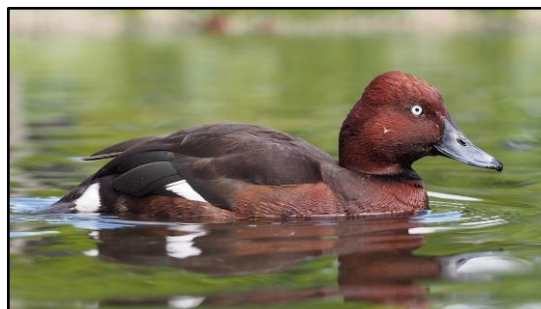


Pygmy Cormorant (*Phalacrocorax pygmaeus*) and Ferruginous Duck (*Aythya nyroca*) – Bulgaria



Pygmy Cormorant

Photo: Martin Mecnarowski / CC-BY-SA-3.0, from Wikimedia Commons



Ferruginous Duck

Photo: Francis C. Franklin / CC-BY-SA-3.0, from Wikimedia Commons

	Pygmy Cormorant	Ferruginous Duck
Conservation status	IUCN Global: Least concern IUCN EU27: Least concern EU27: Secure	IUCN Global: Near threatened IUCN EU27: Least concern EU27: Unknown
Protection status	BD: Annex I CMS: Appendix II Bern Convention: Annex II	BD: Annex I CMS: Appendix I and II Bern Convention: Annex III
Population (2008-12)	EU27 Breeding: 14,600 – 17,300 pairs BG Breeding: 440 – 500 pairs	EU27 Breeding: 13,100 – 20,700 pairs BG Breeding: 1,200 – 400 pairs
MS reported increases	AT, BG, HU, IT, RO	CY, HU, IT, PL, SI
Other MS	GR, SI, SK	AT, BG, CZ, DE, ES, GR, LT, LV, PT, RO, SK

Summary: The Pygmy Cormorant and Ferruginous Duck are considered priority species due to a recent decline in their population number. Although currently there is an increasing trend observed for the Pygmy Cormorant population and the European status of the Ferruginous Duck is evaluated as Least Concern, both species are susceptible to various threats that could negatively impact their conservation status. Loss of habitats, poaching and unsustainable management practices are considered among the main pressures on both species. The Black Sea coastline of Bulgaria and the Burgas¹ wetlands provide important habitats for both species. The 2010-2013 LIFE+ Project 'Life for the Bourgas Lakes' undoubtedly led to the increases in the populations of the Pygmy Cormorant and Ferruginous Duck by maintaining and enhancing their feeding, breeding and roosting habitats; reducing direct and indirect killing of birds by effective cooperation between all key stakeholders, endorsement of national strategies, and enhancing public understanding of the need conservation measures for the species.

Background

Status and EU occurrence

The Pygmy Cormorant (*Phalacrocorax pygmaeus*²) is a waterbird of Europe and Asia (middle-east and central regions). Between 74% and 94% of its total population occurs in Europe, mainly in the south-east, where it breeds on the Balkan Peninsula, predominantly around the Danube River and its delta and along the Black Sea Coast. The species is partially migratory, as some northern breeding birds move to wintering sites. The largest breeding colony is in the Danube Delta, numbering 4,000 pairs. In Bulgaria, one of the most important locations

¹ Sometimes transliterated as *Bourgas*.

² Now considered to be in the genus *Microcarbo* according to BirdLife International

for the species is the Burgas wetlands, which hold about 100 to 500 breeding pairs of Pygmy Cormorants, while in the winter their number increases to over 10,000 individuals (BirdLife International 2015).

The Burgas wetlands or Burgas lakes is a group of coastal lakes near the city of Burgas and in the proximity of Black Sea consisting of: Burgas Lake (also called 'Vaya lake', the largest natural lake in the country, Ramsar and Natura 2000 site - SPA and SCI BG0000273), Atanassovsko Lake (providing the largest salt production in Bulgaria, Ramsar and Natura 2000 site - SPA and SCI BG0000270), Mandra-Poda complex (complex of water basins with different levels of saltiness, Natura 2000 site - SPA and SCI BG0000271; Poda protected area is also a Ramsar site).

