

Annex to:

EFSA (European Food Safety Authority), ECDC (European Centre for Disease Prevention and Control), EURL (European Reference Laboratory for Avian Influenza), Adlhoch C, Fusaro A, Gonzales JL, Kuiken T, Melidou A, Mirinavičiūtė G, Niqueux É, Ståhl K, Staubach C, Terregino C, Baldinelli F, Broglia A and Kohnle L, 2023. Scientific report: Avian influenza overview April–June 2023. *EFSA Journal* 2023;21(7):8039, 45 pp. <https://doi.org/10.2903/j.efsa.2023.8191>

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Annex A – Data on Birds

The annex contains tables and figures on wild bird species and HPAI virus detections in birds.

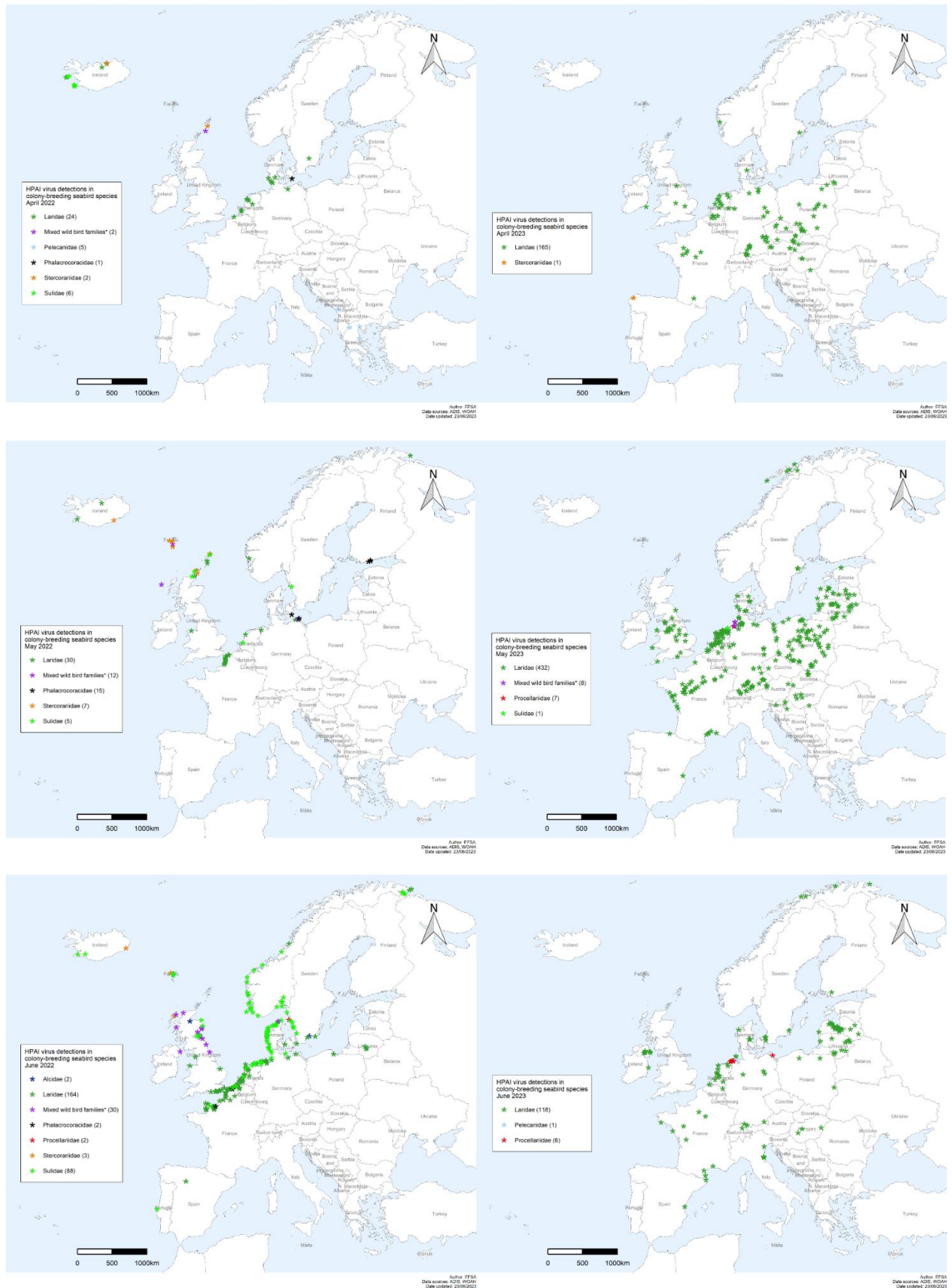


Figure A.1: Geographic distribution, based on available geocoordinates, of HPAI virus detections in colony-breeding seabird species reported in April 2022 and April 2023 (upper panel), May 2022 and May 2023 (middle panel), and June 2022 and June 2023 (lower panel).

