Biodiversity Enhancement Strategy

for

The Proposed Conservation Pond at

Buxhall Vale.

Tel. 07812925622

Email: Mary@aspenecology.co.uk

Survey Commissioned by:	**Mr & Mrs Stewart**
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Surveyor:	Mary Power BSc (Hons) MSc MCIEEM
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Disclaimer

The findings detailed in this report are based on evidence from thorough survey, where every effort has been taken to provide an accurate assessment of the site at the time of the survey. No liability can be assumed for omissions or changes after the survey has taken place.

This report was instructed by Mr & Mrs Stewart, and following the brief agreed. Aspen Ecology has made every effort to meet the client's brief.

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1 Executive Summary

Aspen Ecology was instructed by Mr & Mrs Stewart to prepare a Biodiversity Enhancement Strategy for the proposed Conservation Pond at Buxhall Vale. The central grid reference for the Project Site is TM 0058 5889.

The report has been commissioned following a Pre-App meeting with the Local Planning Authority.

This report details how the proposed Conservation Pond can enhance the existing habitat features at the stie and will include:

- A brief description of the site and surroundings;
- A brief outline of the proposals;
- Potential loss and creation of habitats of principal importance; and,
- Details of enhancement measures to be included within the proposals.

Contents

2 Introduction

2.1 Background

Aspen Ecology was commissioned by Mr & Mrs Steward, to prepare a Biodiversity Enhancement Strategy for the proposed Conservation Pond at Buxhall Vale, Buxhall, Suffolk. The National Grid co-ordinates for the centre of the site are TM 0058 5889.

2.2 Site Description and Local Habitats

The site forms a part of the Buxhall Vale Estate to the north of the existing 16th Century House. At present the site is part of a sheep grazed meadow adjacent to the Rattlesden River, which is known to support populations of otter and water vole.

The Government MAGIC website[1] indicates that the area supports Woodpasture and Parkland a Section 41 Habitat of Principle Importance in England (former Biodiversity Action Plan (BAP) Habitat). However the area is listed as *'Probably the priority habitat but some uncertainty of interpretation and not mappable'* due to likely insufficient data.

The wider estate supports further sheep grazed pasture, woodland and numerous mature/veteran specimen trees.

Previous surveys have been undertaken by Skilled Ecology Company Ltd[2][3] to inform the application for a new driveway including a bridge over the Rattlesden River. Due to the known presence of water voles on the River the Derek Gow Consultancy Ltd produced a Method Statement for Water Voles[4] to allow the bridge construction to be undertaken in a sensitive manner, carried out under a Natural England Class Licence.

2.3 Proposed Works

The proposals involve the creation of a large Conservation Pond, approximately 0.3ha, within the area of Woodpasture & Parkland to the north of the house (see figure in Appendix A). The Conservation Pond will be designed to provide suitable habitat for water voles and foraging otter, known to be present on the adjacent Rattlesden River; and to enhance the local

[1] https://magic.defra.gov.uk/
[2] Skilled Ecology Consultancy Ltd. *Preliminary Ecological Appraisal Including a Protected Species Assessment at Buxhall Vale, Buxhall, IP14 3DH*. November 2019.
[3] Skilled Ecology Consultancy Ltd. *Protected Specie Assessment focussing on Otter & Water vole at Buxhall Vale, Buxhall, IP14 3DH*. April 2020.
[4] Derek Gow Consultancy Ltd. *Method Statement for Water voles*. 14th July 2020

biodiversity by creating areas of open water, marginal and aquatic vegetation suitable to support a range of invertebrates, reptiles, small mammals and amphibians.

2.4 Author Details

This report was prepared by Mary Power BSc (Hons) MSc MCIEEM, a full member of the Chartered Institute of Ecology & Environmental Management (MCIEEM), subject to the CIEEM Professional Code of Conduct).

3 Proposals

3.1 Habitat Loss and Creation

The proposals will require the loss of areas of grazed semi-improved grassland that are designated as the habitat of principal importance Woodpasture and Parkland. Approximately 0.3ha of grassland would be lost to facilitate the construction of the new Conservation Pond. No trees will be impacted by the proposals, which have been specifically designed to retain mature and veteran oak trees within the grassland habitat.

