

INTERNATIONAL WATERBIRD CENSUS REPORT

ITALY · 2009-2018



Mediterranean Waterbirds
Oiseaux d'eau Méditerranée
الطيور المائية بمنطقة البحر المتوسط

LIST OF PARTICIPATING ORGANISATIONS AND INDIVIDUALS

This report could not have been realised without the enthusiastic contribution of Italian IWC (International Waterbird Census) counters, whose huge and continued efforts have allowed a complete annual survey of Italian wetlands to be achieved yearly since the early 1990s. Among the thousands of counters taking part in the project, the following people (“local coordinators”) coordinated IWC counts in specific areas of the country, retrieved and checked the data forms, and regularly inputted the data into the national database:

Mauro Della Toffola (Piemonte & Val d’Aosta), Violetta Longoni (Lombardia), Paolo Pedrini (Trentino), Marco Basso, Andrea Favaretto, Giancarlo Fracasso, Giulio Piras, Maurizio Sighele, Emiliano Verza, Marco Zenatello (Veneto), Carlo Guzzon (Friuli-Venezia Giulia), Mara Calvini, Roberto Giagnoni (Liguria), Emiliano Arcamone (Toscana), Luca Bagni, Roberta Corsi, Massimiliano Costa, Alessio Farioli, Franco Roscelli, Giuseppe Rossi, Roberto Tinarelli (Emilia-Romagna), Stefano Laurenti, Francesco Velatta (Umbria), Pierfrancesco Gambelli, Paolo Giacchini, Giorgio Marini, Mina Pascucci (Marche), Massimo Brunelli, Ferdinando Corbi (Lazio), Carlo Artese (Abruzzo), Vincenzo Cavaliere (Campania), Egidio Fulco (Basilicata), Giuseppe La Gioia, Cristiano Liuzzi (Puglia), Giuseppe Martino (Calabria), Antonino Barbera, Carlo Cappuzzello, Fabio Cilea, Egle Gambino, Giuseppe Rannisi, Vincenzo Sciabica, Manuel Zafarana (Sicilia), Antonio Torre (Sardegna).

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A WELL ESTABLISHED NETWORK OF COUNTERS

Italy has a total of 2,620 wetlands (count units) identified as important for the International Waterbird Census (IWC). Count units are grouped into 869 larger wetland systems according to the principle of “functional or ecological unit” (Ramsar Convention Bureau, 1990). Each functional site includes on average 3 count units (range: 1-72) which are simultaneously monitored. Population estimates are obtained through daytime and roost counts. Details on the identification of functional sites and on the calculation of species totals can be found in Zenatello et al. (2014) and in EGA–RAC/SPA Waterbird Census Team (2012). During 2009–2018, 695 sites (80% of their number) were monitored at least once. The annual coverage was 56–60%, with a slightly fluctuating trend (minima in 2014 and 2017).

NUMBER OF VOLUNTEERS:

MORE THAN
2,500 PEOPLE WERE INVOLVED IN IWC COUNTS DURING 2009-2018

Among them, **554** were qualified observers, i.e. ornithologists or bird watchers who had passed a specific testing procedure (Baccetti et al. 2004).

