

Addendum (relating to Great Crested Newt)

to the

Ecological Impact Assessment

(version revised Dec 2017)

of

land at Mulsford

near Threapwood,
Wrexham County Borough,

Main site SJ43454504
South-west access point SJ42984478)

By Churton Ecology

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Commissioned by Roger Parry and Partners LLP

Compiled January 20th 2018 (1.5ha compensation area), revised Feb 2nd 2018

1. INTRODUCTION

The Ecological Impact Assessment for this site was updated in December 2017 by Churton Ecology, to cover the relevant points set out in a written response from NRW dated 27/10/17, and following a repeat site visit on 4/12/17. In the EcIA report, recommendations were based on carrying out the construction works under a non-licensed method statement (following Reasonable Avoidance Measures) with provision of some good terrestrial habitat as an enhancement, and surveillance and monitoring for 5 years.

NRW undertook a meeting of interested parties on 9/1/18. As a result of this, Churton Ecology was asked to draw up a new method statement for works to be carried out under an EPS Mitigation Licence. This report includes an outline method statement to ensure that the 'three derogation tests' can be considered by the Planning Authority as part of its planning determination process. A more detailed method statement will be submitted as part of the EPSM Licence application. No development will commence until the approved licence has been submitted to the LA at the (early) reserved matters stage.

NRW has requested that the area of compensation habitat must be equal in size to that of the construction area; the inclusion of the equivalent area taken up by the access track was also considered. [NRW asks for 'the implementation of long term compensatory proposals including, appropriate sized compensation area (based on 'like for like') and appropriate tenure'].

Other conditions required by NRW are

- The submission of long-term management, surveillance and wardening proposals
- The submission of proposals that evidence the long-term provision of resources for future management, wardening and surveillance.
- Submission and implementation of an approved ecological compliance audit scheme to the satisfaction of the local planning authority

A biosecurity risk assessment was also requested and has been completed (and approved by NRW) as a separate document.

2 METHOD STATEMENT

Fencing and trapping

Standard 1000 gauge polythene/woven polypropylene fencing will be used to enclose the construction area (including all associated soft landscaping but not the compensation area).

Internal drift fencing will be used to target areas of higher habitat suitability. NRW recommend that the fence is buried to a depth of 400-500mm – posts must be located within the area being excluded. Bucket traps will be set (internally) along the full perimeter of the fence. The traps will be checked and emptied daily by a suitably qualified ecologist and for a suitable period of time. Given the 'size' of the population recorded, 60 suitable trapping nights would be typically recommended; however, given the low likelihood of animals being present it may be possible to reduce this period, depending on the initial findings.

Individuals trapped will be released into a suitable receptor habitat such as a hedge-base near the breeding ponds and replacement habitat to the west.

The exact timing of the development – and, therefore, the trapping and exclusion period – relies entirely on the developer and is not something that can be provided accurately at this point in time for obvious reasons. However, trapping of the site can only be carried out under licence between (generally) March and October inclusive. It also follows that the organisations responsible for preparing the licence application and undertaking any associated post-development monitoring, habitat management/maintenance and development phase compliance audit are also not known at this time. Suffice to say that all these details will be required when applying for the mitigation licence. A planning condition will effectively prohibit any development of the site commencing until the licence and any supporting documentation has been submitted to the LA – this is a pre-commencement condition requiring discharge at the (early) reserved matters stage.

Compensation area

NRW has requested that the area of compensation habitat must be equal in size to that of the construction area; the inclusion of the equivalent area taken up by the access track was also considered. [NRW asks for 'the implementation of long term compensatory proposals including, appropriate sized compensation area (based on 'like for like') and appropriate tenure'].

