

The logo for Brooks Ecological, featuring the word "Brooks" in a large, dark, sans-serif font on a yellow rectangular background.

Brooks

Ecological

*Grounded advice*

**Ecological Impact Assessment  
Westwood Mills, Linthwaite**

Westwood Wilson Ltd

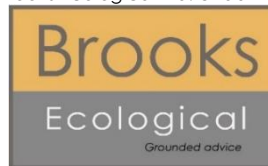
Report Reference: R-3976-05B

02/09/2020



Report Title:	Ecological Impact Assessment Westwood Mills, Linthwaite
Report Reference:	R-3976-05B
Written by:	Victoria Baker BSc (Hons) MSc GradCIEEM Ecologist
Technical Review:	Peter Brooks BSc (Hons), MA, MCIEEM, CEnv Managing Director
QA:	Charlie Foreman BSc (Hons) Grad CIEEM Assistant Ecologist
Approved for Issue:	Peter Brooks BSc (Hons), MA, MCIEEM, CEnv Managing Director
Date:	17/02/2020  Revised with 2020 survey results & latest plans 02.09.2020

*Brooks Ecological Ltd has prepared this report for the sole use of Westwood Wilson Ltd.. The information which we have prepared and provided is in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice. The report is in accordance with the agreement under which our services were performed. No warranty, express or implied, is made as to the advice in this report or any other service provided by us. This report may not be relied upon by any other party except the person, company, agent or any third party for whom the report is intended without the prior written permission of Brooks Ecological Ltd. This report presents a snapshot of the site at the date it was surveyed; the conditions and the species recorded present, or likely absent, can change rapidly. Resurvey is recommended to any third-party seeking reliance on this report. The content of this report may, in part, be based upon information provided by others and on the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from any third party has not been independently verified by Brooks unless otherwise stated in the report. This report is the copyright of Brooks Ecological Ltd. Unauthorised reproduction or usage by any person is prohibited.*



Unit A, 1 Station Road, Guiseley,  
Leeds, LS20 8BX  
**01943 884451**  
[admin@brooks-ecological.co.uk](mailto:admin@brooks-ecological.co.uk)  
[www.brooks-ecological.co.uk](http://www.brooks-ecological.co.uk)  
Registered in England Number 5351418



# Contents

- 1. Introduction..... 1**
- 2. Method ..... 2**
  - Scope of Assessment..... 2
  - Desk Study ..... 2
  - Assessment Method..... 3
- 3. Ecology Baseline ..... 4**
  - Designated Sites and Conservation Areas ..... 4
  - Habitats ..... 4
  - Species and Species Groups ..... 7
- 4. Description of the Proposed Development..... 8**
- 5. Impacts and Effects on the Proposed Development..... 9**
- 6. Enhancement Opportunities ..... 9**
- 7. Biodiversity Metric Calculations..... 13**
- 8. Mitigation and Residual Effects ..... 14**
- 9. Further survey ..... 14**
- 10. Timing Issues ..... 15**
- 11. Cumulative Effects..... 15**
- 12. Offsite Measures or Compensation ..... 15**
- 13. Enhancement ..... 15**
- 14. Monitoring ..... 15**
- 15. Policy and Legislation ..... 15**
- 16. Conclusion ..... 15**

## Summary

The proposals have engaged with the NPPF Mitigation Hierarchy and been able to avoid most potential significant effects at the Site.

Residual significant effects can be mitigated and compensated on site and secured via standard conditions provided in the British Standard BS42020.

# 1. Introduction

- 1.1.1 Brooks Ecological Ltd was commissioned by Westwood Wilson Ltd. to carry out an Ecological Impact Assessment (EclA) for a Site referred to as Westwood Mills, Linthwaite (SE 094 145). It is proposed to re-develop the Site with housing.
- 1.1.2 The British Standard BS42020 recommends that a proportional assessment of ecological impacts should be made - such that decision making relating to the NPPF 'mitigation hierarchy', the planning balance', and the use of conditions is suitably informed.
- 1.1.3 The purpose of the EclA report is to use the information gathered, alongside the proposals for the Site, to:
- identify any significant effects associated with the proposed development,
  - set out any mitigation (including monitoring) required to address these effects, and to ensure compliance with legislation and policy,
  - identify suitable enhancement,
  - identify measures required to secure mitigation and enhancement,
  - identify and assess any residual effects and their legal, policy and development management consequences.
- 1.1.4 This report adapts the format set out in the Chartered Institute for Ecology and Environmental Management (CIEEM) guidelines for Ecological Report Writing (December 2017).