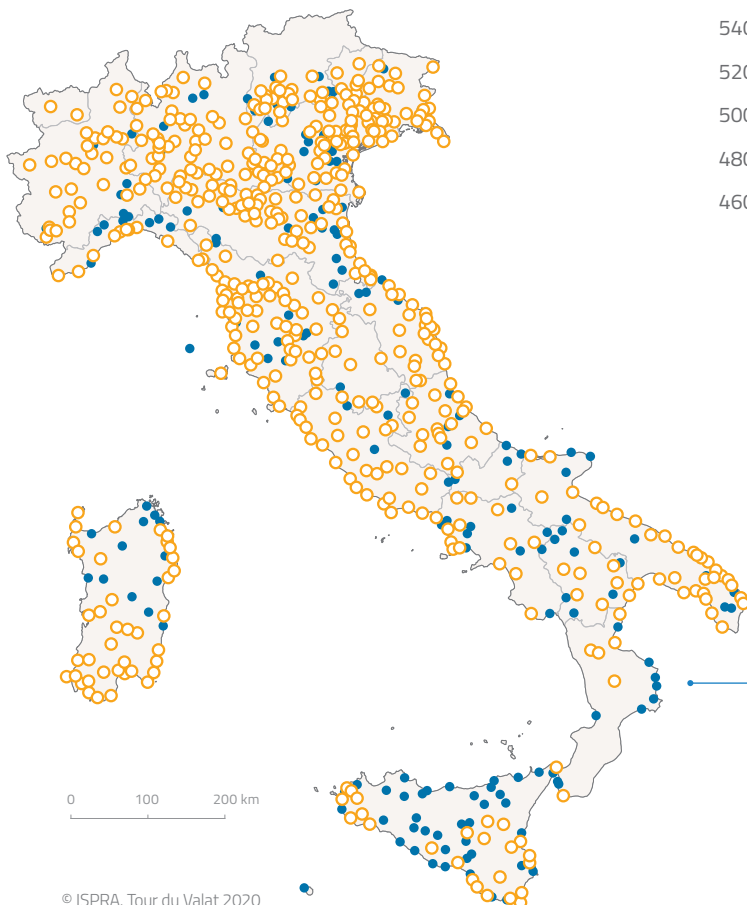


NUMBER OF WETLANDS COUNTED:

695 WETLANDS COUNTED AT LEAST ONCE DURING 2009-2018

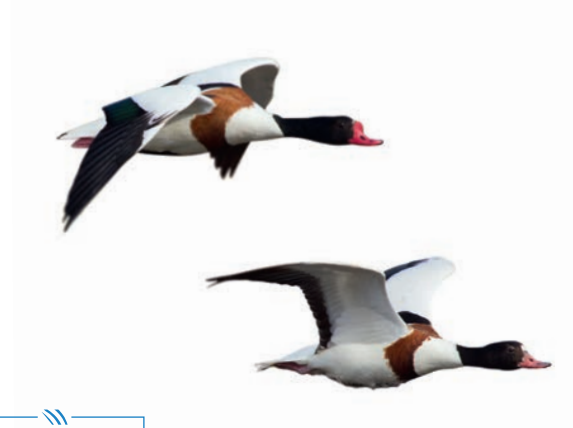
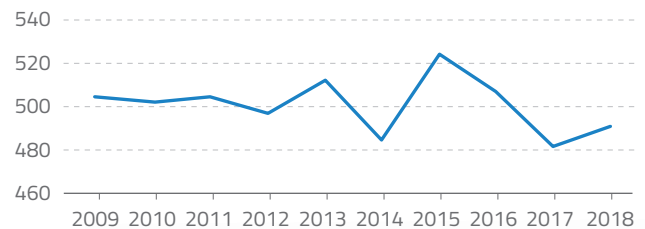


WETLANDS COUNTED in Italy from 2009 to 2018



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sources: ISPRA, Natural Earth

NUMBER OF FUNCTIONAL SITES counted from 2009 to 2018



National census network

- Sites irregularly counted (less than 5 of the years between 2009 and 2018)
- Sites regularly counted (at least 5 of the years between 2009 and 2018)

SIZE AND TRENDS OF WATERBIRD POPULATIONS IN ITALY

In January 2018, almost 2 million waterbirds were counted in Italy (1,922,148 birds), belonging to 126 species. The trend of the 2009–2018 counts was slightly positive: a minimum of 1,609,132 birds was counted in 2010, and a maximum of 2,030,129 birds in 2017. The 2018 species totals and trends are summarised below. Six species have national totals higher than 100,000 individuals. Four of them, namely the Green-winged Teal, Common Coot, Black-headed Gull and Mallard exceed 200,000 birds.



