

GREAT WHITE EGRETS ON THE AVALON MARSHES

Nesting and Colour Ringing Report for the 2023 Breeding Season

Alison Morgan

SUMMARY

2023 was another record-breaking year for the Great White Egrets nesting on the Avalon Marshes. The season began on 21st February, when AAF was photographed by Andrew Kirby carrying nesting material on Shapwick Heath. AAF is one of our oldest birds, ringed in the nest on Ham Wall in 2016. He has been resighted on many occasions, always within Somerset, and first bred in 2018.

In all, 72 pairs attempted nesting this year, with single nests or colonies on 13 different sites. 139 chicks hatched on 59 nests, with 88 eventually fledging from 53 of these nests.¹ The season ended in the first week of August, when the last chicks finally fledged from Canada Farm Lake. It had lasted 24 weeks.

The nests were monitored by Alan Ashman and Andrew Kirby using a drone and by field observations from the ground. Most nests were not visible from ground level, so field observations were limited to recording early territorial behaviour and nest building, and the presence of recently fledged chicks. Data were recorded on a spreadsheet which was updated throughout the breeding season. As in previous years, the figures given for 2023 are the most accurate we can achieve, but are based sometimes on assumptions. In particular, it is assumed that birds which have reached fledging age and are absent from the nest have in fact fledged.

The ringing programme continued this year, with 16 chicks from 9 nests being fitted with colour rings – red rings with three white letters, as in previous years. 15 of these chicks fledged successfully, and 9 have subsequently been resighted from locations outside Somerset.

KNOWN NESTS

The 72 nests were situated in the following locations:

1. Decoy Lake, Shapwick Heath – 21 nests
2. 70 Acres, Shapwick Heath – 17 nests
3. Canada Farm Lake, Shapwick Heath – 11 nests
4. Rocks Drove (adjacent to Ham Wall) – 6 nests
5. Estate Ground, Shapwick Heath – 4 nests
6. Westhay compartment R1b – 3 nests
7. Durstons Turbary Drove (adjacent to Ham Wall) – 3 nests
8. Godwins Island, Ham Wall – 2 nests
9. Godwins, Ham Wall – 1 nest
10. Reservoir compartment, Ham Wall – 1 nest
11. Westhay Lake – 1 nest
12. Noah's Lake, Shapwick Heath – 1 nest
13. First Lagoon, Shapwick Heath – 1 nest

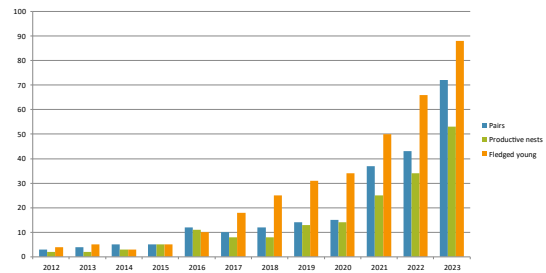


ACH & ACJ in the nest on Decoy Lake
Photo Bob Medland

All but 2 of these locations had been used before. New sites were compartment R1b on Westhay, and Reservoir compartment (near the Avalon Hide) on Ham Wall. It may be significant that AAM, ringed in 2018, was seen at this location in August 2022.

¹ One nest on Rocks Drove had three very young chicks on 16th June but were not subsequently monitored. These have not been included in the total fledged.

Great White Egret on the Avalon Marshes
Pairs, productive nests and fledged juveniles, 2012-23



Decoy Lake had held a single nest in 2016, but this year was the first time a whole colony had been situated there. Conversely, First Lagoon held colonies of 9 and 10 nests in 2021 and 2022, but a single (unsuccessful) nest this year.

FAILED NESTS

Chicks fledged from all sites except the single nest on First Lagoon. The highest rate of failure occurred within the earliest and largest colony, that on Decoy Lake. Four nests disappeared following bands of prolonged rain and low temperatures, coinciding with the period when chicks were old enough to be left unbrooded but were not yet feathered. Two nests produced infertile eggs, and three were subject to assumed predation, in one case by a heron which was seen standing on the nest with the egret chicks prior to their disappearance. Marsh Harriers were also seen circling over the colony. But even with these losses, this colony fledged 22 chicks, more than any other.



