Northern pintail

Anas acuta

BASC's evidence review and recommendations for sustainable shooting

2023-2028
Recommendation

Take a maximum of two birds per day – targeted conservation effort required.

BASC
The British Association for Shooting & Conservation

Northern pintail - BASC recommendation

Take a maximum of two birds per day – targeted conservation effort required.

Research required

- International flyway-level collaboration with
- relevant stakeholders.
- 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 and male:female harvest ratios.

Shooting restrictions

- Two pintail per person, per day, bag limit recommended.
- Should target males where possible.
- No sale of shot pintail.

Habitat management

- Pintail prefer habitats with low vegetation and shallow water; they will also frequent large inland lakes, ponds, marshes, and coastal lagoons.
- In order to provide an abundant supply of high-energy and nutritional foods for pintail, wetland water depths should be less than 45cm but preferably less than 15cm for an abundant food source.
- Weed management can improve habitat for pintail when benefiting native plant species.

Stage 2 assessment

Anas acuta - Northern pintail

Species summary

Research on pintail is dominated by North American studies which suggest pintail have failed to respond to an increase in wetlands (often referred to as May ponds in American literature), a habitat type they were previously thought to be influenced by[1]. In Europe, ephemeral wetlands are still deemed to play an important role in pintail recovery but agricultural foraging areas are equally, if not more important[2]. The UK supports a very small number of breeding individuals, therefore conservation focus on over-wintering pintail populations will be most beneficial. Improved understanding of optimal wintering habitat requirements within and out-with wetland reserves, particularly on neighbouring agricultural land, is vital. Population trends appear to be driven by pressures at breeding grounds and poor recruitment as opposed to over-harvesting of adult birds[3,4].

Species conservation status (see Table 1)

The Northern pintail (hereafter pintail) population shows a 10-year wintering population decline in the UK <25% between 2008-2018[5]. Within the UK countries this trend is mixed, with England and Wales displaying these declines (-27% and -50% respectively) alongside high WeBS alerts for a medium-term (<10 year) decline in Wales[6]. Conversely, Scotland and N. Ireland are displaying increasing population trends (+36% and + 19% respectively)[5]. This decline is reflected on the European continent within breeding populations in European Russia, Finland and Sweden, and is anticipated to continue[7]. However, due to its large range and relatively high abundance, pintail are not yet considered 'Vulnerable' to extinction at a global level[8].

Population dynamics

Like many other waterbirds, pintail show a male bias in adult birds1[3]. Poor population recovery by pintail in North America is primarily attributed to poor female survival at breeding sites, poor nesting success and low recruitment[3,4]. Due to already-low bag numbers, and the limited impact of wintering adult mortality on population demographics (including that driven by hunting), removal of this species from Schedule II would have limited impact on the species. Removal of pintail from the quarry list may in fact reduce conservation efforts and data collected about the species.

Hunting and harvest

Pintail shooting seasons in the UK are compliant with the Key Concepts of Article 7(4)[14]. They are not a heavily hunted species in the UK and bag numbers have decreased over the last 20 years (2004: 1,400, 2012: 800, 2016: 680)[15]. As a result, they are estimated to have low probability of an unsustainable harvest in the UK[16]. Within Europe, there is limited data on pintail bag numbers but France and Scandinavian countries have the largest documented bags[17].

In North America, where the majority of pintail studies have been undertaken, restricted hunting bags and days have not resulted in pintail population recovery. It is suggested that hunting is not a major driver of pintail population declines (or lack of recovery)[3,4,18,19.] However, anthropogenic disturbance, caused in part by hunting, is suggested to influence the spatial distribution and energetic costs of overwintering birds[20–22]. It is also possible that there is a bias in the hunting of male pintail due to their easily-identifiable appearance1[3]. Additionally, pintail are susceptible to lead poisoning, with increased risk of lead shot ingestion in agricultural areas due to their dependence on farmland for night-time foraging[23,24]. In these environments, lead shot is still used, however we may see a reduction in poisoning incidence with the phasing out of lead shot in the UK.

