	dispersion	Correl'n
Cygnus olor	NW Europe	32577	38025	35.60	1.0737	0.0052	significant increase	44.319	0.082
Cygnus olor	Baltic	17170	33973	44.18	1.1067	0.0099	significant increase	51.551	-0.065
Cygnus olor	W Med	68	154	33.86	1.4136	0.0470	significant increase	9.011	0.233
Cygnus olor	C Europe	6996	8769	25.12	1.0404	0.0074	significant increase	17.822	0.061
Cygnus olor	B Sea/E Med	24702	30359	38.21	0.9658	0.0167	significant decrease	130.186	-0.028
Cygnus c. bewickii	NW Europe	10783	11743	28.19	1.0387	0.0132	significant increase	52.976	0.044
Cygnus c. bewickii	B Sea/E Med	81	95	38.46	1.7199	0.3039	significant increase	9.294	-0.117
Cygnus cygnus	NW Europe	12714	17488	31.55	0.9919	0.0105	stable- poorly known	43.248	-0.018
Cygnus cygnus	Baltic	1642	4198	36.23	1.1779	0.0248	significant increase	28.500	-0.041
Cygnus cygnus	C Europe	441	460	16.77	1.0837	0.0245	significant increase	6.389	-0.062
Cygnus cygnus	B Sea/E Med	4315	4697	37.56	0.9437	0.0249	significant decrease	57.436	-0.083
Cygnus cygnus	Cont Europe	10274	25774	77.61	1.0294	0.0101	significant increase	48.926	-0.039
Tadorna ferruginea	W Med	938	1807	41.76	0.9810	0.0526	poorly known	47.432	-0.126
Tadorna ferruginea	B Sea/E Med	3012	3112	33.11	1.0670	0.0356	increase more likely	126.350	0.013
Tadorna tadorna	NW Europe	208152	238510	30.04	0.9950	0.0059	stable	188.429	0.035
Tadorna tadorna	Baltic	10988	13483	32.39	1.1763	0.0174	significant increase	47.631	-0.147
Tadorna tadorna	W Med	30110	40127	37.43	0.9654	0.0128	significant decrease	211.713	-0.105
Tadorna tadorna	B Sea/E Med	20304	32879	39.24	0.9058	0.0157	significant decrease	135.160	-0.066
Anas penelope	NW Europe	731926	873940	32.04	1.0428	0.0061	significant increase	746.887	0.043
Anas penelope	Baltic	8937	22114	28.93	1.0000	0.0286	poorly known	142.517	-0.009
Anas penelope	W Med	217564	285954	40.16	0.9993	0.0113	stable	667.947	-0.048
Anas penelope	C Europe	695	892	20.42	1.1697	0.0187	significant increase	14.269	-0.006
Anas penelope	B Sea/E Med	163187	255145	43.89	0.8913	0.0112	significant decrease	603.220	-0.039
Anas strepera	NW Europe	8214	11136	28.77	1.0971	0.0110	significant increase	23.418	0.038
Anas strepera	W Med	32085	34764	35.69	0.9968	0.0120	stable	141.939	-0.262
Anas strepera	C Europe	4840	5027	17.63	1.0859	0.0172	significant increase	33.767	0.187
Anas strepera	B Sea/E Med	28403	83500	37.57	0.6179	0.0189	significant decrease	157.479	0.080
Anas crecca	NW Europe	152316	221873	33.39	0.9985	0.0068	stable	176.495	0.079
Anas crecca	Baltic	1408	6737	37.79	0.8864	0.0324	significant decrease	40.945	-0.073
Anas crecca	W Med	260104	313848	40.44	0.9100	0.0088	significant decrease	432.287	0.069
Anas crecca	C Europe	11507	13642	26.30	1.0163	0.0129	increase more likely	48.337	-0.082
Anas crecca	B Sea/E Med	102068	135788	46.33	1.0512	0.0121	significant increase	1050.977	-0.088
Anas platyrhynchos 1	NW Europe	78525	95274	35.99	0.9443	0.0048	significant decrease	104.198	0.016
Anas platyrhynchos 2	NW Europe	690576	876839	42.35	0.9839	0.0055	significant decrease	509.208	0.045
Anas platyrhynchos 1	Baltic	86114	129403	47.59	1.0224	0.0094	significant increase	192.804	0.041
Anas platyrhynchos 2	Baltic	20456	139732	59.02	0.9716	0.0164	stable- poorly known	154.837	-0.155
Anas platyrhynchos 1	W Med	9365	19223	57.53	0.9789	0.0246	poorly known	238.799	-0.177
Anas platyrhynchos 2	W Med	142894	158769	41.14	0.9264	0.0189	significant decrease	425.109	0.157
Anas platyrhynchos 3	W Med	44034	67530	50.40	1.0615	0.0096	significant increase	207.582	0.071
Anas platyrhynchos	C Europe	172132	289844	32.52	0.9821	0.0067	significant decrease	544.436	-0.077
Anas platyrhynchos	B Sea/E Med	597343	729911	48.41	0.9159	0.0095	significant decrease	2119.903	-0.062
Anas acuta	NW Europe	43860	52688	27.35	0.9712	0.0080	significant decrease	84.791	0.112
Anas acuta	Baltic	3754	5329	30.00	0.7844	0.0299	significant decrease	47.525	-0.043
Anas acuta	W Med	39952	53844	38.01	0.9572	0.0142	significant decrease	204.354	-0.116
Anas acuta	C Europe	425	454	20.72	1.1116	0.0189	significant increase	4.707	-0.059
Anas acuta	B Sea/E Med	48996	56031	41.60	0.9331	0.0088	significant decrease	269.399	-0.213
Anas querquedula	W Med	188	1080	32.00	0.5264	0.1046	significant decrease	25.310	-0.012
Anas querquedula	B Sea/E Med	3439	9904	32.50	0.6050	0.0311	significant decrease	56.482	0.017
Anas clypeata	NW Europe	14223	24283	27.72	0.9910	0.0112	stable- poorly known	49.674	0.082
Anas clypeata	W Med	180688	216438	39.38	0.9855	0.0110	stable- poorly known	451.597	-0.054
Anas clypeata	C Europe	1316	1341	17.83	0.9626	0.0118	significant decrease	9.337	-0.019
Anas clypeata	B Sea/E Med	43721	88770	41.56	1.0001	0.0128	stable- poorly known	397.427	0.100
Marmaronetta angustirostris	W Med	1759	1787	33.23	0.7779	0.0380	significant decrease	41.185	-0.008
Marmaronetta angustirostris	B Sea/E Med	206	225	11.11	0.8578	0.0552	significant decrease	9.444	-0.206
Netta rufina	NW Europe	68	70	19.46	1.1949	0.0366	significant increase	5.015	-0.245
Netta rufina	W Med	26530	26940	31.90	0.8318	0.0223	significant decrease	101.071	0.130
Netta rufina	C Europe	399	400	12.00	1.7219	0.1053	significant increase	77.632	0.197
Netta rufina	B Sea/E Med	10590	15348	38.68	0.8126	0.0250	significant decrease	151.605	0.101
Aythya ferina	NW Europe	156460	191968	34.65	1.0079	0.0054	stable	274.629	-0.021
Aythya ferina	Baltic	3599	13274	35.60	1.0452	0.0271	increase more likely	75.690	-0.085
Aythya ferina	W Med	104000	128439	39.30	1.0067	0.0111	stable- poorly known	466.641	0.133
Aythya ferina	C Europe	104498	117976	26.54	1.0337	0.0104	significant increase	276.950	0.009
Aythya ferina	B Sea/E Med	172624	304252	45.44	1.0345	0.0207	increase more likely	1866.563	-0.046
Aythya nyroca	W Med	82	164	32.70	1.0458	0.0609	poorly known	7.210	-0.038
Aythya nyroca	C Europe	24	42	23.57	0.8843	0.0312	significant decrease	2.005	-0.088
Aythya nyroca	B Sea/E Med	2109	5082	38.25	0.6721	0.0296	significant decrease	62.469	0.035

Table 25 continued. 1987–1996 Reduced Site List Trend.

		1987–1996 Reduced Site List Trend							
		Base Year Total		Percent	Overall	Standard		Over-	Serial
Species	Area	Actual	Imputed	Imputed	Slope	Error	Diagnosis	dispersion	Correl'n
Aythya fuligula	NW Europe	267328	322299	35.53	1.0331	0.0085	significant increase	483.772	-0.010
Aythya fuligula	Baltic	70377	182860	40.81	1.0511	0.0123	significant increase	700.006	-0.077
Aythya fuligula	W Med	21740	26366	35.56	0.9756	0.0083	significant decrease	103.162	-0.100
Aythya fuligula	C Europe	242835	270961	24.55	1.0155	0.0061	significant increase	469.562	0.113
Aythya fuligula	B Sea/E Med	58299	110425	44.19	1.0377	0.0221	increase more likely	688.896	-0.029
Bucephala clangula	NW Europe	47610	55299	31.83	1.0491	0.0080	significant increase	73.141	-0.001
Bucephala clangula	Baltic	24211	51516	37.48	1.0741	0.0086	significant increase	89.283	0.007
Bucephala clangula	W Med	2026	2466	32.24	1.0206	0.0075	significant increase	11.496	-0.370
Bucephala clangula	C Europe	27336	32212	26.13	1.0101	0.0044	significant increase	54.544	0.008
Bucephala clangula	B Sea/E Med	13950	25320	45.39	0.8454	0.0223	significant decrease	110.922	-0.084
Mergellus albellus	NW Europe	2509	2792	28.78	1.2052	0.0225	significant increase	25.491	0.051
Mergellus albellus	Baltic	942	2782	38.66	1.2524	0.0400	significant increase	26.006	-0.039
Mergellus albellus	C Europe	399	812	25.57	0.9221	0.0286	significant decrease	11.045	-0.108
Mergellus albellus	B Sea/E Med	2857	4153	43.24	1.0321	0.0289	increase more likely	55.500	-0.136
Mergus serrator	NW Europe	15079	18294	27.81	1.0253	0.0107	significant increase	43.866	0.052
Mergus serrator	Baltic	8199	11409	36.07	0.9906	0.0102	stable- poorly known	43.103	-0.093
Mergus serrator	W Med	659	872	32.37	1.1437	0.0297	significant increase	16.143	-0.048
Mergus serrator	B Sea/E Med	1945	2389	38.43	0.9720	0.0226	decline more likely	27.147	-0.109
Mergus merganser	NW Europe	20443	23465	31.68	1.0683	0.0117	significant increase	62.959	-0.008
Mergus merganser	Baltic	15393	33394	37.70	1.1926	0.0122	significant increase	118.553	-0.018
Mergus merganser	C Europe	6331	7609	21.68	0.9333	0.0103	significant decrease	21.115	-0.022
Mergus merganser	B Sea/E Med	625	721	42.00	0.9188	0.0415	decline more likely	29.909	-0.077
Fulica atra	NW Europe	362320	445019	36.86	1.0276	0.0042	significant increase	361.936	-0.004
Fulica atra	Baltic	11384	29536	41.07	1.3030	0.0266	significant increase	165.754	-0.037
Fulica atra	W Med	320037	445570	40.28	0.9697	0.0117	significant decrease	1172.209	0.067
Fulica atra	C Europe	172050	187541	25.66	1.0127	0.0048	significant increase	188.154	0.163
Fulica atra	B Sea/E Med	593035	938648	47.84	1.0067	0.0171	stable- poorly known	4227.525	0.016
Oxyura jamaicensis	NW Europe	1636	1650	17.50	0.9529	0.0142	significant decrease	17.669	-0.045
Oxyura leucocephala	W Med	573	642	35.33	0.8167	0.0585	significant decrease	32.346	0.006
Oxyura leucocephala	B Sea/E Med	7337	7502	26.82	0.8656	0.0190	significant decrease	65.409	0.151

Pochards, England.

Mark Hulme.

Trends in Anatidae species, with details of the diagnosis of the trends (Tables 26 and 27)

Explanation of the columns (Tables 26 and 27): the overall slope stands for the trend, expressed as a factor, describing the rate of change over the whole period. The standard error mentioned is the standard error of the overall slope. Mini and maxi indicate the lower and upper limit of the confidence interval of the slope estimate. Slopex stands for the magnitude of change computed for the whole period studied; for instance 1.56 means an increase of 56%, and 0.36 means a decrease of 64%. Minx and maxx indicate the confidence limits of slopex.

The magnitude of change is also expressed using + and - symbols for increase and decline respectively (+ or - = less than 25% change, ++ or — = 25-50% change, +++ or — = 50-75% change and ++++ or —— = more than 75% change). Note that a decline from 100 to 50 is equivalent to an increase from 100 to 200. The diagnosis of the trend has been described in the Methods Section 8.2.4 and classifies the trends into significant decrease or increase, stable (due to small standard errors), poorly known (due to large standard errors), increase more likely (large standard errors, but skewed towards an increase), and decrease more likely (large standard errors, but skewed towards a decrease).

Pintails, England.

Mark Hulme.

Table 26. 1974–1996 Reduced Site List Trend diagnoses.

Name	Area	SLOPE	SE	MINI	MAXI	SLOPEX	TSLOPEX	MINX	TMINX	MAXX	TMAXX	SIG	DIAGNOSIS
Cygnus olor	NW Europe	1.0197	0.0024	1.0150	1.0244	1.5663	+++	1.4084	++	1.7410	+++	SIG	Significant increase
Cygnus olor	Baltic	1.0252	0.0047	1.0160	1.0344	1.7725	++++	1.4406	++	2.1769	++++	SIG	Significant increase
Cygnus olor	W Med	1.1061	0.0347	1.0381	1.1741	10.1688	++++	2.3632	++++	40.1067	++++	SIG	Significant increase
Cygnus olor	C Europe	1.0024	0.0037	0.9951	1.0097	1.0567	+	0.8932	-	1.2486	+	SIG	Stable
Cygnus c. bewickii	NW Europe	1.0459	0.0047	1.0367	1.0551	2.8072	++++	2.2910	++++	3.4336	++++	SIG	Significant increase
Cygnus cygnus	NW Europe	1.0665	0.0046	1.0575	1.0755	4.3964	++++	3.6178	++++	5.3338	++++	SIG	Significant increase
Cygnus cygnus	Baltic	0.9696	0.0092	0.9516	0.9876	0.4916	---	0.3195	---	0.7505	-	SIG	Significant decrease
Cygnus cygnus	C Europe	1.0980	0.0113	1.0759	1.1201	8.5872	++++	5.3796	++++	13.5802	++++	SIG	Significant increase
Tadorna ferruginea	W Med	1.0582	0.0366	0.9865	1.1299	3.6733	++++	0.7315	--	16.5928	++++	SIG	Poorly known
Tadorna tadorna	NW Europe	1.0313	0.0029	1.0256	1.0370	2.0317	++++	1.7885	++++	2.3063	++++	SIG	Significant increase
Tadorna tadorna	Baltic	1.0381	0.0141	1.0105	1.0657	2.3632	++++	1.2716	++	4.3212	++++	SIG	Significant increase
Tadorna tadorna	W Med	1.0739	0.0074	1.0594	1.0884	5.1543	++++	3.7703	++++	7.0168	++++	SIG	Significant increase
Anas penelope	NW Europe	1.0530	0.0031	1.0469	1.0591	3.2798	++++	2.8696	++++	3.7458	++++	SIG	Significant increase
Anas penelope	Baltic	1.0276	0.0078	1.0123	1.0429	1.8705	++++	1.3247	++	2.6277	++++	SIG	Significant increase
Anas penelope	W Med	1.0094	0.0058	0.9980	1.0208	1.2401	+	0.9550	-	1.6056	+++	SIG	Increase more likely
Anas penelope	C Europe	1.0521	0.0101	1.0323	1.0719	3.2160	++++	2.0775	++++	4.9380	++++	SIG	Significant increase
Anas strepera	NW Europe	1.0957	0.0060	1.0839	1.1075	8.1829	++++	6.3790	++++	10.4690	++++	SIG	Significant increase
Anas strepera	W Med	1.0423	0.0065	1.0296	1.0550	2.5932	++++	1.9560	++++	3.4262	++++	SIG	Significant increase
Anas strepera	C Europe	1.0517	0.0075	1.0370	1.0664	3.1880	++++	2.3063	++++	4.3870	++++	SIG	Significant increase
Anas crecca	NW Europe	1.0244	0.0036	1.0173	1.0315	1.7410	+++	1.4836	++	2.0408	++++	SIG	Significant increase
Anas crecca	Baltic	1.1306	0.0186	1.0941	1.1671	16.8309	++++	7.9125	++++	34.9531	++++	SIG	Significant increase
Anas crecca	W Med	1.0488	0.0051	1.0388	1.0588	2.9918	++++	2.4001	++++	3.7215	++++	SIG	Significant increase
Anas crecca	C Europe	1.0056	0.0059	0.9940	1.0172	1.1371	+	0.8707	-	1.4803	++	SIG	Stable – poorly known
A. platyrhynchos 1	NW Europe	1.0171	0.0027	1.0118	1.0224	1.4769	++	1.3097	++	1.6645	+++	SIG	Significant increase
A. platyrhynchos 2	NW Europe	1.0128	0.0021	1.0087	1.0169	1.3398	++	1.2205	+	1.4703	++	SIG	Significant increase
A. platyrhynchos 1	Baltic	1.0319	0.0040	1.0241	1.0397	2.0590	++++	1.7293	+++	2.4484	++++	SIG	Significant increase
A. platyrhynchos 2	Baltic	0.9953	0.0080	0.9796	1.0110	0.8973	-	0.6225	--	1.2861	++	SIG	Poorly known
A. platyrhynchos 1	W Med	1.0785	0.0169	1.0454	1.1116	5.6867	++++	2.7765	++++	11.3977	++++	SIG	Significant increase
A. platyrhynchos 2	W Med	1.0707	0.0074	1.0562	1.0852	4.8124	++++	3.5169	++++	6.5573	++++	SIG	Significant increase
A. platyrhynchos 3	W Med	0.9915	0.0060	0.9797	1.0033	0.8217	-	0.6239	--	1.0787	+	SIG	Stable – poorly known
A. platyrhynchos	C Europe	0.9844	0.0038	0.9770	0.9918	0.6965	--	0.5856	--	0.8275	-	SIG	Significant decrease
Anas acuta	NW Europe	0.9958	0.0037	0.9885	1.0031	0.9077	-	0.7664	-	1.0738	+	SIG	Stable
Anas acuta	W Med	1.0000	0.0071	0.9861	1.0139	1.0000	+	0.7247	--	1.3737	++	SIG	Poorly known
Anas acuta	C Europe	0.9834	0.0091	0.9656	1.0012	0.6804	-	0.4470	---	1.0280	+	SIG	Decline more likely
Anas querquedula	W Med	1.0438	0.0594	0.9274	1.1602	2.6804	++++	0.1767	----	30.4969	++++	SIG	Poorly known
Anas clypeata	NW Europe	1.0064	0.0052	0.9962	1.0166	1.1580	+	0.9162	-	1.4603	++	SIG	Stable – poorly known
Anas clypeata	W Med	1.0570	0.0058	1.0456	1.0684	3.5787	++++	2.7887	++++	4.5801	++++	SIG	Significant increase
Anas clypeata	C Europe	1.0012	0.0078	0.9859	1.0165	1.0280	+	0.7214	--	1.4570	++	SIG	Poorly known
Marmaronetta angustirostris	W Med	1.0804	0.0214	1.0385	1.1223	5.9217	++++	2.3842	++++	14.2071	++++	SIG	Significant increase
Netta rufina	NW Europe	1.0223	0.0172	0.9886	1.0560	1.6607	+++	0.7682	-	3.5016	++++	SIG	Increase more likely
Netta rufina	W Med	0.9996	0.0111	0.9778	1.0214	0.9908	-	0.5967	--	1.6274	+++	SIG	Poorly known
Netta rufina	C Europe	1.1145	0.0341	1.0477	1.1813	12.1016	++++	2.9204	++++	46.1620	++++	SIG	Significant increase
Aythya ferina	NW Europe	0.9962	0.0029	0.9905	1.0019	0.9162	-	0.8029	-	1.0446	+	SIG	Stable
Aythya ferina	Baltic	1.0523	0.0124	1.0280	1.0766	3.2301	++++	1.8873	++++	5.4607	++++	SIG	Significant increase
Aythya ferina	W Med	0.9560	0.0054	0.9454	0.9666	0.3552	---	0.2749	---	0.4578	---	SIG	Significant decrease
Aythya ferina	C Europe	1.0161	0.0051	1.0061	1.0261	1.4439	++	1.1501	+	1.8087	++++	SIG	Significant increase
Aythya nyroca	W Med	1.0135	0.0126	0.9888	1.0382	1.3613	++	0.7718	-	2.3684	++++	SIG	Increase more likely
Aythya nyroca	C Europe	0.9629	0.0165	0.9306	0.9952	0.4191	---	0.1912	----	0.8952	-	SIG	Significant decrease
Aythya fuligula	NW Europe	1.0071	0.0039	0.9995	1.0147	1.1767	+	0.9886	-	1.3988	++	SIG	Stable – poorly known
Aythya fuligula	Baltic	1.0217	0.0052	1.0115	1.0319	1.6385	+++	1.3008	++	2.0590	++++	SIG	Significant increase
Aythya fuligula	W Med	1.0031	0.0054	0.9925	1.0137	1.0738	+	0.8410	-	1.3675	++	SIG	Stable – poorly known
Aythya fuligula	C Europe	1.0257	0.0037	1.0184	1.0330	1.7925	++++	1.5210	+++	2.1101	++++	SIG	Significant increase
B. clangula	NW Europe	1.0282	0.0039	1.0206	1.0358	1.8958	++++	1.5984	+++	2.2457	++++	SIG	Significant increase
B. clangula	Baltic	0.9992	0.0039	0.9916	1.0068	0.9818	-	0.8236	-	1.1687	+	SIG	Stable
B. clangula	W Med	1.0229	0.0091	1.0051	1.0407	1.6833	+++	1.1241	+	2.5032	++++	SIG	Significant increase
B. clangula	C Europe	1.0062	0.0031	1.0001	1.0123	1.1528	+	1.0023	+	1.3247	++	SIG	Significant increase
Merg. albellus	NW Europe	1.0037	0.0079	0.9882	1.0192	1.0887	+	0.7611	-	1.5487	+++	SIG	Increase more likely
Merg. albellus	Baltic	1.0217	0.0137	0.9948	1.0486	1.6385	+++	0.8870	-	2.9787	++++	SIG	Increase more likely
Merg. albellus	C Europe	1.0455	0.0123	1.0214	1.0696	2.7826	++++	1.6274	+++	4.6999	++++	SIG	Significant increase
Mergus serrator	NW Europe	1.0612	0.0047	1.0520	1.0704	3.9205	++++	3.2089	++++	4.7815	++++	SIG	Significant increase
Mergus serrator	Baltic	1.0223	0.0058	1.0109	1.0337	1.6607	+++	1.2832	++	2.1433	++++	SIG	Significant increase
Mergus serrator	W Med	1.0084	0.0179	0.9733	1.0435	1.2121	+	0.5366	--	2.6627	++++	SIG	Poorly known
Mergus serrator	C Europe	1.0056	0.0143	0.9776	1.0336	1.1371	+	0.5939	--	2.1385	++++	SIG	Poorly known
Merg. merganser	NW Europe	0.9862	0.0052	0.9760	0.9964	0.7264	--	0.5719	--	0.9204	-	SIG	Significant decrease
Merg. merganser	Baltic	1.0205	0.0061	1.0085	1.0325	1.5948	+++	1.2149	+	2.0868	++++	SIG	Significant increase
Merg. merganser	W Med	0.9258	0.0320	0.8631	0.9885	0.1698	----	0.0338	----	0.7664	-	SIG	Significant decrease
Merg. merganser	C Europe	1.0319	0.0051	1.0219	1.0419	2.0590	++++	1.6459	+++	2.5704	++++	SIG	Significant increase
Fulica atra	NW Europe	1.0021	0.0023	0.9976	1.0066	1.0494	+	0.9462	-	1.1633	+	SIG	Stable
Fulica atra	Baltic	0.9043	0.0083	0.8880	0.9206	0.0989	----	0.0651	----	0.1492	----	SIG	Significant decrease
Fulica atra	W Med	0.9985	0.0059	0.9869	1.0101	0.9661	-	0.7384	--	1.2600	++	SIG	Poorly known
Fulica atra	C Europe	0.9962	0.0026	0.9911	1.0013	0.9162	-	0.8141	-	1.0303	+	SIG	Stable
Oxy. jamaicensis	NW Europe	1.1687	0.0134	1.1424	1.1950	36.0720	++++	21.3707	++++	60.1813	++++	SIG	Significant increase
Oxy. leucocephala	W Med	1.0963	0.0257	1.0459	1.1467	8.2866	++++	2.8072	++++	23.2995	++++	SIG	Significant increase

Table 27. 1987–1996 Reduced Site List Trend diagnoses.

Name	Area	SLOPE	SE	MINI	MAXI	SLOPEX	TSLOPEX	MINX	TMINX	MAXX	TMAXX	SIG	DIAGNOSIS
Cygnus olor	NW Europe	1.0737	0.0052	1.0635	1.0839	2.0362	++++	1.8509	++++	2.2382	++++	SIG	Significant increase
Cygnus olor	Baltic	1.1067	0.0099	1.0873	1.1261	2.7561	++++	2.3094	++++	3.2792	++++	SIG	Significant increase
Cygnus olor	W Med	1.4136	0.0470	1.3215	1.5057	31.8614	++++	16.2432	++++	59.8942	++++	SIG	Significant increase
Cygnus olor	C Europe	1.0404	0.0074	1.0259	1.0549	1.4859	++	1.2914	++	1.7065	+++	SIG	Significant increase
Cygnus olor	B Sea/E Med	0.9658	0.0167	0.9331	0.9985	0.7061	--	0.5004	--	0.9851	-	SIG	Significant decrease
Cygnus c. bewickii	NW Europe	1.0387	0.0132	1.0128	1.0646	1.4618	++	1.1356	+	1.8701	++++	SIG	Significant increase
Cygnus c. bewickii	B Sea/E Med	1.7199	0.3039	1.1243	2.3155	226.4811	++++	3.2272	++++	4430.450	++++	SIG	Significant increase
Cygnus cygnus	NW Europe	0.9919	0.0105	0.9713	1.0125	0.9219	-	0.7474	--	1.1323	+	SIG	Stable – poorly known
Cygnus cygnus	Baltic	1.1779	0.0248	1.1293	1.2265	5.1414	++++	3.3736	++++	7.7033	++++	SIG	Significant increase
Cygnus cygnus	C Europe	1.0837	0.0245	1.0357	1.1317	2.2340	++++	1.4202	++	3.4460	++++	SIG	Significant increase
Cygnus cygnus	B Sea/E Med	0.9437	0.0249	0.8949	0.9925	0.5602	--	0.3294	---	0.9275	-	SIG	Significant decrease
Cygnus cygnus	Cont Europe	1.0294	0.0101	1.0096	1.0492	1.3361	++	1.1003	+	1.6165	+++	SIG	Significant increase
Tad. ferruginea	W Med	0.9810	0.0526	0.8779	1.0841	0.8254	-	0.2719	---	2.2423	++++	SIG	Poorly known
Tad. ferruginea	B Sea/E Med	1.0670	0.0356	0.9972	1.1368	1.9127	++++	0.9724	-	3.6045	++++	SIG	Increase more likely
Tadorna tadorna	NW Europe	0.9950	0.0059	0.9834	1.0066	0.9511	-	0.8459	-	1.0680	+	SIG	Stable
Tadorna tadorna	Baltic	1.1763	0.0174	1.1422	1.2104	5.0720	++++	3.7794	++++	6.7498	++++	SIG	significant increase
Tadorna tadorna	W Med	0.9654	0.0128	0.9403	0.9905	0.7032	--	0.5403	--	0.9090	-	SIG	significant decrease
Tadorna tadorna	B Sea/E Med	0.9058	0.0157	0.8750	0.9366	0.3718	---	0.2631	---	0.5194	--	SIG	Significant decrease
Anas penelope	NW Europe	1.0428	0.0061	1.0308	1.0548	1.5206	+++	1.3544	++	1.7049	+++	SIG	Significant increase
Anas penelope	Baltic	1.0000	0.0286	0.9439	1.0561	1.0000	+	0.5614	--	1.7260	+++	SIG	Poorly known
Anas penelope	W Med	0.9993	0.0113	0.9772	1.0214	0.9930	-	0.7940	-	1.2358	+	SIG	Stable
Anas penelope	C Europe	1.1697	0.0187	1.1330	1.2064	4.7945	++++	3.4858	++++	6.5300	++++	SIG	Significant increase
Anas penelope	B Sea/E Med	0.8913	0.0112	0.8693	0.9133	0.3164	---	0.2464	----	0.4038	---	SIG	Significant decrease
Anas strepera	NW Europe	1.0971	0.0110	1.0755	1.1187	2.5262	++++	2.0706	++++	3.0700	++++	SIG	Significant increase
Anas strepera	W Med	0.9968	0.0120	0.9733	1.0203	0.9685	-	0.7629	-	1.2226	+	SIG	Stable
Anas strepera	C Europe	1.0859	0.0172	1.0522	1.1196	2.2798	++++	1.6633	+++	3.0948	++++	SIG	Significant increase
Anas strepera	B Sea/E Med	0.6179	0.0189	0.5809	0.6549	0.0081	----	0.0044	----	0.0145	----	SIG	Significant decrease
Anas crecca	NW Europe	0.9985	0.0068	0.9852	1.0118	0.9851	-	0.8615	-	1.1245	+	SIG	Stable
Anas crecca	Baltic	0.8864	0.0324	0.8229	0.9499	0.2994	---	0.1424	----	0.5981	--	SIG	Significant decrease
Anas crecca	W Med	0.9100	0.0088	0.8928	0.9272	0.3894	---	0.3218	---	0.4696	--	SIG	Significant decrease
Anas crecca	C Europe	1.0163	0.0129	0.9910	1.0416	1.1755	+	0.9136	-	1.5032	+++	SIG	Increase more likely
Anas crecca	B Sea/E Med	1.0512	0.0121	1.0275	1.0749	1.6476	+++	1.3117	++	2.0591	++++	SIG	Significant increase
A platyrhynchos 1	NW Europe	0.9443	0.0048	0.9349	0.9537	0.5638	--	0.5101	--	0.6225	--	SIG	Significant decrease
A platyrhynchos 2	NW Europe	0.9839	0.0055	0.9731	0.9947	0.8502	-	0.7613	-	0.9482	-	SIG	Significant decrease
A platyrhynchos 1	Baltic	1.0224	0.0094	1.0040	1.0408	1.2480	+	1.0407	+	1.4917	++	SIG	Significant increase
A platyrhynchos 2	Baltic	0.9716	0.0164	0.9395	1.0037	0.7497	--	0.5358	--	1.0376	+	SIG	Stable – poorly known
A platyrhynchos 1	W Med	0.9789	0.0246	0.9307	1.0271	0.8079	-	0.4876	---	1.3066	++	SIG	Poorly known
A platyrhynchos 2	W Med	0.9264	0.0189	0.8894	0.9634	0.4656	---	0.3097	---	0.6888	--	SIG	significant decrease
A platyrhynchos 3	W Med	1.0615	0.0096	1.0427	1.0803	1.8164	++++	1.5191	+++	2.1649	++++	SIG	Significant increase
A platyrhynchos	C Europe	0.9821	0.0067	0.9690	0.9952	0.8348	-	0.7299	--	0.9530	-	SIG	Significant decrease
A platyrhynchos	B Sea/E Med	0.9159	0.0095	0.8973	0.9345	0.4154	---	0.3384	---	0.5079	--	SIG	Significant decrease
Anas acuta	NW Europe	0.9712	0.0080	0.9555	0.9869	0.7466	--	0.6343	--	0.8765	-	SIG	Significant decrease
Anas acuta	Baltic	0.7844	0.0299	0.7258	0.8430	0.0882	----	0.0406	----	0.1812	----	SIG	Significant decrease
Anas acuta	W Med	0.9572	0.0142	0.9294	0.9850	0.6457	--	0.4809	---	0.8597	-	SIG	Significant decrease
Anas acuta	C Europe	1.1116	0.0189	1.0746	1.1486	2.8806	++++	2.0534	++++	3.9966	++++	SIG	Significant increase
Anas acuta	B Sea/E Med	0.9331	0.0088	0.9159	0.9503	0.5004	--	0.4154	---	0.6006	--	SIG	Significant decrease
Anas querquedula	W Med	0.5264	0.1046	0.3214	0.7314	0.0016	----	1.18E-5	----	0.0438	----	SIG	Significant decrease
Anas querquedula	B Sea/E Med	0.6050	0.0311	0.5440	0.6660	0.0066	----	0.0023	----	0.0172	----	SIG	Significant decrease
Anas clypeata	NW Europe	0.9910	0.0112	0.9690	1.0130	0.9136	-	0.7299	--	1.1379	+	SIG	Stable – poorly known
Anas clypeata	W Med	0.9855	0.0110	0.9639	1.0071	0.8641	-	0.6923	--	1.0733	+	SIG	Stable – poorly known
Anas clypeata	C Europe	0.9626	0.0118	0.9395	0.9857	0.6831	--	0.5358	--	0.8659	-	SIG	Significant decrease
Anas clypeata	B Sea/E Med	1.0001	0.0128	0.9750	1.0252	1.0010	+	0.7763	-	1.2826	++	SIG	Stable – poorly known
Marmaronetta angustirostris	W Med	0.7779	0.0380	0.7034	0.8524	0.0811	----	0.0296	----	0.2025	----	SIG	Significant decrease
Marmaronetta angustirostris	B Sea/E Med	0.8578	0.0552	0.7496	0.9660	0.2157	----	0.0560	----	0.7076	--	SIG	Significant decrease
Netta rufina	NW Europe	1.1949	0.0366	1.1232	1.2666	5.9336	++++	3.1957	++++	10.6266	++++	SIG	Significant increase
Netta rufina	W Med	0.8318	0.0223	0.7881	0.8755	0.1586	----	0.0924	----	0.2646	---	SIG	Significant decrease
Netta rufina	C Europe	1.7219	0.1053	1.5155	1.9283	229.1286	++++	63.9086	++++	710.7977	++++	SIG	Significant increase
Netta rufina	B Sea/E Med	0.8126	0.0250	0.7636	0.8616	0.1255	----	0.0674	----	0.2255	----	SIG	Significant decrease
Aythya ferina	NW Europe	1.0079	0.0054	0.9973	1.0185	1.0819	+	0.9733	-	1.2012	+	SIG	Stable
Aythya ferina	Baltic	1.0452	0.0271	0.9921	1.0983	1.5559	+++	0.9238	-	2.5539	++++	SIG	Increase more likely
Aythya ferina	W Med	1.0067	0.0111	0.9849	1.0285	1.0691	+	0.8589	-	1.3245	++	SIG	Stable – poorly known
Aythya ferina	C Europe	1.0337	0.0104	1.0133	1.0541	1.3930	++	1.1412	+	1.6936	+++	SIG	Significant increase
Aythya ferina	B Sea/E Med	1.0345	0.0207	0.9939	1.0751	1.4038	++	0.9406	-	2.0629	++++	SIG	Increase more likely
Aythya nyroca	W Med	1.0458	0.0609	0.9264	1.1652	1.5649	+++	0.4656	---	4.6132	++++	SIG	Poorly known
Aythya nyroca	C Europe	0.8843	0.0312	0.8231	0.9455	0.2924	---	0.1427	----	0.5710	--	SIG	Significant decrease

Table 27 continued. 1987–1996 Reduced Site List Trend diagnoses.

Name	Area	SLOPE	SE	MINI	MAXI	SLOPEX	TSLOPEX	MINX	TMINX	MAXX	TMAXX	SIG	DIAGNOSIS
Aythya nyroca	B Sea/E Med	0.6721	0.0296	0.6141	0.7301	0.0188	----	0.0076	----	0.0430	----	SIG	Significant decrease
Aythya fuligula	NW Europe	1.0331	0.0085	1.0164	1.0498	1.3849	++	1.1766	+	1.6258	+++	SIG	Significant increase
Aythya fuligula	Baltic	1.0511	0.0123	1.0270	1.0752	1.6460	+++	1.3053	++	2.0649	++++	SIG	Significant increase
Aythya fuligula	W Med	0.9756	0.0083	0.9593	0.9919	0.7811	-	0.6600	--	0.9219	-	SIG	Significant decrease
Aythya fuligula	C Europe	1.0155	0.0061	1.0035	1.0275	1.1663	+	1.0356	+	1.3117	++	SIG	Significant increase
Aythya fuligula	B Sea/E Med	1.0377	0.0221	0.9944	1.0810	1.4478	++	0.9454	-	2.1790	++++	SIG	Increase more likely
B. clangula	NW Europe	1.0491	0.0080	1.0334	1.0648	1.6150	+++	1.3889	++	1.8736	++++	SIG	Significant increase
B. clangula	Baltic	1.0741	0.0086	1.0572	1.0910	2.0438	++++	1.7441	+++	2.3892	++++	SIG	Significant increase
B. clangula	W Med	1.0206	0.0075	1.0059	1.0353	1.2262	+	1.0606	+	1.4147	++	SIG	Significant increase
B. clangula	C Europe	1.0101	0.0044	1.0015	1.0187	1.1057	+	1.0151	+	1.2035	+	SIG	Significant increase
B. clangula	B Sea/E Med	0.8454	0.0223	0.8017	0.8891	0.1865	----	0.1097	----	0.3087	---	SIG	Significant decrease
Mergellus albellus	NW Europe	1.2052	0.0225	1.1611	1.2493	6.4653	++++	4.4534	++++	9.2612	++++	SIG	Significant increase
Mergellus albellus	Baltic	1.2524	0.0400	1.1740	1.3308	9.4936	++++	4.9737	++++	17.4232	++++	SIG	Significant increase
Mergellus albellus	C Europe	0.9221	0.0286	0.8660	0.9782	0.4444	---	0.2372	----	0.8022	-	SIG	Significant decrease
Mergellus albellus	B Sea/E Med	1.0321	0.0289	0.9755	1.0887	1.3716	++	0.7803	-	2.3393	++++	SIG	Increase more likely
Mergus serrator	NW Europe	1.0253	0.0107	1.0043	1.0463	1.2838	++	1.0438	+	1.5724	+++	SIG	Significant increase
Mergus serrator	Baltic	0.9906	0.0102	0.9706	1.0106	0.9099	-	0.7420	--	1.1112	+	SIG	Stable – poorly known
Mergus serrator	W Med	1.1437	0.0297	1.0855	1.2019	3.8293	++++	2.2714	++++	6.2905	++++	SIG	Significant increase
Mergus serrator	B Sea/E Med	0.9720	0.0226	0.9277	1.0163	0.7528	-	0.4721	---	1.1755	+	SIG	Decline more likely
Merg. merganser	NW Europe	1.0683	0.0117	1.0454	1.0912	1.9361	++++	1.5589	+++	2.3936	++++	SIG	Significant increase
Merg. merganser	Baltic	1.1926	0.0122	1.1687	1.2165	5.8203	++++	4.7537	++++	7.0978	++++	SIG	Significant increase
Merg. merganser	C Europe	0.9333	0.0103	0.9131	0.9535	0.5014	--	0.4029	---	0.6212	--	SIG	Significant decrease
Merg. merganser	B Sea/E Med	0.9188	0.0415	0.8375	1.0001	0.4288	---	0.1698	----	1.0010	+	SIG	Decline more likely
Fulica atra	NW Europe	1.0276	0.0042	1.0194	1.0358	1.3129	++	1.2118	+	1.4215	++	SIG	Significant increase
Fulica atra	Baltic	1.3030	0.0266	1.2509	1.3551	14.1073	++++	9.3805	++++	20.8792	++++	SIG	Significant increase
Fulica atra	W Med	0.9697	0.0117	0.9468	0.9926	0.7351	--	0.5789	--	0.9284	-	SIG	Significant decrease
Fulica atra	C Europe	1.0127	0.0048	1.0033	1.0221	1.1345	+	1.0335	+	1.2443	+	SIG	Significant increase
Fulica atra	B Sea/E Med	1.0067	0.0171	0.9732	1.0402	1.0691	+	0.7621	-	1.4831	++	SIG	Stable – poorly known
Oxy. jamaicensis	NW Europe	0.9529	0.0142	0.9251	0.9807	0.6173	--	0.4591	---	0.8229	-	SIG	Significant decrease
Oxy. leucocephala	W Med	0.8167	0.0585	0.7020	0.9314	0.1320	----	0.0291	----	0.4913	----	SIG	Significant decrease
Oxy. leucocephala	B Sea/E Med	0.8656	0.0190	0.8284	0.9028	0.2361	----	0.1522	----	0.3597	----	SIG	Significant decrease

Mallard, England.

Mark Hulme.

Table 28. 23 year and 10 year population trend estimates for 24 species of Anatidae and Common Coot *Fulica atra* in five areas of the Western Palearctic.

	Baltic/Nordic		NW Europe		Central Europe		W Mediterranean		Black Sea/E Mediterranean	
	1974–1996	1987–1996	1974–1996	1987–1996	1974–1996	1987–1996	1974–1996	1987–1996	1974–1996	1987–1996
Significant increase	Cygnus olor Tadorna tadorna Anas penelope Anas crecca Aythya ferina Aythya fuligula Mergus serrator Mergus merganser	Cygnus olor Cygnus cygnus Tadorna tadorna Anas platyrhynchos 1 Aythya fuligula Bucephala clangula Mergellus albellus Mergus merganser Fulica atra	Cygnus olor Cygnus columbianus Cygnus cygnus Tadorna tadorna Anas penelope Anas strepera Anas crecca A. platyrhynchos 1 A. platyrhynchos 2 Bucephala clangula Mergus serrator Oxyura jamaicensis	Cygnus olor Cygnus columbianus Anas penelope Anas strepera Netta rufina Aythya fuligula Bucephala clangula Mergellus albellus Mergus serrator Mergus merganser Fulica atra	Cygnus cygnus Anas penelope Anas strepera Netta rufina Aythya ferina Aythya fuligula Bucephala clangula Mergellus albellus Mergus merganser	Cygnus olor Cygnus cygnus Anas penelope Anas strepera Anas acuta Netta rufina Aythya ferina Aythya fuligula Bucephala clangula Fulica atra	Cygnus olor Tadorna tadorna Anas platyrhynchos 2 Anas strepera Anas crecca Aythya clypeata Marmaronetta angustirostris Bucephala clangula Oxyura leucocephala	Cygnus olor Anas platyrhynchos 3 Bucephala clangula Mergus serrator	Insufficient data	Cygnus columbianus Anas crecca
Stable	Bucephala clangula		Anas acuta Aythya ferina Fulica atra	Tadorna tadorna Anas crecca Aythya ferina	Cygnus olor Fulica atra			Anas penelope Anas strepera	Insufficient data	
Significant decrease	Cygnus cygnus Fulica atra	Anas crecca Anas acuta	Mergus merganser	Anas acuta Anas platyrhynchos 1 Anas platyrhynchos 2 Oxyura jamaicensis	Anas platyrhynchos Aythya nyroca	Anas platyrhynchos Anas clypeata Aythya nyroca Mergellus albellus Mergus merganser	Aythya ferina	Tadorna tadorna Anas platyrhynchos 2 Anas crecca Anas acuta Anas querquedula Marmaronetta angustirostris Netta rufina Aythya fuligula Oxyura leucocephala Fulica atra	Insufficient data	Cygnus olor Cygnus cygnus Tadorna tadorna Anas penelope Anas strepera Anas platyrhynchos Anas acuta Anas querquedula Marmaronetta angustirostris Netta rufina Aythya nyroca Bucephala clangula Oxyura leucocephala
Poorly known trends:										
Increase more likely	Mergellus albellus	Aythya ferina	Netta rufina Mergellus albellus			Anas crecca	Anas penelope Aythya nyroca			Tadorna ferruginea Aythya ferina Aythya fuligula Mergellus albellus
Stable to poorly known		Mergus serrator Anas platyrhynchos 2	Anas clypeata Aythya fuligula	Cygnus cygnus Anas clypeata	Anas crecca		Aythya fuligula	Anas clypeata Aythya ferina		Anas clypeata Fulica atra
Decrease more likely more likely					Anas acuta					Mergus serrator Mergus merganser
Poorly known	Anas acuta	Anas penelope			Anas clypeata Mergus serrator		Tadorna ferruginea Anas acuta Anas querquedula Netta rufina Mergus serrator Fulica atra	Tadorna ferruginea Anas platyrhynchos 1 Aythya nyroca		

4.2 Summary of trends for Anatidae and Common Coot *Fulica atra* in different areas of the Western Palearctic, and comparison of 24 and 10 year trends

Population trends of Anatidae and common coot *Fulica atra* by area

Over the 23 year period 1974–1996, most populations of Anatidae and Common Coot *Fulica atra* showed an increasing population trend, but over the more recent ten year period 1987–1996, there was an increase in the number of species exhibiting less favourable population trends (Table 28). In the four areas where analyses were possible over both the long term (23 years, 1974–1996) and over the more recent ten year (1987–1996) periods, seven populations exhibited a more favourable status over the more recent ten year period than the overall 23 year period in one or more areas, 22 populations exhibited a similar trend over both periods, and 15 populations exhibited a less favourable status over the more recent period (Table 29).

Baltic/Nordic

Populations of Anatidae and Common Coot *Fulica atra* found in midwinter in Baltic/Nordic Europe appear mostly to be stable or increasing. Two species recorded decreases in number in this area between 1974 and 1996, Whooper Swan, *Cygnus cygnus* and, markedly, Common Coot *Fulica atra*. Between 1987 and 1996, the populations of both these species in the area were increasing, however, but not enough to compensate for the overall 23 year decline. Common Teal *Anas crecca* showed a decline in number in the most recent ten year period, but the 23 year trend to 1996 was one of increase. Northern Pintail *Anas acuta* showed a poorly known trend over 23 years, but in the ten years to 1996 its trend was one of decline.

Northwest Europe

In Northwest Europe, a majority of Anatidae and Common Coot *Fulica atra* also showed stable or increasing population trends. One species, Goosander *mergus meganser* showed a trend of decline over the 23 year

Table 29. Comparison between population trends shown by each species in each area over 23 years (1974–1996) and the most recent ten years (1987–1996).

1. Species with a poorly known trend in one or other period not included.
2. Species for which >60% of an index in an area was imputed not included.
3. Black Sea/ East Mediterranean not included because data consistency not sufficient for 1974–1996 period.
4. Southwest Asia not included because data consistency not sufficient for either period.

Species exhibiting a more favourable population trend over the ten years 1987–1996 than over the 23 years 1974–1996.		Species exhibiting a similar population trend over the ten years 1987–1996 to that over the 23 years 1974–1996.		Species exhibiting a less favourable population trend over the ten years 1987–1996 than over the 23 years 1974–1996.	
1. Stable 1974–96; Increase 1987–96		**1. Increase in both periods**		**1. Increase 1974–96; Stable 1987–96**	
Cygnus olor	Central Europe	Cygnus olor	Baltic/Nordic	Tadorna tadorna	Northwest Europe
Bucephala clangula	Baltic/Nordic	Cygnus olor	Northwest Europe	Anas strepera	West Mediterranean
Fulica atra	Northwest Europe	Cygnus olor	West Mediterranean	Anas crecca	Northwest Europe
Fulica atra	Central Europe	Cygnus columbianus	Northwest Europe		
		Cygnus cygnus	Central Europe	**2. Stable 1974–96; Decrease 1987–96**	
2. Decrease 1974–96; Increase 1987–96		Tadorna tadorna	Baltic/Nordic	Anas acuta	Northwest Europe
Cygnus cygnus	Baltic/Nordic	Anas penelope	Northwest Europe		
Mergus merganser	Northwest Europe	Anas penelope	Central Europe	**3. Increase 1974–96; Decrease 1987–96**	
Fulica atra	Baltic/Nordic	Anas strepera	Northwest Europe	Tadorna tadorna	West Mediterranean
		Anas strepera	Central Europe	Anas crecca	Baltic/Nordic
		Netta rufina	Central Europe	Anas crecca	West Mediterranean
		Aythya ferina	Central Europe	Anas platyrhynchos	Northwest Europe
		Aythya fuligula	Baltic/Nordic	Anas platyrhynchos	West Mediterranean 2
		Aythya fuligula	Central Europe	Marmaronetta angustirostris	West Mediterranean
		Bucephala clangula	Northwest Europe	Mergellus albellus	Central Europe
		Bucephala clangula	Central Europe	Mergus merganser	Central Europe
		Bucephala clangula	West Mediterranean	Oxyura jamaicensis	Northwest Europe
		Mergus merganser	Baltic/Nordic	Oxyura leucocephala	West Mediterranean
		Mergus serrator	Northwest Europe		
		2. Stable in both periods			
		Aythya ferina	Northwest Europe		
		3. Decrease in both periods			
		Anas platyrhynchos	Central Europe		
		Aythya nyroca	Central Europe		

period 1974–1996, but over the ten years 1987–1996, the population was increasing strongly. TRIM computes the trend slope without an intercept (which implies that the regression line goes through the count value of the first year) and the very high index value for Goosander in Northwest Europe in the first year, 1974, may have led to a spurious trend diagnosis in this case. Three species in this area showed trends of stability over the 23 years 1974–1996: Northern Pintail *Anas acuta*, Common Pochard *Aythya ferina* and Common Coot *Fulica atra*. Over the more recent ten year period, the trend for Northern Pintail *Anas acuta* deteriorated to one of decline (as in the Baltic/Nordic area). Common Pochard *Aythya ferina* showed a continuing stable trend over the most recent ten years in Northwest Europe, while the trend for Common Coot *Fulica atra* improved to one of increase over this period. Mallard *Anas platyrhynchos* showed increasing 23 year trends, but over the ten years 1987–1996 their trends were declining.

Central Europe

Most species in Central Europe also recorded stable or increasing population trends. Two species suffered a decline over the 23 years 1974–1996: Mallard *Anas platyrhynchos* and Ferruginous Duck *Aythya nyroca.* Both also showed declining trends over the ten year period 1987–1996. Ferruginous Duck is a threatened species with a well-documented declining population, and declines in numbers of Mallards in the area are also well known (e.g. Rose 1995). Three further species, Northern Shoveler *Anas clypeata*, Smew, *Mergellus albellus* and Goosander *Mergus merganser* recorded declines over the more recent ten year period although their 23 year trends were poorly known (*Anas clypeata*) or increasing (*Mergellus albellus, Mergus merganser*).

West Mediterranean

Over the 23 year period 1974–1996, nearly half (nine out of 19) of the species in the West Mediterranean area for which analysis was possible showed poorly known trends. Over the more recent ten year period, just five species showed poorly known trends – an indication of the improving quality of information available from the area. Altogether nine species recorded increases in population trends over these 23 years, and one species, Common Pochard *Aythya ferina*, recorded a decline over 23 years. Over the ten year period 1987–1996, the number of species which recorded declining population trends increased strongly to ten. Of these species showing declines over ten years, half were species whose 23 year trend was poorly known, (Northern Pintail *Anas acuta*, Garganey *Anas querquedula*, Red-crested Pochard *Netta rufina*, Tufted Duck *Aythya fuligula* and Common Coot *Fulica atra*) and half were species whose 23 year trend was one of increase (Common Shelduck *Tadorna tadorna*, Mallard *Anas platyrhynchos*, Common Teal *Anas crecca*, Marbled Teal *Marmaronetta angustirostris*, and White-headed Duck *Oxyura leucocephala*). This apparently declining trend for White-headed Duck *Oxyura leucocephala* in the more recent period is not genuine and is one of the few trends that differs according to whether the total or reduced site list is used (see species account, page 135).

Black Sea/East Mediterranean

The quality of information available from this area was not sufficiently consistent in the 1970s and 1980s to estimate the 23 year (1974–1996) population trend of any species. Ten year trends between 1987 and 1996 were calculated for 23 species, of which eight showed unknown trends, two increases and 13 decreases. The high proportion of species whose populations in this area were apparently declining between 1987 and 1996 gives considerable cause for concern. The species whose trends were declining over this period in this area were as follows: Mute Swan *Cygnus olor*, Whooper Swan *Cygnus cygnus*, Common Shelduck *Tadorna tadorna*, Eurasian Wigeon *Anas penelope*, Gadwall, *Anas strepera*, Mallard *Anas platyrhynchos,* Northern Pintail *Anas acuta*, Garganey*, Anas querquedula*, Marbled Teal *Marmaronetta angustirostris*, Red-crested Pochard *Netta rufina*, Ferruginous Duck, *Aythya nyroca,* Common Goldeneye *Bucephala clangula* and White-headed Duck *Oxyura leucocephala*.

Population trends by area: discussion

The areas where the most species showed declining trends in numbers were the Black Sea/East Mediterranean and the West Mediterranean. Unfavourable changes in trends are likely to have occurred even more frequently in these areas than were revealed in the above summary, but the quality of available information is not yet sufficiently consistent and the long-term trends of many species remain poorly known. The long-term consistency of information is better in Central Europe, and two species exhibited decreasing trends in both periods examined, Mallard *Anas platyrhynchos* and Ferruginous Duck *Aythya nyroca*. It is likely that several species in the West Mediterranean and Black Sea/East Mediterranean areas would also show this undesirable pattern of trends if information were available from more countries over a longer period.

In Northwest Europe, the long term increases in Common Teal *Anas crecca* numbers stabilised in the most recent ten year period, a pattern also shown by Shelduck *Tadorna tadorna*. Northern Pintail *Anas acuta* showed a stable long-term (1974–1996) trend, but over the more recent ten year period (1987–1996) the trend was one of decline. Both populations of Mallard *Anas platyrhynchos* in Northwest Europe, and Common Teal *Anas crecca* in the Baltic/Nordic area showed long-term trends of increase which turned to decline over the most recent ten years.

Mallard *Anas platyrhynchos* is the most numerous and widespread waterbird species in most countries of the region, and extensive population declines in the more recent (1987–1996) period give cause for concern. In the long term (1974–1996), Mallard populations showed increasing trends in all areas except Central Europe, where the population is in long-term decline. Mallards showed unknown trends in this period in Mediterranean France and Italy. In the more recent (1987–1996) period, the decline in Central Europe continued, and decreasing trends were also recorded in both parts of Northwest

Europe, Portugal and Spain, and the Black Sea/East Mediterranean area. Increases in this recent period were only recorded in Denmark-Finland-Norway-Sweden and Mediterranean France-Italy, whilst unknown trends were recorded in Algeria-Morocco-Tunisia. Mallards in the southeastern Baltic countries (Estonia, Latvia, Lithuania, Poland, Russian Federation) showed poorly known trends in both periods

There seems to be little doubt that more waterbird species in the West Mediterranean and Black Sea/East Mediterranean areas are suffering declines in their numbers than in the Baltic/Nordic, Northwest Europe or Central Europe areas. A possible cause of this may be wetland loss. Hollis (1991) wrote that "the most common wetland type in the Mediterranean is probably the Lost Wetland". Jones and Hughes (1993) summarised studies of wetland loss in Europe. They reported that in Portugal, about 70% of the original wetlands in the western Algarve had been converted to agricultural and industrial land by the mid 1980s (Pullan 1988), while in Spain more than 60% of the original wetlands have been lost due to expansions in agriculture and tourism. Musi *et al.* (1991) detailed the extensive loss of freshwater marshes and coastal lagoons in north east Italy, and Gjiknuri and Peja (1991) reported that about 55,000 hectares of coastal wetlands in Albania had been drained. Psilovikos (1990) reported that in Greece, one third of Macedonia's lakes and 94% of the region's marshes were lost between 1930 and the mid 1980s, while only 37% of the original wetlands in Greece as a whole still remained (Psilovikos 1991). Hollis (1991) showed that the forces leading to wetland degradation and destruction in the Mediterranean are many and complex, but he singled out the role of the European Community's agricultural and structural policies for particular criticism.

