

Eurasian coot

Fulica atra

England, Wales and Scotland only



BASC's evidence review and recommendations for sustainable shooting

**2023–2028
Recommendation**

Research required.

Coot – BASC recommendation

Research required

Research required

- Breeding and wintering surveys to better understand local and national distribution and abundance.
- Submission of bag data to better inform harvest estimates (data can be submitted to the GWCT National Gamebag Census or BASC Green Shoots Bagged It).
- Shooters should support the BASC wing survey to enable better understanding of adult:juvenile harvest ratios.
- Increased ringing and ring resighting effort to improve understanding of migratory movement.

Shooting restrictions

- Should show restraint.
- Site-based considerations required.

Habitat management

- General wetland creation and management will benefit both breeding and wintering populations.
- A mosaic habitat of dense cover, open water and clearings is required to provide safe refuge and feeding areas.
- Ensure suitable breeding sites have ramp-like areas to enable chicks to leave the water easily.
- Pest and predator control.
- Refuge provision, either for set periods of time (temporal) or over dedicated areas of land (spatial), dependent on site requirements.
- Nesting support (for example: fencing, duck nest tubes, provision of maintained islands).

Stage 2 assessment

Fulica atra – Common coot

Species summary

Although widespread, coot, like moorhen, remain relatively under-studied, particularly in relation to their movement and population demographics. Ringing studies show that coot do migrate within the UK as well as between the UK and central Europe/Russia¹. However, drivers of population declines are unclear and require further research. Coot likely suffer from multiple pressures driven by habitat and climate change, but their flexible behaviour and ability to adapt may have diluted any obvious impacts. The species receives very little hunting pressure in the UK and its popularity as a quarry species is decreasing across the flyway. The species requires greater research investment to understand the causes of ongoing declines.

Species conservation status (see Table 1)

The UK breeding population of coot shows a substantial 10-year decline in both BBS surveys (-24.47% between 2010–2020) and WBBS surveys (-44% 2010–2020)². This is mirrored in the wintering population trend (-24%)³. The breeding population is predominantly concentrated in England and therefore is the only country with breeding data trends (-21.18% over 10 years)². The wintering population trends are very mixed, with declines in England (-29%) and Wales (-29%) and increases in Northern Ireland (+111%) and Scotland (+6%)³. The coot has amber WeBS alerts in Northern Ireland and Scotland due to long-term population declines (over 25 years) and in Wales due to 10-year declines⁴. This broad trend is shared across Europe, however some populations are driving a stable trend in the EU⁵. At a global scale, the overall population trend is increasing but comprises mixed trends across the range⁶.

	BoCC ⁷ (2020)	IUCN UK ⁷ (2020)	Europe ⁵ (2021)	EU28 ⁵ (2021)	AEWA ⁸ (2018)	IUCN Global ⁶ (Last updated in 2019)
Category	G	VU	NT (B)	LC	B2c	LC
Trend (time period in brackets)	Decreasing (Breeding and Wintering)		Decreasing (over 3 generations)	Stable (over 3 generations)	Decreasing (2009–2018)	Increasing
Population size estimate Mature individuals	Breeding: 26,000+ Pairs Wintering: 205,000 Individuals ⁹		2,030,000–3,360,000 (min-max)	1,080,000, 1,720,000 (min-max)	1,200,000–1,900,000 (min-max)	5,300,000–6,500,000
Reason for category	n/a	Reduction in size of breeding pop & Non-breeding pop size (either abundance or range) measured over 3 generations. Declines 20% – 30% over 3 generations.	Population reduction observed or suspected in the past where causes of reduction may not have ceased/may not be understood. Decline projected to continue.	n/a	Population >100,000 but is need of special attention as a result of long-term decline.	Population has large range and size. Trend is increasing.
WeBS UK 10-year trend (2008/09–2018/19): -24% ³ • BBS UK 10-year trend (2010–2020): -24.47% ²						

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.

