



Citizen Crane: Year 12 Report

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Working in partnership



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This document has been created for the purposes of Thames Water's Smarter Water Catchments initiative. Although Thames Water remain the primary client, this document will be made available to all partners associated with the project, in line with the true partnership ethos of the project. The work detailed in this report is based on the information available at the time. Any findings and/or recommendations will inform future phases of the project. We welcome all feedback to azra.glover@zsl.org

Executive Summary

General

1. This report sets out the findings of Year 12 of the Citizen Crane programme. In the first few years of this programme the Citizen Crane Team focused on collecting and analysing monthly water quality and ecological data sets collected by citizen scientists and using these to better understand the river ecosystem and target interventions that might improve it.
2. This work has continued over the last twelve years and has also expanded to encompass a wider array of citizen science-based data collection and engagement - particularly as part of the Smarter Water Catchments programme that started in April 2020.
3. The Citizen Crane volunteers have continued to provide high-quality data for the programme and have extended their range of activities to include geomorphology, wetland monitoring, water vole and mink monitoring, as well as a third Outfall Safari.

Findings

1. For many years the Citizen Crane reports recorded variations in river condition, but without seeing any significant or sustained improvements. This was despite the removal of hundreds of misconnections as part of the Thames Water (TW) Surface Water Outfall Programme (SWOP). This changed in Year 9 (2022-23) with significant improvements in Riverfly Monitoring Initiative (RMI) and water quality scores, combined with a positive shift in the river's Water Framework Directive classifications. These improvements appear to have been largely sustained over the last three years.
2. The data from Year 11 and Year 12 are less definitive than Year 10, although there are still a number of sites where RMI scores have improved. Water quality data from the Environment Agency (EA) indicate that the river condition has remained stable in the last few years, although there is still evidence for occasional releases of sewage through the system.
3. The last two years (Year 11 and Year 12) have also been outliers with regard to weather conditions compared to the previous decade, combining extended periods of summer drought with occasional winter and spring flooding. The river ecology has remained relatively stable over this period, and this indicates a high level of resilience to both low and high river flows, as well as extended periods of high temperature. Given that these conditions are likely to be caused by climate change, then this resilience may be tested further in future years, and the ongoing programme of river restoration works may be necessary to retain the current river status as much as to drive further improvements.
4. The latest Environment Agency Water Framework data provide very encouraging evidence that the main Crane Waterbody is improving and moving towards 'Good' Ecological Status (GES). The only parameter below 'Good' in the last data set (released earlier in 2026) is phosphate, and this has

improved to 'Moderate'. Reaching 'Good' Ecological Status is one of six Key Objectives for the overall Crane Catchment Plan and this will be a focus for the team over the next year.

5. Phosphate levels in the lower Crane appear to have stabilised around the GES threshold of 0.2 mg/l over the last two of years. One possible explanation is that high phosphate loadings in the river sediment are being released and effectively buffering any reduction in phosphate inputs. This can be investigated further as part of the overall programme.
6. The Thames Water Surface Water Outfall Programme (SWOP) is continuing to find large numbers of misconnected properties - with over 400 identified over the last 18 months, compared to around 500 in each of the two previous five-year periods. In addition, the SWOP team started to identify and resolve sewer network problems several years ago - finding approximately 260 over the last 18 months, compared to just 89 during the previous five-year period. These data indicate the increasing effectiveness of the SWOP programme, with more focused investigations and a willingness to engage with a much wider range of issues.
7. Whilst these are impressive numbers, and indicate the amount of pollution being removed from the system by the SWOP, there remain concerns that a broadly comparable number of new problems may be added to the system every five years. This is based on the continuing issues being identified both by the SWOP teams and the Outfall Safaris.
8. The Citizen Crane team is working with the Regional Connect Right team, and our partners in the Brent catchment, to promote the problems with misconnections and sewer network issues. This work is intended to raise the profile of these issues, which we consider to be the largest sources of organic pollution into the Crane and the Brent, and can only be resolved sustainably by implementing mechanisms to reduce the number of new problems being created.
9. There is ongoing evidence that the treatment system at Heathrow is effective in removing glycol from the river and improving the lower catchment from Donkey Wood downstream.
10. Schemes are being designed and promoted to reduce road pollution at two key sites - at the M4 (Highways England) and A312 (Transport for London). If and when these schemes are implemented, it would mark a major step forward in dealing with another significant pollution source for the river. This is particularly important given recent work by the Centre for Ecology and Hydrology that indicates that heavy metals, such as copper and zinc (prevalent in road run-off), may be the most critical impactors on the health of river ecosystems.
11. The most encouraging data are from small scale river restoration works around the catchment. These have shown the potential for river restoration schemes, and the associated coppicing of shading riverside vegetation, to transform the value of the local ecosystem - including the development of marginal and submerged vegetation, the creation of new fish nurseries and much improved RMI scores.

12. More river restoration schemes are planned throughout the catchment over the next two years and it is hoped that cumulative benefits will start to be seen from this work. Sustainable benefits will require long term funding, as well as engagement and development of community-based volunteer programmes, and the delivery of further training and employment schemes linked to river restoration and management. The decision to continue funding the Smarter Water Catchment programme until March 2030 will greatly enhance the opportunities to deliver improvements at a catchment scale.
13. One of the major positive developments over the last twelve years has been the increase in partnership-based working across the catchment to identify issues and deliver projects to resolve them. Representatives of the various groups - EA, TW, Local Authorities, community-based partners and others - are familiar with each other, leading to a good level of trust and understanding being developed, and this has been incredibly helpful when resolving issues or putting together project proposals and opportunities.
14. Public engagement has continued to expand. This has helped to grow and sustain the volunteering efforts of the Citizen Crane teams as well as engaging a wide audience in the Crane Valley on how they can help improve the catchment. For example, several pollution incidents have been reported by Citizen Crane volunteers and/or members of the public and have resulted in the pollution problems being attended to in hours and days rather than weeks and months.
15. A major misconnections campaign in the Crane and the Brent has been led by local community groups and supported by the Citizen Crane team and Crane Valley Community Interest Company. This has received considerable public attention, with articles in the national press and regional TV and radio. The campaign has led directly to increased engagement from local authorities and the Greater London Authority (GLA).
16. The campaign was spearheaded by discovering that at least seven blocks of flats in the Crane and Brent catchment were entirely misconnected, with all their sewage waste going into the river. Two years later more than half of these blocks have been rectified, and the others are either in hand or subject to prosecution. Given that some of these blocks had been misconnected for a decade or more prior to this campaign it can be considered as a major success
17. It is becoming clear that the SWOP programme is not enough on its own and this type of community led campaign is essential to try and better inform and engage the public and other key interested parties about the importance of misconnections and their role in both resolving them and stopping them happening in the first place. Over the last year we have also increasingly engaged with MPs and other opinion formers with a view to changing legislation so that the risk misconnections can be reduced in future.
18. Overall, there are further encouraging signs that the river ecosystem is improving and moving towards Good Ecological Status. The system is very complex, and we believe the recent

improvements are due to a combination of actions by all our partners to identify and remove pollution sources as well as improve the ecological functioning of the river.

The Future

1. The Citizen Crane project sits within the Thames Water Smarter Water Catchment (SWC) programme. The first five years of this programme ended in March 2025. Agreement was reached in late 2025 for the programme to be continued until March 2030 and this provides a longer-term platform to deliver on Citizen Crane objectives.
2. The intention from all partners is for the core Citizen Crane monitoring to continue. The team has been delighted to see how volunteers have continued to monitor at their sites every month for twelve years. This is a tribute to both their dedication and the ability of the technical team to use their data and demonstrate benefits to the river ecosystem. The volunteers have also engaged with a wider range of citizen science activities, and we are keen to continue and expand this. There are already opportunities for formal training and qualifications being delivered through these programmes. This has helped to broaden the volunteer base and we would like to embed and expand this approach.
3. The SWOP is also to continue for four more years. This provides an opportunity to further focus efforts on the key pollution problem areas at the top of the catchment, as well as expanding the work to identify and deal with associated network issues.
4. We are also keen to see the wider SWC and associated programmes for river restoration continue and expand over the next four years. Our findings to date indicate that improving the geomorphology and environmental management of the corridor helps to transform its ecological value. We are therefore planning to support the delivery of river improvements at scale across the catchment - using the Citizen Crane volunteers to monitor (and help optimise) effectiveness.
5. Public engagement work also needs to expand, both to grow our volunteer network and engage the wider population on the key issues and where they can make a difference.
6. We have seen very encouraging progress over the last twelve years. If these activities can be delivered and learned from over the next four years, then our long-term target of “Good Ecological Status” or, as we have previously defined it:

“An urban river corridor teeming with wildlife and unconstrained by pollution, serving as a vital community resource where people can connect with nature and improve their wellbeing.”

can be achieved by 2030.

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1 INTRODUCTION

This report sets out the findings of Year 12 of the Citizen Crane programme, including a review of citizen science data for the period from April 2025 to March 2026. Citizen Crane started in the Crane catchment in west London in 2014, following major pollution incidents in 2011 and 2013. A core project team of three organisations: Friends of the River Crane Environment (FORCE), Frog Environmental and Zoological Society of London (ZSL) came together to set up the programme in 2014, and they have continued to manage it over the last 12 years. The team is supported by a steering group, including Thames Water (TW), The Environment Agency (EA) and Crane Valley Partnership (CVP), that meets several times per year.

Citizen Crane volunteers have collected information at up to 19 sites every month over the 12 years and their range of activities has also expanded considerably over this period. Their efforts are fundamental to the success of the programme.

Core Citizen Crane monitoring includes; monthly River Monitoring Initiative (RMI) sampling at up to 19 sites, water quality sampling (from 2014 to 2020) and the Outfall Safari (delivered every four years since 2016). The scope of Citizen Crane has grown and evolved further over the last six years in response to the Smarter Water Catchment (SWC) programme. The work now includes a wide range of other citizen science activities and is co-ordinated by a Citizen Crane Officer, appointed by ZSL in 2021.

Annual Citizen Crane reports have been produced since 2015, and all the Citizen Crane reports can be found in the CVP Library: <https://www.cranevalley.org.uk/project-archive-library/>.

This Year 12 Citizen Crane report presents:

- Core Citizen Crane data collected between April 2025 and March 2026.
- An outline of other work related to water quality undertaken by the Citizen Crane team and our Crane Valley partners.
- Commentary and conclusions from a review of these data sets.

This is a summary report, and further information can be found in the other SWC reports referenced, many of which are also held in the CVP Project Library.

2 CITIZEN CRANE CORE INVESTIGATIONS

2.1 River Monitoring Initiative

The Riverfly Monitoring Initiative (RMI) is a national methodology used for detecting and reporting pollution events and assessing the ecological condition of a river system through up to eight groups of invertebrates, measured and scored using a logarithmic scale, and collected by standard three-minute kick sampling. Trends in RMI scores can be used as a proxy for changes in water quality, although they are also indicators of changes to habitat quality/suitability for different species and other variables such as seasonality, light levels, silt and flow rates.

The RMI score from year to year is also a function of the weather patterns in the year. The spring and summer of 2025-26 were dry and warm, with record overall temperatures for the year, along with record low river flows across central and southern England in August 2025. The winter was milder than average with several short cold snaps. The early spring was very wet with several flood events.

This year follows a recent trend of extreme warm and dry periods interspersed with flood events and occasional colder snaps. These conditions are presumed to be having an impact on the resilience of invertebrate populations in rivers like the Crane, but the relevant data interrogation has not yet been attempted.

The Citizen Crane volunteer teams have been carrying out RMI assessments at up to 19 monitoring sites every month over the twelve-year period from April 2014. The main catchment map, including the key monitoring locations, is shown in Figure 2.1. This section of the report reviews the RMI findings from last year (April 2025 to March 2026) and presents these, alongside a summary of the long-term data set, to identify any trends. The data for 2025-26 for 10 long-term monitoring points, plus three sites (1b to 1d) set up in 2023, and one site (2b) set up in 2025, are in Table 2.1 below. Several further sites have been set up specifically to monitor river restoration projects and their data are considered separately.

Note: trigger levels for pollution incident reporting were set with the agreement of the Environment Agency at the start of the monitoring.

Table 2.1: Summary of core RMI data April 2025 – March 2026

Site	Site number	No. samples	Trigger level	No. trigger breaches	Mean RMI score	Median RMI score
Headstone Manor Park	1	12	3	0	3	3
Yeading Walk	1b	9	2	0	2.4	2
Streamside Open Space	1c	10	N/A	N/A	2.9	3
Roxbourne Park	1d	12	3	0	4.3	4.5
Spider Park	2	9	3	3	2.7	3
Spider Park Restoration Zone	2b	10	N/A	N/A	4.9	5
Ickenham Marsh	3	8	3	0	4.1	4
Newton Park West	4	11	3	4	2.8	3
Yeading Brook Meadows	6	8	4	5	3.9	3
Minet Country Park	7	2	3	1	3	3
Cranford Country Park*	8	-	-	-	-	-
Donkey Wood - Crane	9	11	3	0	6.3	7
Donkey Wood – DNR	10	11	7	0	9.3	9
Crane Park Island	11	10	8	1	9.1	9
Mill Road Weir	12	10	7	2	8	8

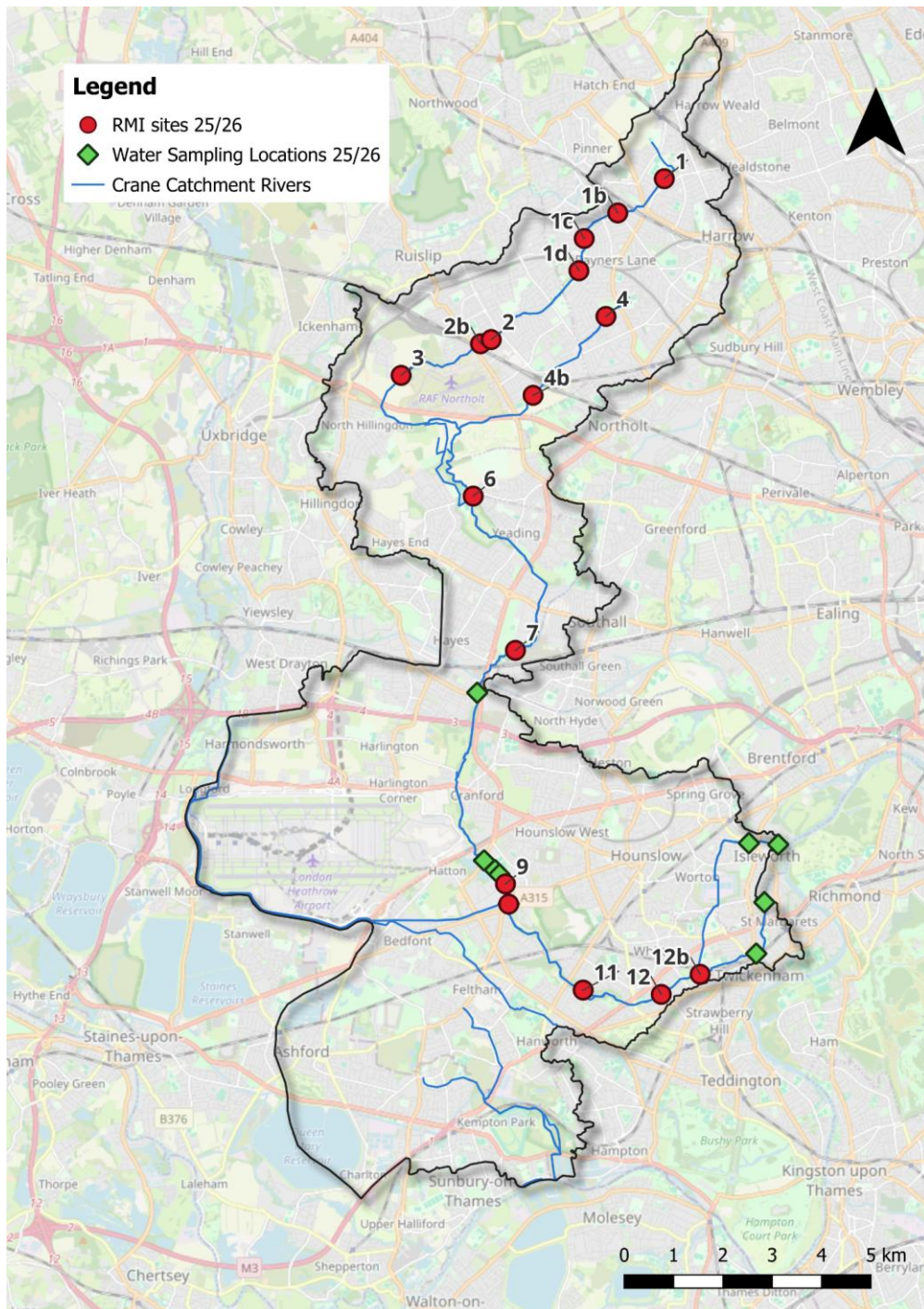


Figure 2.1: Catchment map with Riverfly Monitoring Initiative (RMI) monitoring locations and Environment Agency water sampling locations from year: April 2025 to March 2026.

