University of Huddersfield Biodiversity Update - Audit Report

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Introduction

This report summarises the findings and recommendations of an audit of biodiversity at the University of Huddersfield.

List of abbreviations

Preliminary Ecological Appraisal	PEA
Not Applicable	N/A

Audit Methodology

- Identify all areas with potential for biodiversity across the university from the JCA PEA & Biodiversity Enhancement Plan, 2021.
- Collect all available biodiversity records and any biodiversity enhancement actions taken since 2021, detailing the specific measures implemented in each habitat area.

- Evaluate the completion status of each recommended action from the JCA PEA & Biodiversity Enhancement Plan and assess the effectiveness of each:

    - Put forward recommendations for alternative actions to further enhance biodiversity, addressing any gaps or areas of improvement identified.

Baseline Figures

- The 2025 review was the first time the University has developed a quantitative baseline of our biodiversity performance. This is explored in detail in later sections, but the key headline figures are summarised below:

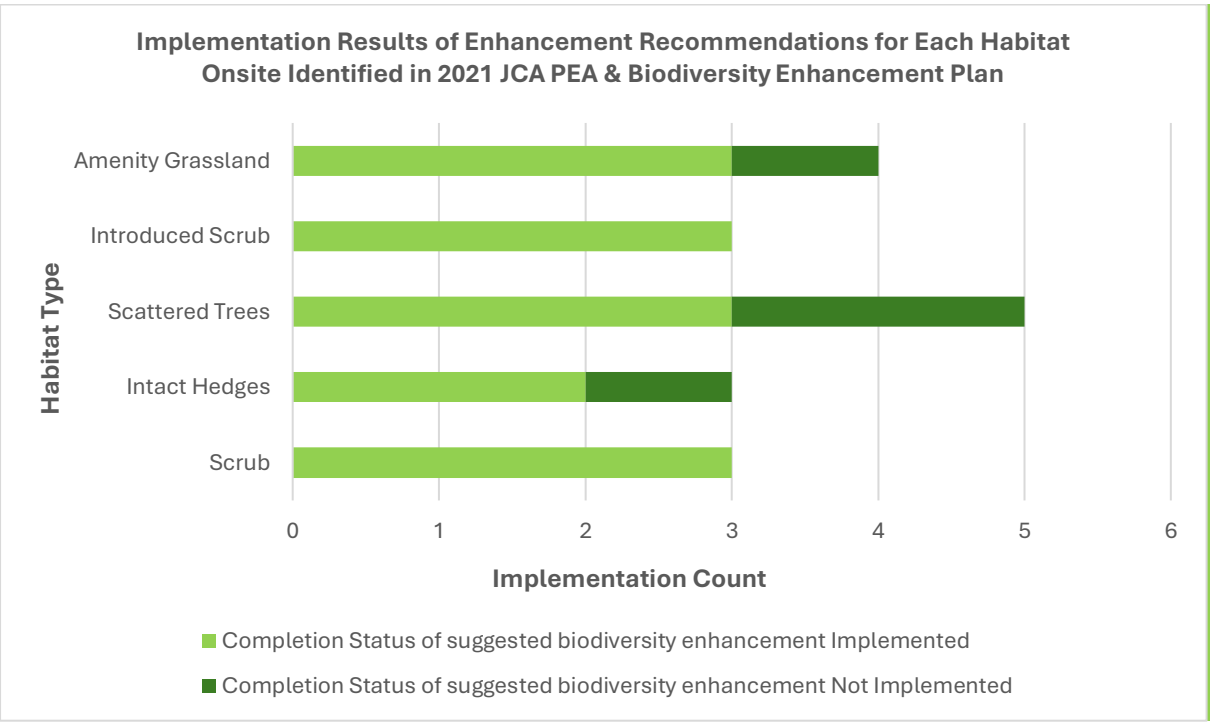
Habitat	Count

Bug Hotel	3
Insect/ Habitat log pile	9
Hedgehog House	3
Bird Box	16
Bat Box	3

Findings/ Results

Summary of Results

Graph 1 *Implementation results of enhancement recommendations for each habitat onsite identified in the 2021 JCA PEA & Biodiversity Enhancement Plan*



Note: Any recommendations marked as n/a have been removed from the overall total

Tables 1 – 6*: Implementation status enhancement recommendations for each habitat onsite identified in the 2021 JCA PEA & Biodiversity Enhancement Plan*.