In recent years the European population of the Pygmy Cormorant has increased, with the latest Member State reports indicating short-term and long-term increases in all countries where the trends are known, except for the population in Austria which was reported as being stable (Annex 1). Such trends are reflected in the situation at Burgas Lakes, as the species had not been observed as nesting there for some time, but has bred again since 2010-11 in the Burgas Lake and the Poda protected area. As a result of these widespread increases the species' IUCN status in the EU is 'Least Concern' (BirdLife International, 2015) and its global status has improved from 'Near Threatened' in 2008 to 'Least Concern' in 2012 (BirdLife International, 2018a).

The Ferruginous Duck is a diving duck that breeds in central and eastern Europe, south-western Asia and, occasionally, in northern Africa. Its global population is estimated to be between 180,000 – 240,000 individuals, with Europe holding an estimated 17,400 – 30,100 pairs. The largest breeding population is in the Danube Delta in Romania, numbering about 11,761 – 18,018 pairs. The species is migratory, or partially migratory, with its wintering range overlapping some of its breeding range, as well extending further into the middle-east, south-east Asia and north-east and west Africa.

In Europe Ferruginous Duck breeding populations have shown varying trends, with long-term declines in several countries (including Bulgaria), but the last Member State reports appear to show a more favourable situation (Annex 1). However, the status of the large population in Romania is unknown, and therefore it is not possible to assess the species' overall EU conservation status. Despite this, it is considered unlikely that its population could be decreasing sufficiently to be considered as threatened according to IUCN criteria, so BirdLife International have evaluated its EU threat status as 'Least Concern' (BirdLife International 2015). The species' global IUCN threat status is 'Near Threatened' as it is suspected to be declining at a moderate rate overall (BirdLife International, 2018b).

Ecological requirements

The preferred habitats of the Pygmy Cormorant are lakes and river deltas, flooded areas with shrubs and trees, transition zones between reedbeds and open waters. During winter it can also inhabit waters with higher salinity, in estuaries or lagoons, in coastal wetlands and along rivers (del Hoyo et al. 1992, Johnsgard 1993, Crivelli et al. 2000, BirdLife International 2004). It often shares habitats with herons, egrets, and the Eurasian Spoonbill (*Platalea leucorodia*). It breeds in large mixed-species colonies, building its nests in dense vegetation, in trees and shrubs (e.g. *Salix* and *Tamarix*), occasionally also in reeds (del Hoyo et al. 1992). It feeds mainly on fish, often hunting in small groups.

The Ferruginous Duck inhabits standing waters, shallow wetlands and mudflats with abundant floating and shoreline vegetation (e.g. reeds and *Salix*). It also has a preference for large river deltas (Kear 2005) and extensively managed fish ponds in eastern Europe (Petkov 2006). Unlike the Pygmy Cormorant, the Ferruginous Duck avoids large open areas (Kear 2005). Breeding usually occurs in single pairs or loose groups (del Hoyo et al. 1992). Its diet consists of plant and animal matter, e.g. seeds, roots and vegetative parts of aquatic plants as well as worms, molluscs, beetles, small fish and amphibians (del Hoyo et al. 1992, Brown et al. 1982).

Pressures and threats

In general, the major threats to both species are: habitat loss and deterioration of the quality of their breeding, wintering and roosting habitats. This can be due to many factors, such as degradation of wetlands, changes in hydrological regimes, land use change and land management practices around wetlands (e.g. land reclamation and irrigation, water extraction, drainage of wetlands) etc. Further threats are disturbance and intentional killing by hunters, anglers and terrestrial predators; and accidental killing through entanglement in fishing nets, collision with power lines, and industrial accidents etc. (BirdLife International 2015, WWF Danube Carpathian Romania 2014, Cheshmedzhiev and Petkov 2014, Plachiiski et al. 2014).