## Ecological Impact Assessment (EclA) Checklist



EclA Criteria (to ensure decisions are based on adequate information in accordance with Clauses 6.2 and 8.1 of BS42020:2013)		Yes No n/a	Paragraph reference number(s)
Pre-app/ scope	1. Where pre-application advice has been received from the Local Planning Authority and/or an NGO and/or statutory body (e.g. NE DAS, NRW DAS), it has been fully accounted for in the EclA		
	2. The scope, structure and content of the EclA is in accordance with published good practice <sup>18</sup> and <sup>19</sup>		
Surveys, Sites, Species and Habitats	3. Adequate <sup>20</sup> and up-to-date <sup>21</sup> : a. Desk study has been undertaken <sup>22</sup> b. Phase 1 habitat survey (or equivalent) has been undertaken <sup>23</sup> c. Phase 2 ecology surveys have been undertaken (where necessary) <sup>24</sup>		
	4. All statutory and non-statutory sites likely to be significantly affected are clearly and correctly identified		
	5. All protected or priority species and priority habitats <sup>25</sup> likely to be significantly affected are clearly and correctly identified, and adequate surveys have been undertaken to inform the baseline		
	6. Any invasive non-native plant species present are clearly and correctly identified		
Impacts and Effects	7. Where a separate PEA Report states that Phase 2 ecology surveys are required, these have been undertaken in full and results submitted with the application (or lack of such surveys is justified)		
	8. The assessment is based on clearly defined development proposals along with relevant drawings/plans (and any plans used are the same version number as those submitted with the application) or		
	9. The residual ecological effects are considered to be not significant at any geographical scale irrespective of the detailed development proposals, and the assessment is based on a worst-case scenario		
Mitigation, Compensation and Enhancement	10. The report describes and assesses all likely significant ecological effects (including cumulative effects) clearly stating the geographical scale of significance (where relevant)		
	11. The mitigation hierarchy has been clearly followed <sup>26</sup>		
	12. The report: a. Clearly identifies the proposed mitigation and compensation measures, and explains how these will adequately address all likely significant adverse effects b. Includes, where necessary, proposals for post-construction monitoring c. Recommends how proposed measures may be secured through planning conditions/obligations and/or necessary licences		
	13. A summary table of proposed mitigation and compensation measures has been provided		
	14. The need for any mitigation licences required in relation to protected species is clearly identified		
Competence/Good Practice	15. Proposals to deliver ecological enhancement/Biodiversity Net Gain have been provided		
	16. Limitations <sup>27</sup> of the ecological work have been correctly identified and the implications explained		
	17. All relevant key timing issues (e.g. site vegetation clearance or roof removal) that may constrain or adversely affect the proposed timing of development have been identified		
Conclusions	18. All ecological work and surveys accord with published good practice methods and guidelines OR deviation from such guidelines is made clear and fully justified, and the implications for subsequent conclusions and recommendations made explicit in the report <sup>28</sup>		
	19. All ecologists and surveyors hold appropriate species licences (where relevant) and/or have all necessary competencies to carry out the work undertaken		
	20. The report clearly identifies where the proposed development complies with relevant legislation and policy, highlighting any possible non-compliance issues, and highlighting circumstances where a conclusion cannot be drawn as it requires an assessment of non-ecological issues (such as socio-economic ones)		
	21. The report provides a clear summary of losses and gains for biodiversity, and a justified conclusion of an overall net gain for biodiversity		
	22. Justifiable conclusions <sup>29</sup> based on sound professional judgement <sup>30</sup> have been drawn as to the significance of effects on any designated site, protected or priority habitat/species or other ecological feature, and a justified scale of significance has been stated		

## 2. Method

### Scope of Assessment

- 2.1.1 A Preliminary Ecological Appraisal of the Site was carried out in March 2016 and updated in March 2019 and January 2020. Further specific species surveys have been carried out in 2019, with others scheduled for 2020.
- 2.1.2 The extent of the survey area is the land within the red line boundary defined in Figure 2.1. Where possible or relevant, this was extended into adjacent habitat to provide context to the site. The survey Site included gaining access down to the riparian habitats adjacent to the Site wherever this was possible.
- 2.1.3 The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.
- 2.1.4 The application site 'the Site' encompasses a former mill and associated curtilage which has been left unmanaged for some time.
- 2.1.5 To provide information on the Site's ecological value, the following studies have been carried out; with the relevant reports produced being:
- Preliminary Ecological Appraisal (R-2506-01), March 2016
  - Updating Preliminary Ecological Appraisal (P-3976-01), March 2019
  - Riparian Mammal (R-3976-01), October 2019
  - Bat Emergence Survey (R-3976-02A), August 2020
  - Bat Activity (R-3976-03A), August 2020
  - Floating Water Plantain Survey (R-3976-06) August 2020
  - Breeding Bird Report (R-3976-07), August 2020
  - BMP and Open Space Strategy (R-3976-04.4), August 2020