The main findings from the 2025/26 data are as follows:

- The general trend follows that of previous years, with the lowest RMI scores at the top of both upstream sub-catchments, quite poor scores in the middle reaches, and the river condition improving towards the base of the catchment. Note that The Riverfly Partnership state that an RMI score of 5 and below is indicative of a river system that is heavily adversely impacted.

- Trigger levels were breached regularly at Newton Park West, Spider Park and Yeading Brook Meadows. This is in line with findings from previous years. These breaches are so regular that they are no longer reported to the EA. The causes are considered further in Section 2.3 below.
- A new site has been added at the Spider Park river restoration site - where a restoration scheme was completed in April 2025. Note that the median score at this site is 5 - compared to a score of 3 for the adjacent (and unrestored) long term monitoring site.
- There was one trigger level breach - with only two samples taken - at Minet Park. This site is difficult to access and has been repeatedly failing trigger levels over many years. The site has been removed from the sampling schedule for the time being and may be re-visited if and when restoration works can be implemented at the site.
- One and two trigger breaches were noted at Crane Park Island and Mill Road respectively, towards the base of the river corridor. Trigger levels are higher at these locations and the failures were marginal. These failures are seen occasionally during the winter period when there is a natural reduction in invertebrate counts. There were no other causes for pollution concern reported by the volunteers and as a result these were not reported.

Figure 2.2 below shows the average annual RMI data at each site for each of the twelve years from 2014.

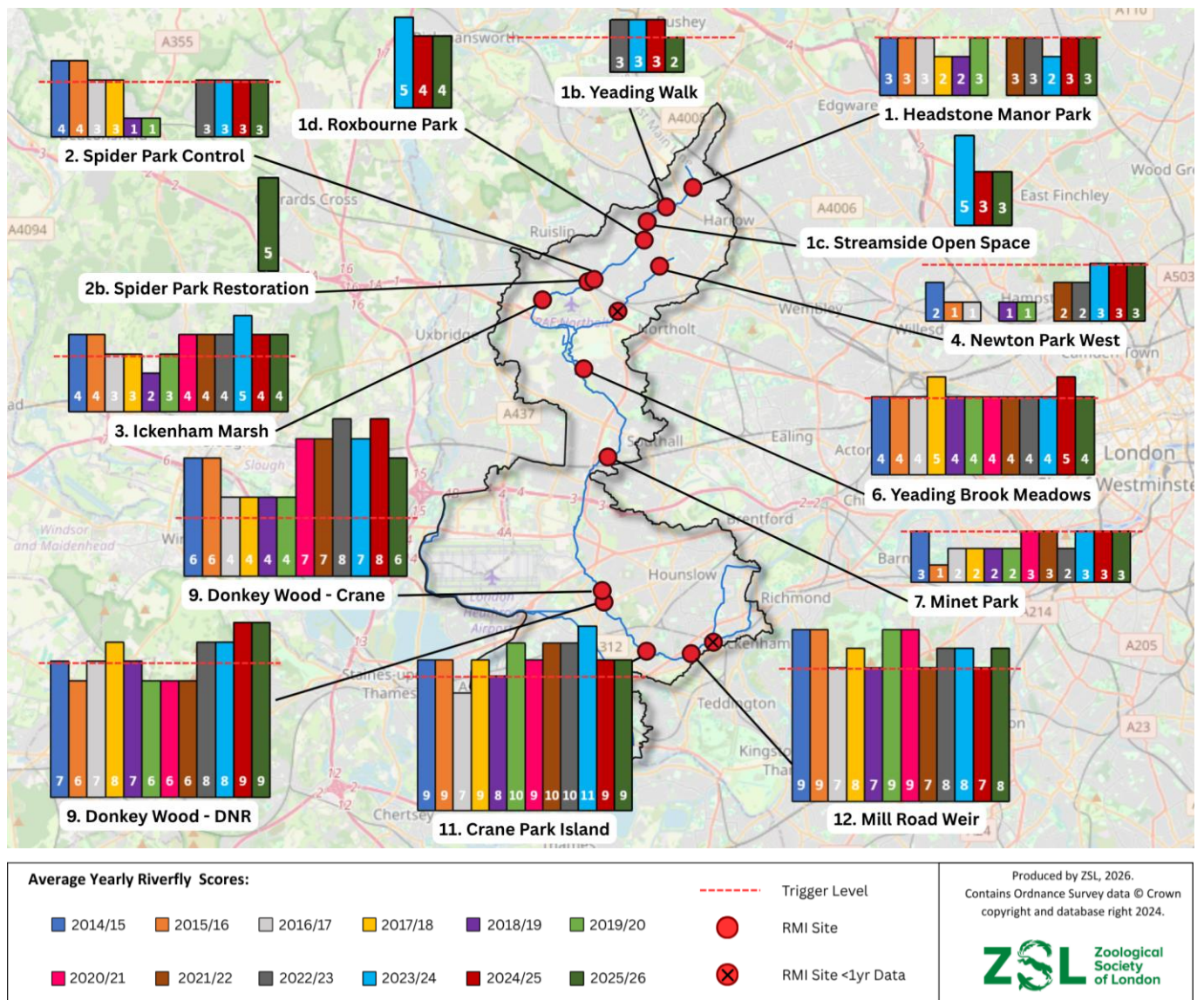


Figure 2.2: Catchment map with Riverfly Monitoring Initiative (RMI) monitoring locations, showing corresponding Riverfly scores and RMI trigger levels where available. 'Average Yearly Scores' are based on mean RMI data for each reporting year (April - March).

The main findings from the long term RMI data are as follows:

- The data for last year fit into the overall pattern of data for the last 12 years - as noted above - of lower values upstream and an improvement in the scores in the lower catchment.
- These correspond with the Water Framework Directive data (as discussed in section 3.5 below) which show the upper (Yeading Brook) water body as being moderate to poor status and the lower (Crane) water body being moderate to high status across most categories.
- The data for Year 12 do not show any significant shift from this pattern - and are fairly consistent over the five years following the general step improvement in the lower catchment around the time the new Heathrow treatment system was installed.

- ZSL has undertaken a fresh long-term regression analysis of 10 years of RMI data in 2026 (ZSL pers. comm.). Nine of the ten long-term monitoring sites now show a significant positive trend in their 10-year regressions, indicating increasing average RMI scores over time. Yeading Brook Meadows is the only site without a positive regression trend, although scores are currently stable. This represents an improvement from previous analyses, when only seven sites showed positive trends and Mill Road, Headstone Manor Park and Spider Park showed weak negative trends.
- There is one new monthly data point - from the Spider Park river restoration site (site 2b). This recorded an average RMI score of 5 compared to the score of 3 for the nearby baseline control site. This is further encouraging data that the restoration schemes are having a marked beneficial impact on local river ecology (see also 4.2 below).

These data are indicative of a river that has been fairly stable over the last few years, following an improvement (particularly downstream of the Heathrow outfall - see below) around six years ago. However, given that the last two years (2024/25 and 2025/26) have both experienced meteorological extremes in terms of high temperatures and low rainfall (and river flows) in the summer combined with high rainfall (and river flows) in the winter, then stability in itself may be a significant achievement, indicative of considerable resilience in the river ecosystem.

2.2 RMI Data from Individual Sites

The following findings are drawn from a review of the data, alongside subjective reports and observations from individual sites:

Site 1: Headstone Manor Park. In 2023 - 2024 there had been a significant pollution incident at this site leading to a reduced average score of 2. The score has recovered to 3 over the last two years. Nevertheless, given the major investment in the new Headstone Manor wetland, and the amount of misconnection work in the upstream drainage catchments, these continued low scores are rather disappointing. Note that the upstream wetland is also being sampled for invertebrates, albeit using a different wetland-based methodology (see ZSL report on Headstone Manor wetland <https://cms.zsl.org/sites/default/files/2025-11/FINAL%20Wetland%20Monitoring%20Method.pdf>) and has identified a rich invertebrate assemblage.

One explanation for the low scores at Site 1 (on the stream directly below the wetland), and supported by findings at other sites, is that these are caused by poor geomorphological conditions in the stream channel, exacerbated by over-shading of the site, and these being a more significant control than any ongoing water quality issues.

Sites 1b to 1d: Yeading Walk to Roxbourne Park. These three sites have been added to the roster as part of the Yeading Brook Unbound project, with the enthusiastic engagement of local volunteer groups. This project is delivering enhancements to the habitat quality of several kilometres of the Yeading Brook

West. The low scores at present are recording the baseline condition before and during these improvement works.

Site 2: Spider Park. The median score at this site remained at 3 for another year. The geomorphology of this site is well below optimal, with the main channel being deep, silty and over-shaded by trees. A river restoration scheme was completed in Spring 2025 to enhance the form and function of the stream downstream of this site (see 2b below).

Site 2b: Spider Park restoration site. This is a new monitoring site started in April 2025 immediately following the completion of the restoration work in Spider Park. The median score at this site is 5, significantly higher than the score of 3 at the adjacent unchanged Site 2 upstream, with a first caseless caddis found for example. This indicates the potential for local geomorphological improvements, alongside reduced shading, to enhance the ecological conditions and RMI scores. This evidence has been helpful in securing funding for two further restoration schemes upstream of this site, which are due to be delivered in 2026/27.

Site 3: Ickenham Marsh. The score of 4 remains at its long-term average for a second year, following an improvement to 5 for the first time in 2023.

Site 4: Newton Park West. A third successive annual median score of 3, whilst still being low, is the joint highest annual score recorded over the eight years of data gathering at this site - which has only seen scores of 1 and 2 previously. This result may be indicative of cumulative improvements being delivered by large scale investigations and improvement works in the upstream system (as set out in section 3.6 below), combined with the benefits derived from the local wetlands systems which have been in place over the last 7 years. Note however that the score remains low and indicative of pollution sources still in place upstream of the site.

Site 6: Yeading Brook Meadows. This site has dropped back to 3 having scored a 5 in 2024.

Site 7: Minet Country Park. The RMI score at this site has been low throughout the twelve years of monitoring and last year was its joint highest at 3. The low scores may be caused in part by the poor geomorphology within and local to the site, although there is also thought to be ground contamination locally which may be an additional ecological constraint. Only two samples were taken from the site last year due to the unavailability of volunteers. The site will probably remain dormant for the short term until a river restoration project can be developed for the Minet Park area.

Site 8: Cranford Park. This site has not been monitored for several years. We remain hopeful that a monitoring team will be set up here, and/or the adjacent Avenue Park, in the near future. Note that there is a longer-term objective to enhance the river through Avenue Park - where it is very over-shaded - with an RMI site proposed there as and when these plans move forwards

Site 9: Donkey Wood: River Crane. The scores at this site increased to between 7 and 8 over the last five years - with another 7 scored last year. This increase is believed to be at least partly a result of the glycol treatment plant at the Heathrow Eastern Balancing Reservoir immediately upstream (which has been fully operational since 2021) and a consequent increase in winter RMI scores. The full data set is plotted in Figure 2.3 and shows that (a) there has been an improvement in winter minimum scores and (b) an overall improvement in scores, over the last five years. This is considered to be due to the invertebrate diversity and abundance throughout the year benefitting from no longer being subject to winter impacts from glycol releases at Heathrow.

It is interesting to note that the Donkey Wood Crane site is upstream of the confluence with the Upper Duke's River. Our working assumption over recent years had been that the input from the Upper Duke's River (a water transfer from the Chalk fed River Colne to the west) is a major benefit to the lower parts of the river and significant improvements may not be possible upstream of the confluence. These recent data from Site 9 are very encouraging and indicate that the better ecological conditions seen downstream of the confluence may also be possible in the upstream parts of the catchment above the confluence. Note that sampling Site 9 is wide and shallow, with a high flow velocity, a gravel bed and dappled sunlight. This is very different from the form of much of the rest of the upstream corridor - which is often deep, slower moving, silty and/or over-shaded. The pilot investigations of river restoration works in the upstream catchment are therefore of particular interest – and support the view that there is greater scope for ecological improvement across the entire catchment than previously envisaged.