The most frequently reported ‘highly important’ pressures and threats for the Pygmy Cormorant and the Ferruginous Duck as listed in the Member State Article 12 reports are indicated below.

Pygmy Cormorant	Ferruginous Duck
<ul style="list-style-type: none"> - Changes in water bodies conditions - Abiotic changes (climate change) - Fishing and harvesting aquatic resources - Illegal taking of marine fauna - Abiotic natural processes - Marine and freshwater aquaculture - Hunting and collection of terrestrial wild animals - Pollution to surface waters - Other changes to ecosystems - Vegetation succession/Biocenotic evolution 	<ul style="list-style-type: none"> - Changes in water bodies conditions - Marine and freshwater aquaculture - Hunting and collection of terrestrial wild animals - Fishing and harvesting aquatic resources - Abiotic changes (climate change) - Illegal taking of marine fauna - Pollution to surface waters - Other changes to ecosystems - Vegetation succession/Biocenotic evolution - Biotic changes (climate change)

Drivers of improvements: actors, actions and their implementation approaches

Organisers, partners, supporters and other stakeholders

The LIFE+ Project “Life for the Bourgas Lakes” played a key role in increasing the populations of Pygmy Cormorant and Ferruginous Duck in Bulgaria (Annex 2). This was led by the Bulgarian Society for the Protection of Birds (BSPB)(which is the Bulgarian Partner of BirdLife International), in collaboration with its partners: Chernomorski solnici JSC., Bulgaria Royal Society for the Protection of Birds/BirdLife, United Kingdom; Bulgarian Biodiversity Foundation and Municipality of Burgas, Bulgaria; and aimed to ensure long-term conservation of five priority bird species: Pygmy Cormorant, Ferruginous Duck, Dalmatian Pelican (*Pelecanus crispus*), Eurasian Bittern (*Botaurus stellaris*) and White-headed Duck (*Oxyura leucocephala*), and their habitats at three Natura 2000 SPAs: Atanasovsko Lake, Burgas Lake and Mandra-Poda Complex, situated within the city of Burgas, on the Black Sea coast of Bulgaria. The project ran between 2010 and 2013 and was among the winners of the European Commission’s “2016 Best LIFE project” in the category “Nature”. One of the most important reasons for the good results of the project was the stakeholder management during its implementation (and beyond), that led to the establishment of an association against poaching, which involved stakeholders with seemingly different goals. Local stakeholders, including schools and students and many volunteers were also very active and supported the project. Following the completion of the project, another LIFE project LIFE11/NAT/BG/000362 - “Salt of Life” - began, that should further secure and continue the conservation measures for the protected species at Burgas wetlands.

Contributions / relevance of strategic plans (e.g. species action plans)

As a result of the LIFE project, Action Plans for the priority species were developed and endorsed, including for Pygmy Cormorant and Ferruginous Duck. The plans define the threats for the species and stipulate the necessary activities for their protection from 2014 to 2023. In addition to this, the National Action Plan for Conservation of Wetlands of High Significance in Bulgaria (2013–2022) was updated and endorsed.

Measures taken and their effectiveness

According to the Member State Article 12 report the measures taken by Bulgaria for the two species are listed below.

Application of conservation measures for Pygmy Cormorant and Ferruginous Duck for 2007-2012 in Bulgaria

Measure	Type	Ranking	Inside/outside N2k	Broad Evaluation
Pygmy Cormorant				
Restoring/improving water quality	Administrative	H	Both	Maintain Enhance Long-term
Restoring/improving the hydrological regime	Administrative	H	Both	Maintain Enhance Long-term
Managing water abstraction	Administrative	H	Both	Maintain Enhance Long-term
Legal protection of habitats and species	Legal	High	Both	Maintain Enhance Long-term
Regulation/ Management of hunting and taking	Legal/Administrative	Medium	Both	Maintain Long-term
Ferruginous Duck				
Establish protected areas	Legal/Administrative one off	High	Inside	Maintain Enhance Long-term
Legal protection of habitats and species	Legal/Administrative one off	High	Both	Maintain Enhance Long-term