### Desk Study

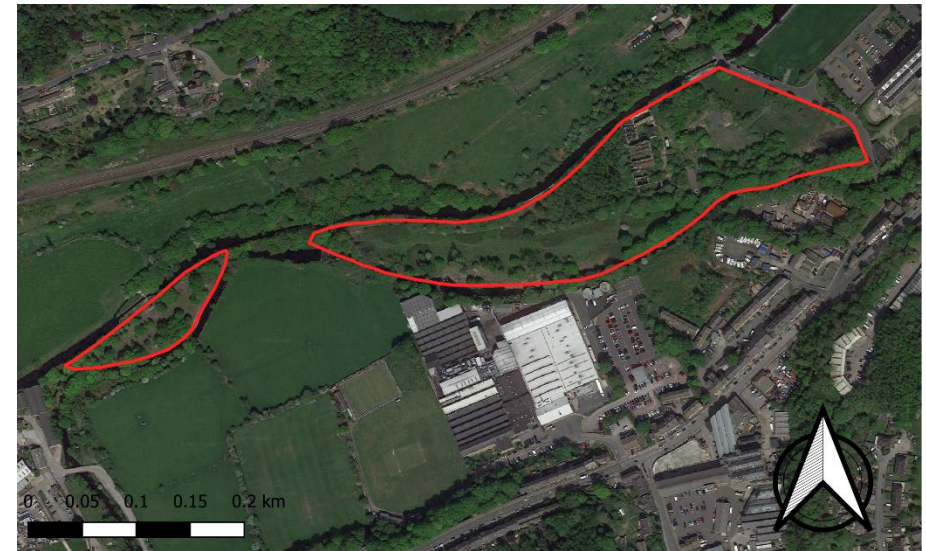
- 2.1.6 A full desk study including consideration of local biological records, aerial photographs, local designations and planning guidance has been carried out.

### Field Survey

#### Walkover – Extended Phase 1 Habitat Survey

- 2.1.7 The surveys were carried out during March 2016, March 2019 and January 2020, and followed Phase 1 Habitat Survey Methodology (JNCC, 2010).

**Figure 2.1 The Survey Site**



**Assessment Method**

2.1.8 In assessing the significance of effects, we refer to Section 5 of CIEEM (2018) - that a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In relation to ecological features we consider the following factors in combination, including;

- the feature's value on an ascending scale from Site, to international value
- the site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity

2.1.9 There are several tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority Habitats, Habitats of Principal Importance or presents any opportunities in this respect.

2.1.10 The assessment considers the development proposals set out below; from which the potential impacts can be summarised as:

- Vegetation and habitat removal
- Disturbance, pollution or interference arising from the Site's construction
- Disturbance, pollution or interference arising from the Site's operation

2.1.11 This report deals with any significant effects potentially arising from these impacts. It looks at how the mitigation hierarchy can be applied to any effects and the implications of any residual significant effects.

### 3. Ecology Baseline

3.1.1 A summary of the points salient to this assessment are set out below:

#### Designated Sites and Conservation Areas

3.1.2 Impacts on International and National Designations or their interests have been screened out at PEA Stage.

3.1.3 The Site includes a locally designated Site- Low Westwood Pond, and lies adjacent to a second- Huddersfield Narrow Canal.

#### Huddersfield Narrow Canal

3.1.4 Running along the northern boundary is the Huddersfield Narrow Canal Site of Scientific Interest (SSI) & Local Wildlife Site (LWS). Although adjacent to the Site, the canal is located on high ground and does not share any hydrological connections, making impacts from the development relatively unlikely, and easily avoided through the production and adherence to a Construction Environment Management Plan (CEMP).

#### Low Westwood pond

3.1.5 Low Westwood pond SSI & LWS located in the south-eastern corner of the Site. This former mill pond is designated based on it meeting the criteria to qualify as 'Species Rich Standing Water (Sw1)'. It has also, during previous assessment by West Yorkshire Ecology (1996 & 2001), been found to support populations of floating water plantain (*Luronium natans*). *Luronium natans* is listed under Annexes II and IV of the Habitats Directive, Appendix I of the Bern Convention, Schedule 4 of the Conservation (Natural Habitats, etc.) Regulations 1994, and Schedule 8 of the Wildlife and Countryside Act, 1981.

3.1.6 No work to the pond is proposed, however construction works have the potential to significantly impact the SSI / LWS through contamination. Measures to prevent contamination of this pond will need to be set out in the CEMP.