Population dynamics

The resident UK population is supplemented by continental birds during winter months¹⁰. However, outside of some foraging and behavioural research, very little is known about coot population dynamics. Ringing studies in France suggest adult survival is higher than juvenile survival, a common feature in waterbirds¹⁰. Of the adults, male survival is greater¹⁰. This is often attributed to greater female mortality during incubation, yet coot share the incubation of eggs therefore differences in survival must be driven by alternative pressures¹⁰. Potentially poor chick and juvenile survival is suggested to be a result of predation or low food availability^{11,12}.

Hunting and harvest

The coot shooting seasons in the UK are not compliant with the Key Concepts of Article 7(4)¹³. The start date of the open season in England, Wales and Scotland (1st Sept) overlaps with the estimated end of the reproduction period for coot in the south of the UK by one 'decade' (approx. 10 days), and by three decades (approx. 30 days) in Scotland. This is therefore in breach of the agreement. Take of coot is already prohibited in Northern Ireland and the Isle of Man. There is no bag data available for coot in the rest of the UK. The species is rarely harvested and as a result there is no modern estimates of its harvest (nor the sustainability of this harvest). It is suggested that coot have become a less popular quarry over time in Europe too¹⁰.

Recreational hunting appears to displace coots from their preferred feeding grounds to sub-optimal habitat, for example deep water^{14,15}. This is likely detrimental to coots as they feed during the day and cannot compensate for feeding disturbance at night due to their visual foraging strategy^{14,16,17}. Refuges that are not shot over or disturbed by humans for other recreational activities, such as fishing, would likely reduce disturbance to coot^{14,18}.

Coot show low prevalence of lead shot ingestion, likely due to their feeding strategy¹⁹, feeding primarily on submerged algae and invertebrates they have brought to the surface¹⁷.

Pressures, action and research

Pressures

Coot remain a fairly under-studied species, particularly in relation to their movement and population dynamics^{10,20}. However, predation is suggested to be a major contributor to coot declines in Europe due to the spread of invasive American mink²¹⁻²³. Competition with fish in commercial carp ponds may reduce habitat available to coot in central and Eastern Europe²⁴. Climate change is also impacting coot laying dates and may, with time, result in phenological mis-matching between chick hatching and food abundance (predominantly dipterans)²⁵. Coot also appear to suffer population declines after severe winters²⁶, which may impact populations if winters become more severe. However, if winters become milder this may benefit the species²⁶.

Practical action

Ensuring wintering, breeding and refuge sites have a high, year-round food abundance will benefit coot^{14,18}. High food abundance is particularly important for chick survival¹². This can be achieved through reedbed creation and planting or revegetation programmes that enhance submerged and emergent vegetation²⁷. Predator control, particularly of crows and

mink will benefit nesting coot as well as other waterbirds^{21,23,28}. Removal of adult fish to allow for increased macrophyte growth will likely benefit coot in areas where there is a high concentration of aquaculture⁶.

Research action

There is limited understanding of coot movement, population demographics and migration. Knowledge of the species could be improved through ringing or marking programmes that allow for capture-mark-recapture studies¹⁰.