Scrub

Suggested biodiversity enhancement	Implementation Status	Additional Comments/ Actions taken since 2021
Cutting scrub to encourage re-growth.	Implemented	
Cutting in a rotation and in small patches to create a mosaic in the landscape.	n/a	Generally left to grow

Suggested biodiversity enhancement	Implementation Status	Additional Comments/ Actions taken since 2021
Cut between September and January to avoid breeding bird season.	n/a	Left to grow – final cut sept/oct
Planting tall herbs and grasses along the edge and wildflowers to encourage more biodiversity.	Implemented	
Placing fauna boxes in areas of scrub such as hedgehog houses and insect hotels.	Implemented	We have installed 3 x Bug hotels, 9 Insect/ habitat log piles, 3 Hedgehog houses, 16 different types of bird boxes and 3 bat boxes. As part of any tree works, we consider the wildlife on the canal bank and strategically place logs to create bug homes etc, these can be seen at regular intervals on the woodland walk.
Planting more scrub in areas suggested. ○ Along canal adjacent to Haslett building ○ Adjacent to Sir John Ramsden building	Not Implemented	Note. Around 18 fruit bushes and trees were added around the Barbara Hepworth building orchard. There is a selection of fruit bushes planted here and the annual potato buckets (however, not in areas suggested).

Intact Hedges

Suggested biodiversity enhancement	Implementation status	Actions taken since 2021/ Reason for no completion
Aim on campus to increase ecological connectivity and ecological value of the hedgerows. This can be done by increased hedgerow planting and management to develop species rich hedgerows.	Implemented	Planted Hawthorne/ removed beech

Suggested biodiversity enhancement	Implementation status	Actions taken since 2021/ Reason for no completion
Following hedgerow planting guidance and planting list ○ Planting: Should be carried out during the dormancy period for deciduous species (November to February). ○ Positioning: Whips within the hedgerow should be planted in two staggered lines, 30cm apart, and distributed evenly.	Implemented	Some 'tropical' type plants were removed and more native plants replaced instead such as Hawthorne bushes outside of the Spark Jones building along with about 4-5 fruit trees. Landscaping projects are underway at Edith Key and Barbara Hepworth, whereby there will be various shrubs, wildflowers and trees planted.
Hedgerows should be cut only once every two to three years, not annually	Not Implemented	Cut annually

Running Water

Suggested biodiversity enhancement	Completion status	Actions taken since 2021/ Reason for no completion
Any maintenance or enhancement works which is deemed to affect the canal, needs to be approved by the Canal & River Trust	N/a	Not done any canal work
Planting scrub or hedgerow borders along the canal to reduce the litter blowing into the canal.	N/a	Have done litter picks along canal to reduce maintenance, however this along with banking maintenance and planting is primarily responsibility of Canal River Trust
Maintenance may include dredging and weed cutting in the area of the canal opposite the Charles Sikes building	N/a	Dredging and banking is responsibility of Canal River Trust
Also, the removal of Himalayan Balsam, with permission from the Canal & River Trust	N/a	Responsibility of Canal River Trust

Scattered Trees

Suggested biodiversity enhancement	Completion status	Actions taken since 2021/ Reason for no completion
Encouraged for this campus that tree planting is more widespread, possibly through the creation of a volunteer planting scheme through the university.	Implemented, Through staff events	Planted fruit trees – apple, cherry, plumb Landscaping projects are underway at Edith Key and Barbra Hepworth, whereby there will be various shrubs, wildflowers and trees planted.
Trees should be planted with ecological connectivity in mind, planting lines of trees and trees adjacent to other habitats such as the canal and wildflower meadows.	Not Implemented – just have an orchard	
Tree planting could be focused on the north section of the site adjacent to Sir John Ramsden Court, making this into a small 'woodland patch' with scrub and increased tree planting, Tree planting could also increase along either side of the canal, filling in the gaps along the canal border where trees aren't present.	Not Implemented	
Referring to the JCA arboriculture report ensure all necessary arboriculturist advice on management is followed.	Implemented	The trees on the canal bank have been maintained in line with the most recent Arboriculture survey to ensure the safety of the campus, the work carried out was to ensure that all the red and amber works were completed. We have felled seedlings to ensure the health of the larger trees
Where trees are necessarily removed, there should be a policy encouraged of replacing two for one.	Implemented	Remove trees using a replacement scheme -1:1, 1:2 where possible