SPECIES IN DECLINE, ACCORDING TO CALCULATIONS MADE DURING THE PERIOD 2009-2018

SCIENTIFIC NAME	ENGLISH NAME	2018	N SITES 10 YEARS	TREND 10 YEARS
<i>Anser fabalis rossicus</i>	Bean Goose (rossicus)	4	13	Steep decline (p<0.01)
<i>Anser indicus</i>	Bar-headed Goose	3	14	Moderate decline (p<0.05)
<i>Branta leucopsis</i>	Barnacle Goose	9	20	Moderate decline (p<0.05)
<i>Aix galericulata</i>	Mandarin Duck	33	44	Moderate decline (p<0.05)
<i>Bucephala clangula</i>	Goldeneye	334	53	Steep decline (p<0.01)
<i>Gavia arctica</i>	Black-throated Diver	176	66	Moderate decline (p<0.01)
<i>Phalacrocorax aristotelis</i>	Shag	162	43	Steep decline (p<0.01)
<i>Botaurus stellaris</i>	Eurasian Bittern	74	164	Moderate decline (p<0.01)
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	418	70	Moderate decline (p<0.01)
<i>Egretta garzetta</i>	Little Egret	5,380	437	Moderate decline (p<0.01)
<i>Egretta alba</i>	Great White Egret	5,918	462	Moderate decline (p<0.01)
<i>Ardea cinerea</i>	Grey Heron	10,471	614	Moderate decline (p<0.01)
<i>Tachybaptus ruficollis</i>	Little Grebe	8,570	520	Moderate decline (p<0.01)
<i>Rallus aquaticus</i>	Water Rail	702	328	Moderate decline (p<0.05)
<i>Porphyrio porphyrio</i>	Purple Swamphen	17	35	Steep decline (p<0.01)
<i>Fulica atra</i>	Common Coot	219,332	533	Moderate decline (p<0.01)
<i>Charadrius hiaticula</i>	Ringed Plover	73	41	Moderate decline (p<0.05)
<i>Charadrius alexandrinus</i>	Kentish Plover	525	104	Moderate decline (p<0.01)
<i>Vanellus vanellus</i>	Northern Lapwing	44,061	309	Moderate decline (p<0.01)
<i>Calidris minuta</i>	Little Stint	476	61	Steep decline (p<0.01)
<i>Limosa limosa</i>	Black-tailed Godwit	7	23	Steep decline (p<0.01)
<i>Limosa lapponica</i>	Bar-tailed Godwit	44	22	Moderate decline (p<0.01)
<i>Numenius arquata</i>	Eurasian Curlew	6,393	126	Moderate decline (p<0.01)
<i>Tringa totanus</i>	Redshank	1,752	66	Moderate decline (p<0.01)
<i>Larus genei</i>	Slender-billed Gull	522	56	Moderate decline (p<0.05)
<i>Larus ridibundus</i>	Black-headed Gull	210,806	450	Moderate decline (p<0.01)
<i>Larus melanocephalus</i>	Mediterranean Gull	10,614	141	Moderate decline (p<0.01)
<i>Larus argentatus</i>	Herring Gull	27	60	Moderate decline (p<0.05)
<i>Larus michahellis</i>	Yellow-legged Gull	79,783	527	Moderate decline (p<0.01)



SPECIES CONSIDERED AS STABLE, ACCORDING TO CALCULATIONS MADE DURING THE PERIOD 2009-2018

SCIENTIFIC NAME	ENGLISH NAME	2018	N SITES 10 YEARS
<i>Anas platyrhynchos f. domestica</i>	Feral Ducks	3,915	260
<i>Mergus serrator</i>	Red-breasted Merganser	1,051	98
<i>Phalacrocorax carbo</i>	Great Cormorant	70,036	609
<i>Circus cyaneus</i>	Hen Harrier	279	239
<i>Gallinago gallinago</i>	Common Snipe	2,857	323
<i>Tringa ochropus</i>	Green Sandpiper	248	155
<i>Larus canus</i>	Common Gull	3,394	175