The Decoy Lake Colony
Photo Alan Ashman & Andrew Kirby

It is notable that the most productive colony was the last to be established, that on Canada Farm Lake, where chicks hatched on average 6 weeks later than those on Decoy Lake. Seven of the nine nests here were productive, fledging a total of 17 chicks. This supports the conclusion that the most common cause of failure on Decoy Lake was the inclement weather experienced earlier in the season.

Otherwise infertility and predation are the most likely causes. Five nests were never seen to have contained either eggs or chicks. Three nests were abandoned prior to hatching, in at least two cases due to infertile eggs. Five nests are assumed to have been predated. Finally, one nest hatched 4 chicks, all of which died over a period of 5 weeks.

- 6 nests built but not used
- 5 nests assumed predated
- 4 nests lost to inclement weather
- 3 nests eggs assumed infertile
- 1 nest all chicks died

Overall, mortality in the nest this year was exactly as reported in the literature: 30% (Voisin 1991).

PRODUCTIVE NESTS

Despite the fact that 2023 saw a record number of birds fledged, overall productivity this year was lower than in recent years. The average brood size was 2.3. Of the 53 productive nests, 26 fledged all their chicks and 24 experienced brood reduction, usually losing the youngest chick of a brood of 2 or 3, but in one case losing 3 out of 4. One nest had an unknown outcome.

Although Ham Wall had fewer nests this year than previously, it saw the highest success rate, with the three nests on Godwins fledging all their chicks – in one case, four chicks, only the third time we have seen this on the Avalon Marshes. It was all the more remarkable due to the very small size of the 4th chick, which when the nest was visited for ringing weighed just 145g compared to its 510g largest sibling.



The most productive nest of the year was on Godwins Island, Ham Wall
Photo Alison Morgan

- 29 nests hatched 2 chicks
- 19 nests hatched 3 chicks
- 5 nests hatched 1 chick
- 4 nests hatched 4 chicks

This led to an overall productivity from the 53 successful nests of 1.7, which is lower than the long term average of 1.9. This is most likely to have been due to the adverse weather patterns experienced during April and May.

RINGING

This year we colour ringed 16 birds from 9 nests. All the birds were ringed under the appropriate licences and following strict avian influenza guidelines – though we were glad to find no evidence of HPAI. Nests were accessed by two ringers, Alison Morgan & Bob Medland, using a kayak, with Karen Haddy, Alick Simmons and Robin Morrison providing ground support.²

1. ACH and ACJ on Decoy Lake
2. ACP & ACR on Decoy Lake
3. ACR on Decoy Lake
4. ACM on Decoy Lake
5. ACN & ACT on Decoy Lake
6. ADV & ACW on Westhay
7. ACU & ACX on Godwins
8. ADA, ADF & ADH on Godwins Island
9. ADC on Godwins Island



Photo Alison Morgan

All birds ringed were sexed by DNA analysis from feather samples: 7 females and 8 males, with one test void. Four of the nests contained only male chicks, three contained only female chicks, and just two had chicks of both sexes. It was interesting to note that most of the birds ringed in May (8 out of 11) were male, whereas those ringed in June (4) were all female. It is known that most birds produce more males than females on average (Graves 2019), and this seems to be true of the Great White Egrets on the Avalon Marshes – out of the 45 birds tested to date, 25 have been male and 20 female.

YEAR	MALE	FEMALE
2016	3	2
2017	1	1
2021	3	5
2022	10	5
2023	8	7
total	25	20

Although no relevant studies have been done on egrets or herons, it is known that sex characteristics in birds are not determined (as in humans) by a single chromosome but rather by genes located all over the genome, suggesting that sex may be influenced more by hormonal factors than by genetic ones. This suggests that females may be able to adjust the sex of their chicks in response to variable factors including parental condition, seasonal variation, male attractiveness and food availability (Navara 2018). It may be that the adverse weather pattern this year has influenced the greater abundance of male chicks at the beginning of the season and female chicks towards the end. This is the first year in which we have seen this pattern.