The Great Crested Newt is ectothermic (i.e. slow moving with a low food intake requirement) and has a straightforward diet consisting of common invertebrates. As a consequence of its lack of mobility, the species is at an increased risk of predation, particularly, during its terrestrial phase. Because of this, wide ranging dispersal is typically limited to breeding migrations (between ponds), movements of immature animals and situations where suitable terrestrial habitats - ground-level cover, resting/brumation habitat and to a lesser extent foraging opportunities - cannot be found in proximity to the breeding pond. With these

exceptions in mind it is always preferable to provide such habitats in close proximity to the breeding pond where this is either practical or possible.

The area to be lost is currently arable land, which generally represents poor terrestrial habitat; however, the site has been pasture in the recent past and this apparently represents good resting habitat in the local context when found in conjunction with high pond density (NRW comment). To offset any permanent loss of terrestrial habitat, an area of high quality terrestrial habitat will be created to the west of the site (comprising woodland, scrub and rough grassland), as agreed with NRW, and will encompass the two breeding pools. This will provide a range of resources with immediate connectivity to the breeding pools, ground level cover linking the two (main) breeding ponds, and opportunities for animals to forage safely and to find shelter during the daytime. Suitable aestivation/brumation habitat will also be provided within the same area by providing one rubble/log based hibernaculum for each pond. In addition, the two pools will no longer suffer from marginal encroachment through cattle poaching, grazing or ploughing.

Churton Ecology has always recommended that buffer zones should be created around the pools to safeguard them from encroachment and enrichment through activities in the cycle of arable land management. The newly proposed compensation area will achieve this goal.

The main development site is approximately 1.5ha. A similar sized area will be planted as woodland and rough grassland (both habitat types already planned for this site but on a smaller scale). An intermediate area between these two habitat types should be allowed to naturally become scrub. NRW has requested that the proportion of these three habitat types should aim to be approximately one third each. However, scrub is a difficult habitat to create and to maintain as such, and it is suggested i) that scrub should form the smallest component of the compensation area and ii) that some low scrub (with frequent Bramble) is allowed to develop naturally in the long grassland along the woodland edge. Preferably, all habitat creation measures will be created prior to, or concurrent, with the capture and relocation of animals from the site. In the short-term this will just require one or two weeks of spring growth since any tree or scrub planting will take several years to diversify into suitable terrestrial habitat.

Note: In addition, there will be some woodland and rough grassland close to the poultry unit and 150m of new native hedgerow; it is considered that these habitats provide sufficient compensation for the apparent loss of 0.45ha of improved grassland/arable land to access

track (including a small loss of hedgerow), taking into account that the track was already existing but narrower. These areas will also provide buffer zones for stream and hedgerow].

In this instance it would be appropriate for the compensation area to remain under the same ownership as the development, since the current landowner/developer has the finance, skills, equipment and availability to undertake what is essentially day-to-day land-management for a farmer (e.g. topping the grassland area once annually). The landowner will, however, require an ecologist or an ecological organisation to carry out long-term surveillance/monitoring and wardening. As part of his role, the ecologist or ecological organisation will be required to implement and regularly submit a compliance audit (possibly to NRW and/or the LPA). All works carried out by the ecologist will be financed by the landowner/developer.

Creation of the compensation area

The compensation area, and the woodland area within it, have been mapped on aerial photographs, see Appendix 2 in this Addendum. The boundaries are represented by a series of detailed grid references, see Table 2 accompanying the aerial photographs; this will enable the areas to be marked out on the ground prior to planting. In addition, the grid references can be used to map the compensation area on GIS, to provide a permanent record of the area. The boundary must at all times be over 10m from the water's edge of the pools, extending to 15m around the north end of each pool. The area measures approximately 2ha with 0.1ha attributable to the existing pool areas.

An area of 'woodland' (approximately 0.5ha in size) using native broadleaved species, will be created to the west of the hedgerow which currently forms the west boundary of the development field. This will replace the area of woodland planned along the east side of this same hedgerow, which was required for screening purposes. The woodland areas will include Pedunculate Oak, Sessile Oak, Downy Birch, Alder (native), Field Maple, Rowan and Crab Apple). **Plants must be of local provenance, and where possible disease-free (Phytophthora and Chalara) plants should be sought, see Biodiversity Risk Assessment.** The planting and management in the early stages will be set out on an updated Landscape Plan.