SPECIES ON THE RISE, ACCORDING TO CALCULATIONS MADE DURING THE PERIOD 2009-2018

SCIENTIFIC NAME	ENGLISH NAME	2018	N SITES 10 YEARS	TREND 10 YEARS
<i>Cygnus atratus</i>	Black Swan	64	30	Moderate increase (p<0.01)
<i>Cygnus olor</i>	Mute Swan	8,333	202	Strong increase (p<0.01)
<i>Anser albifrons</i>	White-fronted Goose	18,894	45	Strong increase (p<0.01)
<i>Anser anser</i>	Greylag Goose	24,918	115	Strong increase (p<0.01)
<i>Anser anser f. domestica</i>	domestic Goose	506	136	Moderate increase (p<0.01)
<i>Branta canadensis</i>	Canada Goose	91	32	Moderate increase (p<0.01)
<i>Alopochen aegyptiacus</i>	Egyptian Goose	100	50	Moderate increase (p<0.01)
<i>Tadorna tadorna</i>	Shelduck	72,242	192	Strong increase (p<0.01)
<i>Anas penelope</i>	Wigeon	147,507	305	Moderate increase (p<0.01)
<i>Anas strepera</i>	Gadwall	14,696	267	Strong increase (p<0.01)
<i>Anas crecca</i>	Green-winged Teal	331,933	442	Strong increase (p<0.01)
<i>Anas platyrhynchos</i>	Mallard	208,707	591	Moderate increase (p<0.01)
<i>Anas acuta</i>	Northern Pintail	20,183	155	Moderate increase (p<0.01)
<i>Anas clypeata</i>	Northern Shoveler	29,533	258	Moderate increase (p<0.01)
<i>Netta rufina</i>	Red-crested Pochard	1,387	78	Strong increase (p<0.01)
<i>Aythya ferina</i>	Pochard	62,788	297	Strong increase (p<0.01)
<i>Aythya nyroca</i>	Ferruginous Duck	677	148	Strong increase (p<0.01)
<i>Aythya fuligula</i>	Tufted Duck	8,739	206	Moderate increase (p<0.01)
<i>Aythya marila</i>	Greater Scaup	69	22	Strong increase (p<0.05)
<i>Mergus merganser</i>	Goosander	839	68	Strong increase (p<0.01)
<i>Phalacrocorax pygmaeus</i>	Pygmy Cormorant	13,138	98	Strong increase (p<0.01)
<i>Bubulcus ibis</i>	Cattle Egret	12,327	347	Strong increase (p<0.01)
<i>Ciconia ciconia</i>	White Stork	270	53	Moderate increase (p<0.01)
<i>Plegadis falcinellus</i>	Glossy Ibis	150	29	Strong increase (p<0.01)
<i>Threskiornis aethiopicus</i>	Sacred Ibis	2 499	92	Strong increase (p<0.01)
<i>Platalea leucorodia</i>	White Spoonbill	1,046	77	Moderate increase (p<0.01)
<i>Phoenicopterus roseus</i>	Greater Flamingo	42,118	93	Moderate increase (p<0.01)
<i>Podiceps cristatus</i>	Great Crested Grebe	30,281	457	Moderate increase (p<0.01)
<i>Podiceps auritus</i>	Slavonian Grebe	25	25	Moderate increase (p<0.05)
<i>Podiceps nigricollis</i>	Black-necked Grebe	17,869	228	Strong increase (p<0.01)
<i>Circus aeruginosus</i>	Marsh Harrier	868	239	Moderate increase (p<0.01)
<i>Gallinula chloropus</i>	Moorhen	13,150	548	Moderate increase (p<0.01)
<i>Grus grus</i>	Common Crane	6,294	96	Strong increase (p<0.01)
<i>Haemantopus ostralegus</i>	Eurasian Oystercatcher	597	16	Strong increase (p<0.01)
<i>Recurvirostra avosetta</i>	Avocet	8,171	52	Moderate increase (p<0.05)
<i>Burhinus oedicnemus</i>	Stone Curlew	150	28	Strong increase (p<0.05)
<i>Pluvialis squatarola</i>	Grey Plover	6,267	69	Moderate increase (p<0.01)
<i>Calidris alba</i>	Sanderling	944	52	Strong increase (p<0.01)
<i>Calidris alpina</i>	Dunlin	114,440	109	Strong increase (p<0.01)
<i>Actitis hypoleucos</i>	Common Sandpiper	462	257	Moderate increase (p<0.01)
<i>Tringa nebularia</i>	Greenshank	734	100	Moderate increase (p<0.05)
<i>Larus audouinii</i>	Audouin's Gull	200	65	Strong increase (p<0.05)
<i>Larus fuscus</i>	Lesser Black-backed Gull	797	142	Strong increase (p<0.01)
<i>Sterna sandvicensis</i>	Sandwich Tern	1,759	154	Moderate increase (p<0.01)