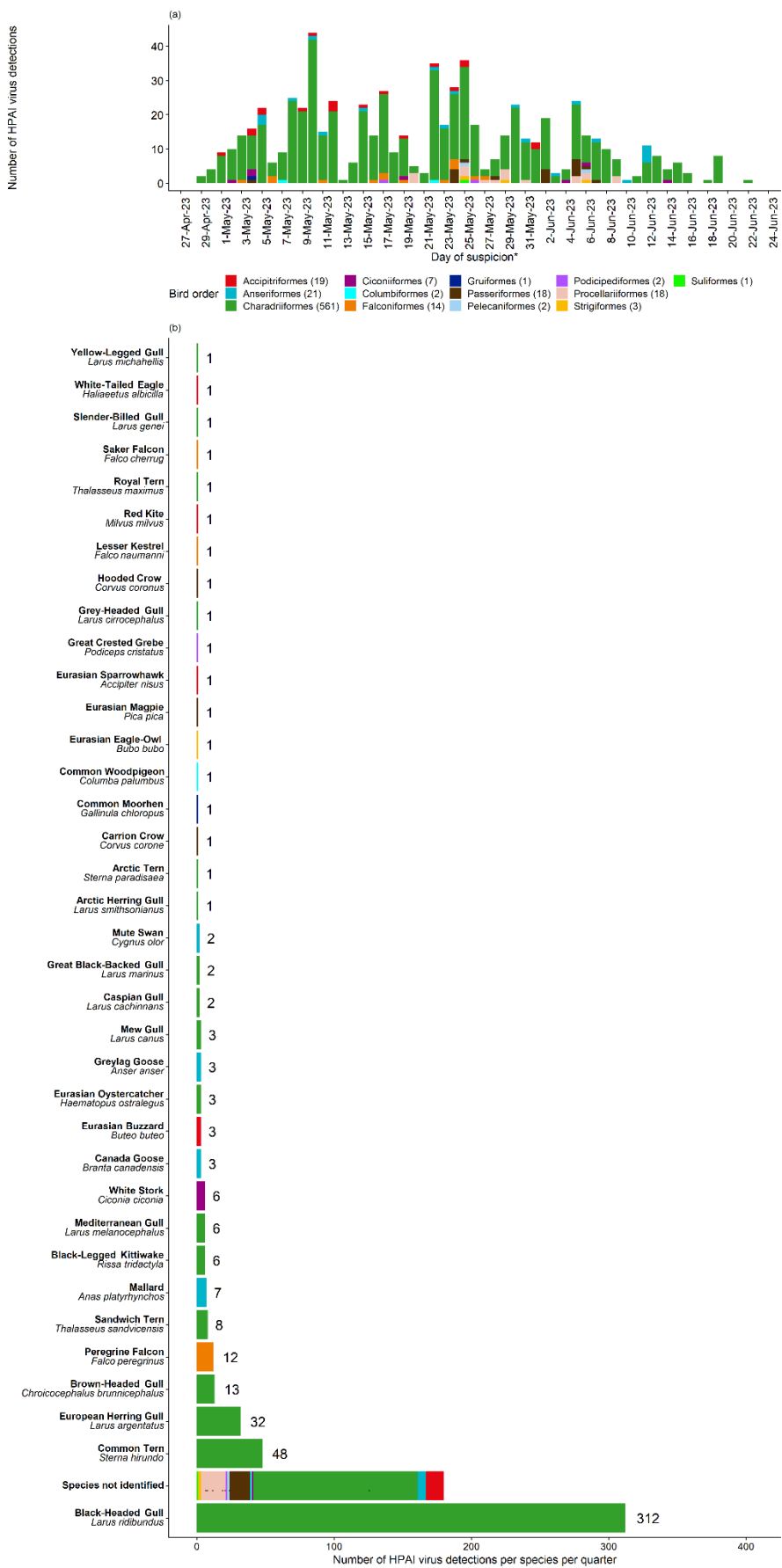


Figure A.2: Number of HPAI A(H5) detections in wild birds by (a) bird order and week of suspicion and (b) wild bird species in the EU/EEA and United Kingdom, from 29 April to 23 June 2023

Table A.1: Number of HPAI outbreaks in Europe, by country, virus subtype and affected sub-population, from 29 April to 23 June 2023. Cumulative numbers since the start of the 2022–2023 epidemiological year are reported in parentheses (1 October 2022 to 23 June 2023).

Reporting country	Captive birds	Poultry		Wild birds			Total
	A(H5N1)	A(H5Nx)	A(H5N1)	A(H5Nx)	A(H5N5)	A(H5N1)	
Austria	0 (5)	-	0 (3)	1 (12)	-	14 (119)	15 (139)
Belgium	0 (22)	-	0 (11)	1 (5)	-	4 (198)	5 (236)
Bulgaria	-	(1)	0 (2)	-	-	-	0 (3)
Croatia	-	-	0 (1)	-	-	1 (5)	1 (6)
Cyprus	0 (1)	-	0 (1)	-	-	0 (1)	0 (3)
Czechia	1 (1)	-	2 (32)	-	-	6 (24)	9 (57)
Denmark	0 (2)	-	0 (6)	0 (1)	-	18 (101)	18 (110)
Estonia	-	-	0 (1)	-	-	2 (2)	2 (3)
Finland	-	-	-	1 (1)	-	1 (1)	2 (2)
France	4 (69)	(2)	85 (377)	-	-	47 (410)	136 (858)
Germany	0 (130)	-	2 (66)	0 (4)	-	221 (969)	223 (1169)
Hungary	0 (2)	-	0 (168)	-	-	13 (34)	13 (204)