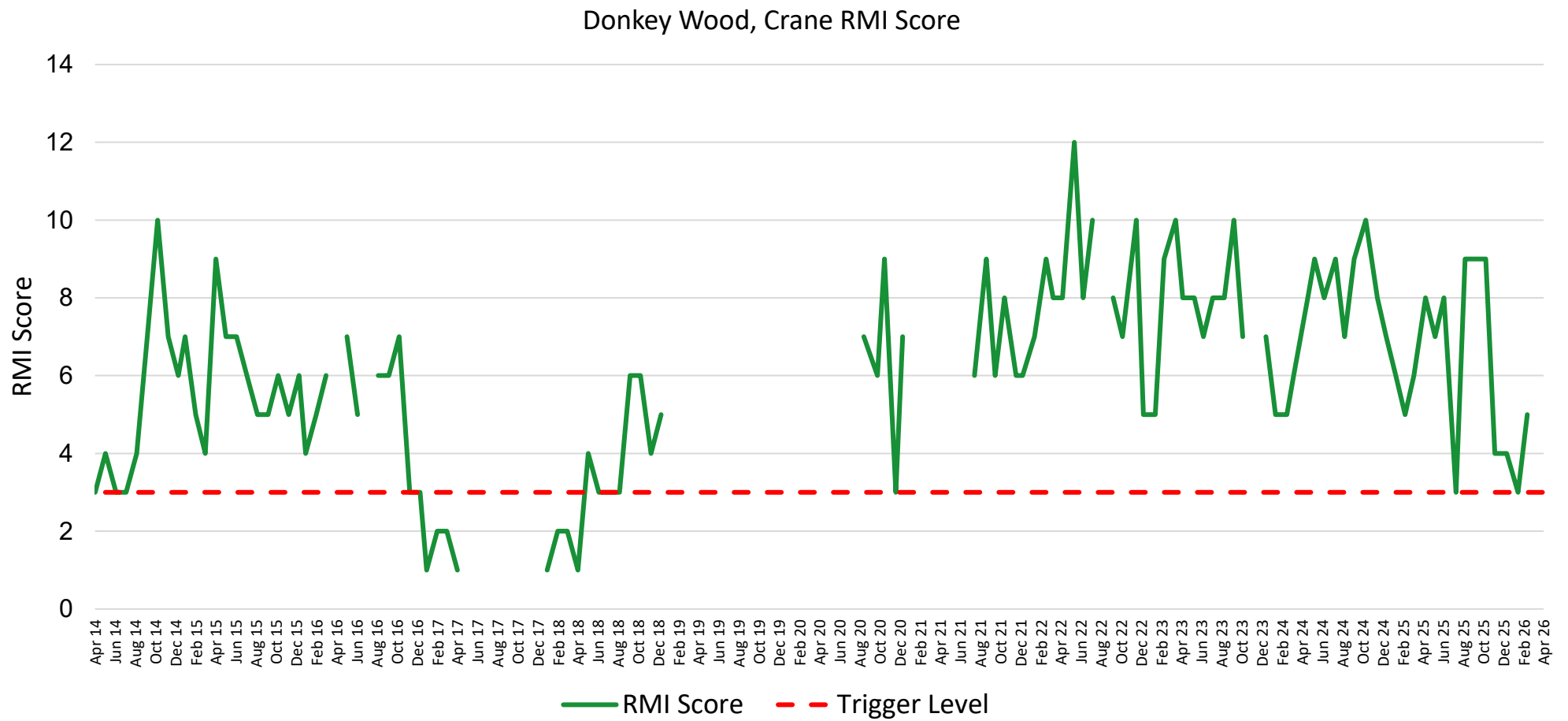


Figure 2.3: 2014 - 2025 Monthly RMI data for Site 9, Donkey Wood, Crane

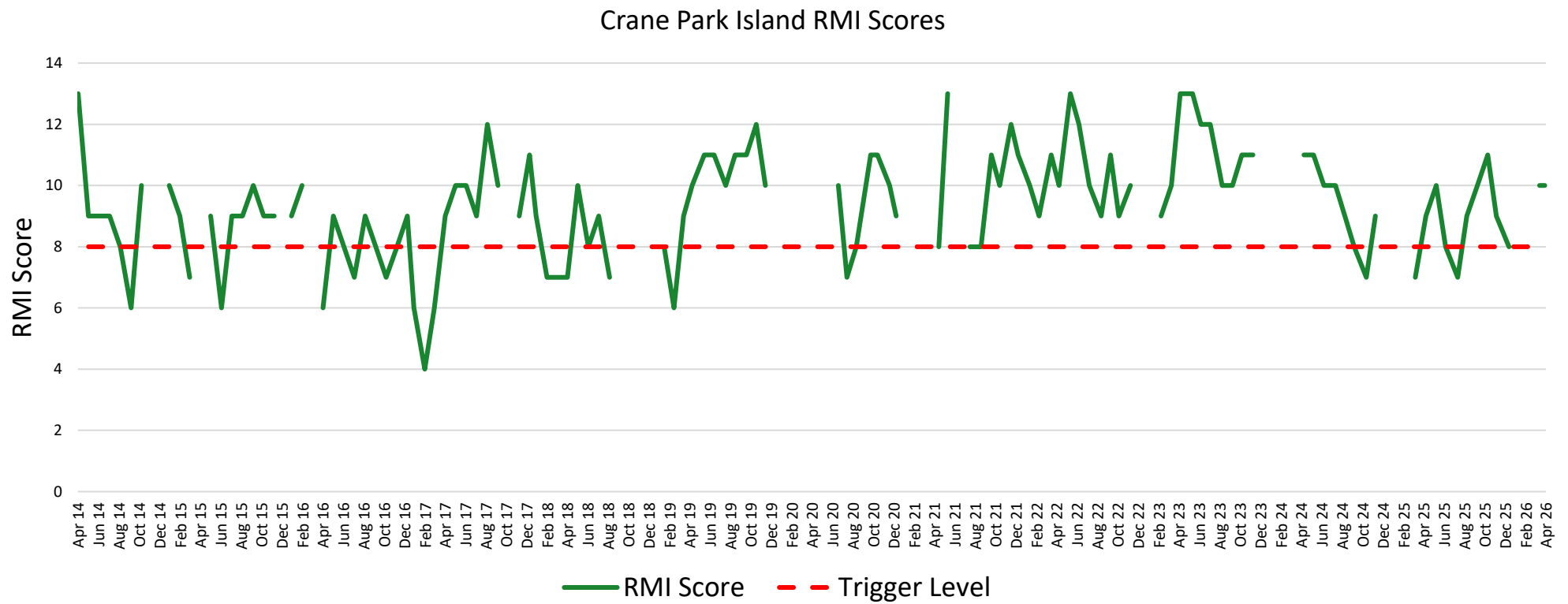


Figure 2.4: 2014 – 2025 Monthly RMI data for Site 11, Crane Park Island

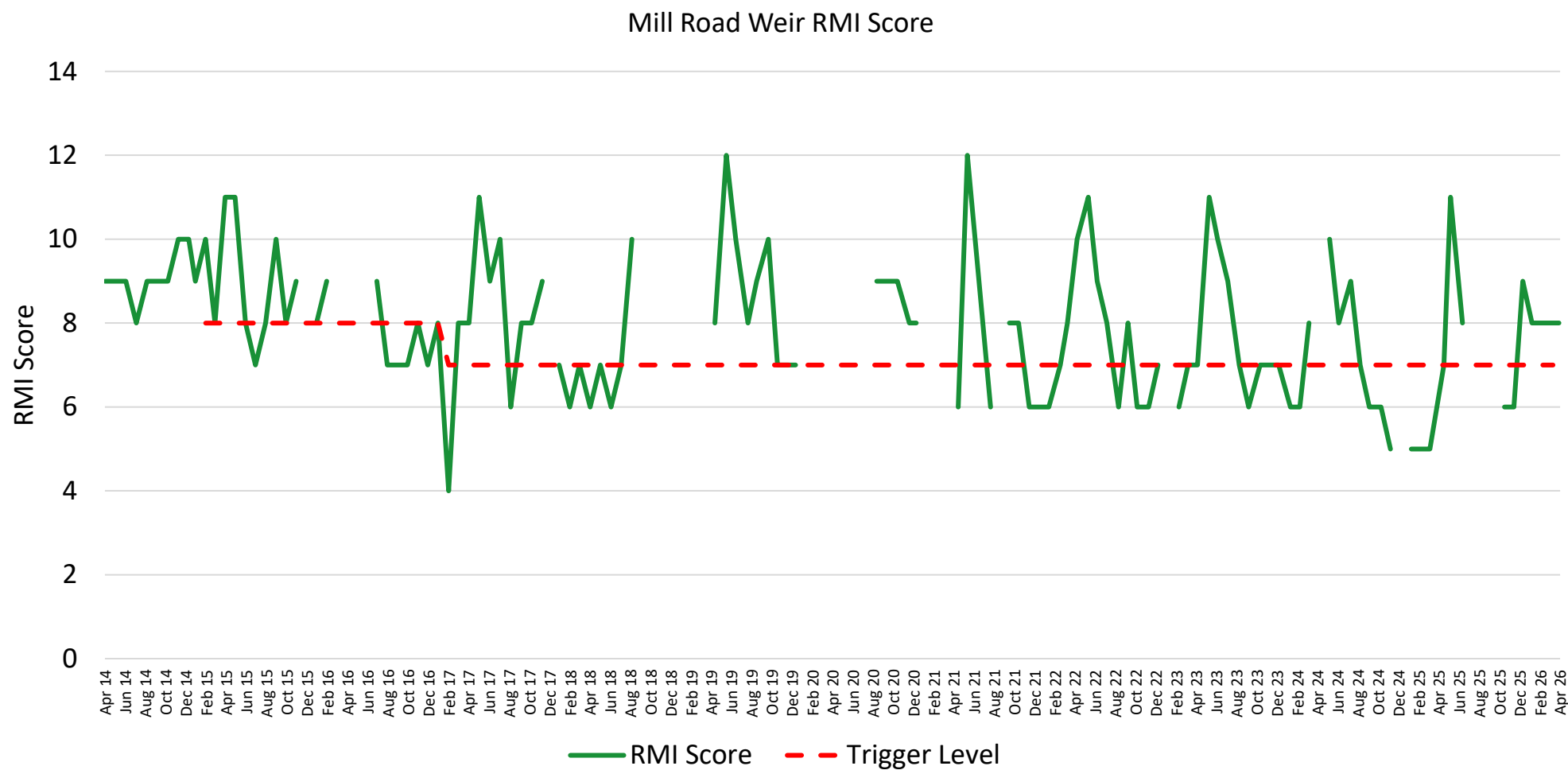


Figure 2.5: 2014 – 2025 Monthly RMI data for Site 12, Mill Road Weir

Site 10: Donkey Wood: Upper Duke of Northumberland's River. Last year's RMI score of 9 was the joint highest (with 2024) over the last twelve years. The Upper Duke of Northumberland's had suffered from summer low flows at various times over the period up to 2023. Over the last few years the summer flows appear to have returned to normal, following work around the upstream offtake from the River Colne. These high scores support this assumption and reflect the continued high value contribution of this inflow to the river downstream.

Site 11: Crane Park Island. Last year's score of 9 was a reduction compared to the high score of 11 in 2024 - but this site remains the best performing along the Crane Valley. Comparisons with other rivers across London (see for example the data from the Citizen Crane Year 9 report) indicate it may be at least equivalent to the highest anywhere in Greater London.

The detailed data in Figure 2.4 above show a clear step change in the scores around 2021 - though not as marked as at the Donkey Wood site upstream. This can also be explained by the beneficial impact of the glycol treatment works at Heathrow. There have also been, over the last three years, improvements to the ecological condition of around 500 metres of river channel through Little Park and Pevensy Nature Reserve several hundred metres upstream of this site (as discussed in Section 4.2 below).

Site 12: Mill Road. Last year's RMI score of 8 was a slight recovery from the 7 scored in 2024. The team at this site have suspected for some time that the score may be compromised by an increased level of shading from ivy clad trees and associated shrubs on the riverbank. This resulted in there being no in-stream vegetation at this site, whereas there is plenty in the unshaded reach immediately upstream. Initial work was completed last winter to remove ivy from the larger trees and there is a noticeable increase in the sunlight penetrating the channel - though no in-stream vegetation as yet. There are plans to coppice some of these trees next winter and it will be interesting to see if this results in any further benefits to the RMI scores at the site.

The detailed plot in Figure 2.5 above shows the seasonal variation in scores at the site - peaking in the summer and reducing in the winter. The extended period of drought in summer 2025 may have reduced the summer peak scores that year - and a similar pattern has been seen in 2026 when the drought and high temperatures have been more severe. Generally, the reduced scores have been a function of reduced numbers rather than variety - with Gammarus for example being below 100 in summer 2026 for the first time that volunteers could recall. This would be consistent with a reduction in habitat availability, whilst the water quality remained supportive for smaller numbers across a broad species range.

One consideration for the lower Crane sites is the amount of dog activity in the river. Several hundred dog owners use Crane Park every day and many of them encourage their dogs to go into the river. The Mill Road site is a particularly popular spot for dog use, and many dogs also use the Crane Park Island location. By contrast, the Donkey Woods site has less dog use. Dogs disturb the riverbed and can also carry insecticides as a flea treatment.

A first dedicated dog dip was installed in Kneller Gardens in 2025, and two further dog dips were created in Crane Park in 2026. These are intended to influence where dogs prefer to access the river, providing a safer space for them and also reducing the sedimentation and associated disturbance at more sensitive areas. Controls on dog access to the river elsewhere (by the use of dead hedging and associated planting for example) are being implemented in association with these new features and it will be interesting to see how this affects dog activity locally.

Local community groups are also promoting the value of using tablet form flea treatments. Many dog owners are understood to be changing to this method and thereby reducing the insecticide load in the river.

2.3 Water Quality Data

Data for the First Six Years of Citizen Crane

Over the first six years of the Citizen Crane programme (from 2014 to 2020), volunteers collected monthly water samples and measured the flow rate at each of the RMI sites. The samples were analysed in Thames Water laboratories for ammonia and phosphate concentrations, and these data were used to build up a picture of the organic pollution concentrations and loadings across the main catchment.

A plot was produced that showed concentrations and loadings with distance down the catchment for each of the first six years of the project. Overall median curves for phosphate and ammonia concentrations and loadings over this period can be seen on Figures 2.6 to 2.9 below.

The main findings were:

- The highest concentrations of ammonia and phosphate were in the two upper tributaries of the catchment and concentrations reduced significantly with distance downstream.
- The loadings of both ammonia and phosphate varied with distance downstream and there were significant reaches towards the base of the catchment where loading also reduced with distance downstream. This indicated the ability of these parts of the ecosystem to remove organic pollutants.

- There was a significant input of phosphate from the Upper Duke of Northumberland's River - thought to be largely due to loading from sewage works in the River Colne upstream of the Duke of Northumberland's River offtake.

These findings were fairly consistent over the six-year period from 2014 to 2020.

Change in Approach

No samples were taken in Year 7 due to COVID-19 restrictions. A decision was then made to discontinue the water quality sampling and rely on the Environment Agency water quality datasets, which had been significantly enhanced over the intervening period. This approach has continued over the last five years - and in the last four years we have also undertaken some comparative analysis of the EA data sets.

Phosphate and Ammonia Concentration Data

Figures 2.6 and 2.7 below show the entire Environment Agency datasets for phosphate and ammonia respectively for the last year (April 2025 to March 2026) along with summary lines for Years 1 to 6 and Years 10, 11 and 12. Note that the EA monitoring locations are identified on Figure 2.1.