This year the Somerset Wildlife Trust filmed the ringing visit to the free-standing Westhay nest. It can be viewed [here](#).



² Alison and Bob hold full BTO ringing licences, Special Methods pulled feather licences and Schedule 1 disturbance licences. The colour ringing project (ID no 5590) is registered with Euring and can be found at <https://cr-birding.org/node/4022>.

DISPERSAL AND RESIGHTING

The 16 chicks colour ringed this year were given the combinations ACH, ADJ, ACL, ACM, ACN, ACP, ACR, ACT, ACU, ACV, ADW, ACX, ADA, ADF, ADH, ADC. All except ACW (the smaller of a brood of two) are known to have fledged.

Nine have so far been resighted, as follows:

ACH was ringed on Decoy Lake on 4.5.23, one of a brood of two, and female. She was reported from RSPB Ynys-Hir, Wales on 23.8.23.

ACJ was ringed in the same nest also on 4.5.23, unsexed. It was reported from Warnham NR, Horsham, Sussex between 5.7.23 and 8.8.23, and from Bolder Mere, Surrey, between 30.8.23 and 28.9.23.

ACL was ringed on Westhay on 4.5.23, female, one of a brood of two of which the smaller (ACW) died in the nest. She was reported from Castle Eaton nr Swindon, Wiltshire (flooded fields adjacent to the R Thames), between 1.11.23 and 21.11.23.

ACM was ringed on Decoy Lake on 9.5.23, one of a brood of two of which the smaller (unringed) died in the nest. She was reported from RSPB Ynys-Hir on 23.8.23, and from Walcot Pool, S Shropshire, on 31.8.23.

ACR was ringed on Decoy Lake on 4.5.23, one of a brood of two, male. The larger chick could not be safely removed from the nest. He was reported from Rodden NR, Frome, on 9.8.23 and 15.8.23, where he was said to be 'having a bit of a problem with the resident Grey Heron who scares him'. Our egrets are often reported to be in close proximity to herons, but are not normally disturbed by their presence. ACR, however, comes from the adjacent nest to the one which was predated by a heron.

ACU was ringed on Godwins on 23.5.23, one of a brood of two, male. He was reported from Budleigh Salterton on the Otter Estuary, Devon, on 3.8.23 and 6.8.23.

ACX was ringed on Godwins on 23.5.23, nestmate to ACU, male. ACX was reported from Church Farm Backwaters, Little Wittenham, Oxfordshire (on the R Thames) between 29.8.23 and 13.9.23, and from Helmingham, Stowmarket, Suffolk on 8.10.23.

ACV was ringed on Westhay on 9.5.23, one of a brood of two, male. The smaller died in the nest. ACV was reported from the Avon Valley, near Christchurch, Dorset, on 9.9.23.

ADC was ringed on Godwins Island on 8.6.23, female and the only chick in that nest. She was reported from Summer Leys LNR, Northamptonshire between 8.9.23 and 17.9.23.

Finally, on 26.10.23 a yellow-billed bird was photographed at Ardmore Lough, near Boyle in NW Ireland. The ID is uncertain, but it is possibly ADF, a female ringed on 12.6.23 on Godwins Island, one of the brood of four. This is the first sighting from Ireland, where Great White Egrets remain scarce.

It is noticeable that dispersal appears to be correlated not with sex but with weight. The heavier the bird at 17 days (the approximate age of ringing), the more likely it is to travel long distances.



ACH, Warnham NR, Keith Lightfoot



ACM, Walcot Lake, Andrew Fusek Peters



ACU, Otter Estuary, by David White



ACX, Thames Valley, Geoff Wyatt



ACV, R, Avon, Dorset, Adrian Simmonds



ADC, Summer Leys NR, Allan Shorrock

OTHER SIGHTINGS

In 2023 we received the following reports for birds colour ringed in previous years:

AAF – ringed in 2016, seen carrying nesting material at Decoy Lake on 21.2.23. AAF is our oldest surviving bird, now aged 7 years. He has never been seen outside Somerset, and is thought to have been breeding on the Avalon Marshes since 2018.



