DAVID CLEMENTS ECOLOGY LTD

BRO TATHAN, Nr COWBRIDGE, GLAMORGAN
GREAT CRESTED NEWT MITIGATION POND: ROTARY ZONE

GREAT CRESTED NEWT MONITORING SURVEY, 2022 (W1169 80181)

February 2023

David Clements Ecology Ltd
Carlton House, 5 Herbert Terrace, Penarth, Glamorgan, CF64 2AH
Tel: 029 20 350120 Email: info@dce.org.uk

BRO TATHAN, Nr COWBRIDGE, GLAMORGAN
GREAT CRESTED NEWT MITIGATION POND: ROTARY ZONE

GREAT CRESTED NEWT MONITORING SURVEY, 2022

1.0 Introduction & Background

1.1 This report has been prepared by David Clements Ecology Ltd (DCE) on behalf of the Welsh Government (WG).

1.2 The former Ministry of Defence (MoD) airbase site at St Athan lies due south of the town of Cowbridge in the Vale of Glamorgan, South Wales. During the period approximately 2000 to 2010 this site was subject to a major redevelopment scheme to create a proposed MoD Defence Training College (DTC), an Aerospace Business Park (ABP) and associated new residential developments for service personnel (Service Family Accommodation – SFA), together with various new roads, junctions and other infrastructure. This development was to be jointly undertaken by the Metrix organisation (the MoD's preferred bidder for the DTC project) and the Welsh Government for the ABP project.

1.3 As part of the preparatory measures for the DTC/ABP development schemes, various protected species and other ecological issues were addressed via a range of surveys and investigations carried out over a number of years, together with the formulation of major schemes of mitigation, compensation and enhancement in respect of protected species which were likely to be subject to disturbance or habitat loss as result of the redevelopment plans. One of these species was great crested newt (*Triturus cristatus* – 'GCN'), a species afforded full protection in the UK under the Conservation of Habitats & Species Regulations 2017 (the 'Habitats Regulations').

1.4 The St Athan Airbase site lies in an area known to contain a concentration of ponds and other habitats which support GCN. Three concrete Emergency Water Supply (EWS) ponds were identified as supporting large breeding populations of GCN within the airbase site itself, and a number of other GCN ponds were known to occur in the immediate vicinity including on land immediately to the south which was proposed to become part of the ABP site. These ponds were all surveyed for GCN over a number of years during the period 2002-2009, as set out in the series of reports listed in DCE (2019).

1.5 The DTC development required the demolition of the three EWS ponds within the site, and therefore in 2010 a licence was obtained from the Welsh Assembly Government to allow the clearance and relocation of GCN from these ponds ahead of their demolition. The licence, Ref No. 1779, required the creation of a series of nine compensatory ponds on land to the south of the airbase into which the GCN from the EWS ponds were released following a major capture and translocation exercise carried out during the spring and summer of 2010.

1.6 These so-called 'mitigation ponds' were created in advance in 2009 in an area of suitable terrestrial habitat which lay just outside of the proposed DTC/ABP development areas. This land comprised two main areas: 'West Orchard' to the west and 'Beggars Pound', to the east. Due to the availability of surplus construction materials, ten ponds were actually created instead of the required nine. The locations of these ponds are shown on Plan 1.

1.7 The three EWS ponds within the airbase were subsequently demolished in 2010 following the GCN translocation exercise. Approximately 300 adults and 400-500 hundred eggs were transferred from the EWS ponds to the mitigation ponds.

1.8 Licence No. 1779 required, *inter alia*, that the mitigation ponds should be subject to monitoring surveys (ie population estimate surveys) in years 1, 3, 5, 7 and 10 after completion of the translocation. In late 2010, however, the funding for the DTC and ABP developments was abruptly terminated, and the redevelopment projects were effectively abandoned. As a result no monitoring surveys were carried out at that time.

1.9 The licence also required the implementation of a scheme of management for the ponds and their surrounding habitats which was designed to maintain them in optimal condition for use by GCN. Some annual maintenance was carried out by the then site maintenance contractor, Kier Construction Ltd, but this essentially comprised the biannual strimming of bramble and other vegetation around the pond banks and maintenance of an access path alongside the ponds in Beggars Pound.

1.10 Whilst the Welsh Government remained conscious of the issue of regulatory compliance, the reorganisation and review which followed the termination of the DTC project in 2010 resulted effectively in an abeyance the monitoring of some 5 years. At the same time, new civilian business park proposals were being developed for large parts of the site, both which considerations necessitated a regularisation of the position regarding the conditions of Licence No. 1779.