Source: Bulgaria Article 12 report 2012 available at:

https://bd.eionet.europa.eu/activities/Reporting/Article_12/Reports_2013/Member_State_Deliveries

The specific measures and actions undertaken within the LIFE Project are outlined below and their achievements described in the next section. The key measures taken included:

- **Reducing the direct and indirect threats on priority bird species by:**
 - Establishing the *Association of Environmental Organizations, Hunting and Angling Unions and Fishing Sport Clubs* in Burgas – local NGOs and various stakeholders with seemingly opposing aims gathered together with the objective to successfully outcompete poaching activities. The Association was adopted by the National Agency for Fisheries and Aqua-culture (NAFA) as a national model.
 - Deployment of a specially designed protocol to monitor and prevent illegal hunting (i.e. poaching) at the three SPAs. During the project implementation more than 170 checks were carried out and many fines were issued, which resulted in a reduction in the number of registered poaching attempts by 55%.
 - Insulation of 60 electricity poles and 8.8 km of power lines and placing of 796 diverters. These activities were carried out in partnership with EVN Elektrorazpredelenie Bulgaria.
 - Securing about 29,600 m² of dikes through a non-lethal predator control system. This helped restoring roosting sites for targeted species. The predator control measures also resulted in reduced losses to predation of juveniles by mammals and decreased destruction of eggs of the ground nesting birds.
 - Clearance of waste through 15 cleaning campaigns, involving more than 600 volunteers.
- **Effective enforcement of nature conservation legislation** – An innovative and successful model of cooperation among state agencies and NGOs was applied. As a result of this cooperation six strategic documents (the National Action Plans for the five priority bird species and the National Action Plan for Conservation of Wetlands of High Significance in Bulgaria) were updated and endorsed.

- **Habitat restoration management measures**
 - Construction of eight artificial islands and ten roosting platforms at Poda protected site (part of the PA Mandra-Poda), covering 332 m² and providing safe resting and roosting sites for up to 656 Pygmy cormorants. Moreover, the creation of artificial islands and roosts reduced the interspecific competition between Dalmatian Pelicans and Pygmy Cormorants.
 - Restoration of 14.5 km of dikes and barriers³ at Atanasovsko Lake, suitable for roosting of up to 1 384 Pygmy Cormorants.
 - Permanent removal of illegal deposition of construction and household waste from 30 locations (using 600 volunteers) around the SPAs, leading to an increase of areas suitable for breeding, roosting and feeding habitats of the Ferruginous Duck.
- **Pilot methods for sustainable management of protected areas in the future** - In the context of the project a monitoring system was setup in 2010. This included the monitoring of breeding, wintering and migratory activities of the priority species, using selected indicators to measure the project's effectiveness in terms of the improvement of the habitats of the priority species. The monitoring results were then used for development of the species' National Action Plans. After finishing of the project, the monitoring system was adopted by another Life project - LIFE11/NAT/BG/000362 - "Salt of Life", and may be adapted for use for other SPAs.
- **Education, dissemination and outreach for enhancing public understanding** for the need for conservation actions and the sustainable management of protected areas:
 - series of public events for awareness rising;
 - series of workshops for experts from state institutions on preventing crimes against nature;
 - developing (along with hunters) and distributing a 'Hunter's Guide: Birds', to increase the overall knowledge of hunters of legislation and to help them with the proper identification of birds;
 - developing and distributing a 'Guide for action in case of industrial accidents and decrease of their impact on priority bird species in the Burgas region' – providing instructions for specific actions for saving injured birds in case of industrial accidents;
 - creating a website for the project to promote its results - www.burgaslakes.org;
 - establishing a 12-point tourist route, including infrastructure (e.g. boat quay, observation view points) to promote the Burgas lakes while minimising the species disturbance; and.
 - preparing flyers, posters, stickers, bulletins, education materials, calendars, T-shirts, photo exhibitions, etc. and more than 2,155 publications in regional and national media.