Additional factors which are likely to have led to decreases in the numbers of waterbirds wintering in the Black Sea/East Mediterranean area in the 1990s are increases in hunting pressure, and in degradation, for example by pollution. Many coastal wetlands in Eastern Europe have been subject to much higher shooting pressure in the 1990s than during Communist times, when access was strictly controlled and large-scale hunting tourism from Western Europe was unknown. Subsistence hunters and those providing for local markets in centres of population have also become more active in this area in recent years.

Massaciuccoli Lake, Tuscany, Italy.

Nicola Baccetti 1981.

5. Counts of Geese in the Western Palearctic in the 1993–94, 1994–95 and 1995–96 seasons

Geese are monitored incompletely by standard IWC counts, and additional monitoring using special methods is undertaken. Information arising from these efforts is stored and managed on the decentralised goose database, which in the period covered by this report was held at the National Environment Research Institute (NERI) in Kalø, Denmark.

More complete population assessments are available for geese than for any other group of waterbirds and some populations are counted in their entirety every year. The comprehensive publication *Goose Populations of the Western Palearctic: a review of status and distribution* (Madsen *et al.* 1999) was based on information held in the decentralised goose database, together with contributions from nearly 100 species experts throughout the Western Palearctic. Summarised information on goose counts in the region in 1993–94, 1994–95 and 1995–96 is presented here (Tables 30 to 34), and readers are referred to Madsen *et al.* (1999) for detailed analysis and interpretation.

Introduction

The Wetlands International Goose Database was established at Kalø, Denmark in 1989 and is hosted by the National Environment Research Institute (NERI) and linked to the coordination of the Wetlands International Goose Specialist Group coordinated until 1997 by Jesper Madsen.

Greater White-fronted geese, Pondunavlje Fishponds, Croatia.

József Mikuska, 1999.

Since 1991, the Wetlands International Goose Specialist Group Bulletin has been published by NERI once or twice per year to maintain contact between the Specialist Group/Database and the network of national coordinators of goose counts and other goose researchers. In November 1996, Goose SG Bulletin 8 was published. It contained a number of status and progress reports from goose monitoring and research work throughout the Western Palearctic. In Goose SG Bulletin 6, an overview of goose ringing schemes in the Western Palearctic was presented with updates in Issues 7 and 8.

The Goose Database covers the Western Palearctic region and stores (almost) exclusively site-based data on goose numbers. Currently, habitat and goose count information from 1,460 sites in 29 countries are stored in the database. Summarised data from an additional 11 countries and two discrete areas are similarly computerised.

The main aims of the Goose Database are to conduct analyses of population trends and estimate the size of the goose populations in the region. The results from midwinter counts of geese are the primary source of this information. This count takes place on the Sunday closest to the middle of January simultaneously with the other Wetlands International midwinter counts. All goose populations are monitored.

However, not all goose populations are concentrated at this time of the season and to obtain the best possible coverage for all species, several additional counts throughout the migration and wintering period provide data for various species. These are as follows:

1. On the Sunday closest to the middle of September, a Greylag Goose count takes place in Northern Europe.

2. On the Sunday closest to the middle of November, the *Anser* geese, primarily Bean *fabalis* and White-fronted *albifrons* geese are counted. At this time of the year these species are concentrated in relatively few countries in Northwest Europe, often aggregated at large roosts which are easy to count. Also, the British wintering populations of Greenland White-fronted Goose *Anser albifrons flavirostris*, Pink-footed Goose *Anser brachyrhynchus* and the Icelandic population of Greylag Goose *Anser anser* are best monitored in November.

3. During the weekend closest to the middle of March (depending on the state of the tide in the Wadden Sea) the Russian population of the Barnacle Goose *Branta leucopsis* is counted. This is the period when the birds concentrate before the spring migration.

4. In the beginning of May, the Dark-bellied Brent Geese *Branta bernicla bernicla* are counted on their spring staging grounds. This count takes place on the first weekend of the month depending on the tide in the Wadden Sea.

At the end of 1996, Jesper Madsen stepped down as coordinator of the Goose SG. Bart Ebbinge from IBN-DLO took over the coordination, but the goose database remained at NERI until 1998.

As a concluding chapter, NERI undertook the task of producing *Goose Populations of the Western Palearctic: a review of status and distribution* (Madsen *et al.* 1999). The recent publication of this comprehensive review means that this report only presents data and a minimum of interpretation for the seasons 1993–94, 1994–95, and 1995–96.

Results from the winter season goose counts 1993–94, 1994–95 and 1995–96

During these three seasons the coverage was better than in previous seasons leading to the highest maximum counts yet recorded for most goose populations.

The 1993/94 season included counts from 12 September 1993, 14 November 1993, and 16 January 1994. The recommended dates for goose counts in 1994/95 were 11 September 1994, 13 November 1994, and 15 January 1995. In 1995/96, the recommended dates were 17 September 1995, 12 November 1995 and 14 January 1996.

September goose counts

Ten countries participated in the Greylag Goose *Anser anser* count in September 1993 which was the best coverage yet achieved during a September count. About 200,000 Greylags were recorded, excluding the discrete populations in the UK and Ireland (Table 30.). Almost 170,000 birds were recorded in continental Northwest Europe during this count.

Data from September 1994 were received from 10 countries and from September 1995 from seven countries. The overall totals were lower in these two seasons, but the differences between years in each country were small (Table 30).

November goose counts

Thirteen countries participated in counts of *Anser* species on 16 November 1993. Monitoring of the two sub-species of the Bean Goose *Anser fabalis* is one of the main goals of this count. However, if sufficient cover is ever to be obtained, all countries within their distributions will have to take part, and the Bean Goose in the countries where the two sub-species mix e.g. Poland and Germany, will have to be identified to sub-species level (Table 31). The totals for White-fronted Goose *Anser albifrons* were lower than during mid-winter counts.

Data were received from 15 countries from November 1994 and six countries from November 1995. In 1994, about 490,000 Bean Geese of the two sub-species were counted. This is about 110,000 more than the current population estimate (Rose and Scott 1997). If 90,000 birds belong to *Anser f. fabalis*, the number of *Anser f. rossicus* appears to be at least 100,000 higher than previously estimated.

January goose counts

1994

Goose data from the midwinter census in 1994 have been received from 33 countries of which 19 have provided site based data for the database. The remaining 14 countries have either submitted goose data directly to the database or included goose data in their reports to Wetlands International's IWC database (Table 32). The coverage in Northwest Europe was excellent and in Mediterranean countries it was also fairly good. In several countries in Central Europe and the Black Sea areas, goose counts could not be accomplished, or only in a much reduced form. Excellent coverage was achieved in Ukraine in 1993 and 1994, and larger numbers are expected in other countries in these areas in future.

Numbers of White-fronted Geese in Ukraine in 1993 should be corrected from 474,593 to 145,785 (Rose 1995, p. 67). This mistake has had only a minor impact on the estimated population size of White-fronted Geese in the Black Sea

Table 30. The numbers of Greylag Geese counted in mid-September 1993, 1994 and 1995. The recommended count dates were 12 September 1993, 11 September 1994 and 17 September 1995.
For comparison the results from the September counts in 1992 and 1991 are included.

	1995	1994	1993	1992	1991
Austria	345	1,563	0	34	29
Czech Republic		8,618	9,634	8,610	
Denmark	40,303	39,982	36,305	41,061	45,865
Estonia	15,670	13,555	10,450	9,924	
Germany		35,083	53,596	50,845	74,109
Hungary			8,691	4,043	5,124
Ireland	564	0			
Latvia			880		
Netherlands	34,004	36,712	20,279	27,782	20,694
Norway			3,060	2,810	4,170
Poland			3,657		
Slovakia			0		
Sweden	52,024	49,505	54,054	50,465	50,684
UK (Icelandic)	1,309	0	0	146	
UK (Re-established)	15,838	13,511	11,807	15,142	
Total	**160,057**	**198,529**	**212,413**	**210,862**	**200,675**

Table 31. The numbers of Bean Geese and White-fronted Geese counted in mid-November 1993, 1994 and 1995. The recommended count dates were 16 November 1993, 13 November 1994 and 12 November 1995.

1993	**Anser fabalis**	**A.f. fabalis**	**A.f. rossicus**	**A.a. albifrons**	**A.a. flavirostris**	**Unidentified**	**Total**
Austria			3,388	476		610	4,474
Belgium	1			1,310			1,311
Czech Republic	59	2		7			68
Germany	306,344			343,970			650,314
Hungary			43,240	46,338			89,578
Luxembourg			0				0
Netherlands	4,955	47		95,572			100,574
Poland	39,878			12,286		46,664	98,828
Portugal							
Romania				28,912		8,442	37,354
Slovakia	753		3,100			1,930	5,783
Sweden		43,100		2,385			45,485
UK		49		709	17,854		18,612
Total	**351,990**	**43,198**	**49,728**	**531,965**	**17,854**	**57,646**	**1,052,381**

1994	**Anser fabalis**	**A.f. fabalis**	**A.f. rossicus**	**A.a. albifrons**	**A.a. flavirostris**	**Unidentified**	**Total**
Austria			3,407	636			4,043
Belgium	1			1,522			1,523
Czech Republic			1,345				1,345
Germany	236,693			179,285			415,978
Hungary			109,191	71,217			180,408
Ireland					12,704		12,704
Luxembourg							
Netherlands	7,443	359	887	109,436			118,125
Poland	92,971			38,590			131,561
Portugal							
Slovakia			3,100				3,100
Slovenia			300				300
Spain							
Sweden		34,604		3,805			38,409
UK		43		380	19,262		19,685
Total	**337,108**	**35,006**	**118,230**	**404,871**	**31,966**		**927,181**

1995	**Anser fabalis**	**A.f. fabalis**	**A.f. rossicus**	**A.a. albifrons**	**A.a. flavirostris**	**Unidentified**	**Total**
Denmark		1,547		103			1,650
Ireland					10,122		10,122
Netherlands		122	10,718	175,193			186,033
Poland	105,077			19,532		32,593	157,202
Sweden		31,057		7,778			38,835
UK		221		286	21,546		22,053
Total	**105,077**	**32,947**	**10,718**	**202,892**	**31,668**	**32,593**	**415,895**

area due to high totals of about 550,000 birds counted in the Black Sea area in January 1994 and 1995.

The overall total of counts of all goose populations in 1994 was about 3.2 million birds. In Northwest Europe, more than 750,000 White-fronted Geese were recorded This population was estimated in 1997 at 600,000 individuals (Rose and Scott 1997). In the Black Sea countries, Greylag Goose counts totalled almost 85,000. These birds belong to Anser a. rubirostris, the population of which was estimated in 1997 at 25,000 (Rose and Scott 1997). Another 100,000 or so of this sub-species are believed to winter in Iraq and the Caspian Sea area. A welcome count was one of 1,019 Lesser White-fronted Geese in Hungary. The status of this globally threatened species is increasingly precarious (e.g. Tolvanen *et al.* 1998, 1999).

1995

In total, 3 million geese were counted in January 1995 in 32 countries. A total of 19 of these countries provided site-based data to the goose database, the remainder providing national totals only (Table 33). Almost 250,000 Barnacle Geese were recorded in the Wadden Sea countries. The 1997 published estimate of this population was 176,000 (Rose and Scott 1997).

1996

Goose data from January 1996 were received from 26 countries of which 14 provided site-based data (Table 34). This is insufficient basis for interpretation of goose numbers in this season.

Table 32. The numbers of geese counted on 16 January 1994. * indicates site-based data. – indicates national totals.

	Anser fabalis	A. f. fabalis	A. f. rossicus	A. brachyrhynchus	A. a. albifrons	A. a. flavirostris	A. erythropus	A. anser	Branta canadens	B. leucopsis	B. b. bernicla	B. b. hrota	B. ruficollis	Unidentified	Total
Albania -								63							63
Algeria *								14,467							14,467
Austria *			2,562		12,558			1,763						845	17,728
Belgium *	192			7,618	34,202		2	4,777	131	45	1				46,968
Bulgaria *			11		150,840		17	8					4,310		155,186
Croatia -			540		81			7						2	630
Czech Republic *	52,940				9,320			107							62,367
Denmark*		7,095		20,323	191			1,808	19,687	11,541	1,562	2,847			65,054
France *	2,406			3	269			3,483	98	15	106,000		2		112,276
Germany -	185,587				224,670			12,372	16,556	39,592	4,046				482,823
Greece -					3,301		6	449					7		3,763
Hungary *			70,268		75,251		1,019	15,143							161,681
Ireland -	2			17		8,860		2,976	33	1,253		9,716			22,857
Israel -					111			19							130
Italy -			16		150			1,113							1,279
Luxembourg *			55												55
Morocco *								1,091							1,091
Netherlands -		272	43,313	168	476,919			69,926	475	188,646	63,073		6		842,798
Norway *								13							13
Poland *	81,708				8,548			475	162					10,852	101,745
Portugal *								1,688							1,688
Romania *					110,991			33,892					11,266		156,149
Slovakia *			3,213					130						46,000	49,343
Slovenia *			750		80										830
Spain *								64,059							64,059
Sweden *		23,429		10	1,779			353	8,564	34	1				34,170
Switzerland -	89				10			123							222
Syria -					700			1,450						1,400	3,550
Tunisia *								2,471							2,471
Turkey -					37,238			11						2,200	39,449
UK -		424		160,866	5,201	510		I:41,645 R:15,666	36,011	35,756	125,069	4,158			425,306
Ukraine -			681		281,576			50,910					3,038	499	336,704
Total	**322,924**	**31,220**	**121,409**	**189,005**	**1,433,986**	**9,370**	**1,044**	**342,458**	**81,717**	**276,882**	**299,752**	**16,721**	**18,629**	**61,798**	**3,206,915**

Geese were not recorded during midwinter counts in Cyprus, Estonia, Latvia, Norway, Russia and Russia-Kaliningrad.

Anser anser in the UK are divided into Icelandic (I) and Re-established (R) populations.

Table 33. The numbers of geese counted on 15 January 1995. * indicates site-based data. – indicates national totals.

	Anser fabalis	A. f. fabalis	A. f. rossicus	A. brachyrynchus	A. a. albifrons	A. a. flavirostris	A. erythropus	A. anser	Branta canadens	B. leucopsis	B. b. bernicla	B. b. hrota	B. ruficollis	Unidentified	Total
Albania -					9										9
Algeria *								2,477							2,477
Austria *			3,500		3,660			70						3,500	10,730
Belgium *	25			17,363	22,613			2,689	87	26	1				42,804
Bulgaria *					316,062			621					40,557	85	357,325
Croatia -			195		21			7							223
Cyprus					274										274
Czech Republic *			39,250		6,000										45,250
Denmark *		8,058	1	6,562	951		1	2,946	13,132	13,432	3,030	4,221			52,334
France *	1,782				90			4,734	264	4	101,000	560			108,434
Germany -	142,912			4	179,904			13,944	14,074	69,078	1,366			104,011	525,293
Greece -					5,846			190					6		6,042
Hungary *			80,296		37,043		32	14,543							131,914
Ireland -				23		11,446		3,239	84	1,487		13,648			29,927
Israel -					95			13							108
Italy -			84		62			1,012						11	1,169
Luxembourg *			40												40
Morocco *	1							1,014							1,015
Netherlands -		664	43,379	845	458,404			66,375	859	166,136	52,454	1	3		789,120
Poland *	9,894				5,179			88	2	3				18,891	34,057
Portugal *								1,221							1,221
Romania *					49,940		31	16,550					12,540		79,061
Slovakia *			644		2			298						6,964	7,908
Slovenia *														600	600
Spain *								109,986							109,986
Sweden *		23,275		4	1,120			386	13,237	43					38,065
Switzerland -	44				1			166							211
Syria -					400			3,100							3,500
Turkey -					1,715			1,294						2,200	5,209
UK -		12		168,276	3,615	246		I: 48,227	35,414	42,248	91,757	3,438	1		406,356
								R: 13,072							
Ukraine -			220		185,336		7	31,933					5,766	711	223,973
Yugoslavia-			300		780			49							1,129
Total	**154,658**	**32,009**	**167,909**	**193,077**	**1,279,122**	**11,692**	**71**	**340,294**	**77,153**	**292,457**	**249,608**	**21,868**	**58,873**	**136,973**	**3,015,764**

Geese were not recorded during midwinter counts in Estonia, Latvia, Lithuania, Norway and Tunisia.

Anser anser in the UK are divided into Icelandic (I) and Re-established (R) populations.

Table 34. The numbers of geese counted on 14 January 1996. * indicates site-based data. – indicates national totals.

	Anser fabalis	A. f. fabalis	A. f. rossicus	A. brachyrynchus	A. a. albifrons	A. a. flavirostris	A. erythropus	A. anser	Branta canadens	B. leucopsis	B. b. bernicla	B. b. hrota	B. ruficollis	Unidentified	Total
Albania *								48							48
Algeria *								6,716							6,716
Austria *			1,763		150			1,469	8					273	3,663
Bulgaria *					133,850			609					19,925	10	154,394
Croatia *			258					19						12	289
Cyprus *					152										152
Czech Republic *			1,074		20			67						25,000	26,161
Denmark *		16,591	3	10,733	109		1	978	12,547	9	954	547			42,472
France *			2,889	21	228			7,960	250	28	90,000			27	101,403
Greece -					3,276			69							3,345
Ireland -		6		8		11,553		2,971	93	1,353	1	9,622			25,607
Israel -					7			25							32
Italy -			116		49			1,372		1					1,538
Latvia -									2						2
Luxembourg *			60		1										61
Netherlands -		2,455	93,420	3,669	633,229		10	65,277	1,076	218,286	38,759	332	2		1,056,515
Poland *	711				83			1						160	955
Portugal *								3,320							3,320
Slovakia *			2,557		1		1	16						2,082	4,657
Slovenia -			2,600		150										2,750
Sweden *		8,246		2	762			96	10,888						19,994
Switzerland -	73							209							282
Turkey -					6,876			164							7,040
UK -		80		73,146	5,604	17,533		I: 21,595 R: 13,588	35,195	47,276	87,847	1,396			303,260
Ukraine -					81,130		2	2,980					1,320		85,432
Yugoslavia -			3,750		1,360			495							5,605
Total	**784**	**27,378**	**108,490**	**87,579**	**867,037**	**29,086**	**14**	**130,044**	**60,059**	**266,953**	**217,561**	**11,897**	**21,247**	**27,564**	**1,855,693**

Geese were not recorded during midwinter counts in Estonia, Lithuania, Norway and Slovenia.

Anser anser in the UK are divided into Icelandic (I) and Re-established (R) populations.

6. Counts of Seaducks in the Western Palearctic in the 1993–94, 1994–95 and 1995–96 seasons

Seaducks are monitored incompletely by standard IWC counts, and additional monitoring using special methods is undertaken. Information arising from these efforts is stored and managed on the decentralised seaduck database, which is held at the National Environment Research Institute (NERI) in Kalø, Denmark.

Seaducks are one of the most difficult groups of waterbirds to monitor. Summarised information about combined offshore and inshore seaduck populations is presented in this section, and duplication of some information which appears in other parts of the report has been unavoidable. Four species of seaducks, Common Goldeneye *Bucephala clangula*, Smew *Mergellus albellus*, Red-breasted Merganser *Mergus serrator*, and Goosander *Mergus merganser*, occur in important numbers inshore in the Western Palearctic, and these inshore portions of the populations are covered in species accounts on pages 130 to 134.

Seaduck surveys in the Western Palearctic in January 1995 and 1996

The Wetlands International Seaduck Database was established at the National Environmental Research Institute (NERI), Kalø, Denmark in 1989. It was originally linked to the Nordic/Baltic Duck Survey Group established under IWRB and was intended to store seaduck data from the Baltic area. The new aim in 1989 was to develop a network of national seaduck count coordinators in all countries of the Western Palearctic and to obtain full count coverage of seaduck species in the whole region.

Since 1992 the Wetlands International *Seaduck Specialist Group Bulletin* (during 1992–93 *IWRB Seaduck Bulletin* and 1994–1995 *IWRB Seaduck Research Group Bulletin*) published by NERI once or twice a year has acted as a means of maintaining contact between the Specialist Group/Database and seaduck researchers in the Western Palearctic. In November 1997, *IWRB Seaduck Research Group Bulletin 7* was published, containing the proceedings from the Steller's Eider Workshop held in Estonia in November 1996.

In 1992, the Wetlands International Seaduck Specialist Group replaced the Nordic/Baltic Duck Research Group but the members of the latter group have continued their cooperation as a regional working group, the Baltic Region Subgroup under the umbrella of the Wetlands International Seaduck Specialist Group.

Seaducks are more difficult to monitor than most other waterbird species due to their maritime occurrence, often too far offshore to be surveyed from the coast. In addition, the birds often behave nomadically and the numbers in even the most attractive areas for seaducks may vary considerably between years. The offshore seaducks are

Common Eiders in the Wadden Sea, Schleswig Holstein.

Klaus Günther 1997.

thus best covered through combined surveys from land, aircraft, and ship.

Working in marine environments, the site approach used to record waterbird distributions by other Wetlands International waterbird databases has not proved useful. Instead, the coastal areas of the participating countries are divided into sections each sub-divided into count units based on different habitat types (e.g. the French Atlantic coast is divided into eight sections which are further divided into 40 count units).

Adequate coverage of a large waterbody requires the co-ordination and participation of a number of countries (e.g. the Baltic Sea). Aerial and ship surveys are very expensive and most countries can only afford a few such surveys in each decade. To obtain the best results, the surveys should be synchronised so that all countries in a region establish monitoring programmes in the same years.

The earlier attempt to cover the seaducks throughout the Western Palearctic consisted of three midwinter counts in 1987–89. Wetlands International is currently working towards a complete count of waterbirds in the Western Palearctic in two successive midwinters around the years 2002 and 2003. Hopefully, it will include complete coverage of the seaducks.

In the meantime the Seaduck SG has encouraged the formation of regional working groups following the example of the cooperation in the Baltic area. Initial steps have been taken in the formation of Black Sea Region and Atlantic Region subgroups of the Seaduck SG. In autumn 1997, the North American Seaduck SG was launched with help from the Seaduck SG.

Additional results from the midwinter seaduck counts in 1994

Most of the information from midwinter 1994 was published in the Western Palearctic and South-West Asia Waterfowl Census 1994 results (Rose 1995). However, the Seaduck Database has since then received additional information from e.g. Germany, The Netherlands, Belgium and France and the tables have been updated, hence the repetition of the 1994 results (Table 35). The database currently contains complete or almost complete coastal surveys from 10 countries, complete or almost complete inland surveys from three countries and results obtained from the reduced count site list from 20 countries.

More than 288,000 Greater Scaup *Aythya marila* were reported from Northwest Europe which is the highest number ever counted. This figure probably could have been even higher as a considerable proportion of 32,000 unidentified *Aythya* ducks reported from Szczecin Lagoon and Lake Dabie in Poland were believed to have been Greater Scaup. The 12,000 Greater Scaup from Denmark were recorded during a reduced site list count, a total count in 1994 would have recorded much higher numbers here.

More than 2,000 Common Eiders *Somateria mollissima* were recorded from Ukraine. These birds predominantly belong to a colony established in the Black Sea State Biosphere Reserve (Chernomorskij Nature Reserve) in the middle of the 1970s (T. Ardamatskaya pers. com.)

The Steller's Eider *Polysticta stelleri* appears to be continuing its expansion into the Baltic Sea. Almost 1,500 birds in Lithuania is the highest number recorded here and 4,800 is the second highest number recorded from Estonia.

Results from the midwinter seaduck counts in 1995

In 1995 the database received complete or almost complete coastal surveys from 10 countries, complete or almost complete inland surveys from three countries and results obtained from the reduced count site list from 18 countries (Table 36).

The winter 1994/95 was relatively mild in Northern Europe and migratory movements due to ice were reported only after the completion of the midwinter census.

A total of c. 1,560,000 seaducks was the highest recorded in this three year period.

Results from the midwinter seaduck counts in 1996

In 1996 the database received complete or almost complete coastal surveys from 10 countries, complete or almost complete inland surveys from three countries and results obtained from the reduced count site list from 16 countries (Table 37).

In 1996, Northwest Europe experienced a severe winter for the first time since 1987. However, to judge from seaduck numbers recorded during the mid-winter count in 1996 this had little or no effect on their numbers and distribution. The numbers recorded amounted to 1.3 million birds compared to 1.4 million in 1994 and 1.5 million in 1995. The proportion of seaducks in the Baltic Sea decreased to 51% in 1996 from 57% in 1994 and 56% in 1995.

Steller's Eider *Polysticta stelleri* reached a new peak in Lithuania where 1,924 birds were recorded. The 583 Velvet Scoters *Melanitta fusca* recorded in Turkey suggests that the small breeding population in Turkey winters in nearby coastal waters.

Conclusions

Due to the lack of aerial coverage in some vital countries and of offshore surveys in the Baltic Sea, the figures were too incomplete for most seaduck species, particularly those wintering far from the coast, to conclude anything on numbers or trends from the count data from January 1994, 1995 and 1996.

Seaduck figures from the three midwinter counts indicate that the Adriatic Sea might be an interesting area for seaducks. Notable numbers of Common Scoter *Melanitta nigra*, Velvet Scoter *Melanitta fusca*, Common Goldeneye *Bucephala clangula* and Red-breasted Merganser *Mergus serrator* were recorded in Albania and Italy. Because the two scoter species often occur far from the coast it seems

likely that aerial surveys might obtain even higher numbers here. Scoter migration in Northwest Europe mainly passes through the Baltic Sea, continuing over land to the Wadden Sea and spreading along the coasts of western Europe. However, the regular occurrence of scoters in Central European countries, especially Austria and Switzerland, and the Adriatic Sea might indicate that the birds recorded in this region migrate from the breeding areas or the Baltic Sea over land, thus forming a discrete group of their own.

Table 35a. The results from the midwinter counts in 1993–94 in countries with total coverage of the coastal areas.
* = from aircraft. + = from land. C = combined survey from aircraft and land. ( ) = incomplete survey.

	Aythya marila	Somateria mollissima	Polysticta stelleri	Clangula hyemalis	Melanitta nigra	Melanitta fusca	Bucephala clangula	Mergellus albellus	Mergus serrator	Mergus merganser	Total
Belgium C	23	63		3	2,170		211	66	65	456	3,057
Estonia C	71	10	4,816	8,606	35	294	3,932	366	419	1,966	20,515
France C	2,169	2,357		23	45,394	2,231	2,397	208	4,196	1,155	60,130
Germany C	97,343	291,693		9,293	52,822	159	39,364	5,250	8,048	20,744	524,716
Latvia (C)	7		1	5,611	104	23	3,847	17	136	2,604	12,350
Lithuanaia C	3	454	1,486	14,576	573	25,495	1,592	419	478	26,630	71,706
Netherlands C	161,535	118,827		127	53,135	1,833	19,684	3,158	4,664	7,235	370,198
Poland (*)	1,364	85	1	22,469	1,237	681	12,214	976	711	8,557	48,295
Portugal *					26,469				363		26,832
Ukraine (*)	7,850	2,042		2	1		483	450	470	48	11,346
Total	**270,365**	**415,531**	**6,304**	**60,710**	**181,940**	**30,716**	**83,724**	**10,910**	**19,550**	**69,395**	**1,149,145**

Table 35b. The results from the midwinter counts in 1993–94 in countries with total or reduced coverage of sites.
* = total site list. + = reduced site list. ( ) = inadequate coverage compared with Wetlands International reduced site list concept.

	Aythya marila	Somateria mollissima	Polysticta stelleri	Clangula hyemalis	Melanitta nigra	Melanitta fusca	Bucephala clangula	Mergellus albellus	Mergus serrator	Mergus merganser	Total
Albania (+)							136			50	186
Austria *	89	29		10	4	48	2,502	65	6	589	3,342
Bulgaria +	107	76		3	3	8	102	34	856		1,189
Croatia (+)	20						779	102	26		927
Czech Republic +	13				1	4	147	84		513	762
Denmark +	11,960	28,405		829	217	5	23,762	226	5,145	12,347	82,896
Greece (+)				3			281	357	662	20	1,323
Hungary +				4			8,680	318	9	31	9,042
Ireland +	790	19		5	265	1	768		786	14	2,648
Italy +	334	85		23	91	120	1,914	9	1,315	5	3,896
Morocco (+)									36		36
Norway +	649	27,985	4,888	4,006	484	1,921	2,450	6	1,544	219	44,152
Romania (+)								377	145	15	537
Russia (+)		2,782	1,758	193						22	4,755
Russia - Kaliningrad +		20		6,916		13	146			381	7,476
Slovakia +	2			7	1	3	1,519	177	6	63	1,778
Slovenia (+)	2			2			425	79	2	17	527
Spain +	6	15		7	2,966	72	4	1	652	1	3,724
Sweden +	5,660	7,302	1	13,030	671	1,776	12,852	740	1,612	6,833	50,477
Switzerland *	282	250		42	2	105	14,302	72	45	3,760	18,860
Turkey (+)							12	14			26
UK *	6,553	16,470		1,730	5,430	588	25,292	144	4,841	2,344	63,392
Yugoslavia (+)							850	3			853
Total	**26,467**	**83,438**	**6,647**	**26,810**	**10,135**	**4,664**	**96,923**	**2,808**	**17,688**	**27,224**	**302,804**

Seaducks were not recorded during counts in Algeria, Cyprus, Israel, Syria and Tunisia

Table 36a. The results from the midwinter counts in 1994–95 in countries with total coverage of the coastal areas.
* = from aircraft. + = from land. C = combined survey from aircraft and land. ( ) = incomplete survey.

	Aythya marila	Somateria mollissima	Polysticta stelleri	Clangula hyemalis	Melanitta nigra	Melanitta fusca	Bucephala clangula	Mergellus albellus	Mergus serrator	Mergus merganser	Total
Belgium C	68	16		1	1,328		255	62	50	381	2,161
Estonia C	15	44	2,430	9,245	26	216	5,448	18	151	1,795	19,388
France C	2,281	2,952		7	42,619	2,028	2,876	185	3,784	939	57,671
Germany C	58,410	243,488		16,299	93,025	79	37,920	3,472	5,522	16,307	474,522
Latvia (C)	4	1		9,319	259	37	2,758	71	251	8,559	21,259
Lithuanaia *		200	1,253	31,997	520	68,742	2,162	971	1,734	19,413	126,992
Netherlands C	149,621	147,391		50	96,687	1,252	15,651	4,971	7,610	8,944	432,177
Poland (*)	693	133		46,238	619	2,921	18,063	390	257	2,869	72,183
Portugal *					19,519				121		19,640
Ukraine (*)	593	3				2	85	1,350	480	81	2,594
Total	**211,685**	**394,228**	**3,683**	**113,156**	**254,602**	**75,277**	**85,218**	**11,490**	**19,960**	**59,288**	**1,228,587**

Table 36b. The results from the midwinter counts in 1994–95 in countries with total or reduced coverage of sites.

* = total site list. + = reduced site list. ( ) = inadequate coverage compared with Wetlands International reduced site list concept.

	Aythya marila	Somateria mollissima	Polysticta stelleri	Clangula hyemalis	Melanitta nigra	Melanitta fusca	Bucephala clangula	Mergellus albellus	Mergus serrator	Mergus merganser	Total
Albania +	5	2		2	14	25	808	13	247		1,116
Austria *	20	33		9		27	2,559	42	4	545	3,239
Bulgaria +		5					22	217	182		426
Croatia (+)	18			3		4	792	96	8		921
Czech Republic +	4			2			137	11	3	524	681
Denmark +	12,410	78,034		138	474	110	25,016	337	2,400	11,662	130,581
Greece +	7					8	322	297	678	2	1,314
Hungary +	8				1	1	823	122	1	20	976
Ireland +	2,419	19		40	6,985	2	2,047	4	861	2	12,379
Israel (+)							7				7
Italy +	140	59		7	152	134	2,236	6	1,739	5	4,478
Morocco (+)	2				5,343						5,345
Norway +	122	27,923	8,056	3,474	718	4,335	1,538	5	1,655	116	47,942
Romania (+)	425						1,812	1,442	101	428	4,208
Slovakia +	18			2			3,899	594	2	109	4,624
Slovenia (+)							46	1		1	48
Sweden +	3,846	8,718	1	13,261	937	555	15,454	1,066	2,330	12,131	58,299
Switzerland *	172	133		4	16	109	13,066	27	45	3,576	17,148
Turkey (+)						58	53	829	79		1,019
UK *	5,323	15,033		1,605	7,401	528	23,556	87	5,043	2,488	61,064
Yugoslavia (+)						36	725	23			784
Southwest Asia							*69*	*563*	*30*	*14*	*676*
Total	**24,939**	**129,959**	**8,057**	**18,547**	**22,041**	**5,932**	**94,987**	**5,782**	**15,408**	**31,623**	**357,275**

Seaducks were not recorded during counts in Algeria, Cyprus, Syria and Tunisia

Table 37a. The results from the midwinter counts in 1995–96 in countries with total coverage of the coastal areas.

* = from aircraft. + = from land. C = combined survey from aircraft and land. ( ) = incomplete survey.

	Aythya marila	Somateria mollissima	Polysticta stelleri	Clangula hyemalis	Melanitta nigra	Melanitta fusca	Bucephala clangula	Mergellus albellus	Mergus serrator	Mergus merganser	Total
Belgium C	8	170					332	188	79	680	1,457
Estonia C	15	129	3,879	1,938		64	11,851	120	178	1,832	20,006
France C	2,678	6,438		88	56,307	2,871	3,079	409	3,770	1,515	77,155
Germany C	38,097	263,933		14,714	14,008	71	31,570	1,519	2,422	8,200	374,534
Latvia (C)	10			1,192	1	45	2,087	60	138	14,758	18,291
Lithuanaia *		116	1,924	34,470	195	40,353	1,914	480	49	6,241	85,742
Netherlands C	88,750	169,505		45	93,630	900	17,777	10,169	11,947	20,373	413,096
Poland (*)	1,201	126		8,238	293	763	21,131	568	335	6,012	38,667
Portugal *					6,263				74		6,337
Ukraine (*)	1,000						150	4,947	45	171	6,313
Total	**131,759**	**440,417**	**5,803**	**60,685**	**170,697**	**45,067**	**89,891**	**18,460**	**19,037**	**59,782**	**1,041,598**

Table 37b. The results from the midwinter counts in 1995–96 in countries with total or reduced coverage of sites.

* = total site list. + = reduced site list. ( ) = inadequate coverage compared with Wetlands International reduced site list concept.

	Aythya marila	Somateria mollissima	Polysticta stelleri	Clangula hyemalis	Melanitta nigra	Melanitta fusca	Bucephala clangula	Mergellus albellus	Mergus serrator	Mergus merganser	Total
Albania +	1	15				1	675	3	308	25	1,028
Austria *	75	50		3		5	3,498	114	9	992	4,746
Bulgaria +	47					1	139	623	293	100	1,203
Croatia (+)	2	3					220	25	21	37	308
Czech Republic +	30						244	49		762	1,085
Denmark +	5,480	36,540	1	89	4	1	26,560	193	2,014	9,024	79,906
Greece +	2					8	193	82	976	27	1,288
Hungary +	4						592	127		29	752
Ireland +	678	16		159	9,052	1	2,308	1	1,215	2	13,432
Italy +	183	64		6	105	48	2,047	10	1,171	5	3,639
Morocco (+)											
Norway +	234	29,293	4,300	4,823	745	2,249	2,050	5	2,014	313	46,026
Romania (+)	2,060				1	41	387	863	22	65	3,439
Slovakia +	24				7	14	2,872	206	2	45	3,170
Slovenia +					1	3	414	43	51		512
Sweden +	4,223		4	6,329	424	18	23,380	1,959	2,778	8,782	47,897
Switzerland *	154	166		5		42	13,858	126	50	3,723	18,124
Turkey (+)						583	40	163	184	4	974
UK *	4,419	18,347		1,327	2,504	447	20,389	208	3,718	3,623	54,982
Yugoslavia (+)	2					76	1,572	46	7		1,703
Southwest Asia							*1,304*	*5,659*	*9*	*403*	*7,375*
Total	**17,618**	**84,494**	**4,305**	**12,741**	**12,843**	**3,538**	**102,742**	**10,505**	**14,842**	**27,961**	**291,589**

Seaducks were not recorded during counts in Algeria, Cyprus and Israel

7. Species Accounts

The species accounts that follow are grouped taxonomically. Eileen Rees, Co-ordinator (Eurasia) of Wetlands International's Swan Specialist Group, has summarised the numbers and population trends of the three swan species. The IWC data for swans were included in special international censuses of Bewick's and Whooper Swans undertaken in January 1995. The section on swans is followed by a section on sheldgeese, dabbling ducks, diving ducks, stifftails and Common Coot *Fulica atra*. The level of detail in these two sections is greater than for other species, because these are the species for which participating countries undertake the most detailed counts, and for which the IWC databases hold the longest time series of information.

The chapter on waders was possible thanks to Lieuwe Haanstra's extensive recent work on the decentralised wader database. Counts of waders are less well established in some countries than counts of Anatidae, and it is not yet possible to present trend analyses, or summaries of counts at site level for this group. The section on waders is followed by accounts relating to "Other waterbird species". A large number of standardised counts have been made in the 1990s of the following groups of waterbirds: divers *Gaviidae*, grebes *Podicipedidae*, pelicans *Pelecanidae*, cormorants *Phalacrocoracidae*, egrets, herons and bitterns *Ardeidae*, storks *Ciconiidae*, ibises and spoonbills *Threskiornithidae*, flamingos *Phoenicopteridae*, cranes *Gruidae*, rails *Rallidae*, gulls and terns *Laridae.* These are summarised in the final section of species accounts. The species accounts do not include extra-limital vagrants.

Conventions adopted in the species accounts

The species accounts summarise numbers and distribution of each species as revealed by IWC counts in January 1995 and 1996. Tables listing sites where counts exceeded 1% importance thresholds in January 1995 and 1996 are also presented for 24 species of Anatidae and Common Coot *Fulica atra*. Graphs illustrating population trends estimated using TRIM are also presented and discussed for these species.

Geographical terms:

Region refers to the entire international region covered by this report, that is, the Western Palearctic and Southwest Asia. See p. 8 for details.

Area refers to the six areas into which the above region was divided for the purposes of summarising and analysing data. See p. 8 for details. The six areas are as follows:

The Baltic/Nordic area, Northwest Europe,
West Mediterranean, Central Europe,
Black Sea/East Mediterranean, Southwest Asia.

Recognised Populations:

Recognised populations are listed at the top of each species account. In most cases these are the populations identified and estimated by Rose and Scott (1997). Only populations whose ranges include the Western Palearctic and Southwest Asia are included in these lists. Many of these population estimates will be revised in the third edition of *Waterbird Population Estimates* which is due for publication in 2000. The tables include the current estimate of each population, or if no estimate exists, this column is left blank. Also included is the 1% threshold used in the designation of Ramsar sites for the population (see introduction), and a code letter to indicate whether the population was considered by Rose and Scott (1997) to be Increasing 'I', Stable 'S', or Declining 'D'.

Tables of counts exceeding 1% thresholds for international importance in January 1995 and 1996:

For a selection of species (Anatidae plus Common Coot *Fulica atra*) sites where high counts were made are tabulated. These tables summarise counts at sites on the reduced site list (see Methods) of all countries where counts were made in 1995 or 1996 which exceeded 1% thresholds for international importance. *These tables should not be interpreted as listing all sites of international importance in a country* since they only include sites on the reduced site list of each country, and since only data from the month of January are submitted to Wetlands International. For full lists of sites reaching criteria for international importance, or which may be important in other seasons, readers should refer to national reports (Table 2) where they are available. On these summary tables of key sites, a dash '–' means that the site was not counted in the season indicated.

7.1 Swans

Mute Swan
Cygnus olor

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Mainland and Central Europe	210,000	2,100	I
Britain	25,000	250	I
Ireland	10,000	100	*
E Med/Black Sea	45,000	450	I
W and Central Asia/ Caspian	250,000	2,500	I

Numbers and distribution in January 1995 and 1996

Northwest Mainland and Central Europe

The Mute Swan has a widespread distribution across western and central Europe. Birds breeding at northern latitudes, such as Scandinavia and the Baltic countries, may migrate south to winter, whereas those nesting in Germany, The Netherlands, France and Central Europe are mostly sedentary (Monval and Pirot 1989). A total of 109,580 birds were counted at IWC sites across Northwest Mainland and Central Europe in January 1995: 49,583 in Northwest Europe (excluding the UK and Ireland), 47,263 in the Baltic countries, 11,314 in Central Europe and 1,420 in the West Mediterranean

region (Tables 4 to 10). This represents about half the total population, estimated at 210,000 birds, with only slightly fewer (97,666 birds; 46.5%) being found at sites on the reduced site list. The relatively sedentary nature of the species has resulted in three sub-groups being described for the mainland European population: the Scandinavian/Baltic sub-group (estimated 170,000 birds), The Netherlands sub-group (20,000 birds) and the Central European sub-group (16,000 birds) (Monval and Pirot 1989, Scott and Rose 1996). These estimates suggest that a high proportion of swans in The Netherlands and Central European sub-groups are covered by the IWC counts (84% and 70% respectively), with some 30%–50% of those from the Scandinavian/Baltic sub-group being counted, depending on the availability of data from Germany (missing in 1996).

The drop in numbers counted in January 1996 (total of 85,601 birds; 68,167 on the reduced site list) was due mainly to a lack of data from Germany, which has a large Mute Swan population. Most countries reported higher Mute Swan counts in 1996, although numbers dropped slightly in Poland, and quite substantially in Latvia (Table 4). The apparent decline in Latvia may have been due to a reduction in the number of sites visited in 1996 rather than a shift in distribution. The consistency in national totals reported in 1995 and 1996 suggests that there were no major movements due to the prolonged cold weather across mainland Europe during the 1995–1996 winter.

The most important countries for the whole of the Northwest Mainland Europe/Central European population are Denmark (31,184 birds in 1996; 29% of the 1995 count) and Germany (28,081 birds in 1995; 28% of the 1995 count), although The Netherlands (16,877 birds; 15%) Sweden (8,639 birds; 8%), Poland (8,536 birds; 8%) and Switzerland (5,027 birds; 5%) also hold large numbers. Aerial counts in Denmark reported 37,000 Mute Swans in 1987 (Laursen *et al.* 1987), and 9,600 individuals were counted in Sweden, also in 1987 (Nilsson 1987). Numbers appear to have increased more dramatically elsewhere in the Baltic, with populations doubling in Estonia, Latvia and Lithuania since 1987 (earlier data in Monval and Pirot 1989). The total numbers wintering in The Netherlands are uncertain but recent estimates have put the population at around 15,000 individuals (Koffijberg *et al.* 1997), which suggests that most are included in the IWC counts (Table 7). It is thought that numbers in The Netherlands have remained stable since the mid 1980s (Koffijberg *et al.* 1997).

Table 38 summarises Mute Swan numbers recorded by the IWC counts which exceeded 1% thresholds for international importance in January 1995 and 1996. In Denmark, over 10% of birds counted in 1996 (an estimated 6% of the total population) were on Lolland (Northwest) with large concentrations also reported wintering at Nakskov Fjord (in northwest Lolland) Roskilde Fjord, Sydfynske Hav and Odense Fjord (Table 38). The 2,290 birds at Foteviken comprised 26% of the Mute Swans counted in Sweden, with 3,086 at Zat Gdanska in 1995 comprising 36% of those seen wintering in Poland and 2,752 birds at Rugen some 9% of those in Germany (Tables 38, 4 and 7).

Great Britain

The British Mute Swan population is also generally sedentary. There is only limited movement of individuals between different parts of the country, and thus little seasonal variation in the swans' distribution (Birkhead and Perrins 1986; Ogilvie in Lack 1986). The birds are widely dispersed and, although major concentrations do occur (such as at Chesil Fleet and the Ouse Washes, Table 38), only a proportion of the population occurs at IWC sites. Peak counts for Great Britain in these two years, of 14,272 in 1995 (Waters *et al.* 1996; Table 7) and 15,646 in 1996 (Cranswick *et al.* 1997), therefore fall well below the most recent population estimate for Great Britain, which was put at 25,750 birds following a special survey during the 1990 breeding season (Delany *et al.* 1992). A continued increase in the trend indices recorded for Great Britain during the 1990s suggests that the population is now even higher (Cranswick *et al.* 1997).

Chesil Fleet in southern England remains the most important site for Mute Swans in Britain, with 1,100–1,200 birds reported there each winter during the 1990s (Cranswick *et al.* 1997; Table 38). Other sites with a five-year mean of 260 birds (1% of the population) up to the 1995–96 winter were the Ouse Washes (average 611 birds), Abberton Reservoir (557), Tweed Estuary (507), Somerset Levels (495), Avon Valley (Mid) (417), Loch of Harray (306), Rutland Water (285), Morecambe Bay (280) and Loch of Skene (278) (from Cranswick *et al.* 1997). The high numbers recorded at Abberton Reservoir and the Tweed Estuary (in Cranswick *et al.* 1997) are normally of moulting flocks.

Ireland

A total of 6,018 and 5,296 birds were counted in Ireland in 1995 and 1996 respectively, including 1,871 and 1,465 birds recorded in Northern Ireland. This represents *c.* 60% of the total population, estimated at around 10,000 birds (Scott and Rose 1996). The species is widely scattered, with Monval and Pirot (1989) estimating that groups of <25 birds occurred at nearly 200 sites. Nevertheless, major concentrations are also recorded, most notably at Lough Neagh/Beg where over 1,000 individuals were counted in both January 1995 and January 1996 (Table 38). Numbers moulting at the site are even higher, with 2,179 Mute Swans counted at Lough Neagh in August 1995 (Cranswick *et al.* 1997). Eighteen sites in the Republic of Ireland, and a further six sites in Northern Ireland were reported with at least 100 Mute Swans (1% of the Irish population) in the 1994–95 or 1995–96 winters (Cranswick *et al.* 1997, Colhoun 1998). Three-year means recorded up to the 1996–97 winter indicate that 20 of the 319 sites at which Mute Swans were recorded in the Republic of Ireland now meet the 1% threshold (Colhoun 1998, Table 38). These include the Shannon Callows (3-year mean of 537 birds), Lough Derg (Shannon) (325 birds, Lough Swilly (295 birds) Lough Ennell (281 birds), River Slaney (257 birds) and Corofin Lakes (232 birds).

East Mediterranean/Black Sea

Totals of 16,152 birds were recorded at IWC sites in January 1995, and 12,670 in January 1996, representing 36% and 28% of the total population (estimated at 45,000 birds) respectively. Most swans in the East Mediterranean/ Black Sea population are usually found in the Ukraine (74% of swans counted in 1995), Romania (11% of the 1995 total) and Greece (10% in 1995; 16% in 1996), with weather influencing the distribution of birds in the region. Thus the increase in numbers recorded in Bulgaria (to 1,030), Greece (2,064), and Turkey (2,137) in 1996, and the lower figures reported for the Ukraine and Romania in this year (Table 6), could reflect a southward movement of birds due to the freezing conditions across Europe during the 1995–1996 winter, although variation in coverage of sites makes it difficult to establish this for certain (Table 38). For instance, the totals for Turkey were greatly enhanced by the inclusion of the Meric Delta (2,030 swans present in 1996; Table 38), and Romanian figures were similarly affected by counts at Sahalin Island (1,728 swans present in 1995; not reported separately from the rest of the Danube Delta in 1996). Otherwise most of the important sites for the population were in the Ukraine, including Gebriianov Bay (2,200 birds in 1995), the Crimea Region (2,000 birds in 1995), the Danube Delta (1,930 birds in 1996), Dzansheisky/Shagany/Alibey (1,160 in 1995; 500 in 1996), Tendrovsky Bay/adjacent sea (1,100 in 1995), Egorlicky Bay (1,000 in 1995) and Stencovskie Plavny (1,000 in 1996) (Table 38).

West and Central Asia/Caspian

The West and Central Asian/Caspian population has been estimated at 250,000 birds since Krivonosov (1991) reported 13,370 breeding pairs and 215,900 non-breeders in the region in the Caspian region alone in 1987. The main breeding area is the Volga delta (11,000 pairs in 1991), from which the birds disperse to Dagestan, Kalmykiya and Volgograd (Krivonosov 1991). Most of this region is not covered by the IWC counts, which focus on South Caspian sites, resulting in less than 1% of the population being counted in the IWC programme each year (Table 38). Trend analyses therefore are not possible from the IWC data, but Mute Swan censuses in the former USSR indicate a definite increase in numbers since the early 1970s, with counts of some 21,800 birds in the Caspian region in 1974, 31,400 in 1978 and 242,640 in 1987 (Krivonosov 1991). Although the increase was partly caused by improved coverage, the swans have also been reported colonising new sites, such as areas north along the Volga Delta and in reed beds expanding into the shallow coastal waters of the northern Caspian Sea (Krivonosov 1991).

Population trends

Northwest and Central Europe

Population trends derived from the IWC data show a significant increase in Mute Swan numbers in Northwest Europe (including Britain and Ireland) since the early 1970s (Figure 16), although numbers in The Netherlands appear recently to have stabilised (Koffijberg 1997). Further increases in The Netherlands sub-group may be limited, since efforts are made to control numbers due to the potential for crop damage when the birds feed on arable land (Monval and Pirot 1989). Similar population growth is evident for the Baltic/Nordic countries, with numbers apparently doubling between 1989 and 1992 (Figure 16). The more recent decline could be linked with continued increases reported elsewhere in Europe since 1992 (Figure16). The Central European sub-group is continuing to show slow but steady growth (Figure 16) and the species is now established in the West Mediterranean region (especially Italy, Table 9, Figure 16).

Britain and Ireland

The British Mute Swan population was relatively stable during the 1970s, following a steady decline during the 1960s, but numbers have increased dramatically since the 1984–85 winter, particularly since 1986–87 (Kirby *et al.* 1994). This overall trend masks regional variation with, for instance, numbers in Northwest England and The Midlands generally remaining stable (Kirby *et al.* 1994). More recently, indices show a slight decline in the early 1990s, but since then the population has continued to grow (Cranswick *et al.* 1997). Thus it is probable that the British Mute Swan population now exceeds the estimated 25,750 birds recorded in 1990 and a new survey is scheduled for summer 2001. Lead poisoning due to the ingestion of anglers' lead weights was a major cause of death for Mute Swans in England (Sears and Hunt 1991), so the introduction of legislation against the sale and use of lead weights in England and Wales in January 1987 is likely to have been a major factor underlying the recent increase in numbers. Mild winters in 1987–88 to 1989–90 inclusive may have helped to accelerate the trend (Delany *et al.* 1992).

Systematic monitoring of waterbird populations in the Republic of Ireland was much enhanced by the inauguration of the Irish Wetland Bird Survey (I-WeBS) in the 1994–95 winter. The first two years' data suggested a 13% drop in Mute Swan numbers between January 1995 and January 1996, based on 129 sites in the Republic of Ireland counted each season, but this was followed by a 33% increase between January 1996 and January 1997 (Colhoun 1998). An increase in trend indices has been reported for Mute Swans in Northern Ireland from the early 1990s onwards (Cranswick *et al.* 1997).

East Mediterranean/Black Sea

The East Mediterranean/Black Sea population was estimated at 20,000 birds in the mid 1980s, following counts of 10,000–13,000 birds in the northern Black Sea area in 1974 and 1976 (Monval and Pirot 1989), and reports that the number of birds breeding in the region has increased substantially since the early 1970s (Krivonosov 1991). The population is susceptible to high mortality levels in severe winters (Ardamatskaya and Korzyukov 1991), but breeding pairs dispersed in the late 1980s to new sites, including numerous ponds and river valleys near human settlements (Korzyukov *et al.* 1991). Recent population trends derived from IWC data suggest that the population is not above its 1984 level, having fallen from peak numbers in 1994 (Figure 16), but variation both in the swans' local distribution and in coverage for the IWC

Figure 16. Mute Swan population trends.

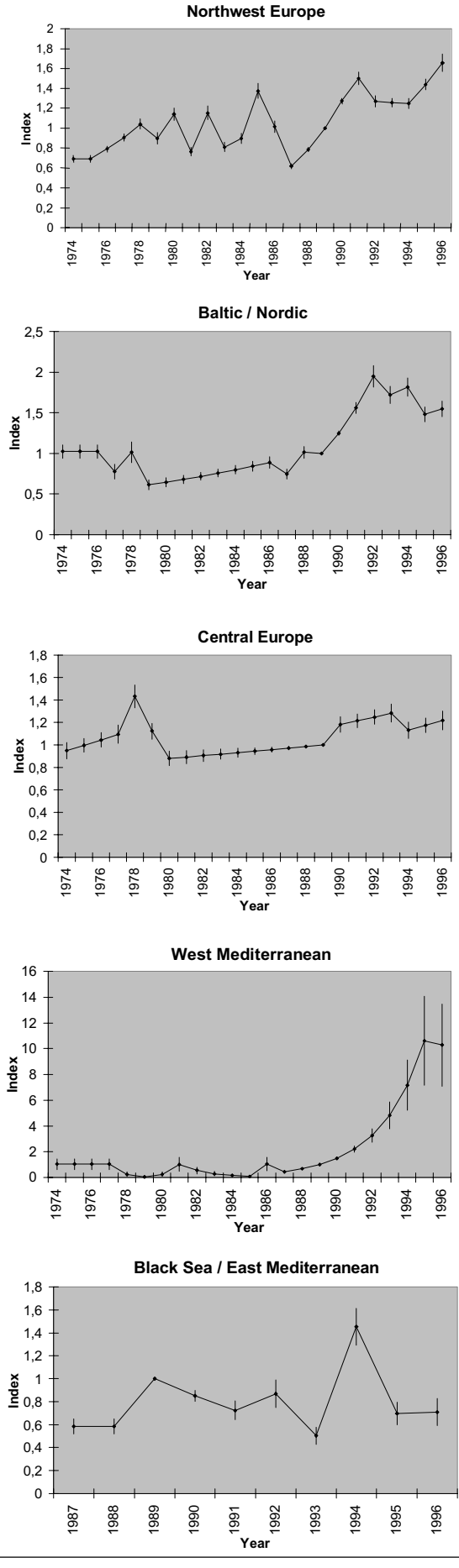


Table 38. Mute Swan: Counts from sites on the "reduced site list" exceeding 1% importance thresholds in January 1995 and 1996.

(Additional data in italics is derived from Cranswick *et al.* 1997 and Colhoun 1998).