3.1.7 Survey for Floating Water-plantain has been carried out in 2020. No evidence of its presence was found.

#### Habitats

3.1.8 The Site comprises of the following habitat types, all of which have been described and mapped on the following pages according to the UK Habitat Classification:

- *U1b- developed land, sealed surface*
- *14- ruderal / ephemeral*
- *G3c- other neutral grassland*
- *H3h- mixed scrub*
- *W1g- other woodland broadleaved*
- *362- artificial lake or pond*
- *Uc1f- introduced shrub*

#### Potential future changes to the baseline

3.1.9 The Site's use and ecological baseline will likely be unchanged until the time of the proposed development.

3.1.10 In the absence of re-development, the Site's habitats will continue their natural succession.



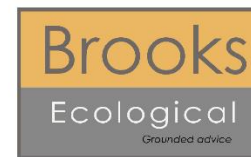
Figure 3.1 The Site's habitats



-  g3c - other neutral grassland
-  h3h - mixed scrub
-  17 - ruderal / ephemeral
-  uc1f - introduced shrub
-  362 - artificial lake or pond
-  u1b - developed land, sealed surface
-  w1g - other woodland-broadleaved

Project: Westwood Mills, Linthwaite  
 Title: Extended Phase 1 Habitat Plan

Drawing Number: D-3976-05.1  
 Date: January 2020  
 Revision: -



Unit A  
 1 Station Road  
 Guiseley  
 Leeds  
 LS20 8BX  
 T: 01943 884451  


**Table 3.1** Summary of habitat features

Habitat Feature	Reference	Extent	Notes
Developed land, sealed surface	U1b	0.19 ha	Complex of buildings formerly a mill. Poor condition. <i>Significant at Site level.</i>
Ruderal / ephemeral	14	0.63 ha	Short ephemeral vegetation growing over hardstanding. Moderate condition. <i>Significant at Site level.</i>
Other neutral grassland	G3c	0.82 ha	Species poor neutral grassland and frequently disturbed by dog walkers. Poor condition. <i>Significant at Site level.</i>
Mixed scrub	H3h	1.9 ha	Large areas of dense mixed scrub, including tall ruderal and self-set trees. Japanese knotweed and Himalayan balsam throughout. Areas of Moderate and Poor condition. <i>Significant at Site level.</i>
Other woodland broadleaved	W1g	1.01 ha	Includes an area of secondary woodland dominated by semi-mature birch in the north; a narrow section of mature sycamores along the bank of the River Colne; and small patches of oak across the 'Island'. Moderate condition. <i>Significant at Local level.</i>
Artificial lake or pond	362	0.11 ha	Designated as SSI & LWS. Includes an open section of water and a terrestrialised mill race. Fairly Good condition. <i>Significant at District level.</i>
Introduced shrub	Uc1f	0.01 ha	Small area of broom. Poor condition. <i>Significant at Site level.</i>