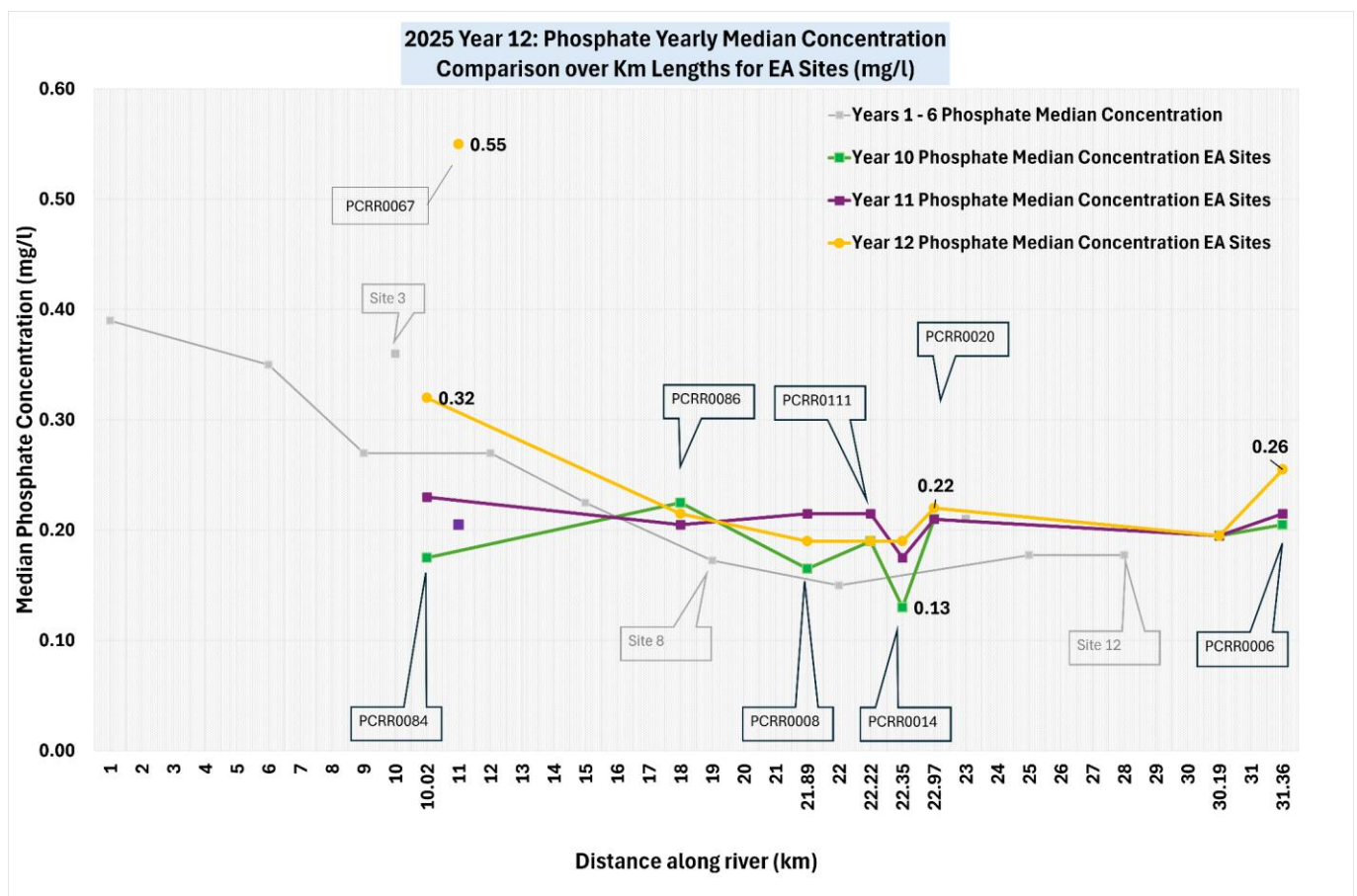


Figure 2.6: Comparison of Environment Agency median phosphate concentration data for Years 10, 11 and 12 with Citizen Crane data for Years 1 to 6

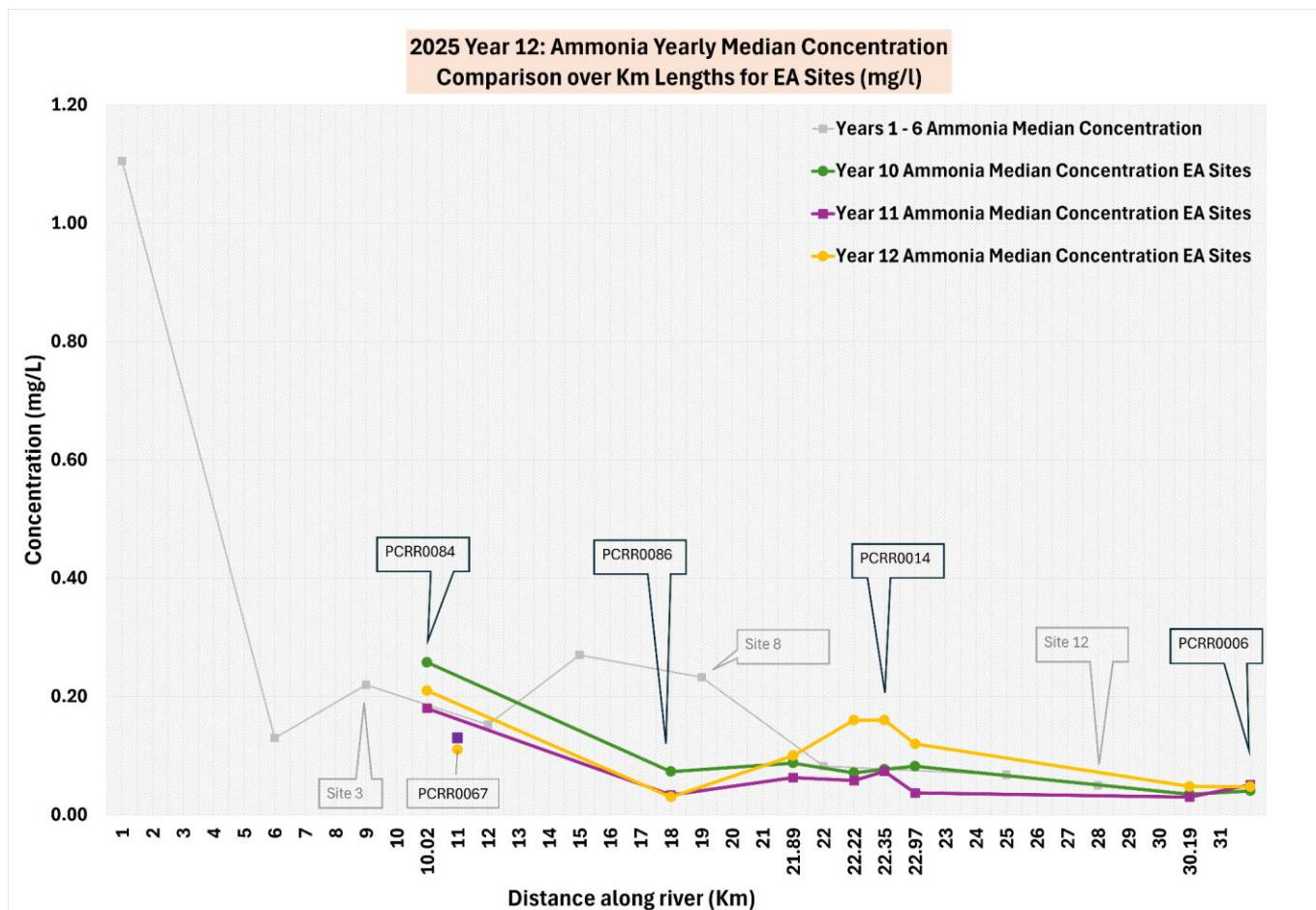


Figure 2.7: Comparison of Environment Agency median ammonia concentration data for Year 10, 11 and 12 with Citizen Crane data for Years 1 to 6

The key points from these two plots are as follows:

- The EA data sets do not monitor the upper reaches and therefore we do not have comparative data for this part of the catchment.
- Both datasets show broadly similar curves across the middle and lower catchment for the Citizen Crane data for Years 1 to 6 and the EA data for Years 10, 11 and 12.
- The phosphate data in Figure 2.6 are indicative of slightly higher concentrations in the lower reaches of the catchment over the last three years - compared to the period 2014 to 2020 shown in the Years 1 to 6 data - and at or slightly above 0.2 mg/l.
- This is a key value as 0.2 mg/l is also the boundary between Good and Moderate status with respect to phosphate. Note that phosphate is the only parameter which is currently failing to meet Good Status in the Crane Waterbody (EA WFD data release 2025) as discussed in Section 3.5 below. As a result, reducing phosphate concentrations below 0.2 mg/l would be key to meeting

Good Ecological Status, one of the six overall Objectives of the Crane Valley catchment plan (CVP, 2025).

- Looking carefully at Figure 2.6, there may be a slight upward trend in phosphate concentrations over the last three years as well as in comparison to the summarised 2014 to 2020 data set. This is minor though and the overall impression is of a stable level of phosphate over this period.
- The ammonia concentration data in Figure 2.7 are indicative of a reduction in levels over the last three years (years 10 to 12) in the middle catchment compared to the 2014 to 2020 period (Years 1 to 6). In the lower catchment however, levels have if anything increased slightly.
- The overall impression though is of ammonia concentrations remaining fairly stable at around 0.1 mg/l over the lower 10 to 15 km of the river. Note that our current view is that the ecosystem (as measured by RMI scores) is more sensitive to ammonia than phosphate.

In broad terms these data indicate that the water quality with respect to these two key indicators of organic pollution is largely unchanged over the twelve-year period - at least in the middle and lower catchment. One explanation may be that, at these relatively low concentrations, phosphate and ammonia are being regulated to some degree by exchange with the river plants and sediments. This will be a key consideration for the ongoing work programme investigating the potential for reaching Good Ecological Status.

Note that the EA data do not have any data points for the upstream tributaries of the catchment where potentially the most water quality improvement work has been achieved.

Phosphate and Ammonia Loading

Figures 2.8 and 2.9 below show plots of (a) the median loading data for phosphate and ammonia over the first six years of Citizen Crane (grey line) and (b) median annual data for years 10, 11 and 12. These latter data have been produced using the Environment Agency water quality data from two sites in combination with flow data from the EA gauging stations in the middle and lower catchment.

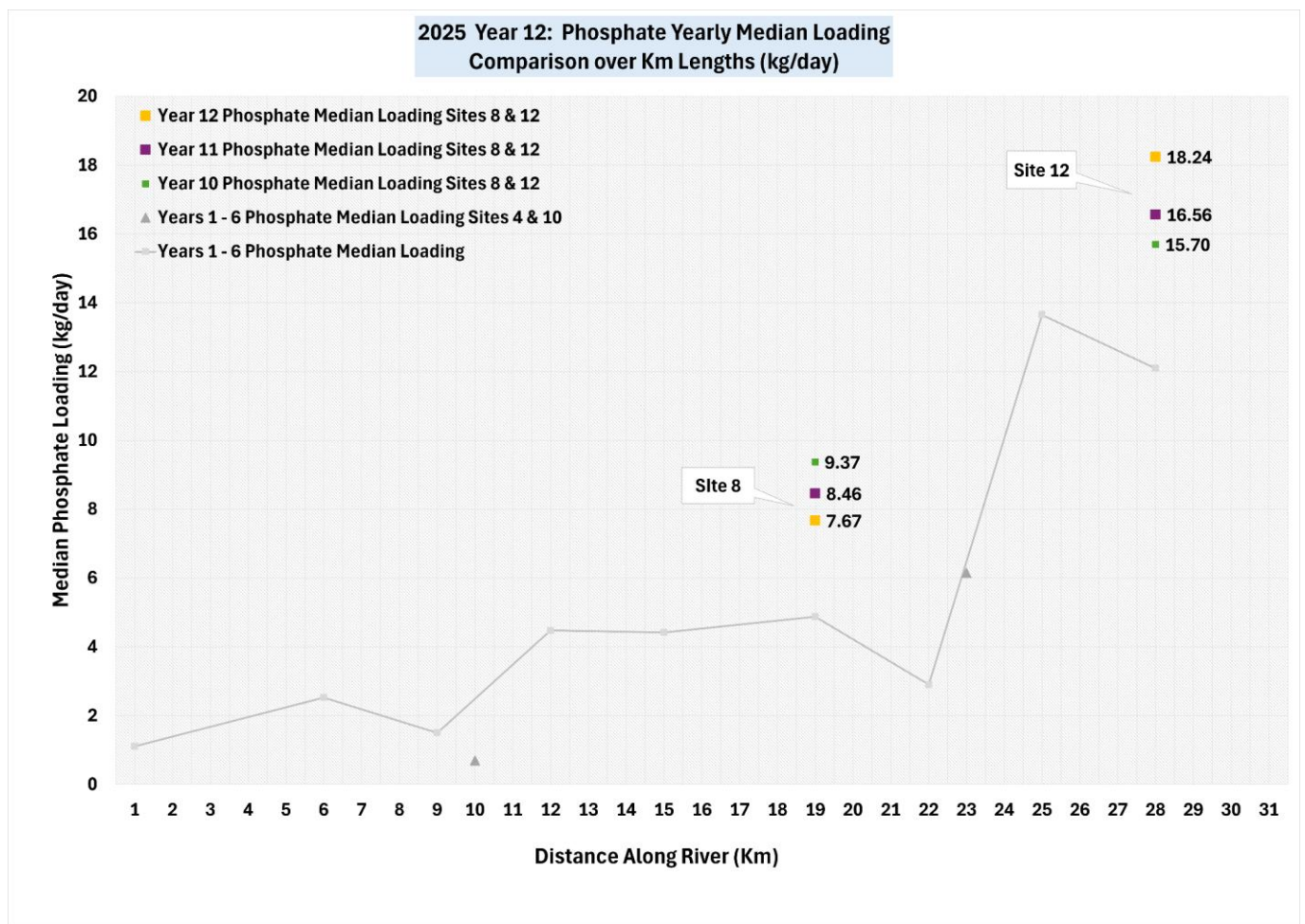


Figure 2.8: Phosphate loading data for the twelve-year Citizen Crane period

The following points are made from the phosphate data:

- The phosphate loadings over the last three years are of the same order as each other and around 35 percent higher than the median curve for the previous six years. This may either be a real change or a function of the different dataset and methodology.
- The data for Year 12 show a reduction at Site 8 in the middle catchment (lowest loading of the last three years) combined with an increase at Site 12 in the lower catchment (highest loading of the last three years).
- This may be due to increased loadings from the Upper Duke of Northumberland's River - which joins the Crane between these two points and has previously been assessed as doubling the phosphate loadings along the lower Crane – and most likely due to the inputs from STWs further upstream in the Colne catchment. In other words, the same flow increases that have benefitted the RMI score in the Upper Duke's River in recent years may also be increasing the phosphate loading.

- Note that there are plans to introduce phosphate stripping at one or more of the sewage works in the Colne catchment upstream of the Upper Duke's River offtake and this could have a significant beneficial impact in reducing the nutrient loading in the Lower Crane valley.

Note that phosphate reduction measures are likely to be a major focus of work by the Citizen Crane team and partners over the next few years given the target of achieving Good Ecological Status.

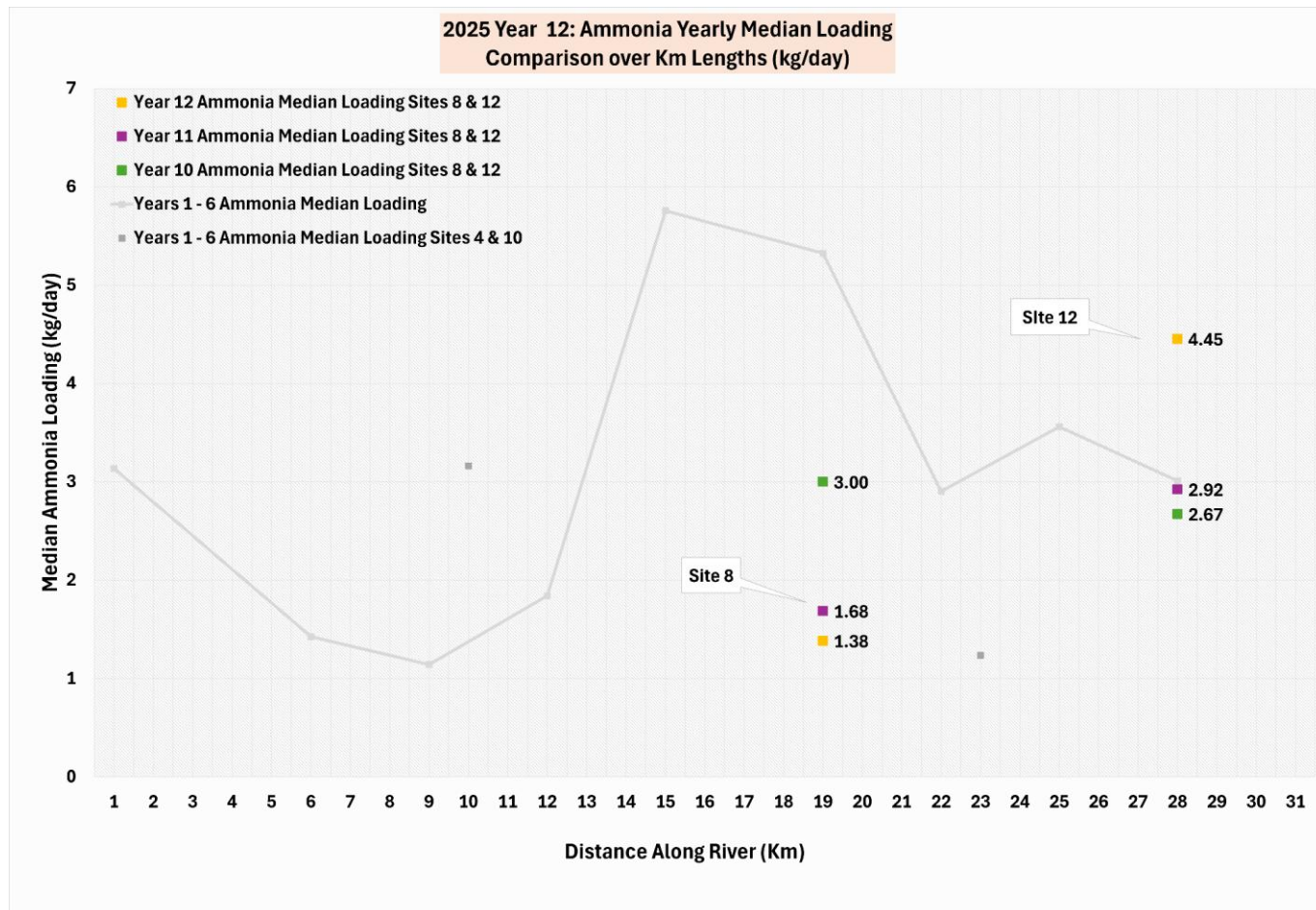


Figure 2.9: Ammonia loading data for the twelve-year Citizen Crane period

The following points are made from the ammonia data:

- The ammonia loadings over the last three years are lower in the middle Crane and comparable to (and higher in Year 12) in the lower Crane compared to the median curve for the previous 6 years.
- The data for Year 12 show the same pattern for ammonia as for phosphate - with the loadings reduced in the middle Crane and increased in the lower Crane. In both cases the loadings more than doubled over the lowest 10 km of the river. As noted above one possible explanation for this would be increased loadings of both ammonia and phosphate entering the river from the Upper Duke of Northumberland's River.