	1995	1996	
BALTIC/NORDIC			
Denmark:			
Lolland Northwest	7,487	12,828	
Roskilde Fjord	5,016	3,529	
Sydfynske Hav	2,882	3,454	
Odense Fjord	2,281	2,773	
Nakskov Fjord	1,717	4,638	
Sweden:			
Foteviken	2,285	2,292	
Poland:			
Zat Gdanska	3,086	1,262	
NORTHWEST EUROPE			
Germany:			
Rügen: Insel Ummanz	2,752	–	
Great Britain:			
Wey/Fleet	748	889	
Ouse Washes	554	427	
Somerset Levels	*660*	*570*	*(Nov)*
Avon Valley (Mid)	*438*	*476*	*(Nov)*
Loch of Harray	*211*	*219*	*(Feb)*
Rutland Water	*280*	*295*	*(Dec)*
Morecambe Bay	306	285	
Ireland:			
Loughs Neagh and Beg	1,109	1,183	
Upper Lough Erne	456	*456*	
Shannon Callows	444	575	
Lough Swilly	258	*298*	
Lough Ennell	220	202	
Corofin Lakes	*242*	*248*	
Little Brosna Callows	*316*	*63*	
Tacumshin Lake	175	*222*	
Ballyhaunis Lakes	174	170	
Lough Derg	169	117	
Lower River Slaney	160	*378*	
Inner Galway Bay	124	147	
The Lough, Cork	127	52	
Wexford Harbour and Slobs	103	*179*	
Lough Foyle	*102*	*104*	*(Dec)*
Tralee Bay	100	–	
Lough Oughter Complex	86	137	
Shannon and Fergus Estuary	76	105	
Ballinamore Lakes	46	104	
BLACK SEA/EAST MEDITERRANEAN			
Ukraine:			
Gebriianov Bay	2,200	–	
Crimea Region	2,000	–	
Dzansheisky, Shagany, Alibey,	1,160	500	
Tendrovsky Bay and adjacent sea	1,100	–	
Egorlicky Bay	1,000	–	
Badavsky and Gribovsky Limans	700	600	
Lakes Kagul, Kugurlui and Ialpug	540	870	
Lake Kitai	470	160	
Tiligulsky Liman	470	0	
Sasyk Liman and adjacent sea	450	600	
Danube Delta	–	1,930	
Stencovskie Plavny	–	1,000	
Romania:			
Danube River and Delta	1,728	457	
Greece:			
Evros Delta	543	376	
Ptelea–Elos Lagoon (Karakatsali)	448	601	
Turkey:			
Meric Delta	–	2,030	

continue to make it difficult to assess long-term population trends in this area. Overall, the indices do not give much evidence for a population increase since the mid 1980s, when it was put at 20,000 birds. Numbers are now put at 45,000 birds, however, by Scott and Rose (1996), following a report of >50,000 Mute Swans in the Azov-Black Sea region (Korzyukov *et al.* 1991).

Bewick's Swan
Cygnus columbianus bewickii

Recognised Populations (Beekman 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Western	29,000	290	I
W Siberian/Caspian	500	5	*

Numbers and distribution in January 1995 and 1996

Western population

Preliminary results of the international swan census, made across Europe in January 1995, put the Western Bewick's Swan population at around 29,000 birds (Beekman 1997). Most of these (27,660 birds in Table 10, excluding those in the Black Sea and SW Asia areas, which are thought to be from the W Siberian/ Caspian population) were reported to IWC. By comparison, 13,810 swans counted at sites on the "reduced site list" represent 48% of the total population. Fewer swans were recorded in January 1996 (26,806 birds for all IWC sites), which could be due to variation in observer effort in census and non-census years but, bearing in mind the consistent coverage, is more likely to reflect poor breeding success in summer 1995. Only 8.3% young were recorded amongst 12,152 Bewick's Swans aged in The Netherlands in November 1995 (SOVON Ganzen- en Zwanenwerkgroep 1997), with 11.0%–14.7% young seen at sites in the UK (Cranswick *et al.* 1997), which will not compensate for an annual mortality rate estimated at 16% (Scott 1988).

Cold weather in continental Europe during the 1995–96 winter, with widespread freezing conditions on the mainland in late December and early January (SOVON Ganzen en Zwanenwerkgroep 1997), encouraged the birds to move to more westerly regions, and a higher percentage of the population was recorded in Britain and Ireland in January 1996 than in 1995 (Table 7). The species congregates in large numbers at just a few site in the UK, which are covered routinely by the Wetland Bird Survey programme ("WeBS"). Most of these are also in the IWC reduced site list, so IWC totals for these sites are similar to the national maxima (of 7,293 in January 1995; 8,198 in January 1996), despite two sites of international importance not being included on the reduced list (the Severn Estuary and the Somerset Levels). In The Netherlands, however, the species is more widespread and a higher proportion of Bewick's Swan sites are not included in the reduced site list, with several sites in addition to those given in Table 39 being important for the species. For instance, large concentrations were found at Arkemheen/ Putterpolder (up to 1,039 birds) and the Eempolders (up to 1,919 birds) in January and February 1996 (SOVON Ganzen- en Zwanenwerkgroep 1997). Thus, data from the reduced site list (Table 7) suggest that the UK held about 52% and The Netherlands 48% of the Northwest European population of Bewick's Swans in January 1995, supporting earlier reports that about half of the population winters in The Netherlands (Monval and Pirot 1989), whereas preliminary results of the January 1995 swan census indicate that the Dutch figure should be much higher, at around 66% (Beekman 1997).

The Ouse Washes (Southeast England) remain the most important single site in January, with counts of 3,920 in January 1995 and 3,913 in January 1996. Numbers wintering at Martin Mere and the Ribble Estuary have diminished since the early 1990s, when more than 1,000 birds were recorded in the area, possibly due to inter-specific competition with the increasing numbers of Whooper Swans using these two sites (Rees and Bowler 1996). In The Netherlands, no fewer than 46 sites now qualify as being of international importance for Bewick's Swans (Koffijberg *et al.* 1997). An overview of site usage found that, not only were numbers at traditional sites increasing, but the swans were moving into new areas from the mid 1980s onwards (Koffijberg *et al.* 1997). Several of these are used mainly in autumn and early winter, with Lauwersmeer receiving by far the greatest numbers (up to 6,461 birds recorded), although numbers at this site fluctuate depending on the availability of *Potamogeton* in October and November. Average peak counts made between 1985 and 1994 were of 2,612 for the Lauwersmeer, 1,680 for Noordoostpolder-west, 1,632 for the Harderwijk-Elburg polders, 1,575 for the Eempolders, 1,554 for Arkemheen en Putterpolder, 1,238 for Kamperveen en Oosterwolde polders and 1,000 for Noordkust Friesland (Koffijberg *et al.* 1997). The recent increase in the number of sites in The Netherlands of international importance for Bewick's Swans is quite remarkable. Only five were cited during the mid 1970s (Atkinson-Willes 1976) and 13 during the 1980s (Monval and Pirot 1989). This partly reflects more frequent coverage, since only January counts were available for many of the Dutch sites before the 1980s, but also can be attributed to the increase in population, sustained mainly by Dutch wintering sites, in recent years.

Elsewhere along the flyway, important spring and autumn staging areas on the western coast of Estonia have long been recognised as key sites for Bewick's Swans on migration. Counts made between 1992 and 1994 found 14,500 Bewick's Swans at Matsalu Bay in spring (3,000 in autumn), 7,000 at Parnu Bay and the Parnu rivershed (1,000 in autumn), 2,000 at Lake Peipsi in autumn (500 in spring) and at least 500–1,000 individuals in the Pandivere region, River Emajogi, Haapslau Bay and the Vaike-Vain Strait (Luigujoe *et al.* 1996). Up to 10,000 birds use Dvina Delta and Dvina Bay, near Archangelsk, White Sea, Russia before moving to the breeding grounds (Beekman *et al.* 1996) and 15,000 have been recorded in pre-migratory flocks on the Pechora Delta in autumn (Beekman *et al.* 1994).

West Siberian/Caspian population

The small number of Bewick's Swans which winter in the south Caspian region, most notably in northern Iran, are still thought to comprise a separate population, although

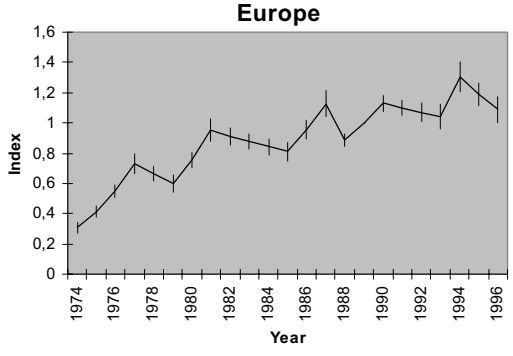
the breeding distribution of these birds remains uncertain. Reports of birds seen regularly in the Ukraine, Greece and Turkey may also be from this group. The Gareh-Gheshlagh Marshes in Iran have become a regular wintering site for the species, last reported with 39 birds present in 1991 (Rose and Scott 1997).

Population trends

Western population

Population trends for Bewick's Swans wintering in Europe, derived both from the total site list and from the reduced site list, show a definite increase in population size between 1974 and 1994, with tentative evidence of a more recent decline (Figure 17). These figures agree with a similar increase in total population estimates, with numbers put at 9,000–10,000 during the mid 1970s (Mullie and Poorter 1977) and 17,000 birds by the mid 1980s (Monval and Pirot 1989). International censuses of the western Bewick's Swan population have been made since January 1984, as part of the activities of the Wetlands International Swan Specialist Group, which aims to obtain accurate estimates of population size through near complete coverage of areas where Bewick's Swans are known to occur across Europe. Counts of 16,300 in January 1984 and 14,600–15,950 in January 1987 supported the estimates made from the IWC counts and suggest a rather stable population of about 16,000–17,000 birds in the mid 1980s (Beekman *et al.* 1985, Dirksen and Beekman 1991). The censuses have also indicated a dramatic increase in numbers in the Western population since the late 1980s, with preliminary figures of 25,800 Bewick's Swans recorded in January 1990, and 29,000 in January 1995 (Beekman 1997). Most of the increase occurred in The Netherlands, where numbers rose from nearly 9,000 in 1984 to over 19,000 in 1995 (Beekman 1997). The biological reasons underlying the rapid increase in population are not immediately obvious since, although there were several good breeding years in the late 1980s, there have been some extremely poor years in the early to mid 1990s. Variation in annual mortality rates, and possibly even immigration from the eastern population, therefore may be relevant factors. The next international census, scheduled for January 2000, should help to assess whether the recent decline in population indices means that the population will stabilise at a level below its 1994 peak.

Figure 17. Bewick's Swan population trends.



Sites in Northwest Europe averaging at least 170 Bewick's Swans *per annum* over a 5-year period have been considered to be of international importance since the mid-1980s, as this represented 1% of the total Northwest European population at that time (17,000 birds; Monval and Pirot 1989, Dirksen and Beekman 1991). In view of the continued increase in population trends into the 1990s, the threshold should tentatively be raised to 290 birds in line with the results of the 1995 census (Beekman 1997), pending the formal publication of the 1991 and 1995 international censuses and the results of the January 2000 census.

West Siberian/Caspian population

Some 843 birds were counted in Iran alone in 1969; since then counts submitted to the International Waterfowl Censuses have not exceeded 322 (in 1994) (Scott and Rose 1996). Population trends for both the Black Sea/East Mediterranean and the Southwest Asian regions suggest a population increase in the early 1990s, with a more recent decline, but variable coverage and the small number of swans using these sites means that population changes are difficult to ascertain.

Table 39. Bewick's Swan counts recorded under the IWC counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Additional information on major concentrations derived from National Reports (Koffijberg *et al.* 1997 and SOVON Ganzen-en Zwanenwerkgroep 1997 for The Netherlands; Waters *et al.* 1996 and Cranswick *et al.* 1997 for the UK) is given in italics.

	1995	1996
NORTHWEST EUROPE		
The Netherlands:		
IJssel	1,782	478
Gelderse/Brabantse Maas	685	464
Alblasserwaard	613	979
Waal	593	157
Nederrijn	431	276
Reeuwijkse Plassen e.o.	388	138
Texel	253	330
Polder Zeevang	200	0
Lindevallei	192	127
Limburgse Maas	187	125
Krimpenerwaard	182	496
Balgzand en Wieringen	181	0
Midden-Delfland en Oude-Leede	171	362
Eempolders	*2,701*	*1,919*
Arkemheen/Putterpolder	*1,414*	*1,039*
Maasland: Den Bosch en Drunen	*747*	*901*
UK:		
Ouse Washes	*3,920*	3,913
Nene Washes	1,913	1,025
Martin Mere	317	196
St Benets Levels, Ludham	265	391
Ribble Estuary	208	212
Severn Estuary	*253*	*370*
Ireland:		
The Cull and Killag	266	555
SOUTHWEST ASIA		
Iran:		
Gareh-Gheshlagh Marshes	90	–
Aras Rud (Bralan-Aras Dam)	64	–
Gaross Marsh	17	–

Whooper Swan
Cygnus cygnus

Recognised Populations (Laubeck *et al.* In press, Cranswick *et al.* 1996, Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Iceland/UK and Ireland	16,000	160	S (possibly D)
Northwest Mainland Europe	59,000	590	I
W Siberia/Black Sea/ E Mediterranean	17,000	170	D
W and Central Siberian/ Caspian	20,000	200	D

Numbers and distribution in January 1995 and 1996

An international census of Whooper Swans wintering throughout Northwest Europe was made by the Wetlands International Swan Specialist Group in January 1995, augmenting counts at IWC sites in this year. This was the third co-ordinated census of the Icelandic breeding population, which winters mainly in Britain and Ireland, and the first for the Fenno-Scandian/Northwest Russian-breeding population wintering in Northwest Mainland Europe. There is some overlap between the Icelandic and Continental European populations, with some swans ringed in Finland wintering regularly in Southeast England, and Icelandic ringed birds being sighted in mainland Europe. The level of interchange is, however, thought to be low in relation to the sizes of the two populations (Rees *et al*. 1997, Laubeck *et al*. 1998)

Icelandic breeding population

The international census found 15,842 birds in the Icelandic breeding population, of which 7,799 (59%) were in Britain and Northern Ireland, 7,072 (45%) in the Republic of Ireland and 971 (6%) over-wintering in Iceland (Cranswick *et al.* 1996). Britain and Northern Ireland were covered as part of the UK's Wetland Bird Survey ("WeBS"), with the Republic of Ireland being covered by the recently constituted Irish Wetland Bird Survey ("I-WeBS"). Counters from both schemes visited areas thought likely to hold swans but not normally covered by the wetland bird monitoring programmes. All UK data from the 1995 census were submitted to the IWC counts database, but a comparison of WeBS data with the results of the census found that WeBS generally records between two thirds and three quarters of the Whooper Swans present in the UK (Cranswick *et al.* 1997). Data from the Republic of Ireland outside IWC sites were not included in the IWC totals. Moreover, the annual Christmas waterbird counts in Iceland, made in late December each year, and Icelandic Whooper Swan counts made in January and February 1995 for the international census, are not included in the IWC counts. Thus the IWC total of 12,034 for the UK and Ireland in January 1995 (Table 7) represents some 76% of the total recorded for the Icelandic breeding population, with the reduced site list covering 45% of the population. Whooper Swans are more widespread than Bewick's Swans in the UK and Ireland, occurring at a number of sites not included in the WeBS and I-WeBs programmes except in special census years. The lower IWC totals recorded in January 1996 (9,234 birds in Ireland and UK; Table 7) can therefore be attributed both to reduced coverage in the UK, and to summer 1995 being a poor breeding season (15.6% cygnets; WWT unpubl. data), following an average breeding year in 1994 (17.9% cygnets; Cranswick *et al.* 1996). The decrease in birds on the reduced site list for Ireland and the UK between 1995 and 1996 (by 29%) may similarly reflect the reduced breeding success in 1995 and a dispersal of swans away from IWC sites.

Loughs Neagh/Beg in Northern Ireland and the Ouse Washes in Southeast England are clearly the most important wintering sites for the Icelandic-breeding population, each holding >5% of the total population in mid-winter (Table 40). Eight sites in Britain and Ireland each held at least 160 birds (>1% of the Icelandic-breeding population) at the time of the international swan census: Loughs Foyle/Swilly, the Ouse Washes, Loughs Neagh/Beg, Shannon Callows, Martin Mere, Upper Lough Erne, Glen Lough, Derry Lea House (River Barrow) and Lough Atedaun (Corofin Lakes) (Cranswick *et al.* 1996). The cluster of sites within the Lough Oughter Complex are also of international importance when considered as a whole (*c.* 170 birds in 1995 and 1996; Table 40). More recent results of the I-WeBS programme found that 14 sites across the whole of Ireland (including Northern Ireland) exceeded the 1% threshold over the 1994–95 to 1996–97 winters, with Lough Swilly, Coole Lough and Lough Gara proving the most important sites in the Irish Republic (Colhoun 1998).

Fenno-Scandian/Northwest Russian breeding population

Whooper Swans wintering elsewhere in Northwest Europe, in the Baltic region and in Central Europe are thought to be predominantly from the Fenno-Scandian/ Northwest Russian breeding population, although small numbers of Icelandic ringed birds have been seen on the continent. (Gardarsson 1991, Rees *et al.* 1997). The first co-ordinated census of Whooper Swans wintering in continental Europe found 52,000 birds, with the total population size being estimated at 59,000 to allow for incomplete coverage (Laubeck *et al*. in press). A total of 22,173 birds recorded at IWC sites in these regions (excluding Ireland and the UK) in January 1995 represents some 38% of the total population. Denmark is clearly the most important wintering country for the species in Europe, although cold weather movements from the Baltic countries to Germany and The Netherlands occur in some years (Laubeck *et al.* In press). The count of 3,300 Whooper Swans in The Netherlands in January 1996 (Table 7), during a prolonged period of severe weather in Europe, was about 50% higher than the annual maxima for the country in the early 1990s (SOVON Ganzen- en Zwanenwerkgroep 1997). Although 10,292 Whooper Swans were recorded at IWC sites in Denmark in January 1995, results of the international census put the Danish total at over 20,000 birds, 14,000 were counted in Germany and some 7,500 counted in Sweden (Laubek *et al.* in press). Substantial annual variation in numbers recorded in the Baltic therefore reflects variation in coverage, as well as cold weather movements, particularly since Laubek (1995a) reported that fewer than two-thirds

of the Whooper Swans seen in Denmark from 1992–1994 were recorded at IWC sites. Even in cold weather, Whooper Swans from the Fenno-Scandian/Northwest Russian breeding population remain in the northern and central parts of Europe; no birds were reported in the West Mediterranean region in 1996 (Table 9). Small numbers seen in northwest Spain in the late 1980s included one bird ringed in northern Iceland (Rees *et al.* 1997).

Of the major resorts, Mariager Fjord is well established as an important wintering site for the species (Table 40; Laubek 1995b). Coordinated counts of swans wintering in Denmark in the 1991–92 to 1993–94 winters emphasise that the Limfjorden area (which includes several sites not on the reduced site list) is also important for the birds (Laubek 1995b) It should be noted, however, that most Whooper Swans at Limfjorden occur outside these areas (B. Laubeck pers. comm.). The Danish counts found that almost two-thirds of Whooper Swans wintering in Denmark were reported from just three areas: Limfjorden, Mariager Fjord and the coasts and fjords of South Sealand and Storstrom (Laubek 1995c). The last of these areas included several sites on the reduced site list where internationally important numbers were recorded in January 1995 and 1996: Sydfynske Hav (818 birds), Skaelskor/Borreby (538 birds) and Lolland Northwest (632 birds) (Table 40). Results of the international census describe a number of other major concentrations, notably in the Mecklenburg-Vorpommern (Baltic Sea coast) region of Germany and the middle reaches of the Elbe (Laubeck *et al*. in press). It should be noted that the low counts recorded at Ulvedybet, Vejlerne and Skaelskor, and Borreby in 1996 (Table 40) only reflect localised changes in distribution. For instance, although 55 birds were recorded at Ulvadybet, some 3,300 were on the adjacent water and farmland of Nibe Bredning (B. Laubeck pers. comm.)

Central Russian breeding population

It is still uncertain whether Whooper Swans wintering in the East Mediterranean/Black Sea region and in Southwest Asia are from separate breeding populations, and the extent to which individuals move between these wintering areas is also unknown. Monval and Pirot (1989) considered Whooper Swans wintering around the Black and Caspian Seas to be from a single Central Russian breeding population and, although there is little detailed data on the numbers and movements of birds in this area, we have adopted the precautionary principle and followed Rose and Scott (1997) in separating birds wintering in these two areas. Differences between 1995 and 1996 in the number of birds recorded in the East Mediterranean/Black Sea region can be attributed to a decline in the Romanian counts (from 2,364 to 239 birds) and an increase in Ukrainian counts (from 574 to 1810 birds) in 1996. This in turn can be attributed to variation in coverage, with internationally important sites in the Ukraine (notably the Danube Delta and Stencovskie Plavny) not being included in 1995, and with Sahalin Island in Romania not being counted separately from the rest of the Danube Delta in 1996 (Table 40). Figures were more consistent in Southwest Asia, where most birds (1,510) were recorded in Iran in 1995 (Table 8).

Population trends

Icelandic breeding population

The population indices for the UK and Ireland suggest that, despite annual fluctuations attributable to the high proportion of uncounted birds in the mid 1970s to mid 1980s (Monval and Pirot 1989), the population was generally stable at this time. A steady increase in numbers was evident during the late 1980s, but the population now appears to have stabilised at the higher level, or even begun to decline (Figure 18). Separate analysis of indices for Great Britain suggest that numbers are now at around two thirds of the high levels recorded during the late 1980s, whilst index values for Northern Ireland have been stable during the early 1990s (Cranswick *et al.* 1997). The international Whooper Swan censuses similarly found an increase from 16,760 birds counted in January 1986 (Salmon and Black 1986), to 18,035 birds in January 1991 (Kirby *et al.* 1992), before dropping to 15,842 birds in January 1995 (Cranswick *et al.* 1996), although the scale of increase between the first two censuses was not as pronounced as suggested by the population indices (Figure 18). The further drop in numbers in 1996 probably reflects the poor breeding season in summer 1995.

Fenno-Scandian/Northwest Russian breeding population

Trend analyses indicate a substantial increase the Fenno-Scandian/Northwest Russian breeding population between 1974 and 1993 (Figure 18), which agrees with reports of a significant increase in the numbers and distribution of Whooper Swans breeding in Fenno-Scandia in recent decades (Arvidsson 1987, Ohtonen 1992, Nilsson *et al.* 1998). In addition to peak counts in excess of 20,000 birds in Denmark, 14,000 in Germany and 7,500 in Sweden in recent years (Laubek 1995a, Laubeck *et al.* in press), national censuses have found numbers considerably higher than estimates from the mid 1980s (listed in Monval and Pirot 1989), with up to 4,400 swans reported wintering in Norway (Hauge 1990), 6,000–9,000 in Germany (Rose and Taylor 1993) and 2,000–3,000 in Poland (Czepulak pers. comm. in Laubek 1995a). Data from both the reduced and total site lists suggest a doubling in population size between the mid 1970s and early 1990s (Figure 18). Like the Icelandic breeding birds, however, the continental Whooper Swans tend to be widely dispersed in small groups, making it difficult to be certain of the scale of population increase due to the low proportion of the population recorded at IWC sites. Regional trends vary across Continental Europe, with annual indices for the Baltic countries varying with weather conditions, but the steady population increase being evident for other parts of Northwest Europe (notably The Netherlands and Germany), and for the small numbers wintering in Central European countries (notably Switzerland). In addition to the effects of weather conditions, regional trends may be linked with the swans' breeding distribution, with breeding success being higher in some areas than in others (Laubeck 1998).

Central Russian breeding population

The lack of consistent, detailed information on the numbers and distribution of Whooper Swans in the Black

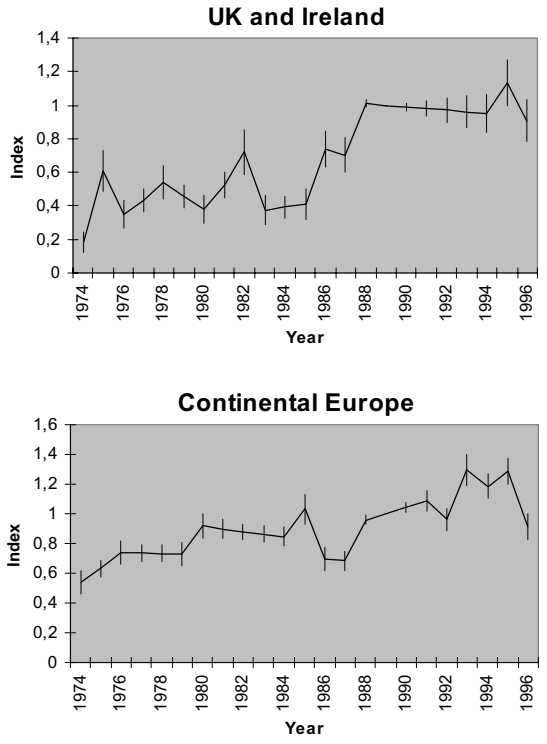
Sea and Caspian regions reported by Monval and Pirot (1989) continues to make it difficult to assess population size and trends. It is interesting to note, however, that annual fluctuations for the Black Sea/East Mediterranean region were similar to those for Southwest Asia from 1987 onwards, suggesting that a decrease in one area is not due to a movement to the other. It is thought that numbers wintering in the Black Sea area have declined since the early 1970s (Rose 1995, Scott and Rose 1996) and, despite some tentative evidence for an increase in the early 1990s, the indices remain well below the 1985 level. Long-term trends are not available for swans wintering in Southwest Asia, although Rusanov (1987) reports that numbers wintering in the North Caspian (presumably from the same population) rose from an average of 1,850 birds between 1955–1969 to 13,900 birds between 1970–1980. Numbers and distribution varied substantially with weather conditions. More recent population trends, based mainly on counts from the South Caspian region, suggest that numbers have fallen from 1994 levels, but these fluctuations could also reflect weather conditions further north.

Table 40. Whooper Swan counts from sites on the "reduced site list" which exceeded 1% thresholds for international importance in January 1995 and 1996.

Additional information on major concentrations derived from National Reports (Waters *et al.* 1996 and Cranswick *et al.* 1997 for the UK; B. Laubeck pers. Comm. for Denmark) is given in italics.

	1995	1996	
CONTINENTAL NORTHWEST EUROPE			
Denmark:			
Mariager Fjord	2,580	1,164	
Hjarbaek Fjord/Lovns Bredning	1,246	*998*	
Ulvedybet	1,026	*55*	
Sydfynske Hav	818	95	
Vejlerne	716	89	
Skaelskor and Borreby	538	298	
Lolland Northwest	450	632	
Rudbol So + Gammelkogene	403	176	
Poland:			
ZB Kostrzynski	579	32	
Germany:			
Ostküste Rostock: Struck-Lubmin	497	–	
Zingst: Meiningen-Pramort	419	–	
Neu Reddewitz-Klein Zicker	411	–	
UK and IRELAND			
UK:			
Loughs Neagh/Beg	1,102	906	
Ouse Washes	*1,034*	*1,288*	*(Dec)*
Upper Lough Erne	*741*	*980*	*(Feb)*
Martin Mere	679	562	
Lough Foyle	*457*	*1521*	*(Oct)*
Ireland:			
Shannon Callows	901	393	
Lough Swilly: Inch Lough and Levels	443	–	
Glen Lough	248	139	
Lough Oughter Complex	174	166	
Shannon and Fergus Estuary	86	201	
Ballinamore Lakes	143	170	
Castleplunket Turloughs	31	173	
BLACK SEA/EAST MEDITERRANEAN			
Ukraine:			
Danube Delta	–	1,250	
Stencovskie Plavny	–	200	
Romania:			
Danube River and Delta	2,312	188	
SOUTHWEST ASIA			
Iran:			
Gareh-Gheshlagh Marshes	672	–	
Ala Gol Marsh	430	–	
Gomishan Mash	250	–	
Kyrgyzstan:			
Issyk-Kul Lake	–	1,051	

Figure 18. Whooper Swan population trends.



7.2 Sheldgeese, dabbling ducks, diving ducks, sawbills, stifftails, and Common Coot

Egyptian Goose
Alopochen aegyptiacus

Recognised Populations (Rose and Scott 1997)

Introduced, N Europe

Numbers and distribution in January 1995 and 1996

There are growing introduced populations of Egyptian Geese in The Netherlands and the UK, and the species appears to be spreading in neighbouring areas of Northwest Europe. An overall regional total of 3,095 in 1995 increased in 1996 to 3,766, with increases recorded in six out of seven countries of occurrence (Tables 5, 7, 8, 9 and 10). By far the highest totals were counted in The Netherlands, where 96% of the overall total was recorded

in 1995, and 88% in 1996. A further 320 were counted in Belgium, 95 in the UK and 29 in Germany in 1996. The UK probably holds over 900 birds (Delany 1993) but the stronghold in the east of the country is not well represented by the UK Wetland Bird Survey. Elsewhere in Europe, two were seen in Austria in 1996 and one in Italy in 1995. Counts in the United Arab Emirates of 14 in 1995 and 186 in 1996 also involved birds of captive origin. Richardson and Aspinall (1998) relate the introduction to Sir Bani Yas Island in about 1980, and a count there in 1991 of 200. Recent records in Abu Dhabi, Al Ain, Zabeel and Ruwais indicate that Egyptian Geese are spreading in the area.

Introduced species are always a potential threat to native biodiversity (e.g. Holmes and Simons 1996). It is impossible to anticipate problems such as that currently posed by the introduced North American Ruddy Duck to the globally threatened White-headed Duck, and the expansion of the non-native Egyptian Goose population in Europe gives cause for concern.

Ruddy Shelduck
Tadorna ferruginea

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Africa	2,500	25	D
E Mediterranean/ Black Sea/NE Africa	20,000	200	D
W Asia/Caspian/ Iran/Iraq	35,000	350	I

Numbers and distribution in January 1995 and 1996

Ruddy Shelducks are dispersive or nomadic (Cramp *et al.* 1977). The lack of regularity in their migrations makes the interpretation of counts, the estimation of population trends and the identification of key sites difficult.

The overall total count in 1995 was 15,122 but this declined to 7,912 in 1996, largely because of differences in coverage between the two seasons (Table 10). Lack of information from Iran and Morocco greatly reduced the totals recorded in Southwest Asia and the West Mediterranean (respectively) in 1996. This was compensated for to some extent by an increase in coverage in Turkey in 1996, which raised numbers counted in the Black Sea/East Mediterranean area (Table 6). The 1995 totals represented 61% of the Northwest African population estimate, and 32% of the population estimate for West Asia and the Caspian.

The 1% threshold for international importance for the Northwest African population is just 25, and in 1995, six sites in Morocco exceeded this total (Table 41). The lakes of the Middle Atlas are very important for this species, and in October 1997 1,240 were counted at five sites in Morocco, all of which exceeded the 1% threshold (Green and El Hamzaoui 1998). A number of additional lakes in the middle Atlas are unknown and inaccessible, and may hold high numbers of this species.

In the Black Sea/East Mediterranean area, two sites in Turkey exceeded the 1% threshold for international importance of 200 in 1995. Better coverage in 1996 produced counts of this importance at the same two sites plus seven others (Table 41). In Southwest Asia, six sites in Iran exceeded the 1% threshold of 350 in 1995, and one in Kyrgyzstan in 1996. The overall Iranian count of 11,241 (Table 8) was a considerable reduction on the exceptional total of 33,463 counted in January 1994 (Rose 1995).

Table 41 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Table 41. Ruddy Shelduck: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
WEST MEDITERRANEAN		
Morocco:		
Barrage de Mansour ed-Dehbi	282	–
Lagune de Layoune	122	–
Dayet Ifrah	70	–
Lagune de Khnifiss	64	–
Barrage Idriss Premier	55	–
Embouchure de L'Oued Massa	47	–
BLACK SEA/EAST MEDITERRANEAN		
Turkey:		
Eregli (Ak-Gol)	–	3,016
Demir Kopru Baraji	–	830
Seyfe Golu	–	610
Yarisli Golu	1,736	580
Karapinar Ovasi	–	477
Camalti Salt Pans	250	45
Balik Golu	–	302
Marmara Golu	–	290
Burdur Golu	107	235
SOUTHWEST ASIA		
Iran:		
Gavekhoni Marsh	3,600	–
Chahardoly Gorveh	2,500	–
Agh Gol Marsh	1,700	–
Bakhtegan and Tashk Lakes	1,100	–
Arigan (Dasht-I-Arjan) Marsh	412	–
Kaftar Lake	360	–
Kyrgyzstan:		
Issyk-Kul Lake: Ak Terek-Kadzhi-Say	–	483

Trends in numbers

As might be expected from their erratic migrations, both 23 and 10 year population trends of Ruddy Shelducks showed poorly known trends in both West Mediterranean and Black Sea/East Mediterranean areas (Tables 24 and 25).

Common Shelduck
Tadorna tadorna

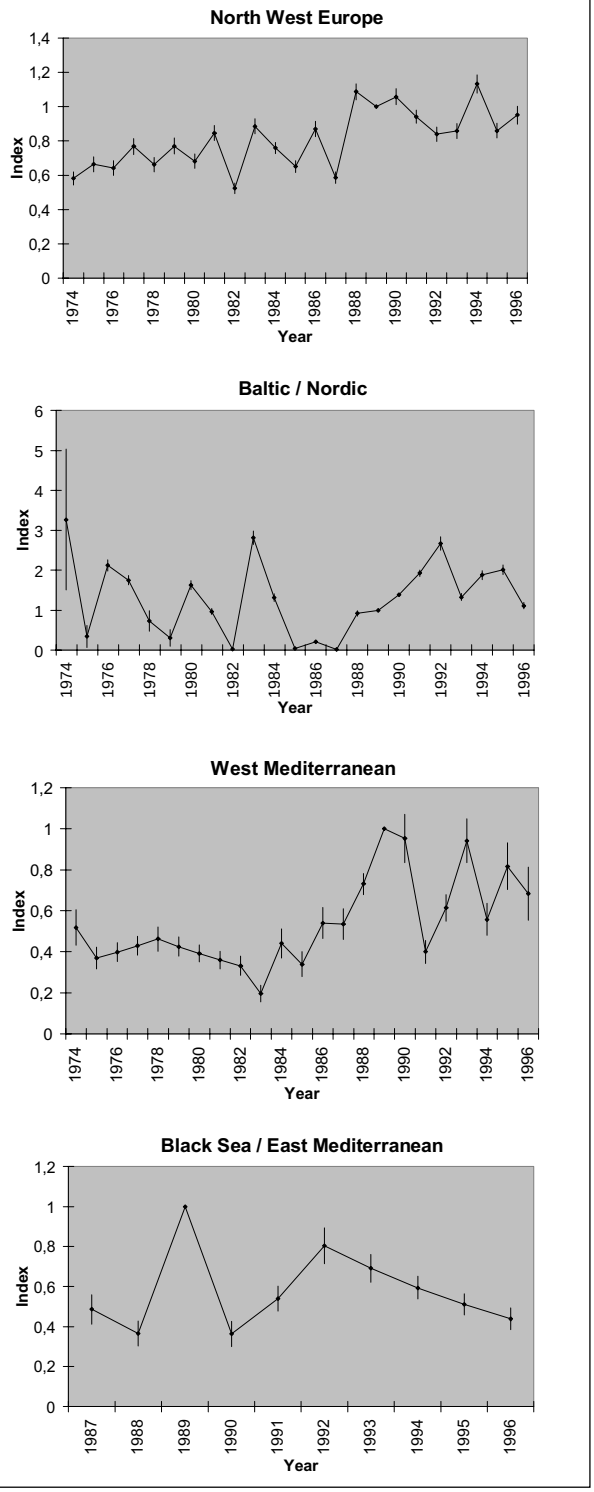
Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe	300,000	3,000	I
Black Sea/ Mediterranean	75,000	750	I
W Asia/Caspian/ Middle East	80,000	800	I

Table 42. Common Shelduck: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
BALTIC/NORDIC		
Denmark:		
Danish Wadden Sea	18,761	12,827
NORTHWEST EUROPE		
Germany:		
Wattenmeer SH10	15,436	–
Wattenmeer SH07	10,527	–
Wattenmeer SH08	6,484	–
Wattenmeer SH06	6,443	–
Hooksiel - Wilhelmshaven	3,396	–
UK:		
The Wash	12,873	8,790
Morecambe Bay	4,250	6,098
Poole Harbour	3,177	2,483
Ribble Estuary	2,807	4,523
Mersey Estuary	2,158	4,507
Blackwater Estuary	2,570	4,356
Humber	2,302	3,225
Netherlands:		
Friese Noordkust	11,756	5,374
Groningse Noordkust	5,613	3,439
Oosterschelde	2,901	5,769
France:		
Littoral Picard	8,000	12,680
Baie de l'Aiguillon and Pointe d'Arcay	4,095	5,765
Presqu' Ile Guerandaise	2,564	3,540
WEST MEDITERRANEAN		
Italy:		
Manfredonia	4,780	2,454
Algeria:		
Salines d'Arzew	2,650	–
Tunisia:		
Sebkha de Sejoumi	2,285	–
Sebkha Kelbia	2,000	–
Morocco:		
Merza Zerga; Kenitra	1,386	–
France:		
La Camargue	1,307	1,707
Etangs Montpellierains	1,130	594
BLACK SEA/EAST MEDITERRANEAN		
Greece:		
Evros Delta	1,630	690
Axios, Loudhias, Aliakmon Delta	1,100	1,220
Ptelea-Elos Lagoon (Karakatsali)	845	497
Bulgaria:		
Atanasovo Lake Complex	1,102	1,555
Ukraine:		
Dzansheisky, Shagany, Alibey, Burnas Limans	820	280
SOUTHWEST ASIA		
Iran:		
Gavekhoni Marsh	9,000	–
Bakhtegan and Tashk Lakes	7,070	–
Uromieh Lake: North Coast	5,000	–
Chahardoly Gorveh	2,000	–
Gareh-Gheshlagh Marshes	1,840	–
Zayandeh Rud Marshes	1,230	–

Figure 19. Common Shelduck population trends.



Numbers and distribution in January 1995 and 1996

This species is well covered by midwinter counts and the overall January 1995 total of 298,281 (Table 10) represents 66% of the total estimate for the three populations found in the region. Reduced coverage in 1996 produced an overall total count of 198,607.

Table 4 shows that Common Shelduck numbers in the Baltic/Nordic area declined from nearly 27,000 in 1995 to fewer than 15,000 in 1996. Almost all these birds were

counted in Denmark, and the decline will have been caused by the cold winter in 1996 pushing birds further south and west. In the Northwest Europe area, numbers also declined considerably in The Netherlands between the two winters, but rose correspondingly in Belgium, the UK and France. Numbers are very likely also to have declined in Germany due to the hard weather in 1996, and lack of information from that country explains the discrepancy in totals counted in Northwest Europe in 1995 and 1996. Table 42 shows the great importance of the German Wadden Sea (Wattenmeer) for Common Shelducks.

In the Mediterranean (West Mediterranean and Black Sea/ East Mediterranean areas combined) the 1995 total of 32,705 was very similar to the 31,719 counted in January 1994 (Tables 6 and 9; Rose 1995). About two thirds of these birds were counted in the West Mediterranean and a third in the Black Sea/East Mediterranean. Lack of coverage in Morocco and Tunisia prevents comparison of 1996 counts with 1995, but numbers counted in Italy, Mediterranean France and Algeria all declined between the two seasons. In the East Mediterranean, four-figure totals were only recorded in Greece and Bulgaria. In Southwest Asia, high counts are normally only recorded in Iran, and of the 28,941 there in 1995, 9,000 were at Gavekhoni Marsh.

Table 42 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

The long term increase in the population of Common Shelducks wintering in Northwest Europe appears to have levelled off between 1987 and 1996 (Figure 19, Tables 24 and 25). Numbers in the Baltic/Nordic area are partly dependent on the extent of freezing and have increased over both 23 and 10 year periods. In the West Mediterranean, an increase over 23 years incorporated a decline in the most recent 10 years, and numbers wintering in the Black Sea/East Mediterranean area also declined between 1987 and 1996.

Eurasian Wigeon
Anas penelope

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Siberia/NW and NE Europe	1,250,000	12,500	I
W Siberia/NE Europe/ Black Sea/Med	560,000	5,600	D
W Siberia/SW Asia/ NE Africa	250,000	2,500	D

Numbers and distribution in January 1995 and 1996

The overall total count in the region in 1995 (1,764,190) declined in 1996 to 1,676,390 (Table 10).

The combined 1995 count total of Eurasian Wigeon from the Baltic/Nordic and Northwest Europe areas (1,426,917)

Figure 20. Eurasian Wigeon population trends.

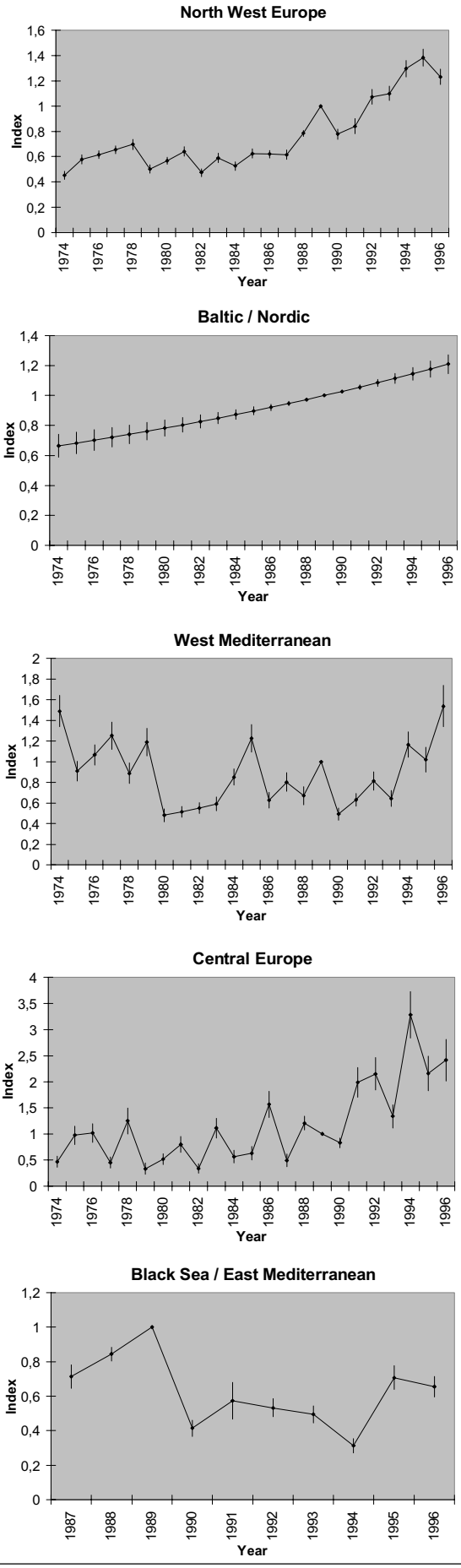


Table 43. Eurasian Wigeon: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
NORTHWEST EUROPE		
UK:		
Ribble Estuary	43,789	61,659
Ouse Washes	19,804	30,545
North Norfolk Marshes	16,471	12,161
Swale	15,039	15,906
Lower Derwent Ings	14,000	12,000
Netherlands:		
Oostzaanse Polders en het Ilperveld	1,670	20,750
Sneekermeer e.o.	33,000	0
Markermeer	32,655	21,986
Oude Venen	29,769	3,500
Reeuwijkse Plassen e.o.	28,665	39,770
Krimpenerwaard	25,035	25,146
Waal	23,810	10,133
Westerschelde	23,225	15,973
Eemmeer, Nijkerkernauw en Nuldernauw	20,565	4,027
Oosterschelde	18,570	20,144
Polder Zeevang	17,833	220
Eilandspolder	17,523	6,492
Texel	16,546	21,238
Terschelling	16,253	6,778
IJssel	16,013	16,990
Volkerakmeer	15,954	9,457
Haringvliet	15,051	20,103
Midden Delfland en Oude Leede	14,991	15,987
Biesbosch	13,364	13,777
IJsselmeer	12,984	17,528
Grote Wielen	12,500	6,000
Friese Noordkust	11,044	54,639
Alkmaardermeer e.o.	11,000	26,943
Lek	7,070	19,860
Fluessen en Heegermeer	5,015	15,690
Belgium:		
Blankaartgebied/IJzerbroeken	31,252	20,420
Germany:		
Wattenmeer SH10	25,743	–
Wattenmeer SH08	17,356	–
Wattenmeer SH12	13,782	–
Ireland:		
Little Brosna Callows	10,000	14,000

	1995	1996
WEST MEDITERRANEAN		
Tunisia:		
Sebkha Kelbia	30,000	–
Italy:		
Laguna di Grado e Marano	18,202	24,649
Manfredonia	14,803	10,801
Laguna Nord di Venezia	7,269	4,132
France:		
La Camargue	15,010	14,610
Morocco:		
Merza Zerga; Kenitra	12,654	–
Barrage Al Massira; Settat	7,200	–
Algeria:		
Lac Tonga	11,481	9,400
Lac Oubeira	90	21,314
Marais de Mekhada	3,080	15,400
Portugal:		
Ria de Faro	8,168	1,200
BLACK SEA/EAST MEDITERRANEAN		
Greece:		
Amvrakikos Wetlands	35,046	20,200
Messolongi Lagoons	14,355	10,674
Evros Delta	10,850	7,760
Albania:		
Karavastas	8,118	19,072
Drin Delta	7,146	394
Nartes	3,030	8,376
Turkey:		
Goksu Delta (Silifke)	6,150	7,389
SOUTHWEST ASIA		
Iran:		
Takht -e-Edalat	9,479	–
Dasht-i-Arjan	7,643	–
Gomishan Marsh	4,522	–
Hamoun Saberi Lake	3,942	–
Azerbaijan:		
Kyzyl-Agach Reservation	–	115,764
Mahmud Chala Lake	–	19,350

exceeded the population estimate for these areas by 14%. This population is known to be increasing (Figure 20) and the estimate is in need of upward revision. The reduction in numbers in the Baltic/Nordic area (especially Denmark and Sweden) between 1995 and 1996 will have been a result of cold weather. The Netherlands was also affected by this reduction, and an increase in the total count in France in 1996 suggests a destination for some of the displaced birds (Table 7). Birds are also likely to have been displaced further south and west, but the lack of information from Spain and North Africa (except Algeria) in 1996 frustrates interpretation.

Like many dabbling duck species, Eurasian Wigeon are scarce in Central Europe. Numbers declined in 1996 compared with 1995 (Table 5).

In the East Mediterranean area, of the countries where counts are made, Greece is the most important for Eurasian Wigeon, and numbers declined in 1996 compared with 1995, possibly because the weather was colder. Better coverage of Turkey in 1996 increased the total count compared with 1995 (Table 6). In the West Mediterranean, there was a noteworthy increase in Algeria, but lack of information from other North African countries or Spain make interpretation difficult (Table 9).

Counts in Azerbaijan in 1996 were the most detailed to date, and demonstrated the enormous importance of this country's wetlands for this and a number of other species. Nearly four times as many Eurasian Wigeon were counted in Azerbaijan as in neighbouring Iran, which is normally where the highest counts in Southwest Asia are made (Table 8).

Table 43 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

Eurasian Wigeon numbers are increasing in the long term in Northwest Europe, the Baltic/Nordic region and Central

Europe (Figure 20, Tables 24 and 25). The trend in the Baltic/Nordic area was estimated using a simpler model (with change points removed) than for other analyses. Monval and Pirot (1989) reported a decline in numbers in the West Mediterranean area, but ascribed it to irregularities in coverage. Rose (1995) identified a decline in the area which was probably genuine. Increasing numbers in the 1990s produced a long-term trend in the West Mediterranean which was unknown, but skewed towards increase, and over the 1987–1996 period the trend was stable (Table 25). In the Black Sea/East Mediterranean area, the population apparently declined sharply over the latter period.

Gadwall
Anas strepera

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe	30,000	300	I
NE Europe/ Black Sea/ Med	75,000–150,000	1,000	D
W Siberia/ SW Asia/NE Africa	130,000	1,300	

Numbers and distribution in January 1995 and 1996

The January 1995 overall total count of Gadwall in the region was 83,677, but in 1996 this declined to 62,363 because coverage was less complete (Table 10). The 1994 total was higher still (127,386), because counts in Iran (44,000), Algeria (27,000) and Mediterranean France (13,000) were all high in that season (Rose 1995).

The long-term increases in numbers in Northwest and Central Europe continue. Every country in these two areas experienced an increase in counts in 1996 over 1995 with the exception of The Netherlands (Tables 5 and 7). The apparently considerable increase in Switzerland was inflated by totals including birds in the German part of the Bodensee in 1996. Apparent declines in the Mediterranean and Southwest Asia are less clear because of inconsistent coverage in some countries. Counts in Algeria are prone to fluctuation, and an increase there between 1995 and 1996 contrasted with decreases in Italy, Mediterranean France and Portugal (Table 9). Greece held consistent numbers in the two seasons. Iran hosts more wintering Gadwalls than any other country in the region, and the 1995 count total (27,410) returned to the 1993 level after a very high total in 1994.

Table 44 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

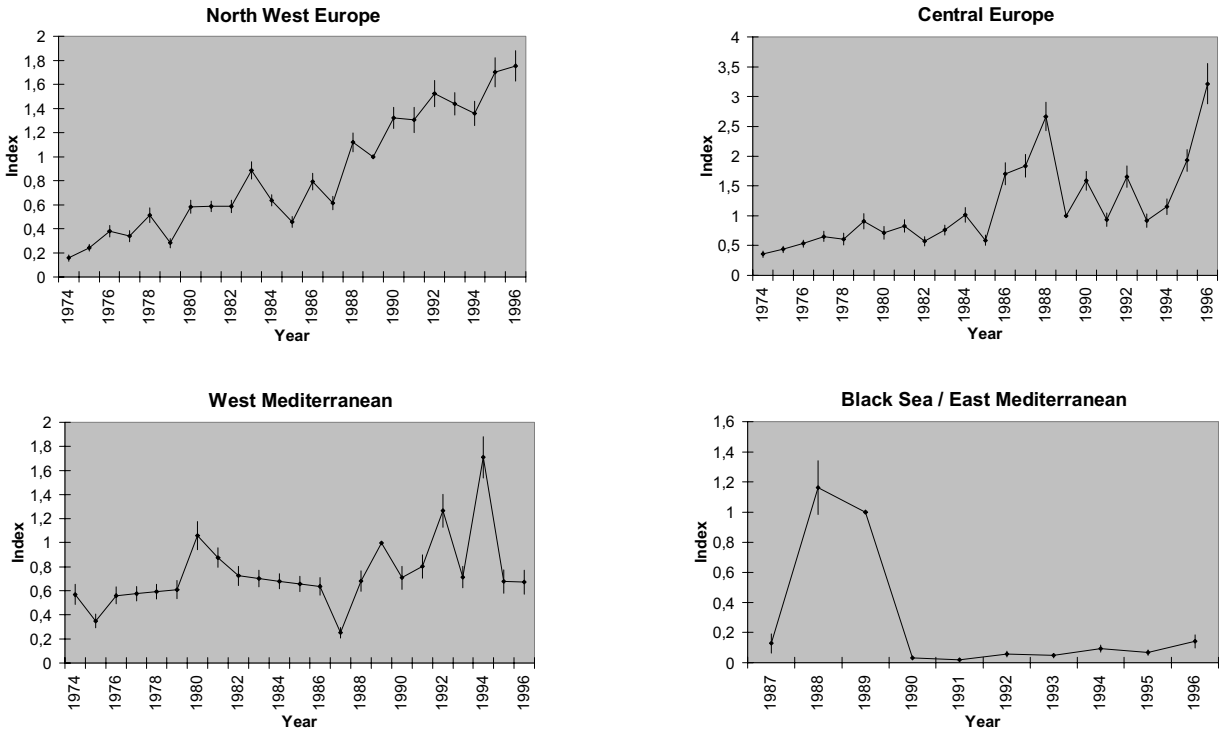
Trends in numbers

Numbers of Gadwall in Northwest Europe and Central Europe increased considerably over both 23 and 10 year periods (Figure 21, Tables 24 and 25). In the West Mediterranean area, an overall increase between 1974 and 1996 became erratic (but levelled off overall) over the period 1987–1996. In the Black Sea/East Mediterranean, Rose (1995) identified a decrease in Gadwall numbers which was diagnosed by TRIM as continuing (Table 25) but which appears to have been based on unusual counts in 1988 and 1989 (Figure 21).

Table 44. Gadwall: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
NORTHWEST EUROPE		
France:		
Cours du Rhin	3,485	2,936
Reserve Naturelle de Moeze	585	106
Etangs de la Brenne	465	818
Lac de Grand Lieu	70	450
Netherlands:		
Biesbosch	765	871
Markiezaat	618	42
IJsselmeer	508	124
Markermeer	439	53
Volkerakmeer	429	246
Amsterdam-Rijnkanaal	416	1,062
Hollands Diep	375	116
Lek	327	117
Nieuwe Waterweg / Calandkanaal	320	756
Gelderse/Brabantse Maas	78	534
Belgium:		
Zeeschelde Antwerpen-Dendermonde	582	636
Havengebied Antwerpen-Linkeroever	488	395
Zeeschelde Antwerpen-Grens	108	514
Ontgrondingen Mechelen	275	389
UK:		
Rutland Water	167	601
CENTRAL EUROPE		
Germany\Switzerland\Austria:		
Bodensee (total)	2,750	5,769
Bodensee (German part)	1,717	4,590
Bodensee (Swiss part)	997	1,079
WEST MEDITERRANEAN		
France:		
La Carmargue	9,390	6,640
Italy:		
Laguna di Grado e Marano	1,165	633
Algeria:		
Lac Oubeira	–	3,363
Garet el Haaies el Beni M'hammed	–	1,500
SOUTHWEST ASIA		
Iran:		
Gomishan Marsh	7,200	–
Maharloo Lake	3,000	–
Gavekhoni Marsh	2,600	–
Ala Gol Marsh	2,100	–
Ulma Gol	2,100	–
Hamoun e Saberi Lake	2,013	–
Hamoun e Helmand	1,890	–
Azerbaijan:		
Kyzyl-Agach Reservation	–	1,334

Figure 21. Gadwall population trends.



Common Teal
Anas crecca

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe	400,000	4,000	I
W Siberia/ NE Europe/ Black Sea/ Med	750,000–1,375,000	10,500	S
W Siberia/SW Asia/ NE Africa	1,500,000	15,000	D

Numbers and distribution in January 1995 and 1996

An impressive count of 210,300 at Bakhtegan and Tashk Lakes in Iran in 1995 (Table 45) comprised 25% of the Common Teal counted in the region. The overall total count excluding Southwest Asia fluctuated between 447,560 in 1994 (Rose 1995), 536,585 in 1995 and 517,934 in 1996 (Table 10).

Common Teal in Europe are well known for their movements south and west in cold winter weather (Ridgill and Fox 1990). There was evidence of cold weather movements in 1996, when numbers dropped markedly in all countries in the Baltic/Nordic area except Norway, and also in The Netherlands, Belgium and the UK. An increase in count totals in France and Ireland suggests destinations for some of these birds displaced by cold weather. Numbers in Central Europe were relatively consistent, between 11,500 and 12,000 in both years.

In the West Mediterranean, reduced coverage in 1996 limits the possibilities of interpretation, but Italy, Mediterranean France and Portugal all experienced reduced counts in 1996 compared with 1995, whereas Algeria experienced an increase. Greece and Turkey are the most important countries for Common Teal in the East Mediterranean area where regular counts are conducted. Numbers dropped a little in Greece in 1996, and only increased in Turkey because of improved coverage. Bulgaria, Bosnia Hercegovina, Slovenia and Israel all recorded increased numbers in 1996 compared with 1995, and Albania, Romania, Yugoslavia and Cyprus recorded declines.