2018 COUNTS AND 10 YEAR TRENDS (direction and magnitude) over the period 2009-2018 of the numbers of 80 regular wintering waterbird species recorded in Italy in mid-January

DUCKS, GULLS & TERNS, COOTS, RAILS & CRAKES ARE THE MOST ABUNDANT GROUPS

All waterbird species have been routinely monitored during IWC counts, including species of feral origin, escapees, and raptors which largely depend on wetlands. The community of Italian waterbirds is dominated by three groups (Ducks; Gulls & terns; Coots, Rails & crakes), which account for more than two-thirds of counted birds.



Flock of Geese and Shelducks, Lagoon of Venice

Duck numbers showed a 22% increase between 2009-13 and 2014-18, whereas the gulls and terns decreased by 6%, and the rails and crakes by 12%. The most striking changes at the species level within these groups throughout 2009-2018 are the threefold increase of Shelduck, the twofold increase of Teal, Pintail and Pochard, and the threefold decrease of Goldeneye.

Considering all groups together, Loons showed the most negative change (-27%). Cranes (+462%) and Storks, Ibises & spoonbills (+86%) had the largest increase. The increase of the latter group is entirely due to the boost of the non-native Sacred Ibis, whose numbers in 2018 reached 2499 individuals. Swans and Geese showed a 44% and 66% increase, with a twofold increase of Mute Swan and Greylag Goose, and a tenfold increase of White-fronted Goose throughout the decade.

GROUPS	MEAN 2009-2013	MEAN 2014-2018
Ducks	663,317	813,929
Gulls and Terns	364,311	342,554
Coots, rails and crakes	267,385	234,762
Waders	155,438	169,769
Cormorants	80,165	90,703
Grebes	44,785	50,578
Geese	24,999	41,441
Flamingos	36,320	40,428
Hérons	35,666	38,309
Swans	5,156	7,412
Cranes	929	5,219
Sea ducks	3,008	3,024
Woodcocks and Snipes	2,749	2,799
Storks, ibises and spoonbills	1,314	2,438
Raptors	1,250	1,225
Loons	260	190
Pelicans	2	1

MEAN NUMBERS OF WATERBIRDS
counted during the mid-January census, 2009-2013 and 2014-2018

TWENTY SITES QUALIFY ACCORDING TO RAMSAR CRITERIA

The large tidal areas of the N Adriatic sea, the major coastal wetlands of N Apulia (S Adriatic sea), S Tuscany (C Thyrrhenian sea) and Sardinia, and some large inland freshwater lakes (Lago di Garda, Lago Trasimeno) host the highest numbers of wintering waterbirds. Large numbers are also counted in the E Po Plain, an area featured by small, disperse inland wetlands, partly originating from restoration processes of cultivated fields which were realised since the early 90s on.