The ammonia data will also be helpful when further exploring the potential to reach Good Ecological Status - as discussed further in Section 3.5 below.

Other Water Quality Data

Concerns have been raised in recent years about other pollutants including:

- Heavy metals
- PFAS and PFOS
- Chemicals of Emerging Concern

The available data for each are reviewed below.

Heavy metals: The Citizen Crane team carried out an initial review of heavy metal data in the previous year (as reported in the CC Year 11 report, 2025). This followed national level investigations by the Centre for Ecology and Hydrology (as presented to Thames Rivers Trust meetings in 2025) that reviewed much of the UK's water quality data set to assess the relative importance of key parameters for controlling ecological value in rivers. The reviews identified that:

- River conditions across the UK have generally improved over the last 20 to 30 years
- The largest controls on river condition are copper and zinc
- The main change in river conditions has been due to the large-scale reduction in coal burning, leading to reduced inputs of metals into the water cycle from polluted air
- Phosphate has relatively little influence on river condition

These findings appear to be well founded and are currently filtering through the UK water industry.

The review carried out by Citizen Crane in Year 11 struggled to find any insightful data on the key metals (copper, zinc and nickel) and the data reviewed did not identify any significant cause for concern. No further work has been carried out on metals over the last year.

Chemicals of Emerging Concern (CEC): An investigation was carried out into CECs in the Crane Valley in 2023 and a report produced in 2024 <https://www.cranevalley.org.uk/wp-content/uploads/2025/06/Final-Project-Report-Chess-and-Crane-29.02.2024v2.pdf> Although the report provided a valuable review it did not find any significant concerns in the Crane data set. No follow up work on this has been carried out to date.

PFAS: Per- and polyfluoroalkyl substances (PFAS), better known as “forever chemicals”, are a family of more than 10,000 synthetic chemicals widely used in consumer products and industrial processes. They

are particularly associated in rivers with the use of firefighting foam and have been linked (EA report 2025) to both civilian and MOD airports. The Crane Valley has two major airports (Heathrow and RAF Northolt) draining into the river and may therefore be at particular risk.

A report in Guardian (January 2025) identified Heathrow as a PFAS hotspot and noted:

“High levels of PFOS and PFOA (PFAS) have been detected in shallow groundwater on the site from historic legal uses of substances containing PFOS, including firefighting foams. The adjacent River Crane and Yeading Brook have both failed their chemical status for PFOS. Levels in the rivers are higher downstream of the airport, but it is also found upstream, indicating other contamination sources.”

Heathrow’s initial business proposals for the H8 period (January 2027 to end 2031) are reported (CC internal communication) to include £40m to tackle the PFAS issue. Further information has been requested from Heathrow Airport Ltd and the response to date has been:

“Heathrow has proposed additional investment in the H8 period, building on commitments already included within H7. We continue to work closely with the Environment Agency to deliver environmental improvements and have submitted key documents, including our site investigation report and emissions management plan, for review. By the end of 2026, we expect to have a long-term PFAS management plan in place, setting out a phased approach to managing and mitigating potential PFAS impacts across the airport. The plan will be developed in consultation with the Environment Agency and will be updated as required to reflect progress, new evidence, and regulatory expectations.”

The Citizen Crane team has seen no information from RAF Northolt on their approach to PFAS control.

2.4 Outfall Safaris

‘Outfall Safaris’ are a volunteer supported means of evaluating the polluting potential of surface water outfalls across a river catchment. The first outfall safari in the UK was carried out in the Crane catchment in 2016 by the Citizen Crane team and reported in the Citizen Crane Year 3 report. A total of 230 surface water outfalls were surveyed, and the data were used to investigate specific pollution problems as well as prioritising investigations as part of Thames Water’s Surface Water Outfall Programme (SWOP).

A second outfall safari was undertaken in the Crane in 2021, and the findings were summarised in the Year 8 report. A third full catchment outfall safari for the Crane was held in the summer of 2024 and summarised in the Year 10 report. A comparison of the data from the three main safaris from the Crane Valley is provided in Table 2.2 below:

Table 2.2: Outfall Safari comparison of data from 2016, 2021 and 2024

	2016	2021	2024 **
River length surveyed (km)	34	45	25
No: volunteers	15	46	22
Outfalls evaluated	221	223	146
	Impact Score* (Number/%)		
0	162 (73)	172 (77)	115 (79)
1 to 4	26 (12)	24 (11)	1 (1)
5 to 9	24 (11)	19 (9)	27 (18)
10+	9 (5)	8 (4)	3 (2)

Notes:

*Impact score is based on visual pollution indicators using the methodology developed by Thames Water for all outfalls.

**The safari in 2024 was reduced due to poor weather conditions.

The findings from this comparison are:

- The percentage of unpolluted outfalls has increased slightly over the course of the eight year period - from 73 per cent to 79 per cent.
- However, there remain around 20 per cent moderately to highly polluted outfalls across the catchment despite the benefits of at least 10 years of the Surface Water Outfall Programme (SWOP) - see also the discussion in section 3.3 below.
- The percentage of the most highly polluted outfalls (with a score of 10+) have also reduced significantly and were only 2 per cent of the total in 2024.

These findings indicate some slow progress in dealing with the most highly polluting sources - though they also appear to support the contention (discussed in section 3.3 below) that the scale of the SWOP is currently not sufficient to create a major beneficial impact in a reasonable timescale.

The next Outfall Safari for the Crane Valley is due in Spring 2028. In the meantime, the approach has proved popular and effective as a means of identifying pollution issues and engaging local people with these problems and has been rolled out across the Thames Region.

2.5 Pollution Reporting

This section sets out information on various pollution events we have been informed about over the last year. We have encouraged our volunteers and the wider public to report all pollution incidents that they see using the Environment Agency and Thames Water contact numbers. Both organisations have recently also launched web-based reporting systems, and these are being promoted to Citizen Crane volunteers.

Five significant incidents are listed below. Each of these were reported by Citizen Crane volunteers and/or Friends groups - both to our team and to the EA and/or TW hotlines:

- Sewage pollution from an outfall in Yeading Walk in April 2025 - reported by the local Friends group.
- Sewage pollution in Elephant Park in May 2025, September 2025, April 2026 and again in May 2026. All four incidents reported by Citizen Crane volunteers and/or CVP staff.
- Northumberland Road bridge on the Yeading Walk - summer 2025. A sewage issue was reported by local members of the public and followed up by TW and EA staff. We currently have no further information on this incident.
- Talbot Road in Isleworth - July 2025. A sewer blockage resulted in an outflow of sewage into the tidal Crane. This was reported by a member of the Citizen Crane team and attended by TW and EA staff. It was noted by them to have been resolved within a few hours. Note that this site has also had several previous reports of blockages and sewage outflows over the last 35 years.
- Sewer blockage in Village Way that impacted the Yeading Brook, just upstream of Roxbourne Park, in May 2026. The blockage was resolved quickly by TW and the incident may have lasted less than 24 hours.

It is encouraging to see that these incidents are being reported by volunteers and then responded to rapidly by the relevant authorities. Less encouraging is the information that several of these sites have had previous incidents. If these problems are due to sewer blockages, then the areas could be the future focus of a targeted information campaign.

The Environment Agency National Incident Recording System (NIRS) recorded 26 incidents in the Crane catchment over the 12-month period to the end of March 2025, compared to 41 in the 12 months to the

end of March 2025. Most of these (24) were minor Category Three incidents, along with 2 significant Category 2 incidents. These are discussed further in section 3.4 below.

2.6 Citizen Crane Misconnection Investigations

The Citizen Crane team started to investigate and publicise the issue of large-scale misconnections in April 2024, working alongside Crane Valley CIC as hosts of the Crane Valley Partnership. In September 2024 FORCE received the results of an Environmental Information Request that revealed seven blocks of flats in the Crane and Brent catchments (one in the Crane and six in the Brent) had been misconnected for several years at least without any resolution. This issue was publicised more broadly and resulted in considerable regional and national media coverage.

Currently, after two years of investigation work with several partners - including Local Authorities, Clean Up River Brent (CURB), Thames 21, Thames Water, EA and the Regional Connect Right team, has resulted in the following progress towards resolving them:

- One block may never have been misconnected
- Three blocks have been fully repaired - including the one block in the Crane catchment
- One block is part repaired with the second part due to be repaired
- One block is in discussion regarding rectification with a threat of EA action
- One block has been reported (by the local authority in 8/26) to be due for repair in September/October 2026
- One further block has been added to the list and is subject to an Anti Pollution Works Notice (APWN) by the EA

This process has indicated the sheer complexity of trying to understand the situation and resolve these issues with multiple stakeholders and interested parties and no overall management of the process.

On balance there has been significant progress - with all seven blocks (including one new one) making some progress and three being fully resolved. Given that at least one of these blocks had been polluting for over 20 years then this still represents a step change in the response - albeit from a low base.

The single Crane case for example was constructed in 2017, contains 30 flats and is likely to have been polluting the river with all its sewage since that time. It was first identified by the TW SWOP team in 2023 and had been unresolved for the last three years until - following pressure from all parties - it was finally rectified in September 2026. The raw sewage from the block flowed into Yeading Brook East and may have been a significant contributor to the major pollution issues identified in this tributary.

This process has also energised the wider sector and resulted in more activities on misconnections by the local authorities and a co-ordination role being implemented by the GLA through their Cleaner Rivers

programme. This will for example identify examples of best practice across local authority Environmental Health Offices and share these across the sector.

The Outfall Safari work in the Crane and elsewhere indicates that there are many new misconnections being added to the system, even as the Surface Water Outfall Programme identifies and removes the older ones. Work is therefore also needed to reduce the problem at source. A Citizen Crane report has been produced identifying over 50 potential actions for ten key partners and the broader water sector. These include actions to reduce the number of new misconnections by means of legislation that requires drainage checks to be included in House Buyer packs. Recommendations have already been put to the Government for the new Water Bill (due to be published in 2027) and lobbying for these changes will be a key activity across the wider sector over the next year.

2.7 Other Citizen Science Investigations

The Citizen Crane team has continued to expand the range and nature of activities being delivered by citizen science volunteers. These are summarised below and further reports can be found on these initiatives in the Crane Valley Library <https://www.cranevalley.org.uk/project-archive-library> :

Wetlands monitoring

Following a pilot study at Headstone Manor Park wetlands at the top of the Crane catchment in 2022, ZSL developed a community science methodology for monitoring the performance of constructed wetlands built as nature-based solutions. In 2024, ZSL trialled these methods at three constructed wetlands across London - two of these wetlands were in the top of the Crane catchment at Headstone Manor Park and Newton Park West. ZSL worked with Citizen Crane to train local volunteers to carry out monthly wetland sampling at these sites. Over seven months, volunteers assessed wetland invertebrates using newly selected target taxa, alongside ammonia and phosphate levels and fixed-point photography to track ecological health and function.

The results showed that mature wetlands (including Newton Park West and Headstone Manor Park) typically recorded higher invertebrate scores at outlets than inlets, indicating effective water quality improvement. The trial also demonstrated that citizen scientists can reliably collect meaningful data that provide early warnings of wetland stress and support ongoing maintenance.

The ZSL report and methods are available here: <https://www.zsl.org/what-we-do/projects/londons-rivers/>. The report concluded that this approach is a safe, engaging, and scalable method for community-based monitoring, though it should ideally be complemented with broader water chemistry and biodiversity surveys to capture the full ecological value and performance of urban wetlands.

The wetlands monitoring at Headstone Manor has continued, albeit at a lower monitoring frequency, and is used as an early warning system for volunteers to flag any serious drop in invertebrate scores with the site maintenance team.

Geomorphology

The Modular River Physical (MoRPh) system is being used with volunteers to evaluate the geomorphological improvements being delivered at various sites across the catchment. ZSL (through Citizen Crane) and MoRPh developers Cartographer have been working together to facilitate 'MoRPh Blitz' events where volunteers are supported to work as groups of 10-15 to survey proposed, planned and completed river restoration projects across the Crane using the MoRPh CSci methods combined with RMI sampling. In 2025, follow up surveys were carried out at Little Park (following restoration works in 2023) and at Spider Park (prior to and following restoration works in 2025).

These surveys are being used to:

- Report on the effectiveness of the river restoration schemes
- Refine the operation of the existing schemes by means of smaller scale follow up interventions, primarily using volunteers
- Provide baseline data for Biodiversity Net Gain assessments
- Aid the design of further restoration schemes - several of which are planned for the next year

Lower Crane Restoration Scheme monitoring

This work programme is developing options and opportunities for enhancing the environmental value of the concrete lined lower three km section of the River Crane through Twickenham as follows:

- The initial pilot river restoration scheme was installed in 2023 along a 30m section of the river at Twickenham Rifle Club and included removal of the concrete along one bank, the creation of a new backwater area and the installation of narrow marginal berms and a gravel substrate.
- Monitoring of the biodiversity value of this section, through the use of RMI and MoRPh techniques alongside visual observations of fish movements, is ongoing. A survey in summer 2025 identified the localised restored gravel bed in this section as being of very high invertebrate value - with an RMI score of 12 and the first confirmed presence of a flat bodied mayfly in the lower Crane. A follow up survey in summer 2026 reported high numbers of fish fry within the marginal bunds and associated vegetation.
- A second pilot river restoration site was completed at Mereway Nature Park, around 500m upstream of the Rifle Club site, in spring 2026. An RMI site has been set up at this location and reports will be provided as part of next year's Citizen Crane report. Initial surveys recorded RMI scores of 5 or 6 and the presence of several fish species.

A third scheme is due to be installed at the Rifle Club site later in 2026. This will extend the existing scheme with the removal of a further 100 metres of concrete bank and the installation of more in-stream features.