1.11 In 2016 DCE were instructed to establish the present condition of the GCN mitigation ponds and to carry out a series of monitoring surveys in order to investigate the current use, or otherwise, of these ponds by GCN. This work was instructed in order to assist in regularising the position *viz-a-viz* the obligations under the licence and to re-establish a position of compliance and cooperation with Natural Resources Wales (NRW), the statutory body which now deals with protected species licensing. A new round of monitoring surveys of the GCN mitigation ponds therefore commenced in 2016 (see DCE 2016).

1.12 In the period since 2016 the site has been renamed ‘Bro Tathan’ and the maintenance contract transferred to Vinci Ltd. The 2016 surveys found that the GCN mitigation ponds were very overgrown and in a suboptimal condition for occupation by GCN, although the species was still found to be present in low to moderate numbers in several of the ponds. In 2017 a licence was therefore obtained from NRW to permit the clearance and restoration of the ponds over three winters, and the subsequent implementation of a revised pond management plan (NRW Licence No. 77318a).

1.13 Over the winter months of 2017/18, all the ponds in Beggars Pound (ie Ponds BP1, WC2, WC2A, BP2 and BP3) were substantially cleared of invasive aquatic and marginal vegetation, and the overhanging bird-control nets were removed. Over the winter months of 2018/19 similar clearance and restoration works were also carried out in Ponds WC1 and BP44-3 in West Orchard and WC3 ‘inside the wire’ (which is the pond within the Rotary zone). The remaining ponds in West Orchard, P44-1 and P44-2, were restored over the winter months of 2019/20.

1.14 Access for 'Year 3' monitoring was not available in 2018, but surveys were undertaken in the spring and early summer of 2019. The 2019 surveys indicated a marked increase in GCN numbers in some of the ponds in West Orchard, but numbers remained low in the ponds in Beggars Pound (DCE 2019).

1.15 Monitoring surveys were subsequently undertaken again in 2020 and 2021 but in both cases these were somewhat disrupted by the effects of the Covid-19 pandemic and some ongoing problems with access (DCE 2022). The 2021 surveys in particular were also constrained by the significant regrowth of bramble and other rank vegetation around and within some of the ponds. Pond WC3, which lies within the live airfield area (the Rotary zone), was not available for survey in 2021; however access was secured for survey in 2022.

1.16 The present report sets out the results of this 2022 survey of Pond WC3.

2.0 Methods

2.1 The survey set out to obtain 'population monitoring' results in accordance with the advice provided by EN (2001). This is based on a series of 6 sessions each of bottle-trapping and lamping carried out at intervals between April to June, with at least two sessions being carried out before the middle of May. 10 bottle-traps were inserted in the pond wherever possible and were left *in situ* overnight with collection the following morning. Lamping was carried out after dark on evenings with dry, warm and still weather conditions, by a surveyor equipped with a Clulite FAN1 lantern. Numbers of all amphibians were recorded, and where possible, sex and growth-stage were estimated. Searches were also made for eggs on floating vegetation etc.

Survey Constraints

2.2 The bottle trapping surveys were curtailed after three visits due to the excessive emergent vegetation present, especially bulrush/ reedmace (*Typha latifolia*) and a fall in water levels, following a period of dry weather. Bottle-trapping was deemed to present a potential risk to captured newts due to the lower water levels, which would reduce oxygen levels. Lamping was rendered unviable after five visits due to lack of visibility.

3.0 Survey Results

3.1 The results of the surveys are showed in Table 1.

Table 1: GCN Survey Results

Rotary Pond No: WC3	**Year: 2022**											
Species	**Bottle-traps**						**Lamping**					
	13 April	29 April	6 May				12 April	28 April	5 May	12 May	26 May	
Air temp (^{0}C)	11	10	12				11	9	12	12	14	
Great crested newt – male	5	0	2				1	0	0	0	0	
Great crested newt – female	1	1	0				1	1	0	0	0	
Great crested newt – adult	0	0	0				-	-	1	1	0	
TOTAL	**6**	**1**	**2**				**2**	**1**	**1**	**1**	**0**	
Palmate newt – male	18	6	6				-	-	-	-	-	
Palmate newt – female	8	4	2				-	-	-	-	-	
Palmate newt – adult	0	0	0				39	9	5	6	6	
TOTAL	**26**	**10**	**8**				**39**	**9**	**5**	**6**	**6**	

3.2 The recorded numbers of great-crested newt were highest during the first survey in mid-April. It is likely that the greater numbers were present in the pond in late March/ early April. The decline the water level may also have resulted in adult GCN leaving the pond early.