There are opportunities within the wider estate to create new areas of woodpasture and parkland habitat and/or to enhance areas that are currently in poor condition to ensure that there is no net loss of this habitat of principle importance. Areas to the north of the Rattlesden River are currently encroached by scrub and ruderal species and with appropriate management could provide good quality woodpasture and parkland habitat in the future. In addition there are areas of grassland within the wider estate that are not currently not listed as the priority habitat on the Government MAGIC website, however support similar species and with the addition of new specimen tree planting and appropriate management could off-set the loss of these habitats.

The creation of the new Conservation Pond will create a habitat of principal importance ‘Ponds’

The for the purpose of UK BAP priority habitat classification, ‘Ponds’ are defined as permanent and seasonal standing water bodies up to 2ha in extent, which meet one or more of the following criteria:

- **Habitats of international importance**: Ponds that meet criteria under Annex I of the Habitats Directive.
- **Species of high conservation importance**: Ponds supporting Red Data Book species, UK BAP species, species fully protected under the Wildlife and Countryside Act Schedule 5 and 8, Habitats Directive Annex II species, a Nationally Scarce wetland plant species, or three Nationally Scarce aquatic invertebrate species.

- **Exceptional assemblages of key biotic groups**: Ponds supporting exceptional populations or numbers of key species. Based on (i) criteria specified in guidelines for the selection of biological SSSIs (currently amphibians and dragonflies only), and (ii) exceptionally rich sites for plants or invertebrates (i.e. supporting ≥30 wetland plant species or ≥50 aquatic macroinvertebrate species).
- **Ponds of high ecological quality**: Ponds classified in the top PSYM category ("high") for ecological quality (i.e. having a PSYM score ≥75%). [PSYM (the Predictive System for Multimetrics) is a method for assessing the biological quality of still waters in England and Wales; plant species and / or invertebrate families are surveyed using a standard method; the PSYM model makes predictions for the site based on environmental data and using a minimally impaired pond dataset; comparison of the prediction and observed data gives a % score for ponds quality].
- **Other important ponds**: Individual ponds or groups of ponds with a limited geographic distribution recognised as important because of their age, rarity of type or landscape context (e.g. pingos, duneslack ponds, machair ponds).

The proposed Conservation Pond at Buxhall Vale will be designed and managed to encourage the use by protected species and species of principal importance: otter and water vole, and will also provide potential habitat for other species of principal importance toad and grass snake likely to be present in the local area.

Historically small and medium sized ponds within the grounds of Buxhall Vale have been filled in, therefore the creation of a new Conservation Pond will re-create habitat features that have been lost in the local landscape, providing new habitat for species that may have historically been present.

Overall the creation of new open water habitats and the creation/enhancement of existing woodpasture and parkland habitats will result in a net gain in biodiversity at the site.

3.2 Enhancement Opportunities

Ponds can provide excellent habitat for a range of wildlife. They support a multitude of freshwater flora and fauna, including many which are nationally and internationally threatened. In parklands they can be an oasis for wildlife, buzzing with life, and can provide important refuges and stepping stones for species through the local environment. The proposed Conservation Pond will be specifically designed to provide potential habitat for water vole and foraging otter. Being situated close to the Rattlesden River it will be accessible to both otter and water vole and, using carefully selected plants around the margins, will provide additional habitat to allow populations to expand.

A suitable bank profile will be created to allow water voles to access the water easily and to create a network of burrows above the high water level. Banks will be created on the northern side of the Conservation Pond (closest to the Rattlesden River) using a substrate that is suitable for burrowing and not liable to collapse with a gradient approaching 1 in 1, where bank stability allows. The other banks will be designed with a shallower profile encouraging the development of marginal vegetation and allow access for other species such as reptiles, amphibians and small mammals.

Vegetation cover along the banks and margins of the Conservation Pond will be created using native herbaceous species to provide both food and cover throughout the year (see Appendix B for indicative planting locations and Appendix C for an indicative planting list). Herbaceous vegetation will be allowed to establish up to 2m from the bank top and using aquatic/emergent vegetation create a wide marginal fringe to provide foraging cover.