Introduced Shrub

Suggested biodiversity enhancement	Completion status	Actions taken since 2021/ Reason for no completion
Using the planting lists provided and ensuring all planters are soil planters, removing any artificial lining, will increase their biodiversity potential.	Implemented	In Progress (planting lists), soil planters still have artificial lining (Please see planting list below)
All plants selected are either native or non- native but are chosen for a specific ecological purpose such as extending the flowering season.	Implemented	Daffodils, tulips, alliums, hyacinths, snow drops, crocuses have been planted along planters, woodland walks and lawns (2,000 in total approx), they increase the flowering range on campus and attract pollinators throughout spring.
Using planters as an insect hub placing insect boxes adjacent or within them.	Implemented	As part of any tree works, we consider the wildlife on the canal bank and strategically place logs to create bug homes etc, these can be seen at regular intervals on the woodland walk.

Amenity Grassland

Suggested biodiversity enhancement	Completion status	Actions taken since 2021/ Reason for no completion
It is recommended as many patches of amenity grassland as possible are converted to species rich grassland or wildflower meadows	Implemented	Landscaping projects are underway at Edith Key and Barbra Hepworth, whereby there will be various shrubs, wildflowers and trees planted.
The species chosen for this grassland are all nectar and pollen rich, and so will attract insects such as bees and butterflies	Implemented Woodland walk grassland left to own devices - natural	Landscaping projects are underway at Edith Key and Barbra Hepworth, whereby there will be various shrubs, wildflowers and trees planted.
It is recommended that the seed mix WFG2 from the website Germinal	N/a	Our wild grassland is left to grow naturally

Suggested biodiversity enhancement	Completion status	Actions taken since 2021/ Reason for no completion
(https://germinal.co.uk/) is used.		
A two-cut management approach should be used for suppressing coarse grasses and encouraging wildflowers.	Not Implemented	
No fertiliser or pesticides should be used.	Implemented (See comment)	Barry uses the natural fertiliser from the Science peoples digestate project. - organic, and the process uses up waste food.

Hedgerow/ Shrub specifications planting list required from initial appraisal

Botanical Name	Common Name	Size at Purchase	Numbers required (approx.)	Completed?
Crataegus monogyna	Hawthorn	Whip	55%	Yes
Rosa canina	Dog rose	Whip	10%	No
Viburnum lantana	Wayfaring tree	Whip	10%	No
Viburnum opulus	Guelder-rose	Whip	10%	No
Lonicera periclymenum	Honeysuckle	Whip	10%	Yes
Ilex aquifolium	Holly	Whip	5%	No

Recommendations

- Review the biodiversity appraisal on an annual basis, whereby any future surveys are completed during the optimum time of year for field survey (April – September), as this is where plant expression is at its optimum. Some surveys do not need to be conducted by professionals and can be carried out by students in related fields of study and used as opportunities to develop employability skills.
- Implement a litter pick along the canal every term.
- Plant tree/ hedgerow species near John Ramsden Court by the end of the year, in line with JCA recommendations.
- Increase insect/ hibernation boxes on campus through student workshops
- Extend biodiversity survey to Southgate Campus and create a wildflower meadow somewhere on the landscaped areas/ and or part of the new Edith key Garden design up on the banking by the army barracks.
- Complete list of proposed landscaping projects detailed in the appendix of this report. This will lead to an increase in biodiverse green space of at least 953 m^2.
- Work with internal gardening team to identify SMART targets for increasing each habitat count in future years