Iceland	-	-	-	-	-	0 (5)	0 (5)
Ireland	0 (2)	-	0 (2)	0 (1)	-	1 (18)	1 (23)
Italy	0 (1)	-	0 (39)	0 (1)	-	5 (219)	5 (260)
Latvia	-	-	-	-	-	49 (49)	49 (49)
Lithuania	0 (1)	-	-	-	-	37 (41)	37 (42)
Luxembourg	0 (1)	-	-	-	-	3 (5)	3 (6)
Moldova	-	-	0 (2)	-	-	-	0 (2)
Netherlands	0 (15)	-	0 (22)	-	-	68 (381)	68 (418)
North Macedonia	0 (1)	-	-	-	-	-	0 (1)
Norway	0 (2)	-	0 (2)	1 (2)	(2)	8 (31)	9 (39)
Poland	0 (1)	-	1 (91)	-	-	71 (136)	72 (228)
Portugal	-	-	-	-	-	0 (1)	0 (1)
Romania	-	-	0 (3)	-	-	0 (24)	0 (27)
Serbia	-	-	-	-	-	1 (8)	1 (8)
Slovakia	0 (1)	-	0 (3)	-	-	5 (16)	5 (20)
Slovenia	0 (1)	-	0 (1)	-	-	5 (28)	5 (30)
Spain	-	-	0 (2)	0 (1)	-	4 (54)	4 (57)
Sweden	0 (1)	-	0 (1)	0 (1)	-	9 (56)	9 (59)
Switzerland	0 (1)	-	0 (1)	-	-	5 (131)	5 (133)
United Kingdom*	0 (42)	-	3 (130)	-	-	32 (326)	35 (498)
Total	5 (302)	(3)	93 (969)	4 (29)	(2)	630 (3393)	732 (4698)

*United Kingdom data are from ADNS up to 31 December 2020. From 1 January 2021 onwards, the data source was WOA-H-WAHIS for the United Kingdom (excluding Northern Ireland), and ADNS/ADIS for the United Kingdom (Northern Ireland)¹.