Habitat piles created at the margins of the Conservation Pond will provide shelter habitat and potential couch sites for otter. Habitat piles can range from piles of grass clippings, rock or log piles to purpose built hibernacula.

Habitats will be managed specifically to maintain suitable habitat for water vole and foraging otter and to create habitats that can be used by other riparian species.

Creation of the Conservation Pond within dispersal distance from the Rattlesden River will allow the existing water vole population to spread, increasing the size of the population and enhancing the chance of the colony's survival. Adding complexity to the landscape will provide the water vole population with additional refuge areas to retreat from predators that can eradicate populations along simple linear features such as watercourses. The new Conservation Pond will also provide refuge for water voles during floods when burrows connected to the river system may be unusable.

Otter will also use the new Conservation Pond for foraging if suitable prey species are present, it is likely that amphibians will colonise the Conservation Pond and may become a spring foraging resource for otters associated with the Rattlesden River.

The proposed landscape scheme includes plating tall herbaceous vegetation including reed *Phragmites australis* and reed canary-grass *Phalaris arundinacea* around the periphery of the new Conservation Pond; this will provide cover for the water voles and also provide potential shelter for otters who can create couch sites in such vegetation.

3.3 Limitations and Assumptions

The baseline conditions reported and assessed in this document represent those identified during a single site survey, on the 8th November 2020 and using existing Ecology Reports for the site[5][6][7]. A reasonable assessment habitats can be made during a single survey, however, seasonal variations cannot be observed.

All areas of the proposed site were accessible on the day of the survey. All constraints have been taken into consideration to inform the recommendations given.

[5] Skilled Ecology Consultancy Ltd. *Preliminary Ecological Appraisal Including a Protected Species Assessment at Buxhall Vale, Buxhall, IP14 3DH*. November 2019.
[6] Skilled Ecology Consultancy Ltd. *Protected Species Assessment focussing on Otter & Water vole at Buxhall Vale, Buxhall, IP14 3DH*. April 2020.
[7] Derek Gow Consultancy Ltd. *Method Statement for Water voles*. 14th July 2020

4 Recommendations

4.1 Landscape and Ecological Management Plan

A Landscape and Ecological Management Plan should be prepared to detail how the created habitats will be managed appropriately in the long term to benefit water vole and otter and to provide habitat for a range of other protected species and species of principal importance in England.