SITES OF INTERNATIONAL IMPORTANCE	Ramsar Site	> 20,000 waterbirds	Mute Swan	White-fronted Goose	Lesser White-fronted Goose	Greylag Goose	Shelduck	Wigeon	Gadwall	Green-winged Teal	Mallard	Northern Pintail	Northern Shoveler	Pochard	Ferruginous Duck	Red-breasted Merganser	Goosander	Great Cormorant	Pygmy Cormorant	White Spoonbill	Greater Flamingo	Black-necked Grebe	Common Coot	Avocet	Grey Plover	Dunlin	Mediterranean Gull	
	Number of sites	14	1	3	2	7	3	4	1	2	2	1	1	1	1	1	3	1	2	1	7	1	1	3	1	2	3	
LOMBARDIA																												
Lago Maggiore																	○											
Laghi Como, Garlate, Olginate																	○											
Lago di Garda		○																										
FRIULI-VENEZIA GIULIA																												
Grado - Marano e Panzano	Ⓡ	○	○	○	○	○		○	○							○									○	○		
VENETO																												
F. Brenta - tratto 1																	○											
Laguna di Caorle e Valli di Bibione		○		○	○	○																						
Laguna di Venezia	Ⓡ	○		○		○	○	○		○	○	○							○		○		○	○		○	○	
Delta del Po	Ⓡ	○					○	○		○	○		○						○		○	○	○					
EMILIA ROMAGNA																												
Pialasse e valli ravennati	Ⓡ	○																										
Comacchio e Mezzano	Ⓡ	○				○																○						
Pianura bolognese - settore centrale						○																						
Pianura bolognese - settore est		○				○																						
UMBRIA																												
Trasimeno		○												○	○													
TOSCANA																												
Maremma Grossetana	Ⓡ	○				○																						
Orbetello e Burano	Ⓡ	○																				○						
PUGLIA																												
Bacini di Ugento																												○
Laghi di Lesina e Varano		○																										○
Manfredonia - Margherita di Savoia	Ⓡ	○					○	○														○		○				
SARDEGNA																												
Oristano e Sinis	Ⓡ	○																	○			○						
Stagno di Cagliari	Ⓡ																				○	○						

WETLANDS OF INTERNATIONAL IMPORTANCE FOR WATERBIRDS identification based on mid-January (2014-2018) count data for Ramsar Criteria 5 and 6*. Empty cells in the "Ramsar site" column identify sites not included in the Ramsar network; Ⓡ identifies wetlands with a partial Ramsar designation.

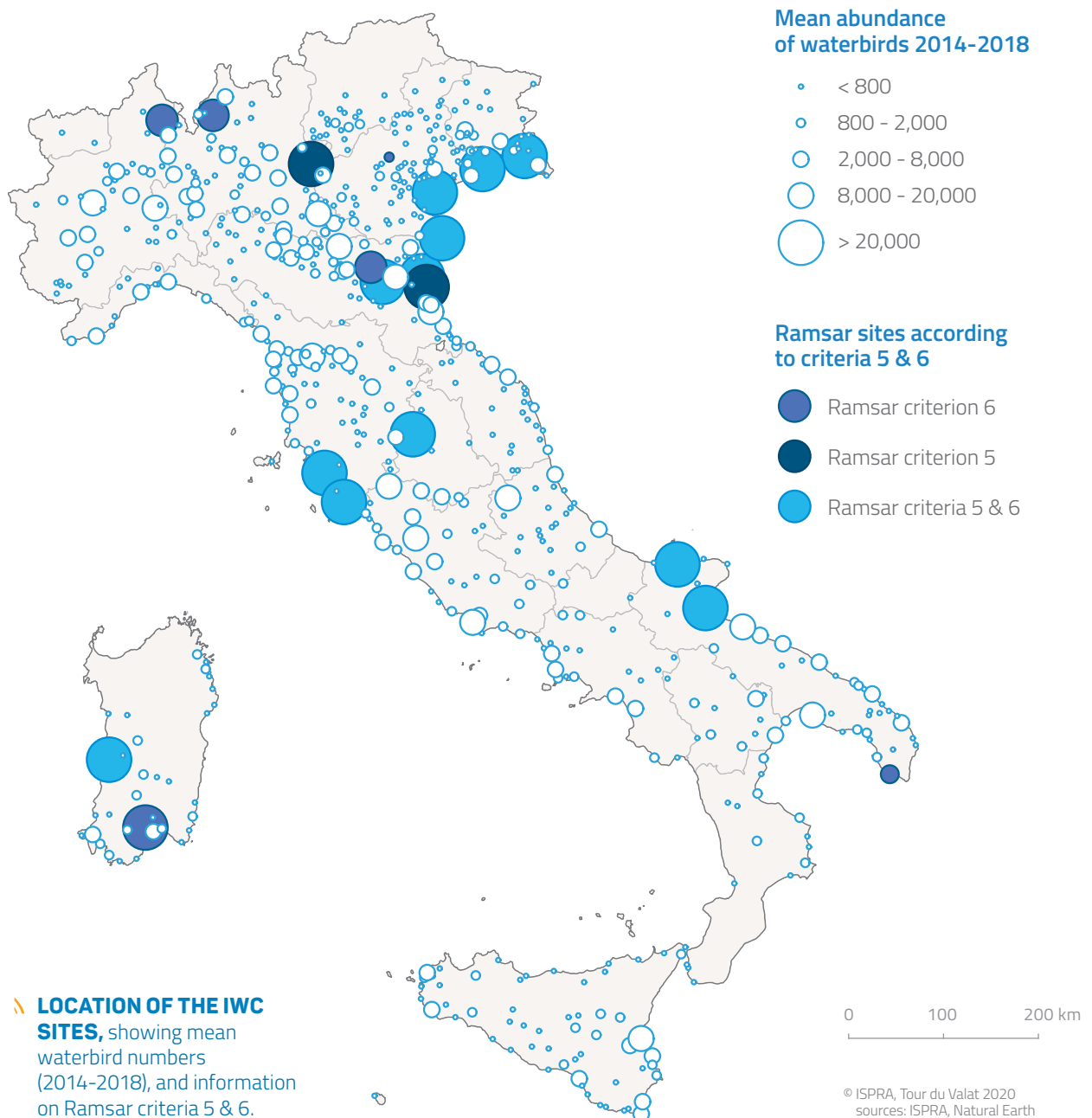
*Criterion 5: A wetland can be considered internationally important if it regularly supports 20,000 or more waterbirds.