**Species and Species Groups**

3.1.11 Potential constraints relating to relevant groups were investigated through the surveys carried out.

**Table 3.2** Summary of relevant faunal / flora issues

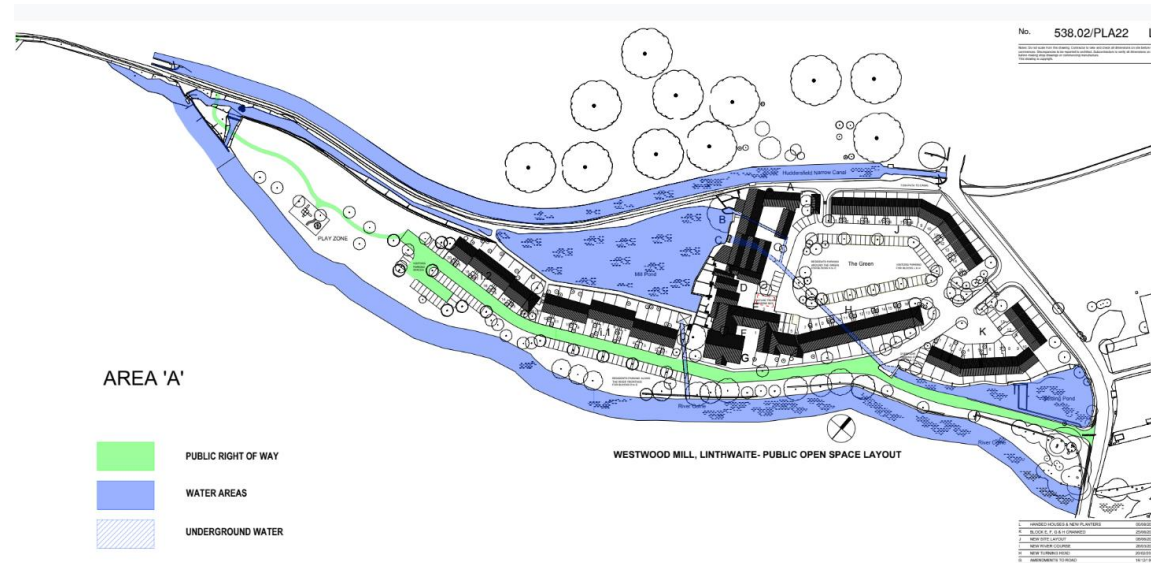
Species/ Group	Presence	Notes
Bats	Detailed survey has not found roosts in buildings.  Activity survey to date has found the Site to support moderate levels of common pipistrelle, focussed around the mill buildings.	No direct impacts on roosts.  Development will lose foraging habitat for common pipistrelles, however creation of new waterbody will provide new foraging resource.
Amphibians	The pond will support populations of common frog and common toad.  Protected species are not suspected.	No direct impacts expected.
Reptiles	Reptiles are not recorded locally.	No direct impacts expected.  Directional clearance required to prevent the unlikely event of accidental killing or injury.
Breeding Birds	Offers a good range of habitats but detailed survey did not find the Site to be of importance to local bird populations or support any rare or important bird assemblages.	No significant impacts expected.  Clear the Site outside of the nesting bird season (nesting season March – August).
Water vole	Detailed survey did not find any evidence of water vole using the River Colne.  The section of canal has vertical stone banks and is considered unsuitable.	No direct impacts expected.  Function of the riparian corridors should be protected via standard condition securing CEMP – Biodiversity.
Otter	Detailed survey did not find evidence that otter use this section of the River for holting or couching.	No direct impacts expected.  Function of the riparian corridor should be protected via standard condition securing CEMP – Biodiversity.
White-clawed crayfish	Potentially populations along both watercourses.	Development will not directly impact either watercourse.  Any future requirement will require further survey.
Badger	No evidence of badger using the Site. Known populations along the river so could establish in future.	Pre-clearance check required.
Floating water plantain	Historically recorded in Low Westwood Pond, but survey did not find it present in 2020.	No direct impacts expected.



## 4. Description of the Proposed Development

- 4.1.1 The Site will be developed with housing, including the conversion of the mill buildings, the construction of new terraces, carparking and public open space.
- 4.1.2 The former mill pond will be restored as will the sections of mill race. The Island (Area B) will be enhanced through new tree planting, with the grasslands brought under management- as detailed in the Biodiversity Management Plan and Public Open Space Strategy (R-3976-04).
- 4.1.3 The clearance / remediation and construction phases of the proposals present the greatest potential for impacts on the Site's adjacent riparian habitats.

Figure 4.1 The proposed development from 538.02/PLA22-L



## 5. Impacts and Effects on the Proposed Development

5.1.1 Figure 5.1 shows the development footprint, which occupy the following habitats:

- Developed land, sealed surface
- Ruderal / ephemeral
- Mixed scrub
- Other neutral grassland
- Other broadleaved woodland

