Common pochard

Aythya ferina

BASC's evidence review and recommendations for sustainable shooting

2023–2028
Recommendation

No take, targeted conservation effort required.

BASC
The British Association for Shooting & Conservation

Common pochard - BASC recommendation

No take – targeted conservation effort required

Research required

- Breeding and wintering surveys to better understand local and national distribution and abundance.
- Historic bag returns and the submission of current bag data to better inform harvest estimates (data can be submitted to the Game & Wildlife Conservation Trust (GWCT) National Gamebag Census or BASC Green Shoots Bagged It).

Shooting restrictions

- Voluntary moratorium, i.e. shooters should voluntarily refrain from shooting common pochard.

Habitat management

- Maintenance or restoration of freshwater floodplains to provide optimum feeding and roosting environments comprising of deep water (up to 2.5m).
- Maintenance or creation of abundant aquatic plant areas which provide roots, shoots, and seeds for food.
- Targeted predator control in areas where known breeding populations exist.

Stage 2 assessment

Aythya ferina - Common pochard

Species summary

Pochard show widespread declines across their range, in part a result of declines from an all-time high[1]. The species originally expanded in size and range due to development of inland fisheries in Eastern Europe which have now been abandoned or intensified, making them less suitable for pochard[1].

The highest breeding numbers of pochard are found in Russia and Eastern Europe1. The UK supports a limited percentage of the global breeding population (<1%) and therefore conservation action must be taken at a flyway level to be effective.

Currently, pochard are under the highest AEWA protection and a flyway level action plan is required[2]. This will likely include increased adoption of non-toxic shot[3], wetland restoration and improved understanding of migratory movement and population dynamics[1,4].

Reduction in shooting pressure or better monitoring of bag data may contribute to the understanding of hunting pressure and a possible link to the species declining population trend[1].

Species conservation status (see Table 1)

The pochard population shows a 10-year wintering population decline in the UK >25% between 2008-2018[5]. Within UK countries, this decline is greatest in Scotland and Wales (-63% in both cases)[5]. These declines are also highlighted in 'high' WeBS Alerts for all UK countries over the long-term (<25 years)[6].

Pochard have demonstrated this substantial long and short-term decline at a global[7], flyway[2], European[8] and UK[5] level. This trend is predicted to continue. It is suggested that a degree of decline is not only expected but should be accepted to allow the population to return to less artificial levels[1]. However, this declining trend must stabilise soon to prevent possible species loss[1].

Population dynamics

Further research is required to disentangle the drivers of natural mortality and hunting on the pochard population across the flyway[1,4,11]. Limited studies suggest pochard display high adult survival probabilities, therefore population declines are, in part, thought to be predominantly driven by decreases in juvenile survival and/or poor nesting success[11]. Adult females do also display poorer survival compared to males, likely a result of increased vulnerability to predation during the breeding season[4,11]. This may in part be contributing to population trends[4], or may in fact be a symptom of poor breeding success[11].

	BoCC[9] (2020)	**IUCN UK**[9] (2020)	**Europe**[8] (2021)	**EU28**[8] (2021)	**AEWA**[2] (2018)	**IUCN Global** (Last updated in 2021)[7]
Category	**R**	**EN**	**VU (W)**	**VU (B)**	**A1b**	**VU**
Trend (time period in brackets)	**Decreasing**[5] (2009-2018)		**Decreasing** (over 3 generations)	**Decreasing** (over 3 generations)	**Decreasing** (2009-2018)	**Decreasing**
Population size estimate Mature individuals	**Breeding:** 720 Pairs **Wintering:** 29,000 Individuals[10]		373,000-679,000 (min-max)	57,000-110,000 (min-max)	150,000-150,000 (min-max)	760,000-790,000
Reason for category	Threatened in Europe and globally. Severe non-breeding pop decline over 25yrs. Moderate non-breeding pop decline over longer term. Moderate breeding range decline over 25 yrs/longer term.	Reduction in the size (either abundance or range) of breeding and non-breeding population. Declines between 20-30% over 3 generations.	Population reduction observed. Population reduction projected.	Population reduction observed. Population reduction projected.	Species is listed as 'Threatened' on IUCN Red List of Threatened Species in most recent BirdLife International report (2021)* All take is prohibited in party range states.	Population reduction observed across majority of range. Population reduction projected to continue.
WeBS UK 10-year trend (2008/09-2018/19): -39%[5] • BBS UK 10-year trend (2010-2020): n/a**						

Table 1. Species conservation status across different scales. *It has been highlighted by BASC that such automatic linkage between IUCN status and levels of protection by AEWA is directly contrary to the IUCN's advice on the use of its list. **No Breeding Bird Survey data (BBS) due to Pochard primarily being an over-wintering species in the UK.