Appendix: Proposed landscaping projects

Barbara Hepworth

Type	Species	Area covered	Biodiversity gain
Shrubs, Grasses and Perennials	*Calamagrostis acutiflora* 'Karl Foerster'	262 m^2	Moderate gain – provides habitat structure, seed heads for birds, and supports insects.
	Perovskia atriplicifolia 'Blue Spire'		High gain – rich nectar source for bees and butterflies.
	Veronicastrum virginicum 'Fascination'		High gain – attracts pollinators, supports insects and diverse microfauna.
	Verbena bonariensis 'Purple Top'		Very high gain – excellent for pollinators; long flowering season.
	Anemanthele lessoniana		Moderate gain – provides habitat structure and shelter for insects.
	Achillea filipendulina 'Gold Plate'		High gain – nectar-rich, attracts a variety of pollinators.
	Bergenia 'Bressingham White'		Low gain – primarily ground cover, limited pollinator value.
	Echinacea pallida		High gain – important nectar and seed source for pollinators and birds.
	x Halimiocistus sahuchii		Moderate gain – drought tolerant, attracts some pollinators.
	Iris unguicularis		Moderate gain – winter blooms provide early nectar for insects.
	Miscanthus sinensis 'Kliene Silberspinne'		Moderate gain – provides winter shelter and habitat structure.
	Phlomis russeliana		Moderate gain – good structural plant, attracts pollinators.
	Spartium junceum		Moderate to high gain – nitrogen-fixing shrub that supports pollinators and insects.

Type	Species	Area covered	Biodiversity gain
Wildflowers (Sunny Mix)	*See species list below*	66m^2	Very high gain – species-rich mix supports wide range of pollinators and insects.
Wildflowers (Semi-Shade Mix)	*See species list below*	58m^2	High gain – This mix supports a diverse pollinator community, provides habitat for various insect life stages, offers continuous seasonal resources.
Trees	*Heptacodium miconioides* 'Seven-sons Tree'	2 Individuals	High gain – late-season nectar, exfoliating bark habitat.
	Cornus mas 'Corneilian Cherry'	1 Individual	High gain – early flowers for pollinators, edible fruit for birds.
	Euonymus alatus 'Burning Bush'	1 x Individual	Moderate gain – fruit for birds, autumn colour.
	Syringa vulgaris 'common lilac'	1 x Individual	Moderate gain – fragrant flowers attract pollinators.

Wildflowers (Sunny Mix) Species:

- Agrimonia eupatoria - common agrimony
- Anthyllis vulneraria - kidney vetch
- Briza media - quaking grass
- Canbtaurium erythreaea - common centaury
- Cichorium intybus - wild chicory
- Daucus carota - wild carrot
- Echium vulgare - viper's bugloss
- Knautia arvensis - field scabious
- Leontodon hispidus - rough hawkbit
- Linaria vulgaris - common toadflax
- Lotus corniculatus - bird's foot trefoil
- Malva moschata - musk mallow
- Reseda luteola – dyer's weed
- Salvia verbenaca - wild clary
- Sanguisorba minor - salad burnet
- Trifolium pratense – red clover
- Verbascum nigrum - dark mullein

Wildflowers (semi-shade mix)

- Betonica officinalis - betony

- Campanula trachelium - nettle-leaved bellflower
- Filipendula vulgaris - dropwort
- Galium verum - lady’s bedstraw
- Origanum vulgare - wild marjoram
- Primula veris - cowslip
- Prunella vulgaris - selfheal
- Silene latifolia - white campion

Edith Key Planting Table

Type	Species	Area Covered	Biodiversity Gain
Trees / Multi-Stem Shrubs	**Malus sylvestris** (Crab apple, native)	1 Individual	**Very high gain** – excellent for pollinators; long flowering season, fruits support birds.
	Osmanthus × burkwoodii	1 Individual	**Low gain** – limited nectar, little ecological value.
	Prunus serrula	Not specified	**Moderate gain** – provides habitat structure and seasonal interest.
	Sorbus aucuparia (Rowan, native)	4 Individuals	**Very high gain** – flowers support pollinators; berries feed birds and mammals.
Shrubs	**Choisya 'Aztec Pearl'**	196m^2	**Low gain** – sterile cultivar with minimal insect support.
	Hebe pinguifolia 'Sutherlandii'		**Low gain** – exotic, low nectar value.
	Viburnum opulus 'Compactum' (native species)		**High gain** – flowers attract insects; berries support birds.
Perennials and Grasses	**Anemone × hybrida 'Honorine Jobert'**	Not specified	**Moderate gain** – provides structure and some pollinator value.
	Anthriscus sylvestris (native)		**High gain** – rich nectar source for bees and flies.
	Calamagrostis acutiflora 'Karl Foerster'		**Moderate gain** – habitat structure and seed heads for birds.
	Calamintha nepeta		**High gain** – rich nectar source for bees and butterflies.
	Hakonechloa macra		**Low gain** – ornamental grass, minimal pollinator value.
	Iris foetidissima (native)		**Moderate gain** – seed pods support birds; niche value for insects.