Counts of Common Teal in Southwest Asia were dominated by single sites in Iran in 1995 and Azerbaijan in 1996 (Table 8). The importance of Bakhtegan and Tashk Lakes for dabbling ducks in some years is phenomenal. Large numbers were also recorded in Turkmenistan, especially in 1996.

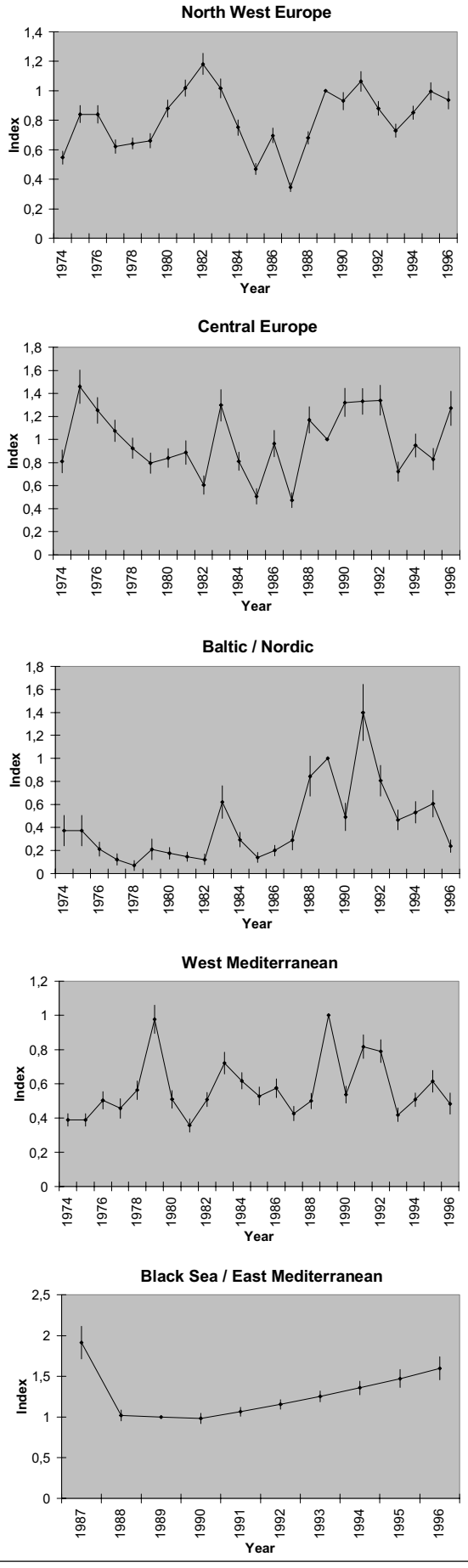
A weakness of the “reduced site list” approach was revealed when published data from the UK were compared to the selected information sent to Wetlands International for analysis. The most important site for Common Teal in the UK, the Somerset Levels, is not on the reduced list, and 24,792 were counted there in January 1996, and 13,197 in January 1995 (Cranswick *et al.* 1997).

Table 45 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

In Northwest Europe, the Baltic/Nordic region and the West Mediterranean, the 23 year population trend for Common Teal was one of increase, but the pattern in the

Figure 22. Common Teal population trends.



ten years between 1987 and 1996 was one of levelling off (Northwest Europe) or decline (Baltic/Nordic and West Mediterranean) (Figure 22; Tables 24 and 25.)

This was the only numerous species for which an increasing trend was recorded in the Black Sea/East Mediterranean area between 1987 and 1996. In Central Europe a stable long-term trend also showed a tendency to increase in the more recent period.

Table 45. Common Teal: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
NORTHWEST EUROPE		
Belgium:		
Zeeschelde Antwerpen-Dendermonde	13,900	15,376
France:		
Loire Aval	11,720	13,049
Etangs d'Orx	4,438	2,424
Etangs de Carcans-Hourtin	4,400	2,720
UK:		
Lower Derwent Ings	6,576	2,950
Mersey Estuary	5,123	7,627
Swale	4,278	2,174
Ribble Estuary	5,859	4,576
Ireland:		
Little Brosna Callows	3,000	4,000
CENTRAL EUROPE		
Germany\Switzerland\Austria:		
Bodensee (total)	2,149	4,881
WEST MEDITERRANEAN		
France:		
La Camargue	25,300	16,182
EAST MEDITERRANEAN		
Greece:		
Kerkini	31,500	1,420
Evros Delta	13,400	22,200
Amvrakikos Wetlands	9,078	27,230
Vistonis (Bourou)	360	10,900
Turkey:		
Kizilirmak	7,781	11,050
SOUTHWEST ASIA		
Iran:		
Bakhtegan and Tashk Lakes	210,300	–
Azerbaijan:		
Kyzyl-Agach Reservation	–	63,282

Mallard
Anas platyrhynchos

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe	5,000,000	20,000	S
Central Europe/ W Mediterranean	1,000,000	10,000	I
E Europe/Black Sea/ E Mediterranean	2,250,000	20,000	D
W Siberia/SW Asia	800,000	8,000	

Numbers and distribution in January 1995 and 1996

More than two million Mallards were counted in the region in 1995 (Table 10) and a reduction of nearly 50% in the number counted in 1996 can probably be largely attributed to reduced coverage. One complex, the Bakhtegan and Tashk Lakes in Iran, held 308,150 birds in January 1995 (Table 46) which was 13% of all Mallards counted in the region. This single site recorded a higher total than was counted in any other entire country in the region.

Reduced numbers of Mallards in the Baltic/Nordic area in 1996 compared to 1995, (particularly in Denmark and Sweden, but not in Norway, Table 4) were probably caused by cold weather. There were also reduced counts in every country in Northwest Europe except Ireland, with The Netherlands the most strongly affected country (Table 7).

In Central Europe, counts increased slightly between the two seasons in every country except Switzerland (Table 5). Mallards in the West Mediterranean were considered together with those from Central Europe by Scott and Rose (1996), and Rose (1995) suggested that this population has been increasing in recent years. The lack of information from Spain in either year and from Morocco and Tunisia in 1996 make interpretation in this area difficult, but Italy and Portugal both experienced considerable reductions in Mallard counts in 1996 compared with 1995, whilst Algeria and Mediterranean France showed slight increases (Table 9).

National count totals in the Black Sea/East Mediterranean area were also very variable and a big increase in numbers between 1995 and 1996 in Turkey, and a big decline in Ukraine were a result of changes in coverage. Bulgaria recorded a considerable increase, and neighbouring Greece and Romania suffered big decreases which were probably genuine. Mallard totals for the two years were rather similar in Israel and Yugoslavia (Table 6).

In Southwest Asia (Table 8), the importance of the lakes of Uzbekistan and Turkmenistan was revealed in 1996, and good numbers were also recorded in Azerbaijan, Kyrgyzstan and Kazakhstan. All these countries remain relatively poorly covered, however. Iran holds huge numbers of wintering Mallards, and the count at Bakhtegan and Tashk Lakes is one of the highest single counts of any species held on the IWC database.

Table 46 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

There is an upper limit to the number of sites which TRIM can readily handle in analyses, and the widespread distribution of Mallards in the region necessitated the use of smaller geographical areas for trend analysis of Mallard than were used for other species. In Central Europe and the Black Sea/East Mediterranean areas, trend analysis for Mallards was undertaken in the same way as for other species, but in the Baltic/Nordic and Northwest Europe areas totals are presented in Tables 24 to 27 and in Figure 23 as *Anas platyrhynchos* 1 and *Anas platyrhynchos* 2, and in the West Mediterranean as *Anas platyrhynchos* 1, *Anas platyrhynchos* 2, and *Anas platyrhynchos* 3. Each sub-division relates to a different part of each area as follows:

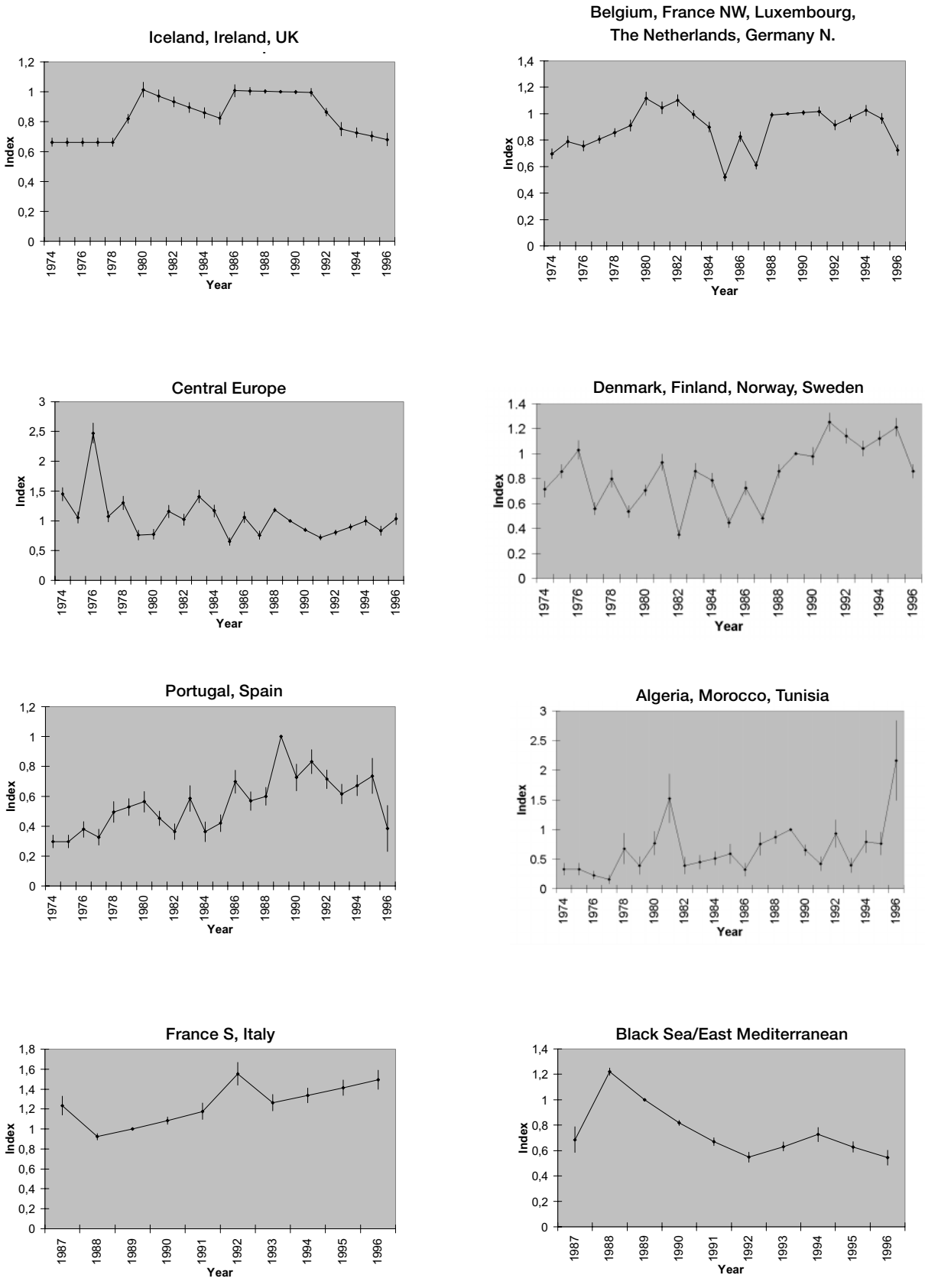
Baltic/Nordic 1: Denmark, Finland, Norway Sweden
Baltic/Nordic 2: Estonia, Latvia, Lithuania, Poland, Russian Federation, Russia – Kaliningrad
Northwest Europe 1: Iceland, Ireland, UK
Northwest Europe 2: Belgium, France Northwest, Luxembourg, The Netherlands, Germany North
West Mediterranean 1: Algeria, Morocco, Tunisia
West Mediterranean 2: Portugal, Spain
West Mediterranean 3: France South, Italy.

In Central Europe, Mallard numbers have been declining over both 23 and 10 year periods, a pattern also shown between 1987 and 1996 in the Black Sea/East Mediterranean area. Long term (23 year) trends in the Baltic, Northwest Europe and West Mediterranean areas showed a pattern of increase in all areas except one part

Table 46. Mallard: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
NORTH WEST EUROPE		
Germany:		
Dümmer	21,700	–
CENTRAL EUROPE		
Germany\Switzerland\Austria:		
Bodensee (total)	13,229	14,606
Czech Republic:		
Nechranice Dam	13,428	140
Hungary:		
Lake Balaton	820	25,000
Biharugrai Halasto	–	13,000
Duna 1: Orsz. Hatar - Baja	12,400	7,800
WEST MEDITERRANEAN		
France:		
La Camargue	15,425	19,193
BLACK SEA/EAST MEDITERRANEAN		
Turkey:		
Kizilirmak	22,765	15,753
Greece:		
Kerkini	22,000	2,265
Ukraine:		
Dnepropetrovsk	20,000	–
SOUTHWEST ASIA		
Iran:		
Bakhtegan and Tashk Lakes	308,150	–
Gomishan Marsh	19,120	–
Dorodzan Dam	12,500	–
Hamoun Helmand	9,668	–
Uzbekistan:		
Dautkil Lake	–	30,000
Turkmenistan:		
Lake Kornai	–	15,000
Azerbaijan:		
Kyzyl-Agach Reservation	–	12,147

Figure 23. Mallard population trends.



of the Baltic/Nordic (The Baltic Republics, Russia and Poland) and one part of the West Mediterranean (France South and Italy) where the trends remained poorly known. These long term patterns of increase turned to decline between 1987 and 1996 in both parts of Northwest Europe, and one part of the West Mediterranean area (Portugal and Spain). In one part of the Baltic/Nordic and one part of the West Mediterranean (Denmark, Finland, Norway, Sweden, France South and Italy), Mallard numbers continued to increase between 1987 and 1996.

In summary, Mallard numbers showed increases over 23 years in both parts of Northwest Europe, one out of two parts of the Baltic/Nordic area and two out of three parts of the West Mediterranean. In Central Europe, the 23 year trend was one of decline. Over the ten years between 1987 and 1996, decreases in Mallard numbers occurred in five out of the nine areas analysed: both parts of Northwest Europe, one part of the West Mediterranean (Portugal and Spain), Central Europe and the Black Sea/East Mediterranean. Increases over this period occurred in one part of the Baltic/Nordic area and only one part of the West Mediterranean.

Northern Pintail
Anas acuta

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe	60,000	600	
W Siberia/NE, E & S Europe/W Africa	1,200,000	12,000	D
W Siberia/ SW Asia/E Africa	700,000	7,000	

Numbers and distribution in January 1995 and 1996

The overall total recorded in the region in 1995 was dominated by a single site, Bakhtegan and Tashk Lakes in Iran, where a count of 101,540 Northern Pintails represented 38% of this total (Table 47). Higher numbers were recorded in all areas in 1995 than in 1994 (Rose 1995). The overall total was 264,531 in 1995, declining in 1996 to 105,516 because of reduced coverage (Table 10).

The Northwest European population forms big congregations at favoured sites, but is considerably smaller than populations which winter in the Black Sea, Mediterranean and Southwest Asia. Cold weather caused a reduction of 90% in birds recorded in the Baltic/Nordic area (mostly at the Danish Wadden Sea) in 1996 compared with 1995 (Table 4). Numbers also dropped in The Netherlands and Belgium between the two seasons, but increased a little in the UK. Northern Pintails are scarce in Central Europe, as is the case with many species of dabbling duck.

Interpretation of count totals in the West Mediterranean area is difficult because of a lack of coverage in Spain in either season, and Morocco or Tunisia in 1996. Italy was the most important country in the area in both seasons, although a drop in numbers was recorded in 1996. Counts in Portugal also dropped considerably in 1996, but totals in Mediterranean France increased by a similar number (Table 9). Greece is the most important country for Northern Pintail in Europe from which counts are normally available, and by far the most important in the East Mediterranean area, but as in Italy, numbers dropped by nearly a quarter between 1995 and 1996 (Table 6).

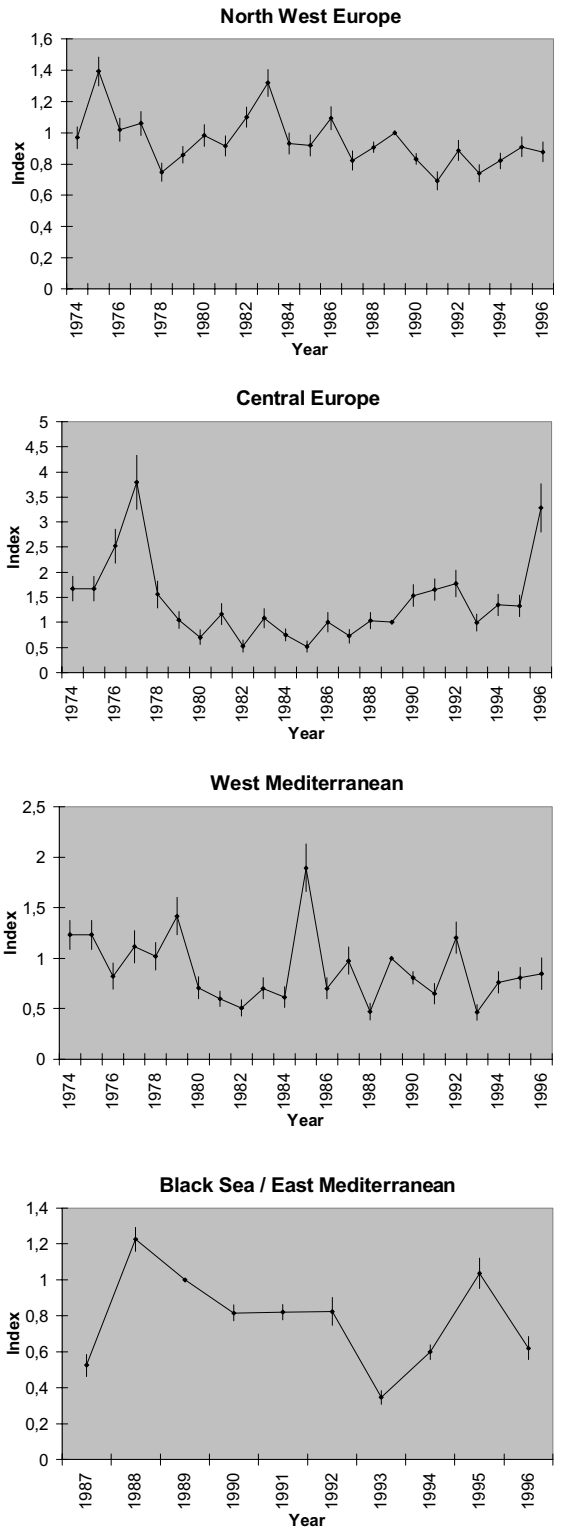
As with many Anatidae, counts in Southwest Asia were strongly dominated by Iran in 1995, and Azerbaijan in 1996. There was, in addition, a scattering of counts from Turkmenistan, Oman and the United Arab Emirates, and increased coverage in Saudi Arabia in 1996 produced a four-figure total (Table 8).

Table 47 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Table 47. Northern Pintail: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
BALTIC/NORDIC		
Denmark:		
Danish Wadden Sea	1,190	2
NORTHWEST EUROPE		
Netherlands:		
Terschelling	3,001	763
Schiermonnikoog	1,978	132
Oosterschelde	1,823	1,928
Groningse Noordkust	812	588
Westerschelde	707	1,386
UK:		
Morecambe Bay	2,527	2,575
Nene Washes	1,624	622
Mersey Estuary	1,620	873
Ribble Estuary	1,587	3,271
Swale	1,310	1,029
Duddon Estuary	1,062	1,193
Pagham Harbour	604	273
Dee Estuary	241	1,562
Ouse Washes	522	1,337
North Norfolk Marshes	491	1,036
Orwell Estuary	151	821
France:		
Golfe du Morbihan	2,341	1,075
Baie de l'Aiguillon and Pointe d'Arcay	2,275	2,310
Marais d' Olonne	973	633
Bassin d'Arcachon	860	680
Etangs d'Orx	844	859
Littoral Picard	844	770
Baie de Vilaine	634	530
Reserve Naturelle de Moeze	0	860
Loire Aval	111	621
Presqu' Ile Guerandaise	201	610
Belgium:		
Zeeschelde Antwerpen-Dendermonde	1,020	565
CENTRAL EUROPE		
Germany/Switzerland/Austria:		
Bodensee	226	778
Bodensee (German part)	226	764
SOUTHWEST ASIA		
Iran:		
Bakhtegan and Tashk Lakes	101,540	–
Gomishan Marsh	11,500	–
Edalat	7,893	–

Figure 24. Northern Pintail population trends.



Trends in numbers

Numbers of Northern Pintails did not increase in any area between 1974 and 1996, the trend over this period being stable in Northwest Europe, poorly known in the Baltic/ Nordic and West Mediterranean areas, and poorly known, skewed towards decline in Central Europe (Figure 24, Tables 24 and 25). This species also exhibited more widespread decline between 1987 and 1996 than any other. In these ten years, Northern Pintail numbers declined in every area except Central Europe, where the relatively small numbers increased.

High numbers of Northern Pintails spend the non-breeding season in sub-Saharan Africa and the possibility exists that declines in numbers, particularly in the Mediterranean Basin, could indicate redistribution of wintering birds to this more southerly area. This seems unlikely however. Numbers and trends of waterbirds in West Africa are not well known, but in the inner Niger Delta, a wetland extending for 30,000 square kilometres in Mali which comprises one of the principal wintering sites for Northern Pintail, numbers were estimated at 400,000 in January 1978, but had declined to an estimated 103,500 in January 1985. (Bouare 1994). Northern Pintail and Garganey *Anas querquedula* are the commonest species in the inner Niger Delta in January, and Bouare (1994) estimated that each season between 200,000 and 400,000 birds are caught by fishermen and sold in Mopti market. This may be a contributory factor to widespread declines in numbers of Northern Pintail and Garganey *Anas querquedula*.

Garganey
Anas querquedula

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
W Siberia/Europe/ W Africa	2,000,000	20,000
W Siberia/SW Asia/ NE and E Africa	100,000–200,000	1,500

Numbers and distribution in January 1995 and 1996

The majority of individuals of this species migrate to sub-Saharan Africa for the northern winter. Stragglers remain behind in Europe, and a few hundred are counted in the East Mediterranean area and in Southwest Asia each winter. Internationally important concentrations of Garganey in January have only ever been recorded in sub-Saharan Africa.

In the East Mediterranean area, 400 at Al-Assad Lake, Syria, and 159 at six sites in Israel were the major concentrations of Garganey in 1995. In 1996, there were no counts in Syria, and seven sites in Israel produced 233 birds (Table 6). In Southwest Asia, Oman held 146 birds in 1995 and 142 in 1996 (Table 8) a majority being counted at Dhofar Khawrs in both seasons.

Trends in numbers

The trend between 1974 and 1986 in the West Mediterranean area was poorly known, but between 1987 and 1996, indices of both West Mediterranean and Black Sea/ East Mediterranean areas declined more rapidly than those of any other species (Table 25). These declines only affected the very small proportion of the population which spends the non-breeding season in the Western Palearctic. The breeding season is the best time to

monitor Garganeys in Europe, where Hagemeijer and Blair (1997) estimated the breeding season population as 650,000 to 1,050,000 pairs. There is considerable evidence of a serious decline in this population in recent years (Tucker and Heath 1994, Hagemeijer and Blair 1997).

The number of Garganeys which spend the non-breeding season in the Sahel zone of West Africa in the non-breeding season is very high, but is not known accurately. As with Pintail *Anas acuta*, the possibility exists that declines in numbers, particularly in the Mediterranean Basin, could indicate redistribution of wintering birds to this more southerly area. This seems unlikely, although a decline in numbers in the 1980s, as recorded for Pintail *Anas acuta* in the inner Niger Delta, was not noted for Garganey, and numbers actually increased to former levels in 1987 following floods which allowed extensive regeneration of wetland vegetation (Bouare 1994). Garganey and Northern Pintail *Anas acuta* are the commonest species in the inner Niger Delta in January, and Bouare (1994) estimated that each season between 200,000 and 400,000 birds are caught by fishermen and sold in Mopti market. This may be a contributory factory to widespread declines in numbers of Garganey and Northern Pintail *Anas acuta*.

Northern Shoveler
Anas clypeata

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW/Central Europe	40,000	400	S
W Siberia/NE, E and S Europe/W Africa	450,000	4,500	
W Siberia/SW Asia/ NE and E Africa	400,000	4,000	D

Numbers and distribution in January 1995 and 1996

The overall total count in the region in 1995 was 205,508, and this declined a little in 1996 to 200,758 because of reduced coverage in the Mediterranean and Southwest Asia areas (Table 10). The count in 1994 was higher still (272,019, Rose 1995), the difference being primarily because of a high count in Iran in 1994 and a lack of information from Spain (an important country for this species) in 1995 or 1996.

The small numbers in the Baltic/Nordic area all but disappeared in the cold weather of 1996 (Table 4). Counts in Northwest Europe were very similar in 1995 and 1996, although there were reductions in numbers in Belgium and The Netherlands in 1996 compared with 1995 (Table 7). Northern Shovelers are scarce in Central Europe, where numbers increased a little in 1996 (Table 5), as they did in 1995 compared with 1994 (Rose 1995).

West Mediterranean totals of Northern Shoveler were reduced by a lack of information from Morocco or Tunisia in 1996. Counts in Mediterranean France and Italy increased between the two years, but in Portugal, and particularly Algeria, they declined (Table 9). Greece and Israel are the most important counted countries in the East Mediterranean for this species, and numbers in both countries increased by about a third in 1996 compared with 1995 (Table 6). The 27,070 counted at a single site, Amvrakikos Wetlands (Greece) in 1996 (Table 48), was higher than the total from any other entire country, except that of Azerbaijan. Until regular counts can be organised in Egypt, the status of the species in the East Mediterranean area will remain unclear.

As with many other Anatidae, counts in Southwest Asia were dominated by Iran in 1995, and Azerbaijan in 1996 (Table 8). More than 35,000 were counted at Big Kyzyl Agach Bay on the Caspian coast of Azerbaijan (Table 48). Relatively small numbers were also recorded in three countries on the Arabian Peninsula, with 2,687 in Saudi Arabia in 1996.

Table 48. Northern Shoveler: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
NORTHWEST EUROPE		
France:		
Lac de Grand Lieu	3,450	4,000
Loire Aval	2,940	1,684
Presqu' Ile Guerandaise	2,300	108
Etangs de la Brenne	978	1,427
Marais d' Olonne	784	502
Etangs d' Orx	504	531
Marais Littoraux de Charente Maritime	500	624
Etangs du nord Loire Atlantique	219	657
Etangs de Sologne	167	512
Baie de Bourgneuf et Noirmoutier	303	501
Lac du Der-Chantecoq	41	449
Ireland:		
Lough Rea	150	467
CENTRAL EUROPE		
Germany\Switzerland\Austria:		
Bodensee (total)	316	594
Bodensee (German part)	258	465
WEST MEDITERRANEAN		
France:		
La Camargue	10,840	13,815
Tunisia:		
Sebkha Kelbia	10,000	–
Algeria:		
Lac Tonga	8,865	910
Morocco:		
Barrage Al Massira	5,370	–
Italy:		
Quartu – Molentargius	2,609	7,323
BLACK SEA/EAST MEDITERRANEAN		
Greece:		
Amvrakikos Wetlands	11,312	27,070
Messolongi Lagoons	5,000	3,565
Israel:		
Hula Valley	3,798	7,504
Valley of Yesreel	2,915	6,850
SOUTHWEST ASIA		
Iran:		
Gomishan Marsh	11,500	–
Azerbaijan:		
Kyzyl Agach Reservation	–	35,328
Mahmud Chala Lake	–	6,950

Figure 25. Northern Shoveler population trends.

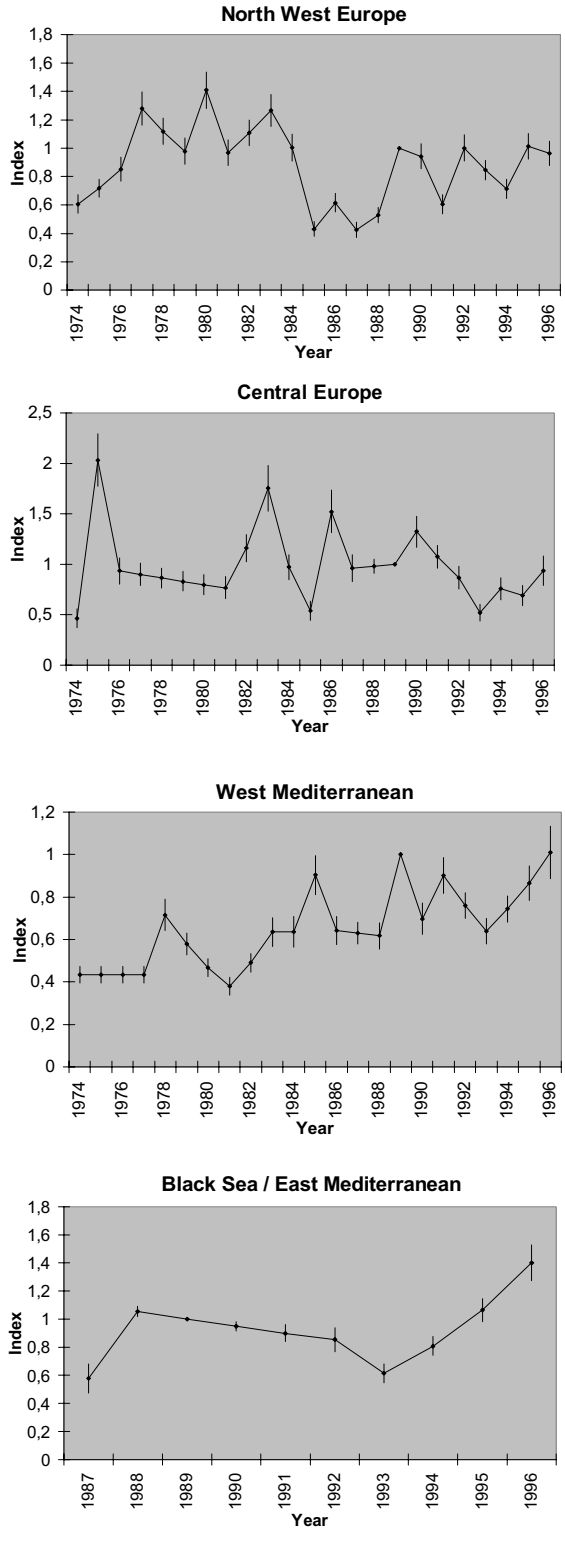


Table 48 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

An overall trend of increase between 1974 and 1996 was recorded in one area, the West Mediterranean. Diagnosis of population trends for Northern Shovelers was less successful than for any other numerous species, perhaps because this is a mobile species with variable migrations. The trend in Northwest Europe was diagnosed as stable to poorly known over both 23 and 10 year periods (Figure 25, Tables 24 and 25). Both the West Mediterranean and Black Sea/East Mediterranean areas also exhibited stable to poorly known trends between 1987 and 1996. The trend between 1987 and 1996 in Central Europe was one of decline, but over 23 years, diagnosis of a trend was not possible.

Marbled Teal
Marmaronetta angustirostris

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Mediterranean/ W Africa	3,000	30	D
E Mediterranean	1,000	10	D
Southwestern Asia	5,000–15,000	100	D

IUCN Threat Status: Vulnerable

Numbers and distribution in January 1995 and 1996

A comprehensive review of the status and conservation of this globally threatened species was published by IWRB (Green 1993). At that time, the world wintering population was estimated as at least 33,000, with more than 2,000 in the West Mediterranean and Africa (mainly in Morocco), about 1,000 in the East Mediterranean, and at least 30,000 in western and southern Asia (25,000 in Iran and 5,000 in Pakistan). The world population has declined by more than 50%, and possibly by more than 90%, since 1900, and the species qualifies for the IUCN category of Vulnerable.

Many Marbled Teals are missed by IWC methodology. In 1995, 471 were counted by IWC in Morocco, 111 in Israel, 40 in Syria and 3,677 in Iran (Tables 9, 6 and 8). No information was received from the most important countries for the species in 1996, and the only records for this season were of 26 in Israel, and 285 in Azerbaijan. The total in Iran represents a slight recovery from the 1994 total of 1,919, (Rose 1995) but 5,064 were counted in 1993, and 20,812 in 1992. This catastrophic decline in Iran, which was by far the most important country in the world for this species, is likely to have been caused by the destruction of the Mesopotamian Marshes in southern Iraq, where Iranian wintering birds probably used to breed. The situation is complicated by the fact that the most important wintering site in Iran, Shadegan Marshes, is very extensive, covering 4,250 square kilometres, and is difficult to count accurately because birds may be missed.

A special survey in Morocco in 1995 resulted in an estimate of 950 at seven major sites, though movements between sites made this a tentative estimate. An additional 62 birds were reported at eight smaller Moroccan sites, resulting in a final estimate of

around 1,000 birds in 1995. (Schollaert and Franchimont 1996). In previous seasons, counts of more than 1,000 Marbled Teals were recorded by IWC in Morocco in 1982, 83, 84, 87, 88, 89 and 92. These counts ranged between 1,017 in 1988 and 1,680 in 1982. An expedition in October 1997 counted 1,877 Marbled Teals, more than in any previous season, and four sites exceeded the 1% criterion of 30 (Green and El Hamzaoui 1998). Expeditions to south Tunisia counted 256 in January 1994 but only 18–28 in January 1995 at Chotts near Douz (van der Winden 1995).

Table 49 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Table 49. Marbled Teal: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
WEST MEDITERRANEAN		
Morocco:		
Barrage Al Massira, Settat	280	–
Merja de Sidi Bou Ghaba	145	–
Lagune de Sidi Moussa-Oualidia	35	–
BLACK SEA/EAST MEDITERRANEAN		
Israel:		
Hula Valley	63	20
Kinnrot Valley	36	0
Syria:		
Qattine	40	–
SOUTHWEST ASIA		
Iran:		
Shadegan Marshes	2,250	–
Helleh Region: River + Delta	1,200	–
Parishan Lake	135	–
Azerbaijan:		
Shirvan Reservation Lakes	–	240

Trends in numbers

IWC counts do not cover a representative sample of the sites used by this species which is, in any case, noted for its erratic usage of sites (Green 1993). Trend analyses are not very meaningful, and the 23 year trend (1974–1996) in the West Mediterranean, from IWC data, was one of increase (Tables 24). This is known to be incorrect (Green 1993). Decreases between 1987 and 1996 were recorded in both the West Mediterranean and Black Sea/East Mediterranean areas (Table 25).

Red-crested Pochard
Netta rufina

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
SW and Central Europe/W Med	25,000	250	S
Black Sea/ E Med	50,000	500	D
Western/ Central/SW Asia	200,000	2,000	S

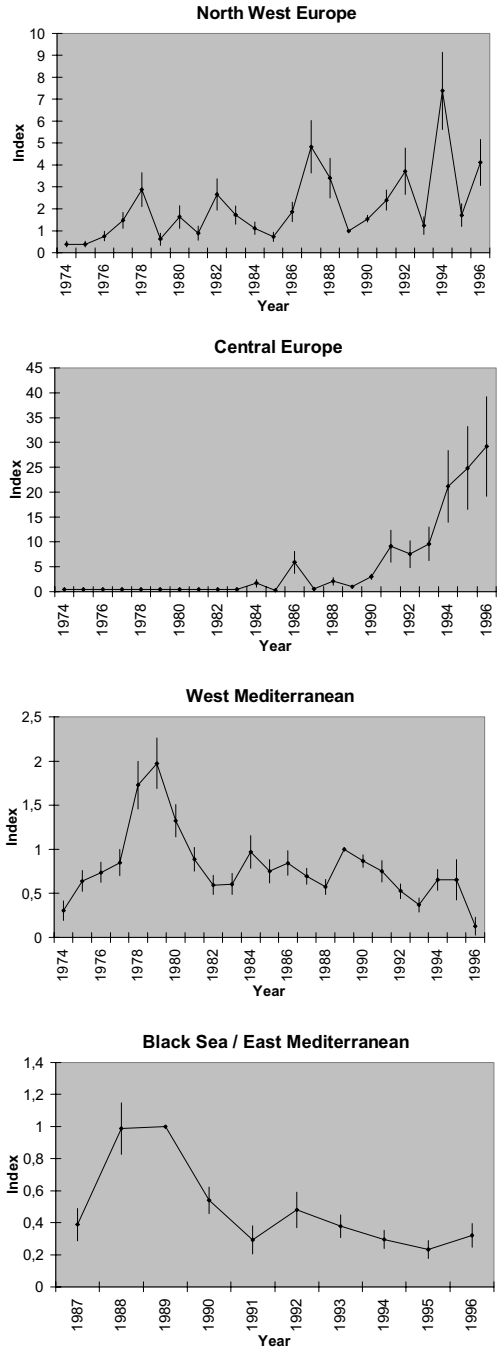
Table 50. Red-crested Pochard: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
CENTRAL EUROPE		
Germany/Switzerland/Austria:		
Bodensee (total)	2,959	3,617
Bodensee (German part)	2,945	3,607
Switzerland:		
Corcelettes-La Raisse, Vaumarcus	2,200	961
Estavayer-Yvonnand	1,165	1,967
Luzerner See N.	647	577
Cudrefin-Estavayer	563	319
La Thielle-Cudrefin	8	1,363
WEST MEDITERRANEAN		
France:		
La Camargue	2,100	500
Portugal:		
Lagoa de Sto. Andre	617	0
Morocco:		
Barrage Al Massira, Settat	323	–
BLACK SEA/EAST MEDITERRANEAN		
Turkey:		
Sapanca Golu	1,002	20
Yesilirmak Delta	520	155
Hirfanli Baraji	–	3,560
Beysehir Golu	–	603
Egridir Golu	–	600
Koycegiz Golu	341	528
Albania:		
Lake Ohrid (Albanian part)	726	1,405
Romania:		
Furtuna	–	650
SOUTHWEST ASIA		
Turkmenistan:		
Lake Sultandag	3,900	7,000
Lake Sarakamysh	0	8,400
Tuyamuyun Reservoir	–	2,117
Iran:		
Gomishan Marsh	3,280	–
Azerbaijan:		
Kyzyl-Agach Reservation	–	35,893
Uzbekistan:		
Ullishorkul Lake	–	40,042

Numbers and distribution in January 1995 and 1996

The bulk of the population breeds in Central and Southwest Asia, and winters there, and in the Indian sub-continent. Perennou *et al.* (1994) suggested that the winter distribution of the Red-crested Pochard depends on the prevailing weather in and east of the Caspian region. The main haunts in Southwest Asia were poorly covered in 1995, and 11,600 were counted in this area (Table 8). In January 1996, the count in Southwest Asia rose to 100,422. In Azerbaijan in February 1996, 179,000 were counted at five sites, of which 151,250 were at Sarasuy (Paynter *et al.* 1996). This is a high proportion of the Western/Central/ Southwest Asia population of 200,000 estimated by Rose and Scott (1997). If the January counts in Kyrgyzstan, Turkmenistan and Uzbekistan (plus a few in Kazakhstan and one in the United Arab Emirates) are added to this total, the total count in Southwest Asia in

Figure 26. Red-crested Pochard population trends.



January/February 1996 was 241,773, a total which exceeds the current population estimate by 21%.

European populations are relatively small and scattered. Total numbers in the combined Northwest Europe, West Mediterranean, Black Sea/East Mediterranean and Central Europe areas were similar in 1995 (18,301) and 1996 (19,117) (Tables 5,6,7 and 9) and a little lower than 1994 (21,443, Rose 1995). The higher total in 1994 was mainly because information from Spain was included in analysis that year. This overall similarity between years masks big differences at the national level. The highest numbers in Europe are now recorded on the lakes of Switzerland, where numbers in 1996 (9,504, Table 5) returned to 1994 levels. The recent increases in Switzerland are very probably related to declines in Iberia and Mediterranean France, (Keller 1999) (Figure 26) but a lack of detailed information from Spain hampers interpretation.

Table 50 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

Red-crested Pochard in Central Europe recorded the most rapidly increasing population trend of any species in any area between 1987 and 1996 (Table 25, Figure 26). An increase in Northwest Europe involved much smaller numbers of birds. There is strong evidence that the increase in Central Europe reflects a redistribution of birds which formerly spent the non-breeding season in the West Mediterranean area (Keller 1999, Figure 26). Numbers in the Black Sea/East Mediterranean area also declined between 1987 and 1996 (Figure 26) but it is not known whether this decline is also related to increases in Central Europe.

Common Pochard
Aythya ferina

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW/NE Europe	350,000	3,500	D
Central and NE Europe/Black Sea/ Mediterranean	1,000,000	10,000	D
W Siberia/SW Asia	350,000	3,500	

Numbers and distribution in January 1995 and 1996

The overall total count in the region was 832,270 in 1995 and 931,207 in 1996 (Table 10). In 1994 it was 791,283 (Rose 1995). The totals were especially affected by reduced coverage in Turkey in 1995. Nearly one-third (31%) of the 1996 total was counted in Turkey, when the next highest national proportion of the total (13%) was recorded in Switzerland.

Numbers of Common Pochards in the Baltic/Nordic area declined from 17,400 in 1995 to 6,116 in 1996. The decline affected every country except Sweden (Table 4). Numbers in The Netherlands also showed a decline, but in all other countries in the Northwest Europe area, numbers increased in 1996 (Table 7) perhaps indicating movement of birds displaced by cold weather further north and east.

In Central Europe, all national totals declined slightly between 1995 and 1996, but that of the most important country, Switzerland, increased, and the second most important, Germany, was not covered in 1996 (Table 5).

Italy and Mediterranean France produced the highest and most consistent counts in the West Mediterranean area in both years, and there were also high national totals in Morocco in 1995 and Algeria in 1996 (Table 9). The Black

Table 51. Common Pochard: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
NORTHWEST EUROPE		
UK:		
Loughs Neagh/Beg	16,001	19,895
Ouse Washes	1,775	3,929
Netherlands:		
Gooimeer	9,355	444
Limburgse Maas	6,146	8,906
Eemmeer, Nijkerkernauw and Nuldernauw	5,872	425
IJssel	4,631	607
Germany:		
Großer Jasmunder Bodden	8,200	–
France:		
Haut-Rhone	6,024	1,830
Etangs de la Brenne	5,137	4,017
Dombes – Vallee de L'Ain	686	9,317
Belgium:		
Zeeschelde Antwerpen – Dendermonde	554	8,787
Lier-Duffel Netevallei	1,421	3,823
CENTRAL EUROPE		
Germany/Switzerland/Austria:		
Bodensee (total)	37,658	36,380
Bodensee (German part)	20,315	19,484
Bodensee (Swiss part)	16,003	15,126
Switzerland:		
Lac Leman total	12,806	11,603
WEST MEDITERRANEAN		
Italy:		
Oristano	13,472	4,975
Laghi di Lesina e Varano	5,647	10,917
France:		
Complexe de l'Etang de Berre	10,716	12,559

	1995	1996
BLACK SEA/EAST MEDITERRANEAN		
Yugoslavia:		
Skadarsko Jezero	45,000	30,000
Ukraine:		
Dzansheisky, Shagany, Alibey, Burnas Limans	43,000	20,000
Gebriianov Bay	13,500	–
Dnestr Delta and Liman	4,900	10,500
Greece:		
Amvrakikos Wetlands	18,518	22,850
Kerkini	15,000	10,600
Vistonis (Bourou)	14,050	1,500
Romania:		
Danube River and Delta	10,815	3,579
Turkey:		
Sapanca Golu	10,400	4,710
Beysehir Golu	–	47,833
Uluabat Golu (Apolyont Golu)	3,735	45,200
Bafa Golu	–	27,085
Marmara Golu	–	18,690
Meric Delta	–	15,528
Egridir Golu	–	15,198
Kizilirmak	8,367	15,182
Buyuk Cekmece	128	14,036
Isikli Golu	–	13,740
Hirfanli Baraji	–	13,430
SOUTHWEST ASIA		
Turkmenistan:		
Lake Kattashor	11,200	0
Lake Sarakamysh	90	4,900
Iran:		
Gomishan Marsh	9,215	–
Ulma Gol	3,500	–
Azerbaijan:		
Kyzyl-Agach Reservation	–	65,978
Mahmud-Chala Lake	–	11,500

Sea/East Mediterranean area is the most important for Common Pochards in the region, and Table 51 summarises crucially important counts at sites in Yugoslavia, Ukraine, Greece, Romania, and especially Turkey. Bulgaria and Albania also recorded high national totals, but no individual sites in either of these countries exceeded 1% thresholds for international importance in January 1995 or 1996.

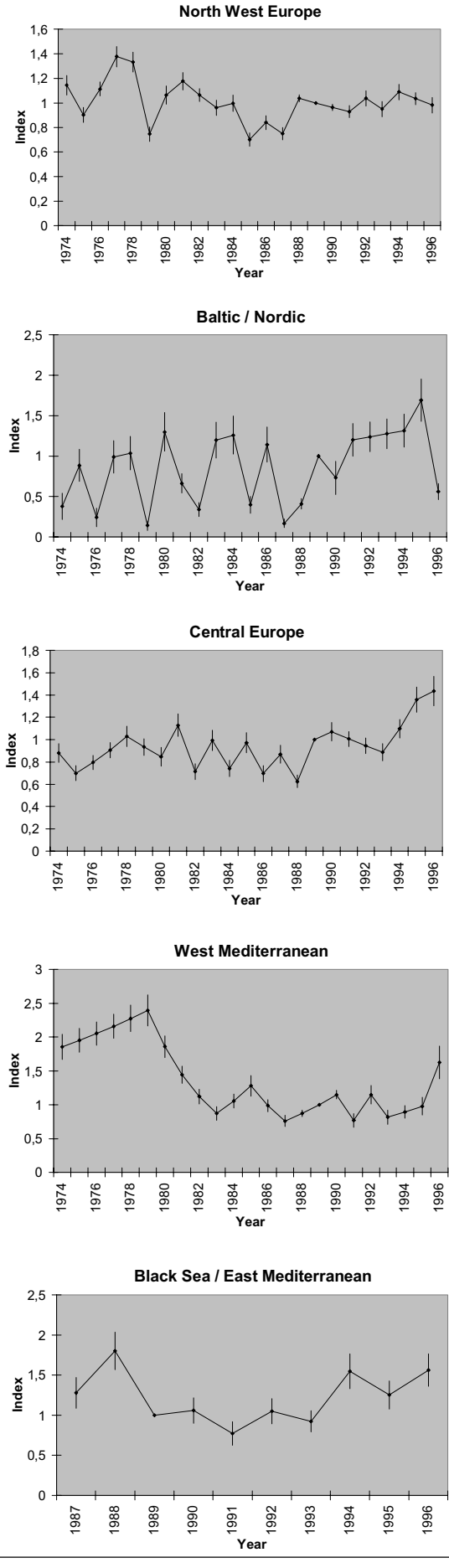
Totals for Common Pochard in Southwest Asia were dominated by Iran in 1995, and especially by Azerbaijan in 1996, and high numbers were counted in Turkmenistan in both seasons (Table 8). The count of nearly 66,000 at Big KyzYl-Agach Bay in Azerbaijan was one of many 1996 counts revealing details of the great importance of that country for wintering waterbirds.

Table 51 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996. A count in Ireland of 8,375 at Lough Corrib on 1 February 1996 failed by one day to get into Table 51.

Trends in numbers

The declines reported by Monval and Pirot (1989) in Northwest Europe and the West Mediterranean areas have levelled off and reversed in recent seasons. Trends in Northwest Europe were stable over both 23 (1974–1996) and ten (1987–1996) year periods. In the Baltic/Nordic area and Central Europe, a trend of overall increase between 1974 and 1996 was revealed (Figure 27, Tables 24 and 25). The trend was erratic in the Baltic/Nordic area, probably because of the effects of hard winters. In the West Mediterranean, a strong decrease between 1979 and 1996 stabilised between 1987 and 1996, and in the Black Sea/East Mediterranean area, an unknown trend between 1987 and 1996 was skewed towards increase.

Figure 27. Common Pochard population trends.



Ferruginous Duck
Aythya nyroca

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Med/W Africa	10,000	100	D
E Europe/E Med	10,000–50,000	300	D
W/SW Asia and NE Africa	5,000	50	D

IUCN Threat Status: Vulnerable

Numbers and distribution in January 1995 and 1996

The status of this species, categorised as Vulnerable by IUCN, was summarised by Hecker (1994) and an Action Plan for its recovery has been compiled (Callaghan 1999). Very low numbers were recorded in 1995 and 1996. Confusion with the much more numerous Tufted Duck *Aythya fuligula* is possible and birds may occasionally be overlooked. The overall total count of Ferruginous Ducks in 1994 was 3,169 (Rose 1995). This dropped to 2,123 in 1995, and just 684 in 1996 (Table 10). Totals in all years would be higher if information were available from Egypt, and a lack of information from Iran in 1996 accounts for the particularly low total in that season. The combined total counted in all European countries declined from 762 in 1994 (Rose 1995) to 665 in 1995 and 643 in 1996 (Tables 5, 6, 7 and 9).

In Northwest and Central Europe, between one and nine were counted in seven countries, and totals of 17 and 12 were recorded in Switzerland, and zero and 26 in Slovakia in 1995 and 1996 respectively (Tables 5 and 7). In the West Mediterranean, appreciable counts were only made in Algeria, where a 1995 total of 270 fell to 148 in 1996, and Italy, where 151 were recorded in 1995 and 74 in 1996 (Table 9). The total of seven in Morocco in 1995 was incomplete, and a further 26 were recorded on 22 January at Barrage de Mechra Hommadi. (Schollaert and Franchimont 1996). Counts in the East Mediterranean were dominated by Israel, where 155 were counted in 1995 and 300 in 1996 (Table 6). The next highest national total in the area, 28, was recorded in Croatia in 1996.

Most birds were counted in Iran, with a national total of 1,443 in 1995, when six sites exceeded the 1% threshold for international importance (Table 52). Turkmenistan and Azerbaijan have recorded important counts in the past, but no birds were recorded in either country in 1996, when the highest national total in Southwest Asia, 38, came from Oman (Table 8).

Table 52 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996. Additional counts are also shown because of the threatened status of this species.

Trends in numbers

This species is now so scarce in the region that sample sizes are barely adequate to act as a basis for trend estimates. A decrease was recorded in Central Europe between 1974 and 1996, and the rate of decline grew

very strong between 1987 and 1996, when numbers in the Black Sea/East Mediterranean area also declined very steeply (Tables 24 and 25). The trend in the West Mediterranean was unknown, but skewed towards increase between 1974 and 1996.

Table 52. Ferruginous Duck: Important counts in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
WEST MEDITERRANEAN		
Algeria:		
El Kennar	230	80
Barrage de Chekfa	40	60
Italy:		
Lago di Sant'Anna	30	30
Foce Simeto	22	0
EAST MEDITERRANEAN		
Israel:		
Hula Valley	71	90
Central Coastal Plain	47	0
Valley of Yesreel	12	154
Foothills of Judea	1	40
Croatia:		
Jelas Polje	0	28
SOUTH WEST ASIA		
Iran:		
Takht - E - Edalat	462	–
Chah Nimeh	400	–
Hamoun Helmand	182	–
Chogakhor Marsh	96	–
Gandoman Marsh	95	–
Parishan Lake	72	–

Tufted Duck
Aythya fuligula

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe	1,000,000	10,000	I
Central Europe/ Black Sea/ Mediterranean	600,000	6,000	I
W Siberia/SW Asia/ NE Africa	200,000	2,000	

Numbers and distribution in January 1995 and 1996

Following an overall regional total count of Tufted Ducks in 1994 of 995,131 (Rose 1995), in 1995, 1,047,935 were counted, and in 1996, 896,402 (Table 10). Differences in coverage between the years will have been the principal reason for these changes. Germany held 12% of the overall regional total in 1995, and a lack of information from that country particularly affected the totals for this species in 1996.

In the Baltic/Nordic area, high counts were made only in Denmark, Sweden, and to a lesser extent, Poland (Table 4). Denmark recorded the third highest national total in 1995 (146,057) after Germany and Switzerland. The Danish national total declined by nearly 95,000

Figure 28. Tufted Duck population trends.

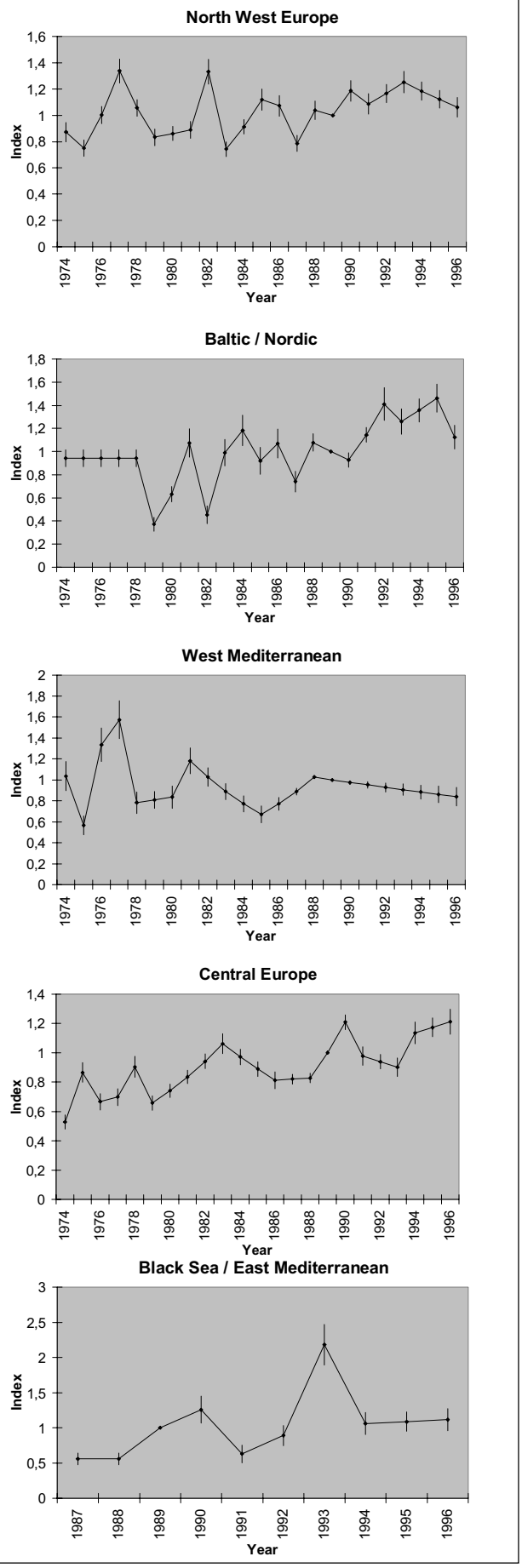


Table 53. Tufted Duck: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
BALTIC/NORDIC		
Denmark:		
Roskilde Fjord	53,920	10,707
Maribo Soerne	21,500	40
Sydfynske Hav	9,270	17,603
Sweden:		
Gö-Karlskrona	12,693	6,809
Karlshamn-Ronneby	1,681	16,349
Pukaviksbukten	5,506	15,362
Landsort-Muskö	3,588	12,500
Orkarshamn-Kråkelund	425	10,900
Kapellhamn – Slite	9,890	10,291
Poland:		
Zat. Gdanska	5,308	17,898
NORTHWEST EUROPE		
Netherlands:		
Markermeer	41,890	11,156
Gooimeer	15,235	122
IJsselmeer	14,363	11,363
Ketelmeer	12,370	3,954
Hollands Diep	3,150	11,072
Biesbosch	4,416	10,366
Germany:		
Großer Plöner See	23,660	–
UK:		
Loughs Neagh/Beg	17,131	25,340
France:		
Cours du Rhin	11,917	14,676
CENTRAL EUROPE		
Germany/Switzerland/Austria:		
Bodensee (total)	69,856	82,857
Bodensee (German part)	41,577	58,806
Bodensee (Swiss part)	26,498	22,002
Germany:		
Starnberger See	7253	–
Switzerland:		
Lac Leman total	35,933	26,789
Estavayer – Yvonnand (excl. Debarcadere)	19,610	8,044
La Raisse-Vaumarcus-Colombier	10,536	9,570
Bieler See (incl Schussmundung)	6,147	8,868
La Thielle (Zihlkanal)– Cudrefin (incl. Debarcadere)	2,784	10,850
WEST MEDITERRANEAN		
France:		
La Camargue	2,130	6,125
BLACK SEA/EAST MEDITERRANEAN		
Yugoslavia:		
Skadarsko Jezero	15,000	13,000
Ukraine:		
Dzansheisky, Shagany, Alibey, Burnas Limans	14,000	1,000
Syria:		
Qattine	10,000	–
Romania:		
Danube River and Delta	9,178	7,710
Greece:		
Mikri and Megali Prespa	7,008	1,271
Turkey:		
Hirfanli Baraji	–	14,550
Uluabat Golu (Apolyont Golu)	4,06	13,600
Egridir Golu	–	11,321
SOUTHWEST ASIA		
Azerbaijan:		
Kyzyl-Agach Reservation	–	63,091

between 1995 and 1996, but numbers in Sweden increased by more than 30,000. Numbers in The Netherlands also showed a marked decline, but in all other countries in the Northwest Europe area, numbers increased in 1996, perhaps indicating movement of birds displaced by cold weather further north and east (Table 7).