Rough grassland will be sown in the remaining area. A mix such as the 'bufferstrip and beetle bank' mix (Boston seeds' BS ELS1/CSS1) is recommended – this includes some tussock forming grasses [fine leaved Fescues, Cock's-foot (*Dactylis glomerata*), Timothy (*Phleum pratense*) and Tall Fescue (*Schedonurus arundinaceae*)] and will be managed by annual topping* in autumn (September – November) at a height of 20-30cm. [Note: the

buffer strip of rough grassland along the east hedgerow will be planted with a 'floristically enhanced buffer strip' mix (Boston seeds) as set out on the 2017 landscape plan in the EcIA - management will be similar to the 'bufferstrip and beetle bank'].

[*A flail topper is recommended for cutting these 'rough' grassland types because cuttings are mulched and spread out in the process and this avoids cut grass lying on the surface. Some toppers can be used behind and alongside a tractor but using a hedge cutter flail arm is an alternative].

An area of scrub, 5m wide, will be allowed to develop naturally along the woodland edge, by reducing the cutting here to 3 yearly. Ideally the cut should be in different years in the two fields. The scrub created will cover an area of approximately 0.15ha.

The compensation area should be created pre-construction. The ground should, preferably, be harrowed only (rather than ploughed and harrowed) if this is feasible, prior to any sowing or planting – this is because of its proximity to pools. It may be possible to have some flexibility with the timing of planting/sowing, whereby the whole area is sown pre-construction, in spring, as rough grassland, and the woodland is planted, **manually**, in the late construction or early development phase, into the allotted area of woodland.

Long-term management, surveillance/monitoring, 'wardening' and compliance audit

The main aspect of the monitoring is to carry out Great Crested Newt surveys in alternate years. This may be achieved by torching 2-3 times in each survey but trapping is likely to prove essential since there is a water turbidity issue in these pools due to some water fowl activity. Surveys would be expected to demonstrate a continued presence of a medium population in both pools.

In addition, to newt surveys, some assessments of vegetation are considered essential, because grazing has been removed. Assessing any increase in scrub cover of margins and/or in the cover of the pools by Bulrush, may highlight the need to carry out pool works well before the GCN population is adversely affected. A couple of aquatic species, used for egg laying, have also been included in the pool assessment alongside two species with some rarity status – *Cicuta virosa*, a nationally scarce species and *Carex pseudocyperus*, a Near Threatened species in Wales.

For the compliance audit, a log book recording all management and monitoring times, and all findings, will be kept updated at all times, with results submitted at regular intervals. The ecologist or ecological organisation overseeing and/or carrying out the field work, may be

expected to use another organisation to carry out the audit. Great Crested Newt results will feed directly into an audit maintained by Cofnod; other information may be submitted to the LPA and/or NRW.

Appendix 1
Summary timetable of pre-construction and construction
works relating to Great Crested Newt