Funding sources (current and long-term) and costs (one-off and ongoing)

The total costs of all conservation measures of the two species have not been assessed. The costs of the 'Life for the Bourgas lakes' project were €1,775,006. The indicative budgets for implementing the measures in the Action Plans for the Pygmy Cormorant were €1,612,000, and €5,564,500 for the Ferruginous Duck; with the required financing expected to come from both national and external funding (e.g. LIFE, Operational Programme Environment, Bulgarian-Swiss Cooperation Programme).

Future actions:

The continuation of conservation measures for the two priority species and their habitats was secured by the implementation of another LIFE Nature project – LIFE11/NAT/BG/000362 – 'Salt of Life' (After-LIFE Conservation Plan, 2014). In addition, the cooperation during 'The Life for the Burgas lakes' project between the beneficiaries and the local electricity operator 'EVN Elektrorazpredelenie Bulgaria' JSC led to further collaboration for the project 'Life for safe grid' (LIFE12 NAT/BG/000572) that positively impacted the conservation of priority species at the Burgas lakes and hence led to reducing direct threats for the species.

The broader situation regarding current and future actions for the two species is uncertain, as although the Action Plans for the species for the period 2014-2023 were endorsed in 2014 by the Ministry of Environment and Water (the competent authority for their implementation), they have not been implemented as planned. Despite consulting with the chief expert in the Ministry of Environment and Water - National Nature Protection Service it was not possible to obtain relevant information for this case study on what actions and measures have been implemented so far based in relation to the defined indicators. Similarly, the Management plan for Atanasovsko Lake that was developed and finalised in 2015 has not yet been endorsed.

³ Artificial barriers made of wood and mud (unlike dikes built from earth mass).

Achievements

The measures taken by the LIFE project, as described above, led to immediate positive impact on the priority bird species through increasing the area of suitable breeding habitat for about 12-50 Pygmy Cormorants and 20-38 Ferruginous Duck. Improvements included: restoration of 25 ha of habitat by deepening lakes; reed management through cutting of 18 ha of reed; and insulation of powerlines that helped preventing fatalities due to collisions and electrocution.

Other impacts (e.g. other habitats and species, ecosystem services, economic and social)

The implementation of the project resulted in positive impacts for the other three target species, Dalmatian Pelican, White-headed Duck and the Eurasian Bittern and improvement of their habitats, which are also likely to benefit other species that use the sites. For example, enhancing the management of the complex of coastal wetlands around the city of Burgas, is likely to benefit many migratory birds as the area is an important migratory staging post.

Next to the benefits for the targeted species, local farmers are also likely to have benefited from the enlargement of the areas (from 485 km² to 4,040 km²) by use of measure 213 (Natura 2000 payments and payments linked to Directive 2000/60/EC) and measure 214 (Agri-environmental payments) under the Rural Development Program 2007-2013.

Conclusions and lessons learnt

The key targeted conservation measures that led to the improvements

- Strengthening the strategic planning framework to enforce nature conservation legislation and to secure long-term environmental benefits for the target species and their habitats, which resulted in six updated and endorsed strategic documents.
- Creating secure locations for feeding, breeding and roosting for the five priority species, including the Pygmy Cormorant and Ferruginous Duck, to ensure their favourable condition. The enhancement and maintenance of these positive outcomes has been secured by implementation of additional measures under the LIFE project 'Salt of Life'.
- Reducing the impact of direct and indirect threats on the priority bird species, hence reducing their rates of decline; with continuation of the predator control system at Atanasovsko Lake after the LIFE project's completion, by the Burgas Salinas with help from BSPB volunteers.
- Ensuring the mainstreaming of best practice to achieve long-term conservation of the priority bird species and their habitats, which was supported by using the data gathered from the monitoring scheme during the project to inform the development of the National Action Plans of the species and a set of prescriptions for the future development of the management plans for the SPAs.
- Enhancing public understanding of, and support for, the conservation of the five targeted bird species, their habitats and the wider Natura 2000 sites.