In Central Europe, totals in Austria, Slovakia and Switzerland all increased between 1995 and 1996. Nearly two thirds of the Tufted Ducks counted in Central Europe in 1995 were in Switzerland (Table 5).

The highest counts in the West Mediterranean area in both years were in Italy and Mediterranean France (Table 9) but the Black Sea/East Mediterranean area is more important for this species. Numbers in Bulgaria, Romania and Albania all increased between 1995 and 1996, but there was a considerable decline in Greece (Table 6). Numbers were consistent between the two years in Israel and Yugoslavia, and in other countries, inconsistencies in coverage prevent comparison.

In Southwest Asia, Iran produced the highest counts of Tufted Ducks in 1995 (Table 8) and very high numbers were counted in Azerbaijan in 1996, nearly all at one site, Kyzyl-Agach Reservation (Table 53).

Table 53 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

The 23 year trend (1974–1996) in Northwest Europe and the West Mediterranean was stable to unknown, and in the Baltic/Nordic area and Central Europe, numbers increased over this period (Figure 28, Tables 24 and 25). Trends between 1987 and 1996 were more variable, with the stable to unknown trend in the West Mediterranean turning to decline over this period, but Northwest Europe, the Baltic/Nordic area and Central Europe all recording increasing trends. In the Black Sea/East Mediterranaean area, an unknown trend between 1987 and 1996 was skewed towards increase.

Common Goldeneye
Bucephala clangula

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW/Central Europe	300,000	3,000	I
NE Europe/Adriatic	75,000	750	
W Siberia/NE Europe/ Black Sea	20,000	200	
W Siberia/Caspian	25,000	250	

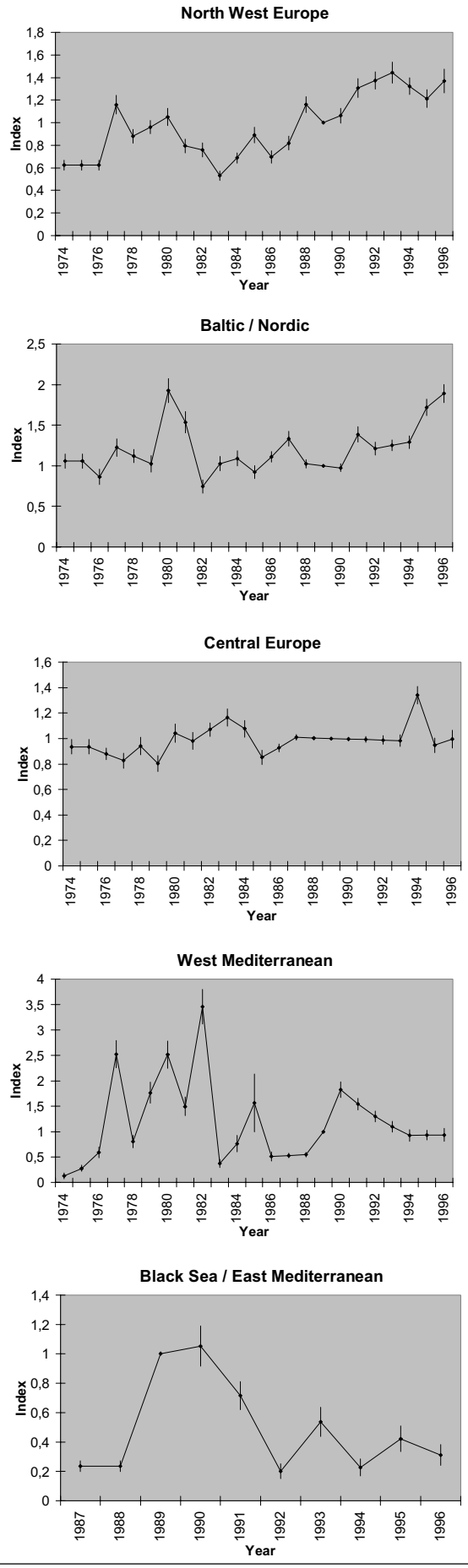
Numbers and distribution in January 1995 and 1996

Counts of this species are noteworthy for their consistency at site, national, area and regional levels. Differences in overall regional totals can be related to differences in coverage between the years. In 1994, 178,416 Common Goldeneyes were counted in the region (Rose 1995). The 1995 total was 177,498, (Table 10), and this decreased to 160,207 in 1995, largely because of reductions in coverage.

Table 54. Common Goldeneye: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
BALTIC/NORDIC		
Poland:		
Wisla: Ujscie (Mouth)	12,240	–
Vistula Mouth Estuary	–	7,440
Wisla: Solca Kuj – Swiecia	–	5,054
Zat Gdanska	3,251	0
Denmark:		
Roskilde Fjord	5,005	6,909
Sydfynske Hav	3,821	3,869
Lolland Northwest	2,174	4,250
Odense Fjord	1,911	3,439
Vorso	650	3,010
Sweden:		
Landsort – Muskö	608	4,230
Göteborgs S. Skärgård	1,907	3,158
Estonia:		
Kudema Bay	185	4,051
NORTHWEST EUROPE		
UK:		
Loughs Neagh/Beg	6,443	6,504
Netherlands:		
Grevelingen	4,021	4,885
CENTRAL EUROPE		
Germany/Switzerland/Austria:		
Bodensee (total)	6,565	7,275
Bodensee (German part)	3,973	4,548
BLACK SEA/EAST MEDITERRANEAN		
Yugoslavia:		
Skadarsko Jezero	700	1,500
WEST MEDITERRANEAN		
Italy:		
Laguna di Grado e Marano	974	1,503
France:		
La Camargue	24,480	20,165

Figure 29. Common Goldeneye population trends.



Of the six areas used for summarising counts, the Baltic/Nordic held the highest totals, mostly in Denmark, Sweden and Poland. Numbers in the Baltic/Nordic area increased in 1996 compared with 1995 in every country except Latvia and Lithuania, despite the colder weather (Table 4). Numbers also increased between the two years in every country in the Northwest Europe and Central Europe areas except Slovakia (Tables 5 and 7). Comparison of the area totals is hampered by a lack of information from Germany, which held 16% of the Common Goldeneyes counted in the region in 1995.

Numbers in the south of the wintering range are lower, and coverage is generally less consistent. In the West Mediterranean area, only Italy holds appreciable numbers, and the total declined from 2,236 in 1995 to 2,047 in 1996 (Table 9). In the Black Sea/East Mediterranean area, national totals in Albania, Croatia, Greece and Romania declined between 1995 and 1996, whereas those in Bulgaria, Slovenia and Yugoslavia increased (Table 6). Only one appreciable national total was recorded in Southwest Asia, in 1996 when 1,277 were counted in Azerbaijan (Table 8).

Table 54 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

Additional information about offshore wintering birds is presented in the section on seaducks (pages 98–101). Common Goldeneye showed increasing numbers in most areas over both the 1974–1996 and 1987–1996 periods (Figure 29, Tables 24 and 25). The 23 year trend in the Baltic/Nordic area was stable, however, and in the Black Sea/East Mediterranean area, numbers decreased over the 1987–1996 period.

Smew
Mergellus albellus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW/ Central Europe	25,000–30,000	250	
NE Europe/ Black Sea/East Mediterranean	65,000	650	S
Western Siberia/ SW Asia	30,000	300	

Numbers and distribution in January 1995 and 1996

The migratory and congregatory behaviour of Smews in winter varies considerably, depending on the severity of freezing in their favoured sites in eastern Europe, central and western Asia. International censuses are not yet sufficiently tightly co-ordinated to provide the basis for accurate population estimates. Co-ordinated counts of Szczecin Lagoon on the border between Poland and Germany are necessary to obtain a realistic idea of numbers in the region in any winter. Information from this site was submitted to the seaduck database (see p. 100–101) and has not been included in totals presented here.

The overall regional total count was 15,978 in January 1995 and rose to 27,389 in the hard winter of 1996 (Table 10). Totals increased in 1996 in all areas used for summarising counts except Central Europe, reflecting movement west and south from the usual core wintering area.

The highest national total in both seasons came from The Netherlands, with 4,978 in 1995 and 10,169 in 1996 (Table 7). Only three other countries recorded more than 1,000 birds in 1995, namely Germany, Romania and Sweden. In 1996, additional coverage made Ukraine and Kazakhstan next in importance to The Netherlands, recording national totals of 4,947 and 4,480 respectively.

Table 55 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Trends in numbers

Increasing trends have been recorded in the Baltic/Nordic, Northwest Europe and Central Europe areas, but in Central Europe, a trend of increase between 1974 and

Table 55. Smew: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
BALTIC/NORDIC		
Lithuania:		
Kursiu Bay (Lithuanian part)	964	480
Sweden:		
Kappellhamn – Slite	322	194
Karlshamn – Ronneby	150	740
Pukaviksbukten	95	411
NORTHWEST EUROPE		
Netherlands:		
Wieden	792	0
IJsselmeer	708	4,639
Markermeer	528	3,334
Tjeukemeer	274	2
Germany:		
Kamminke – Karnin	331	–
Silmenitz – Lauterbach	306	–
Zingst: Meiningen – Pramort	298	–
BLACK SEA/EAST MEDITERRANEAN		
Romania:		
Danube River and Delta	1,433	778
Ukraine:		
Sasyk Liman + adjacent sea area	80	2,700
Dnestr Delta and Liman	0	1,500
SOUTHWEST ASIA		
Iran:		
Aras Rud (Bralan-Aras Dam)	500	–
Kazakhstan:		
Sorbulak Lake	–	4,480
Turkmenistan:		
Lake Sarakamysh	–	670

1996 included a period of decline between 1987 and 1996 (Tables 24 and 25). Inconsistent counts mean that 23 year trends in the Baltic/Nordic area and Northwest Europe, and the more recent 10 year trend in the Black Sea/East Mediterranean area were poorly known, but skewed towards increase. Additional information about offshore wintering birds is presented in the section on seaducks (pages 98–101).

Red-breasted Merganser
Mergus serrator

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW/Central Europe	125,000	1,250	S
E Greenland/ Iceland/UK/ Ireland	15,000–25,000	200	
NE Europe/ Black Sea/ Mediterranean	50,000	500	
W Siberia/SW and Central Asia	<10,000	100	

Numbers and distribution in January 1995 and 1996

The overall regional total for Red-breasted Merganser in 1995 was 33,301, with a majority of birds occurring in Northwest Europe and the Baltic/Nordic areas (Table 10). The lower overall total of 30,975 in 1996 was principally caused by a lack of information from Germany.

In the Baltic/Nordic area, the most important countries in both seasons were Denmark, Sweden and Norway (Table 4). In Denmark, the 1995 national total of 2,400 declined to 2,014 in 1996. In Sweden and Norway, national totals increased from 2,330 to 2,778 and from 1,655 to 2,014 respectively.

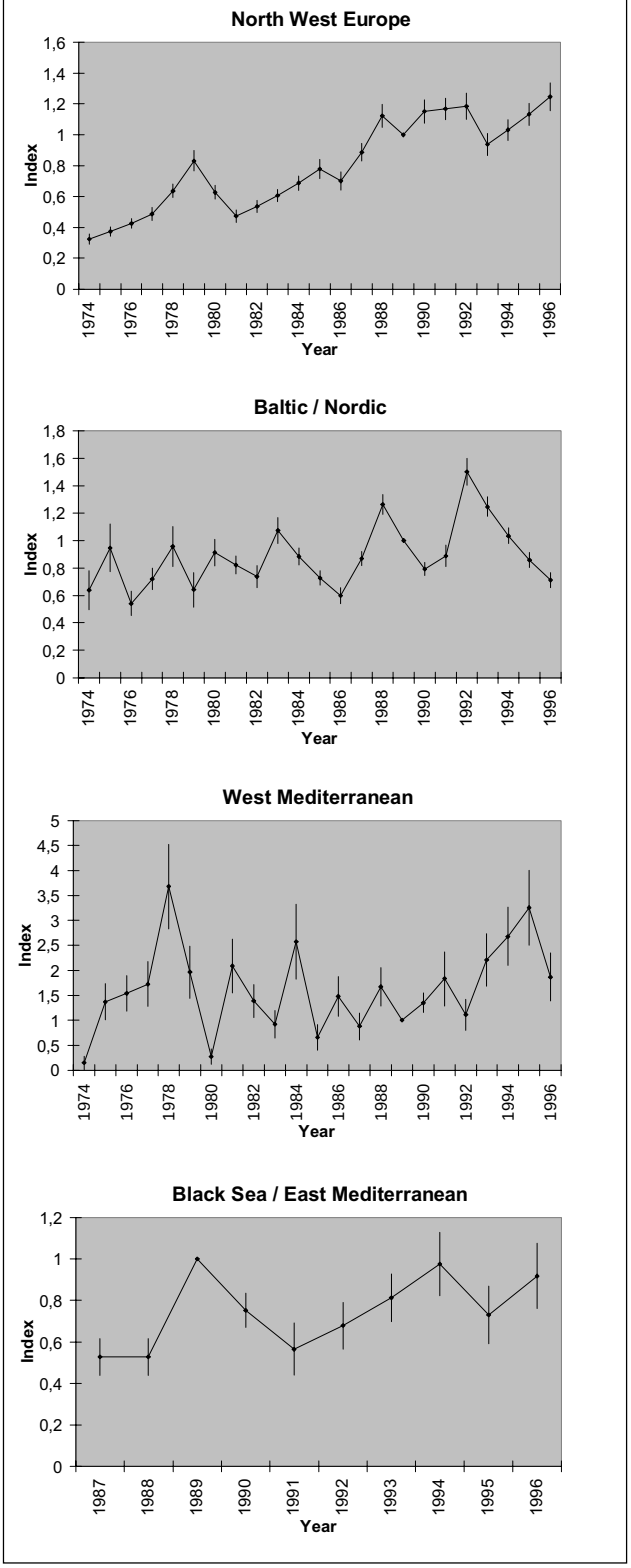
The Netherlands hosted more wintering birds of this species than any other country in January 1995 (7,616) and in 1996, the total increased considerably to 11,947 (Table 7). Most Dutch birds occur in the Southern Delta (Boele *et al.* 1995, Voslamber *et. al.* 1996) and Red-breasted Merganser has been selected as an indicator species in a study of the state of coastal waters and estuarine areas in The Netherlands (Meininger 1995). Germany was also very important in 1995 with a national total of 5,051, and was followed in importance by the UK (5,043) and France (3,403). Totals in the UK and France decreased in 1996, but in Ireland they increased from 861 to 1,215. In Central Europe, small and consistent numbers were counted in both seasons.

Italy was the only country in the West Mediterranean where appreciable numbers of Red-breasted Mergansers were counted, and the 1995 total of 1,739 declined to 1,171 in 1996. Numbers in Mediterranean France and Portugal were much lower, but also declined between the two seasons (Table 9).

In the Black Sea/East Mediterranean area, the highest national total, 976, was recorded in Greece in 1996. Eight out of nine countries in this area recorded increases in their national totals in 1996 (only Romania recorded a decline) and the area total increased from 1,295 in 1995 to 1,907 in 1996 (Table 6).

Red-breasted Mergansers are scarce in Southwest Asia, and just 30 were counted in Turkmenistan in 1995, and eight in Kyrgyzstan and one in Azerbaijan in 1996 (Table 8).

Figure 30. Red-breasted Merganser population trends.



Red-breasted Mergansers have a relatively dispersed winter distribution and are mostly found in small flocks. Rather few concentrations were counted which exceeded 1% thresholds for international importance (Table 56).

Table 56. Red-breasted Merganser: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
BALTIC/NORDIC		
Denmark:		
Lolland Northwest	676	1,522
NORTHWEST EUROPE		
Netherlands:		
Grevelingen	3,650	5,396
France:		
Golfe du Morbihan	1,965	1,540
UK:		
Moray Firth	1,122	147
Poole Harbour	374	448
Morecambe Bay	292	297
Ireland:		
Wexford Harbour and Slobs	128	283
Inner Galway Bay	226	244
WEST MEDITERRANEAN		
Italy:		
Laghi di Lesina e Varano	554	1

Trends in numbers

Information about offshore wintering birds is presented in the section on seaducks (pages 98–101). In Northwest Europe, the population trend of Red-Breasted Merganser was one of increase over both 23 (1974–1996) and 10 (1987–1996) year periods. In the Baltic/Nordic area, a trend of overall increase between 1974 and 1996 levelled off to one of decline between 1987 and 1996 (Figure 30, Tables 24 and 25). Much smaller numbers in the West Mediterranean recorded a poorly known trend over the longer term, but an increase between 1987 and 1996. The trend over this shorter period in the Black Sea/East Mediterranean area was unknown but skewed towards decline.

Goosander
Mergus merganser

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW/Central Europe	200,000	2,000	S
Iceland	900	9	
UK	5,000–8,000	65	I
Central Europe (breeding)	3,000	30	I
Balkans (breeding)	50–100	1	
N Europe/Black Sea	10,000	100	
Western Siberia/ Caspian	20,000	200	

Numbers and distribution in January 1995 and 1996

A total of 87,979 Goosanders was counted in the region in 1994 (Rose 1995) and 89,562 in 1995 (Table 10). A drop in the total to 79,139 in 1996 can be principally attributed to a lack of information from Germany. Additional Information about offshore wintering birds is presented in the section on seaducks (pages 98–101).

Of the six areas used for summarising counts, the Baltic/ Nordic area recorded the highest numbers, mostly in Lithuania, Latvia, Sweden and Denmark (Table 4). In 1995, the highest national total (19,413) was counted in Lithuania, but there was apparent redistribution to Latvia, which recorded the highest national total (14,749) in 1996. In Northwest Europe, Germany recorded the second highest national total (15,606) in 1995, and one other country, The Netherlands, recorded appreciable national totals, 8,937 in 1995 more than doubling to 20,373 in the cold weather of 1996 (Table 7). In Central Europe, numbers increased between 1995 and 1996 in every country except Slovakia, and Switzerland held about two thirds of the area total in both seasons, recording a national total of 3,255 in 1995 and 3,440 in 1996 (Table 5). Numbers in the south of the wintering range are much lower, and the only national totals higher than double figures were 428 birds in Romania in 1995, and 100 in Bulgaria, 171 in Ukraine and 313 in Kazakhstan in 1996 (Tables 6 and 8).

Table 57 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

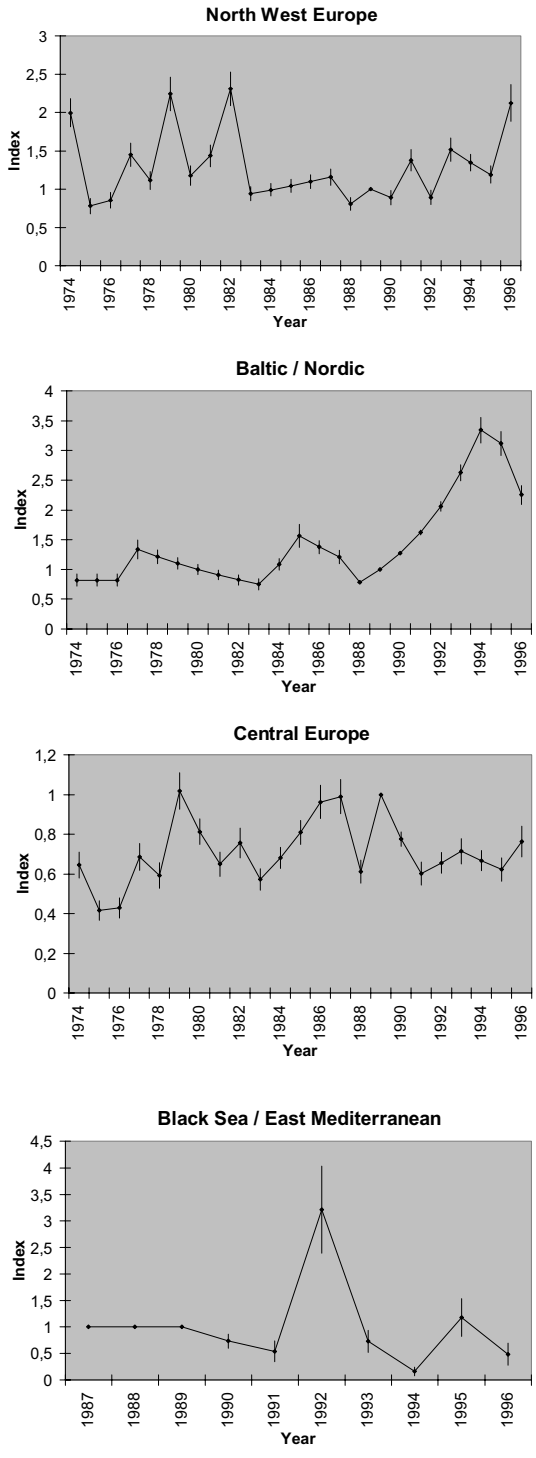
Table 57. Goosander: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
BALTIC/NORDIC		
Lithuania:		
Kursiu Bay (Lithuanian part)	17,730	5,140
Denmark:		
Roskilde Fjord	6,437	5,801
Latvia:		
Jurmalciems – Bernati	4,000	3,754
Pape Seacoast (Nida – Pape)	437	3,121
Liepaja Port	110	2,540
Sweden:		
Kappellhamn – Slite	2,844	1,895
Kalmar – Revshuden	2,224	400
NORTHWEST EUROPE		
Netherlands:		
IJsselmeer	1,120	5,496
Markermeer	212	3,864
SOUTHWEST ASIA		
Kazakhstan:		
Sorbulak Lake	–	313

Trends in numbers

Population indices and trends presented here are based on the proportion of the population which winters inshore. Numbers of inshore wintering Goosanders appear to have

Figure 31. Goosander population trends.



suffered a decline between 1974 and 1996 in Northwest Europe, and this was the only population in this area to exhibit a long term decline in numbers. The decline may not be genuine, however because TRIM computes the trend slope without an intercept (which implies that the regression line goes through the index value of the first year) and the very high index value for Goosander in the first year, 1974, may have led to a spurious trend diagnosis in this case. The trend over the ten year period 1987 to 1996 in Northwest Europe improved to one of increase, and numbers in the Baltic/Nordic area also increased over both periods (Figure 31, Tables 24 and 25). In Central Europe, a significant increase between 1974 and 1996 levelled off and a decline was recorded between 1987 and 1996. The trend over this shorter period in the Black Sea/East Mediterranean area (where there are relatively few Goosanders) was unknown but skewed towards decline.

Ruddy Duck
Oxyura jamaicensis

Recognised Populations (Rose and Scott 1997)

North America, Caribbean, Colombia; introduced to Great Britain, spreading in Europe.

Numbers and distribution in January 1995 and 1996

Numbers of North American Ruddy Ducks in the UK increased exponentially after birds which escaped from captivity first bred in the wild in 1960. In the 1980s the rate of increase declined to about 10% per year, and the current wintering population is estimated at 3,300 (Hughes *et al.* 1998). The increase in Britain has been mirrored by colonisation of Europe (Hughes and Grussu 1994), and in Spain this has caused serious conflict with conservation of the closely allied and globally threatened White-headed Duck *Oxyura leucocephala*. Ruddy Ducks hybridise with White-headed Ducks and produce fertile young, creating a risk of extinction through genetic swamping of White-headed Ducks by the introduced species (Hughes 1996). An unwelcome development in June 1998 was an unconfirmed record of a hybrid Ruddy Duck × White-headed Duck in Turkey, the first indication that the eastern population of the White-headed Duck may also face this threat (BirdLife in Europe 3, 3 1998, P. 3.).

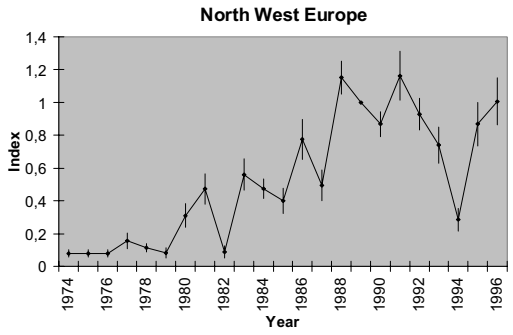
A high proportion of the estimated UK population is included in the counts for IWC. Tiny numbers were recorded in other countries: four in each of Belgium, The Netherlands and Morocco and one in Ireland and Italy in 1995; five in Belgium and one in each of The Netherlands, Ireland and Italy in 1996 (Tables 7 and 9). No counts were received from Spain in either season, but the shooting of Ruddy Ducks for the sake of conserving White-headed Ducks continues. Up until September 1997, 45 pure Ruddy Ducks and 43 Ruddy Duck x White-headed Duck hybrids had been shot in Spain (Torres and Alcala-Zamora 1997). Ruddy Ducks appear to be increasing in number in Morocco. In addition to counts submitted to Wetlands International, Schollaert and Franchimont (1996) reported 8 birds at 3 sites in Morocco in 1995. Garrido and Mañez (1996) summarised all Moroccan records and reported a maximum presence of 16 birds since 1992. The proximity of these Moroccan records to the Spanish population of White-headed Ducks gives cause for concern.

Trends in numbers

The strong increase in the British population between 1974 and 1991 shows well on Figure 32 and table 24. The 23 year trend in Northwest Europe showed the steepest rate of increase of any species in any area for which TRIM diagnosed a significant trend over this period.

The ten-year trend in Northwest Europe between 1987 and 1996 appeared to be one of decrease, but this was an exaggeration of the true situation because sites used by the species in the UK are poorly represented on the reduced site list that was used in the trend analyses. This trend was not recorded at national level in the UK (Cranswick *et al.* 1997).

Figure 32. Ruddy Duck population trends.



White-headed Duck
Oxyura leucocephala

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Mediterranean	700	7	I
Algeria/Tunisia	400	4	S
E Mediterranean/ Turkey/SW Asia	8,000–15,000	115	D

IUCN Threat Status: Vulnerable

Numbers and distribution in January 1995 and 1996

The status of this species, categorised as Vulnerable by IUCN, was summarised by Green and Anstey (1992) and an Action Plan for its recovery has been compiled (Green and Hughes 1995). The well-documented and rapid decline (e.g. Green and Yarar 1996) apparently continues, and 5,142 white-headed ducks were counted in the region in January 1995, decreasing to 2,020 in 1996 (Table 10). The low 1996 total was partly caused by a lack of information from Iran, where an unusually high count of 1,485 was recorded in 1995.

No information on the small Spanish population was available through IWC in 1995 or 1996, but close monitoring continues. After reaching a low point in 1977 of just 22 birds, the population recovered to a total of 786 in January 1992 (Torres *et al.* 1994). In November 1996, 932 birds were counted in this population, and the count rose to 1,087 in September 1997. January totals in these two years in Spain were 537 in 1996 and 746 in 1997 (Torres and Alcala-Zamora 1997).

The principal wintering site is Burdur Golu in Turkey, where as recently as 1991, 10,927 White-headed Ducks were counted. The 1995 count at this site was 2,805, and this decreased by nearly two thirds, to just 1,037 in 1996 (Table 58). Coverage of other sites in Turkey was considerably more extensive in 1996 than in 1995, yet the national total dropped from 2,964 to 1,300 between the two years. One positive development was a series of high counts in Greece, at Lake Vistonis, where 386 were counted in January 1995 and 630 in 1996 (Table 58). Numbers at this site in December 1994 were higher still, and 850 to 900 were counted (Handrinos 1995). It seems possible that some birds which formerly wintered at Burdur Golu could now be wintering at sites which are not counted.

In Azerbaijan, where 3,620 were counted in 1991, only one was recorded in February 1996, but the most important site was not visited (Paynter *et al.* 1996).

Table 58 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996.

Table 58. White-headed Duck: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

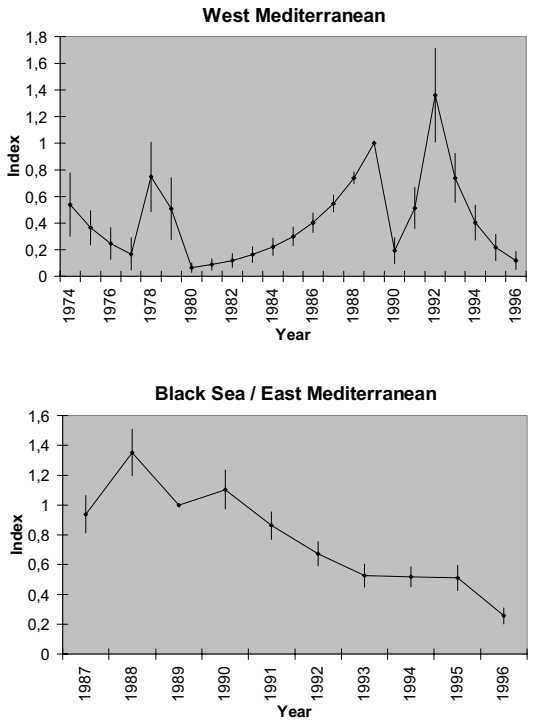
	1995	1996
WEST MEDITERRANEAN		
Algeria:		
Lac des Oiseaux	53	2
Tunisia:		
Barrage Mornaguia	12	–
BLACK SEA/EAST MEDITERRANEAN		
Turkey:		
Burdur Golu	2,805	1,037
Karatas (Kokarot) Golu	82	0
Kizilirmak	43	3
Manyas Golu	34	20
Hirfanli Baraji	–	122
Kulu Or Duden Golu	–	95
Sarikum Golu	–	13
Greece:		
Vistonis (Borou)	386	630
Syria:		
Jabboul	100	–
Qattine	40	–
Israel:		
North Lower Jordan Valley	38	0
Galilee Coastal Plain	27	0
Romania:		
Techirghiol	15	9
Bulgaria;		
Mandra Lake	0	73
SOUTHWEST ASIA		
Iran:		
Ulma Gol	1,450	–
Miankaleh Protected Region	33	–
Parishan Lake	2	–

Trends in numbers

Numbers of White-headed Ducks in the West Mediterranean area increased between 1974 and 1996, reflecting the well documented recovery of the population from its 1977 low point. A trend of decline revealed by TRIM over the 1987–1996 period was not genuine, and was caused by a lack of information from Spain in 1995 and 1996, and by poor representation of this species on

the reduced site list: the total site list trend for this species between 1987 and 1996 in the West Mediterranean was one of increase. Numbers in the Black Sea/East Mediterranean area declined steadily between 1987 and 1996 (Figure 33, Tables 24 and 25).

Figure 33. White-headed Duck population trends.



Common Coot
Fulica atra

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe (wintering)	1,500,000	15,000	S
Black Sea/ Mediterranean (wintering)	2,500,000	20,000	D
SW Asia (wintering)	2,000,000	20,000	

Numbers and distribution in January 1995 and 1996

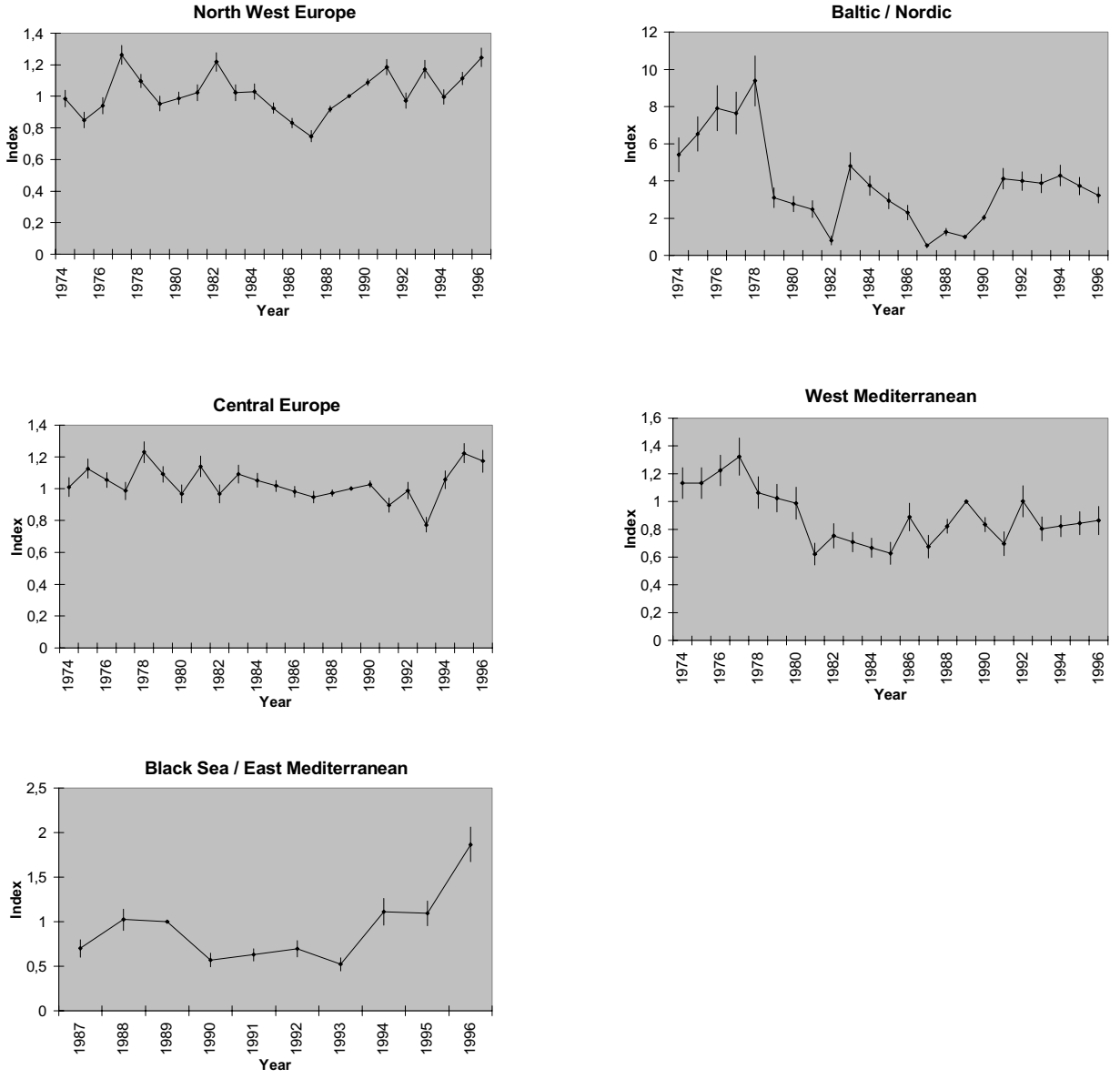
More than 2.7 million Common Coots were counted in the region in 1996, of which 41% (over one million birds) were recorded in Turkey (Tables 10 and 6). One site, Uluabat Golu held 321,550 of these Turkish birds (12% of the overall regional total) (Table 59).

In the Baltic/Nordic area, most Common Coots were counted in Denmark, and Sweden and Poland also recorded high numbers (Table 4). A decrease in counts in this area of about 15% occurred between 1995 and 1996. In Northwest Europe, every country recorded an increase in numbers between the two years, the increases ranging between 19% in Belgium and 5% in France (Table 7). The two most important countries for the species in Central Europe, Switzerland and Austria, recorded similar increases, but numbers in the Czech and Slovak Republics and Hungary declined (Table 5). Common Coots are susceptible to cold weather (Perdeck 1987) and these changes in numbers between areas are likely to have been a result of cold weather in January 1996.

Table 59. Common Coot: Counts exceeding 1% importance thresholds in January 1995 and 1996.
Note that only sites on the "reduced site list" are included.

	1995	1996
BALTIC/NORDIC		
Denmark:		
Roskilde Fjord	16,741	17,145
NORTHWEST EUROPE		
Netherlands:		
IJssel	19,236	21,819
Gelderse/Brabantse Maas	11,397	16,523
CENTRAL EUROPE		
Germany/Switzerland/Austria:		
Bodensee (total)	58,300	58,122
Bodensee (German part)	44,103	43,675
WEST MEDITERRANEAN		
Italy:		
Laghi di Lesina e Varano	27,718	11,805
Laguna sud di Venezia	15,122	25,664
France:		
La Camargue	24,480	20,165
BLACK SEA/EAST MEDITERRANEAN		
Yugoslavia:		
Skadarsko Jezero	110,000	120,000
Turkey:		
Burdur Golu	50,600	34,067
Uluabat Golu (Apolyont Golu)	45,840	321,550
Sapanca Golu	30,700	30,150
Goksu Delta (Silifke)	27,616	12,981
Koycegiz Golu	22,010	34,120
Isikli Golu	–	190,690
Beyeshir Golu	–	163,378
Hirfanli Baraji	–	68,350
Egredir Golu	–	64,419
Bafa Golu	–	51,000
Koca Delta (W Part)	19,090	42,610
Kizilirmak	7,171	30,511
Akyatan Golu	–	28,100
Greece:		
Messolongi Lagoons	41,670	34,590
Volvi	23,144	2,840
Vistonis (Bourou)	21,300	720
Amvrakikos Wetlands	19,133	47,515
Albania:		
Lake Ohrid (Albanian Part)	26,633	40,765
SOUTHWEST ASIA		
Azerbaijan:		
Kyzyl-Agach Reservation	190,800	76,650
Baku – Bendovan Cape, Baku Archipelago	–	26,950
Shah Cape (Apsheron Archipelago, Tara Islands)	–	25,125
Iran:		
Gorgan Bay	54,000	–
Bakhtegan and Tashk Lakes	52,920	–
Gomishan Marsh	23,000	–

Figure 34. Common Coot population trends.



In the West Mediterranean area, Italy recorded the highest numbers of Common Coots, and 214,696 were counted there in 1995, declining to 138,994 in 1996. Other West Mediterranean countries hold much smaller numbers, and countries counted in both seasons (Algeria, Mediterranean France and Portugal) recorded similar declines (Table 9). In the Black Sea/East Mediterranean area, Turkey recorded the highest numbers of any country, even in 1995 when coverage was much reduced. Increases in national totals between 1995 and 1996 were recorded in Albania, Bulgaria, Croatia and Yugoslavia, and declines occurred in Greece, Israel, Romania and Cyprus (Table 6).

Counts in Iran and Azerbaijan produced the highest national totals in Southwest Asia, where high numbers were also recorded in Kyrgyzstan, and especially Turkmenistan in 1996 (Table 8).

Table 59 summarises all counts which exceeded 1% thresholds for international importance in January 1995 and 1996. A count in Ireland of 25,000 at Lough Corrib on 1 February 1996 failed by one day to get into Table 59.

Trends in numbers

The trend between 1974 and 1996 in Northwest and Central Europe was stable, but numbers in the Baltic/ Nordic area declined markedly over this period. There was a population crash in Sweden following the very cold 1978–79 winter, after which numbers never returned to former levels (Monval and Pirot 1989). In the ten years between 1987 and 1996, trends in the Baltic/Nordic area, Northwest and Central Europe improved to increases, but in the West Mediterranean a declining trend was recorded, and in the Black Sea/East Mediterranean, the ten-year trend was stable to unknown (Table 25).

7.3 Waders

Introduction

The Wetlands International Wader Database has been managed by the Dutch Instituut voor Bos en Natuuronderzoek (IBN-DLO) (Institute for Forest and Nature Research) since before 1989, but until recently it has not been possible to present comprehensive results of counts from all countries in the region which undertake midwinter counts of waders. Tables 11 to 15 summarise national total counts of waders in the Western Palearctic and Southwest Asia in January 1995 and 1996, using the same areas as for presentation of the totals for Anatidae (ducks, geese, swans) and Common Coot *Fulica atra* (Tables 4 to 10). One difference is that additional totals for the international Wadden Sea are presented as a separate, additional column in the wader tables. The Wadden Sea portions of the national totals have also been included in totals presented for The Netherlands and Denmark, but not for Germany because in that country, waders were only counted in the Wadden Sea in 1995 and 1996. The Baltic/Nordic and Central Europe areas hold relatively few waders in January and totals for Denmark and Austria appear together with totals for countries in Northwest Europe in Table 12. It should also be noted that (as for Anatidae and Common Coot) national totals for France have been split between the Northwest Europe and Mediterranean areas.

Coverage

Nearly all countries participating in IWC now organise simultaneous January counts of all waterbirds, including waders. The information on coverage in the general introduction (p. 14) summarises the coverage achieved for wader counts at national level, but the coverage maps do not show all sites where waders were counted. The Baltic coast normally freezes in January, and waders are absent or very scarce. Many sites in the Baltic are, however, crucial for waders on spring and autumn passage. Considerable numbers of Purple Sandpipers *Calidris maritima* winter on the open coasts of Norway and Sweden, but covering this very extensive shoreline is impractical. A special survey of the non-estuarine coastline of much of Europe, called NEWS (Non-Estuarine Coastal Wader Survey) was co-ordinated by the British Trust for Ornithology in December 1997 and January 1998, and it is hoped that summarised results will be available in the next IWC Report.

A majority of wader species in Europe winter wholly or chiefly in coastal habitats, so that countries without a coastline, and one entire area, Central Europe, hardly feature in Tables 11 to 15. A few species of wader are under-represented by January counts because many individuals winter in grassland (e.g. Northern Lapwing *Vanellus vanellus*, Golden Plover *Pluvialis apricaria* and Eurasian Curlew *Numenius arquata*) or woodland (Woodcock *Scolopax rusticola*). Special surveys are necessary to discover the numbers of these birds (e.g. van der Winden *et al.* 1998). A majority of snipes *Gallinago* and *Lymnocryptes* species, cannot be counted because of their secretive behaviour. In the south of the region, Stone Curlews *Burhinidae*, Coursers *Cursorius* species, and species such as Eurasian Dotterel *Eudromias morinellus* winter at non-wetland sites and are largely missed by the counts.

Eurasian Oystercatcher roost, German Wadden Sea.

Klaus Günther 1998.

The overall 1995 regional total of all waders counted in the region was just under five million (Table 15). Totals were 17% lower in 1996 (overall regional total count of waders: 4,161,805) partly because of reduced coverage compared with 1995, but also probably because of cold weather in the 1995–96 winter. Freezing of intertidal areas causes increased mortality of waders (e.g. Davidson and Evans 1982, Swennen and Duiven 1983) but also causes many to fly further west and south to areas unaffected by freezing (e.g. van Eerden 1977). Baillie *et al.* (1996) examined ringing records of waterbirds and confirmed that most waders in Britain remain at their wintering grounds and draw on their reserves of fat and protein during severe weather, but some Northern Lapwings, *Vanellus vanellus*, Eurasian Curlews *Numenius arquata* and Common Snipes *Gallinago gallinago* were found to move to France and Iberia under such conditions.

The most important area for waders in both years was Northwest Europe, where the UK (with its 130 estuaries) and the Wadden Sea between them held 55% of the overall regional wader total in 1995 and 54% in 1996. France, Ireland and the non-Wadden Netherlands all also recorded higher wader totals than any country in any other area in both winters. Belgium with its short coastline was the only country in Northwest Europe where relatively small numbers of waders were counted.

More than a quarter of all the waders wintering along the European and West African coast (around two million birds) are concentrated at one wetland complex, the Banc d'Arguin in Mauritania. Coverage of this huge and remote site takes about 120 man-days, and has been achieved six times since 1973, most recently in January–February 1997 (Zwarts *et al.* 1998a, 1998b). Numbers of waders wintering at the Banc d'Arguin appear to have declined, and the proportions of species to have changed in recent years. The bias introduced by the occurrence of such a high proportion of the populations of many wader species at this one difficult-to-count site will cause difficulties in the estimation of wader populations on the East Atlantic Flyway for the forseeable future. Within the Western Palearctic, this is an important constraint for those species for which a single population winters in both Europe and Africa.

The species accounts which follow briefly interpret totals presented in Tables 11 to 15 and put totals from each country and area into its regional context.

Eurasian Oystercatcher
Haematopus ostralegus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe and N/W Africa (wintering)	874,000	9,000	I
SW/S Asia and E Africa (wintering)	25,000	250	

Numbers and distribution in January 1995 and 1996

Northwest Europe held nearly all the Eurasian Oystercatchers counted, recording area totals of 773,660 in 1995 and 690,439 in 1996 (Table 12). Almost half of the Northwest European total was recorded at the Wadden Sea in 1995, but the proportion there declined by 80,000 birds, to 43% of the Northwest European total in 1996, presumably because of cold weather. Counts from the UK were next in importance to The Wadden Sea and the country held 33% of the Northwest European total in 1995 and 34% in 1996. Counts from the non-Wadden Netherlands and France increased in 1996 compared with 1995, probably as a result of displacement of some of the birds affected by cold weather further north and east.

Eurasian Oystercatchers were much more scattered in other areas, but four-figure national totals were recorded in Morocco and Portugal in 1995, and Oman in both seasons.

Two considerable additions to the already comprehensive Oystercatcher literature appeared in 1996 (Blomert *et al.* 1996, Goss-Custard 1996).

Black-winged Stilt
Himantopus himantopus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Med (breeding)	40,000	400	I
Black Sea/ E Med (breeding)	30,000–60,000	450	
SW Asia (wintering)	10,000–25,000	100–250	

Numbers and distribution in January 1995 and 1996

A total of 8,628 Black-winged Stilts was counted in January 1995, but a lack of information from Iran and Morocco caused a reduction in the overall count to 2,142 in 1996 (Table 15). The highest counts were made in Iran, where 1,150 Black-winged Stilts were counted at a single site, Bakhtegan and Tashk Lakes. Counts from Morocco were next in importance, and 919 were counted at Sidi Moussa alone. The highest count in Europe was made at Ria de Faro in Portugal, where 685 black-winged Stilts in 1995 comprised nearly half the national total.

Pied Avocet
Recurvirostra avosetta

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Europe/ W Med (breeding)	67,000	700	S
Black Sea/ E Med (breeding)	25,000–100,000		
W/SW Asia and E Africa	10,000–25,000		

Numbers and distribution in January 1995 and 1996

A decline in the overall total count from 59,125 in January 1995 to 43,699 in 1996 (Table 15) was largely attributable to a lack of information from Iran and Morocco in 1996. Considerable decreases in numbers of Pied Avocets were recorded in Italy and Greece between 1995 and 1996, and lesser declines in all countries in Northwest Europe were probably attributable to cold weather in 1996.

Most birds in Northwest Europe were counted in France (20,294 in 1995 and 19,270 in 1996), and the second most important national totals, about half as high as those recorded in France, came from Portugal in the West Mediterranean area. Numbers in Portugal increased in 1996, probably as a result of birds displaced from Northwest Europe by the cold weather. The third highest national total in 1996 was 2,471 counted in Azerbaijan.

Crab Plover
Dromas ardeola

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Indian Ocean/ Red Sea/Gulf	43,000	430	D

Numbers and distribution in January 1995 and 1996

A total of 5,319 Crab Plovers was counted in four countries of Southwest Asia in 1995. The total decreased to 3,557 in 1996 (Table 13). Counts dropped in all countries in 1996 and the reduction in numbers was only partly attributable to a lack of information from Iran. The highest national totals came from Saudi Arabia, where nearly half the overall totals were recorded in both seasons.

Stone Curlew
Burhinus oedicnemus

Recognised Populations (Rose and Scott 1997)

Population (no estimates available)
Western Europe (breeding)
Eastern Europe (breeding)
E Mediterranean/SW Asia/N Africa

Numbers and distribution in January 1995 and 1996

Sedentary populations of Stone Curlews in South Europe and North Africa are joined by migrants from much of Europe and West Asia in winter. Their preference for dry habitats produces low count totals: the overall regional total was 514 in 1995, and 617 in 1996 (Table 15).

The highest counts were made in Saudi Arabia, where 425 and 428 were recorded on the Red Sea shore in 1995 and 1996 respectively. A total of 150 was counted at two sites in Cyprus in 1996, and Italy and Morocco also recorded double figure national totals.

Spotted Dikkop
Burhinus capensis

Recognised Populations (Rose and Scott 1997)

Population (no estimate available)
W Africa/NE Africa

Numbers and distribution in January 1995 and 1996

One was recorded in Oman in 1995.

Great Thick-knee
Burhinus recurvirostris

Recognised Populations (Rose and Scott 1997)

Population (no estimate available)
SE Iran/S Asia/N SE Asia

Numbers and distribution in January 1995 and 1996

A total of 38 was counted in Iran in 1995.

Cream-coloured Courser
Cursorius cursor

Recognised Populations (Rose and Scott 1997)

Population (no estimates available)
N and W Africa/Euphrates/SW Asia
N Iran/E Caspian basin (breeding)

Numbers and distribution in January 1995 and 1996

Records of Cream Coloured Courser in 1995 were seven at three sites in Oman, six at two sites in Morocco and one in the United Arab Emirates. In 1996 there were just three in Oman.

Artisanal salina near Marsala, West Sicily.

A. De Faveri 1993.

Collared Pratincole
Glareola pratincola

Recognised Populations (Rose and Scott 1997)

Population (no estimates available)
W Mediterranean (breeding)
Black Sea/ E Mediterranean (breeding)
SW Asia (breeding)
Saudi Arabia (breeding)

Numbers and distribution in January 1995 and 1996

All the above populations of Collared Pratincole migrate to sub-Saharan Africa in the non-breeding season and records were confined to one in Portugal and one in Oman, both in 1996.

Little Ringed Plover
Charadrius dubius

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Europe/W Africa W and SW Asia/E Africa	100,000–1,000,000

Numbers and distribution in January 1995 and 1996

The overall regional total in 1995 was 686, when most were counted in Morocco (Tables 15 and 14). Lack of information from this country in 1996 caused a reduction in the overall total count to 261, of which 193 were counted in Israel and double-figure totals were recorded in each of Saudi Arabia, Italy and Oman.

Common Ringed Plover
Charadrius hiaticula

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe/N Africa (wintering)	47,500	500	I
SW Asia/E Africa (wintering)	200,000	2,000	

Numbers and distribution in January 1995 and 1996

An overall regional total of 53,834 in January 1995 included only 2,374 in Southwest Asia (Table 15). The remaining total of 51,460 Ringed Plovers counted in Europe and North Africa exceeded the current estimate for this population by 8%. Morocco recorded by far the highest counts in 1995, and a lack of information from that country in 1996 was the main cause of a lower overall regional total of 30,935.

France, the UK, Portugal and Ireland each recorded national totals between 3,000 and 13,000 Common Ringed Plovers, and relatively low totals were counted in 14 other countries. Counts in France and the UK increased by 36% and 25% respectively in 1996, whilst the total for Portugal declined due to reduced coverage.

Kentish Plover
Charadrius alexandrinus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
E Atlantic	67,000	700	D
Black Sea/ E Med (breeding)	25,000–100,000		
SW Asia/ Africa (wintering)	25,000–1,000,000		

Numbers and distribution in January 1995 and 1996

Altogether, 48,868 Kentish Plovers were counted in 1995, of which 77% were in the West Mediterranean area and 48% in Morocco (Tables 15 and 14). The big decrease in the overall regional count total to 9,438 in 1996 was due to a lack of information from Morocco and Tunisia, and to a lesser extent, Iran, to changes in coverage in Portugal, and to a reduction in numbers in the United Arab Emirates, which recorded the fourth highest national total in 1995.

Lesser Sandplover
Charadrius mongolus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
SW Asia/E Africa (wintering)	25,000	250

Numbers and distribution in January 1995 and 1996

Lesser Sandplover is confined in the region to Southwest Asia and the overall regional total of 14,730 in 1995 declined to 11,496 in 1996 (Table 13). Just under half of these birds were counted in Oman in each season, and there may have been redistribution of birds in 1996 from the United Arab Emirates, where numbers dropped, to Saudi Arabia where there was a considerable increase.

Greater Sandplover
Charadrius leschenaultii

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Black Sea/ E Mediterranean (breeding)	<10,000	
SW Asia/E Africa (wintering)	65,000	650

Numbers and distribution in January 1995 and 1996

The overall regional count total of Greater Sandplovers declined from 2,471 in 1995 to 1,131 in 1996 (Table 15).

The main cause of this reduction was a decrease in the number counted in Oman from 1,246 to 378. Counts in the United Arab Emirates and Israel also decreased (Israel to zero), and the lack of information from Iran in 1996 also contributed to the reduced count.

Eurasian Dotterel
Eudromias morinellus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe (breeding)	100,000–1,000,000	D

Numbers and distribution in January 1995 and 1996

Dotterels prefer dry, elevated sites and are seldom encountered at wetlands. One was recorded in the UK in 1995.

Eurasian Golden Plover
Pluvialis apricaria

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe (breeding) W Siberia (breeding)	1,800,000	18,000	D

Numbers and distribution in January 1995 and 1996

A decline in the overall total count from 295,824 in January 1995 to 239,526 in 1996 (Table 15) was probably attributable to cold weather in Northwest Europe in 1996. The great majority of Eurasian Golden Plovers were counted in Northwest Europe: 278,973 in 1995 and 234,571 in 1996. The UK held about half of the Northwest European total and Ireland over a third of this total in both seasons. Considerable declines in numbers were recorded in 1996 in the UK, Ireland, the Wadden Sea and the non-Wadden Netherlands. Totals in France increased between 1995 and 1996, from 11,353 to 21,564, reflecting a displacement of birds from further north and west, and it seems likely that numbers in Spain would also have increased if information were available from that country.

Outside Northwest Europe, 12,554 Golden Plovers were counted in Morocco and 1,290 in Greece in 1995. In 1996, four-figure national totals were recorded in Turkey (1,506), Azerbaijan (1,014) and Albania (1,013).