	BoCC[9] (2020)	IUCN UK[9] (2020)	Europe[7] (2021)	EU28[7] (2021)	AEWA[10] (2018)	IUCN Global[8] (Last updated in 2019)
Category	**A**	**CR**	**VU (B)**	**EN (B)**	**B1**	**LC**
Trend (time period in brackets)	**Decreasing**[5] (2008-2018)		**Decreasing** (over 3 generations)	**Decreasing** (over 3 generations)	**Stable/ Increasing** (2009-2018)	**Decreasing**
Population size estimate Mature individuals	**Breeding:** 27 Pairs **Wintering:** 20,000 Individuals[11]		310,000-401,000 (min-max)	9,100-37,600 (min-max)	74,000-74,000 (min-max)	4,700,000-4,800,000
Reason for category	Threatened in Europe. Moderate breeding pop. decline over 25yrs. Moderate breeding range decline over 25yrs or longer term. Breeding Rarity. Non-breeding population show localisation and are of international importance.	Small breeding population size and continuing decline by >10% over 3 generations. Reduction in the size of non-breeding pop. (either abundance or range) over 3 generations, with declines of at least 20%, but less than 30% over 3 generation lengths.	Population reduction observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased OR may not be understood OR may not be reversible. Population reduction projected, inferred or suspected to be met in the future (up to a maximum of 100 years). An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.		Populations numbering between 25,000 and around 100,000 individuals and but do not fulfil the conditions of: a) concentrated distribution, b) severe habitat decline, c) long term decline, d) large population fluctuations, e) rapid short-term decline or f) data deficient.	Due to a large range and large population size, combined with a <30% decline over 3 generations, the population does not approach thresholds for 'Vulnerable'.
WeBS UK 10-year trend (2008/09-2018/19): -22%[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 Northern pintail primarily being an over-wintering species and very rare breeder in the UK[12].

Pressures, action and research

Pressures

Habitat loss, driven by both climate change (increased drought) and anthropogenic factors (abstraction and agricultural intensification) are considered major drivers of pintail decline and the populations current failure to recover[1,19,21,25,26]. Lead poisoning from hunting and fishing activity is also highlighted as a pressure facing pintail and many other migratory waterbirds in the UK[24,26]. Additionally, avian influenza is considered a threat to (and exacerbated by) pintail due to their long-distance, intercontinental movements and mixing with other wildfowl[27,28]. However, the long-term population level impacts of this are unknown.

Practical action

Within the UK, provision of high-quality over-wintering habitat is likely to have the greatest positive impact on pintail populations. Such wintering habitat comprises wetland and marshland areas in close proximity to seed-rich agricultural land, particularly areas that support ephemeral wetland[1,2,19,21,29]. The provision of refuge areas (wetlands and ponds) close to agricultural foraging sites are important for pintail in areas where hunting and other anthropogenic disturbance occurs, particularly in periods of prolonged cold weather[20–22,26]. Continued suspension of shooting during cold periods will therefore also reduce disturbance and energy demands on over-wintering birds[22,26]. Ongoing phasing out of lead-shot is vital, not only in wetland areas but on agricultural land utilised by pintail for foraging[23,24,26]. Due to the small breeding population, efforts to support their persistence will of course be beneficial, but the overall population impact will be negligible. If female mortality is a driver of population decline, enhanced predator management and reduced disturbance at nesting sites is recommended[1,26].

Research action

Greater understanding of juvenile recruitment is vital across the species range, to better guide conservation efforts for over-wintering and breeding birds[3]. This primarily requires effort at breeding grounds, but first-year juvenile ringing and monitoring will provide insight into survival between natal sites, on migratory routes and at wintering grounds. Clearer understanding of optimal over-wintering habitat required for pintail (both within and outside of wetlands) in the UK will help guide recommendations for agricultural activity and land-management in important wildfowl areas[20].