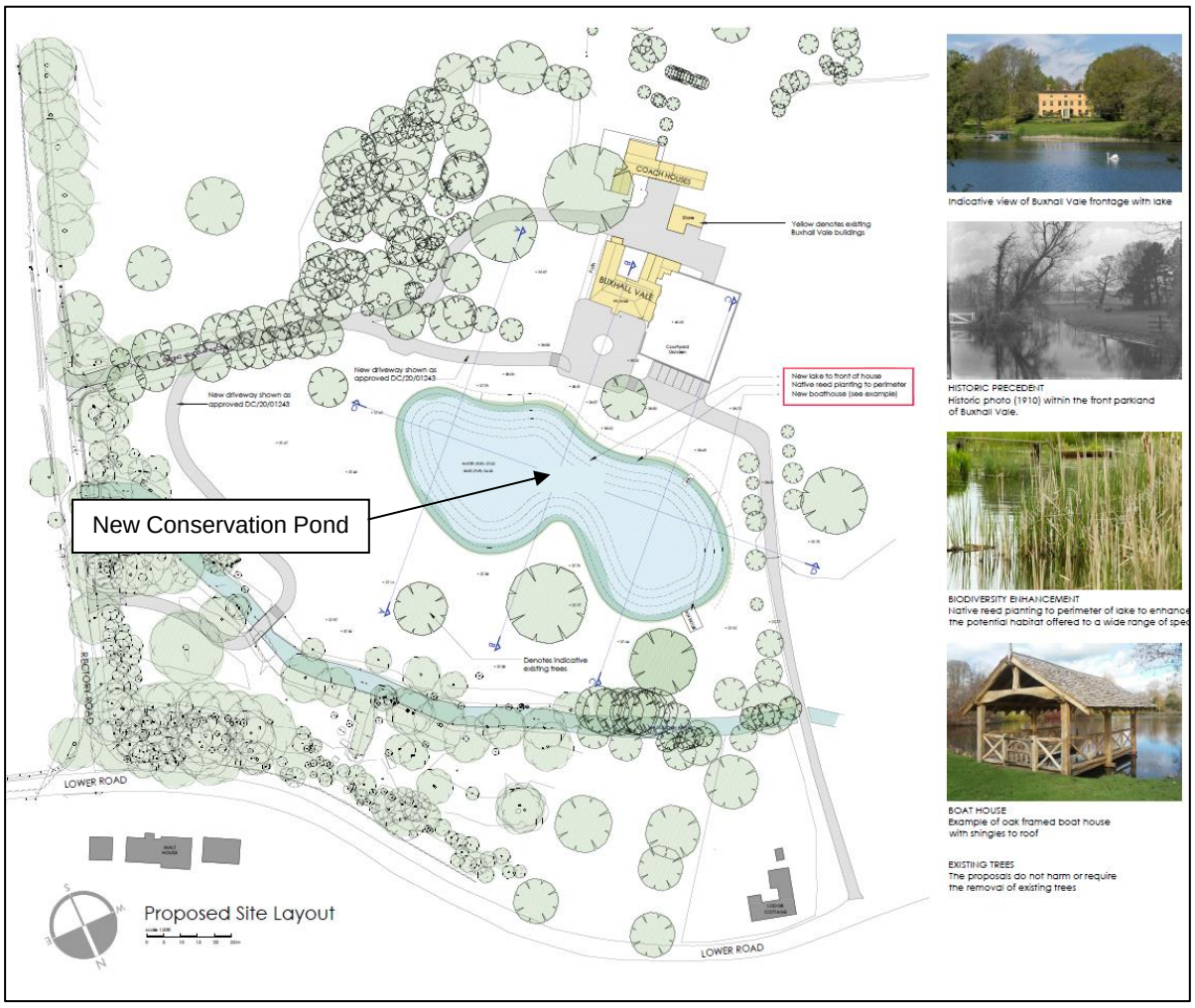
5 Conclusions

If the Conservation Pond is carefully designed, created and managed, known populations of water vole and otter will benefit through an increase is suitable foraging habitat and burrow creation habitat for water voles. The creation of open water will attract amphibians, reptile and invertebrates which will provide a foraging resource for otter, water vole, bats and reptiles which are present the local area.