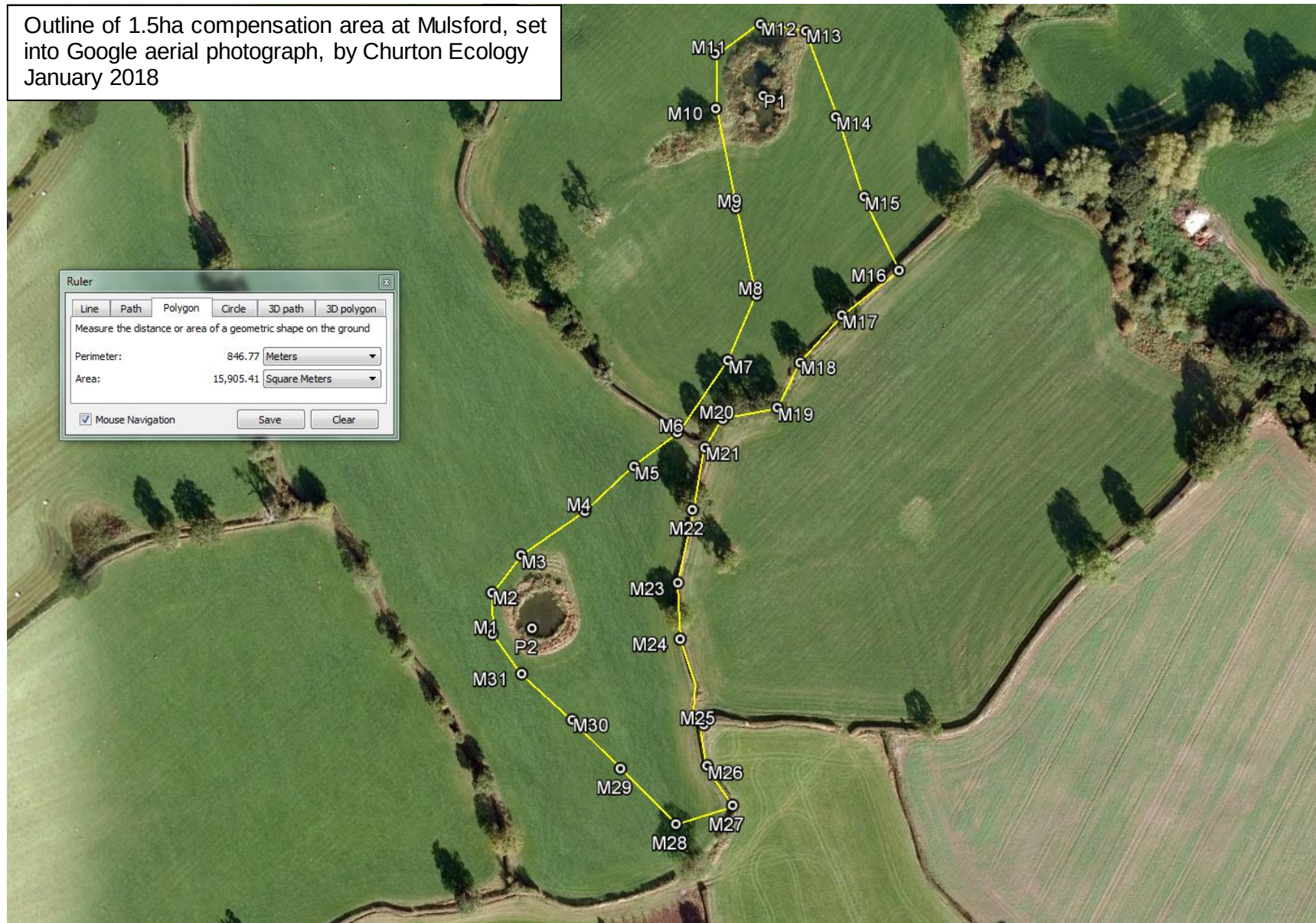
Addendum Table 1 Summary timetable of pre-construction and construction works relating to Great Crested Newt				
Activity	Timing	Personnel responsible for overseeing and/or carrying out works		
		Ecologist	Landscaper	Owner
EPSM Licence application	Pre-construction	Yes	N/A	N/A
Set up an agreement with an ecologist or an ecological organisation to carry out long-term surveillance/monitoring, wardening and implementation of a compliance audit scheme, all such tasks to be financed by the landowner/developer	Pre-construction	N/A	N/A	Yes
Create woodland and rough grassland habitat in compensation area to west of hedgerow as per the 2018 landscape plan; refer to grid references and aerial photograph in this addendum for boundary	Pre-construction	Advice from the ecologist on planting and location has been provided in this document and fed into the landscape plan	Yes, refer to advice from ecologist	Yes, refer to advice from ecologist
<i>As an alternative, create rough grassland habitat in the whole of the compensation area to west of hedgerow as per the 2018 landscape plan; refer to grid references and aerial photograph in this addendum for boundary. Plant trees manually, at a later date, over the new grassland in the area allotted to woodland. This would require NRW approval.</i>	<i>Preconstruction (grassland)</i> <i>Late construction/early development phase (woodland area)</i>	Advice from the ecologist on planting and location has been provided in this document and fed into the landscape plan	Yes, refer to advice from ecologist	Yes, refer to advice from ecologist
Erect newt fencing around development site under an EPS licence	Pre-construction	Yes, overseeing newt fencing with specialist contractor	N/A	May assist
Commence trapping the site; traps to be emptied daily and fence checked regularly for breaches	Pre-construction	Yes	N/A	May assist