¹- means that no HPAI outbreaks were notified to ADNS/ADIS or WOA-H.

Source: ADNS/ADIS, EFSA and WOA-H (data extraction carried out on 23 June 2023).

¹ In accordance with the Agreement on the Withdrawal of the United Kingdom from the EU, and in particular with the Protocol on IE/NL, the EU requirements on data sampling are also applicable to the United Kingdom (Northern Ireland).

Table A.2: HPAI virus notifications reported to WOA-H-WAHIS in wild birds from 29 April to 23 June 2023. In one single reported detection of HPAI in wild birds, more than one bird and bird species might be involved.

Region	Country	Wild bird species	Number of HPAI virus detections
Africa	South Africa	<i>Larus dominicanus</i>	1
		<i>Sterna hirundo</i>	1
		<i>Thalasseus bergii</i>	3
America	Brazil	<i>Buteo magnirostris</i>	1
		<i>Buteogallus urubitinga</i>	1
		<i>Chroicocephalus cirrocephalus</i>	2
		<i>Cygnus melancoryphus</i>	1
		<i>Fregata magnificens</i>	1
		<i>Megascops choliba</i>	1
		<i>Nannopterum brasilianum</i>	1
		<i>Sterna hirundinacea</i>	3
		<i>Sterna hirundo</i>	1
		<i>Sula leucogaster</i>	1
		<i>Thalasseus acuflavidus</i>	18
		<i>Thalasseus maximus</i>	10
	Chile	<i>Lontra provocax</i>	1
	United States of America	<i>Buteo regalis</i>	1
		<i>Haliaeetus leucocephalus</i>	1
	Uruguay	<i>Anser anser</i>	1
Europe	Russia	<i>Alcidae</i>	1
		<i>Laridae</i>	37

Source: WOA-H-WAHIS (data extraction carried out on 23 June 2023).

Table A.3: Categorisation of the wild bird species detected as HPAI virus-positive between 1 October 2016 and 23 June 2023