3.3 Palmate newt (*Lissotriton helveticus*) occurred throughout the survey period, although the numbers of this species also dropped considerably after the first survey.

4.0 Discussion

4.1 Pond WC3, within The Rotary Zone stands just over 1km away from the nearest of the other mitigation ponds (Within West Orchard) and is located just within the aerodrome boundary. Access has been difficult at times for airside security reasons.; so, the pond has not been surveyed as often as those within the West Orchard and Beggar's Pound areas.

4.2 Previous surveys suggest the occurrence of a 'small' to 'medium' population within the WC3 pond: On a single presence/absence survey visit in 2016 this pond was found to support a total of 13 GCN individuals (plus one which was recorded casually on a previous site inspection visit). It is also known that lamping surveys were carried out in this pond over several years in the period prior to 2016 by another contractor in connection with a development which was being considered at that time in the nearby 'Rotary' zone of the airfield. The results of these surveys were not made available to DCE but in correspondence at the time it was apparent that low to moderate numbers of GCN (ie approximately 20-30) had been recorded

consistently over a number of occasions, together with evidence of breeding. Assuming no significant changes in the interim, it is assumed that Pond WC3 continues to support a 'small' to 'medium' population of GCN, but that this is probably largely separate to the populations contained in the remainder of the site.

4.3 The results of the 2020 survey of Pond WC3 are summarised in Appendix 1. Again these results indicate a small to medium GCN population with a maximum of 15 adults recorded on any one survey. This survey was also constrained by low water levels (caused by unseasonably warm temperatures and low rainfall), which may well have reduced the number of GCN present in the pond.

4.4 Pond WC3 was restored in the winter of 2018/19, following the management plan under the NRW GCN licence, with a proportion of emergent vegetation removed and bramble cut back from the edges of the pond. Due to access restrictions, it has not been possible to carry out further seasonal clearance until the winter of 2021/22, when restoration works were carried out: by the removal of *Typha* and strimming of bramble and ruderal vegetation around the edges. All restoration works were carried out under a watching brief, with the supervising ecologist present. The pond had become overgrown, over the intervening 3 years, which is likely to have restricted the number of GCN using the pond for breeding.

4.5 If regular access to the pond can be maintained, following the programme of restoration works set out in the Management Plan for the GCN mitigation ponds, should allow the GCN population within WC3 to increase (See Appendix 2 for more details).

7.0 References

David Clements Ecology Ltd (DCE 2022) *Bro Tathan, Nr Cowbridge, Glamorgan: Great Crested Newt Mitigation Ponds: Great Crested Newt Monitoring Surveys, 2020-21*. Unpublished report to the Welsh Government.

David Clements Ecology Ltd (DCE 2019) *Bro Tathan, Nr Cowbridge, Glamorgan: Great Crested Newt Mitigation Ponds: Great Crested Newt Monitoring Surveys, 2019*. Unpublished report to the Welsh Government.

David Clements Ecology Ltd (DCE 2016) *St Athan Airbase, Nr Cowbridge, Glamorgan: Great Crested Newt Mitigation Ponds: Great Crested Newt Monitoring Surveys, 2016*. Unpublished report to the Welsh Government.

English Nature (EN 2001) *Great Crested Newt Mitigation Guidelines*. EN, Peterborough.

Report : JD Lee 27 Feb 2023
Version : v.1
Revisions :
Surveyor(s) : JD Lee

APPENDIX 1: 2020 SURVEY RESULTS

Blank column entries = zero Greyed-out column entries = No survey carried out

'TOTALS' – n.b. These relate to GCN <u>only</u>

'All Surveys' = Total individuals recorded in stated category
'Max' = Highest No. of individuals in stated category on any one survey occasion
'Mean' = Total individuals recorded in stated category/No. of survey occasions

'GCN Combined Results'

'All Surveys' = Total individuals recorded in all categories
'Max' = Highest No. of individuals in all categories on any one survey occasion
'Mean' = Total individuals in all categories/No. of survey occasions