Invasive Non-Native Species (INNS)

The SWC programme funded a pilot study to map the distribution of four key INNS across the catchment (Japanese knotweed; Giant Hogweed; Himalayan Balsam; and Floating Pennywort) and is currently targeting the catchment wide removal of these using various approaches over the next three years. The 2024 Outfall Safari, largely undertaken by citizen scientist volunteers, included a section for recording INNS along the riverbank. These data were used to help map INNS distribution as part of the pilot study. Further mapping and engagement work may be possible as the programme moves forwards.

The RMI monthly monitoring teams have also recorded the presence of red swamp crayfish and Asiatic clams at one or more sites. Records of further sightings have been requested and will be held in a central database. This approach can be used for other invasive (or merely rare and unusual) species as these are identified by the team and others.

Water vole and mink monitoring

Following the reintroduction of 134 water voles to the lower Crane catchment in summer 2024, citizen science volunteers have been monitoring their distribution around the release sites between March and September each year. Monthly site visits check for feeding, latrine and burrowing signs, to help build a better understanding of where the water voles are and if their range is expanding or contracting. These surveys have shown that the reintroduced water voles are still present within Crane Park and have extended upstream into Little Park. This information is being used to guide a further release of water voles at one or more satellite sites, upstream and/or downstream of the main release site, planned for 2027.

This projects complements the work of another volunteer supported programme that has operated American mink traps for the last six years, designed to protect our native water voles and other fauna. The scheme supports the operation of nine mink traps across the catchment and is part of a larger programme across Greater London, led by the Waterlife Recovery Trust, and with many more traps in place. The overall programme is successfully removing mink from the region and there have been none found in the Crane catchment for several years.

The project team has been very encouraged by the enthusiasm of volunteers to engage and expand their involvement through the growing network of programmes and opportunities. Further consideration of this approach is set out in Section 3 below.

ZSL are developing a portal that will help all interested parties to better track the activities and the data gathered by the Citizen Crane teams - and this is due to be launched later in 2026.

3 INFORMATION FROM OTHERS

3.1 Data from Sondes

The Environment Agency have been operating sondes in Yeading Brook East in recent years as part of the partnership approach to investigating pollution problems in this catchment (see also section 3.6 below). We have not seen data from these monitoring sites this year – although we understand (EA pers. comm.) that average ammonia concentrations remain rather high (typically between 0.5 and 3mg/l) with regular (weekly to monthly) peaks above 10 mg/l. These reports are indicative of ongoing background chronic sewage pollution problems in this sub-catchment, combined with occasional inputs of larger amounts of raw sewage.

This pattern had also been seen in previous years – albeit at a reduced concentration - in other data from sondes operated Heathrow adjacent to their surface water outfall in Donkey Wood in the middle of the catchment. We have not seen any Heathrow data for this year.

Sonde data remain very useful indicators of the scale and nature of sewage pollution into the river. We are disappointed not to have been able to review more sonde data this year and this will be a priority for future investigations, particularly in relation to the phosphate issue

3.2 Combined Sewer Overflows (CSO's)

The spill data for combined sewer overflows are recorded by Thames Water and the records for the 12-month period January - December 2025 are set out in Table 3.1 below. Q1 of 2026 is not included in this dataset as these data (December 2025 - April 2026) need to be verified by the EA. These data show that no spills occurred over this period.

Table 3.1: Crane Catchment CSO data for 2024 (January 1st - December 31st 2025)

Unique ID	Site Name	Counted spills using 12-24h count method	Total Duration (hrs:min:sec) for all spills prior to processing through 12-24h count method
TWL00579	Field End Road (East)	0	0:00:00
TWL00128	Field End Rd Storm (Harrow)	0	0:00:00
TWL00683	Pavilion in Roxbourne Park	0	0:00:00
TWL00382	SSO, Junction Crane Valley/ Bath Road	0	0:00:00
TWL00656	Mornington Crescent	0	0:00:00

This compares with the data for the previous year (April 2024 to March 2025 - as reported in the Year 11 report) that showed three spills from the Field End Road overflow totalling over nine hours. At face value this is an encouraging outcome – albeit we have not yet seen the data for Q1 2026.

3.3 Surface Water Outfall Programme

This section presents data from the Thames Water Surface Water Outfall Programme (or SWOP) for the AMP8 period to date (April 2025 to September 2026). Table 3.2 below records the number of outfalls subject to the programme during this AMP period. Note that there are 54 in total to date, out of a total of around 250 outfalls across the catchment, and these have been selected in part by Outfall Safari reports of the most polluted outfalls (those scoring 6 or more).

This number compares with 39 signed off in AMP6 and just 21 signed off in AMP7 (due to both the impact of Covid restrictions and the complexity of the problems encountered in the upper catchment - which has meant that many outfalls have been carried over for completion in AMP8).

Table 3.2: Thames Water Surface Water Outfall Programme Data for Asset Management Plan 8 Crane Catchment

	Outfalls
AMP8 SWOP – Current Live projects	24
AMP8 SWOP – Signed off by EA	9
Waiting List	21
Total	54
AMP6 SWOP – Signed off by EA	39
AMP7 SWOP - Signed off by EA	21

Table 3.3 below sets out the detailed findings from the 9 signed off and 24 live projects in the AMP8 SWOP programme. We note the following from these data:

- 586 properties with a misconnection and/or a sewer defect that is likely to be causing pollution to the river system.
- This indicates the scale of the problem - particularly in the upper catchment.
- The SWOP has extended its scope to consider sewer defects over the last few years, and the data indicate that these are potentially of equal importance to misconnections as a cause of pollution issues.
- Around 80 per cent of issues have been rectified (472 out of 586) and many of the remainder will be passed to the Local Authority Environmental Health Office for resolution. This indicates the importance of the EHO to the process and why further support to enhancing the EHO role has been prioritised by the Connect Right team that supports these SWOP activities.

Table 3.3: Thames Water Surface Water Outfall Programme Detailed Data for AMP 8 Crane Catchment

Properties	Identified	Rectified	With Local Authority
Surveyed	3975	N/A	N/A
Properties with misconnections only	320	266	42
Properties with defects only	143	111	3
Properties with both misconnections and defects	123	95	10
Totals	586	472	55

Table 3.4 below provides more data on the sewer defects identified through the SWOP programme. This indicates the complexity of the problems that may impact the domestic sewerage system - and which cannot be identified without this kind of detailed investigation.

Table 3.4: sewer defects identified by the Surface Water Outfall Programme team - partial dataset

Defect	Identified	Rectified
Blockage	23	20
Gully divider	38	31
Poor housekeeping	14	9
Private defect	18	16
Missing surface water cap	2	2
Total	95	78

Citizen Crane continues to work closely with the Thames Water SWOP team. We also attend the regional Connect Right meetings, alongside the Environment Agency and other engaged community-based groups, to better understand the problems and help to resolve them.

3.4 Environment Agency Pollution Data*

*EA as main author

Data

The Environment Agency's National Incident Reporting System (NIRS) recorded 26 confirmed water pollution incidents in the Crane and Yeading Brook catchments over the 12-month period to 31st March 2026.

This compares to 41 reports over the previous 12 months (year to March 2025), 24 the year before (year to March 2024), and 37 before that (year to March 2023). These are all confirmed water pollution incidents that were logged by the Environment Agency - either called in by members of the public, Environment Agency Officers, Thames Water, or other parties.

The 26 reports were classified as follows:

- Category 1 (major) incidents - 0
- Category 2 (significant) incidents - 2
- Category 3 (minor) incidents - 24

The reports occurred in the following waterbodies:

- Crane - 3
- Yeading Brook West - 5
- Yeading Brook East - 3
- Yeading Brook (after the two arms combine) - 3
- Roxbourne - 12

The pollutants were described as follows:

- Sewage - 17
- Hydrocarbons (oils) - 3
- Fats, oils, and greases (food) - 5
- Chlorinated water - 1

The causes of the pollution reports were described as follows:

- Blockages within the sewer network - 4
- Burst water main - 1
- Food producers (suspected) - 5

- Misconnections - 10
- Uncertain (oil) - 3
- Uncertain (sewage) - 3

Data Analysis

The average number of pollution incidents in the catchment over the past four years has been 32. The year to March 2026 therefore represents a below average year for the number of incidents.

In last year's Citizen Crane report (CC year 11 report, 2025), the Environment Agency water quality monitoring sonde on the Roxbourne (at the top of the eastern arm of the Yeading Brook) was noted as a significant contributor to the increase in incident numbers compared to previous years. The sonde remained in-situ until July 2025, contributing to the Roxbourne making up almost half of the total reports in the catchment this year (12, the same number of reports as the year to March 2025). Misconnections rectification, food producer pollution source identification, and network infrastructure investigation works are ongoing on the Roxbourne. A further and more detailed report is expected for this river later this year.

Removing the Roxbourne from the dataset, there were 14 incidents across the Crane and Yeading Brook catchments in the year to 31st March 2026, down by over 50% from the 29 non-Roxbourne reports in the year to 31st March 2025. The data shows that the Crane and Yeading Brook catchment combined received on average 1 to 2 incident reports each month. The Crane suffered 3 incidents, down from 11 in the previous year, and Yeading Brook West reports dropped from 13 to 5. Incidents on the Yeading Brook East (3) and combined (lower) Yeading Brook (3) remained similar to the previous year (2 and 3 respectively).

Including the Roxbourne, we again see that the upper part of the catchment receives the vast majority of pollution incident reports (88%). This parallels findings from water quality and RMI monitoring, which indicates the upper catchment is in poorer condition than the downstream Crane waterbody.

Many incident reports in 2025/26 (17, 65%) were sewage related, and this is consistent with the previous year's data (66% sewage). Most sewage incidents (10, 59%) were traced to misconnected properties, either from outfalls already under investigation or outfalls not currently being worked on. The number of blockages (4, 24%) identified in the sewer network were significantly lower than the previous year (12) and there were no reported incidents relating to sewer failures/network defects in this year's data (3 in the previous year). There were 3 sewage reports for which a defined source could not be identified. All sewage reports in the year to March 2026 were classified as Category 3 (minor) incidents.

Hydrocarbon (oil) pollution makes up approximately 10% of total incident reports across the catchment (3 in total – 2 in the Crane, 1 in the Roxbourne). As with the previous year's dataset, a confirmed source was not identified from any of these incidents. All these incidents were classified as Category 3 (minor).

There were 5 incidents reporting the presence of fats, oils, and greases (FOG) in the year to March 2026 (around 20 per cent of the total incident reports). This was a slight increase on the previous year (3). These reports all relate to the Roxbourne and usually take the form of a thick orange-yellow substance that tends to float on the surface of the water. Out of these incidents, 3 were classified as Category 3 (minor).

FOG incidents were the cause of both Category 2 (significant) incidents in the catchment this year. These two reports were traced to a local food producer tipping waste food/oil down an outside gully. The business owner indicated they would not tip any further food or waste oil into the gully, but other (more minor) instances of this issue have since recurred from other sources. Further work is underway by Harrow Council and Thames Water to identify these other sources of FOG into the Roxbourne.

Note that there is a network of local people who are encouraged to identify and report any pollution incidents they see whilst out and about in the open spaces of the Crane Valley. Operatives from Thames Water and the Environment Agency generally respond rapidly to these incident reports. This means that many incidents are dealt with at an early stage when they are still minor and do not develop into larger and more damaging incidents.

In conclusion

The year to March 2026 has seen a demonstrable reduction in pollution incidents compared with previous years, although there remains an ongoing chronic and complex pollution issue on the Roxbourne in Yeading Brook East. The proportion of sewage related incidents compared to the overall total has remained stable, meaning the reduction in incident numbers is broadly consistent across the suite of potential sources. This is clearly positive news, although some caution is advised for two reasons:

- Water quality concentrations measured by the Environment Agency on the Yeading Brook, the main source of sewage pollution in the catchment, have broadly remained the same, meaning a reduction in incident numbers has not yet been borne out by improving water quality since at least 2022.
- Anecdotally, we are aware that citizen scientists have seen evidence of pollution (across the Yeading Brook in particular) and haven't reported this to the Environment Agency. There are many reasons why people don't report everything they see, especially in areas with consistently poor water quality, and this is likely to have also been the case in previous years so its impact on the dataset is not clear. The data analysed above only relates to reports the Environment Agency have received.

It is also interesting to note that the number of blockages and Thames Water network/asset failures leading to pollution incidents has reduced significantly from previous years. It is known for example that Thames Water have invested in advance warning systems in their foul network (sewer depth monitors) in the

Yeading Brook East, which may be acting to prevent blockages from becoming pollution incidents. However, further discussion with Thames Water on this element is required to better understand this.

As with previous years, it has proven very challenging to identify the source of hydrocarbon related pollution incidents in the catchment. It is likely that these incidents are either one-off tipping incidents (and thus very hard to trace), or road-runoff situations where a single source cannot be pinned down.

Finally, it remains important that members of the public report pollution incidents to the Environment Agency. Although they do not attend every report directly, they do pass on sewage related issues to Thames Water for investigation (TW have committed to attend any incident within 2 hours) and they make use of reporting data to highlight the scale of the water quality challenges our rivers are facing. You can report pollution incidents online to the Environment Agency here: [Report water pollution in England - GOV.UK](https://www.gov.uk/report-water-pollution), or by telephone at 0800 80 70 60.

3.5 Water Framework Directive (WFD) Classifications*

*EA as main author

Introduction

The Water Framework Directive (WFD) is the primary legislation put in place to protect and enhance the UK's water environment. As part of this, the WFD provides a framework to assess the overall health of waterbodies. It takes data from a suite of ecological and chemical parameters (e.g. ammonia concentrations, fish populations etc.) and distils this down into an overall 'classification' for the waterbody ranging from High (near-natural condition) to Bad (very poor condition).

The Crane Valley Partnership's catchment is divided into three WFD waterbody catchments (excluding the artificial waterbodies Longford, Upper and Lower Duke's Rivers - that are dealt with separately under this legislation):

- Crane
- Yeading Brook
- Portlane Brook

Previous Citizen Crane reports have included encouraging news for the Crane in particular. The Environment Agency produced an updated WFD Classifications dataset towards the end of 2025. This was discussed briefly at last year's Citizen Crane forum in October 2025, and most of the data are now suitable for publication. Once finalised, the complete 2025 Classification dataset, including overall classifications, will be published on the Catchment Data Explorer.

WFD Classification Data for the Crane Waterbodies

The data for these waterbodies is summarised in Table 3.5 below. This table includes the available 2025 Classification data as of June 2026. For both pH and macrophytes, only sub-element data is available. The element level pH and macrophytes & phytobenthos combined classification will be available when the full dataset is released. Rows highlighted in green demonstrate element class improvements between 2019 and 2025.