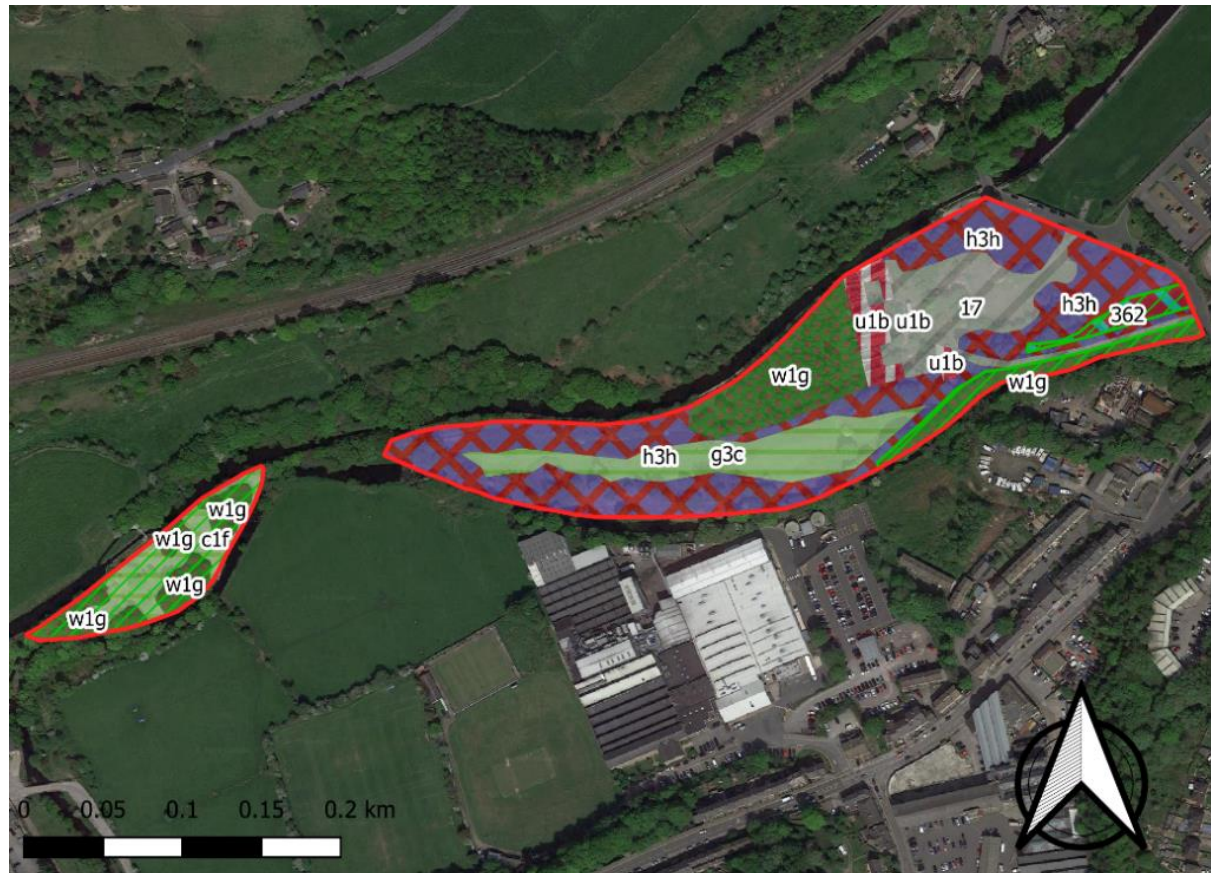
Figure 5.1 Development footprint (purple hatching)



5.1.2 Figure 5.2 shows the habitats retained under the proposals, which comprise:

- Other neutral grassland
- Other woodland broadleaved
- Artificial lake or pond
- Introduced shrub

**Figure 5.2** Habitats retained (green hatching)





**Table 5.1** Summary of impacts and effects

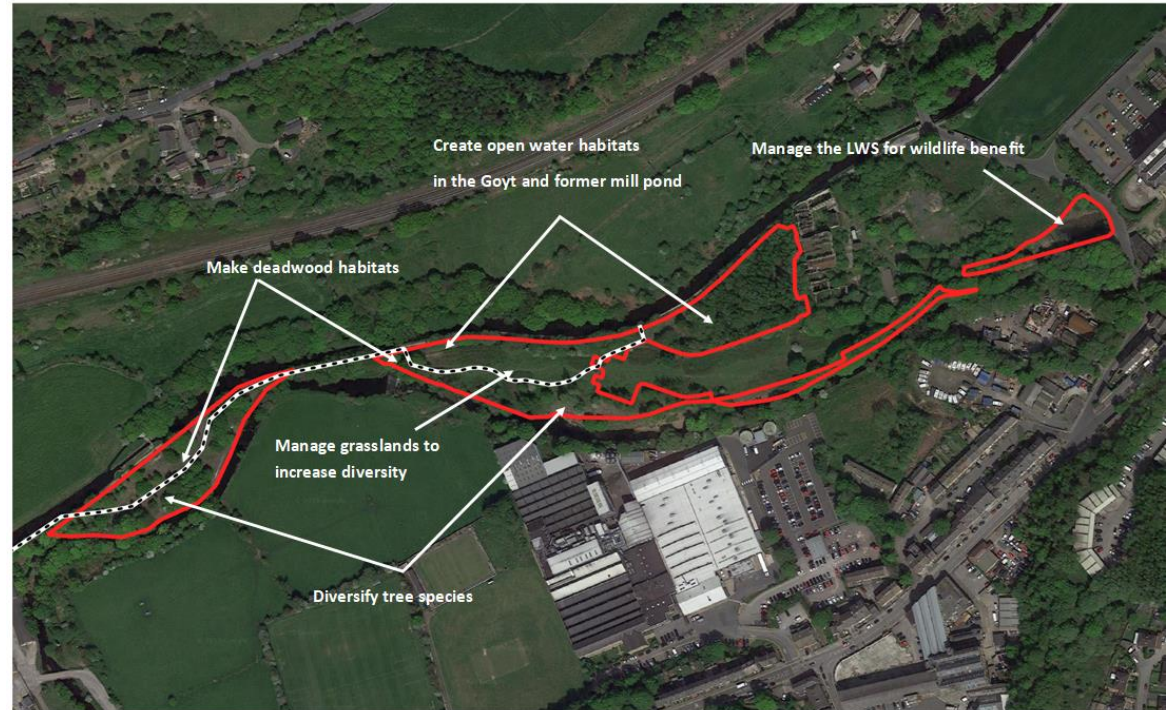
Feature	Impact	Stage	Significant Effects
Losses to biodiversity	Loss of low value habitats.	Clearance/ Remediation	Loss of low value habitats- developed land, short ephemeral / tall ruderal, other neutral grassland, mixed scrub. <i>Significant at Site level.</i>
Other woodland broadleaved	0.49ha lost- replaced with reinstated mill pond. Other woodland sections retained.	Construction	Low value woodland replaced with reinstated mill pond. <i>Neutral impact.</i>
Artificial lake or pond	Existing pond retained and new pond created.	Construction	Existing pond retained and second mill pond / mill race reinstated. <i>Positive impact.</i>
Sensitive on and - Site habitats	Potential for disturbance or pollution of adjacent riparian corridor and Low Westwood Pond.	Clearance/ Remediation Construction Operation	Effects on habitat quality and connectivity and on groups such as bats, birds, water vole, crayfish and otter. <i>Negative impact.</i>
Breeding Birds	Loss of scrub habitats but retention of greater value riparian corridor and creation of waterbody.	Clearance/ Remediation Construction Operation	Some loss of scrub habitats, but more important riparian corridor habitats retained, with new pond, grassland and garden habitats created. <i>Neutral impact</i>
Bats	Loss of current foraging habitat- scrub and woodland and replaced with new habitats- open water.	Clearance/ Remediation Construction Operation	Loss of habitats and replacement with new. <i>Neutral impact.</i>
KWHN	Construction in areas included within KWHN	Clearance/ Remediation Construction Operation	Reduced connectivity and function of Network. <i>Negative impact.</i>
Invasive species	Potential for spread if left untreated.	Clearance and construction	Any spread would contravene the Wildlife and Countryside Act 1981 (as amended). <i>Negative impact.</i>