Grey Plover
Pluvialis squatarola

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Eastern Atlantic (wintering)	168,000	1,500	I
SW Asia/E Africa (wintering)	50,000	500	

Numbers and distribution in January 1995 and 1996

The overall regional total count of Grey Plovers was 129,100 in 1995 and 110,422 in 1996 (Table 15). A slight decrease in the number of birds counted in Northwest Europe from 103,626 in 1995 to 98,763 in 1996 was probably a result of cold weather displacing birds further south and west. Numbers counted in the UK and France actually increased between the two years, by a combined total of 13,641, and this increase compensated for 75% of a decline in the Wadden Sea and the non-Wadden Netherlands of 18,183. In the West Mediterranean area, a decrease from 19,837 to 7,177 was caused by a lack of information from Morocco and a reduction in coverage in Portugal. Numbers in Italy were similar in both years.

The Southwest Asia and Black Sea/East Mediterranean part of the range holds fewer birds. Here, numbers were higher in 1995 than 1996, and the United Arab Emirates (2,442), Oman (1,185) and Greece (1,215) recorded the highest national totals.

Pacific Golden Plover
Pluvialis fulva

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
SW/S Asia and E Africa (winter)	25,000–1,000,000

Numbers and distribution in January 1995 and 1996

All Pacific Golden Plovers were recorded in Southwest Asia. In the United Arab Emirates, 48 were counted in 1995 and 68 in 1996. There were 55 in Oman in 1995 and 35 in 1996, when there were also three in Saudi Arabia.

Aerial view of Atanasovsko Lake, Bulgaria.

Tanyo Michev.

Spur-winged Plover
Vanellus spinosus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Black Sea/Mediterranean (breeding)	10,000–25,000

Numbers and distribution in January 1995 and 1996

A majority of Spur-winged Plovers were counted in Israel, where 3,664 were recorded at 14 sites in 1995, and 4,507 at 15 sites in 1996. Additional counts came from Saudi Arabia where two were counted in 1995 and 54 at three sites in 1996. The most important site was the central coastal plain of Israel, where there were 1,339 Spur-winged Plovers in January 1995.

Red-wattled Lapwing
Vanellus indicus

Recognised Populations (Rose and Scott 1997)

Population (no estimate available)
Southwestern Asia

Numbers and distribution in January 1995 and 1996

Counts of Red-wattled Lapwings were recorded in three countries in the Southwest Asia area and the highest national total (2,864) was in Iran in 1995. The Shadegan Marshes held 2,500 of these birds. In Oman there were 87 in 1995 and 54 in 1996 and in the United Arab Emirates, 19 were counted in 1995 and 20 in 1996.

Sociable Lapwing
Vanellus gregarius

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Western Asia/E Africa	<10,000	D

IUCN Threat Status: Vulnerable

Numbers and distribution in January 1995 and 1996

Just two were seen in Oman in 1995. In 1996 none were seen in any country.

Shevchenko (1998) has described the decline of Sociable Lapwing numbers in the major part of its breeding range north of the Caspian Sea. The decline was first noticed in the mid-1970s and possible causes include increasing climatic aridity and associated drought conditions. This combined with changing land use, particularly the ploughing of the steppe and increased grazing by cattle, and possibly events outside the breeding range, are all thought to have contributed to the continuing serious decline in the population.

White-tailed Lapwing
Vanellus leucurus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Southwestern Asia/E Africa (wintering)	10,000–25,000

Numbers and distribution in January 1995 and 1996

In 1995, 533 were counted in Iran, 10 in Oman, eight in the United Arab Emirates and three in Saudi Arabia (Table 13). In 1996 there were just 15 White-tailed Lapwings in Oman, nine in Saudi Arabia and one in the United Arab Emirates.

In Iran in 1995, a count of 320 was made at Bakhtegan and Tashk Lakes, and there were 95 at Maharloo Lake, 30 at Hamoun Saberi Lake and 11 at Takht-e-Edalat. Paynter *et al.* (1996) found three at Lake Sarasuy, Azerbaijan, in February 1996.

Northern Lapwing
Vanellus vanellus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe (breeding)	7,000,000	20,000	S
W Asia (breeding)	25,000–1,000,000		

Numbers and distribution in January 1995 and 1996

A decrease in the overall total count from 1,041,256 in January 1995 to 870,465 in 1996 (Table 15) was probably attributable to cold weather in Northwest Europe in 1996. A majority of Northern Lapwings were counted in Northwest Europe where the totals were 974,247 in 1995 and 816,175 in 1996. The UK held roughly half of the Northwest European total in 1995 and a third in 1996. Considerable declines in numbers were also recorded in 1996 in Ireland and the non-Wadden Netherlands. Totals in France increased between 1995 and 1996, from 220,295 to 370,655, reflecting a displacement of birds by cold weather further north and west, and it seems likely that numbers in Spain would also have increased if information were available from that country.

Outside Northwest Europe, numbers in the West Mediterranean increased (despite a lack of information from Morocco) largely because of increases in Italy and Algeria. In the East Mediterranean/Black Sea area, just under 11,000 Northern Lapwings were counted in Albania in both seasons, and Greece, Turkey and Israel all supported four-figure totals. In Southwest Asia, over 25,166 were counted in Iran in 1995, and 3,326 in Azerbaijan in 1996.

Great Knot
Calidris tenuirostris

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
SW Asia/(wintering)	<10,000

Numbers and distribution in January 1995 and 1996

There were 54 Great Knots in the United Arab Emirates at Merawah Island in 1995, and 24 in 1996. One was also recorded in Oman in 1996.

Red Knot
Calidris canutus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NE Canada/Greenland/ Iceland/NW Europe (*islandica*)	345,000	3,500	S

Numbers and distribution in January 1995 and 1996

The overall regional total count of Red Knots was 369,192 in 1995 and 320,446 in 1996 (Table 15). The decrease between 1995 and 1996 in the number of birds counted may have been partly a result of cold weather. The Northwest European population is thought to have increased in the early 1990s (T. Piersma *in litt*.) and the 1995 count exceeded the current estimate for this population by 7%. Numbers counted in the Wadden Sea decreased by 68,093 in 1996 compared with 1995, and this decline was only partly compensated for by increases in the UK and France. It has been suggested that recent declines in numbers of Knots in the Wadden Sea are a consequence of changes resulting from extensive shellfish harvesting (Piersma and Koolhaas 1997).

In the West Mediterranean area, a decrease from 14,128 in 1995 to 691 in 1996 was caused by a lack of information from Morocco. In the Black Sea/East Mediterranean area, small numbers of Red Knots were counted in Ukraine in 1995 and in Turkey and Greece in 1996.

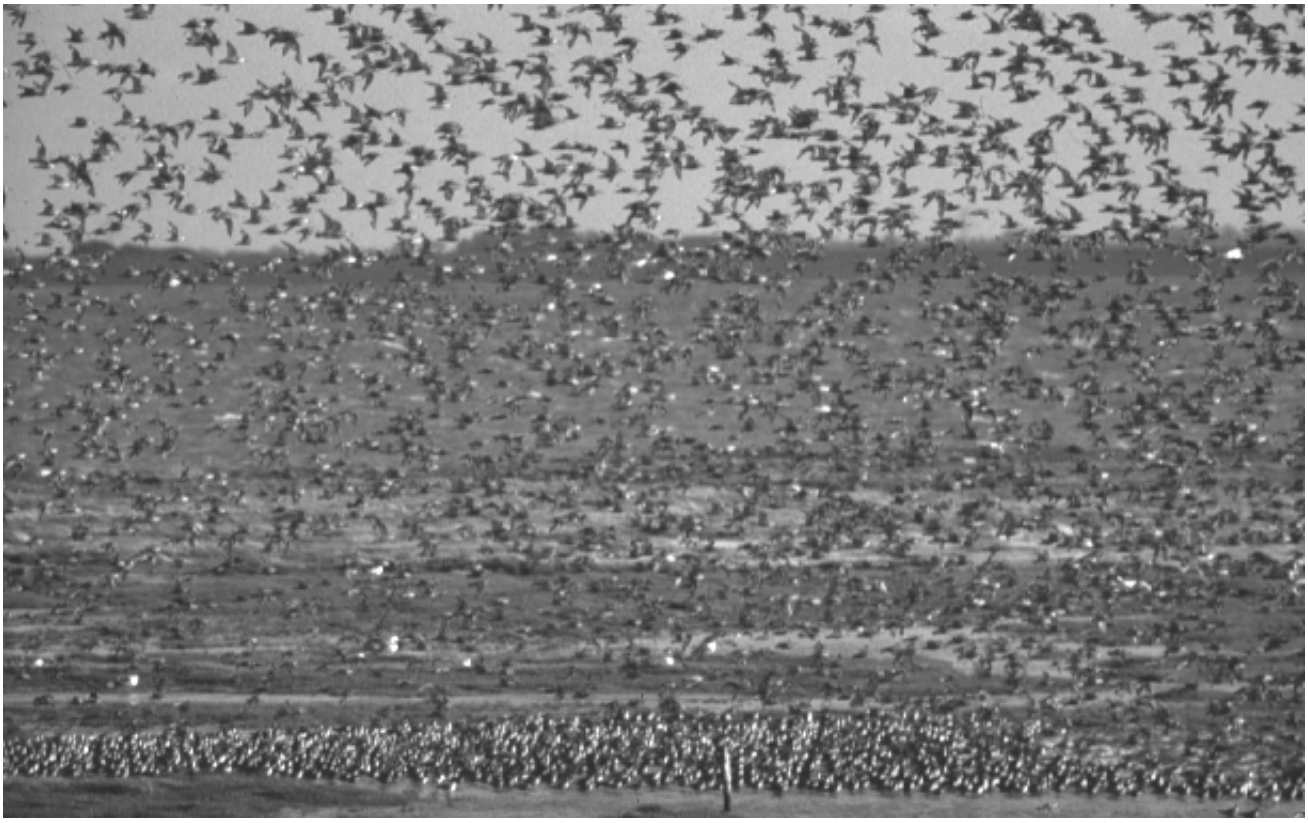
Calidris c. canutus is the most abundant of the five subspecies of Red Knot, but the reliance of virtually the entire population on two coastal wetlands in West Africa for overwinter survival, and on the Wadden Sea for spring staging makes it extremely vulnerable to environmental change at these sites. C.c. islandica is similarly critically dependant on Southwest Iceland and two Norwegian fjords during spring migration (Piersma and Davidson 1992).

Sanderling
Calidris alba

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
E Atlantic/W and S Africa (wintering)	123,000	1,000	S
SW Asia/E and S Africa (wintering)	120,000	1,200	

High tide roost of Red Knots at Westerheve, German Wadden Sea.



Klaus Günther 1993.

Numbers and distribution in January 1995 and 1996

An overall total of 29,865 Sanderlings was counted in 1995, one third of them in Morocco (Tables 14 and 15). A lack of information from that country in 1996 resulted in a lower overall total of 22,434. Numbers in Northwest Europe increased from 16,485 in 1995 to 21,174 in 1996. The increase was particularly marked in France where counts went up from 4,648 to 9,961, and the Wadden Sea (2,573 to 4,021). These increases more than compensated for declines in numbers counted in the UK and Ireland. Sanderling was one of very few species to increase in number at the Wadden Sea during the cold 1996 winter. This may reflect the species' preference for open coast rather than estuarine habitat.

Outside Northwest Europe and Morocco, Sanderlings were counted in small numbers in five countries of the Black Sea/East Mediterranean area, and three countries in Southwest Asia. Oman was the most important of these with 1,995 birds in 1995 and 765 in 1996.

Little Stint
Calidris minuta

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe/W Africa (wintering)	211,000	2,100	S
SW Asia/E and Africa (wintering)	1,000,000	10,000	S

Numbers and distribution in January 1995 and 1996

Counts of Little Stints were affected by a lack of information from Morocco and (to a lesser extent) Iran in 1996. The overall total count in 1995 was 46,723, and in 1996, 17,111 (Table 15). Half of the overall 1995 total count was recorded in Morocco. Elsewhere in the West Mediterranean area, around 2,500 were counted in both years in Italy. Smaller numbers in Mediterranean France and Portugal suffered declines in 1996.

In the Black Sea/East Mediterranean area, Greece recorded the highest national total, 4,213, in 1995, but only 759 in 1996. In neighbouring Albania, an opposite pattern applied: 592 were counted in 1995 and 4,499 in 1996. Turkey also supported important numbers, with 2,388 in 1995 increasing to 4,728 in 1996, probably because of improved coverage.

More than half the Southwest Asia total of Little Stints, 5,481, was recorded in Iran in 1995. Oman (1,843), the United Arab Emirates (1,677) and Saudi Arabia (1,021) also recorded important numbers. The Saudi total increased to 2,166 in 1996, but numbers in Oman and the United Arab Emirates decreased.

Most of the Northwest Europe total came from France in both seasons, with 669 birds in 1995 and 529 in 1996. These were augmented by a handful of birds in the UK in both years.

Temminck's Stint
Calidris temminckii

Recognised Populations (Rose and Scott 1997)

Population (no estimates available)
Europe/W Africa
SW Asia/E and S Africa

Numbers and distribution in January 1995 and 1996

Out of 1,142 counted in 1995, 1,058 Temminck's Stints were in Iran. Oman recorded the next most important national totals, 76 in 1995 and 12 in 1996. The United Arab Emirates, Israel, Italy and Turkey also recorded between one and seven individuals.

Curlew Sandpiper
Calidris ferruginea

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
SW Europe/W Africa (wintering)	436,000	4,500	S
SW Asia/E and S Africa (wintering)	310,000	3,100	S

Numbers and distribution in January 1995 and 1996

One of the earliest comprehensive flyway-scale analyses of movements of any species concerned Curlew Sandpiper (Elliot *et al.* 1976). A majority of the above populations spend the non-breeding season in Africa. The highest national total in the Western Palearctic and Southwest Asia, 1,607, was in Saudi Arabia in 1996, followed by 799 in Morocco in 1995 (Tables 13 and 14). The United Arab Emirates (672), Oman (318) and Portugal (200) also recorded national totals in the hundreds.

Purple Sandpiper
Calidris maritima

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
E Atlantic (wintering)	50,500	500	S

Numbers and distribution in January 1995 and 1996

Purple Sandpipers winter further north than other species of wader and are normally only counted in Northwest Europe. Their preference for rugged open coasts where few counts take place results in low national count totals. The highest national totals were recorded in the UK where 1,439 were counted in 1995 and 1,185 in 1996. Remaining national totals in France, Ireland, the Wadden Sea, Belgium and The Netherlands ranged from 78 to 467.

Dunlin
Calidris alpina

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
N Siberia/Europe/ W Africa (*alpina*)	1,373,000	14,000	D
SW Asia/E Africa (wintering) (*alpina*)	150,000	1,500	
Iceland/Greenland (breeding) (*schinzii*)	800,000	8,000	S
Baltic/UK/Ireland (*schinzii*)	21,000	200	
Greenland (breeding) (*arctica*)	15,000	150	S

Numbers and distribution in January 1995 and 1996

The separation of many of the above populations is not possible outside the breeding season. Dunlin is the most numerous shorebird species in the region, and the overall total count in 1995 was 1,283,211 and in 1996, 1,117,973 (Table 15). Cold weather in 1996 compared with 1995 caused birds in the Baltic/Nordic to winter further south and west, and the Danish national total of nearly 5,000 in 1995 declined to zero in 1996. The Wadden Sea total decreased from 176,512 in 1995 to 85,377 in 1996, and 74% of this decline was accounted for by compensatory increases in the UK and France. The highest national totals were recorded in these two countries: 444,281 and 501,316 in the UK, and 282,928 and 293,588 in France in 1995 and 1996 respectively.

Dunlins were counted in smaller numbers outside Northwest Europe. The West Mediterranean was the next most important area, and Morocco (69,342), Portugal (62,525) and Italy (53,076) recorded relatively high national totals in 1995 all of which were lower in 1996. In the Black Sea/East Mediterranean area, Greece (12,042, 1995), Albania (2,843, 1996) and Turkey (4,040, 1996) recorded the highest totals. National totals between 2,500 and 9,000 were recorded in Southwest Asia in the United Arab Emirates, Iran, Saudi Arabia, Oman and Azerbaijan.

Broad-billed Sandpiper
Limicola falcinellus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
N Europe/SW Asia/E Africa	25,000	250

Numbers and distribution in January 1995 and 1996

Counts of this scarce species were restricted to Southwest Asia, where 713 were recorded in 1995 and 650 in 1996. The most consistent (and also the highest) national totals were in the United Arab Emirates, with 510 in 1995 and 561 in 1996. Totals of 203 and 38 Broad-billed Sandpipers were recorded in Oman, and in Saudi Arabia there were 51 in 1996.

Ruff
Philomachus pugnax

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Western Africa (wintering)	>1,000,000	D
SW Asia/E and S Africa (wintering)	100,000–>1,000,000	

Numbers and distribution in January 1995 and 1996

Most Ruffs spend the non-breeding season in Africa and relatively few winter in the Western Palearctic and Southwest Asia. An overall total of 4,554 was counted in January 1995, 61% of them in Saudi Arabia (Tables 13 and 15). Changes in coverage in that country in 1996 caused a decrease in the overall total to 2,432. Numbers in Northwest Europe increased from 672 in 1995 to 1,917 in 1996. The increase affected every country in the area and was particularly marked in The Netherlands, where counts went up from 108 to 1,099.

Morocco was the most important country in the West Mediterranean area, recording 295 Ruffs in 1995. In the Black Sea/East Mediterranean area, Israel, with 62 in 1996 and Albania with 40 in 1995 recorded the highest counts. In Southwest Asia, the Saudi total of 2,799 in 1995 dominated the results, and Iran, Oman and the United Arab Emirates recorded totals between 54 and 218.

A simultaneous census of Ruffs on migration was carried out in Europe in spring 1998, and a maximum of 55,000 birds was counted at 171 locations in 13 countries, with highest numbers in The Netherlands, Italy and Ukraine (Wymenga 1999).

Jack Snipe
Lymnocryptes minimus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe (breeding) Western Siberia (breeding)	>25,000–1,000,000	D

Numbers and distribution in January 1995 and 1996

Jack Snipes are extremely secretive and few are counted. The overall regional total in 1995 was 275, and in 1996, 153 (Table 15). The difference was mainly due to a lack of information from Iran in 1996, where 93 were counted in 1995. More than half the records came from Northwest Europe in both seasons, and the UK recorded the highest national totals, 123 in 1995 and 111 in 1996.

The rest of the counts were very scattered. Between 16 and 24 were counted in France and Israel in 1995 and Ireland in 1996, and eight other countries recorded totals below 10.

Common Snipe
Gallinago gallinago

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe (breeding)	>20,000,000	20,000	D
Western Siberia (breeding)	>1,000,000		D
Iceland (breeding)	750,000	7,500	

Numbers and distribution in January 1995 and 1996

Common Snipe is under-recorded by counts, but a similar proportion of the population is probably counted in most years in many countries. The overall regional total of Common Snipes was 18,046 in 1995 and 16,107 in 1996, (Table 15) and a majority were counted in Northwest Europe (14,292 and 13,672 respectively) (Table 12). The UK, France and Ireland recorded the highest national totals. Declines, probably in response to cold weather in 1996, occurred in the UK, France and The Netherlands, and numbers in Ireland increased.

In the West Mediterranean, Black Sea/East Mediterranean and Southwest Asia areas, the highest national total, 1,086, was recorded in Italy in 1995, and counts totalling less than 1,000 were made in 16 other countries.

Great Snipe
Gallinago media

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Scandinavia (breeding)	5,000–10,000	75	D
W Siberia/ NE Europe (breeding)	10,000–100,000		D

IUCN Threat Status: Near threatened

Numbers and distribution in January 1995 and 1996

The usual range of Great Snipe outside the breeding season is in Africa, and a count of 44 in Bulgaria at Maritza-Dimitrovgrad-Simeonovgrad in 1996 is of great interest. Nankinov *et al.* (1997) reported that some birds regularly winter in the Maritza valley. There were also records of three in Israel in 1995 and of one in Greece in 1996.

Pintail Snipe
Gallinago stenura

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
E Africa/S Asia (wintering)	25,000–1,000,000

Numbers and distribution in January 1995 and 1996

A total of seven was counted in Oman in 1995 and three in 1996. In the United Arab Emirates four were recorded in 1995 and three in 1996. These records comprise the western extremity of known regular wintering by Pintail Snipes.

Swinhoe's Snipe
Gallinago megala

Numbers and distribution in January 1995 and 1996

In Israel, one was recorded in the Hula valley in 1996. This is the first record on the IWC database for the Western Palearctic and Southwest Asia. Swinhoe's Snipe is a rarely recorded species whose known non-breeding range has hitherto been restricted to Southeast Asia. A bird in the Hula Valley in February–March 1998 was accepted as the first for the Western Palearctic (Kirwan 1998).

Eurasian Woodcock
Scolopax rusticola

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe/Africa	>15,000,000	20,000	S

Numbers and distribution in January 1995 and 1996

This woodland species is seldom encountered at the wetlands monitored by IWC. The overall regional total of 92 in 1995 increased to 166 in 1996. Most were counted in Northwest Europe where numbers increased in the UK, France and The Netherlands in 1996, probably in response to cold weather.

Black-tailed Godwit
Limosa limosa

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Europe/ W Africa	350,000	3,500	D
E Europe/ E Africa	100,000–1,000,000		
E Med/ SW Asia (wintering)	25,000–100,000		
Iceland (breeding)	65,000	700	I

Numbers and distribution in January 1995 and 1996

The overall regional total count of Black-tailed Godwits was 71,955 in 1995 and 54,242 in 1996 (Table 15). The difference between the totals was mostly because information from Morocco and Iran in 1996 was not available. There was an increase in the number of birds counted in Northwest Europe from 23,077 in 1995 to 25,111 in 1996. Numbers counted in the UK and Ireland increased between the two years but the French total declined a little.

Klaus Günther 1997.

Bar-tailed Godwits at Sylt Island, German Wadden Sea.

The West Mediterranean area held most birds, and numbers counted in Portugal, the most important country in the region for wintering Black-tailed Godwits, increased from 23,436 in 1995 to 26,632 in 1996. Morocco is also extremely important and recorded a national total of 19,870 in 1995.

The Southwest Asia and Black Sea/East Mediterranean part of the range holds fewer birds. In Iran, 4,878 Black-tailed Godwits were recorded in 1995. Elsewhere, national totals in eight countries in these areas ranged from one (Greece, 1995) to 896 (Azerbaijan, 1996).

Bar-tailed Godwit
Limosa lapponica

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Palearctic (wintering)	115,000	1,000	I
SW Asia/ E Africa (wintering)	25,000–1,000,000		

Numbers and distribution in January 1995 and 1996

The overall regional total count of Bar-tailed Godwits was 110,654 in 1995 and 103,615 in 1996 (Table 15). The Wadden Sea total declined from 31,724 in 1995 to 22,248 in 1996. This decline was more than compensated for by increases in other countries in Northwest Europe: Northwest European totals were 82,649 in 1995 and 94,438 in 1996. The highest national totals were recorded in the UK: 36,442 in 1995 and 50,103 in 1996. In the non-Wadden Netherlands, Ireland and France, totals ranged from 3,709 (France, 1995) to 8,669 (non-Wadden Netherlands, 1996).

The West Mediterranean area holds important numbers and 14,884 were counted in Morocco and 6,048 in Portugal in 1995. The area totals for Southwest Asia were similar in the two years (7,003 in 1995 and 7,356 in 1996) but this similarity masked considerable variation at national level in the United Arab Emirates, Oman and Saudi Arabia.

Whimbrel
Numenius phaeopus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Europe/W Africa	600,000–700,000	6,500
W Siberia and S/E Africa SW Asia/ E Africa (wintering)		

Numbers and distribution in January 1995 and 1996

Overall totals decreased between 1995 and 1996 from 2,082 to 1,062 (Table 15). Decreases in national totals occurred in every country in Northwest Europe except the UK, probably as a result of cold weather in 1996, and in France numbers declined from 196 in 1995 to 30 in 1996. West Mediterranean totals were affected by a lack of information from Morocco, and by a considerable

decrease in numbers in Portugal in 1996 which was related to reduced coverage in that season.

Whimbrels also winter scarcely in Southwest Asia, and the highest national totals were in Oman, where 743 were counted in 1995 and 895 in 1996. Elsewhere in Southwest Asia, Iran, the United Arab Emirates and Saudi Arabia recorded national totals between 40 (United Arab Emirates 1996) and 348 (Iran 1995).

Slender-billed Curlew
Numenius tenuirostris

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Gulf/Mediterranean/ Morocco (wintering)	100–400	3	D

IUCN Threat Status: Critically Endangered

Numbers and distribution in January 1995 and 1996

The status of this species remains precarious. A positive development was a count of seven Slender-billed Curlews at Manfredonia in Italy in January 1995. A total of 19 birds was recorded in southern Italy in 1995 (Serra *et al.* 1995).

Three were counted in Morocco in 1995, two at the Embouchure de l'Wad cherrat and one at Sidi Moussa. At the most reliable known wintering site, Merja Zerga in Morocco, only one was seen in each season, remaining from 2 November 1994 to 6 February 1995 and from 23 November 1995 to 23 February 1996. (Schollaert and Franchimont 1996).

Counts of Slender-billed Curlews in Iran remain unconfirmed, and records of this species in that country require urgent verification.

Eurasian Curlew
Numenius arquata

Recognised Populations (Rose and Scott 1997)

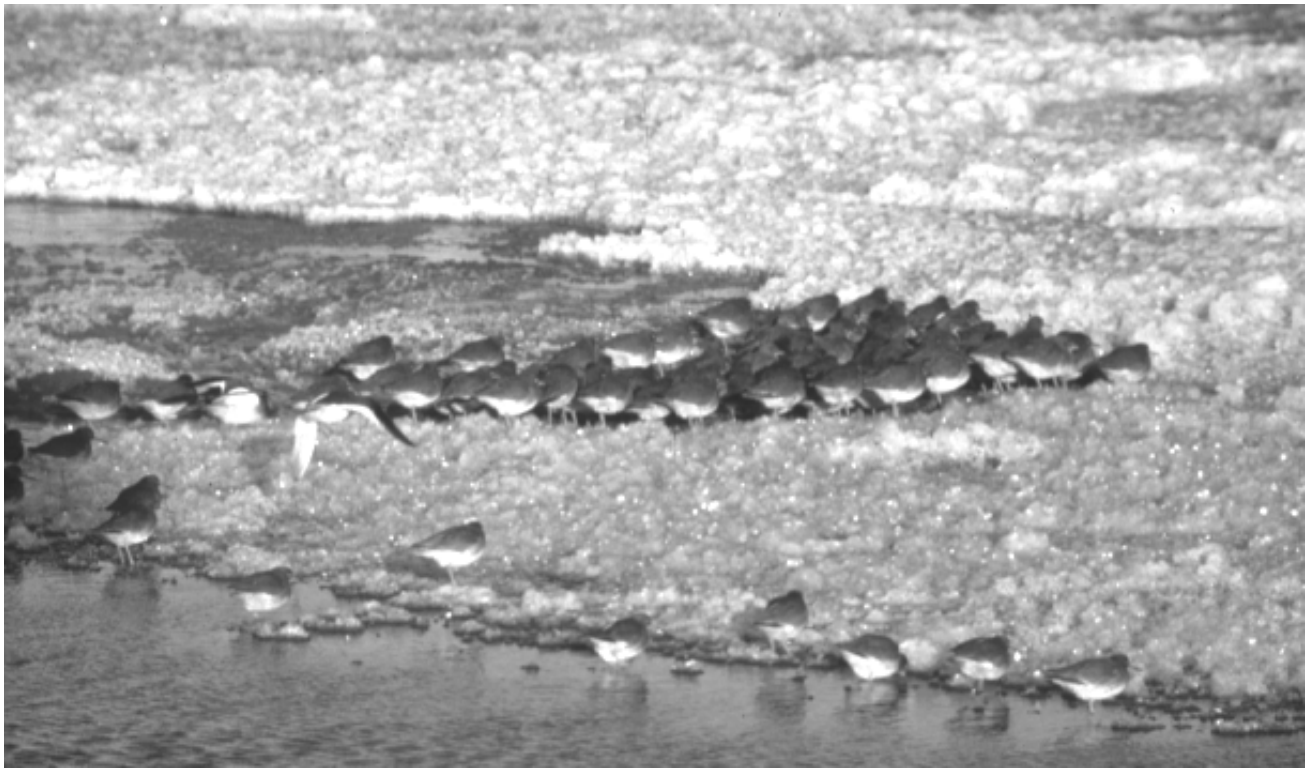
Population	*Estimate*	*1% Threshold*	*Status*
Europe (breeding)	348,000	3,500	D
SW Asia/ E Africa (wintering)	25,000–100,000		

Numbers and distribution in January 1995 and 1996

The overall regional total count of Eurasian Curlews was 332,774 in 1995 and 238,885 in 1996 (Table 15). The decline in numbers mostly reflected genuine reductions in numbers of birds, and was apparently little affected by changes in coverage. Numbers declined between 1995 and 1996 as follows (national totals rounded to the nearest 1,000): Wadden Sea, 147,000 to 96,000; UK, 93,000 to 66,000; Ireland, 34,000 to 20,000; non-Wadden Netherlands, 29,000 to 17,000. Numbers in France more than doubled from 14,000 to 31,000, and it seems likely that cold weather will also have displaced birds to Spain (where no counts were available for either year) and Morocco (no counts available for 1996) and possibly further south into West Africa. Numbers increased in Italy, but decreased in Portugal due to reduced coverage.

In the Black Sea/East Mediterranean area, Greece and Albania recorded national totals between 999 (Albania,

Redshanks in iced Wadden Sea of Schleswig Holstein near Dagebüll.



Klaus Günther 1996.

1996) and 1,678 (Greece, 1995). Six countries recorded smaller numbers and totals were rather stable between the two seasons in this area. In Southwest Asia, Iran recorded the highest national total, 2,734 in 1995, and in Oman 1,576 and 1,355 were counted in 1995 and 1996 respectively. Counts in the low hundreds were additionally made in the United Arab Emirates, Azerbaijan and Saudi Arabia.

Spotted Redshank
Tringa erythropus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Europe/W Africa	75,000–150,000	1,200
SW Asia/Eastern Africa (wintering)	10,000–100,000	

Numbers and distribution in January 1995 and 1996

Most Spotted Redshanks spend the non-breeding season in tropical Africa and Asia and relatively few are found in the Western Palearctic and Southwest Asia. The overall regional total was 1,948 in 1995 and 1,573 in 1996 (Table 15). The highest national totals were recorded in Italy where 616 were counted in 1995 and 661 in 1996. Numbers declined between the two seasons, probably in response to colder than usual weather, in every country in Northwest Europe except Ireland, and in every country in the Black Sea/East Mediterranean area except Israel.

Common Redshank
Tringa totanus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Eastern Atlantic (wintering)	177,000	1,500	D
SW Asia/E Africa (wintering)			
Iceland/Faeroes (breeding)	109,000	1,500	D

Numbers and distribution in January 1995 and 1996

The overall regional total count of Common Redshanks was 142,427 in 1995 and 115,512 in 1996 (Table 15). About half of this decrease in numbers was caused by a lack of information from Iran and Morocco, but many countries recorded genuine reductions in numbers which indicates increased mortality and/or displacement of birds due to cold weather. In Northwest Europe, the most important area for Common Redshanks, numbers declined between 1995 and 1996 as follows (national totals rounded to the nearest 1,000): UK, 76,000 to 71,000; Ireland, 14,000 to 10,000; Wadden Sea, 12,000 to 11,000; non-Wadden Netherlands, 3,000 to 2,000. Numbers in France increased a little from 3,885 to 4,422, and it seems possible that cold weather may also have displaced birds to Spain (where no counts were available for either year) and Morocco (no counts available for 1996).

In the West Mediterranean, decreases in Italy and Portugal (where reduced coverage was a contributory factor) together with a lack of information from Morocco caused the area total to decline by nearly two-thirds in 1996 compared with 1995. Overall totals in the Black Sea/East Mediterranean area were similar in the two years, but a big decrease in numbers in Greece in 1996 was compensated for by increases in Israel and Turkey (the latter related to increased coverage). Changes in totals in Southwest Asia were also much influenced by differences in coverage. In Iran 10,596 Common Redshanks were counted in 1995, and the United Arab Emirates recorded 2,682 in 1995 and 3,596 in 1996. There were smaller numbers in Saudi Arabia, Azerbaijan and Oman.

Marsh Sandpiper
Tringa stagnatilis

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Europe/Western Africa	25,000–1,000,000
SW Asia/E and S Africa (wintering)	25,000–100,000

Numbers and distribution in January 1995 and 1996

In 1995, 1,105 Marsh Sandpipers were recorded in Iran, where the highest counts were 320 at Gavekhoni Marsh and 250 at Takht-e-Edalat. Elsewhere in Southwest Asia, national totals between five and 35 individuals were recorded in the United Arab Emirates, Saudi Arabia and Oman. In the East and West Mediterranean areas, 10 were counted in Israel in 1995 and eight in 1996, and eight were seen Morocco and one in Italy in 1995.

Common Greenshank
Tringa nebularia

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe/W Africa	100,000–1,000,000	S
SW Asia/E and S Africa (wintering)	25,000–1,000,000	

Numbers and distribution in January 1995 and 1996

A majority of Common Greenshanks winter in the tropics, and the highest national total was recorded in Iran, where 1,402 were counted in 1995 (Table 13). Relatively high numbers were also seen in Oman (529 and 301) and the United Arab Emirates (209 and 199) in 1995 and 1996 respectively.

In Northwest Europe, 643 Common Greenshanks were counted in 1995, and 831 in 1996, mostly in the UK and Ireland (Table 12). Totals in the West Mediterranean were

affected by reduced coverage in 1996, but in 1995, 215 were counted in Morocco, 187 in Portugal and 123 in Italy (Table 14). In the Black Sea/East Mediterranean area, national totals between five and 66 were recorded in four countries (Table 11).

Green Sandpiper
Tringa ochropus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Europe/Western Africa	100,000–>1,000,000
SW Asia/E Africa (wintering)	

Numbers and distribution in January 1995 and 1996

Green Sandpipers are widely but thinly distributed at inland, freshwater sites in many countries in the Western Palearctic and Southwest Asia region in January. The overall regional total in 1995 was 596, and in 1996, 551 (Table 15). The highest national total, 160, was recorded in France in 1996. Totals from the UK (87 and 93) and The Netherlands (77 and 55) combined with the French total made Northwest Europe the most important area for Green Sandpipers in both seasons (Table 12).

The species was scarce in the West Mediterranean area, where the highest numbers were recorded in Morocco (33 in 1995; no data in 1996) and Italy (22 in 1995, 20 in 1996) (Table 14). In the Black Sea/East Mediterranean area, the highest count (63) was made in Bulgaria in 1996. 58 of these birds were at one site, the Maritza Valley. Israel recorded 57 in 1996 and 31 in 1995 and there were 144 counted in Iran in 1995.

Wood Sandpiper
Tringa glareola

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe (breeding)	>1,000,000	D
SW Asia/E and S Africa (wintering)	100,000–>1,000,000	

Numbers and distribution in January 1995 and 1996

Most Wood Sandpipers spend the non-breeding season in sub-Saharan Africa, India and Southeast Asia, and Oman recorded the highest national totals in the Western Palearctic and Southwest Asia with 44 in 1995 and 12 in 1996. There were 20 in Iran in 1995, and between one and five were recorded in Morocco, Israel, Saudi Arabia and the United Arab Emirates.

Terek Sandpiper
Tringa (Xenus) cinereus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
SW Asia/ Africa (wintering)	44,000	440

Numbers and distribution in January 1995 and 1996

Overall regional totals were 685 in 1995 and 1,148 in 1996 (Table 15). Most were recorded on the Arabian Peninsula, and count totals in Saudi Arabia were 209 and 802, the United Arab Emirates 191 and 223, and Oman 112 and 122 in 1995 and 1996 respectively. In addition, 167 were counted in Iran and six in Israel in 1995, and one in Israel in 1996.

Common Sandpiper
Tringa (Actitis) hypoleucos

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe (breeding)	>1,000,000	D
SW Asia/E Africa (wintering)		

Numbers and distribution in January 1995 and 1996

A majority of Common Sandpipers migrate south of the region in the non-breeding season, and the overall regional total in 1995 was 1,059, and in 1996, 1,118 (Table 15). Numbers increased in 1996 compared with 1995 in 12 out of 17 countries where counts were available in both years, and the overall total in 1996 would have been higher if information had been available form Morocco and Iran. The highest national totals in 1996 were recorded in Italy (271), Israel (221), France (161) and Oman (121). In 1995 the highest national totals came from Morocco (199), Iran (195) Israel (154) and Italy (137).

Ruddy Turnstone
Arenaria interpres

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Western Palearctic (wintering)	67,000	700	S
SW Asia/ E Africa (wintering)	25,000–100,000		

Numbers and distribution in January 1995 and 1996

A comprehensive flyway-scale analysis of Ruddy Turnstone populations, migrations, biometrics and moult on the East Atlantic system of flyways was published by Summers *et al.* (1989).

An overall regional total of 36,175 Ruddy Turnstones was counted in 1995, 40% of them in the UK (Tables 15 and 12). Reduced coverage in 1996 was one reason for a

slight decline in the overall total to 34,055. Numbers in Northwest Europe increased from 30,690 in 1995 to 31,750 in 1996. The increase was particularly marked in France where counts went up from 5,868 to 9,190 , and the UK (14,618 to 16,232). These increases more than compensated for declines in numbers counted in the Wadden Sea, the non-Wadden Netherlands and Ireland.

Outside Northwest Europe, the highest national totals were recorded in 1995 in Morocco (2,214) and Portugal (1,475). Counts on the Arabian Peninsula increased in 1996, when 952 Turnstones were counted in Saudi Arabia, 845 in Oman and 319 in the United Arab Emirates.

Red-necked Phalarope
Phalaropus lobatus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Eurasia (breeding)	100,000–>1,000,000

Numbers and distribution in January 1995 and 1996

Phalaropes are largely pelagic outside the breeding season, and counts of 2,463 Red-necked Phalaropes in Oman and 31 in the United Arab Emirates in January 1995 were exceptional. There were also 102 in Oman in 1996. The Arabian Sea is an important wintering area, and Bourne (1997) reported observations of up to 1,500 Red-necked Phalaropes per day in the Arabian Sea and Gulf of Oman in the winter of 1987–88.

Grey Phalarope
Phalaropus fulicarius

Recognised Populations (Rose and Scott 1997)

Population (no estimate available)
African Atlantic Coasts (winter)

Numbers and distribution in January 1995 and 1996

There were three records: two in the UK in 1995, and one in Ireland and two in Portugal in 1996. Porter *et al.* (1996) describe Grey Phalarope as a vagrant in Arabian waters, but Bourne (1997) reported occasional Grey Phalaropes in the winter of 1987–88 (for example, 25 in the Gulf of Oman among 349 Red-necked Phalaropes on 2 January 1988 at 24° 30' N; 57° 24' E, 35 miles off the coast).

7.4 Other waterbird species

The International Waterbird Census in the Western Palearctic and Southwest Asia has a strong tradition of monitoring Anatidae (ducks, geese and swans) and Common Coot *Fulica atra,* and has in recent years obtained increasingly consistent and complete information about midwinter numbers of waders (see previous sections). Since 1989, an increasing number of national waterbird monitoring programmes have counted a variety of other groups of waterbirds. Not all countries collect information about all these "other waterbird species", but a large number of standardised counts have been made in the 1990s of the following groups of waterbirds: divers *Gaviidae*, grebes *Podicipedidae*, pelicans *Pelecanidae*, cormorants *Phalacrocoracidae*, egrets, herons and bitterns *Ardeidae*, storks *Ciconiidae*, ibises and spoonbills *Threskiornithidae*, flamingos *Phoenicopteridae*, cranes *Gruidae*, rails *Rallidae*, gulls and terns *Laridae*.

This section summarises counts of these groups in 1995 and 1996, which are presented at national and area levels in Tables 16 to 22. Population indices were constructed and trend analyses were undertaken on the species presented in this section, but the information is not yet sufficiently consistent for meaningful results to have been obtained in these analyses.

Red-throated Diver
Gavia stellata

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Northwestern Europe (wintering) Caspian/ Black Sea/E Med (wintering)	75,000	750	D

Numbers and distribution in January 1995 and 1996

A high proportion of divers winter offshore and standard counting methods miss many birds. An overall total of 1,177 Red-throated Divers was counted in 1995, decreasing to 730 in 1996 (Table 22), apparently as a result of the effects of cold weather in 1996. The Baltic/ Nordic total declined from 333 to 93. Totals in all countries were affected, but the drop in numbers in Latvia, from 201 to 5 individuals, was the greatest.

Northwest Europe is the most important area for Red-throated Divers and declines between 1995 and 1996 were recorded in every country except Ireland. In the UK, 401 were counted in 1995, dropping to 285 in 1996. Equivalent totals from The Netherlands were 104 in 1995 and 24 in 1996, and in France 119 in 1995 and 65 in 1996.

Counts from the Mediterranean, Black Sea and Central Europe were very low and also suffered declines in 1996, except in Albania, Bulgaria and Greece.

Black-throated Diver
Gavia arctica

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Western Siberia/ Europe	120,000	1,200	S
Central Siberia (breeding) Caspian (wintering)			

Numbers and distribution in January 1995 and 1996

This species was counted in smaller numbers than Red-throated Diver in the region overall, and in the Baltic/Nordic and Northwest Europe areas, but it was more numerous in the West Mediterranean and Black Sea/East Mediterranean areas and Central Europe (Table 22). Overall totals decreased in 1996 compared with 1995, from 831 to 599. Lack of information from Germany was a big factor in this decline and affected area totals from Northwest Europe and Central Europe. In the West Mediterranean an increase in Italy from 118 to 157 and in Mediterranean France from one to 30 caused an increase in the area total in 1996. In the Black Sea/East Mediterranean area, Albania and Greece each recorded national totals of 74 in 1995 which declined respectively in 1996 to 15 and 21. The highest national totals in the Baltic/Nordic and Northwest Europe areas were recorded in Lithuania, where 253 were counted in 1995 and 48 in 1996.

Great Northern Diver
Gavia immer

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe (wintering)	5,000	50	D

Numbers and distribution in January 1995 and 1996

Great Northern Divers in January are only recorded regularly off the coasts of Ireland, Britain and France (Table 19). Important numbers probably also occur offshore of Norway. Irish national totals were 315 in 1995 and 157 in 1996, and equivalent totals for the UK were 39 in 1995 and 68 in 1996, and for France, 45 in 1995 and 40 in 1996. Single birds were also seen in Belgium, Switzerland and Italy in 1995. The Irish national total for February 1996 rose to 602, reflecting the susceptibility of counts of divers and other offshore species to sea and weather conditions. Since the Icelandic breeding population numbers, at most, 300 pairs, a high proportion of birds wintering in Ireland and Britain probably breeds in Greenland and North America. (Parrack 1986).

Little Grebe
Tachybaptus ruficollis

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Western Palearctic	100,000–1,000,000		S
Iraq/Iran	6,000	60	
Southwestern/ Southern Asia	25,000–1,000,000		

Numbers and distribution in January 1995 and 1996

This is one of the most widespread waterbird species in the Western Palearctic and Southwest Asia, but Little Grebes are secretive and widely dispersed which causes counts to under-represent actual numbers to a greater extent than for many species. The overall regional total count was 38,276 in 1995 and 36,830 in 1996 (Table 22). The Baltic/Nordic area recorded the lowest numbers in both seasons, and a decline in numbers in 1996 was probably a response to the effects of cold weather. In Northwest Europe, the UK and France recorded the highest national totals, between 3,100 and 4,041, and numbers increased between 1995 and 1996 in every country except the UK. In Central Europe, more than half the area total was recorded in Switzerland, where 2,823 Little Grebes were counted in 1995 and 3,262 in 1996.

In the West Mediterranean area, more than half the Little Grebes were counted in Italy where totals of 5,265 in 1995 and 4,094 in 1996 were the highest national totals in Europe. In the Black Sea/East Mediterranean area, 2,700 Little Grebes were counted in Syria in 1995, but no information was available in 1996. This was offset by increases in numbers counted in Israel and Turkey in 1996 (the latter a result of increased coverage) and four-figure totals were also recorded in Yugoslavia and Greece. In Southwest Asia, totals were dominated by Iran (2,714 in 1995) and Azerbaijan, where the national total of 6,890 in 1996 was the highest recorded in any country in either year.

Great Crested Grebe
Podiceps cristatus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Northwestern Europe (wintering)	150,000	1500	I
Black Sea/Med (wintering)	150,000	1500	
Caspian Sea (wintering)	10,000	100	

Numbers and distribution in January 1995 and 1996

The long-term increase in the European population of Great Crested Grebes is well documented. Adriaensen *et al.* (1993) related the increase in The Netherlands to an increase between the 1950s and the 1990s in the proportion of birds wintering close to their breeding sites, and a reduction in the proportion migrating further afield for the winter.

The overall regional total count was 186,624 in 1995 and 141,804 in 1996 (Table 22). The decrease between the two seasons was principally because no information was available from Germany or Syria, and to a lesser extent, Iran or Morocco, in 1996.

The Baltic/Nordic recorded the lowest area total in both seasons, and a decrease in numbers in 1996 was probably a response to the effects of cold weather. In Northwest Europe, The Netherlands and France recorded the highest national totals, between 21,277 and 28,466, and numbers increased between 1995 and 1996 in every country except the UK and Ireland. In Central Europe, more than two thirds of the area total

was recorded in Switzerland. In the West Mediterranean area, around two thirds of the Great Crested Grebes were counted in Italy, where national totals were 15,319 in 1995 and 10,372 in 1996. In the Black Sea/East Mediterranean area, Greece recorded the highest numbers with 18,299 in 1995 and 13,889 in 1996. Syria was extremely important in 1995, when 17,000 Great Crested Grebes were counted. In Southwest Asia, totals were dominated by Iran (3,688 in 1995) and few were counted in other countries.

The highest national totals were recorded in Switzerland (31,091, 1995) and The Netherlands (28,466, 1996). There were also 30,235 counted in France in 1996 (this total is split between two areas in Tables 19 and 21).

Red-necked Grebe
Podiceps grisegena

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Northwestern Europe (wintering)	15,000	150	S
Black Sea/Med (wintering)	10,000	100	
Caspian (wintering)	15,000	150	I

Numbers and distribution in January 1995 and 1996

Most Red-necked Grebes disperse to tidal waters outside the breeding season and low counts are normal (Table 22). Only France (423, 1996) Germany (171, 1995, split between Northwest Europe and Central Europe) and Italy (105, 1996) recorded national totals over 100, and half of the 26 countries where the species was seen recorded 11 or fewer in both years.

Slavonian Grebe
Podiceps auritus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe	5,000	50	D
NE Europe	10,000–100,000		
Caspian/S Asia	10,000–25,000		

Numbers and distribution in January 1995 and 1996

Overall regional totals of Slavonian Grebes were 608 in 1995 and 499 in 1996 (Table 22). Most were counted in Northwest Europe, where France and the UK recorded the only national totals in the hundreds: there were 171 in France in 1995 and 204 in 1996. Corresponding figures for the UK were 159 in 1995 and 137 in 1996.

Black-necked Grebe
Podiceps nigricollis

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Western Palearctic	100,000	1,000	I
SW/S Asia (wintering)	25,000	250	I

Numbers and distribution in January 1995 and 1996

A smaller proportion of Black-necked Grebe populations spend the non-breeding season in marine habitats than is the case for Slavonian Grebe, and most are counted at freshwater lakes. The most important national total, 21,420, came from Syria in 1995, and a lack of information from that country was the principal reason for a decline in the overall regional total from 66,666 in 1995 to 56,249 in 1996 (Table 22). Black-necked Grebes are relatively scarce in the Baltic/Nordic, Northwest Europe and Central Europe areas, and only France (2,963 in 1995, 3,342 in 1996) and Switzerland (1,354 in 1995 and 1,360 in 1996) recorded four-figure totals. In The Netherlands, a total of 346 in 1995 declined to 62 in 1996 and birds may have been displaced by cold weather.

The Black Sea/East Mediterranean and West Mediterranean areas hold a majority of birds. Syria recorded the highest national total (see above), followed by Italy (10,021 in 1995 and 12,128 in 1996) Mediterranean France (9,032 and 12,130), Greece (7,537 and 8,521) and Yugoslavia (4,000 and 5,500). Turkey, Romania, Bulgaria and Albania recorded totals ranging from 3,640 (Turkey, 1996) to 1,206 (Albania, 1995).

In Southwest Asia, a national total of 3,595 in Azerbaijan in 1996 was the highest recorded, followed by 487 in Iran in 1995, 109 in Oman in 1996 and 107 in the United Arab Emirates in 1995.

Great Cormorant
Phalacrocorax carbo

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Northwestern Europe (*carbo*)	120,000	1,200	I
Northern/Central Europe (*sinensis*)	200,000	2,000	I
Black Sea/Med	100,000	1,000	
SW Asia (wintering)	100,000	1,000	

Numbers and distribution in January 1995 and 1996

Increases in Great Cormorant populations, particularly inland, throughout their European ranges since the 1980s have been well documented (e.g. Bezzel 1995, Debout *et al.* 1995, Van Eerden *et al.* 1995). There was little evidence of this increase in most countries in 1996 compared with 1995, and the overall regional total decreased from 239,051 in 1995 to 199,462 in 1996 (Table 22). A major element of this decline was a lack of information in 1996 from Iran, Germany or Morocco, but

big increases in counts in 1996 compared with 1995 were only recorded in three countries: Bulgaria, Austria, and Ireland.

Decreases in national totals in the Baltic/Nordic area in 1996 compared with 1995 were probably due to cold weather, and the area total nearly halved from 8,584 to 4,473, mainly as a result of declines in Denmark and Sweden. Hard weather was probably also a factor in Northwest Europe, where only France and Ireland recorded increases in totals in 1996. Five-figure national totals in Northwest Europe were recorded in the UK (14,375 in 1995 and 12,420 in 1996) and The Netherlands (12,379 in 1995 and 11,231 in 1996). The French total in Northwest Europe increased from 26,199 in 1995 to 27,745 in 1996, and when the Mediterranean portion of the French population is added to that of the Northwest European portion, the French national total in 1996, 37,204, was the highest recorded. In 1995, The combined French total was 38,539, but this was exceeded in Italy where 39,004 Great Cormorants were counted. A decline in the West Mediterranean population in 1996 compared with 1995 affected every country, but its effect on the area total was exaggerated by a lack of information from Morocco in 1996.

The Black Sea/East Mediterranean area was the only one where numbers increased in 1996 compared with 1995. This was because of a considerable increase in numbers in Bulgaria (9,834 to 15,984) and Turkey (1,179 to 6,209), the latter related to improved coverage in 1996. The highest national totals in this area were recorded in Israel (17,130 in 1995 and 15,527 in 1996) and Greece (12,494 in 1995 and 11,463 in 1996). In Southwest Asia, counts of 21,807 in Iran and 11,470 in Turkmenistan in 1995 and 13,596 in Saudi Arabia in 1996 were by far the highest national totals.

Socotra Cormorant
Phalacrocorax nigrogularis

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Gulf/Arabian Sea	500,000–1,000,000	7,500	I

IUCN Threat Status: Near threatened

Numbers and distribution in January 1995 and 1996

The movements of Socotra Cormorants outside the breeding season are poorly understood, and counts are very variable. The species is restricted to the Arabian Gulf and parts of the Arabian Peninsula, where 43,607 were counted in 1995 and 11,829 in 1996 (Table 20) In 1995, 37,265 were counted in the United Arab Emirates, and lesser numbers in Oman and Qatar. In 1996, the highest national total, 8,581, was recorded in Saudi Arabia.

Socotra Cormorants breed in only 13 or 14 localities worldwide and the island colonies are very susceptible to disturbance and large-scale development, often in the form of oil-related construction projects. The breeding population of the United Arab Emirates has been estimated as 32,085 to 34,285 breeding pairs (Hornby and Aspinall 1997). The Government of Bahrain has designated a nature reserve at the biggest breeding colony of this species in the world, on the Hawar Islands in the Arabian Gulf (*BBC Wildlife*, May 1997 in *Oryx*, 31 (3), via *Sandgrouse* 19 (2)).

Pygmy Cormorant
Phalacrocorax pygmeus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Black Sea/Med	25,000	250	
Southwestern Asia	5,000	50	D

IUCN Threat Status: Near threatened

Numbers and distribution in January 1995 and 1996

A total of 15,789 Pygmy Cormorants was counted in 1995 and 26,462 in 1996 (Table 22). The highest national total was recorded in Azerbaijan in 1996, and lack of information from that country was the main cause of the lower overall total in 1995.

A majority of Pygmy Cormorants were recorded in the Black Sea/East Mediterranean area, where 14,510 were counted in 1995 and 16,739 in 1996. The highest national totals in this area were 5,394 in Bulgaria (1996) and 5,122 in Greece (1995). Four-figure totals were also recorded in Yugoslavia, Ukraine, Albania, Romania and Turkey, and lesser numbers in Croatia, Israel and Slovenia. In the West Mediterranean and Central Europe areas, Italy produced 25 in 1995 and 16 in 1996, and two were seen in Hungary and one in Austria in 1996.

In Azerbaijan in February 1996, 10,468 were counted at five sites and observers considered that "A minimum estimate would place this species in the high tens of thousands in Azerbaijan" (Paynter *et al.* 1996). This is because Pygmy Cormorants favour the many hundreds of kilometres of irrigation channels in the country which have never been surveyed. In the light of this observation, the currently recognised Southwest Asian population is in need of upward revision. Elsewhere in Southwest Asia, 970 were counted in Turkmenistan in 1995 and 320 in 1996, and the 1995 total in Iran was 284.

Great White Pelican
Pelecanus onocrotalus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe/Western Asia (breeding)	70,000	700	D

Numbers and distribution in January 1995 and 1996

A majority of Great White Pelicans migrate out of the region in the non-breeding season but there is a

wintering population in Israel, where counts of 443 in 1995 and 455 in 1996 comprised more than half the overall regional totals (Tables 18 and 22). Small numbers were also recorded in Greece, Syria, Turkey and Bulgaria.

There is a big wintering population in Iraq, but these did not feature in the counts. Elsewhere in Southwest Asia, 179 were counted in Iran in 1995, and in Turkmenistan totals were 64 in 1995 and 115 in 1996. Single birds were seen in Italy, Saudi Arabia and Azerbaijan.

Dalmatian Pelican
Pelecanus crispus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Black Sea/Med (wintering)	2,000–3,000	25	I
SW/S Asia (wintering)	10,000–13,000	120	S

IUCN Threat Status: Vulnerable

Numbers and distribution in January 1995 and 1996

The totals for Dalmatian Pelican in the Black Sea/East Mediterranean area were 1,937 in 1995 and 2,868 in 1996 (Table 22). The latter total comprises 96% of the upper limit of the existing estimate for this population, and upward revision of this estimate may be necessary. A majority were counted in Greece (1,260 in 1995 and 1,654 in 1996) and a few hundred were also recorded in each of Turkey, Bulgaria, Albania and Syria.

In Southwest Asia, The highest national total, 709, was recorded in Iran in 1995, and 280 were counted in Azerbaijan in 1996. Totals in Turkmenistan were 156 (1995) and 146 (1996) and two were seen in Kazakhstan in 1996.

Crivelli *et al.* (1998) identified nest abandonment as the main factor reducing breeding success in Dalmatian Pelicans, which otherwise experience nestling mortality levels below those of other pelican species. An important factor causing nest abandonment is human disturbance, and the catastrophic failure of the world's most important colony at lake Mikri Prespa (Greece) in 1998 was due to disturbance by a single fisherman (Anonymous 1998).