Table 3.5: WFD Data for the Crane, Yeading Brook, and Portlane Brook Waterbodies

Waterbody	Element	2019	2022	2025	Progress Since 2019
Crane	Fish	Moderate	Moderate	Good	Improved
Crane	Invertebrates	Moderate	Good	Good	Improved
Crane	Macrophytes (sub-element)	Moderate	Good	Good	Improved
Crane	Ammonia	Good	High	High	Improved
Crane	BOD	Moderate	High	High	Improved
Crane	DO	Poor	Good	High	Improved
Crane	pH	High	High	High	Unchanged
Crane	Phosphate	Poor	Poor	Moderate	Improved
Crane	Temperature	Moderate	High	High	Improved
Yeading Brook	Fish	No Data	No Data	No Data	No Data
Yeading Brook	Invertebrates	Poor	Poor	Poor	Unchanged
Yeading Brook	Macrophytes (sub-element)	Poor	Poor	Moderate	Improved
Yeading Brook	Ammonia	Bad	Poor	Poor	Improved
Yeading Brook	BOD	No Data	Poor	Poor	Unchanged
Yeading Brook	DO	Bad	Bad	Bad	Unchanged
Yeading Brook	pH	High	High	High	Unchanged
Yeading Brook	Phosphate	Poor	Poor	Poor	Unchanged
Yeading Brook	Temperature	High	High	High	Unchanged
Portlane Brook	Fish	No Data	No Data	No Data	No Data
Portlane Brook	Invertebrates	Poor	Moderate	Poor	Unchanged
Portlane Brook	Macrophytes	Poor	Poor	Poor	Unchanged

	(sub-element)				
Portlane Brook	Ammonia	High	High	High	Unchanged
Portlane Brook	BOD	No Data	High	High	Unchanged
Portlane Brook	DO	High	High	High	Unchanged
Portlane Brook	pH (sub-element)	High	High	High	Unchanged
Portlane Brook	Phosphate	Moderate	Moderate	Moderate	Unchanged
Portlane Brook	Temperature	High	High	High	Unchanged

The WFD Classification data show an encouraging picture in the Crane waterbody in particular. All ecological elements currently available, with the exception of Phosphate, are now at Good or High status. This indicates the Crane waterbody has improved since 2019 and is now close to being at Good Ecological Status overall. The most significant improvement is the Fish classification rising from Moderate to Good, which is a very positive sign. However, it should be noted that this classification is vulnerable to a negative change in condition of the river and the EA are very keen to see a Good Fish classification maintained in future rounds of WFD sampling.

The Yeading Brook has shown small levels of improvement in Macrophyte populations and Ammonia concentrations, although neither have reached Good status. For the remaining elements with available 2025 Classifications, these are unchanged since 2019. All elements listed in Table 3.5, with the exception of temperature and the pH sub-element, are failing to reach Good status. This indicates there remains significant work to do in this catchment.

The available classifications on the Portlane Brook remain entirely unchanged since 2019, excluding a slight invertebrate improvement in 2022, which was not sustained into 2025. There are known issues with low flows in the upper part of the Portlane Brook catchment (Felthamhill Brook, and Lower Feltham Brook), which are likely contributing to the outstanding failing elements not reaching Good status. The Environment Agency are working to investigate this flow issue and propose potential solutions.

The remaining failing element listed in Table 3.5 on the Crane waterbody is phosphate. Table 3.6 below provides a summary of the sampling sites used by the Environment Agency to determine the phosphate classification on the Crane. Rows highlighted in green demonstrate sites which have improved since 2019.

Table 3.6: Phosphate Sampling Sites on the Crane Waterbody

Crane Phosphate Site	2019	2022	2025	Progress
Cole Park Road Footbridge	No Data	No Data	Moderate	New Site
Northcote Road, Isleworth	Poor	Poor	Poor	Unchanged
The Causeway, Hounslow	No Data	Poor	Moderate	Improved
Upstream of DNR Input	No Data	Poor	Moderate	Improved
North Hyde Road, Hayes	Poor	Poor	Poor	Unchanged

These site level data indicate that improvement in phosphate status (from Poor to Moderate) has occurred in the middle stretch of the Crane between Cranford Park and the input of the Upper Duke of Northumberland's River. However, phosphate concentrations remain at Poor status in Hayes (the very top of the Crane waterbody) and Isleworth (the very bottom of the Crane waterbody). A new sampling site in Twickenham indicates phosphate concentrations are at Moderate here.

Based on these data, it can be inferred that phosphate is entering the top of the Crane from the Yeading Brook. Phosphate concentrations improve (to Moderate) between Cranford Park and Moormead Recreation Ground, before a poor status returns at Northcote Road in Isleworth. Note that this site is tidal and concentrations may therefore be influenced by inflow from the Thames and the proximity of the major STW outfall from Mogden STW.

Further investigation is recommended to fully understand this pattern of change and confirm next steps which may be taken by members of the Crane Valley Partnership to address this Phosphate failure.

Conclusion

In conclusion, we have observed significant improvements in the Crane waterbody since 2019. This waterbody is close to achieving Good Ecological Status, assuming the fish classification improvement is sustained and phosphate concentrations in the Crane continue to improve.

The Yeading Brook has seen minor improvements but is still a long way from achieving Good Ecological Status. The Portlane Brook is entirely unchanged and also has significant challenges ahead of it. With that being said, neither river has experienced any deterioration when comparing the available 2025 Classifications to the 2019 baseline, and there is some excellent work underway by multiple parties in the Yeading Brook in particular to attempt to turn this situation around.

The EA expect the overall classifications to be reported later in 2026, whereby the impact of the above data on the three waterbody's overall status' will be confirmed.

3.6 Yeading Brook East Investigations

One of the initial shocking findings of the Citizen Crane investigations was the very poor quality of the water inflowing to the top of the catchment in Yeading Brook West (Headstone Manor Park) and Yeading Brook East (Newton Park West). The data from Yeading Brook East have continued to reveal major problems including:

- Significant inputs of sewage - as revealed by the outfall safaris and sonde investigations.
- Hydrocarbon inputs via the Roxbourne tributary - as revealed by a build-up of oil in Newton Park West wetlands as well as complaints by local people about noxious levels of hydrocarbon fumes in their homes.
- Food waste inputs - fats and grease.

These findings have led to detailed joint investigations by the EA, TW, London Borough of Harrow and local community volunteers Harrow Nature Conservation Forum (HNCF) which have included:

- Detailed SWOP investigations of many of the upstream surface water drainage catchments by TW. Note that one of the challenges in this area is the extensive networks of underground culverts containing the upstream drainage system.
- Investigations of the nature of hydrocarbon pollution in the downstream wetlands in Newton Park West - led by HNCF with support from LB Harrow, EA and British Geological Survey.
- Investigation of ongoing operations at upstream industrial sites - led by the EA with support from LB Harrow.
- Investigation of a major disused gasworks site - led by LB Harrow with support from the EA.
- Investigation of fats and grease - including inspections of many local food outlets - by the EA.

The investigations to date have identified:

- Many misconnections - which have been identified for rectification by the SWOP team.
- A number of sewer failures - also put forward for rectification by TW.
- Some poor practice at local industrial sites - largely resolved following EA site visits.
- Potential hydrocarbon contamination from the re-developed gas works site. This was investigated further with ground penetrating radar to try and ascertain the precise location(s) of any leakage. No issues identified to date.
- Polluting practices at several food outlets - now subject to EA reporting.
- One block of flats completely misconnected

These findings illustrate the possibility of multiple pollution sources, with the associated complexity of resolving pollution problems, in urban areas. The challenge is greatly magnified by most of the problems being below ground in culverts before the streams reach the surface at Newton Park. This type of remediation work could not be delivered without a high level of co-operation between many interested

parties and support from the Crane Valley Partnership. The investigation work is ongoing with regular meetings between key stakeholders for updates.

The hydrocarbon issue reported in 2023 and 2024 has not been reported over the last 18 months and it remains to be seen whether this issue is permanently resolved.

The misconnected block of flats was finally resolved in summer 2026 following ten years or so of pollution.

There has been a minor improvement in the RMI data for Site 4 below the main problem areas (as discussed in section 2 above) although the score, along with the EA data for this area, indicate that pollution issues remain in the upstream catchment.

There is a plan for a further wetland in the Newton Ecology Park - upstream of the existing wetland area - and this is likely to provide a further benefit to the downstream ecosystem.

3.7 London Wide Investigations

We are very pleased to note the great interest being shown in London's rivers and their water quality from the Greater London Authority (GLA). The Clean Rivers and Waterways Plan was launched in July 2026: <https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/publications/mayors-clean-rivers-and-waterways-plan>

One of the early outputs from this work has been a map which shows the distribution of misconnections across Greater London. This is based primarily on Outfall Safaris across Greater London and is shown in Figure 3.3 below.

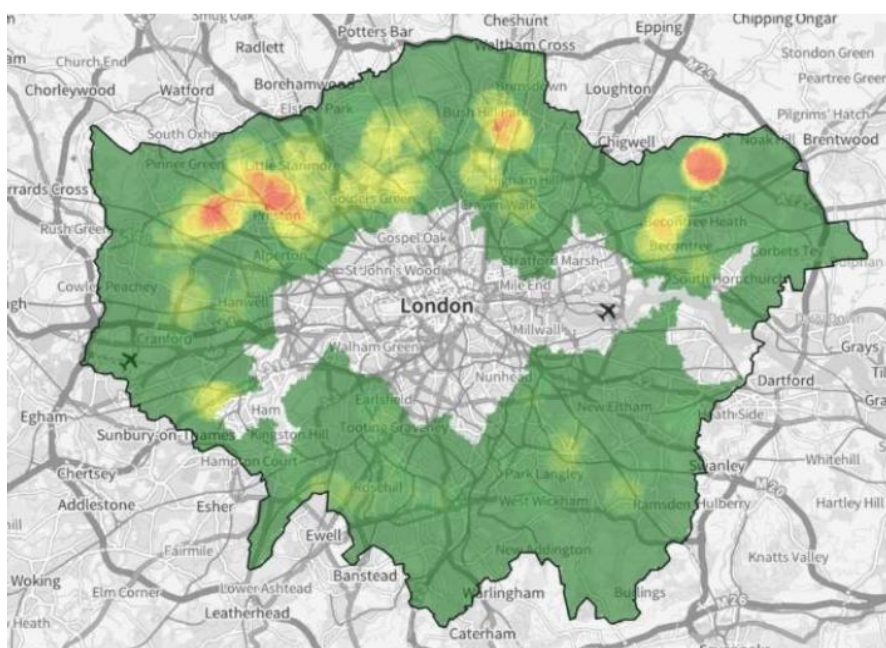


Figure 3.3: The distribution of misconnections across the Capital

Note:

- The central area of London is not included as this is served by dual drains which capture both surface water and sewage outfalls.
- The misconnections issue appears to be larger in North London than South London.
- There is a major double hot spot in and around Harrow in the upper parts of the Crane and Brent catchments - which would appear at face value to be the largest misconnection issue across Greater London.
- This has been explained as being due to the “Metrolands effect”, whereby large suburban developments built between the wars have been particularly subject to renovation and improvements over the last 80 years - with a proportion leading to misconnections.
- In addition, this area was managed by Middlesex County Council until 1965. At that time there was an approach to surface water flooding whereby surface drains were transferred to the sewer network and treatment at Mogden STW. The resulting cross-connections can now lead to the surcharge of the sewer system and outflows into the surface water drainage and from there into the river.
- Furthermore, much of the upstream catchment around Harrow on the Hill is culverted and the problems cannot be readily identified or rectified. This is seen in the complex issues identified in the Roxbourne sub-catchment as set out in section 3.6 above.

The overall report identifies the entire Crane Valley, including the main Crane and the Yeading Brook, as two of ten strategic locations across Greater London where “co-ordinated investment can deliver the greatest and quickest benefits”. Several GLA funded projects have been announced for the catchment as part of this initiative.

In addition, the GLA is funding support to local authorities to assess how the Environmental Health Offices can improve their responses to misconnection issues.

3.8 Road Run-Off

Previous Citizen Crane reports have recognised road run-off as a chronic source of heavy metals, polluted sediment and hydrocarbons, as well as presenting an ongoing risk from both small and larger pollution events. In previous years hydrocarbon pollution events lasting several hours to several days have been reported at various locations along the river corridor. These are likely caused by leaks, or the deliberate disposal, of oils to the surface water drainage system.

There were three oil related incidents in the Crane catchment reported by the EA over the last year, compared to eight in the previous year. None of these incidents were tracked back to a source and this is typical of this problem - which remains notoriously difficult to track down.

One of the implications of identifying copper and zinc as potentially major pollution issues for rivers like the Crane (see the CEH report referenced above) is that it has increased our focus on road run-off, as it is a major source of these key pollutants.

The Citizen Crane team have been looking to engage with Highways England over many years to remediate major road pollution inputs to the river system - including notably those from the M4 into the river at Cranford Park - with renewed attempts over the last two years. In August 2025 ZSL, LB Hillingdon and EA had a constructed wetland feasibility study approved in principle, to be delivered in 2026, for a wetland adjacent to the Frog's Ditch in Cranford Park. This will help to intercept a major part of the run-off from the M4 into the River Crane. The team are awaiting confirmation of funding for delivery of the project.

Representatives from ZSL and the Crane Valley Partnership have also met with Transport for London regarding two new run-off interception schemes in the middle reaches of the catchment in 2026. One of these may happen in the next year or so whilst the other is longer term. This is the first time we have had these kinds of discussions with TfL, and this may be another positive impact of the GLA Healthy Rivers programme.

3.9 Other Relevant Schemes

The Citizen Crane team is engaged, alongside partners, with many other schemes and opportunities that are in development or delivery across the Crane catchment including:

- **Little Park/Pevensey Road Nature Reserve:** Restoration of 500 metres of the river and two hectares of associated wet woodland. Phase One of the scheme was completed in 2024 and enhanced the river condition and extended the wet woodland area. River deflectors have led to the development of more varied river habitats and flushed a deep layer of sediment from the river, revealing the gravel riverbed. Volunteers have played a key part in the delivery of this project, helping with the planting as well as completing MoRPh surveys and litter removal counts. There are plans for further backwater restoration works in Little Park in 2026.
- **Lower Crane restoration:** This project is seeking to enhance the ecological value of parts at least of a 2500 metre length of concrete lined channel immediately below the Mereway Road weir in the London Borough of Richmond. A pilot restoration site was delivered in 2022 at Twickenham Rifle Club, creating a new backwater and around 30 metres of enhanced river corridor. A second scheme was delivered in Mereway Nature Park, across a further 30 metres of river corridor, in 2025. A third scheme is planned for delivery later in 2026 for a further `100 metres of river corridor. The project team continues to monitor the ecological value of the two new sites using RMI and other survey techniques.

- **Spider Park:** River restoration works were installed over 200 metres of the river in Spider Park in LB Hillingdon in 2024 and 2025. Baseline RMI and MoRPh surveys were carried out prior to installation and further monitoring is ongoing. Recent RMI data (see above) showed an average score of 5 compared to scores of 3 prior to the restoration. This is a powerful indicator of the effectiveness of restoring the river as a means of enhancing its ecological value. Two further river restoration schemes, upstream at Queen's Walk, have recently received funding approval.
- **Brazil Mill and Donkey Woods (known as the "Take Me to the River" project):** This major project is planning to deliver environmental and community enhancements to this 2000 metre reach of the river in the London Borough of Hounslow. Plans have recently received funding and approval and will link to the Little Park scheme noted above.
- **Gutteridge Woods and surrounding area:** London Wildlife Trust (LWT) produced a feasibility study for a major wetland and river restoration project at the confluence between the eastern and western tributaries of the Crane Valley in the London Boroughs of Ealing and Hillingdon. This is one of around a dozen major re-wilding schemes identified across Greater London by LWT and the GLA. This scheme has the potential to create large areas of new high value habitat as well as improve the water quality for the river system downstream of the confluence. The GLA has recently announced major funding to move this scheme forwards.
- **Yeading Brook Unbound:** This major scheme has been enhancing the habitat along 3500 metres of river corridor on the western arm of the Yeading Brook in the London Borough of Harrow. Baseline monitoring included the setting up of several new RMI sites and MoRPh surveys. The main works are now complete with further works to be delivered later in 2026.
This project has also enhanced the ecological value of the major flood relief scheme in Headstone Manor Park, creating new planting in a wet channel through the flood basin.
- **Major new wetlands.** Two schemes are planned – in Cranford Park and Newton Ecology Park – that would bring the number of major wetlands in the catchment to four.
- **Other Nature Based Solutions:** This is a term for improving conditions (e.g. flood risk; water quality or water company asset performance) through creating or enhancing natural features in the landscape. There is considerable interest in developing nature-based solutions as (a) they can provide additional benefits and at an attractive cost whilst (b) engineered solutions become increasingly difficult and expensive to deliver effective outcomes. Some of the schemes above could be considered as nature-based solutions, although they are generally not designed specifically for this purpose. The team is working with TW and other partners to investigate how nature-based solutions may be developed further in the Crane catchment. This includes discussions with the wider team in TW and engagement with the London Surface Water Strategy. This work also accords with the objectives of the GLA Healthy Rivers programme.