Toolbox talk for all personnel involved with works on the site.	Pre-construction	Yes	N/A	N/A
A copy of the licence and biosecurity risk assessment to be available on site	Pre- construction and during construction	Yes	N/A	Yes
Fence checked daily for breaches, and repaired	During construction	Yes	N/A	Yes
Keep log book with all details of exclusion and trapping e.g. timing of visits, numbers etc.	At all times	Yes		

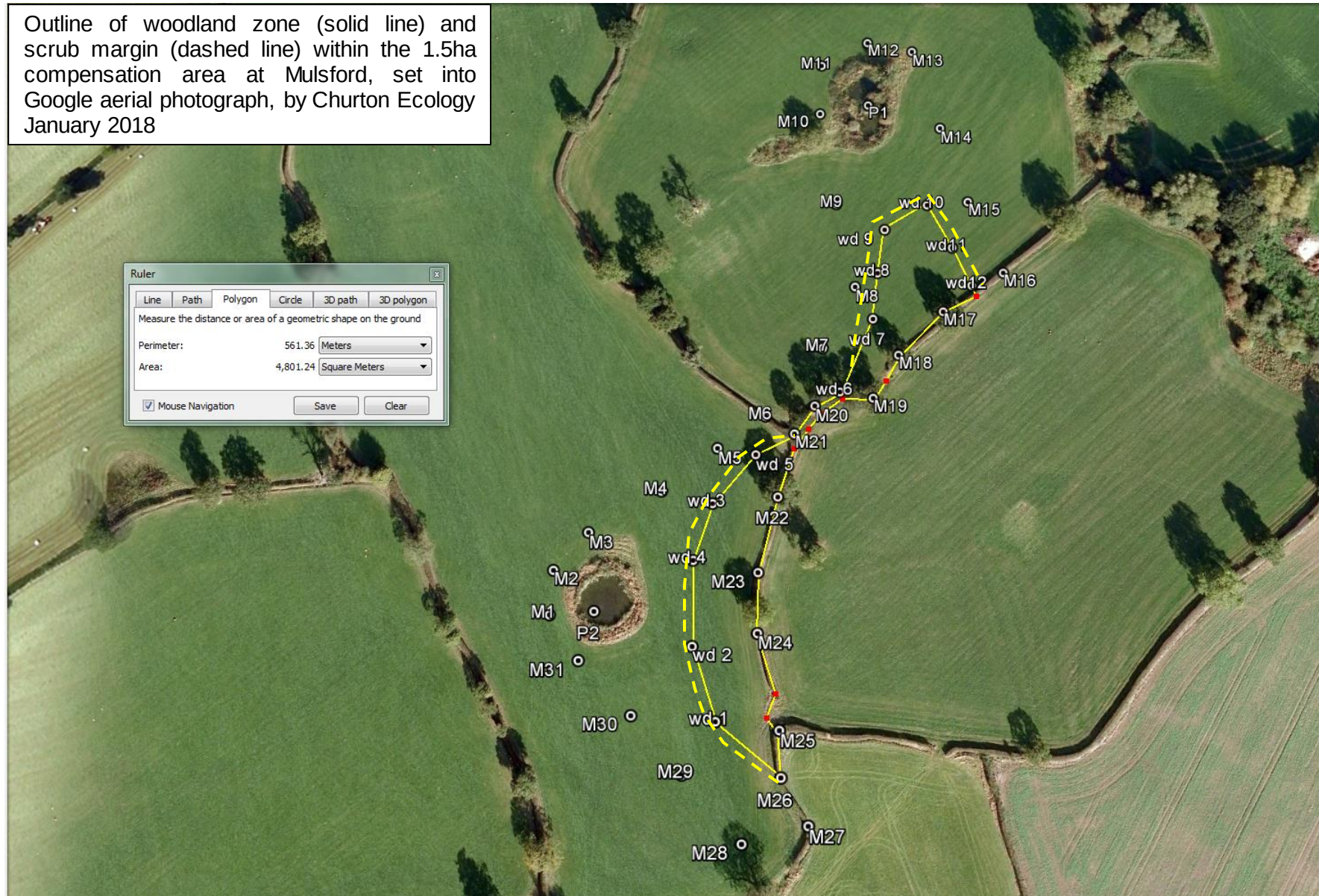
Appendix 2

Setting up the compensation area

Outline of 1.5ha compensation area at Mulsford, set into Google aerial photograph, by Churton Ecology January 2018



Outline of woodland zone (solid line) and scrub margin (dashed line) within the 1.5ha compensation area at Mulsford, set into Google aerial photograph, by Churton Ecology January 2018



Addendum Table 2: grid references for pool locations and compensation area boundaries	
Pool 1	SJ 43347 45189
Pool 2	SJ 43240 44970
Boundary of compensation area	
M1	SJ 43223 44968
M2	SJ 43224 44985
M3	SJ 43237 45000
M4	SJ 43264 45017
M5	SJ 43285 45035
M6	SJ 43304 45048
M7	SJ 43326 45077