Pink-backed Pelican
Pelecanus rufescens

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Africa	100,000–1,000,000

Numbers and distribution in January 1995 and 1996

This species is restricted in the region to Saudi Arabia, where 941 were counted in 1995 and 741 in 1996 (Table 20). Newton and Symens (1996) summarised the recent status of this species in the Red Sea.

Great Bittern
Botaurus stellaris

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe (breeding)	25,000–100,000	D
SW Asia (wintering)	<10,000–25,000	

Numbers and distribution in January 1995 and 1996

The solitary and secretive behaviour of Great Bitterns causes under-recording by counts. The overall regional totals of 225 in 1995 and 323 in 1996 were counted in 23 countries, 16 of which recorded single figure totals (Tables 16 to 21).

The highest national count, 127, was recorded in The Netherlands in 1996. The Dutch total in 1995 was 30 and the 1996 count was inflated by cold weather. Totals of 56 Great Bitterns were counted in Iran in 1995 and 50 in Azerbaijan in 1996. Italy recorded consistent counts with 48 in 1995 and 50 in 1996. Double figure totals were also recorded in Yugoslavia, Ukraine, Hungary, Romania and France.

Little Bittern
Ixobrychus minutus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe/N Africa (breeding)	25,000–100,000	D
W/SW Asia (breeding)	25,000–100,000	

Numbers and distribution in January 1995 and 1996

A majority of Western Palearctic Little Bitterns spend the non-breeding season in East Africa, and records were restricted to Israel, where counts totalled four in 1995 and nine in 1996, and Morocco, where a single bird was recorded in 1995 (Tables 18 and 21).

Black-crowned Night Heron
Nycticorax nycticorax

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe/ NW Africa (breeding)	100,000–200,000	1,500	I
W Asia/ NE Africa (breeding)	10,000–100,000		

Numbers and distribution in January 1995 and 1996

Most Night Herons in the Western Palearctic spend the non-breeding season in tropical Africa, and there is also a wintering population in Israel, Iran, Iraq, and the Arabian Peninsula. The overall regional total in 1995 was 1,836 and in 1996, 1,778 of which 1,081 and 1,334 (respectively) were counted in Israel (Tables 22 and 18). The highest national totals in Europe were counted in Italy where there were 96 in 1995 and 111 in 1996. There were 100 in Bulgaria in 1996, and France, Greece, Romania and Ukraine also recorded small numbers of birds.

In Southwest Asia 430 Night Herons were counted in Iran and 120 in Saudi Arabia in 1995, and 108 in Azerbaijan in 1996. Lower counts were made in the United Arab Emirates and Oman.

A 1992–93 census of Ardeidae wintering in the Iberian peninsula and Balearic Islands found 1,426 Black-crowned Night Herons in seven roosts in the south of Spain (Sarasa *et al.* 1993).

Striated (Green-backed) Heron
Butorides striatus

Recognised Populations (Rose and Scott 1997)

Population (no estimate available)
SW Asia/E Africa

Numbers and distribution in January 1995 and 1996

Striated Heron is restricted in range within the Western Palearctic and Southwest Asia to southern Iran and the Arabian Peninsula, where 28 were counted in 1995 and 14 in 1996 in Saudi Arabia, Oman and the United Arab Emirates (Table 20).

Squacco Heron
Ardeola ralloides

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
NW Africa/Med (breeding)	10,000–25,000
S and SW Asia/Black Sea (breeding)	25,000–100,000

Numbers and distribution in January 1995 and 1996

Most Squacco Herons migrate south of the region outside the breeding season, but 84 were counted in 1995 and 50 in 1996 (Table 22). Totals of 31 were counted in Iran and 28 in Oman in 1995. Further, lower counts were made in Saudi Arabia, Israel, Morocco and the United Arab Emirates.

Indian Pond Heron
Ardeola grayii

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
S/S Asia (breeding)	100,000–1,000,000

Numbers and distribution in January 1995 and 1996

A total of 416 Indian Pond Herons was counted in Iran in 1995. In addition, four were recorded in each year in Oman, and one in 1995 and seven in 1996 in the United Arab Emirates.

Cattle Egret
Bubulcus ibis

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
SW Europe/ NW Africa	200,000–270,000	2,400	I
E Med/SW Asia	<10,000–25,000		

Numbers and distribution in January 1995 and 1996

Consistent overall regional totals of 5,413 in 1995 and 5,457 in 1996 mask considerable differences at national and area level (Table 22). The West Mediterranean recorded the highest area total in 1996. High national totals in this area were 1,370 in Algeria in 1996, 798 in Morocco in 1995, and 586 and 892 in Mediterranean France in 1995 and 1996 respectively.

In Southwest Asia, the highest national totals were recorded in Saudi Arabia (964 in 1995 and 1,160 in 1996) and in Iran in 1995 (1,135). Israel also held important numbers of Cattle Egrets with 1,158 in 1995 and 697 in 1996.

A 1992–93 census of Ardeidae wintering in the Iberian peninsula and Balearic Islands found 156,980 cattle egrets in 242 roosts (Sarasa *et al.* 1993).

Western Reef Egret
Egretta gularis

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
NE Africa/Red Sea S and SW Asia	17,000	170

Numbers and distribution in January 1995 and 1996

The overall regional totals for Western Reef Egret were 2,534 in 1995 and 2,546 in 1996 (Table 22). All records came from Southwest Asia apart from one in Morocco in 1995 and one in Israel in 1996. An increase in the Saudi national total from 739 in 1995 to 1,467 in 1996 (which was probably related to changes in coverage) compensated for a lack of information from Iran in

1996. National totals in Oman were more consistent: 796 in 1995 and 744 in 1996. In the United Arab Emirates, a national total of 420 in 1995 decreased to 255 in 1996, and in Qatar these totals were 85 and 79 respectively.

Little Egret
Egretta garzetta

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Black Sea/ Med (breeding)	100,000–150,000	1,250	I
Western Asia (breeding)	25,000–100,000		

Numbers and distribution in January 1995 and 1996

The overall regional totals were 20,248 in 1995 and 18,010 in 1996 (Table 22). The West Mediterranean held the highest area total in both seasons, and was followed in importance by Northwest Europe. France recorded the highest national totals, and if the Northwest Europe and West Mediterranean portions of the population are combined, France held 45% of the overall regional total in 1995 and 42% in 1996. Italy was the biggest contributor to the West Mediterranean totals, and 4,142 Little Egrets were counted there in 1995 and 4,708 in 1996. The northward and westward expansion into the UK and Ireland continues (e.g. Smiddy and Duffy 1997).

In the Black Sea/East Mediterranean area, Israel recorded the highest national totals, 1,604 in 1995 and 2,470 in 1996. Greece was also important with 750 in 1995 and 997 in 1996, and Albania and Turkey also recorded three-figure totals.

In Southwest Asia, 2,981 Little Egrets were counted in Iran in 1995, and Azerbaijan and Saudi Arabia recorded totals in the low hundreds. Smaller numbers were counted in Oman and the United Arab Emirates.

The 1992–93 census of Ardeidae wintering in the Iberian peninsula and Balearic Islands found 10,444 Little Egrets in 181 roosts (Sarasa *et al.* 1993).

Great Egret
Casmerodius albus (Egretta alba)

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Black Sea/Med (wintering)	7,000–17,000	120	D
SW Asia (wintering)	10,000–100,000		

Numbers and distribution in January 1995 and 1996

The overall regional totals were 11,323 in 1995 and 13,240 in 1996 (Table 22). The Black Sea/East Mediterranean recorded the highest area totals, and more than twice as many Great Egrets as Little Egrets were counted in this area in both seasons. Israel recorded the highest national total in both seasons, with 2,802 in 1995 increasing to 5,198 in 1996. Greece was the other major contributor to the Black Sea/East Mediterranean totals with 2,274 Great Egrets counted in 1995 and 1,312 in 1996. In Turkey, a total of 194 in 1995 increased to 1,445 in 1996 because of improved coverage. The next highest national total, 684, was counted in Croatia in 1996, and seven further countries in the area recorded national totals ranging between two and 361.

The Black Sea/East Mediterranean area was followed in importance by Southwest Asia and the West Mediterranean. Italy was by far the biggest contributor to the West Mediterranean totals, and 1,334 were counted there in 1995 and 1,121 in 1996. In Southwest Asia, 2,603 Great Egrets were counted in Iran in 1995, and 1,300 in Azerbaijan in 1996. Turkmenistan and Uzbekistan recorded totals in the low hundreds. Small numbers were counted in most other countries in the area.

In Central Europe, Great Egrets were counted in every country except Switzerland, and the highest national totals were recorded in Hungary (121, 1995) and Slovakia (95, 1995). In Northwest Europe the species was found only in small numbers in France and The Netherlands.

Grey Heron
Ardea cinerea

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe/ N Africa (breeding)	400,000–500,000	4,500	I
E Black Sea and W/SW Asia (breeding)	10,000–100,000		

Numbers and distribution in January 1995 and 1996

Grey Herons seldom congregate outside the breeding season and the widespread but dispersed nature of their distribution means that many are missed by standard site-based counting methods. The overall regional total dropped from 40,714 in 1995 to 34,775 in 1996 (Table 22). A major element of this decrease was a lack of information in 1996 from Germany, Iran or Morocco,

Decreases in national totals in the Baltic/Nordic in 1996 compared with 1995 will have been caused by cold weather, and the area total nearly halved from 2,190 to 1,198, mainly as a result of declines in Denmark and Sweden. About one third of the overall regional total was recorded in Northwest Europe in both years, and four-figure national totals were recorded in The Netherlands (4,723 in 1995 and 2,565 in 1996), France (4,218 in 1995 and 4,472 in1996) and the UK (2,403 in 1995 and 2,699 in 1996). Hard weather probably affected these counts, with the moderate increases in France, the UK and Ireland and the considerable decline in The Netherlands perhaps

reflecting redistribution of birds in a westerly direction in 1996 from frozen areas further to the east.

Most Grey Herons in the West Mediterranean were recorded in Italy, and the national total of 6,703 in 1995 was the highest recorded. The Italian total in 1996, 5,650, was exceeded by that of Israel, where numbers increased from 4,641 in 1995 to 5,955 in 1996. The Black Sea/East Mediterranean area was the only one where numbers increased in 1996 compared with 1995. This was principally because of the increase in numbers in Israel. As well as the Israeli totals detailed above, four-figure totals for Grey Heron were recorded in Greece (1,327 in 1995 and 1,261 in 1996) and Croatia (1,110 in 1995 and 981 in 1996). In Southwest Asia, counts of 2,341 in Iran and 854 in Oman in 1995, and 887 in Saudi Arabia in 1996 were the highest national totals.

Purple Heron
Ardea purpurea

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
W Med (breeding)	10,000–25,000	D
E Europe/SW Asia (breeding)	100,000–1,000,000	

Numbers and distribution in January 1995 and 1996

Nearly all Purple Herons migrate to sub-Saharan Africa in the non-breeding season and only small numbers remain in the Western Palearctic and Southwest Asia. A national total of 101 in Iran in 1995 was the highest, and totals ranging from six to 18 were also recorded in Oman, Morocco, and Saudi Arabia (Table 20).

Goliath Heron
Ardea goliath

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
SW Asia	50	1

Numbers and distribution in January 1995 and 1996

The small, resident population in Saudi Arabia was represented by counts of 15 in 1995 and 20 in 1996. There were no other counts, and no recent information exists on the sole Western Palearctic breeding population in the southern marshes of Iraq (Snow and Perrins 1998). Small numbers also breed in the mangroves on the south coast of Iran (D. Scott *in litt*.).

Black Stork
Ciconia nigra

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
SW Europe/W Africa	1,000	10
Central/E Europe (breeding)	20,000–30,000	250

Numbers and distribution in January 1995 and 1996

Most Black Storks migrate to Africa outside the breeding season, and there is a wintering population in Israel which accounted for a majority of records in both years: 449 in 1995 and 823 in 1996 (Table 18). An additional 100 were counted in Syria in 1995, and 49 in Saudi Arabia in 1996. National totals ranging between one and 11 were also recorded in Italy, Greece, Turkey and Iran.

Strazds (1998) estimated the world population at 10,000–15,000 pairs, of which 72% breed in Europe. Most of these birds spend the summer in central and eastern Europe, and Strazds identified an overestimate by Tucker and Heath (1994) of data from Russia resulting in a considerable reduction in the estimate for breeding birds in that country from 1,000–5,000, to 199–370 pairs.

White Stork
Ciconia ciconia

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Iberia/NW Africa (breeding)	85,000	850	D
Central/E Europe (breeding)	400,000	4,000	D
SW Asia (wintering)	25,000–100,000		

Numbers and distribution in January 1995 and 1996

Relatively few White Storks spend the non-breeding season in the Western Palearctic and Southwest Asia, and an overall regional total of 2,752 was counted in 1995 and 1,318 in 1996 (Table 22) the difference largely being due to reduced coverage in 1996. High national totals were recorded in Israel (727 in 1995, 550 in 1996), Iran (620 in 1996), Saudi Arabia (300 in 1995, 351 in 1996) and Syria (350 in 1995). Additional three-figure totals were recorded in Morocco in 1995 (280), Portugal in 1995 (171), and The Netherlands in both seasons (144 and 127). Most of these Dutch birds were non-migratory individuals originating from re-introduction schemes (e.g. Koopman 1995). Double-figure totals were recorded in France, Azerbaijan, Algeria and Italy, and single-figure totals in Greece, Bulgaria and Turkey.

This is one of the best known European – African migrants and regular, co-ordinated international censuses in the breeding season have been conducted since 1934. These censuses have revealed a population in long-term decline,

and an international working group to initiate co-ordinated action for the western population of the White Stork was established, and held its first symposium in 1994 (Biber *et al.* 1995). The fifth international census of the White Stork was conducted in 1994-95 and produced a world population estimate of 168,000 breeding pairs, an increase of about 20% on the 1984 census. (Schulz 1998). The reasons for the increase are thought to include a reduction in drought in the Sahel wintering areas of West Africa in the 1980s, and possibly changes in land use in East Europe. The situation of the species is still regarded as critical in Northwest Europe because the population appears to be sustained by immigration from East and Southwest Europe.

Glossy Ibis
Plegadis falcinellus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Black Sea/Med/W Africa	25,000–40,000	325
SW Asia/E Africa	10,000–25,000	

Numbers and distribution in January 1995 and 1996

Most Glossy Ibises migrate out of the region in the non-breeding season. The overall regional totals were 1,124 in 1995 and 1,130 in 1996 (Table 22) but the similarity of these totals masks considerable differences at national level between the two seasons. A total of 245 Glossy Ibises was counted in Israel in 1995, and this increased to 685 in 1996. Totals in Saudi Arabia were more consistent, 426 in 1995 and 345 in 1996. The Iranian national total in 1995 was 287. Double-figure totals were recorded in Morocco, Algeria, Oman and Italy, and single-figure totals in the United Arab Emirates and Portugal.

Waldrapp (Northern Bald Ibis)
Geronticus eremita

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Morocco	<250	2	S
SW Asia	>27	1	D

IUCN Threat Status: Critically Endangered

Numbers and distribution in January 1995 and 1996

The status of this species seems increasingly precarious. A total of 77 was counted in 1995 in Morocco (Table 21). Since the extinction of the breeding colony at Birecick, Turkey in 1989 (*Orn Soc Middle East Bull*. 24:22) the survival of the eastern population has been in doubt. The remnant of an ineffective captive breeding programme survives at Birecick and there may be a relationship between these semi-wild birds and occasional records in the Middle East in the 1990s (Arihan 1998). A report of five adults at Massawa in Eritrea in February 1997 (Dutch Birding 19 (3): 131) is a recent indication that some wild birds in the eastern population may survive, and it seems possible that there may be an as yet undiscovered breeding colony in Arabia.

A census of the western population in Morocco produced a total of 223 birds in 1995, including 74 breeding pairs. After this census, 41 birds died in 1996 of unknown causes (Schollaert and Franchimont 1996, Bowden 1998, Touti *et al*. 1999). The best hope of survival for this species may lie in the fact that about 2,000 birds, mainly of Moroccan origin, are maintained in zoos (Tomlinson, 1994).

Sacred Ibis
Threskiornis aethiopicus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Iraq/Iran	200	2	D

Numbers and distribution in January 1995 and 1996

Most Sacred Ibises are resident in sub-Saharan Africa. A small population occurs at the head of the Persian Gulf and in 1995, 22 of these were counted in Iran. A count of 52 introduced birds was made in France at Presqu' ile Guerandaise. The French birds originated as escapes from Branféré zoo, and 280 pairs bred in the wild in Brittany in 1994 (Snow and Perrins 1998).

Introduced species are always a potential threat to native biodiversity (e.g. Holmes and Simons 1996). It is impossible to anticipate problems such as that currently posed by the introduced North American Ruddy Duck to the globally threatened White-headed Duck, and the expansion of the introduced population of the Sacred Ibis in France gives cause for concern.

Eurasian Spoonbill
Platalea leucorodia

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Eastern Atlantic	<3,000	30	
Central/ SE Europe (breeding)	5,000–15,000	100	D
Red Sea	500–1500	10	
SW/S Asia (wintering)	23,000	230	

Numbers and distribution in January 1995 and 1996

The overall regional totals were 4,313 in 1995 and 3,044 in 1996 (Table 22), the apparent decrease being largely due to reduced coverage in 1996. More than two thirds of the overall totals were recorded in Southwest Asia in each season, and the highest national totals were recorded in Saudi Arabia, where an identical number of Spoonbills, 1,868, was counted in each season. These birds comprise the resident Red Sea population with the addition of migrants from eastern Europe (and possibly Southwest Asia). In Iran, 590 were counted in 1995, and in Oman, national totals of 327 (1995) and 219 (1996)

were recorded. Double-figure counts were made in the United Arab Emirates.

In the Black Sea/East Mediterranean area, Israel with 557 in 1995 and 393 in 1996 recorded the highest national totals, and in Greece, 122 and 143 (respectively) were counted. Double-figure counts were made in Syria, Albania, Turkey and Croatia. Fewer Spoonbills were counted in the West Mediterranean area, where Morocco recorded the highest national total, 325, in 1995. Lower numbers were counted in Italy, Portugal and Algeria. Spoonbill totals of 58 (1995) and 52 (1996) were counted in Northwest Europe, nearly all in France with tiny numbers in The Netherlands and the UK.

Greater Flamingo
Phoenicopterus ruber

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Western Med	80,000	800	I
E Med, SW and S Asia	500,000	5,000	S

Numbers and distribution in January 1995 and 1996

The irregular migrations and fluctuations in numerical distribution of flamingos are still not well understood. The 1995 national total in Iran, 114,596 was the highest recorded, and the unavailability of information from that country in 1996 caused the overall regional total to drop from 193,906 (1995) to 77,245 in 1996 (Tables 22 and 20). Saudi Arabia (2,338 in 1995, 8,066 in 1996) and Azerbaijan (5,200 in 1995, 5,350 in 1996) recorded the next most important national totals in Southwest Asia, and smaller totals were counted in Oman, the United Arab Emirates and Qatar.

The West Mediterranean area was next in importance to Southwest Asia, principally because of high counts in Mediterranean France (24,616 in 1995, 19,694 in 1996) and Italy (10,468 in 1995, 7,919 in 1996). Algeria, Morocco, Portugal and Tunisia all recorded national totals below 6,000. In the Black Sea/East Mediterranean area, the highest national totals were recorded in Turkey (5,746 in 1995, 20,583 in 1996) and Cyprus (12,642 in 1995, 4,698 in 1996), and Greece, Syria, Albania and Israel recorded lower totals. In Northwest Europe, tiny numbers were seen in France and The Netherlands.

Lesser Flamingo
Phoenicopterus minor

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Eastern Africa	4,000,000	20,000	S
Southern Asia	150,000	1,500	I

IUCN Threat Status: Near threatened

Numbers and distribution in January 1995 and 1996

The occurrence of 190 lesser flamingos in Oman and 44 in Saudi Arabia in 1996 (Table 20) strongly suggests a link between the populations occupying the Rift Valley lakes of East Africa and the Rann of Kutch in Northwest India.

Water Rail
Rallus aquaticus

Recognised Populations (Rose and Scott 1997)

Population (no estimate available)
Europe/N Africa/Asia

Numbers and distribution in January 1995 and 1996

A milestone in the study of the *Rallidae* was reached in 1998 with the publication of a high quality book summarising all aspects of the identification, distribution and behaviour of this most difficult group (Taylor and van Perlo 1998). The extremely skulking behaviour of crakes and rails *Rallidae* limits the value of counts of many species, but national totals of Water Rails were rather consistent between 1995 and 1996, suggesting that changes in counts can be indicative of gross changes in numbers (Table 22). The 1996 national total in Azerbaijan, 1,000 was by far the highest recorded, and the unavailability of information from that country in 1995 was the main cause of the difference between the overall regional totals: 1,000 in 1995 and 1,940 in 1996.

Away from Azerbaijan, the highest national totals were recorded in the UK (221 in 1995 294 in 1996), Italy (172 in 1995, 178 in 1996), France (233 in 1995, 171 in 1996) and The Netherlands (94 in 1995, 107 in 1996). Double and single-figure totals were recorded in 17 further countries.

Spotted Crake
Porzana porzana

Recognised Populations (Rose and Scott 1997)

Population (no estimate available)
W Central Eurasia/ Africa

Numbers and distribution in January 1995 and 1996

One Spotted Crake was recorded in Lithuania in 1995 and four in France in 1996. Two were also seen in Oman in each season.

Little Crake
Porzana parva

Recognised Populations (Rose and Scott 1997)

Population (no estimate available)
Western Eurasia/N Africa

Numbers and distribution in January 1995 and 1996

There was one Little Crake recorded in Israel in 1995, and three in 1995 and two in 1996 in Oman.

Baillon's Crake
Porzana pusilla

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe (breeding)	10,000–25,000	D

Numbers and distribution in January 1995 and 1996

In Oman, totals of nine Baillon's Crakes were recorded in 1995 and two in 1996. There was also a record of a single bird in Saudi Arabia in 1996.

Moorhen
Gallinula chloropus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
Europe/N Africa	>1,000,000	S
SW Asia	100,000–1,000,000	

Numbers and distribution in January 1995 and 1996

Moorhens seldom congregate, and the widespread but dispersed nature of their distribution means that many are missed by standard site-based counting methods. The overall regional total increased from 40,920 in 1995 to 48,311 in 1996 (Table 22). A major element of this increase was a lack of information in 1995 from Azerbaijan.

More than three quarters of the overall regional total was recorded in Northwest Europe in both years, and the area total went up from 31,779 in 1995 to 36,868 in 1996. Increases in national totals in Northwest Europe in 1996 compared with 1995 affected every country except Ireland and were probably related to cold weather. Totals increased as follows: The Netherlands 15,605 in 1995 to 19,327 in 1996, the UK 10,574 in 1995 to 10,820 in 1996 and France 5,048 in 1995 to 6,327 in 1996.

Most birds in the West Mediterranean were recorded in Italy, and the national total of 4,571 in 1995 decreased to 4,021 in 1996. Much lower numbers were counted in Algeria, Morocco, Mediterranean France and Portugal.

In the Black Sea/East Mediterranean area, Israel recorded the highest totals, 1,309 in 1995 and 1,516 in 1996. A total of 800 was recorded in Syria in 1995, and further three-figure totals in the area came from Bulgaria (215 in 1996) and Greece (144 in 1995 and 140 in 1996). Double or single figure totals were recorded in eight further countries in the area.

In Southwest Asia, 4,330 Moorhens were counted in Azerbaijan in 1996. There were 346 in Oman in 1995 and 236 in 1996, and 339 in Iran in 1995. Small numbers were also recorded in Qatar, Saudi Arabia and the United Arab Emirates.

Purple Swamphen
Porphyrio porphyrio

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
S Europe/Africa/Asia/Oceania/Australia	
SW Europe/N Africa	10,000–25,000

Numbers and distribution in January 1995 and 1996

The dense reedbeds and marshes preferred by this species make counts and estimates difficult. National totals of 1,376 were recorded in Azerbaijan in 1996, and 665 in Iran in 1995. A total of 300 in Syria in 1995 is of considerable interest. Consistent numbers were counted in Italy, with 124 in 1995 and 126 in 1996, and single-figure totals were recorded in each of Morocco, Algeria, Israel and the United Arab Emirates.

The Azerbaijan total was counted at five sites (Paynter *et al.* 1996), and the observers considered this total to be a gross under-estimate. The reserve log at Aggusha station gave a November 1994 estimate of 23,500, which Paynter *et al.* considered to be a possibly realistic estimate.

Crested Coot
Fulica cristata

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Iberia/N Africa	<10,000

Numbers and distribution in January 1995 and 1996

A total of 540 was counted in Morocco in 1995 (Table 21). This species is difficult to separate from the ubiquitous *Fulica atra* (p. 136) in winter, and counts in mixed flocks are prone to under-estimation.

Lakes of the Middle Atlas in Morocco were extremely important for Crested Coots in October 1997, when 3,475 were counted at eight sites, all of which exceeded a 1% threshold of <100. A number of additional lakes in this area are unknown and inaccessible, and may hold high numbers of this species (Green and El Hamouzi 1998).

Common Crane
Grus grus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe (breeding)	60,000–70,000	650	I
NE/Central Europe (breeding)	>60,000	600	I
Black Sea/E Med (wintering)	35,000	350	D
Black Sea/Turkey (*lilfordi*)	200–500	4	D
SW Asia (wintering) (*lilfordi*)	55,000	550	D

Numbers and distribution in January 1995 and 1996

Sanchez Guzman *et al.* (1998) have summarised the recent status of the western population of this species. The overall regional totals were 18,325 in 1995 and 8,931 in 1996 (Table 22), the apparent decrease being largely due to considerable reductions in the numbers counted in Algeria and Israel in 1996, and a lack of information from Iran, Morocco or Tunisia in that season.

The highest national total, 7,466, was recorded in Iran in 1995, and significant totals were also recorded in that year in Algeria (4,000), Israel (2,459), Morocco (2,398) and Tunisia (1,200). Three-figure totals were recorded in 1995 in France and Turkey, and lesser numbers in Yugoslavia, Italy, Saudi Arabia, The Netherlands, Oman and Croatia.

In 1996, the highest national total, 7,063, was recorded in France and 6,542 of these birds were at a single site in the northeast which held no Common Cranes in 1995.

Siberian Crane
Grus leucogeranus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1%Threshold*
Iran (wintering)	9	1

IUCN Threat Status: Endangered

Numbers and distribution in January 1995 and 1996

None was recorded by IWC counts. A total of 10 spent the 1996–97 winter in Iran, including three juveniles and an adult male to which a satellite transmitter was attached (*The ICF Bugle*, February 1997, in *Oryx* 31 (3)).

Demoiselle Crane
Grus virgo

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Black Sea (breeding)	500	5	D
Turkey (breeding)	<100	1	
Kalmykia (breeding)	30,000–35,000	325	S
W/Central Asia (breeding)	100,000	1,000	I

Numbers and distribution in January 1995 and 1996

In Saudi Arabia, four were seen in 1996.

Sooty Gull
Larus hemprichii

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Red Sea/Gulf/Arabia/E Africa	40,000	400

Numbers and distribution in January 1995 and 1996

Sooty Gulls are confined in the region to the coasts of southern Iran and the Arabian Peninsula, where 18,420 were counted in 1995 and 17,656 in 1996 (Table 22). More than half were counted in Oman each season, and most of the remainder in Saudi Arabia, with relatively small numbers in the United Arab Emirates.

White-eyed Gull
Larus leucophthalmus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Red Sea and nearby coasts	20,000	200	S

IUCN Threat Status: Vulnerable

Numbers and distribution in January 1995 and 1996

White-eyed Gulls have a distribution restricted to the Red Sea and Gulf of Aden, and were only counted in Saudi Arabia where the national totals were 56 in 1995 and 158 in 1996. One was also seen in Israel in 1996

Great Black-headed Gull
Larus ichthyaetus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Black Sea/ Caspian/SW Asia	70,000–120,000	950	S

Numbers and distribution in January 1995 and 1996

Great Black-headed Gulls were only recorded in the Southwest Asia and Black Sea/East Mediterranean areas, where overall totals of 11,713 in 1995 and 1,841 in 1996 were counted (Table 22). The highest national total, 8,434, was counted in Iran in 1995, and lack of information from that country was the principal cause of the lower numbers recorded in 1996. A total of 2,343 was recorded in Oman in 1995, declining to 1,006 in 1996, and a marked decrease in counts between the two seasons, from 709 to zero, also occurred in the United Arab Emirates. In Israel, a total of 145 in 1995 increased to 609 the following season. Double or single-figure totals were recorded in the Black Sea/East Mediterranean area in Turkey, Romania, Syria, Greece and Ukraine, and in Southwest Asia in Qatar, Azerbaijan, Saudi Arabia and Turkmenistan.

Mediterranean Gull
Larus melanocephalus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*Status*
W Europe/Med/ NW Africa	100,000–1,000,000	I

Numbers and distribution in January 1995 and 1996

The overall regional totals for Mediterranean Gull were 7,119 in 1995 and 6,227 in 1996 (Table 22), the apparent decrease being partly due to a lack of information from Syria in 1996.

The most important area was the West Mediterranean, where an area total of 4,888 in 1995 increased to 5,208 in 1996. These rather similar area totals masked considerable changes at national level: a count of 4,071 in Italy in 1995 decreased to 2,585 in 1996, but was partly compensated for by an increase in Mediterranean France from 565 to 2,623.

In the Black Sea/East Mediterranean area, by far the highest count, 1,450, was made in Syria in 1995 and totals in the low hundreds were recorded in Greece and Turkey. Totals between one and 11 were also recorded in Albania, Bulgaria and Israel.

In Northwest Europe, national totals of 372 and 412 were recorded in France, and 32 and 50 in the UK, in 1995 and 1996 respectively. Single birds were also seen in The Netherlands and Ireland.

Little Gull
Larus minutus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Central/E Europe (breeding) Black Sea/W Asia (breeding)	60,000–90,000	750	S

Numbers and distribution in January 1995 and 1996

In Northwest Europe, the highest numbers were counted in France, with 714 in 1995 and 803 in 1996. There were 366 in The Netherlands in 1995 (zero in 1996), and four and 22 in the UK and five and 11 in Ireland in 1995 and 1996 respectively.

Italy recorded the highest numbers in the West Mediterranean, 289 in 1995 and 33 in 1996. There were also 21 counted in Portugal in 1996 and single-figure totals in Mediterranean France and Morocco. In the Black Sea/East Mediterranean area, the highest counts were made in Bulgaria, where 44 Little Gulls were counted in 1995 and 150 in 1996. Double or single-figure totals were recorded Greece, Israel, Romania, Turkey, Albania, Cyprus and Azerbaijan.

Black-headed Gull
Larus ridibundus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
NW Europe (breeding)	>5,000,000	20,000
Med (breeding)	100,000–1,000,000	
SW Asia/E Africa (wintering)	250,000	2,500

Numbers and distribution in January 1995 and 1996

The population of Black-headed Gulls has increased through the 20th century (Cramp *et al.* 1983) and this is now one of the most conspicuous waterbird species in the region. Not all national waterbird counting schemes include monitoring of gulls, yet this was one of the most numerous species counted, and the overall regional total of 1,060,948 in 1995 dropped by 9% to 963,878 in 1996 (Table 22).

Decreases in national totals in the Baltic/Nordic area in 1996 compared with 1995 were probably due to cold weather, but reduced coverage in Poland in 1996 was also a contributory factor and the area total halved from 20,430 to 10,124. Hard weather was probably also a factor in Northwest Europe, where France and the UK recorded increases in totals in 1996, but The Netherlands recorded a considerable decrease. Six-figure national totals in Northwest Europe were recorded in the UK (244,125 in 1995 and 276,305 in 1996), The Netherlands (204,804 in 1995 and 142,180 in 1996) and France (168,414 in 1995 and 187,993 in 1996).

A decline in totals in the West Mediterranean in 1996 compared with 1995 was principally caused by a reduction in the count in Italy from 118,239 to 84,176, Numbers in Mediterranean France increased from 46,540 to 51,323, and 9,555 were counted in Morocco in 1995. In Central Europe Austria held more than two thirds of the area total in both seasons with 25,062 in 1995 and 24,370 in 1996.

Widespread decreases in counts in 1996 compared with 1995 were recorded in the Black Sea/East Mediterranean

area. The highest national totals in this area were recorded in Greece (37,217 in 1995 and 27,926 in 1996) and Israel (23,742 in 1995 and 22,058 in 1996). In Southwest Asia, counts of 26,537 in Iran and 26,739 in the United Arab Emirates in 1996 were the highest national totals, being followed in importance by counts in Oman of 12,958 in 1995 and 8,576 in 1996.

Slender-billed Gull
Larus genii

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Black Sea/ Med (breeding)	120,000–240,000	1,800	S
W/SW/S Asia (breeding)	150,000	1,500	I

Numbers and distribution in January 1995 and 1996

Overall regional totals were 27,775 in 1995 and 21,860 in 1996 and a majority of birds were counted in Southwest Asia (Table 22). The highest national totals were recorded in Saudi Arabia, where 10,719 Slender-billed Gulls were counted in 1995 and 7,655 in 1996. Altogether, 6,071 were counted in Iran in 1995, and four-figure totals were also recorded in Oman and the United Arab Emirates in both seasons. The number counted in Oman in 1996 was lower than normal in January, but a count of c. 50,000 Slender-billed Gulls on Barr Al Hickman in February 1996 indicated that a "normal wintering population" was present (Cummins 1996).

In the Black Sea/East Mediterranean area, The highest national totals were recorded in Greece (3,087 in 1995 and 2,592 in 1996) and in Syria in 1995 (1,450). Three-figure totals were recorded in Turkey, Albania and Israel. In the West Mediterranean, only Italy recorded appreciable numbers, 1,100 in 1995 and 1,704 in 1996, and 182 were counted in Morocco in 1995.

Audouin's Gull
Larus audouinii

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Mediterranean/N and W African coast	40,000	400

IUCN Threat Status: Conservation dependent

Numbers and distribution in January 1995 and 1996

A total of 4,507 was counted in Morocco in 1995 and in Italy counts totalled 126 in 1995 and 73 in 1996 (Tables 21 and 22). One was also seen in Albania in 1995. Data from Spain cannot yet be presented, and monitoring of this species will benefit from technical and logistical development of the census in that country.

Common Gull
Larus canus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW and C Europe/ Atlantic/Med (*canus*)	1,600,000	16,000	I
NE Eur/W Sib/ Black Sea/ Caspian (*heinei*)	25,000–100,000		

Numbers and distribution in January 1995 and 1996

Overall regional totals were 227,499 in 1995 increasing to 243,870 in 1996 and a majority of birds were counted in Northwest Europe (Table 22). Numbers increased in every country in Northwest Europe in 1996 compared with 1995, probably reflecting displacement of birds by cold weather further to the north and east. The highest national totals were recorded in The Netherlands where 115,863 Common Gulls were counted in 1995 and 124,436 in 1996. The other outstandingly important country was the UK, with 62,670 in 1995 and 74,606 in 1996. France and Ireland recorded four-figure totals.

Totals in the Baltic/Nordic area declined from 24,977 in 1995 to 14,418 in 1996. Poland recorded the highest totals in this area, 20,140 in 1995 and 9,880 in 1996.

Lower numbers were counted further south. In the Black Sea/East Mediterranean area, The highest national totals were recorded in Bulgaria (6,542 in 1996) Romania (3,027 in 1995) and Greece (1,253 in 1995) and seven further countries recorded totals in the tens and hundreds. In the West Mediterranean, only Italy recorded appreciable numbers, 2,756 in 1995 and 2,427 in 1996. In Central Europe, Austria was important with 4,973 in 1995 and 3,253 in 1996. In Southwest Asia, 740 were counted in Iran in 1995 and 10 in Azerbaijan in 1996.

Lesser Black-backed Gull
Larus fuscus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NE Eur/Black Sea/ SW Asia/E Africa (*fuscus*)	200,000–300,000	2,500	
W Eur/Med/ W Afr (*graellsii*)	400,000–500,000	4,500	I

Numbers and distribution in January 1995 and 1996

An overall regional total of 68,699 in January 1995 dropped to 13,428 in 1996 (Table 22). Many European birds migrate to West Africa for the winter, and Morocco recorded by far the highest national total, 50,811 in 1995. A lack of information from that country in 1996 was the main reason for the decrease in the overall regional total. Elsewhere in the West Mediterranean, and in the Black Sea/East Mediterranean area, the species was only

counted in small numbers and national totals in 10 countries ranged from one to 263. In Southwest Asia, small numbers were recorded in Qatar, Oman, the United Arab Emirates and Saudi Arabia.

In Northwest Europe, national totals declined in 1996 compared with 1995 in the UK (5,468 to 4,645) Ireland (5,615 to 2,045) and The Netherlands (1,412 to 173), and increased in France (4,499 to 5,610). This pattern is indicative of birds migrating further south and west in response to the colder 1996 winter. Very small numbers were counted in both seasons in the Baltic/Nordic area in Latvia and Poland, and in Central Europe in Austria and Hungary.

Herring Gull
Larus argentatus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NW Europe (breeding)	1,400,000	14,000	I
Iceland/Western Europe (breeding)	1,300,000	13,000	I

Numbers and distribution in January 1995 and 1996

Taxonomic treatment of *Larus argentatus/cachinnans/armenicus* is problematical, and there is a possibility that the recording of each species/sub-species in a country depends on the opinion of individual national coordinators about the specific or sub-specific treatment of the group. All counts of *argentatus* in the Black Sea/East Mediterranean and Southwest Asia areas have been included in the totals as *cachinnans.*

Overall regional totals were 280,559 in 1995 and 297,375 in 1996 and a majority of birds were counted in Northwest Europe (Table 22). The highest national totals were recorded in The Netherlands where 125,444 Herring Gulls were counted in 1995 and 110,817 in 1996. The other outstandingly high national totals were recorded in France (52,010 in 1995 and 77,998 in 1996) and the UK, (64,035 in 1995 and 71,928 in 1996). Cold weather in 1996 would appear to have caused a reduction in the number of birds counted in The Netherlands, and an increase in counts in France and the UK which more than compensated for this. Totals in the Baltic/Nordic area declined from 32,103 in 1995 to 25,933 in 1996. Poland recorded the highest totals in this area, 12,953 in 1995 and 14,706 in 1996.

Further south, smaller numbers of Herring Gulls were recorded. In the West Mediterranean area, only Mediterranean France recorded appreciable numbers, 4,516 in 1995, and in Central Europe, the highest national total was just 336 in Hungary in 1996.

Yellow-legged Gull
Larus cachinnans

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Black Sea/Caspian/ SW Asia (*cachinnans*)	25,000–1,000,000		
Mediterranean (*michahellis*)	350,000	3,500	I

Numbers and distribution in January 1995 and 1996

Yellow-legged Gulls were mainly recorded in the Mediterranean basin and Southwest Asia and the overall regional totals were 181,516 in 1995 and 171,634 in 1996 (Table 22). The highest national totals, 47,264 in 1995 and 45,463 in 1996 were counted in Italy, and Mediterranean France recorded totals at about half these levels. Counts in the Black Sea/East Mediterranean area were lower, and Greece (17,455 in 1995, 15,314 in 1996) Israel (7,206 in 1995, 11,244 in 1996), Bulgaria (7,519 in 1995, 11,185 in 1996), Romania (6,136 in 1995), and Turkey (6,485 in 1995, 7,669 in 1996) recorded the highest national totals. Counts in Cyprus and Albania totalled less than 1,000.

In Southwest Asia, the highest national totals, 35,872 in 1995 and 27,948 in 1996 were recorded in Oman, and in the United Arab Emirates, a total of 17,243 in 1995 declined to 7,551 in 1996. In Turkmenistan in 1996, 10,315 Yellow-legged Gulls were counted and the Saudi total in 1996 was 1,677. Yesou and Hirschfield (1997) summarised current knowledge of the forms of *fuscus – cachinnans – argentatus* wintering in Bahrain but concluded that "field identification remains a challenge for both birdwatchers and trained ornithologists". *Cachinnans* predominated around the Upper Gulf in the winters of 1987–88 and 1990–91, arriving in December (Bourne 1996). No *armenicus* were recorded by IWC counts in 1995 or 1996.

Numbers counted in Northwest and Central Europe were relatively small, with 694 and 828 in France and two and 17 in The Netherlands in 1995 and 1996 respectively, and 413 and 502 in Austria.

Iceland Gull
Larus glaucoides

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Greenland/N Atlantic	25,000–1,000,000

Numbers and distribution in January 1995 and 1996

This is a scarce winter visitor from Greenland to northern Europe, where totals of nine and four were recorded in the UK, two and two in Ireland and one and one in The Netherlands, in 1995 and 1996 respectively (Table 19).

Glaucous Gull
Larus hyperboreus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Northern Atlantic	200,000	2,000	S

Numbers and distribution in January 1995 and 1996

The UK recorded the highest numbers of this scarce visitor from the north, with nine in 1995 and 15 in 1996. Even smaller numbers were counted in The Netherlands, Ireland and France (Table 19).

Great Black-backed Gull
Larus marinus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Northeastern Atlantic (breeding)	480,000	4,800	I

Numbers and distribution in January 1995 and 1996

Overall regional totals were 25,803 in 1995 and 23,884 in 1996, and more than 90% were counted in Northwest Europe in both seasons (Table 22). The highest numbers were recorded in the UK, with 11,471 in 1995 and 11,438 in 1996. Equivalent totals in The Netherlands were 7,027 and 6,674, France, 3,017 and 2,952 and Ireland 2,233 and 1,449. In The Baltic/Nordic area, Poland recorded the highest national totals of Great Black-backed Gulls, 942 in 1995 and 828 in 1996. Lower numbers remained in Denmark, Latvia and Estonia and there was evidence of reductions in numbers in all these countries which were probably related to colder weather in 1996.

Black-legged Kittiwake
Rissa tridactyla

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
E Atlantic (breeding)	8,400,000	20,000
Greenland (breeding)	500,000	5,000

Numbers and distribution in January 1995 and 1996

Kittiwakes are mainly pelagic outside the breeding season and few are counted. Inshore records are often the result of events such as storms at sea, or unusual concentrations of food. Three-figure totals were recorded in Ireland, the UK and France, and smaller numbers in The Netherlands (Table 19).

Gull-billed Tern
Sterna nilotica

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Europe/ W Africa	12,000	120	D
Black Sea/ E Med (breeding)	15,000–25,000	200	
SW Asia (wintering)	10,000–25,000		

Numbers and distribution in January 1995 and 1996

The highest national total of Gull-billed Terns, 684, was recorded in Saudi Arabia in 1995, and the 1996 count was 173. The 1996 count in the United Arab Emirates was 175, and double or single-figure totals were counted in Oman, Iran and Qatar (Table 20).

Caspian Tern
Sterna caspia

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
Europe (breeding)	5,000–7,000	60	D
Caspian (breeding)	10,000	100	D

Numbers and distribution in January 1995 and 1996

The highest numbers were counted in Morocco (938 in 1995) (Table 21). Three-figure totals of Caspian Terns were also recorded in Oman (521 in 1995, 355 in 1996), Saudi Arabia (199 in 1995, 247 in 1996) and Iran (200 in 1995) (Table 20). Smaller numbers were recorded in the United Arab Emirates and Qatar. National totals between one and 18 were also recorded in Greece, Albania, Turkey, Israel and Italy.

Great Crested Tern
Sterna bergii

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
NE Africa/SW and S Asia	40,000	400	D

Numbers and distribution in January 1995 and 1996

This species is considered to be threatened in Arabia (Hornby and Aspinall 1997). The only relatively high national totals were counted in Oman, where 4,883 Great Crested Terns were recorded in 1995 and 4,735 in 1996. There were 98 in Saudi Arabia in 1995 and 197 in 1996. Corresponding figures in Qatar were 24 and two, and in the United Arab Emirates, 12 and seven (Table 20).

Lesser Crested Tern
Sterna bengalensis

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Gulf/S Asia (breeding)	60,000	600
Red Sea/E Africa	25,000–100,000	
S Med/NW and W Africa coasts	4,000	40

Numbers and distribution in January 1995 and 1996

All records came from Southwest Asia, where the overall totals were 5,193 in 1995 and 2,820 in 1996 (Table 20). The highest national totals of Lesser Crested Terns were recorded in Saudi Arabia, where 1,940 were counted in 1995, and 1,962 in 1996. Consistent national totals were also recorded in Oman, where 664 and 670 were counted in 1995 and 1996 respectively. There were decreases in counts in Qatar, from 1,500 in 1995 to 111 in 1996 and in the United Arab Emirates, from 677 to 77. The picture was completed by counts of 410 in Iran and two in Morocco in 1995.

Sandwich Tern
Sterna sandvicensis

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W Europe/W Africa	150,000	1,500	I
Black Sea/Med (breeding)	130,000	1,300	
SW/S Asia (wintering)	110,000	1,100	

Numbers and distribution in January 1995 and 1996

An overall regional total of 8,979 Sandwich Terns in 1995 decreased in 1996 to 8,334 (Table 22). As with many species of tern, the highest national totals were recorded in Southwest Asia, where an increase in counts in Oman from 2,136 in 1995 to 5,664 in 1996 compensated for declines in the United Arab Emirates from 2,495 to 46, and Qatar from 1,595 to 393 in 1996. Counts also increased in Saudi Arabia, from 15 in 1995 to 509 in 1996, and a single bird was seen in Iran in 1995.

In the West Mediterranean area, Morocco recorded the highest national total, 1,106 in 1995, and counts of 738 and 830 were made in Italy, and 160 and 107 in Mediterranean France in 1995 and 1996 respectively. National totals in the Black Sea/East Mediterranean area were lower, with counts in Greece of 265 in 1995 and 451 in 1996, and in Albania of 314 in 1995 and 147 in 1996 being the highest. Single or double-figure totals were also recorded in Turkey, Israel, Cyprus and Croatia.

Small numbers of Sandwich Terns winter in Northwest Europe, where 86 were counted in France in 1995 and 127 in 1996, and corresponding totals for The Netherlands were six and four.

Common Tern
Sterna hirundo

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Southern/Western Europe (breeding)	180,000	1,800
Northern/Eastern Europe (breeding)	600,000	6,000

Numbers and distribution in January 1995 and 1996

Totals of 71 Common Terns in Oman and 11 in Israel were recorded in 1995, and 23 in Oman and five in the United Arab Emirates in 1996 (Table 20).

Arctic Tern
Sterna paradisea

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*
Arctic (breeding)	>1,000,000

Numbers and distribution in January 1995 and 1996

Arctic Terns perform the longest migrations of any bird species and are very scarce in the Northern Hemisphere in January. Counts totalled five in Morocco and one in France in 1995, and four in Italy and two in Qatar in 1996.

White-cheeked Tern
Sterna repressa

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
W S Asia/Red Sea/Gulf/E Africa	600,000	6,000	D

Numbers and distribution in January 1995 and 1996

Counts were confined to the Persian/Arabian Gulf where 390 White-cheeked Terns were counted in the United Arab Emirates and 14 in Oman in 1995, and 100 in Oman in 1996.

Bridled Tern
Sterna anaethetus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Red Sea/Gulf (breeding) (*juligula*)	150,000	1,500

Numbers and distribution in January 1995 and 1996

Bridled Terns were only recorded in Iran, where 12 were counted in 1995.

Little Tern
Sterna albifrons

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
E Atlantic (breeding)	34,000	340	D
Black Sea/E Med (breeding)	40,000–80,000	600	
Caspian (breeding)	10,000–25,000		

Numbers and distribution in January 1995 and 1996

Nearly all Little Terns migrate out of the region in the non-breeding season, and just 32 were counted in Morocco and 17 in Iran in 1995 (Tables 20 and 21).

Saunders' Tern
Sterna saundersi

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
W Asia/Gulf/Red Sea/E Africa	40,000	400

Numbers and distribution in January 1995 and 1996

Records were restricted to the Arabian Peninsula where 1,082 were counted in 1995 and 749 in 1996 (Table 20). The highest national total, 510 in Oman in 1995, decreased to 91 in 1996, but there was an increase in the neighbouring United Arab Emirates from 167 to 307. Totals in Saudi Arabia were more consistent, 381 in 1995 and 349 in 1996, and corresponding figures in Qatar were seven and two.

Whiskered Tern
Chlidonias hybridus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
W Eur/W Med NW Africa (breeding)	20,000–30,000	250
Black Sea/E Med (breeding)	50,000–80,000	750
Caspian (breeding)	25,000–100,000	

Numbers and distribution in January 1995 and 1996

There is a wintering area in Iran, where 226 Whiskered Terns were counted in 1995. Additional birds were recorded wintering in Saudi Arabia (56 in 1995, 184 in 1996), Oman (40 in 1995, 23 in 1996), the United Arab Emirates (49 in 1995, six in 1996) and Azerbaijan (10 in 1996) (Table 20).

In the Mediterranean basin, 99 were counted in Mediterranean France and two in Italy in 1995, and 58 in France and one in Italy in 1996 (Table 21). A total of 40 was counted in Yugoslavia in 1996 (three in 1995) and an additional six were counted in Israel in 1995 and two in Albania in 1996 (Table 18).

Black Tern
Chlidonias niger

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*
Europe/Asia (breeding)	200,000	2,000

Numbers and distribution in January 1995 and 1996

Most Eurasian birds winter on the coast of tropical West Africa (Cramp 1985), and in 1995 eight were recorded in Mediterranean France and single birds were seen in each of Albania, Greece, Italy and Romania. In 1996 there was just one record, of a single bird in Italy.

White-winged Black Tern
Chlidonias leucopterus

Recognised Populations (Rose and Scott 1997)

Population	*Estimate*	*1% Threshold*	*Status*
E Europe/ W Asia/ Africa	200,000–250,000	2,300	D

Numbers and distribution in January 1995 and 1996

Totals of eight were recorded in Israel, four in Oman and two in the United Arab Emirates in 1995, and 28 in Oman in 1996.

References

Adriaensen, F., Ulenaers, P. and Dhondt, A.A. 1993. Ringing recoveries and the increase in numbers of European Great Crested Grebes *Podiceps cristatus. Ardea* 81: 59–70.

Al-Robaae, K.H. 1996. Status of migratory Anatidae in Iraq. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 275–284.

Anonymous, 1998. "Disturbance for Dalmatian Pelican". *World Birdwatch* 20, 2 June 1998, P. 5.

Ardamatskaya, T.B. and Korzyukov, A.I. 1991. Numbers and distribution of Mute Swans *Cygnus olor*, Whooper swans *Cygnus cygnus*, and Bewick's Swans *Cygnus bewickii* in the Black Sea area of the Ukraine, USSR. In: Sears, J. and Bacon, P.J. (eds.) *Proceedings of the Third IWRB International Swan Symposium, Oxford, 1989. Wildfowl Special Supplement No. 1*: 53–55.

Arihan, O. 1998. Recent information on the occurrence of the Northern Bald Ibis *Geronticus eremita* in Turkey. *Turna* 1: 10–15.

Arvidsson, B. 1987. Sangsvanens *Cygnus cygnus* utbredning och populationsstorlek i Sverige. *Var Fagelvarld* 46: 248–255.

Atkinson-Willes, G.L. and Frith, J.C. 1965. Trends in the population of British wintering ducks., 1961–64. *Wildfowl Trust Annual Report* 16: 21–29.

Atkinson-Willes, G.L. 1976. The numerical distribution of ducks, swans and coots as a guide in assessing the importance of wetlands in mid-winter. Pp. 199–255. In: Smart, M. (ed.) Proc. Int. Conf. on the Conservation of Wetlands and Waterfowl, Heiligenhafen. IWRB Slimbridge, 492 pp.

Atkinson-Willes, G.L. 1978. The numbers and distribution of sea ducks in north west Europe, January 1967–73. In: Andersson, A. and Fredga, S. (eds.) *Proc. Symp. on Sea Ducks, June 16–17 1975, Stockholm, Sweden*: 28–67. National Swedish Environment Protection Board and IWRB.

Atkinson-Willes, G.L. 1981. The numerical distribution and conservation requirements of swans in north-west Europe. In: Matthews, G.V.T. and Smart, M. (eds.) *Proc. IInd Int. Swan Symposium, Sapporo*: 40–49. IWRB Slimbridge.

Aubrecht, G. and Winkler, H. 1997. *Analyse der Internationalen Wasservogelzählungen (IWC) in Österreich 1970–1995 – trends und Bestände.* (Analysis of the international waterbird census (IWC) in Austria 1970–1995 – trends and numbers). Österreichische Akademie der Wissenschafen.

Aubrecht, G., Dick, G. and Prentice, C. (eds.) 1994. Monitoring of Ecological Change in Wetlands of Middle Europe. Proc. Int. Workshop, Linz, Austria, 1993. Stapfia 31, Linz, Austria, and IWRB Publication No. 30, Slimbridge, UK.

Baillie, S.M., Clark, N.A. and Ogilvie, M.A. 1986. Cold weather movements of waterfowl and waders: an analysis of ringing recoveries. *Nature Conservancy Council, CSD Report* No. 650.

Beekman, J.H., Rees, E.C. and Bacon, P. 1994. Bewick's Swan *Cygnus columbianus*. In: Tucker, G.M. and Heath, M.F. (eds.) *Birds in Europe: their Conservation Status*. Birdlife International, Cambridge, UK (Birdlife Conservation Series No. 3).

Beekman, J.H., van Eerden, M.R., Mineyev, Yu.N., Luigujoe, L. and den Hollander, H.J. (1996) Landsat satellite images for detection of submerged macrophytes: in search of potential stop-over feeding sites for Bewick's Swans (*Cygnus columbianus bewickii*) along their migratory route. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Troillet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994. Gibier Faune Sauvage, Game Wildlife* 13: 421–450.

Beekman, J.H. 1997. International censuses of the northwest European Bewick's Swan population, January 1990 and 1995. *Swan Specialist Group Newsletter No. 6*, pp. 7–9.

Behrouzi-Rad, B. 1996. Threatened Anatidae species in Iran. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 815–830.

Bell, D.V. and Fox, P.J.A. 1991. *Shooting disturbance: an assessment of its impact and effects on overwintering waterfowl populations and their distribution in the United Kingdom*. NCC Chief Science Directorate Report No. 1242, Peterborough.

Bell, M.C., Delany, S.N., Millett, M.C. and Pollitt, M.S. 1997. Wintering waterfowl community structure and the characteristics of gravel pit lakes. *Wildlife Biology* 3:2: 65–78.

Bezzel, E. 1995: Neue Ergebnisse über die Dynamik der Rastbestände des Kormorans (*Phalacrocorax carbo*) in Südbayern. *Garmischer vogelkdl. Ber*. 24: 16–23.

Biber, O., Enggist, P., Marti, C. and Salathé, T. (eds). 1995. *Proceedings of the International Symposium on the White Stork (Western Population), Basel 1994.* Schweizerische Vogelwarte, Sempach, Switzerland.

Bibby, C.J., Burgess, N.D. and Hill, D.A. 1992. *Bird Census Techniques*. RSPB/BTO.

Bino, Y., Tourenc, C., Kyser, Y., Busuttil, S., Crozier, J., Dore, B.J. and Bego, F. 1996. *Recensement des oiseaux d'eau hivernants en Albanie, 14–31 Janvier 1996.* Station Biologique de la Tour du Valat, France and Museum of Natural Sciences, Tirana. 102pp.

Birkhead, M. and Perrins, C. 1986. *The Mute Swan*. Croom Helm, London.

Blanco, D.E. and Canevari, P. 1996. The Neotropical Waterbird Census: Evaluation of the first five years. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.,13: 221–226.

