



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David



The Biodiversity and Resilience of Ecosystems Duty

Triennial Report 2022

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1. Introduction and Context

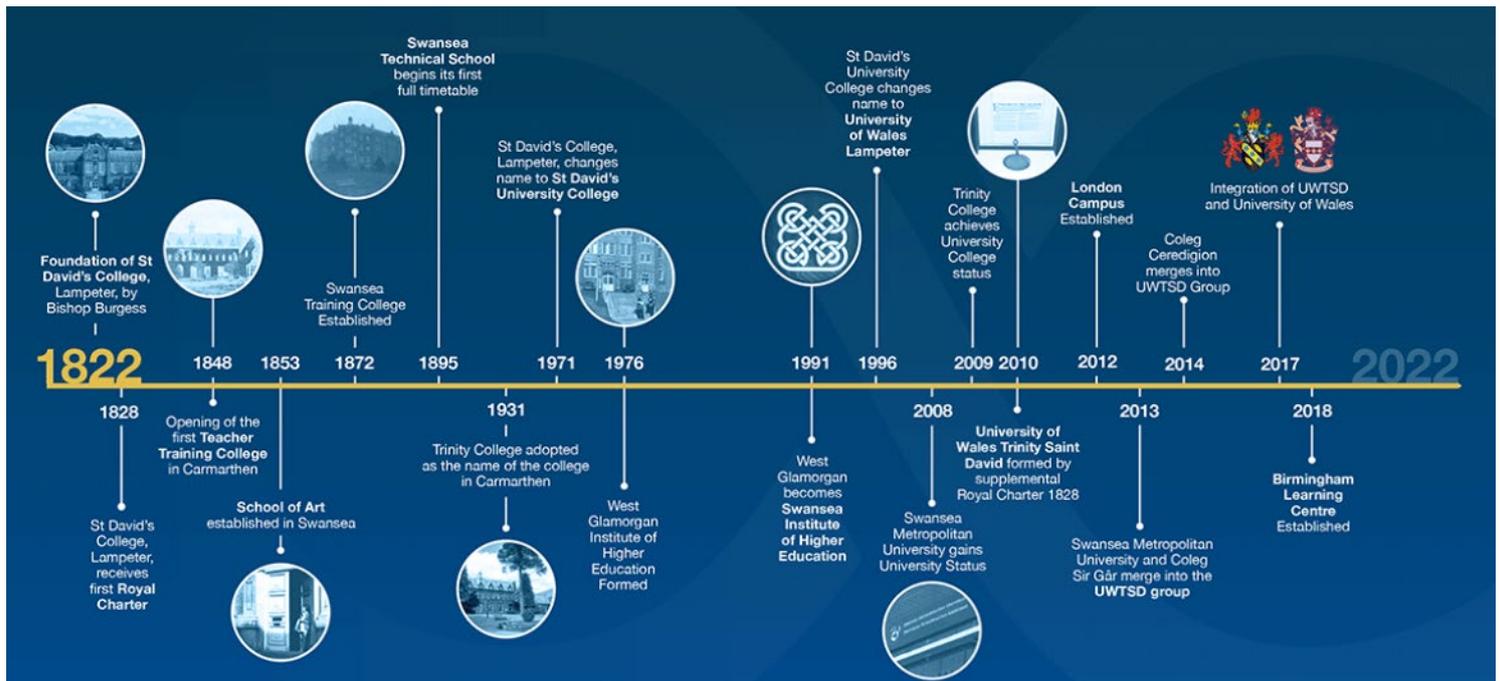
Note: In line with legislation and guidance from the Environment Minister released on 8th Nov 2019, this document is a statutory report to Welsh Government to the Minister for Climate Change. This full report will be submitted to the Welsh Government in November 2022 following Deputy Vice Chancellor Approval.

UWTSD is considered a 'Group 2' organisation in relation to biodiversity given the following factors.

- we own, occupy, or manage land their own buildings and grounds,
- our functions are connected with biodiversity and/or land management, or
- can influence those who own or manage land.

1.1 Short Description of the Public Authority and its functions

UWTSD was founded in 1822, with its Lampeter Campus and where higher education began in Wales. This year sees the celebration of 200 years and commemorates the establishment of its founding organisation, St David's College. The University merged in 2011 with Trinity College Carmarthen to form the University of Wales Trinity Saint David. Later in 2013, Swansea Metropolitan University merged into the UWTSD group. A group that today supports and delivers further and higher education across Wales and England.