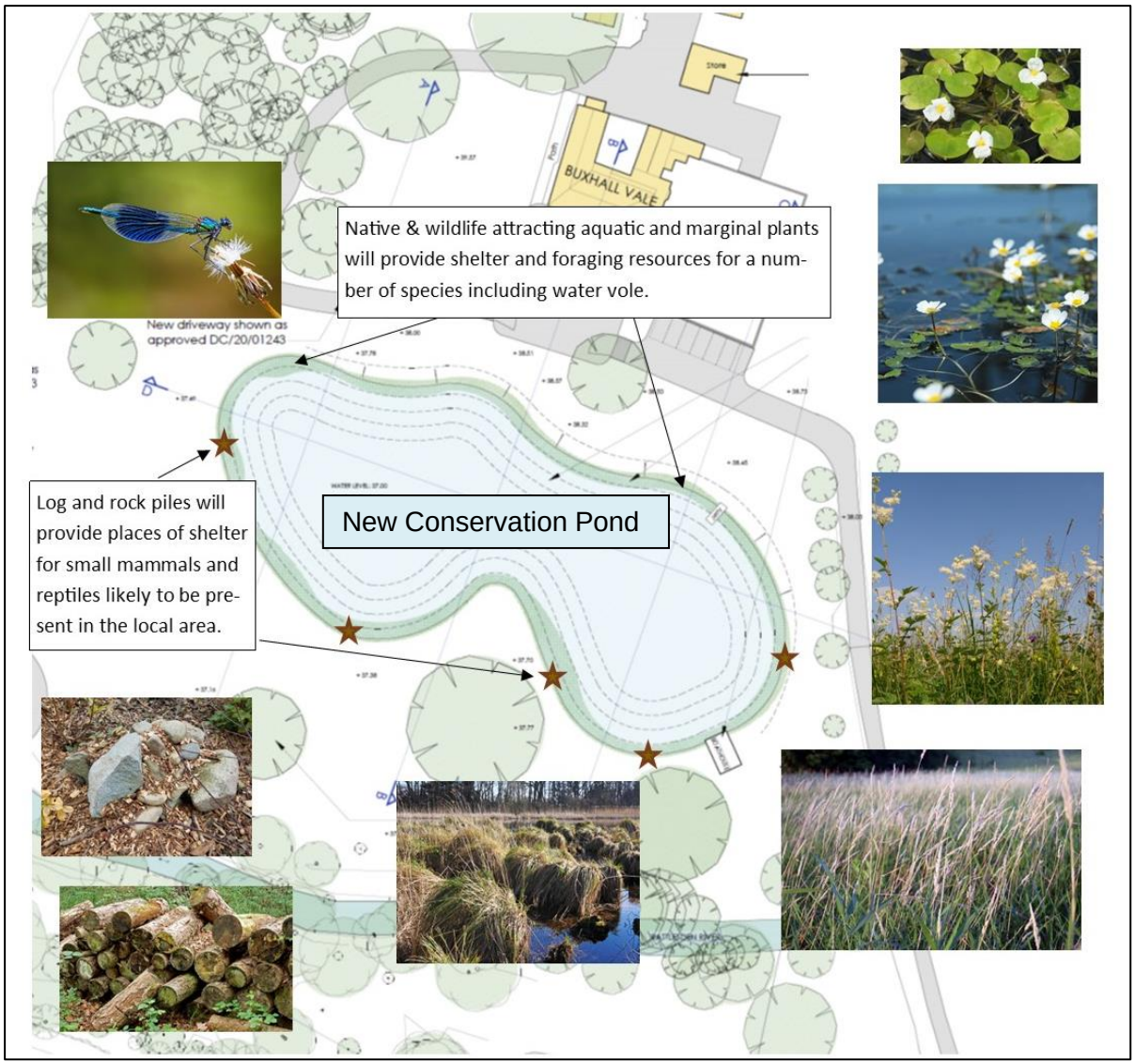
Through restoration/creation of woodpasture and parkland habitats elsewhere on the Estate it is considered that there will be a likely net gain in biodiversity at the site.

A Landscape and Ecological Management Plan should be prepared to detail the long-term management and maintenance of habitat to benefit wildlife at the site in the future.

6 Appendix A – Proposals Plan



7 Appendix B – Potential location for enhancement/creation of aquatic and marginal habitats



8 Appendix C – Indicative planting list for the new Conservation Pond

Latin name	Common name	Location	Wildlife value
Hydrocharis morsus-ranae	Frogbit	Floating aquatic	Shelter for tadpole, fish and dragonfly larvae.
Ranunculus aquatalis	Common water-crowfoot	Floating aquatic	Foraging habitat for bees, butterflies and other insects.
Hottonia palustris	Water violet	Submerged aquatic	Shelter for water beetles and nymphs.
Myriophyllum spicatum	Spiked water-milfoil	Submerged aquatic	Egg laying substrate for dragonflies and damselflies
Carex paniculata	Greater tussock sedge	Marginal	Foraging resource for water vole.
Carex spp	Sedge	Marginal	Foraging resource for water vole.
Fillipendula ulmaria	Meadowsweet	Marginal	Shelter habitat for water vole.
Glyceria maxima	Reed sweet-grass	Marginal	Foraging resource for water vole.
Iris pseudacorus	Yellow flag iris	Marginal	Foraging resource for water vole.
Mentha aquatica	Water mint	Marginal	Attractive to a variety of insects: small tortoiseshell, peacock and comma butterflies, as well as the green tortoise beetle. Egg laying substrate for newts.
Menyanthes trifoliata	Bogbean	Marginal	Egg laying sites for dragonfly.
Myosotis scorpioides	Water-forget-me-not	Marginal	Egg laying substrate for newts.
Oenanthe fistulosa	Tubular water-dropwort	Marginal	Shelter habitat for water vole.
Phalaris arundinacea	Reed canary-grass	Marginal	Foraging resource for water vole.
Sparganium erectum	Branched bur-reed	Marginal	Foraging resource for water vole.