Criterion 6: A wetland can be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

▮ **TWENTY SITES QUALIFY** ACCORDING TO RAMSAR CRITERIA

Overall, 20 sites met the Ramsar criteria of international importance in the period 2014-2018. Fourteen sites qualified according to Ramsar criterion 5, and 18 according to Ramsar criterion 6 for one or more species. Internationally important sites include the largest lakes of N and C Italy and the major coastal wetlands of Sardinia and along the Adriatic and Thyrrhenian coast of mainland Italy.

The three major wetland complexes of Northern Adriatic Sea (Grado-Marano-Panzano, Lagoon of Venice, Po delta) host the highest number of waterbirds and the highest number of internationally important waterbird populations. Among the 22 species with internationally important numbers, Greylag Goose and Greater Flamingo qualify the highest number of sites.



▮
LOCATION OF THE IWC SITES, showing mean waterbird numbers (2014-2018), and information on Ramsar criteria 5 & 6.

FOCUS ON "KEY" SPECIES IN THE COUNTRY

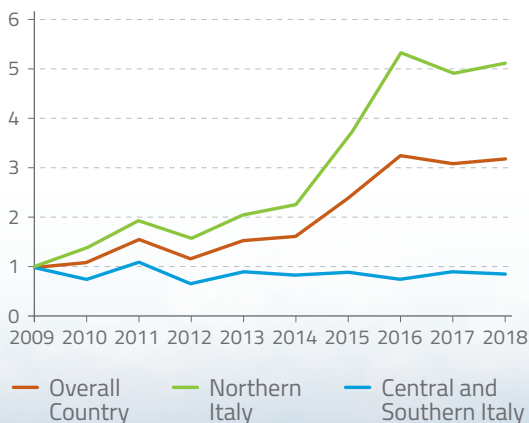
SHELDUCK *TADORNA TADORNA*

The Shelduck is a duck typical of coastal saline and hypersaline wetlands, with a current estimate of 440-500 breeding pairs. In the past, it was rather rare as a non-breeder in most of Italy, except in the S (Serra et al. 1997). Its winter population and range gradually increased after the turn of the 20th Century, and after 2007, the positive trend became steeper (Zenatello et al. 2014). Annual counts after 2015 exceed 70,000 birds, i.e. 10 times higher than in the early 1990s, and more than three times higher than in 2009.