- **Other research:** The Citizen Crane team has contributed to a research projects list that has been developed by the Crane Valley Partnership for sharing with research partners and others.

The works are all designed to help protect and enhance the ecological value of the Crane Valley's river corridors. At present, we are seeing ecological improvements local to the schemes that have been delivered. The plans currently being developed would deliver enhancements at a much larger scale, and it is hoped that these will also see broader benefits and cumulatively lead to catchment level improvements.

One of the major challenges is how to implement and then monitor, maintain and continue to enhance these schemes at scale. The team is currently engaged with the wider Partnership to discuss mechanisms for doing this - including the continued growth of the voluntary sector and the development of training and employment schemes linked to river restoration and management. Citizen Crane is a key part of this initiative.

4. COMMUNICATIONS AND ENGAGEMENT

4.1 Communication with Citizen Crane Volunteers

The volunteers are the backbone of the Citizen Crane programme, and it is remarkable how many of them have continued monitoring the river every month over the last twelve years. The project team engages with volunteers via a monthly newsletter, which currently has 90 subscribers (to subscribe contact azra.glover@zsl.org). The newsletter encourages feedback and discussions around findings of interest, project opportunities, safety concerns and other matters. Many of the volunteers also attend our annual Citizen Crane Forum, which provides an opportunity to share findings and discuss future plans.

There are regular training sessions for both new and established volunteers. Sessions are added as and when new areas of interest are developed, such as the MoRPh surveys, urban wetland survey work and water vole monitoring. The team has also been working with Let's Go Outside and Learn (LGOAL) to reach out across diverse communities, particularly in the central parts of the Crane Valley. Tailored training sessions have been delivered and linked to the development of an AQA Qualification for environmental work.

The "Tour de Crane" was organised in 2026 to visit every monitoring site across the catchment, review the situation with volunteers, see what else might be needed and carry out MoRPh surveys to assess each site's geomorphological value.

A new portal has been developed for use with the Citizen Crane volunteers. This is based on the portal developed by the River Chess volunteer support team and is intended to be fully operational by the end of 2026.

4.2 Wider Engagement

The project team has been working with Crane Valley Partnership (CVP), Friends of the River Crane Environment (FORCE), Zoological Society of London (ZSL), Let's Go Outside and Learn (LGOAL) and Habitats and Heritage (H&H) to engage the wider public on key messages around the Citizen Crane programme. These include:

- The existence of the Crane Valley.
- The value of the river as an ecological asset.
- The opportunities for volunteering and engagement.
- The misconnections problem and how local people can help to resolve it.
- Issues with the disposal of wet wipes and cooking fats to the sewerage system.
- Issues with the disposal of liquid pollutants to road drains.
- Publicity around pollution events and information on how to report a pollution problem (using EA and TW reporting tools).
- River restoration projects - plans and progress.
- How to get involved with Citizen Crane and other initiatives.

The platforms used include Facebook, X (formerly Twitter), Instagram, Youtube, Threads, LinkedIn and TikTok. The engagement includes photos, short stories and video reels.

The engagement from and with local people includes:

- Around 8000 followers on FORCE platforms and well over 1000 with the Crane Valley Partnership. Other Crane Valley groups (such as Cranford Action Group, Headstone Manor friends and Pevensey Rangers) each have around a thousand followers, posting regularly on related issues.
- High numbers of views - typically several thousand across all platforms with some stories reaching 50 to 100,000+ people.
- Positive comments and responses from many people.
- Information and support in the form of pollution information and reports, sharing key messages across other forums and new volunteers for activities. Note that several pollution issues have been identified and then tracked through these forums.
- A new Catchment Plan was launched in July 2025 with "Achieving Good Ecological Status" as one of six strategic objectives for the catchment <https://www.cranevalley.org.uk/wp-content/uploads/2025/08/River-Crane-Catchment-Plan-2025-2030-First-Edition.pdf>

- The Crane Valley Partnership has also developed a “Story for the Crane Valley” named “A River Runs Through Us”. This story-based approach is already helping to raise the profile of the Crane Valley as a whole <https://www.cranevalley.org.uk/wp-content/uploads/2025/08/Crane-Valley-Story-Guide.pdf>

The misconceptions campaign has had a wider level of engagement, with articles in the regional and national press as well as a story on regional TV and radio news regarding seven misconnected blocks of flats in the Crane and Brent catchments. The Citizen Crane team has been working closely with volunteers at the Clean Up River Brent group (CURB) to develop and present this issue. The story has also been picked up by local politicians and has helped to raise the profile of the issue with the GLA, local authorities and at a national government level.

Habitats and Heritage have been leading on a feasibility study to investigate the potential for collecting domestic fats and oils with support from the Citizen Crane team. Fats and oils are known to be a major contributor to sewer pipe blockages that lead to pollution events in the Crane Valley and other urban catchments. The intention is to develop a method that can collect these waste products and re-use them as vehicle fuel, building on the approach applied to commercial cooking oil use over several years.

4.3 Environment Agency and Thames Water Interest Groups

The Environment Agency and Thames Water have been part of the steering group for Citizen Crane since its inception in 2014 and their role is essential in linking Citizen Crane with their regulatory and operational frameworks. Initiatives such as the Outfall Safari, data sharing with the TW SWOP programme and the development of the Yeading Brook East investigations have all been partly derived from these links.

In 2022, the two organisations set up the Crane Valley Interest Group (TW) and Crane Valley Working Group (EA) to better align their internal departments with interests in the Crane Valley. These groups have been meeting regularly over the last four years and sharing ideas and information. The two groups also held a joint meeting for the first time in 2023, with further annual meetings in 2024 and 2025. These meetings are helping to provide wider engagement and co-ordination on key issues of interest to the Citizen Crane team. A further meeting is proposed for 2026, linked to the annual forum, which will have a focus on reducing phosphate concentrations in the Crane valley.

4.4 Wider Engagement

The project team has engaged at a regional and national level about the Citizen Crane programme including:

- Presentations and site visits with decision makers and interest groups.

- Representation on the board of the national DEFRA funded CastCo project, investigating the opportunities for citizen science to engage more directly with decision making and programme development etc.
- Representation on the regional Connect Right group - investigating misconnections and cross-connections.
- Linkage to the “DEFRA Policy Challenge” being delivered as part of the Silk Stream project in the adjacent Brent catchment by the London Borough of Harrow and others.
- Representation on the GLA’s Healthy Rivers programme.
- Engagement with DEFRA Water Group on the value of the Citizen Crane programme.
- Presentation to the ZSL’s London wide forum on river-based citizen science.

These linkages have helped to raise an awareness of the Crane Valley and the Citizen Crane programme as well as seeding the wider adoption of citizen science activities that have been developed through this programme. Outfall Safari, for example, is now being delivered across most of the Thames catchment as well as being trialled nationally.

5. SUMMARY AND CONCLUSIONS

General

1. This report sets out the findings of Year 12 of the Citizen Crane programme. In the first few years of this programme the Citizen Crane Team focused on collecting and analysing monthly water quality and ecological data sets collected by citizen scientists and using these to better understand the river ecosystem and target interventions that might improve it.
2. This work has continued over the last twelve years and has also expanded to encompass a wider array of citizen science-based data collection and engagement - particularly as part of the Smarter Water Catchments programme that started in April 2020.
3. The Citizen Crane volunteers have continued to provide high-quality data for the programme and have extended their range of activities to include geomorphology, wetland monitoring, water vole and mink monitoring, as well as a third Outfall Safari.

Findings

1. For many years the Citizen Crane reports recorded variations in river condition, but without seeing any significant or sustained improvements. This was despite the removal of hundreds of misconnections as part of the Thames Water (TW) Surface Water Outfall Programme (SWOP). This changed in Year 9 (2022-23) with significant improvements in Riverfly Monitoring Initiative (RMI) and

- water quality scores, combined with a positive shift in the river's Water Framework Directive classifications. These improvements appear to have been largely sustained over the last three years.
2. The data from Year 11 and Year 12 are less definitive than Year 10, although there are still a number of sites where RMI scores have improved. Water quality data from the Environment Agency (EA) indicate that the river condition has remained stable in the last few years, although there is still evidence for occasional releases of sewage through the system.
 3. The last two years (Year 11 and Year 12) have also been outliers with regard to weather conditions compared to the previous decade, combining extended periods of summer drought with occasional winter and spring flooding. The river ecology has remained relatively stable over this period, and this indicates a high level of resilience to both low and high river flows, as well as extended periods of high temperature. Given that these conditions are likely to be caused by climate change, then this resilience may be tested further in future years, and the ongoing programme of river restoration works may be necessary to retain the current river status as much as to drive further improvements.
 4. The latest Environment Agency Water Framework data provide very encouraging evidence that the main Crane Waterbody is improving and moving towards 'Good' Ecological Status (GES). The only parameter below 'Good' in the last data set (released earlier in 2026) is phosphate, and this has improved to 'Moderate'. Reaching 'Good' Ecological Status is one of six Key Objectives for the overall Crane Catchment Plan and this will be a focus for the team over the next year.
 5. Phosphate levels in the lower Crane appear to have stabilised around the GES threshold of 0.2 mg/l over the last two of years. One possible explanation is that high phosphate loadings in the river sediment are being released and effectively buffering any reduction in phosphate inputs. This can be investigated further as part of the overall programme.
 6. The Thames Water Surface Water Outfall Programme (SWOP) is continuing to find large numbers of misconnected properties - with over 400 identified over the last 18 months, compared to around 500 in each of the two previous five-year periods. In addition, the SWOP team started to identify and resolve sewer network problems several years ago - finding approximately 260 over the last 18 months, compared to just 89 during the previous five-year period. These data indicate the increasing effectiveness of the SWOP programme, with more focused investigations and a willingness to engage with a much wider range of issues.
 7. Whilst these are impressive numbers, and indicate the amount of pollution being removed from the system by the SWOP, there remain concerns that a broadly comparable number of new problems may be added to the system every five years. This is based on the continuing issues being identified both by the SWOP teams and the Outfall Safaris.
 8. The Citizen Crane team is working with the Regional Connect Right team, and our partners in the Brent catchment, to promote the problems with misconnections and sewer network issues. This work is intended to raise the profile of these issues, which we consider to be the largest sources of organic

- pollution into the Crane and the Brent, and can only be resolved sustainably by implementing mechanisms to reduce the number of new problems being created.
9. There is ongoing evidence that the treatment system at Heathrow is effective in removing glycol from the river and improving the lower catchment from Donkey Wood downstream.
 10. Schemes are being designed and promoted to reduce road pollution at two key sites - at the M4 (Highways England) and A312 (Transport for London). If and when these schemes are implemented, it would mark a major step forward in dealing with another significant pollution source for the river. This is particularly important given recent work by the Centre for Ecology and Hydrology that indicates that heavy metals, such as copper and zinc (prevalent in road run-off), may be the most critical impactors on the health of river ecosystems.
 11. The most encouraging data are from small scale river restoration works around the catchment. These have shown the potential for river restoration schemes, and the associated coppicing of shading riverside vegetation, to transform the value of the local ecosystem - including the development of marginal and submerged vegetation, the creation of new fish nurseries and much improved RMI scores.
 12. More river restoration schemes are planned throughout the catchment over the next two years, and it is hoped that cumulative benefits will start to be seen from this work. Sustainable benefits will require long term funding, as well as engagement and development of community-based volunteer programmes, and the delivery of further training and employment schemes linked to river restoration and management. The decision to continue funding the Smarter Water Catchment programme until March 2030 will greatly enhance the opportunities to deliver improvements at a catchment scale.
 13. One of the major positive developments over the last twelve years has been the increase in partnership-based working across the catchment to identify issues and deliver projects to resolve them. Representatives of the various groups - EA, TW, Local Authorities, community-based partners and others - are familiar with each other, leading to a good level of trust and understanding being developed, and this has been incredibly helpful when resolving issues or putting together project proposals and opportunities.
 14. Public engagement has continued to expand. This has helped to grow and sustain the volunteering efforts of the Citizen Crane teams as well as engaging a wide audience in the Crane Valley on how they can help improve the catchment. For example, several pollution incidents have been reported by Citizen Crane volunteers and/or members of the public and have resulted in the pollution problems being attended to in hours and days rather than weeks and months.
 15. A major misconnections campaign in the Crane and the Brent has been led by local community groups and supported by the Citizen Crane team and Crane Valley Community Interest Company. This has received considerable public attention, with articles in the national press and regional TV

and radio. The campaign has led directly to increased engagement from local authorities and the Greater London Authority (GLA).

16. The campaign was spearheaded by discovering that at least seven blocks of flats in the Crane and Brent catchment were entirely misconnected, with all their sewage waste going into the river. Two years later more than half of these blocks have been rectified, and the others are either in hand or subject to prosecution. Given that some of these blocks had been misconnected for a decade or more prior to this campaign it can be considered as a major success
17. It is becoming clear that the SWOP programme is not enough on its own and this type of community led campaign is essential to try and better inform and engage the public and other key interested parties about the importance of misconnections and their role in both resolving them and stopping them happening in the first place. Over the last year we have also increasingly engaged with MPs and other opinion formers with a view to changing legislation so that the risk misconnections can be reduced in future.
18. Overall, there are further encouraging signs that the river ecosystem is improving and moving towards Good Ecological Status. The system is very complex, and we believe the recent improvements are due to a combination of actions by all our partners to identify and remove pollution sources as well as improve the ecological functioning of the river.

The Future

1. The Citizen Crane project sits within the Thames Water Smarter Water Catchment (SWC) programme. The first five years of this programme ended in March 2025. Agreement was reached in late 2025 for the programme to be continued until March 2030 and this provides a longer-term platform to deliver on Citizen Crane objectives.
2. The intention from all partners is for the core Citizen Crane monitoring to continue. The team has been delighted to see how volunteers have continued to monitor at their sites every month for twelve years. This is a tribute to both their dedication and the ability of the technical team to use their data and demonstrate benefits to the river ecosystem. The volunteers have also engaged with a wider range of citizen science activities, and we are keen to continue and expand this. There are already opportunities for formal training and qualifications being delivered through these programmes. This has helped to broaden the volunteer base, and we would like to embed and expand this approach.
3. The SWOP is also to continue for four more years. This provides an opportunity to further focus efforts on the key pollution problem areas at the top of the catchment, as well as expanding the work to identify and deal with associated network issues.
4. We are also keen to see the wider SWC and associated programmes for river restoration continue and expand over the next four years. Our findings to date indicate that improving the geomorphology and

environmental management of the corridor helps to transform its ecological value. We are therefore planning to support the delivery of river improvements at scale across the catchment - using the Citizen Crane volunteers to monitor (and help optimise) effectiveness.

5. Public engagement work also needs to expand, both to grow our volunteer network and engage the wider population on the key issues and where they can make a difference.
6. We have seen very encouraging progress over the last twelve years. If these activities can be delivered and learned from over the next four years, then our long-term target of “Good Ecological Status” or, as we have previously defined it:

“An urban river corridor teeming with wildlife and unconstrained by pollution, serving as a vital community resource where people can connect with nature and improve their wellbeing.”

can be achieved by 2030.

Working in partnership