AAF, Shapwick Heath, Andrew Kirby

AAP – ringed in 2021. Since fledging he has been seen in Worcestershire, Nottinghamshire and Powys. He was reported to be visiting village ponds in Winforton, Herefordshire, on 11.4.23. Photographed standing on the apex of a house roof, his dining habits had apparently prompted one local resident to cover their pond.



AAP, Winforton, Sue Cooper

AAR – ringed in 2021. Since fledging he has been seen in Powys, Gloucestershire and Nottinghamshire. He was reported from Down Ampney in Gloucestershire on 9.9.23. Down Ampney is just 4 miles from Castle Eaton, where ACL was seen in November feeding alongside 7 others one of which was also colour ringed. Both locations are close to the R Thames.



AAW, Strumpshaw Fen, Seamus Griffin

AAT – ringed in 2021. Since fledging she has been reported from RSPB Conwy, Wales and from RSPB Saltholme in the Tees Valley. On 18.7.23 she was still at Saltholme.

AAU – ringed in 2021. AAU is our most travelled bird. Since fledging he has covered an estimated 2284 km, and has been reported from sites in Lancashire, Yorkshire, Lincolnshire, Nottinghamshire, the Tees Valley, Staffordshire and Yorkshire. In April 2022 he made a surprise visit to Ham Wall, but headed back north a few days later. He was reported from RSPB Fairburn Ings on 23.1.23.



ABC, Sandbach Flashes, Dennis Swaby

AAW – ringed in 2021. Since fledging she has been seen on the R Deben in Suffolk and on Holme Dunes NNR in Norfolk. She was reported from RSPB Strumpshaw Fen on 4.8.23 and Holkham Lake, Norfolk on 4.11.23.

ABC – ringed in 2022. Since fledging he has been seen at Sandbach Flashes in Cheshire, Mike Tonks photographed him apparently practising what is known as a snap display. He was last recorded there on 3.7.23.



ABN, Slimbridge, Jonathan Bull

ABF – ringed in 2022. He was seen at Slimbridge, Gloucs on 29.5.23 and 5.7.23.

ABM – ringed in 2022. Since fledging she has been seen in Yorkshire and Lincolnshire. She was reported from RSPB Burton Mere, Cheshire, on 9.7.23. We know that Great White Egrets have bred at this site in the past.

ABN – ringed in 2022. Since fledging he has been reported from the Isle of Wight and from Worcestershire. He was seen at Slimbridge between 2.6.21 and 26.7.23.

ABP – ringed in 2022. This is another well-travelled bird, who has now covered at least 1345 km. Since fledging he has been reported from Yorkshire, Northumberland, Lothian, Powys and Derbyshire. He was seen at Braithwaite, Doncaster between 31.12.22 and 15.1.23; at Drakelow NR, Derbyshire on 5.6.23; at Newport Wetlands between 9.6.23 and 5.6.23; at



ABP, Newport Wetlands, Neville Davies

Idle Washlands, Nottinghamshire on 20.8.23; and at Staveley NR, North Yorkshire on 19.10.23.

ABU – ringed in 2022. Since fledging he has been reported from Lincolnshire, Yorkshire and Northamptonshire. He was seen at North Thoresby, Lincolnshire on 15.2.23, and back in Somerset at Catcott on 14.5.23.

ACA – ringed in 2022. Since fledging she has been reported from Devon, Cornwall and Hampshire. She was seen at Burton Mill Pond, West Sussex, on 1.1.23 and 30.7.23.

Resighting records show that to date one bird (male AAF) has lived for at least 7 years, one (male AAC) for 5, one (AAM, sex unknown) for 4, four for 2 (male AAP, female AAT, male AAU, female AAW) and nine for 1. Fifteen birds have lived into their second year,³ giving a 52% one-year survival rate. This compares well with the 24% rate given by Voisin.