Hunting and harvest (see Table 2)

The pochard shooting seasons in the UK are not compliant with the Key Concepts of Article 7(4)[12]. The start date of the open season in England and Wales (1 Sept) overlaps with the estimated end of the reproduction period for pochard in the south of the UK by two 'decades' (approx. 20 days). This is therefore in breach of the agreement.

Pochard are not a heavily hunted species in the UK, with low bag numbers reported in recent years (~180 birds in 2012 and ~370 birds in 2016)[13]. As a result, they are estimated to have low probability of an unsustainable harvest in the UK[14]. However, this may not be the case on the continent[15]. A number of BASC registered wildfowling clubs have already adopted a voluntary ban on shooting pochard due to consenting legislative pressure as a result of the species decline, though they recognise this will have no tangible conservation benefit for the local or national pochard population.

Although there are numerous non-hunting pressures facing the species, recent studies[3,16] have shown that pochard are one of many species susceptible to lead poisoning, therefore continued and increased use of non-toxic shot is vital for this and other waterbird species. A possible spatial segregation of male and female overwintering locations may also expose female birds (who winter further south in Europe) to increased hunting pressure, thus driving the overall population decline[16].

With many wildfowling clubs already undertaking a voluntary moratorium on the shooting of pochard, combined with low bag numbers, the targeted voluntary cessation of shooting is an achievable target. However, this action is not likely to have a significant conservation benefit. As a freshwater duck, inland shooting is likely a greater threat and is out with the jurisdiction of most of the BASC wildfowling club structures. Quarry identification resources are currently being developed within the Wildfowling and Wetland department to help raise awareness and knowledge, particularly among inland wildfowlers.

Species	Species estimated λmax (95% CI)	Potential excess growth (95% CI)	Mean Sustainable Hunt Index (95% CI)	Probability of unsustainable harvest
Pochard	1.852 (1.442 - 2.715)	1800 (980 - 3000)	0.359 (0.082 - 0.859)	0.001

Table 2. Estimated sustainability of species harvest in the UK. Table from Ellis & Cameron 2022.

Pressures, action and research

Pressures

Changes in fishery management and the resulting habitat loss in Eastern Europe is the major threat to pochard across their range[1,17,18]. Climate change is considered a driver of decline in pochard as well as other wildfowl, resulting in reduced ephemeral waterbodies or increased severe weather[19]. Additionally, changes to water quality due to agricultural activity causing run-off and eutrophication, alongside reduction in wetlands, are major pressures facing this species[1,19]. Shifts in species composition i.e. increase in carp, foxes and mink and a decrease in black-headed gulls are also suggested to impact pochard populations through competition and predation activity[1,19]. The combined effect of these pressures is added to by a degree of mortality driven by lead poisoning, an indirect effect of lead ammunition and fishing tackle.[3,4,19]

Practical action

A flyway-level species action plan is required (NE/NW Europe flyway) in combination with a UK-level action plan for conservation[2]. However, coordination is required across the global range due to mixing of populations from different flyways[20–22]. Improving habitat management in and around commercial fisheries may require incentivisation in eastern European countries[1,17]. Reducing the impact of development in and around wetland and coastal areas, alongside restoring wetland habitat and improving water quality is vital for this wetland species[19]. However, water-quality improvement may also make habitat less favourable for pochard[23]. An increased reduction in lead use (which has been in place since 1999 in certain areas or for certain species, and is currently being phased out across the UK) will be vital to reducing the long-term impact of lead poisoning. In parallel, reduced hunting pressure would lessen the additive effect of the pressures faced by pochard across its range[3,19]. Isolated action within the UK will have a limited impact due to the proportion of the breeding and wintering population the country supports.

Research action

Improved assessment of bag data demographics is key to understanding drivers of the skewed sex ratio seen in pochard (male-biased due to poor female survival), and any potential role that hunting plays in this shift[4]. Further understanding of changes in migratory patterns and clarification of major pressures across the flyways are needed to enable an effective action plan to be developed[1,4].