Raptor	Waterfowl	Colony-breeding sea birds	Other wild bird species
Accipitriformes	Anatidae	Arctic herring gull	Anambra waxbill
American Kestrel	Anatinae	Arctic tern	Ardeidae
Bald eagle	Anserinae	Atlantic puffin	Calidris
Bearded vulture	Barnacle goose	Auk	Carrion crow
Common barn-owl	Bean goose	Black guillemot	Cattle Egret
Common kestrel	Black swan	Black-headed gull	Charadriidae
Eagles	Bufflehead	Black-legged Kittiwake	Ciconiidae
Eastern Imperial Eagle	Brent goose	Brown-headed Gull	Columbidae
Eurasian buzzard	Canada goose	Caspian gull	Common Chaffinch
Eurasian eagle-owl	Common eider	Common murre	Common coot
Eurasian Hobby	Common goldeneye	Common tern	Common crane
Eurasian sparrowhawk	Common pochard	Cormorants and shags	Common moorhen
Falcons and caracaras	Common shelduck	Crowned cormorant	Common pheasant
Golden eagle	Common teal	Dalmatian pelican	Common raven
Griffon vulture	Coscoroba Swan	European herring gull	Common redshank
Gyr Falcon	Cygnus	Glaucous gull	Common ringed plover
Hen harrier	Duck	Great black-backed gull	Common Snipe
Kites, hawks and eagles	Egyptian goose	Great Cormorant	Common starling
Lanner falcon	Eurasian wigeon	Great ne	Common woodpigeon
Lesser kestrel	Ferruginous duck	Great skua	Corvids, jays and magpies
Little owl	Gadwall	Grey-headed gull	Cranes
Merlin	Garganey	Gulls, terns and skimmers	Curlew sandpiper
	Goosander	Laridae	Dunlin
Montagu's harrier	Goose	Laughing gull	Eurasian blackbird
Northern goshawk	Greater scaup	Lesser black-backed gull	Eurasian bullfinch
Northern long-eared owl	Greater white-fronted goose	Little auk	Eurasian collared-dove
Osprey	Greylag goose	Manx shearwater	Eurasian curlew
Peregrine falcon	Lesser white-fronted goose	Mediterranean gull	Eurasian jackdaw
Red kite	Mallard	Mew gull	Eurasian jay
Rough-legged buzzard	Mandarin Duck	Northern fulmar	Eurasian magpie
Saker falcon	Muscovy duck		Eurasian oystercatcher
Short-eared owl	Mute swan	Northern gannet	Eurasian spoonbill
Spotted harrier	Nene	Pallas's gull	Eurasian woodcock
Strigidae	Northern Pintail	Pelecanidae	
Strigiformes	Northern shoveler	Razorbill	European Goldfinch
Tawny owl	Pink-footed goose	Ring-billed gull	European greenfinch
True owls	Red-breasted Goose	Royal tern	Finches
Ural owl	Tufted duck	Sandwich tern	Game or wild bird
	Whooper swan	Silver gull	Glossy Ibis
Western marsh-harrier	Wood Duck	Slender-billed gull	Great Blue heron

White-tailed sea-eagle		Sulidae	Great crested grebe
White-tailed sea-eagle		Western gull	Great Spotted Woodpecker
		Yellow-legged gull	Great white egret
			Greater Flamingo
			Green sandpiper
			Grey heron
			Grey plover
			Guineafowl
			Haematopodidae
			Hooded crow
			House sparrow
			Ibises and spoonbills
			Little Blue Heron
			Little egret
			Little grebe
			Northern bald ibis
			Northern lapwing
			Passeridae
			Pheasants and allies
			Pied avocet
			Podicipedidae
			Procellariidae
			Rallidae
			Red knot
			Red-legged Partridge
			Red-throated Loon
			Rock dove
			Rook
			Ruddy turnstone
			Sanderling
			Semipalmated sandpiper
			Snipe
			Song thrush
			Turdidae
			Western grebe
			Western sandpiper
			Western water rail
			Whimbrel
			White stork
			White-rumped sandpiper

Table A.4. Common and scientific names of the wild bird species detected as HPAI virus-positive between 1 October 2016 and 23 June 2023