POST BREEDING NEST VISITS

At the beginning of October we revisited nest sites on Ham Wall (Godwins), Westhay (Lake Hide) and Shapwick Heath (Decoy Lake). The aim was to assess the post-breeding state of this year's nests, as part of a wider review into the factors which may be influencing the choice of nesting locations. This was prompted by the unexpectedly low number of nests this year on Ham Wall.

Although Godwins has hosted a colony of up to 9 nests in previous years, there was only one nest there in 2023. Despite extensive searching we were unable to find any trace of this nest.

The Westhay site has also been in use for a number of years, with a single productive nest in the same bank of reeds in 2017, 2018, 2021, 2022 and 2023. Although we know the 2023 location of this nest fairly precisely, we could again find no trace of it.



A nest on Shapwick Heath, 4.10.23, showing nest structure.
Photo Alison Morgan

Decoy Lake had a single nest in 2016, and a colony of 12 productive nests in 2023. We located the site of two nests, although there was little trace of the nests themselves – just a circular area of limited reed growth (ie with no green shoots) and broken stems. Two additional nests were found to be intact, although in poor condition. In one case the nest platform was still visible, although lower above the water than previously. The other had retained its original height but partially collapsed. We thought them unlikely to survive the winter. We did not think we would gain any further information by looking for the remaining nests.

Great White Egrets are said to repair and reuse nests from previous years (Voisin 2019, BWP). The Avalon Marshes colonies have proved to be fairly mobile, with no sites being occupied every year, and with nests not apparently built in consistent locations even within colonies retained from one year to the next. We have no evidence of a nest being used in successive years, and we conclude from these post-breeding site visits that individual nests on the Avalon Marshes are unlikely to be reusable, or even to have survived in any recognisable form from one year to another. It may be significant that the Avalon Marshes nests are mostly located in reedbeds, whereas elsewhere Great White Egrets also nest in willow and alder swamp, bushes or trees.

OVERVIEW

Great White Egrets have now been breeding on the Avalon Marshes since 2012. In 2023 the number of nesting pairs, colony locations and fledged chicks has continued to maintain its steady growth.

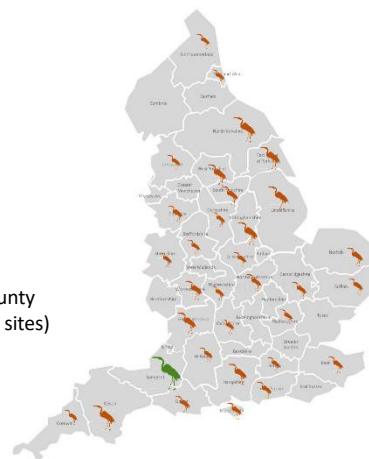
Since breeding was first recorded in 2012, we estimate that 340 chicks have successfully fledged, of which 45, representing 13% of the total, have been given colour rings. These colour ringed birds have now been reported

³ One of these 15, ABT, has so far been reported only in January of the year following fledging, ie at the age of 6 months.

by over 300 observers from 33 counties in England, 2 in Wales, 1 in Scotland and 1 in Ireland. It seems likely that the rapid increase in numbers of Great White Egrets throughout England and Wales is due in considerable part to the national dispersal of these 340 juveniles from the Avalon Marshes.

The future of this species as a British breeding bird now seems assured.

Map of GWE sightings by English county
2016-23 (bird size denotes number of sites)



THANKS TO:

Wardens: Ali Blaney (RSPB Ham Wall), Julie Merrett (NE Shapwick Heath), Mark Blake (SWT Westhay) & the reserve staff.

Drone Team: Alan Ashman & Andrew Kirby.

Ringling Team: Alison Morgan & Bob Medland, with Karen Haddy, Robin Morrison and Alick Simmons.

All those who have sent in colour ringing sightings from around the country and given permission to use the photographs included here.

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ACM at dusk at Walcote Pool,
Shropshire, September 2023
by Andrew Fusek-Peters

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