References

1. Robinson, R. A., Leech, D. I. & Clark, J. A. The Online Demography Report: Bird ringing and nest recording in Britain & Ireland in 2021. (2022).
2. Harris, S. J. et al. The Breeding Bird Survey 2021. BTO Research Report 745. www.bto.org (2022).
3. Frost, T. M. et al. Waterbirds in the UK 2019/20: The Wetland Bird Survey. (2021).
4. 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).
5. BirdLife International. European Red List of Birds. <https://op.europa.eu/en/publications>. (2021) doi:10.2779/967570.
6. BirdLife International. *Fulica atra*. The IUCN Red List of Threatened Species 2019. <http://dx.doi.org/10.2305/IUCN.UK.2019-> (2019) doi:10.2305/IUCN.UK.2019.
7. 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).
8. AEWA. Agreement on the Conservation of African–Eurasian Migratory Waterbirds (AEWA) – Agreement Text and Annexes As amended by MOP8. (2022).
9. Woodward, I. et al. APEP 4: Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 113, 69–104 (2020).
10. Guillemain, M., Devineau, O., Simon, G. & Gauthier-Clerc, M. Common but poorly known: Information derived from 32 years of ringing Coot *Fulica atra* in the Camargue, southern France. *Ring and Migration* 29, 10–18 (2014).
11. Ręk, P. Testing the relationship between clutch size and brood size in the Coot (*Fulica atra*). *J Ornithol* 151, 163–168 (2010).
12. Brinkhof, M. & Cave, A. J. Food supply and seasonal variation in breeding success : an experiment in the European coot. *Proceedings of the Royal Society London B* 264, 291–296 (1997).
13. Key concepts of Article 7(4) of Directive 79/409/EEC: Period of reproduction and pre-nuptial migration of Annex II bird species in the 28 Member States. (2014).
14. Holm, T. E., Laursen, K. & Clausen, P. The feeding ecology and distribution of common coots *Fulica atra* are affected by hunting taking place in adjacent areas. *Bird Study* 58, 321–329 (2011).
15. Evans, D. M. & Day, K. R. Hunting disturbance on a large shallow lake: the effectiveness of waterfowl refuges. *Ibis* vol. 144 (2002).
16. Draulans, D. & Vanherck, L. Food and foraging of Coot *Fulica atra* on fish ponds during autumn migration. *Wildfowl* 38, 63–69 (1987).
17. Irwin, S. & O'halloran, J. The wintering behaviour of coot *Fulica atra* l. at Cork Lough, South-west Ireland. *Biology and environment: Proceedings of the royal Irish academy* 97B, 157–162 (1997).
18. Quan, R.-C., Wen, X. & Yang, X. Effects of human activities on migratory waterbirds at Lashihai Lake, China. *Biol Conserv* 108, 273–279 (2002).
19. Mateo, R., Guitart, R. & Green, A. J. Determinants of Lead Shot, Rice, and Grit Ingestion in Ducks and Coots. *J Wildl Manage* 64, 939–947 (2000).
20. Binkowski, L. J., Sawicka-Kapusta, K., Szarek, J., Strzyzewska, E. & Felsmann, M. Histopathology of liver and kidneys of wild living Mallards *Anas platyrhynchos* and Coots *Fulica atra* with considerable concentrations of lead and cadmium. *Science of the Total Environment* 450–451, 326–333 (2013).
21. Brzeziński, M., Natorff, M., Zalewski, A. & Zmihorski, M. Numerical and behavioral responses of waterfowl to the invasive American mink: A conservation paradox. *Biol Conserv* 147, 68–78 (2012).
22. Brezinski, M. & Marzec, M. The origin, dispersal and distribution of the American mink *Mustela vison* in Poland. *Acta Theriol (Warsz)* 48, 505–514 (2003).
23. Ręk, P. Are changes in predatory species composition and breeding performance responsible for the decline of Coots *Fulica atra* in Milicz Ponds reserve (SW Poland)? *Acta Ornithol* 44, 45–52 (2009).
24. Nieoczym, M. & Kloskowski, J. Habitat selection and reproductive success of coot *Fulica atra* on ponds under different fish size and density conditions. *Hydrobiologia* 820, 267–279 (2018).
25. Halupka, L., Czyż, B. & Macias Dominguez, C. M. The effect of climate change on laying dates, clutch size and productivity of Eurasian Coots *Fulica atra*. *Int J Biometeorol* 64, 1857–1863 (2020).

26.Rönkä, M. T. H. et al. Environmental changes and population trends of breeding waterfowl in northern Baltic Sea. *Annales Zoologici Fennici* vol. 42 (2005).

27. 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).

28.Walesiak, M., Górecki, G. & Brzeziński, M. Recovery of Eurasian Coot *Fulica atra* and Great Crested Grebe *Podiceps cristatus* Breeding Populations in an Area Invaded by the American Mink *Neovison vison*. *Acta Ornithol* 54, 73 (2019).