M8	SJ 43340 45105
M9	SJ 43333 45142
M10	SJ 43326 45185
M11	SJ 43327 45208
M12	SJ 43347 45220
M13	SJ 43366 45217
M14	SJ 43377 45179
M15	SJ 43387 45144
M16	SJ 43400 45112
M17	SJ 43375 45095
M18	SJ 43356 45075
M19	SJ 43346 45057
M20	SJ 43323 45053
M21	SJ 43315 45041
M22	SJ 43309 45016
M23	SJ 43301 44986
M24	SJ 43301 44963
M25	SJ 43309 44927
M26	SJ 43310 44911
M27	SJ 43319 44894
M28	SJ 43296 44888
M29	SJ 43274 44911
M30	SJ 43255 44932
M31	SJ 43235 44952
M26	SJ 43310 44911
Boundary of south woodland	
M26	SJ 43310 44911
wd 1	SJ 43286 44930
wd 2	SJ 43277 44958
wd 3	SJ 43283 45013
wd 4	SJ 43277 44990
wd 5	SJ 43300 45033
M21	SJ 43315 45041

M22	SJ 43309 45016
M23	SJ 43301 44986
M24	SJ 43301 44963
M25	SJ 43309 44927
M26	SJ 43310 44911
Boundary of north woodland	
wd 6	SJ 43333 45059
wd 7	SJ 43346 45091
wd 8	SJ 43349 45111
wd 9	SJ 43352 45131
wd 10	SJ 43370 45142
wd 11	SJ 43380 45123
wd 12	SJ 43387 45106
M17	SJ 43375 45095
M18	SJ 43356 45075
M19	SJ 43346 45057
wd 6	SJ 43333 45059

Appendix 3
**Summary table of Long-term management,
monitoring/surveillance, 'wardening' and compliance audit**