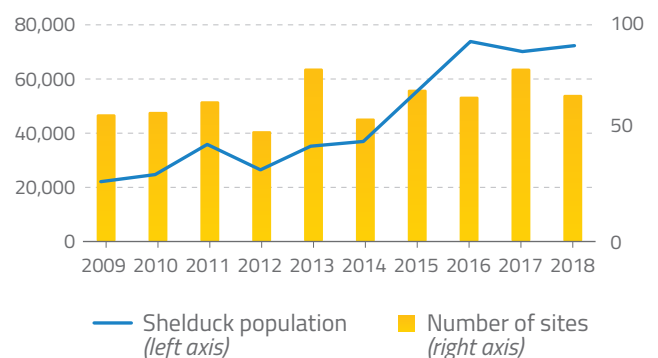
Sites of international importance in Italy in 2018 (threshold of 1% pop.): **3**

Birds wintering in Italy belong to the Black Sea – Mediterranean population, whose recent trend is classified as “strongly increasing” due to the trends in countries with the highest winter populations: positive in Algeria (e.g. Boukhssaim et al. 2006), Italy and Tunisia, and fluctuating in Ukraine (Wetlands International 2017). 77% of the Italian winter population is concentrated on two large wetlands of the N Adriatic: the Po Delta and the Lagoon of Venice. The locally increasing stocks drive the overall national trend, which is stable elsewhere.

SHELDUCK POPULATION TRENDS in Italy



EVOLUTION OF THE SHELDUCK POPULATION in Italy, and number of occupied sites



The population wintering in Sicily, Sardinia and in continental Italy, S of the Po plain, is stable, whereas the N Italian population – which in the 1990s represented less than 10% of the wintering population (Serra et al. 1997) – shows a marked increase, which becomes even steeper after 2014. The causes of this trend are unknown, and could involve an increase of the Mediterranean-Black Sea population and/or a climate-driven shift of the population wintering in C Mediterranean towards more N-NE sites (e.g. Pavón-Jordán et al. 2020).

However, the positive trend featured in the same N Adriatic wetlands by several hunted and protected species belonging to different bio-geographic populations suggests that anthropogenic causes, such as habitat management and increasing artificial feeding to attract ducks on some hunting estates, could play a crucial role.

Waterbirds feeding on mudflats, Lagoon of Venice



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IMPORTANCE OF IMPROVING THE RAMSAR NETWORK

The International waterbird census (IWC) in Italy relies largely upon the work of volunteers and non-professional ornithologists, acting at a regional or sub-regional level. The Italian Institute for Environmental Protection and Research (ISPRA) coordinates the counts at a national level, and hosts the national IWC database.



The regular and coordinated yearly coverage of most of the wetlands, since the early 1990s, allows the accurate calculation of population estimates and trends, the identification of wetlands of international and national importance, and the identification of key coastal areas for wintering seabirds within the Marine Strategy Framework Directive.

Data collected so far highlight the urgency of improving the existing list of Ramsar sites to include yet unprotected wetlands of International importance, as well as the need to achieve more comprehensive Ramsar coverage for many sites already included in the list (e.g. the entire Lagoon of Venice, Grado–Marano and Panzano bay, the Po delta, the Oristano gulf..., instead of just the small portions of these wetlands currently covered: Baccetti et al. 1995, Smart & Viñals 2004).

National trends of wintering populations strongly differ, in some cases, from trends at the flyway/population level (e.g. Pintail, Pochard), suggesting that, if not properly analysed within a 'flyway-wide' framework, even analyses at a national level may lead to misleading opinions on species status, as well as on the role of wetlands in the conservation of waterbird populations. Local increases of species with an unfavourable conservation status may be linked to habitat improvement or to changes of migration strategy and/or routes, but the possible existence of artificially managed sites acting as a sink for part of the flyway should always be taken into account.

Group of IWC counters,
Lago di Varano



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