Conservation measures that have not been sufficiently effective

- Due to the difficult terrain, the reed cutting intended to ensure favourable conservation status of the Ferruginous Duck (along with the Eurasian Bittern) was implemented over a smaller area than planned (18 ha instead of the planned 48 ha).

Factors that supported the conservation measures

- Funding availability, in particular the LIFE Nature programme action grants.
- Efforts made to increase awareness and promote the importance of the application of conservation measures.
- Successful cooperation between the different key stakeholders.
- Successful cooperation with the local electricity operator "EVN Elektrorazpredelenie Bulgaria" JSC that led to future projects.
- Continuation of the implementation of conservation measures through other nature protection projects.

Factors that constrained conservation measures

- Increased urbanisation, as Burgas is a sea port and the fourth biggest city in Bulgaria.
- Intensive recreation and tourism along the Black Sea coastline, which often causes disturbance of nesting birds and hence impacts their reproductive success.
- The difficult terrain of the sites that hindered the reed cutting.
- Political instability during the years of project implementation have led to delays in the completion of some of the planned actions.
- Poor waste management practices in the area, leading to illegal dumping and wastewater pollution, etc.
- Insufficient institutional capacity to implement conservation measures and to control legal enforcement at a national level.

Quick wins that could be applied elsewhere for the species

- Application of the monitoring scheme.

Examples of good practice, which could be applied to other species

- Engagement of all key stakeholders in the conservation of the species and enhancing their understanding for the need of support for conservation.
- Implementation of the monitoring scheme that covered breeding, migratory and wintering birds as well as the threats to them.
- Establishment of the association with many different actors united by the common goal - conservation of protected species and management of Natura 2000 sites. The National Agency for Fisheries and Aqua-culture (NAFA) has adopted this cooperation as a national model and has signed similar agreements with NGOs throughout Bulgaria.
- Cooperation with the electricity distribution company EVN Bulgaria. In 2011 the two organizations - EVN Bulgaria and BSPB signed a Memorandum of Understanding and Cooperation. In 2012 EVN Bulgaria became a beneficiary for the LIFE project 'LIFE for safe grid' that aimed to enhance conservation of the globally threatened Eastern Imperial Eagle (*Aquila heliaca*) in Bulgaria by reducing mortality caused by power lines. Currently, also another electricity distribution company - CEZ Distribution Bulgaria AD became a beneficiary of LIFE project "Life birds on power lines" (LIFE16 NAT/BG/000612) that aims to conserve threatened bird species in Natura 2000 sites in Bulgaria through retrofitting of hazardous overhead powerlines.

References

Barati, A., Javan, S. and Sehhatibet, M.E. (2008) Reproductive biology of Pygmy Cormorant. *Phalacrocorax pygmeus* in Siahkeshim, Protected Area, Northern Iran. *Marine Ornithology* 36: 163–166.

BirdLife International (2015). European Red List of Birds. Office for Official Publications of the European Communities, Luxembourg.

BirdLife International (2018a) Species factsheet: *Microcarbo pygmaeus*. Downloaded from <http://www.birdlife.org> on 13/10/2018.

BirdLife International (2018b) Species factsheet: *Aythya nyroca*. Downloaded from <http://www.birdlife.org> on 13/10/2018.

Botev, B. (ed.) (1985) Red Data Book of Bulgaria, Vol. 2, Animals, Sofia, BAS

Brown, L.H., Urban, E.K. and Newman, K. (1982) The Birds of Africa, Volume I. Academic Press, London.