Type	Species	Area Covered	Biodiversity Gain
	Miscanthus sinensis 'Kleine Silberspinne'		**Low gain** – limited ecological role, mainly structural.
	Nepeta × faassenii		**High gain** – attracts pollinators, supports insects and diverse microfauna.
	Pachysandra terminalis		**Low gain** – groundcover with minimal ecological function.
	Roscoea purpurea		**Low gain** – ornamental with limited pollinator value.
Flowering Meadow Turf *please see full list below*	**See species below**	353m^2	**Very high gain** – species-rich mix supports wide range of pollinators and insects.
Bulbs	**Allium 'Purple Sensation'**	Not specified	**High gain** – strong nectar source for early pollinators.
	Allium multibulbosum 'Nigrum'		**High gain** – attracts bees and butterflies.
	Allium sphaerocephalon		**High gain** – valuable nectar for bees and hoverflies.
	Camassia leichtlinii 'Alba'		**Moderate gain** – supports spring pollinators; niche benefit.
	Camassia leichtlinii 'Caerulea'		**Moderate gain** – early nectar source; good for bees.
	Crocus tommasinianus		**High gain** – early-season food for emerging pollinators.
	Galanthus nivalis (Snowdrop)		**Moderate gain** – early flowers benefit bees in late winter.
	Narcissus 'Minnow'		**Low gain** – limited nectar, minimal wildlife support.

Type	Species	Area Covered	Biodiversity Gain
	Narcissus poeticus 'Pheasant's Eye'		**Moderate gain** – some pollinator value; attractive to early insects.
	Scilla siberica		**Moderate gain** – early flowering; supports spring bees.

Flowering Medow Species:

- AchIllea Millefolium – Yarrow
- Centaurea Scabiosa – Greater Knapweed
- Daucus Carota - Wild Carrot,
- Filipendula ulmaria –Meadowsweet
- Galium album (Galium Mollugo) - Hedge Bedstraw
- Galium Verum - Lady's Bedstraw
- Knautia arvensis - Field Scabious
- Leontodon hispidus - Rough Hawkbit
- Leucanthemum Vulgare - Oxeye Daisy
- Lotus Corniculatus - Birdsfoot Trefoil
- Origanum Vulgare - Wild Marjoram
- Plantago Lanceolata - Ribwort Plantain
- Plantago Media - Hoary Plantain
- Poterium Sanguisorba (Sanguisorba Minor) - Salad Burnet
- Primula Veris – Cowslip
- Prunella Vulgaris – Selfheal
- Rhinanthus Minor - Yellow Rattle
- Silene Dioica – Red Campion
- Silene Flos-cuculi (Lychnis flos-cuculi) - Pink Ragged Robin
- Silene Vulgaris - Bladder Campion
- Echium Vulgare - Viper's Bugloss
- Allium Schoenoprasum – Chives
- Veronica Spicata - Spiked
- Speedwell, Linaria Vulgaris – Toadflax
- Thymus Vulgare – Common Thyme
- Dianthus Carthusianorum - Carthusian Pink
- Lychnis Flos Cuculi - White Ragged Robin

Scale Used

Gain Level	Definition
Very High Gain	Rich in species, long flowering periods, supports a wide range of taxa (insects, birds, microbes)

Gain Level	Definition
High Gain	Nectar-rich, ecologically valuable to multiple species, long flowering, or structural habitat value
Moderate Gain	Some pollinator value, structural interest, but less diverse or seasonally limited
Low Gain	Limited ecological role (e.g., sterile cultivars, exotic ornamentals with low pollinator use)

Intended results

A minimum increase in biodiverse green space of 953 m^2 across the Barbara Hepworth and Edith Key sites.