## 6. Enhancement Opportunities

6.1.1 Figure 6.1 shows the opportunities for ecological enhancement, as detailed in the Biodiversity Management Plan and Public Open Space Strategy (R-3976-04).

6.1.2 Enhancements include reinstating the secondary woodland back to mill pond, tree planting across 'the Island' and creating wildflower meadows in replacement of dense scrub.

Figure 6.1 Opportunities for Ecological Enhancement



## 7. Biodiversity Metric Calculations

- 7.1.1 Biodiversity Loss / Gain has been calculated using the Biodiversity Metric 2.0 Calculator, developed by Natural England.
- 7.1.2 The spreadsheet calculations have been provided alongside this report - a summary of the calculations is provided opposite.
- 7.1.3 The calculations have been based on those opportunities identified in the Biodiversity Management Plan and Public Open Space Strategy document.
- 7.1.4 This exercise predicts a minor net loss of habitat associated with the Site's development at -1.2 (-4.45%).

Figure 7.1 Biodiversity Impact Assessment Summary

Westwood Mills, Linthwaite		
Headline Results		
<b>On-site baseline</b>	<i>Habitat units</i>	26.86
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>On-site post-intervention</b> <small>(Including habitat retention, creation, enhancement &amp; succession)</small>	<i>Habitat units</i>	25.66
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Off-site baseline</b>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Off-site post-intervention</b> <small>(Including habitat retention, creation, enhancement &amp; succession)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Total net unit change</b> <small>(including all on-site &amp; off-site habitat retention/creation)</small>	<i>Habitat units</i>	-1.20
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Total net % change</b> <small>(including all on-site &amp; off-site habitat creation + retained habitats)</small>	<i>Habitat units</i>	-4.45%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	0.00%



## 8. Mitigation and Residual Effects

8.1.1 Any possible **avoidance** of unnecessary impacts has already been designed into the plan at this stage. The proposals will incorporate the following **mitigation** in relation to the identified **effects** above.

- A BS:42020 CEMP (Biodiversity) will be produced, this can be secured by use of a standard condition and will set out measures detailed in the table below;
- A BS:42020 Biodiversity Management Plan and Public Open Space Strategy document has been produced. Details can be seen in R-3976-04.
- Invasive Weed Management Plan (IWMP) will be produced, this can be secured by use of a standard condition and will set out measures detailed in the table below;