Bulgarian Biodiversity Foundation (2013) National Action Plan for Conservation of Wetlands of High Significance in Bulgaria 2013 – 2022

EEA Reference Portal for reporting under the Article 12 of the Birds Directive - https://bd.eionet.europa.eu/activities/Reporting/Article_12/reference_portal

EEA *Aythya nyroca* fact sheet 2008-2012 - summary (Eastern Europe/E Mediterranean & Sahelian Africa) <https://bd.eionet.europa.eu/article12/static/factsheets/aythya-nyroca-eastern-europe-e-mediterranean-sahelian-africa.pdf>

EEA *Phalacrocorax pygmeus* fact sheet 2008-2012 - summary (Black Sea & Mediterranean) <https://bd.eionet.europa.eu/article12/static/factsheets/phalacrocorax-pygmeus-black-sea-mediterranean.pdf>

Golemansky, V. (ed.) (2011) Red data book of the Republic of Bulgaria, Vol. 2 Animals, Bulgarian Academy of Sciences, Ministry of Environment and Waters of Bulgaria. Sofia, 2011

del Hoyo, J., Elliot, A. and Sargatal, J. (1992) Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.

Hume, R. (2011) RSPB Birds of Britain and Europe (3rd (+CD) ed.). Dorling Kindersley. ISBN 978-1405362023.

Iankov, P. (ed.) (2007) Atlas of Breeding Birds in Bulgaria. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10, Sofia, BSPB, 679 p.

Kear, J. (2005) Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.

Cheshmedzhiev, S. and Petkov, N. (ed.) (2014) Action Plan for the Protection of Ferruginous Duck (*Aythya nyroca*) in Bulgaria 2014-2023. Sofia, BSPB 61 pp.

Nelson, J. B. (2006). Pelicans, Cormorants, and Their Relatives: The Pelecaniformes. Bird Families of the World. Oxford University Press. ISBN 978-0-19-857727-0.

Petkov, N. 2006. The importance of extensive fishponds for Ferruginous Duck (*Aythya nyroca*) conservation. In: Boere, G.; Galbraith, C., Stroud, D. (ed.), Waterbirds around the world, pp. 733-734. The Stationary Office, Edinburgh, UK.

Plachiiski, D., Demerdzhiev, D., Popgeorgiev, G., Petkov, N. and Kornilev, Y. (2014) Action Plan for the conservation of small cormorants (*Phalacrocorax pygmeus*) in Bulgaria 2014-2023, 98 pp. Sofia, BSPB-MOEW.

The IUCN Red List of Threatened Species. Version 2017-3 www.iucnredlist.org. Downloaded on 11 April 2018.

Valcheva, M. and Kornilev, Y. (2014) Layman's Report LIFE+ project „Ensuring conservation of priority bird species and coastal habitats at the Bourgas Natura 2000 wetland sites”, LIFE08/NAT/BG/000277, BSPB.

WWF Danube Carpathian Romania (2013) Green Borders - LIFE project “Cross-border conservation of *Phalacrocorax pygmeus* and *Aythya nyroca* at key sites in Romania and Bulgaria”, LIFE07 NAT/RO/000681.

Authorship

Prepared by Denitza Pavlova of Denkstatt, as part of the European Commission study on identifying the drivers of successful implementation of the Birds and Habitats Directives (under contract ENV.F.1/FRA/2014/0063), carried out by the Institute for European Environmental Policy, BirdLife International, Deloitte, Denkstatt, Ecologic, ICF Consulting Services and PBL Netherlands Environmental Assessment Agency.

The information and views set out in this case study are those of the authors and do not necessarily represent the official views of the Commission.

Acknowledgments

The case study was informed by consultations with the following experts: monitoring LIFE project expert – Ivaylo Zafirov; biodiversity expert at the Ministry of Environment and Water – Valery Georgiev; biodiversity expert from the team that developed the Atanasovsko Lake Management Plan – Boyan Mitchev.