2020 Results

Pond No: WC3	**Year: 2020**												**TOTALS**		
Species	**Bottle-traps**						**Lamping**						**All Surveys**	**Max**	**Mean/ Session**
	16 May	19 May	22 May	29 May	-	-	15 May	18 May	21 May	28 May	03 Jun	09 Jun			
Great crested newt – male	4	2	1	2			-	-	-	-	-	-	9	4	2.3
Great crested newt – female	5	9	1	3			-	-	-	-	-	-	18	9	4.5
Great crested newt – adult	6	3	1	3			5	5	4	5	7	1	40	7	4.0
Great crested newt – juv															
Great crested newt – eggs															
Palmate newt – male	14	7	9	20									**GCN – Combined Results**		
Palmate newt – female	5	4	1	7									***67***	***20***	***6.7***
Palmate newt – adult							30	39	37	44	52	41			
Common frog															
Common toad															

observed on 12 May 2016

APPENDIX 2: ANNUAL MANAGEMENT PLAN, AGREED UNDER LICENCE No. 77318

The following management guidelines are based on those which were originally agreed under NRW (CCW) licence No. 1779 Feb 2010).

Whole Site

- The habitats will be maintained in their current form in perpetuity.
- The management of the habitats will be reviewed at 5-yearly intervals, and any necessary adjustments will be agreed with the NRW prior to implementation.
- The first iteration of the management plan will commence in 2020 and will be repeated annually until 2024.
- Management of GCN habitats will be subject to a NRW licence. Operations in areas where it is deemed likely that GCN may be encountered will be subject to coordination and supervision by an appropriately licensed and experienced ecologist as required.
- The developer will provide the resources necessary to implement the present management proposals plus any modifications which may be agreed in the future.
- The habitats will be subject to annual monitoring surveys to assess their condition and to identify any deterioration in ponds, fences or newt-proof fences etc, or in the habitats generally. Any such deterioration will be rectified immediately upon notification or as specified below.
- Access to the site will be via locked gates at either end. Gates will be inspected annually and maintained in a secure and serviceable condition.
- Monitoring of GCN populations in the ponds will be carried out as per licence No. 1779.
- Pernicious weeds (eg ragwort, thistles) will be monitored annually and treated as required either by hand-pulling, topping using a hand-held strimmer or spot-treatment with an appropriate herbicide (eg Glyphosate Biactive from a knapsack sprayer or weed-wipe). Any arisings will either be collected for disposal off-site or deposited in designated dump-sites away from the permanent newt fence (PNF – see below).
- Fly-tipped materials will be assessed for their potential to form refugia for GCN, and where not deemed likely to provide appropriate refugia, or where deemed hazardous to aircraft or otherwise undesirable, will be removed under the supervision of an appropriately licensed and experienced ecologist for disposal off-site.
- All works will be carried out using hand-operated tools only.
- All habitats within the management plan area will be inspected annually between Jun-Jul of each year following management. The effectiveness of the previous year's management will be assessed and any observations or recommendations for the following year will be made. The annual report will be submitted to NRW, and any recommendations arising will be agreed in writing.

Ponds

- Ponds will be assessed annually for encroachment by emergent, marginal, floating and/or submerged vegetation. Where the ratio of vegetation exceeds 50% of the open water column, 30% of the excess weed will be removed by hand in late summer or autumn (ie Sep-Oct) and left at the side of the pond for 48 hours prior either to disposal off-site or deposition in designated dump-sites outside of the stock-proof enclosure and away from the PNF.
- Not more than a total of three of the ponds will be treated in any one year.
- Common reed (*Phragmites australis*), a potentially invasive species, will be selectively targeted for complete removal wherever possible.