Common name	Scientific name	Common name	Scientific name
American kestrel	<i>Falco sparverius</i>	Crowned cormorant	<i>Microcarbo coronatus</i>
Anambra waxbill	<i>Estrilda poliopareia</i>	Curlew sandpiper	<i>Calidris ferruginea</i>
Arctic herring gull	<i>Larus smithsonianus</i>	Dunlin	<i>Calidris alpina</i>
Arctic tern	<i>Sterna paradisaea</i>	Dalmatian pelican	<i>Pelecanus crispus</i>
Atlantic puffin	<i>Fratercula arctica</i>	Egyptian goose	<i>Alopochen aegyptiaca</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>	Eurasian blackbird	<i>Turdus merula</i>
Barnacle goose	<i>Branta leucopsis</i>	Eurasian bullfinch	<i>Pyrrhula pyrrhula</i>
Bean goose	<i>Anser fabalis</i>	Eurasian buzzard	<i>Buteo buteo</i>
Bearded vulture	<i>Gypaetus barbatus</i>	Eurasian collared-dove	<i>Streptopelia decaocto</i>
Black guillemot	<i>Cepphus grylle</i>	Eurasian curlew	<i>Numenius arquata</i>
Black swan	<i>Cygnus atratus</i>	Eurasian eagle-owl	<i>Bubo bubo</i>
Black-headed gull	<i>Larus ridibundus</i>	Eurasian jackdaw	<i>Corvus monedula</i>
Black-legged Kittiwake	<i>Rissa tridactyla</i>	Eurasian jay	<i>Garrulus glandarius</i>
Brent goose	<i>Branta bernicla</i>	Eurasian magpie	<i>Pica pica</i>
Brown-headed Gull	<i>Chroicocephalus brunnicephalus</i>	Eurasian oystercatcher	<i>Haematopus ostralegus</i>
Bufflehead	<i>Bucephala albeola</i>	Eurasian sparrowhawk	<i>Accipiter nisus</i>
Calidris	<i>Calidris spp.</i>	Eurasian spoonbill	<i>Platalea leucorodia</i>
Canada goose	<i>Branta canadensis</i>	Eurasian wigeon	<i>Mareca penelope</i>
Carrion crow	<i>Corvus corone</i>	Eurasian woodcock	<i>Scolopax rusticola</i>
Caspian gull	<i>Larus cachinnans</i>	European greenfinch	<i>Chloris chloris</i>
Common barn-owl	<i>Tyto alba</i>	European herring gull	<i>Larus argentatus</i>
Common coot	<i>Fulica atra</i>	Ferruginous duck	<i>Aythya nyroca</i>
Common crane	<i>Grus grus</i>	Finches	<i>Fringillidae</i>
Common eider	<i>Somateria mollissima</i>	Gadwall	<i>Mareca strepera</i>
Common goldeneye	<i>Bucephala clangula</i>	Garganey	<i>Spatula querquedula</i>
Common kestrel	<i>Falco tinnunculus</i>	Glaucous gull	<i>Larus hyperboreus</i>
Common moorhen	<i>Gallinula chloropus</i>	Glossy Ibis	<i>Plegadis falcinellus</i>
Common murre	<i>Uria aalge</i>	Golden eagle	<i>Aquila chrysaetos</i>
common pheasant	<i>Phasianus colchicus</i>	Goosander	<i>Mergus merganser</i>
Common pochard	<i>Aythya ferina</i>	Great black-backed gull	<i>Larus marinus</i>
Common raven	<i>Corvus corax</i>	Great blue heron	<i>Ardea herodias</i>
Common redshank	<i>Tringa totanus</i>	Great cormorant	<i>Phalacrocorax carbo</i>
Common ringed plover	<i>(Charadrius hiaticula)</i>	Great crested grebe	<i>Podiceps cristatus</i>
Common shelduck	<i>Tadorna tadorna</i>	Great skua	<i>Catharacta skua</i>
Common starling	<i>Sturnus vulgaris</i>	Greater Flamingo	<i>Phoenicopterus roseus</i>
Common teal	<i>Anas crecca</i>	Great white egret	<i>Ardea alba</i>
Common tern	<i>Sterna hirundo</i>	Greater scaup	<i>Aythya marila</i>
Common woodpigeon	<i>Columba palumbus</i>	Great spotted woodpecker	<i>Dendrocopos major</i>