Addendum Table 3: Summary timetable of long-term management, surveillance, 'wardening' and compliance audit for 20 years; all tasks to be carried out by an ecologist apart from the annual cutting of grassland which will be carried out by the landowner. Stars indicate years in which task will be carried out – replace star with a tick or yes when task has been carried out

Activity	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Check presence of all areas of woodland and rough grassland in compensation area	*		*		*		*		*	
Check vigour of new trees in first three years, and replace loss	*	*	*							
Cut rough grassland areas annually in September, spot treat nuisance weeds (Dock, Nettle, Thistle) - <i>landowner</i>	*	*	*	*	*	*	*	*	*	*
Leave a 5m wide area between woodland and rough grassland in south field to become low scrub, by infrequent cutting – <i>landowner liaising with ecologist</i>			(*)			(*)			(*)	
Leave a 5m wide area between woodland and rough grassland in north field to become low scrub, by infrequent cutting – <i>landowner liaising with ecologist</i>				(*)			(*)			(*)
Cut rough grassland areas annually in March/April, if woody species start to take hold - <i>landowner liaising with ecologist</i>		(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Check both pools for GCN eggs, and torch both pools on 2-3 occasions in alternate years to monitor the population. N.B. trapping is likely to be required instead if the torching method fails to confirm continued presence of a medium population* Results to be fed into Cofnod, as part of the compliance audit		*		*		*		*		*
Assess percentage of Pool 1 margin covered by scrub (30% in 2017), take fixed point photograph		*		*		*		*		*
Assess percentage of Pool 2 margin covered by scrub (nil in 2017), take fixed point photograph		*		*		*		*		*
Assess percentage cover of Pool 1 by <i>Typha</i>	*	*		*		*		*		*
Assess percentage cover of Pool 2 by <i>Typha</i>	*	*		*		*		*		*

Assess presence of plant species of interest and/or which provide good egg laying material in Pool 1: <i>Carex pseudocyperus</i> (present in 2016) <i>Myosotis scorpioides</i> (present in 2016) <i>Alisma plantago-aquaticum</i> (present in 2016)	*	*		*		*		*		*
Assess presence of plant species of interest and/or which provide good egg laying material in Pool 2: <i>Cicuta virosa</i> (present in 2016) <i>Carex pseudocyperus</i> (present in 2016) <i>Alisma plantago-aquaticum</i> (present in 2016)	*	*		*		*		*		*
Instigate pool management in Pool 1 if scrub and/or <i>Typha</i> increase significantly or important plants are disappearing. Carry out necessary management under a separate Conservation Licence where necessary.		(*)			(*)			(*)		
Instigate pool management in Pool 2 if scrub and/or <i>Typha</i> increase significantly or important plants are disappearing. Carry out necessary management under a separate Conservation Licence where necessary.			(*)			(*)			(*)	
Keep this table, and log book with details, results and photographs, updated as part of the compliance audit	*	*	*	*	*	*	*	*	*	*

*In both pools there was frequent Bulrush in the margins, and the water tended to be clear amongst it. Outside this margin the water was cloudy due to some presence of water fowl.

Addendum Table 3: Summary timetable of long-term management, surveillance, 'wardening' and compliance audit for 20 years; all tasks to be carried out by an ecologist apart from the annual cutting of grassland which will be carried out by the landowner. Stars indicate years in which task will be carried out – replace star with a tick or yes when task has been carried out