References

1. Fox, A. D., Caizergues, A., Baik, M. V., Devos, K. & Dvorak, M. Recent changes in the abundance of Common Pochard Aythya ferina breeding in Europe. Wildfowl 66, 22–40 (2016).
2. AEWA. Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) - Agreement Text and Annexes As amended by MOP8. (2022).
3. Newth, J. L. et al. Poisoning from lead gunshot: Still a threat to wild waterbirds in Britain. Eur J Wildl Res 59, 195–204 (2013).
4. Brides, K., Wood, K. A., Hearn, R. D. & Fijen, T. P. M. Changes in the sex ratio of the Common Pochard Aythya ferina in Europe and North Africa. Wildfowl 67, 100–112 (2017).
5. Frost, T. M. et al. Waterbirds in the UK 2019/20: The Wetland Bird Survey. (2021).
6. Woodward, I. D., Frost, T. M., Hammond, M. J. & Austin, G. E. Wetland Bird Survey Alerts 2016/2017: Changes in numbers of wintering waterbirds in the Constituent Countries of the United Kingdom, Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs) and Areas of Special Scientific interest (ASSIs). BTO Research Report 721. www.bto.org/webs-reporting-alerts (2019).
7. Birdlife International. Aythya ferina. The IUCN Red List of Threatened Species 2021: e.T22680358A205288455. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T22680358A205288455.en (2021) doi:10.2305/IUCN.UK.2021.
8. BirdLife International. European Red List of Birds. https://op.europa.eu/en/publications. (2021) doi:10.2779/967570.
9. Stanbury, A. et al. The status of our bird populations: The fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114, 723–747 (2021).
10. Woodward, I. et al. APEP 4: Population estimates of birds in Great Britain and the United Kingdom. British Birds 113, 69–104 (2020).
11. Folliot, B. et al. When survival matters: Is decreasing survival underlying the decline of common pochard in western Europe? Wildlife Biol 2020, (2020).
12. Key concepts of Article 7(4) of Directive 79/409/EEC: Period of reproduction and prenuptial migration of Annex II bird species in the 28 Member States. (2014).
13. Aebischer, N. J. Fifty-year trends in UK hunting bags of birds and mammals, and calibrated estimation of national bag size, using GWCT's National Gamebag Census. Eur J Wildl Res 65, (2019).
14. Ellis, M. & Cameron, T. An initial assessment of the sustainability of waterbird harvest in the United Kingdom. bioRxiv (2022).
15. Guillemain, M., Aubry, P., Follio, B. & Caizergues, A. Duck hunting bag estimates for the 2013/14 season in France. Wildfowl 66, 126–141 (2016).
16. Green, R. E. & Pain, D. J. Possible effects of ingested lead gunshot on populations of ducks wintering in the UK. Ibis 158, 699–710 (2016).
17. Aghababyan, K., Khachatryan, A., Baloyan, S., Ghazaryan, A. & Gevorgyan, V. Assessing the current status of the Common Pochard Aythya ferina in Armenia. Wildfowl 71, 147–166 (2021).
18. Broyer, J. & Bourguemestre, F. Common pochard Aythya ferina breeding density and fishpond management in central France. Wildlife Biol 2020, (2020).
19. Stichting BirdLife Europe, BirdLife International & IUCN. Article 12 EU population status assessments: Annex B - Bird species' status and trends report format (Article 12) for the period 2013 - 2018. (2020).
20. Folliot, B., Guillemain, M., Champagnon, J. & Caizergues, A. Patterns of spatial Dstribution and migration phenology of common pochards Aythya ferina in the Western Palearctic: A ring-recoveries analysis. Wildlife Biol 2018, (2018).
21. Liu, Y., Keller, I. & Heckel, G. Range-wide genetic population structure of common pochard (aythya ferina): A potentially important vector of highly pathogenic avian influenza viruses. Ecol Evol 1, 529–545 (2011).
22. Keller, I., Korner-Nievergelt, F. & Jenni, L. Within-winter movements: A common phenomenon in the Common Pochard Aythya ferina. J Ornithol 150, 483–494 (2009).
23. Marsden, S. J. & Bellamy, G. S. Microhabitat characteristics of feeding sites used by diving duck Aythya wintering on the grossly polluted Manchester Ship Canal, UK. Environ Conserv 27, 278–283 (2000).