Annex 1.a. The Pygmy Cormorant (*Phalacrocorax pygmaeus*) (Black Sea & Mediterranean) conservation status at Member State and EU levels

Increasing	+	Stable	0	Unknown	x	Decreasing	-	Fluctuating	F	Uncertain	U
------------	---	--------	---	---------	---	------------	---	-------------	---	-----------	---

	Breeding population				Breeding range				Wintering population			
	Short-term		Long-term		Short-term		Long-term		Short-term		Long-term	
AT	2001-12	+	1980-2012	+	2001-12	0	1980-2012	0				
BG	2000-12	+	1980-2012	+	2000-12	+	1980-2012	+	2001-12	+	1980-2012	+
GR												
HU	2003-12	+	1995-2012	+	2000-12	+	1980-2012	+				
IT	2000-10	+	1994-2010	+	2002-13	+	1983-2013	x	2000-09	+	1991-2009	+
RO	2000-12	+	1980-2012	+	2000-13	+	1980-2012	+	2000-13	F	1980-2012	x
SI									2001-12	+	1980-2012	+
SK	2000-12	x	1980-2012	x	2000-12	x	1980-2012	x	2000-12	+	1980-2012	+
EU overall		+		+						+		+

Source: Member State Article 12 reports as compiled by ETC0BD on EIONET

<https://bd.eionet.europa.eu/article12/summary?period=1&subject=A393>

Annex 1.b. The Ferruginous Duck (*Aythya nyroca*) conservation status at Member State and EU levels

Increasing	+	Stable	0	Unknown	x	Decreasing	-	Fluctuating	F	Uncertain	U
------------	---	--------	---	---------	---	------------	---	-------------	---	-----------	---

Eastern Europe/E Mediterranean & Sahelian Africa

	Breeding population				Breeding range				Wintering population			
	Short-term		Long-term		Short-term		Long-term		Short-term		Long-term	
AT	2001-12		1980-2012	x	2001-12	0	1980-2012	0				
BG	2000-12	F	1980-2012	-	2000-12	F	1980-2012	F	2000-12	F	1980-2012	+
CY	2001-12	+	1980-2012	+	2001-12	+	1980-2012	+	2001-12	+	1980-2012	+
CZ												
DE	1998-2009	0	1985-2009	0	1998-2009	0	1985-2009	0				
GR												
HU	2000-12	+	1990-2012	+	2000-12	0	1980-2012	0				
IT	2000-03	+	1980-2003	+	2002-13	-	1983-2013	+	2000-09	+	1991-2009	+
LT	2001-12	-	1980-2012	-	2001-12	-	1980-2012	x				
LV	2001-12	0	1978-95	-		x		x				
PL	2000-13	+	1980-2013	-		x		x				
RO	2000-12	x	1980-2012	x	2000-13	x	1980-2012	x	2000-13	F	1980-2012	x
SI	2001-12	+	1980-2012	+	2001-12	+	1980-2012	F	2001-12	+	1980-2012	+
SK	2000-12	0	1980-2012	-	2000-12	0	1980-2012	-				
EU overall		x		x						+		+

Source: Member State Article 12 reports as compiled by ETC0BD on EIONET

<https://bd.eionet.europa.eu/article12/summary?period=1&subject=A060-B>

West Mediterranean/North & West Africa

	Breeding population				Breeding range				Wintering population			
	Short-term		Long-term		Short-term		Long-term		Short-term		Long-term	
ES	1998-2009	0	1980-2009	0	1998-2009	0	1980-2009	0	1998-2011	0	1980-2011	0
PT	2001-12	x	2001-12			x						
EU overall		x		x						+		+

Source: Member State Article 12 reports as compiled by ETCOBD on EIONET
<https://bd.eionet.europa.eu/article12/summary?period=1&subject=A060-B>

Annex 2. LIFE Nature Projects that aimed to help conserve the Pygmy Cormorant (*Phalacrocorax pygmaeus*) and Ferruginous Duck (*Aythya nyroca*)

Project Title	Project N°	MS	Type Of Beneficiary
LIFE FOR THE BOURGAS LAKE - Ensuring Conservation of Priority Bird Species and Coastal Habitats at the Bourgas Natura 2000 Wetland Site	LIFE08 NAT/BG/000277	BG	NGO- Foundation

Source: Life Programme database.