- All ponds will be assessed at 5-yearly intervals (ie at renewal of the management plan) for excessive siltation, and where siltation exceeds more than 60% of the depth of the pond, the excess silt will be carefully removed by hand in the winter period (ie Nov-Feb) and deposited outside of the stock-proof enclosure. Only one pond in every three will be treated in any one year.
- Ponds will be monitored annually for the introduction of fish, and where found these will be removed in late summer (ie Aug-Sep) either by hand-netting or angling, and deposited in the nearby brook. Any necessary permissions from NRW or other statutory bodies will be obtained in advance.
- Ponds will be monitored annually for leakage. Where leaks are detected the repair measures will be subject to the advance agreement in writing by NRW.
- Wherever possible, leaks will be repaired in the first winter period (ie Nov-Feb) following detection by means of draining down and repairs as necessary within 72 hours of being drained.
- Ponds will be monitored annually for the presence of invasive exotic species, and where detected these will be cleared by hand in the first winter period (ie Nov-Feb) following detection. Arisings will either be collected for disposal off-site or deposited in designated dump-sites outside of the stock-proof enclosure and away from the PNF.
- Vegetation surrounding the ponds (ie within the stock-proof enclosures) will be monitored annually, and where judged to be excessive (eg where casting shade over >50% of the water or causing excessive leaf-fall into the water) will be cleared by hand-cutting to a minimum height of 200mm. Arisings will either be collected for disposal off-site or deposited in designated dump-sites outside of the stock-proof enclosure and away from the PNF.
- Any GCN which may be encountered during the management operations, and which cannot safely be left *in situ* will be collected by hand and released at the next nearest pond which is not due to receive management in that year. GCN which are removed open water will be released into open water; GCN which are removed from terrestrial habitats will be released in terrestrial habitats, in both cases into microhabitat conditions which most closely resemble those where they were found.
- In the event that large numbers of GCN are encountered during management operations (ie >5 individuals), all works will cease and further advice will be sought from the Supervising Ecologist as a matter of urgency.

West Orchard

- The West Orchard grasslands will continue under grazing management, to be let to an appropriate grazier on an annual grazing licence.
- No improvement of the pasture will be permitted by any means.
- Grazing management of the pasture will be grazed by stock at sufficient numbers to maintain the sward at between about 150-200mm.
- Provision will be made for the withdrawal of beasts in the event that over-grazing or excessive poaching occurs, at the exclusive discretion of the landowner.
- In the absence of grazing, the pasture will be mown once in the late summer (ie Aug-Sep) to a height of 150mm using a tractor-drawn mower with the rolling bar lifted, and the arisings will be collected for disposal off-site.
- The marshy grassland at the western end of the valley will not be subject to mowing.
- Hedge-lines will generally be retained with minimal management, but where management is deemed necessary this will be by means of light trimming once in the winter period (ie Nov-Feb). Each hedge requiring trimming will be divided into three equal sections of which one will be trimmed in each year. Arisings will either be collected for disposal off-site or cut and

stacked to create 'eco-piles' in designated locations near to the ponds but away from the PNF. Periodic hedge-laying will be considered where appropriate.