Activity	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Yr 19	Yr 20
Check presence of all areas of woodland and rough grassland in compensation area	*		*		*		*		*	
Cut rough grassland areas annually in September, spot treat nuisance weeds (Dock, Nettle, Thistle) - <i>landowner</i>	*	*	*	*	*	*	*	*	*	*
Leave a 5m wide area between woodland and rough grassland in south field to become low scrub, by infrequent cutting – <i>landowner liaising with ecologist</i>			(*)			(*)			(*)	
Leave a 5m wide area between woodland and rough grassland in north field to become low scrub, by infrequent cutting – <i>landowner liaising with ecologist</i>				(*)			(*)			(*)
Cut rough grassland areas annually in March/April, if woody species start to take hold - <i>landowner liaising with ecologist</i>		(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Check both pools for GCN eggs, and torch both pools on 2-3 occasions in alternate years to monitor the population. N.B. trapping is likely to be required instead if the torching method fails to confirm continued presence of a medium population* Results to be fed into Cofnod, as part of the compliance audit		*		*		*		*		*
Assess percentage of Pool 1 margin covered by scrub (30% in 2017), take fixed point photograph		*		*		*		*		*
Assess percentage of Pool 2 margin covered by scrub (nil in 2017), take fixed point photograph		*		*		*		*		*
Assess percentage cover of Pool 1 by <i>Typha</i>		*		*		*		*		*
Assess percentage cover of Pool 2 by <i>Typha</i>		*		*		*		*		*

Assess presence of plant species of interest and/or which provide good egg laying material in Pool 1: <i>Carex pseudocyperus</i> (present in 2016) <i>Myosotis scorpioides</i> (present in 2016) <i>Alisma plantago-aquaticum</i> (present in 2016)		*		*		*		*		*
Assess presence of plant species of interest and/or which provide good egg laying material in Pool 2: <i>Cicuta virosa</i> (present in 2016) <i>Carex pseudocyperus</i> (present in 2016) <i>Alisma plantago-aquaticum</i> (present in 2016)		*		*		*		*		*
Instigate pool management in Pool 1 if scrub and/or <i>Typha</i> increase significantly or important plants are disappearing. Carry out necessary management under a separate Conservation Licence where necessary.	(*)			(*)			(*)			(*)
Instigate pool management in Pool 2 if scrub and/or <i>Typha</i> increase significantly or important plants are disappearing. Carry out necessary management under a separate Conservation Licence where necessary.		(*)			(*)			(*)		
Keep this table, and log book with details, results and photographs, updated as part of the compliance audit	*	*	*	*	*	*	*	*	*	*

Fixed point photographs

The following photographs, which are taken from the original EcIA reports, will be of some assistance for comparison with future photographs, but the fixed locations will need to be refined in Year 1. It is suggested that a photograph is taken from the north and south end of each pool, ensuring that the whole width of the pool is demonstrated.

Pool 1



North pool (south end), viewed from the south-west, 2016

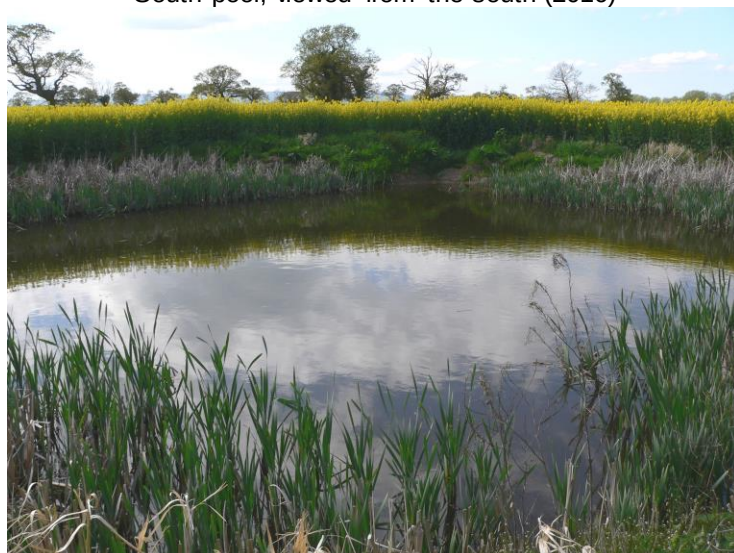


North pool (north end), viewed from the north-east by Oak tree, 2016

Pool 2



South pool, viewed from the south (2016)



South pool, viewed from the south (April 2017)



South pool, viewed from the south (December 2017)