**Table 8.1** Summary of Mitigation and Residual Effects

Effect	Features	NPPF Hierarchy	Residual Effect
Damage to retained habitat	The CEMP will detail the protection of Low Westwood Pond and 'the Islands' habitats.	<b>Avoidance</b>	Habitat remains un-affected  <b>Neutral</b>
Risks to Sensitive Off-Site Habitat	The CEMP will detail the protection of the riparian corridors during construction.  This will detail exclusion fencing to create no-works areas and will set out precautions required to reduce the risks of pollution and disturbance of the riparian corridor during development	<b>Avoidance</b>	Habitat remains un-affected  <b>Neutral</b>
Habitat loss	3.6ha of species poor grassland, mixed scrub and secondary woodland lost.  The BEMP details the re-installation of a mill pond, new tree planting and wildflower grasslands.	<b>Compensation and Mitigation</b>	<b>Positive</b>
Invasive species	Risk of further spread during clearance and construction.  The IWMP will detail how Himalayan balsam and Japanese knotweed will be brought under control to avoid its spread during construction.	<b>Avoidance and Mitigation</b>	<b>Positive</b>
Kirklees Wildlife Habitat Network	The development will fall within the KWHN, however the physical continuity or functionality of the Network will not be damaged given the two riparian corridors will be unimpacted. Reinstatement of the mill pond, and replacement of poor mixed scrub with grassland and tree planting will maintain the connectivity and function.	<b>Avoidance, Compensation and mitigation</b>	Compensation and mitigation will ensure KWHN maintains its connectivity and function  <b>Neutral</b>

## 9. Further surveys

- No further outstanding surveys.

## 10. Timing Issues

- 10.1.1 Currently, the timing of vegetation clearance to avoid the nesting bird period is the only significant timing issue identified.

## 11. Cumulative Effects

- 11.1.1 Cumulative effects have not been identified.

## 12. Offsite Measures or Compensation

- 12.1.1 Based on the recommendations made in the Biodiversity Management Plan and Public Open Space Strategy document, there is an overall net loss of 1.2 biodiversity units on the Site.
- 12.1.2 The main development footprint to the east presents further opportunity to improve the score through the areas of amenity space, gardens and landscape planting which at this stage have not been calculated. Once the landscaping proposals are completed, the final calculations will be made.

## 13. Enhancement

- 13.1.1 Opportunities to provide enhancement, and how to secure this, have been identified in the Biodiversity Management Plan and Public Open Space Strategy (R-3976-04).

## 14. Monitoring

- 14.1.1 The CEMP document will detail the role of and Ecological Clerk of Works (ECoW) in overseeing protection measures.
- 14.1.2 Specific ecological monitoring of the mitigation proposed is detailed in the Biodiversity Management Plan and Public Open Space Strategy (R-3976-04).

## 15. Policy and Legislation

- 15.1.1 Based on the findings and recommendations of the scheduled surveys, and the implementation of the mitigation set out above, it is anticipated that the proposals will comply with the relevant policy and legislation relating to wildlife and ecology.

## 16. Conclusion

- 16.1.1 Mitigation to be agreed by standard conditions of planning will be able to address all significant effects resulting from the development.
- 16.1.2 A net gain in biodiversity may be achievable under the Biodiversity Management Plan and Public Open Space Strategy and opportunities within POS and gardens to the east of the Site.
- 16.1.3 Some offsetting may be required to reach 10% gain.

## 17. References

- Andrews H. L. (2011) A habitat key for the assessment of potential bat roost features in trees.
- Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists – Good Practice Guidelines
- Chanin, P. (2003) *Ecology of the European Otter*. Conserving Natura 2000 Rivers Ecology Series No. 10, English Nature.
- BSI (2013) British Standards Institute *BS 42020:2013 Biodiversity — Code of Practice for Planning and Development*.
- CIEEM (2017) Guidelines for Ecological Report Writing 2<sup>nd</sup> Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 3rd edition. Chartered Institute of Ecology and Environmental Management, Winchester
- English Nature (2004) Bat Mitigation Guidelines. English Nature, Peterborough.
- English Nature (2001) Great Crested Newt Mitigation Guidelines. [http://www.naturalengland.org.uk/Images/GreatCrestedNewts\\_tcm6-21705.pdf](http://www.naturalengland.org.uk/Images/GreatCrestedNewts_tcm6-21705.pdf)
- Harris S, Jefferies D, Cheeseman C and Booty C (1994). Problems with Badgers, revised 3<sup>rd</sup> Edition. RSPCA, ISBN 0-901098-04-3
- Gent T and Gibson S, 2003, *Herpetofauna Workers' Manual*, JNCC
- IEA. (1995). *Guidelines for Baseline Ecological Assessment*. Chapman and Hall
- Hill et al. 2005, *Handbook of Biodiversity Methods*. Cambridge
- JNCC (2004) The Bat Workers Manual. 3<sup>rd</sup> Edition.
- JNCC (2010). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit*.
- Ratcliffe, D.A. (1977) *A Nature Conservation Review*, Cambridge University Press
- Strachan and Moorhouse (2006), *Wolverine Mitigation Handbook*, University of Oxford