References

1. HMiller, M. R. & Duncan, D. C. The Northern Pintail in North America: Status and Conservation Needs of a Struggling Population. Bulletin 27, 788–800 (1973).
2. Parejo, M. et al. Day and night use of habitats by northern pintails during winter in a primary rice-growing region of Iberia. PLoS One 14, (2019).
3. Rice, M. B., Haukos, D. A., Dubovsky, J. A. & Runge, M. C. Continental survival and recovery rates of Northern pintails using band-recovery data. Journal of Wildlife Management 74, 778–787 (2010).
4. Bartzen, B. A. & Dufour, K. W. Northern Pintail (Anas acuta) survival, recovery, and harvest rates derived from 55 years of banding in Prairie Canada, 1960–2014. Avian Conservation and Ecology 12, (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. European Red List of Birds. https://op.europa.eu/en/publications. (2021) doi:10.2779/967570.
8. Anas Acuta. The IUCN Red List of Threatened Species 2019: E.T22680301A153882797. https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T22680301A153882797.en (2019) doi:10.2305/IUCN.UK.2019.
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. AEWA. Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) - Agreement Text and Annexes As Amended by MOP8. (2022).
11. Woodward, I. et al. APEP 4: Population estimates of birds in Great Britain and the United Kingdom. British Birds 113, 69–104 (2020).
12. Eaton, M. Rare breeding birds in the UK in 2019. British Birds 114, 646–704 (2021).
13. Wood, K. A., Brides, K., Durham, M. E. & Hearn, R. D. Adults have more male-biased sex ratios than first-winter juveniles in wintering duck populations. Avian Res 12, (2021).
14. 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).
15. 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).
16. Ellis, M. B. & Cameron, T. C. An initial assessment of the sustainability of waterbird harvest in the United Kingdom. Journal of Applied Ecology 59, 2839–2848 (2022).
17. Guillemain, M., Aubry, P., Follio, B. & Caizergues, A. Duck hunting bag estimates for the 2013/14 season in France. Wildfowl 66, 126–141 (2016).
18. Sedinger, J. S. & Herzog, M. P. Harvest and dynamics of duck populations. Journal of Wildlife Management vol. 76 1108–1116 Preprint at https://doi.org/10.1002/jwmg.370 (2012).
19. Migoya, R., Baldassarre, G. & Losito, M. Diurnal activity budgets and habitat functions of Northern Pintail Anas acuta wintering in Sinaloa, Mexico. Wildfowl 45, 134–146 (1994).
20. Casazza, M. L., Coates, P. S., Miller, M. R., Overton, C. T. & Yparraguirre, D. R. Hunting influences the diel patterns in habitat selection by northern pintails Anas acuta. Wildlife Biol 18, 1–13 (2012).
21. Cox, R. R. & Afton, A. D. Use of Habitats by Female Northern Pintails Wintering in Southwestern Louisiana. J Wildl Manage 61, 435–443 (1997).
22. Taylor, D. P. et al. Influence of Environmental Stress and Anthropogenic Disturbance Influence of Environmental Stress and Anthropogenic Disturbance on the Energy Expenditure of Wintering Northern Pintails (Anas on the Energy Expenditure of Wintering Northern Pintails (Anas acuta) acuta). Waterbirds 42, 294–303 (2019).
23. Mateo, R., Martlnez-Vilalta, A. & Guitart, R. Lead shot pellets in the Ebro delta, Spain: Densities in sediments and prevalence of exposure in waterfowl. Environmental Pollution 96, 335–341 (1997).
24. 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).

25. Podruzny, K. M., Devries, J. H. & Armstrong, L. M. Long-term response of Northern pintails to changes in wetlands and agriculture in the Canadian Prairie Pothole Region. J Wildl Manage 66, 993–1010 (2002).
26. 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).
27. Jahangir, A. et al. Surveillance of Avian Influenza Viruses in Northern Pintails (Anas acuta) in Tohoku District, Japan. Avian Dis 52, 49–53 (2008).
28. Koehler, A. v., Pearce, J. M., Flint, P. L., Franson, J. C. & Ip, H. S. Genetic evidence of intercontinental movement of avian influenza in a migratory bird: The northern pintail (Anas acuta). Mol Ecol 17, 4754–4762 (2008).
29. Cox, R. R. & Afton, A. D. Evening flights of female Northern Pintails from a major roost site. Condor 98, 810–819 (1996).
30. Balmer, D. E. et al. Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland. (Thetford: BTO, 2013).