Blomert, A-M., Ens, B.J., Goss-Custard, J.D., Hulscher, J.B. and Zwarts, L. (eds.) 1996. Oystercatchers and their estuarine Food Supplies. *Ardea* 84A: 538 pp.

Boele, A., van Roomen, M. and van Winden, E. 1996. *Midwintertelling van Watervogels in Nederland, januari 1995.* SOVON monitoringrapport 96/05, RIZA-rapport BM95.28, IKC Natuurbeheer coproductie 11. SOVON, Beek-Ubbergen.

Bouare, S. 1994. L'impact des crues sur l'avifaune dans le delta interieur du fleuve Niger-Mali. *Proceedings of a workshop, 2–5 November 1994, La Tapoa/Parc du W, Niger*. P. Kristensen (ed.) IUCN Niger.

Bourne, W.R.P. 1996. The larger white-headed gulls wintering around the southern coasts of Asia. *Sea Swallow* 45: 86–91.

Bourne, W.R.P. 1997. Phalaropes in the Arabian Sea and Gulf of Oman. *Oman Bird News* 20:5–6.

Bowden, C. 1998. Last chance for the Northern Bald Ibis. *World Birdwatch* 20 (2): 12–16.

Boyd, H. and Madsen, J. 1997. Impacts of Global Change on Arctic-Breeding Bird Populations and Migration. In: Oechel, W.C., Callaghan, T., Gilmanov, T., Holten, J.I., Maxwell, B., Molau, U. and Sveinbjornsson, B. *Global Change and Arctic Terrestrial Ecosystems*: 201–215. Springer Verlag, New York.

Callaghan, D.A. (compiler) 1999. European Union Species Action Plan: Ferruginous Duck (*Aythya nyroca*). Council of Europe Publication T-PVS/Birds (99) 2, Strasbourg.

Cayford, J.T. and Waters, R. J. 1996. Population estimates for waders *Charadrii* wintering in Great Britain 1987/88 – 1991/92*. Biol Conserv*. 77: 7–17.

Colhoun, K. *I-WeBS Report 1996–97: results of the third winter of the Irish Wetland Bird Survey*. BirdWatch, Ireland, Dublin.

Collar, N.J., Crosby, M.J. and Stattersfield, A.J. 1994. Birds to Watch 2: The World List of Threatened Birds. BirdLife International, Cambridge.

Costa, L.T. and Guedes, R.S. 1996. *Contagens de Anatídeos Invernantes em Portugal Continental. Invernos de 1993/94 a 1995/96.* Estudos de Biologia e Conservação da Natureza 20, Instituto da Conservação da Natureza, Lisboa.

Costa, L.T. and Rufino, R. 1996. Contagem de aves aquáticas – Janeiro de 1996. (Mid-winter waterfowl counts – January 1996)*. Airo,* 7: 69–76.

Cramp, S. and Simmons, K.E.L. (eds.) 1977. *Birds of the Western Palearctic*. Volume 1. Oxford University Press.

Cramp, S. and Simmons, K.E.L. (eds.) 1983. *Birds of the Western Palearctic*. Volume 3. Oxford University Press.

Cramp, S. (ed.) 1985. *Birds of the Western Palearctic*. Volume 4. Oxford University Press.

Cranswick, P.A., Bowler, J.M., Delany, S.N., Einarsson, O., Gardarsson, A., McElwaine, J.G., Merne, O.J., Rees, E.C. and Wells, J.H. 1996. Numbers of Whooper Swans *Cygnus cygnus* in Iceland, Ireland and Britain in January 1995: results of the international Whooper Swan census. *Wildfowl* 47: 17–30.

Cranswick, P.A., Waters, R.J., Musgrove, A. J. and Pollitt, M.S. 1997*. The Wetland Bird Survey 1995–96: Wildfowl and Wader Counts.* BTO/WWT/RSPB/JNCC, Slimbridge.

Crawford, T.J. 1991. The calculation of index numbers from wildlife monitoring data. In: F.B. Goldsmith (ed.) *Monitoring for conservation and ecology*. Chapman and Hall, London.

Crivelli, A.J., Hatzilacou, D., and Catsadorakis, G. 1998. The breeding biology of the Dalmatian Pelican *Pelecanus crispus. Ibis* 140: 472–481.

Cummins, M.A.L. 1996. Winter Waterfowl Count – 1996. *Oman Bird News* 19: 5–6.

Cyprus Ornithological Society Annual Reports (Feb 1996 and 1997).

Davidson, N.C. and Evans, P.R. 1982. Mortality of redshanks and oystercatchers from starvation during severe weather*. Bird Study* 29: 183–188.

Davidson, N.C. and Evans, P.R. 1985. Implications for nature conservation of the proposed Felixstowe Dock expansion. Unpublished report to the Nature Conservancy Council.

Davidson, N.C., Laffoley, D. d'A., Doody, J.P., Way, L.S., Gordon, J., Key, R., Drake, C.M., Pienkowski, M.W., Mitchell, R. and Duff, K.L. 1991. *Nature Conservation and estuaries in Great Britain*. Nature Conservancy Council, Peterborough.

Debout, G., Rov, N. and Sellers, R.M. 1995. Status and population development of Cormorants *Phalacrocorax carbo carbo* breeding on the Atlantic coast of Europe. *Ardea* 83: 47–59.

Deceuninck, B. 1997. *Synthese des denombrements de canards et foulques hivernant en France 1967–1995*. Rapport de fin de contrat rédigé à la demande du ministère de l'Environnement de la Nature et des Paysages. Ligue pour la protection des Oiseaux, Rochefort.

Deceuninck, B., Maillet, N., Maheo, R., Kerautret, L. and Riols, C. 1996. Denombrements de canards et de foulques hivernant en France, Janvier 1995. *Ornithos* 3 (1): 2–10.

Deceuninck, B., Maillet, N., Maheo, R., Kerautret, L. and Riols, C. 1997. *Denombrements de cygnes, oies, canards et foulques hivernant en France, Janvier 1996*. Ligue pour la protection des Oiseaux, Rochefort.

Delany, S.N. 1993. Introduced and escaped geese in Britain in summer 1991. *British Birds* 86: 591–599.

Delany, S.N. 1996. *I-WeBS Report 1994–95: Results from the first winter of the Irish Wetland Bird Survey.* IWC BirdWatch Ireland, Dublin.

Delany, S.N. 1997. *I-WeBS Report 1995–96: Results from the second season of the Irish Wetland Bird Survey.* IWC BirdWatch Ireland, Dublin.

Delany, S., Greenwood, J.J.D. and Kirby, J. 1992. National Mute Swan Survey in Britain, 1991. Unpubl. Report to the JNCC. 26 pp.

Devos, K., Meire, P., Ysebaert, T. and Kuijken, E. 1997. *Watervogels in Vlaanderen tijdens het winterhalfjaar 1995/96*. Rapport Instituut voor Natuurbehoud 97/19. Brussels.

D.H.K.D. 1996. *International Waterfowl Census, Turkey 1996*. DHKD Bird and Wetland Section Report No. 9., Istanbul.

Dirksen, S. and Beekman, J.H. 1991. Population size, breeding success and distribution of Bewick's Swans *Cygnus columbianus bewickii* wintering in Europe in 1986–97. In: Sears, J. and Bacon, P.J. (eds.) *Proceedings of the Third IWRB International Swan Symposium, Oxford 1989. Wildfowl Special Supplement No. 1. 120–124.*

Dodman, T. and Taylor, V. 1995. *African Waterfowl Census, 1995*. IWRB Slimbridge.

Dodman, T. and Taylor, V. 1996. *African Waterfowl Census, 1996*. Wetlands International, Wageningen.

Dodman, T., de Vaan, C., Hubert, E. and Nivet, C. 1997. *African Waterfowl Census, 1997*. Wetlands International, Wageningen.

Ebbinge, B.S. 1985. Factors determining the population size of Arctic breeding geese wintering in Western Europe. *Ardea* 73: 121–128.

van Eerden, M.R. 1977. Vorstvlucht van watervogels door het oostelijk deel van de Nederlandse Waddenzee op 30 December 1976. *Watervogels* 2: 11–14.

van Eerden, M.R., Koffijberg, K. and Platteeuw, M. 1995. Riding on the crest of the wave: possibilities and limitations for a thriving population of migratory Cormorants *Phalacrocorax carbo* in man-dominated wetlands. *Ardea* 83: 1–11.

El Agbani, M.A. 1996. L'hivernage des Anatidae au Maroc (1990–1994). In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 233–250.

Elliot, C.C.H., Waltner, M., Underhill, L.G., Pringle, J.S., and Dick, W.J.A. 1976. The migration system of the Curlew Sandpiper *Calidris ferruginea* in Africa*. Ostrich*, 47: 191–213.

Emirates Bird Reports, Nos. 18 and 19. 1996 and 1997.

Ens, B.J., Goss-Custard, J.D. and Weber, T.P. 1996. Effects of climate change on bird migration strategies along the East Atlantic Flyway. Research Report 96/1. IBN-DLO Wageningen, The Netherlands.

Evans, M.I. 1994. *Important Bird Areas in the Middle East*. BirdLife International, Cambridge, 410 pp.

Faanes, C.A. and Bystrak, D. 1981. The role of observer bias in the North American Breeding Bird Survey. *Studies in Avian Biology* 6: 353–359.

Faragó, S. 1995. *Geese in Hungary 1986–1991: numbers, migration and hunting bags*. IWRB Publication 36, Slimbridge.

Finlayson, C.M., Hollis, G.E. and Davis, T.J. (eds.) *Managing Mediterranean Wetlands and their Birds*. Proc. Symp., Grado, Italy, 1991. IWRB Spec. Publ. No. 20*,* Slimbridge, U.K., 285pp.

Fox, A.D., Jones, T., Singleton, R. and Agnew, A.D.Q. 1994. Food supply and the effects of recreational disturbance on the abundance and distribution of wintering Pochard on a gravel pit complex in southern Britain. *Hydrobiologia* 279–280: 253–261.

Frazier, S. 1999. *Ramsar Sites Overview.* Ramsar Convention Bureau, Gland, Switzerland.

Gardarsson, A. 1991. Movements of Whooper Swans *Cygnus cygnus* neckbanded in Iceland. In: Sears, J. and Bacon, P.J. (eds.) *Proceedings of the Third IWRB International Swan Symposium, Oxford 1989. Wildfowl Special Supplement No. 1. 189–194.*

Garrido, H. and Mañez, M. 1996. L'erismature rousse (*Oxyura jamaicensis*) au Maroc. Porphyrio 8: 1–17.

Gistsov, A.P. and Auezov, A. 1996. *Anatidae* numbers on the Caspian Sea shores. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 319–326.

Gjiknuri, L. and Peja, N. 1992. Albanian Lagoons: their importance and economic development. In: Finlayson, C.M., Hollis, G.E. and Davis, T.J. (eds.) *Managing Mediterranean Wetlands and their Birds*. Proc. Symp., Grado, Italy, 1991. IWRB Spec. Publ. No. 20*,* Slimbridge, U.K., 285pp.

G.O.B. 1996. Annuari ornitològic de Les Balears, 1995. Vol. 9.

G.O.B. 1997. Annuari ornitològic de Les Balears, 1996. Vol. 10.

Goss-Custard, J.D. (ed.) 1996. The Oystercatcher: from individuals to populations. Oxford University Press.

Goss-Custard, J.D., Caldow, R.W.G., Clarke, R.T., Durrell, S.E.A. le V., Urfi, A.J. and West, A.D. 1995. Consequences of habitat loss and change to populations of wintering migratory birds: predicting the local and global effects from studies of individuals. *Ibis* 137: 56–66.

Goss-Custard, J.D., Rufino, R. and Luis, A. (eds.) 1997. *Effect of habitat loss and change on waterbirds*. Proceedings of 10th International Waterfowl Ecology Symposium, Aveiro, Portugal, September 1995. Wetlands International Publication no. 42; ITE Symposium no. 30.

Green, A.J. 1993. The Status and Conservation of the Marbled Teal *(Marmaronetta angustirostris).* IWRB Special Publication No. 23. Slimbridge. 107 pp.

Green, A.J. and Anstey, S. 1992. The Status of the White-headed Duck, *Oxyura leucocephala*. Bird Conservation International 2:185–200.

Green, A.J. and Hughes, B. 1995. Action Plan for the White Headed Duck *Oxyura leucocephala.* Unpublished Report, WWT, Slimbridge.

Green, A.J. and Yarar, M. 1996. Rapid decline of White-headed Ducks at Burdur Lake, Turkey. *TWSG News* 9: 16–18.

Green, A.J. and El Hamouzi, M. 1998. *Threatened waterbirds in Morocco: surveys in October 1997*; *a preliminary report*. Unpublished Report.

Grimmett, R.F.A. and Jones, T.A. 1989. *Important Bird Areas in Europe*. ICBP Technical Publication No. 9., Cambridge.

Grobler, H.J.W. 1998. Winter waterfowl Count 1997. *Oman Bird News 21*: 13–16.

Hagemeijer, E.J.M. (ed.) 1994. *Wintering waterbirds in the coastal wetlands of Albania, 1993*. WIWO Report 49, Zeist.

Hagemeijer, E.J.M. and Blair M.J. (eds.) 1997. *The EBCC Atlas of European Breeding Birds, their distribution and abundance*. Poyser, London.

Handrinos, G.I. 1992. Wetland loss and wintering waterfowl in Greece during the 20th Century; a first approach. Pp 183–188 In: Finlayson, C.M., Hollis, G.E. and Davis, T.J. (eds.) *Managing Mediterranean Wetlands and their Birds. Proc. Symp. Grado, Italy, 1991*. IWRB Spec. Publ. No. 20, Slimbridge. 285 pp.

Handrinos, G.I. 1995. White-headed Duck in Greece. *TWRG Newsletter* 7: 6–7.

Harengard, M., Kölsch, G. and Küsters, K. 1990. Dokumentation der Scwimmvogelzählung in der Bundesrepublik Deutchland 1966–1986. *Schriftenreihe des Dachverbandes Deutscher Avifaunisten* 11: 1–179*.*

Hauge, K.O. 1990. Landsomfattende svanetelling vinteren 1987/88, Sangsvane *C. cygnus*, Knoppsvane *C. olor* og Dvergsvane *C. c. bewickii*. *Fauna norv. Ser. C. Cinclus* 13: 65–73.

van der Have, T.M., Baccetti, N., Keijl, G.O. and Zenatello, M. (eds.) 1997. *Waterbirds in Kneiss, Tunisia, February 1994*. WIWO report 54. WIWO, Zeist.

Hayes, J.P. and Steidl, R.J. 1997. Statistical power analysis and amphibian population trends. *Conservation Biology* (11) 1: 273–275.

Hayman, P., Marchant, J. and Prater, A. 1986*. Shorebirds: An identification guide to the waders of the world*. Christopher Helm, London.

Hecker, N. 1994. Ferruginous Duck. Pp. 67–103 in: van Vessem, J. (ed.) *Actions to prevent avoidable mortality for threatened waterbirds in the European Community*. IWRB, Slimbridge.

Heredia, B., Rose, L. and Painter, M. (eds.) 1996. *Globally threatened birds in Europe: Action plans*. BirdLife International, Council of Europe, Strasbourg, France.

Hollis, G.E. 1992. The Causes of Wetland Loss and Degradation in the Mediterranean. In: Finlayson, C.M., Hollis, G.E. and Davis, T.J. (eds.) *Managing Mediterranean Wetlands and their Birds*. Proc. Symp., Grado, Italy, 1991. IWRB Spec. Publ. No. 20, Slimbridge, U.K., 285pp.

Holmes, J.S. and Simons, J.R. 1996. *The introduction and naturalisation of birds*. HMSO, London.

Hornby, R. and Aspinall, S. 1997. A Red Data List for the birds of the United Arab Emirates. *Sandgrouse* 19 (2): 102–110.

Hughes, B. 1996. The Ruddy Duck and the threat to the White-headed Duck. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 1127–1143.

Hughes, B. and Grussu, M. 1994. The Ruddy Duck (*Oxyura jamaicensis*) in the United Kingdom: distribution, monitoring, current research and implications for European colonisation. *Oxyura* 7: 29–47.

Hughes, B., Underhill, M. and Delany, S. 1998. Ruddy Ducks breeding in the United Kingdom in 1994. *British Birds* 91: 336–353.

Hutchinson, C.D. 1979. *Ireland's Wetlands and their Birds*. IWC Dublin.

IPCC (Intergovernmental Panel on Climate Change) 1996. *Climate Change 1995 – The Science of Climate Change*. Cambridge.

Interim Secretariat for the African Eurasian Waterbird Agreement. 1997. *The African Eurasian Migratory Waterbird Agreement (AEWA) – Agreement Text with Action Plan.* The Hague. 52 pp.

IUCN 1996. *IUCN Red List of Threatened Animals*. IUCN, Gland, Switzerland.

Jacob, J.P. and Loly, P. 1996. Recensements hivernaux des oiseaux d'eau en Wallonie et dans le centre du Brabant: 1995–96. *Aves* 33: 93–106.

Jones, T.A. and Hughes, J.M.R. 1993. Wetland inventories and wetland loss studies – a European perspective. Pp. 164–169 In: Moser, M., Prentice, R.C. and van Vessem, J. (eds.) *Waterfowl and wetland conservation in the 1990s – a global perspective.* Proc. IWRB Symp., St Petersburg Beach, Florida, USA. IWRB Special Publication No. 26, Slimbridge, UK.

Kayser, Y., Bino, T. and Gauthier-Clerc M. 1995. *Recensement des oiseaux d'eau hivernantes en Albanie, 17 Janvier – 7 Fevrier 1995.* Station Biologique de la Tour du Valat, France. Internal report, 79 pp.

Keller, V. 1999. *Verbreitung und Bestandsentwicklung der Kolbenente* Netta rufina *ausserhalb der Brutzeit*. [Distribution and development of the southwest European population of the red-crested pochard *Netta rufina* outside the breeding season]. Report to the Swiss Agency for the Environment, Forests and Landscape, Federal Forest Agency, Section for Hunting and Wildlife Biology.

Kershaw, M., Pettifor, R. and Quinn, J. 1996. Site-specific changes in waterfowl populations on European wetland sites with particular reference to Important Bird Areas. WWT Report to IWRB and RSPB. WWT, Slimbridge.

Kirby, J.S. 1995. Winter population estimates for selected waterfowl species in Britain. *Biological Conservation* 73: 189–198.

Kirby, J.S., Rees, E.C., Merne, O.J. and Gardarsson, A. 1992. International census of Whooper Swans *C. cygnus* in Britain, Ireland and Iceland: January 1991. *Wildfowl* 43: 20–26.

Kirby, J.S., Delany, S. and Quinn, J. 1994. Mute Swans in Great Britain: a review, current status and long-term trends. *Hydrobiologia* 279/280: 467–482.

Kirby, J.S., Salmon, D.G., Atkinson-Willes, G.L. and Cranswick, P.A. 1995. Index numbers for waterbird populations III. Long-term trends in the abundance of wintering wildfowl in Great Britain, 1966/67 – 1991/92. *J. Appl. Ecol*. 32: 536–551.

Kirby, J.S. and Bell, M.C. 1996. Surveillance of non-breeding waterfowl populations: methods to trigger conservation action. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 493–512.

Kirwan G. 1998. Around the Region. *Sandgrouse* 20 (2): 158.

Koffijberg, K., Voslamber, B. and van Winden, E. 1997. *Ganzen en zwanen in Nederland: overzicht van pleisterplaatsen in de periode 1985–1994.* [*Geese and swans in The Netherlands. Overview of staging areas in 1985–1994*.] SOVON Vogelonderzoek, Beek-Ubbergen.

Koopman, F.H. 1995. Die Storchenstation "De Lokkerij" – ein erfolgreicher Wiederansiedlungsversuch in den Niederlanden 1981–1994. In: Biber, O., Enggist, P., Marti, C. and Salathé, T. (eds.): Proceedings of the International Symposium on the White Stork (Western Population), Basel 1994: 137–138.

Korzyukov, A.I., Koshelev, A.I. and Serebryakov, V.V. 1991. Recent status of Mute Swans *Cygnus olor* in the Ukraine. In: Sears, J. and Bacon, P.J. (eds.) *Proceedings of the Third IWRB International Swan Symposium, Oxford 1989. Wildfowl Special Supplement No. 1*: 49–52.

Kostadinova, I. (compiler) 1997. Important Bird Areas in Bulgaria. BSPB Conservation Series. Book 1. Sofia, Bulgaria.

Krivenko, V.G. 1996. Anatidae in the former USSR. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 303–318.

Krivonosov, G.A. 1991. The status and distribution of the Mute Swan *Cygnus olor* in the USSR: a review of recent censuses. In: Sears, J. and Bacon, P.J. (eds.) *Proceedings of the Third IWRB International Swan Symposium, Oxford 1989. Wildfowl Special Supplement No. 1.*: 33–38.

Kuresoo, A., Luigujoe, L., Lelleleht, V. and Leito, A. 1994. Midwinter waterfowl counts in Estonia, January 1993. *IWRB Seaduck Research Group Bulletin* 4: 11–15.

Kushlan, J.A. 1993. Waterbirds as bioindicators of

wetland change: are they a valuable tool? Pp. 48–55 In: Moser, M., Prentice, R.C. and van Vessem, J. (eds.) *Waterfowl and wetland conservation in the 1990s – a global perspective.* Proc. IWRB Symp., St Petersburg Beach, Florida, USA. IWRB Special Publication No. 26, Slimbridge, UK.

Laubek, B. 1995a. Udbredelse og faenologi hos rastende of overvintrende Sang- og Pibesvaner i Danmark 1991–93. *Dansk Orn. Foren. Tidsskr.* 89: 67–82.

Laubek, B. 1995b. Habitat use by Whooper Swans *Cygnus cygnus* and Bewick's Swans *Cygnus columbianus bewickii* wintering in Denmark: increasing agricultural conflicts. *Wildfowl* 46: 8–15.

Laubek, B. 1998. The Northwest European Whooper Swan (*Cygnus cygnus*) population: ecological and management aspects of an expanding waterfowl population. Ph.D. thesis, Institute of Biological Sciences, Aarhus University, Denmark.

Laubek, B., Knudsen, H.I. and Ohtonen, A. 1998. Breeding success of Whooper Swans *Cygnus cygnus* breeding in different regions of Finland. In: B. Laubek, Ph.D. thesis, Institute of Biological Sciences, Aarhus University, Denmark.

Laubek, B., Nilsson, L., Wieloch, M., Koffijberg, K., Sudfelt, C. and Follestad, A. In press. Distribution, number and habitat choice of the Northwest European Whooper Swan (*Cygnus cygnus*) population: results of an international Whooper Swan census January 1995*. Die Vogelwelt* 120.

Laursen, K., Hansen, E.B., Frikke, J., Madsen, J. and Pauli, T. 1987. Countrywide aerial survey of ducks and some seabirds in January/February 1987. Rep. Game Biol. Station (in Danish with English summary), 20 pp.

Laursen, K., Pihl, S., Durinck, J., Hansen, M., Skov, H. Frikke, J. and Danielsen, F. 1997. Numbers and Distribution of Waterbirds in Denmark 1987–1989. *Danish Review of Game Biology* 15(1): 1–184.

Lebedeva, E.A. and Butiev, V.T. 1998. Summer movements of waders in the Samur river delta: preliminary data and review of the problem for the Caspian Sea region. *International Wader Studies* 10: 395–402.

Leito, A. 1996. Status, numbers and distribution of geese in Estonia. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 367–380.

Link, W.A. and Sauer, J.R. 1997. Estimation of Population Trajectories from Count Data. *Biometrics* 53: 488–497.

Lopez A. and Mundkur, T. (eds.) 1997. *The Asian Waterfowl Census 1994–1996. Results of the Co-ordinated Waterbird Census and an Overview of the Status of Wetlands in Asia.* Wetlands International, Kuala Lumpur.

Luigujoe, L., Kuresoo, A., Keskpaik, J., Ader, A. and Leito, A. 1996. Migration and staging of the Bewick's Swan (*Cygnus columbianus bewickii*) in Estonia. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Troillet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994. Gibier Faune Sauvage, Game Wildlife* 13: 451–461.

Madsen, J. 1996. Status and trends of geese in the world. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994. Gibier Faune Sauvage, Game Wildl.*13: 337–354.

Madsen, J. 1998. Experimental refuges for migratory waterfowl in Danish wetlands. II. Tests of hunting disturbance effects. *Journal of Applied Ecology* 35: 398–417.

Madsen, J., Cracknell, G. and Fox, A. 1999. *Goose Populations of the Western Palearctic: A Review of Status and Distribution*. National Environment Research Institute, Denmark, and Wetlands International, Wageningen. Wetlands International Publication No. 48.

Magnin, G. and Yarar, M. 1997*. Important Bird Areas in Turkey*. Dogal Hayati Koruma Dernegi, Istanbul, Turkey.

Martí, R. and Ruiz, A. 1994. Compilación de los censos de aves acuáticas invernantes y nidificantes en España en los años 1991 y 1992. Madrid: Sociedad Española de Ornitología.

Matthews, G.V.T. 1967. The use of amateur workers in British studies of Bird Populations. *Finnish Game Research* 30: 197–201.

Meininger, P.L. 1995. *Ecologisch profiel van de Middelste Zaagbek* Mergus serrator*.* Rijksinstituut voor Kust en Zee, Middelburg.

Meininger, P.L. and Atta, G.A.M. (eds.) 1994. *Ornithological studies in Egyptian wetlands 1989/90*. FORE Report 94–01; WIWO Report 40, Vlissingen/Zeist.

Meininger, P.L., Wolf, P.A., Hadoud, D. and Essghaier, M. 1994. *Ornithological survey of the coast of Libya, July 1993.* WIWO Report 46, Zeist.

Meininger, P.L., Schekkerman, H. and van Roomen, M.W.J. 1995. Population estimates and 1% criteria for waterbird species occurring in The Netherlands: suggestions for standardisation. *Limosa* 68 (2): 41–48.

Meininger, P.L., Berrevoets, C.M. and Strucker, R.C.W. 1996. *Watervogels in de Zoute Delta 1994/95. Rapport RIKZ-96.009* Rijksinstituut voor Kust en Zee, Middelburg.

Meininger, P.L., Berrevoets, C.M. and Strucker, R.C.W. 1997. *Watervogels in de Zoute Delta 1995/96. Rapport RIKZ-97.001* Rijksinstituut voor Kust en Zee, Middelburg.

Meissner, W. 1994. Midwinter counts along the Polish coast of the Baltic, 1992 and 1993. *IWRB Seaduck Research Bulletin* 4: 26–30.

Meltofte, H., Blew, J., Frikke, J., Rösner, H.-U. and Smit, C.J. 1994. Numbers and distribution of waterbirds in the Wadden Sea. Results and evaluation of 36 simultaneous counts in the Dutch-German-Danish Wadden Sea 1980–1991. IWRB Publication No. 34 / Wader Study Group Bulletin No. 74, Special Issue.

Monval, J-Y. and Pirot, J-Y. 1989. Results of the IWRB International Waterfowl Census 1967–1986. *IWRB Special Publication No 8*. IWRB, Slimbridge.

Moser, M.E. 1987. A revision of population estimates for waders (Charadrii) wintering on the coastline of Britain. *Biological Conservation* 39: 153–164.

Mullie, W.C. and Poorter, E.P.R. 1977. Aantallen, verspreiding en terreinkeus van de Kleine Zwaan bij vijf landelijke tellingen in 1976 en 1977. *Watervogels* 2: 85–96.

Mundkur, T. and Taylor, V. 1993. *Asian Waterfowl Census 1993.* IWRB Slimbridge, AWB, Kuala Lumpur.

Munteanu, D. 1996. Anatidae populations in Romania after the 2nd World War. In: Birkan, M., van Vessem, J.,

Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds). *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 573–582.

Musi, F., Perco, F. and Utmar, P. 1992. Loss, Restoration and Management of Wetlands in Friuli-Venezia Giulia, Northeastern Italy. In: Finlayson, C.M., Hollis, G.E. and Davis, T.J. (eds.) *Managing Mediterranean Wetlands and their Birds*. Proc. Symp., Grado, Italy, 1991. IWRB Spec. Publ. No. 20*,* Slimbridge, U.K., 285 pp.

Nankinov, D., Simeonov, S., Michev, T. and Ivanov, B. 1997. *The Fauna of Bulgaria, 26, Aves, Part II*, Publ. M. Drinov and Pensoft: 1–427 (in Bulgarian with English summary).

Newton, S.F. and Symens, P. 1996. Status of Pink-backed Pelicans in the Red Sea. *Colonial Waterbirds* 19: 56–64.

Nilsson, L. 1987. The international waterfowl census in Sweden in January 1987. Unpubl. Report, Lund Univ. 10 pp.

Nilsson, L. 1996a. *Resting and wintering waterfowl along the Swedish coast of the Öresund, 1962–1995*. Report to Öresundskonsortiet, Lund.

Nilsson, L. 1996b. Internationella sjöfågelräkningarna i Sverige. i SOF 1996. *Fågelåret 1995*. Stockholm. Sid 41–47.

Nilsson, L. 1997. Internationella sjöfågelräkningarna i Sverige. i SOF 1997. *Fågelåret 1996*. Stockholm. Sid 41–48.

Nilsson, L., Andersson, O., Gustafsson, R. and Svensson, M. 1998. Increase and changes in distribution of breeding Whooper Swans *Cygnus cygnus* in Northern Sweden from 1972–75 to 1997. *Wildfowl* 49: 6–17.

Nygård, T. 1994. The national monitoring programme for wintering waterfowl in Norway 1980–93. *NINA Oppdragsmelding* 313: 1–83.

Ogilvie, M.A. 1967. Population changes and mortality of the Mute Swan in Britain. *Wildfowl* 18: 64–73.

Ogilvie, M.A. 1986. Mute Swan. In: Lack P. (ed.) *The Atlas of Wintering Birds in Britain and Ireland.* Poyser, Calton.

Ohtonen, A. 1992. Laulujoutsenkantojen elpymiseta (Summary: Increasing trend in the Whooper Swan population). *Soumen Riista* 38: 34–44.

Pannekoek, J. and van Strien, A. 1998. *TRIM 2.0 for Windows (Trends and Indices for Monitoring data).* Research Paper No. 9807, Centraal Bureau voor de Statistiek, Voorburg.

Parrack, J.D. 1986. Great Northern Diver. In: Lack P. (ed.) *The Atlas of Wintering Birds in Britain and Ireland.* Poyser, Calton.

Patrekeev, M.V. 1993. Most important areas for waterfowl in Azerbaijan, Eastern Transcaucasus (Excluding Kizil Agach Bays or Kirov Bays). Pp. 78–79 In: Moser M. and van Vessem, J. (eds*.) Wetland and Waterfowl Conservation in South and West Asia*. Proc. Int. Symp. Karachi, Pakistan, 14–20 December 1991. IWRB Special Publication No. 25.

Paynter, D., Aarvak, T. and Sultanov, E. 1996. *Conservation of Wetland Reserves in Azerbaijan: Counts of wintering birds January – February 1996*. Unpublished Report, Fauna and Flora International, Wildfowl and Wetlands Trust, Norsk Ornitologisk Forening.

Pellantová, J. 1996. Mezinárodní scítání vodních ptáku na území Ceské republiky v sezóne 1994/95. *Zprávy CSO* 42: 3–7.

Pellantová, J. 1997. Mezinárodní scítání vodních ptáku na území Ceské republiky v sezóne 1995/96. *Zprávy CSO* 44: 3–8.

Pellantová, J. and Martisko, J. 1994. Population trends in waterbird species in the alluvial area of the Dyje-river, Czech Republic. Pp. 129 – 135 In: Aubrecht, G., Dick, G. and Prentice, C. (eds.) 1994. Monitoring of Ecological Change in Wetlands of Middle Europe. Proc. Int. Workshop, Linz, Austria, 1993. Stapfia 31, Linz, Austria, and IWRB Publication No. 30, Slimbridge, UK.

Perdeck, A.C. 1987. The influence of winter severity on Coot *(Fulica atra)* dispersal. *Die Vogelwarte* 34: 6–14.

Perennou, C. 1991. *African Waterfowl Census, 1991*. IWRB, Slimbridge.

Perennou, C. 1992. *African Waterfowl Census, 1992*. IWRB, Slimbridge.

Perennou, C., Rose, P. and Poole, C. 1990. *Asian Waterfowl Census 1990: Mid-winter Waterfowl Counts in Southern and Eastern Asia, January 1990.* IWRB Slimbridge, AWB, Kuala Lumpur.

Perennou, C. and Mundkur, T. 1991. *Asian Waterfowl Census 1991: Mid-winter Waterfowl Counts, January 1991.* IWRB Slimbridge, AWB, Kuala Lumpur.

Perennou, C. and Mundkur, T. 1992. *Asian and Australasian Waterfowl Census 1992: Mid-winter Waterfowl Counts, January 1992.* IWRB Slimbridge, AWB, Kuala Lumpur.

Perennou, C., Mundkur, T., Scott, D.A., Follestad, A. and Kvenild, L. 1994. *The Asian Waterfowl Census 1987–91: Distribution and Status of Asian Waterfowl*. AWB Publication no. 86, Kuala Lumpur, Malaysia. IWRB Publication No. 24, Slimbridge, UK.

Pettifor, R.A. 1997. Population behaviour in response to anthropogenic change in wetland habitats: the use of long-term datasets as tools in conservation. Pp. 103–115 in: Goss-Custard, J.D., Rufino, R. and Luis, A. *Effect of habitat loss and change on waterbirds. Proc. 10th International Waterfowl Ecology Symposium, Aveiro, Portugal, 18–21 September 1995.* ITE Symposium no. 30; Wetlands International Publication no. 42. London.

Piersma, T. 1994. *Close to the edge: energetic bottlenecks and the evolution of migratory pathways in Knots*. Uitgeverij Het Open Boek, Den Burg.

Piersma, T. and Davidson, N.C. 1992. The Migration of Knots. *Wader Study Group Bulletin Supplement 64*.

Piersma, T. and Koolhaas, A. 1997. *Shorebirds, Shellfish(eries) and Sediments around Griend, Western Wadden Sea, 1988–1996*. Netherlands Institute for Sea Research (NIOZ), Den Burg.

Pihl, S. 1996. Western Palearctic wintering seaduck numbers. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 191–206.

Pihl, S. 1997. European Species Action Plan: Steller's Eider *Polysticta stelleri*. In: Final Technical Report and Claim 1 March 1996 – 30 November 1997. Species Action Plans for eight European Threatened Bird Species. RSPB, UK.

Pihl, S., Madsen, J. and Laubek, B. 1996. Taellinger af vandfugle 1995/96 Danmark. Danmarks Miljoundersogelser. *Arbejdsrapport fra DMU* 31.

Pirot, J-Y., Laursen, K., Madsen, J. and Monval, J-Y. 1989. Population estimates of swans, geese, ducks and Eurasian Coot *Fulica atra* in the Western Palearctic and Sahelian Africa. In: Boyd, H. and Pirot, J-Y. (eds.) Flyways and Reserve Networks for Waterbirds. *IWRB Special Publication No. 9*, IWRB, Slimbridge: 12–23.

Poot, M., Rasmussen, L.M., van Roomen, M., Rösner, H.-U. and Sudbeck, P. 1996. Migratory Waterbirds in the Wadden Sea 1993/94. Wadden Sea Ecosystem No. 5. Common Wadden Sea Secretariat, Trilateral Monitoring and Assessment Group, and Joint Monitoring Group of Migratory Birds in the Wadden Sea, Wilhelmshaven.

Porter, R.F., Christensen, S. and Schiermacker-Hansen, P. 1996. *Field Guide to the birds of the Middle East*. Academic Press, London.

Prater, A.J. 1979. Trends in accuracy of counting birds. *Bird Study* 26: 198–200.

Prater A.J. 1981. *Estuary Birds of Britain and Ireland*. Poyser, Calton.

Prys-Jones, R.P., Underhill, L.G. and Waters, R.J. 1994. Index numbers for waterbird populations II: Coastal wintering waders in the United Kingdom 1970/71 – 1990/91. *J. Appl. Ecol.* 31: 481–492.

Psilovikos, A.A. 1990. Changes in Greek wetlands during the 20th century. The cases of the inland waters of Macedonia and the river deltas of the Aegean and the Ionian Sea coasts. In: Gerakis P. (ed.) Conservation and Management of Greek Wetlands. Vol. 1. Thessaloniki Univ.: 179–208. (In Greek).

Psilovikos, A.A. 1992. Prospects for wetlands and waterfowl in Greece. Pp. 52–55 In: Finlayson, C.M., Hollis, G.E. and Davis, T.J. (eds.) *Managing Mediterranean Wetlands and their Birds*. Proc. Symp., Grado, Italy, 1991. IWRB Spec. Publ. No. 20, Slimbridge, U.K., 285 pp.

Pullan, R.A. 1988. *A survey of the past and present wetlands of the western Algarve*. Department of Geography, University of Liverpool.

Ramsar Convention Bureau 1984. *Convention on wetlands of international importance especially as waterfowl habitat. Proceedings of the second conference of the parties. Groningen, The Netherlands, 7–12 May 1984.* Ramsar Convention Bureau, Gland, Switzerland.

Ramsar Convention Bureau 1996. *Proceedings of the 6th meeting of the conference of the parties (Brisbane, Australia, 19–27 March 1996).* Ramsar Convention Bureau, Gland, Switzerland.

Rappoldt, C., Kersten, M. and Smit, C. 1985. Errors in large-scale shorebird counts. Ardea 73: 13–24.

Rees, E.C. and Bowler, J.M. 1996. Fifty years of swan research and conservation by the Wildfowl and Wetlands Trust. *Wildfowl* 47: 248–263.

Rees, E.C., Einarsson, O. and Laubek, B. 1997. Whooper Swan *Cygnus cygnus*. *BWP Update* Vol. 1. No. 1: 27–35.

Reino, L.M. and Soares, P.M. 1996. Recenseamento de aves aquáticas em algumas zonas húmidas de Marrocos – Abril de 1993. (Waterbird censuses in Moroccan wetlands – April 1993). *Airo,* 7: 89–93.

Richardson, C. and Aspinall, S. 1998. *The Shell Birdwatching Guide to the United Arab Emirates*. Hobby Publications, Liverpool and Dubai. 96 pp.

Ridgill, S.C. and Fox, A.D. 1990. Cold weather movements of waterfowl in western Europe. *IWRB Special Publication No 13.* IWRB, Slimbridge.

Rose, P.M. 1992a. Western Palearctic Waterfowl Census 1992. IWRB, Slimbridge.

Rose, P.M. 1992b. *Monitoring Waterfowl Populations in the European Community: Reorganisation of the International Waterfowl Census*. JNCC Report No. 118. Peterborough.

Rose, P.M. 1995. (ed.) Western Palearctic and South-West Asia Waterfowl Census 1994. *IWRB Special Publication No 35*. IWRB, Slimbridge.

Rose, P.M. and Taylor, V. 1993. Western Palearctic and South-West Asia Waterfowl Census 1993. IWRB, Slimbridge.

Rose, P.M. and Scott, D.A. 1994. Waterfowl Population Estimates. *IWRB Special Publication No 29*. IWRB, Slimbridge.

Rose, P.M. and Scott, D.A. 1997. Waterfowl Population Estimates, Second Edition. *Wetlands International Publication No 44*. Wetlands International, Wageningen.

Rose, P.M. and Stroud, D.A. 1994. Estimating international waterfowl populations: current activity and future directions. *Wader Study Group Bulletin* 73: 19–26.

Rösner, H-U. and Günther, K. 1996. Monitoring von rastenden Wat-und Wasservögel im Wattenmeer. *Die Vogelwelt* 117: 295–301.

Rösner, H-U., van Roomen, M., Südbeck, P. and Rasmussen, L.M. 1994. *Migratory Waterbirds in the Wadden Sea 1992/93*. Wadden Sea Ecosystem No. 2. Common Wadden Sea Secretariat and Trilateral Monitoring and Assessment Group, Wilhelmshaven.

RSPB 1997. *Final Technical Report and Claim, 1 March 1996 – 30 November 1997. Species Action Plans for eight European Threatened Bird Species*. RSPB, Sandy, UK.

Ruger, A., Prentice, C. and Owen, M. 1986. Results of the IWRB International Waterfowl Census 1967–83. *IWRB Special Publication No 6.* IWRB, Slimbridge.

Rusanov, G.M. 1987. Status and role of wintering areas of *Cygnus cygnus* in the Northern Caspian. In: Y.E. Syroyochkovski (ed.) *Ecology and Migration of Swans in the USSR*. pp. 69–74. Science, Moscow.

Rusev I.T., Zhmud M.E., Korzyukov A.I., Herzhyk I.P., Pavlov A.V. and Potapov O.V. 1996. *Wintering birds of north-western part of Black Sea coastal zone (20 December 1995 – 10 February 1996).* (In Russian). National Heritage Fund, Odessa.

Rutschke, E. and Liebherr, H. 1995. Bestand und Bestandsentwicklung einiger Wildentenarten in Ostdeutschland – Ergebnisse, 25 Jahre, Wasservogel Zählungen. Beitrag 8. *Jagd- und Wildforschung* 20: 261–274, Berlin.

Salmon, D.G. and Black, J.M. 1986. Results of the January 1986 Whooper Swan census in Britain, Ireland and Iceland. *Wildfowl* 37: 172–174.

Sánchez Guzmán, J.M., Avilés, J.M., Medina, F.J. and Sánchez, A. 1998. Status and trends of the Common Crane *Grus grus* on the western route. *Bird Conservation International* 8: 269–279.

Sarasa, C.G., Bartolome, M., Fernandez-Cruz, M. and Farinha, J.C. 1993. Segundo Censo de Ardeidas invernantes en la Peninsula Ibirica y Baleares (1992–93). (Second Census of wintering Herons in the Iberian

Peninsula and Balearic Islands (1992–93)). *Airo* 4(2): 41–50.

Schekkerman, H., Meininger, P.L. and Meire, P.M. 1994. Changes in the waterbird populations of the Oosterschelde (SW Netherlands) as a result of large-scale coastal engineering works. *Hydrobiologia* 282/283: 509–524.

Schifferli, L. 1992. Ergebnisse der Wasservogelzählungen von mitte Januar 1988–1991. *Orn. Beob*. 89: 81–91.

Schifferli, L. and Kestenholz, M. 1995. Inventar der Schweizer Wasservogelgebiete von nationaler Bedeutung als Brut-, Rast- und Ueberwinterungsgebiete – Revision 1995. [Inventory of Swiss sites of national importance for breeding, staging and wintering waterbirds – revision 1995.] *Ornithol. Beob*. 92: 413–433.

Schollaert, V. and Franchimont, J. 1996. Chronique Ornithologique du GOMAC pour 1995. *Porphyrio* 8: 94–147.

Schulz, H. 1998. World Status and Conservation of the White Stork. Pp. 49–65 In: Lesshem, Y., Lachman, E. and Berthold, P. *Proceedings of the international seminar: migrating birds know no boundaries*. Latrun, Israel.

Scott, D.A. 1980. A preliminary inventory of Wetlands of International Importance for Waterfowl in West Europe and North-west Africa. *IWRB Special Publication No 2*. IWRB Slimbridge.

Scott, D.A. 1995. *A Directory of Wetlands in the Middle East*. IUCN, Gland; IWRB, Slimbridge.

Scott, D.A. 1999. *Report on the Conservation Status of Migratory Waterbirds in the Agreement Area*. AEWA Report, Wetlands International.

Scott, D.A. and Carp, E. 1982. A midwinter survey of wetlands in Mesopotamia, Iraq, 1979. *Sandgrouse* 4: 60–76.

Scott, D.A. and Rose, P.M. 1989. *Asian Waterfowl Census 1989: Mid-winter Waterfowl Counts in Southern and Eastern Asia, January 1989.* IWRB Slimbridge.

Scott, D.A. and Rose, P.M. 1996. Atlas of Anatidae Populations in Africa and Western Eurasia. *Wetlands International Publication No. 41*, Wetlands International, Wageningen, The Netherlands.

Scott, D.K. 1988. Reproductive success in Bewick's Swans. In: Clutton-Brock, T.H. (ed.) *Reproductive Success*. University of Chicago Press, Chicago.

Sears, J. and Hunt, A. 1991. Lead poisoning in Mute Swans *Cygnus olor* in England. In: Sears, J. and Bacon, P.J. (eds.) *Proceedings of the Third IWRB International Swan Symposium, Oxford 1989. Wildfowl Special Supplement No. 1.*: 383–388.

Serra, L., Baccetti, N. and Zenatello, M. 1995. Slender-billed Curlews wintering in Italy in 1995. *Birding World* 8: 295–298.

Serra, L., Magnani, A., Dall'Antonia, P. and Bacetti, N. 1997. Risultati dei censimenti degli uccelli acquatici svernanti in Italia, 1991–1995. *Biol. Cons. Fauna,* 101: 1–312.

Shevchenko, V.L. 1998. The Sociable Plover *Chettusia gregaria* north of the Caspian Sea*. Wader Study Group Bulletin* 87: 48–50.

Shubin, A.O. 1998. The importance of the western Caspian coast for migrating and wintering waders. *International Wader Studies* 10: 403–412.

Shy, E. 1996. Wintering duck populations in Israel. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 261–274.

Smiddy, P. and Duffy, B. 1997. Little Egret *Egretta garzetta*: a new breeding bird for Ireland*. Irish Birds* 6: 55–56.

Smit, C.J. and Piersma, T. 1989. Numbers, mid-winter distribution and migration of wader populations using the East Atlantic Flyway. In: Boyd, H. and Pirot, J-Y. (eds.) Flyways and reserve networks for water birds. *IWRB Special Publication No 9*: 24–63. IWRB Slimbridge.

Snow, D.W. and Perrins, C.M. 1998. *The Birds of the Western Palearctic, Concise edition, Volume 1.* Oxford University Press.

SOVON Ganzen-en Zwanenwerkgroep. 1996. Ganzen- en zwanentellingen in Nederland in 1994/95*. SOVON monitoringrapport 96/04, RIZA-rapport BM95.27, IKC Natuurbeheer coproductie 10*. SOVON Vogelonderzoek Nederland, Beek-Ubbergen.

SOVON Ganzen-en Zwanenwerkgroep. 1997. Ganzen- en zwanentellingen in Nederland in 1995/96. *SOVON monitoringrapport 97/05, RIZA-rapport BM96.20, IKC Natuurbeheer coproductie 16.* SOVON Vogelonderzoek Nederland, Beek-Ubbergen.

Strazds, M. 1998. The status of the world Black Stork population and ringing recoveries: are all nests equal? Pp. 223–232 In: Lesshem, Y., Lachman, E. and Berthold, P. *Proceedings of the international seminar: migrating birds know no boundaries*. Latrun, Israel.

van Strien, A.J., van de Pavert, R., Moss D., Yates, T.J., van Swaay, C.A.M. and Vos, P. 1997. The statistical power of two butterfly monitoring schemes to detect trends. *Journal of Applied Ecology* 34: 817–828.

Stumberger, B. 1997. Results of the Mid-winter Waterfowl Counts in January 1997 in Slovenia. *Acrocephalus* 18: 80–81.

Summers, R.W., Underhill, L.G., Clinning, C.F. and Nicoll, M. 1989. Populations, migrations, biometrics and moult of the Turnstone *Areneria interpres* on the East Atlantic coastline, with special reference to the Siberian population. *Ardea* 77: 145–168.

Suter, W. 1994. Overwintering waterfowl on Swiss lakes: how are abundance and species richness influenced by trophic status and lake morphology? *Hydrobiologia* 279–280: 1–14.

Svazas, S. 1996. Internationally important sites for Anatidae in Lithuania. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 285–302.

Svazas, S., Stanevicius, V. and Cepulis, M. 1997. The status, numbers and distribution of swans and geese in Lithuania. *Acta Zool. Lit*. 6: 66–79.

Swennen, C. and Duiven, P. 1983. Characteristics of oystercatchers killed by cold-stress in the Dutch Wadden Sea area. *Ardea* 71: 155–159.

Taylor, B. and van Perlo, B. 1998*. Rails: a guide to the rails, crakes, gallinules and coots of the world*. Pica Press.

Taylor, V. 1993. *African Waterfowl Census, 1993*. IWRB Slimbridge.

Taylor, V. and Rose, P. 1994. *African Waterfowl Census, 1994*. IWRB Slimbridge.

Ter Braak, C.J.F., van Strien, A.J., Meijer, R. and Verstrael, T.J. 1994. Analysis of monitoring data with many missing values: which method? In: Hagemeijer, E.J.M. and Verstrael, T.J. (eds.) *Bird Numbers 1992. Distribution, monitoring and ecological aspects. Proc. 12th International Conf. of IBCC and EOAC, Noordwijkerhout, The Netherlands:* 663–673.

Tolvanen, P., Ruokolainen, K., Markkola, J. and Karvonen, R. (eds.) Finnish Lesser White-fronted Goose conservation project. Annual Report 1997. *WWF Finland Report No. 9*.

Tolvanen, P., Oien, I.J. and Ruokolainen, K. (eds.) Fennoscandian Lesser White-fronted Goose conservation project. Annual Report 1998. *WWF Finland Report No. 10. and Norsk Ornitologisk Forening Rapport Nr. 1–1999*.

Tomlinson, C. 1994. A review of red-cheeked ibis or Waldrapp *Geronticus eremita* conservation. *International Zoo Yearbook* 33: 67–73.

Torres Esquivias, J.A., Moreno Arroyo, B. and Alcala-Zamora, Barron A. 1994. La poblacion Española de Malvasia Cabeciblanca (*Oxyura leucocephala*) a la luz de los ultimos censos nacionales. *Oxyura* VII, No 1: 89–107.

Torres Esquivias, J.A. and Alcala-Zamora, Barron A. 1997. Seguimiento de la poblacion Española de Malvasia Cabeciblanca (*Oxyura leucocephala*) durante los años 1996 y 1997. *Oxyura* IX, No 1: 85–99.

Torres Esquivias, J.A. and Alcala-Zamora, Barron A. 1997. Evolocion temporal de la presencia de de Malvasia Canela (*Oxyura jamaicensis*) en España. *Oxyura* IX, No 1: 45–52.

Touti, J., Oumellouk, F., Bowden, C.G.R., Kirkwood, J.K. and Smith, K.W. 1999. Mortality incident in northern bald ibis *Geronticus eremita* in Morocco in May 1996. *Oryx* 33 (2): 160–167.

Tucker, G.M. and Heath, M.F. 1994. *Birds in Europe: Their Conservation Status.* BirdLife International Conservation Series No. 3. Cambridge.

Underhill, L.G. and Prys-Jones, R.P. 1994. Index numbers for waterbird populations. I Review and methodology. *Journal of Applied Ecology* 31: 463–480.

van der Ven, J. 1987. *Asian Waterfowl 1987: Midwinter bird observations in some Asian Countries*. IWRB Slimbridge.

van der Ven, J. 1988. *Asian Waterfowl 1988: Midwinter bird observations in most Asian Countries*. IWRB Slimbridge.

van Vessem, J., Moser, M.E. and Rose, P.M. 1992. Wintering Waterfowl in the Mediterranean region and the effects of wetland loss and degradation. Pp. 169–177. In: Finlayson, C.M., Hollis, G.E. and Davis, T.J. (eds.) *Managing Mediterranean Wetlands and their Birds. Proc. Symp. Grado, Italy, 1991*. IWRB Spec. Publ. No. 20, Slimbridge. 285 pp.

Vinogradov, V.G. 1996. A complete wetland network in the Siberian Plains. In: Birkan, M., van Vessem, J., Havet, P., Madsen, J., Trolliet, B. and Moser, M. (eds.) *Proceedings of the Anatidae 2000 Conference, Strasbourg, France, 5–9 December 1994.* Gibier Faune Sauvage, Game Wildl.13: 967–976.

Voous, K.H. 1973. List of Recent Holarctic bird species. *Ibis* 115: 612–638.

Voslamber, B., van Winden, E. and van Roomen, M. 1997a. Midwintertelling van Watervogels in Nederland, januari 1996. *SOVON monitoringrapport 97/04. RIZA-rapport BM96.19. IKC Natuurbeheer coproductie C15.* SOVON Vogelonderzoek Nederland, Beek-Ubbergen.

Voslamber, B., van Winden, E. and van Roomen, M. 1997b. Watervogels in de Zoete Rijkswateren in 1995/96*. SOVON monitoringrapport 97/02, RIZA-rapport BM95.29.* SOVON Vogelonderzoek Nederland, Beek-Ubbergen.

Voslamber, B., van Winden, E. and van Roomen, M. 1998. Watervogels in de Zoete Rijkswateren in 1995/96*. SOVON monitoringrapport 98/02, RIZA-rapport BM96.21.* SOVON Vogelonderzoek Nederland, Beek-Ubbergen.

Waters, R.J., Cranswick, P.A., Evans, J. and Pollitt, M.S. 1996. *The Wetland Bird Survey 1994–95: Wildfowl and Wader Counts*. BTO/WWT/RSPB/JNCC, Slimbridge.

van der Winden, J. 1995*. Bird Observations in Tunisia in the winters 1993/94 and 1994/95*. WIWO Report, Zeist, The Netherlands.

van der Winden, J. Gerritsen, G. and van Roomen, M. 1998. Preliminary results of a countrywide survey of staging Golden Plover, Lapwing and Curlew in The Netherlands. *Wader Study Group Bulletin* 86: 31–32.

Winkler, H., Berthold, P. and Leisler, B. 1994. Monitoring of bird populations in the Lake Neusiedl area. Pp. 29–36 In: Aubrecht, G., Dick, G. and Prentice, C. (eds.) *Monitoring of Ecological Change in Wetlands of Middle Europe. Proc. Int. Workshop, Linz, Austria, 1993*. Stapfia 31, Linz, Austria, and IWRB Publication No. 30, Slimbridge, UK.

Wymenga, E. 1999. Migrating Ruffs *Philomachus pugnax* through Europe, spring 1998. *Wader Study Group Bulletin* 88: 43–48.

Yesou, P. and Hirschfield, E. 1997. Which large gulls from the *Larus fuscus – cachinnans – argentatus* complex of (sub) species occur in Bahrain? *Sandgrouse* 19 (2): 111–121.

Zwarts, L., van der Kamp, J., Overdijk, O., van Spanje, T., Veldkamp, R., West, R. and Wright, M. 1998a. Wader count of the Banc d'Arguin, Mauritania, in January/February 1997*. Wader Study Group Bulletin* 86: 53–69.

Zwarts, L., van der Kamp, J., Overdijk, O., van Spanje, T., Veldkamp, R., West, R. and Wright, M. 1998b. Wader count of the Baie d'Arguin, Mauritania, in February 1997*. Wader Study Group Bulletin* 86: 70–73.

Mission:

To sustain and restore wetlands, their resources and biodiversity for future generations through research, information exchange and conservation activities, worldwide.

- The International Waterbird Census has taken place in the month of January in the Western Palearctic and Southwest Asia in every year since 1967
- This publication presents detailed summaries of counts of waterbirds made by over eleven thousand observers in January 1995 and January 1996 in 47 countries of the Western Palearctic and Southwest Asia
- Midwinter numbers and distribution are summarised for 174 species of waterbird of which 23 million were counted in the region in 1995 and 19 million in 1996
- Detailed estimates of population trends between 1974 and 1996 of 24 species of Anatidae and Common Coot in five areas of the Western Palearctic are also presented.

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