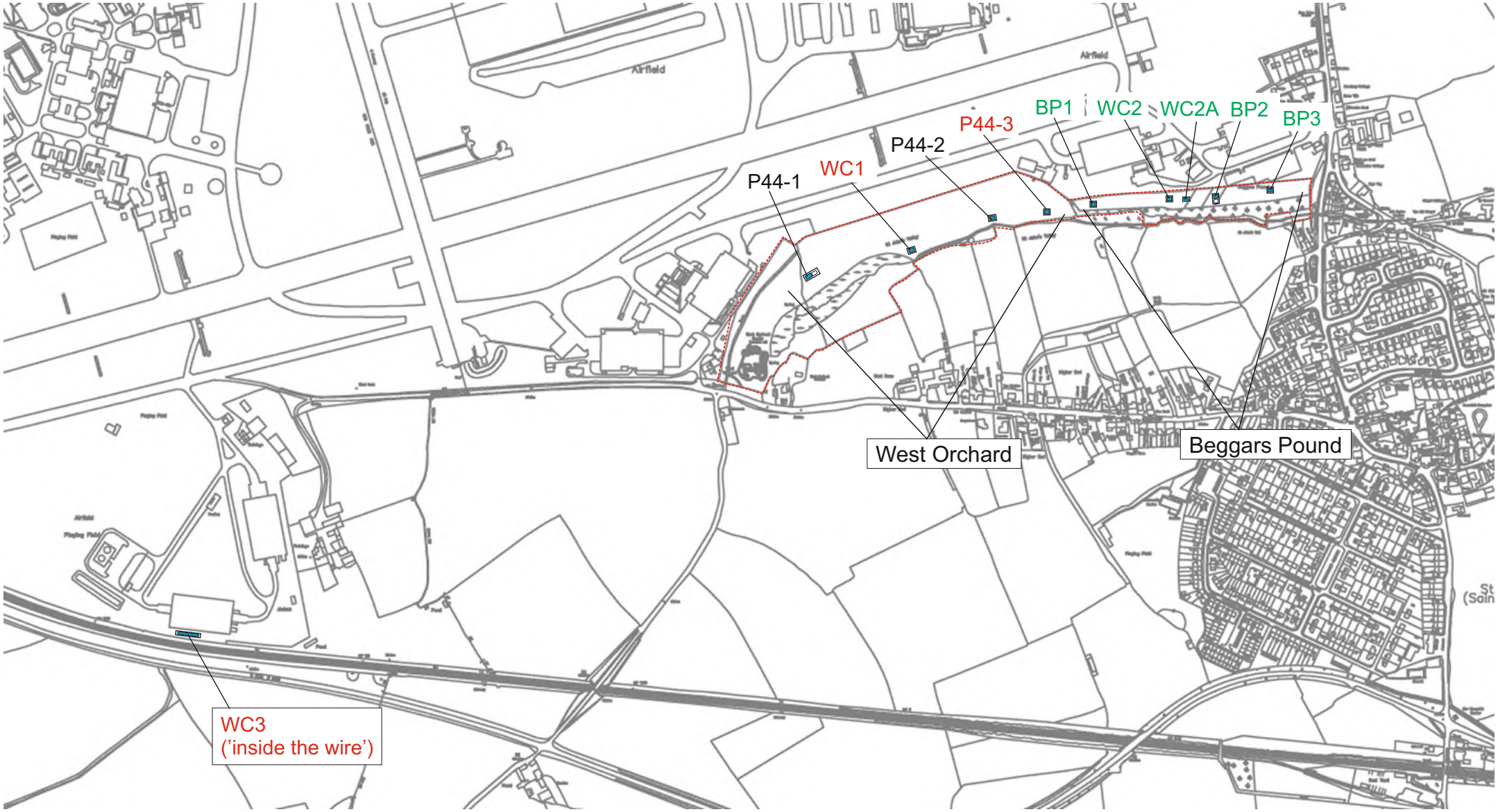
- Scrub will be maintained within present limits, with any excessive spread being cleared by means of cutting at just above ground level using a chainsaw, and treatment of the stump with an appropriate herbicide (eg Glyphosate Biactive). Arisings will either be collected for disposal off-site or cut and stacked to create 'eco-piles' in designated locations near to the ponds but away from the PNF.
- Ruderal vegetation will be maintained within present limits, with any excessive spread being cleared by means of either hand-pulling, cutting by hand or spot-treatment with an appropriate herbicide (eg Glyphosate Biactive from a knapsack sprayer or weed-wipe). Arisings will either be collected for disposal off-site or deposited in designated dump-sites away from the PNF.

Beggars Pound

- Beggars Pound will be maintained primarily as scrub and scrub woodland with large trees.
- The fence along the southern site boundary (ie outside of the security fence) will be repaired and made secure to prevent trespass and vandalism.
- The main access trackway into the site will be cut, either using a light vehicle-drawn brush-cutter or strimmed/brush-cut by hand, to a minimum height of 100mm. Cutting and clearance will take place twice annually, once in early summer (ie May-Jun) and once in late summer (Aug-Sep). Arisings will either be collected for disposal off-site or cut and stacked to create 'eco-piles' in designated locations near to the ponds and away from the PNF.
- Trees and shrubs growing around the ponds will be monitored for excessive shading of the water (ie >50%) and/or excessive leaf-fall into ponds, and where deemed excessive will either be cut back or cleared entirely. Arisings will either be collected for disposal off-site or cut and stacked to create 'eco-piles' in designated locations near to the ponds, away from the PNF.

Permanent Newt Fence

- The permanent newt fence (PNF) along the site's northern boundary will be retained to discourage the movement of GCN from the mitigation ponds into the airfield site, where they would be subject to death or injury as a result of the intensive grass management regime which is maintained for air safety reasons (ie very regular close-mowing to deter birds and reduce the risk of bird-strike).
- The PNF will be monitored annually for any breaks, damage or breaching, and any such damage will be rectified immediately upon notification.
- The line of the PNF will be strimmed by hand to a height of 100mm for a distance of 2m on either side, once in early summer (ie May-Jun) and again in late summer (ie Aug-Sep). Arisings will either be collected and disposed of off-site or deposited in designated dump-sites away from the PNF.



N

Bro Tathan, Nr Cowbridge, Glam Great Crested Newt Monitoring Survey (Rotary Zone), 2022

Plan 1: GCN Mitigation Ponds

DCE 847 NTS Feb 2022