Common name	Scientific name	Common name	Scientific name
Greater white-fronted goose	<i>Anser albifrons</i>	Peregrine falcon	<i>Falco peregrinus</i>
Grey plover	<i>Pluvialis squatarola</i>	Pied avocet	<i>Recurvirostra avosetta</i>
Grey-headed gull	<i>Larus cirrocephalus</i>	Pink-footed goose	<i>Anser brachyrhynchus</i>
Greylag goose	<i>Anser anser</i>	Razorbill	<i>Alca torda</i>
Griffon vulture	<i>Gyps fulvus</i>	Red-breasted goose	<i>Branta ruficollis</i>
Guineafowl	<i>Numididae</i>	Red kite	<i>Milvus milvus</i>
Gyr Falcon	<i>Falco rusticolus</i>	Red knot	<i>Calidris canutus</i>
Hen harrier	<i>Circus cyaneus</i>	Red-legged partridge	<i>Alectoris rufa</i>
Hooded crow	<i>Corvus coronus</i>	Ring-billed gull	<i>Larus delawarensis</i>
House sparrow	<i>Passer domesticus</i>	Rock dove	<i>Columba livia</i>
Lanner falcon	<i>Falco biarmicus</i>	Rook	<i>Corvus frugilegus</i>
Laughing gull	<i>Leucophaeus atricilla</i>	Rough-legged buzzard	<i>Buteo lagopus</i>
Lesser black-backed gull	<i>Larus fuscus</i>	Royal tern	<i>Thalasseus maximus</i>
Lesser kestrel	<i>Falco naumanni</i>	Ruddy turnstone	<i>Arenaria interpres</i>
Lesser white-fronted goose	<i>Anser erythropus</i>	Saker falcon	<i>Falco cherrug</i>
Little auk	<i>Alle alle</i>	Sanderling	<i>Calidris alba</i>
Little egret	<i>Egretta garzetta</i>	Sandwich tern	<i>Thalasseus sandvicensis</i>
Little grebe	<i>Tachybaptus ruficollis</i>	Semipalmated sandpiper	<i>Calidris pusilla</i>
Little owl	<i>Athene noctua</i>	Short-eared owl	<i>Asio flammeus</i>
Mallard	<i>Anas platyrhynchos</i>	Silver gull	<i>Chroicocephalus novaehollandiae</i>
Manx shearwater	<i>Puffinus puffinus</i>	Slender-billed gull	<i>Chroicocephalus genei</i>
Mew gull	<i>Larus canus</i>	Song thrush	<i>Turdus philomelos</i>
Mediterranean gull	<i>Larus melanocephalus</i>	Spotted harrier	<i>Circus assimilis</i>
Merlin	<i>Falco columbarius</i>	Tawny owl	<i>Strix aluco</i>
Montagu's harrier	<i>Circus pygargus</i>	Tufted duck	<i>Aythya fuligula</i>
Muscovy duck	<i>Cairina moschata</i>	Ural owl	<i>Strix uralensis</i>
Mute swan	<i>Cygnus olor</i>	western grebe	<i>Aechmophorus occidentalis</i>
Nene	<i>Branta bernicla</i>	Western gull	<i>Larus occidentalis</i>
Northern bald ibis	<i>Geronticus eremita</i>	Western marsh-harrier	<i>Circus aeruginosus</i>
Northern fulmar	<i>Fulmarus glacialis</i>	Western sandpiper	<i>Calidris mauri</i>
Northern gannet	<i>Morus bassanus</i>	Western water Rail	<i>Rallus aquaticus</i>
Northern goshawk	<i>Accipiter gentilis</i>	Whimbrel	<i>Numenius phaeopus</i>
Northern lapwing	<i>Vanellus vanellus</i>	White stork	<i>Ciconia ciconia</i>
Northern long-eared Owl	<i>Asio otus</i>	White-rumped sandpiper	<i>Calidris fuscicollis</i>
Northern Pintail	<i>Anas acuta</i>	White-tailed eagle	<i>Haliaeetus albicilla</i>
Northern shoveler	<i>Spatula clypeata</i>	Whooper swan	<i>Cygnus cygnus</i>
Osprey	<i>Pandion haliaetus</i>	Yellow-legged gull	<i>Larus michahellis</i>
Pallas's gull	<i>Ichthyophaga ichthyophaga</i>	Red knot	<i>Calidris canutus</i>
Red-legged partridge	<i>Alectoris rufa</i>		
Ring-billed gull	<i>Larus delawarensis</i>		

Common name	Scientific name	Common name	Scientific name
Rock dove	<i>Columba livia</i>		
Rook	<i>Corvus frugilegus</i>		
Rough-legged buzzard	<i>Buteo lagopus</i>		
Royal tern	<i>Thalasseus maximus</i>		
Ruddy turnstone	<i>Arenaria interpres</i>		
Saker falcon	<i>Falco cherrug</i>		
Sanderling	<i>Calidris alba</i>		