Vision

Our vision is to be a University for Wales, with a commitment to the well-being and heritage of the nation at the heart of all that we do. Central to our vision is the promotion and embedding of a dual-sector educational system which educates learners of all ages and backgrounds, and stimulates economic development in our region, across Wales and beyond.

UWTSD is a University that:

- **adds value** to the learning experience through a distinctive 'system-based' approach that combines traditional higher education with vocational, professional, and academic research activities, delivered with academic rigour.
- **offers a well-defined undergraduate and postgraduate curriculum**, which delivers distinctive graduate attributes in the areas of employability, enterprise, sustainable education, and global citizenship.
- is **dedicated** to realising the potential of each individual student and to supporting students at all stages of their education.
- is **pioneering** new approaches to work-based learning and professional practice that enhance workforce and enterprise capabilities; and
- is **committed** to all aspects of sustainable development.

The University is certified to Green Dragon Level 5. This is equivalent to, and in fact requires a greater environmental commitment in respect to public reporting and carbon emissions than ISO14001 and EMAS. The Green Dragon Environmental Standard is owned and managed by Groundwork Wales, a UKAS Accredited Inspection Body.

The University through its [Strategic Plan](#) and Environmental Policy Statement articulates its values of Sustainable Development and Global Citizenship:

Sustainable development, by behaving in a way which ensures that the needs of the present are met without compromising the ability of future generations to meet their own needs, and by systematically embedding this principle in our approach to teaching and learning.

The concept of global citizenship, through the development of multi-national activities and opportunities for our learners, staff, and partners.

Strategic Priority 4: A University for Wales provides Measures of Success linked to sustainable development agendas and commitments, linked to Welsh Government priorities:

- Incorporation of the Well-Being of Future Generations (Wales) Act 2015 goals and ways of working into the strategic planning of faculties and professional departments
- Implementation of sustainability commitments within Faculty and Departmental strategic plans
- Completion of curriculum audits to support wellbeing and sustainability commitments
- Recording environmental sustainability data and carbon management plan information to underpin sustainable campus environments

Key Performance Indicator 8 (Estates and Infrastructure) contains sustainability-linked measures which include: energy consumption, cost of core utilities, Scope 2 emissions.

Progress in relation to sustainable aims is monitored through annual strategic plan reporting and Key Performance Indicator Reporting provided to the Resources and Performance Committee and University Council.

1.2 Biodiversity

UWTSD has over 130 buildings in Wales over 153 acres of various lands across Ceredigion, Carmarthenshire, Cardiff and Swansea.

The Lampeter and Carmarthen Campuses in particular offer a wealth of habitats, conservation areas and ideal green spaces for students, staff, and the local communities to enjoy with benefits linked not only to biodiversity, but also for proactive conservation activities and positive mental health and wellbeing opportunities.

Our commitment to Biodiversity is rooted in our passion to enrich the lives of our future generations. UWTSD and TSDSU declared a Climate Emergency on 9th July 2020 ([University & Students' Union declare a Climate Emergency. @ UWTSD Students' Union \(uwtsdunion.co.uk\)](#)) This demonstrates recognition of the urgency, but also of our dedication to work hand in hand with the student body to effect change. This partnership will support the ambition to be NZC by 2030.

The Biodiversity Policy Statement includes the Section 7 survey, and the associated Biodiversity Action Plan ensures that ecological improvements and change are monitored and reviewed to continuously enhance our environments.

1.3 Spatial scale and Place

At the University of Wales Trinity Saint David, we understand the environmental impact of our activities and aim to tackle and mitigate any negative impacts and achieve biodiversity net gain. As such, we have implemented our 2022 – 2025 Biodiversity Action Plan (BAP). The Plan also seeks to fulfil the requirements of the Environment Act (Wales) 2016, Part 6 of the Environment Bill 2020 and to work towards the 'Resilient Wales' goal set within the Well-being of Future Generations (Wales) Act 2015.

The BAP, Biodiversity and Eco-Systems Duty Forward Plan 2022-25, and Environmental Management System are in place to help achieve this. The scope of these documents covers three of UWTSD' campuses; Swansea, Lampeter and Carmarthen.

The Lampeter and Carmarthen campuses offer more scope for biodiversity improvement than Swansea, as they have a richer diversity of habitats. There is however opportunity to reduce the bare ground and increase building mounted habitats in this urban location. Carmarthen and Lampeter contain large areas of amenity grassland as well as poor semi-improved grassland. The Lampeter campus specifically is of conservation importance owing to an estuary of the Special Area of Conservation and the Site of Special Scientific Interest - the river Dulais flowing through it. As such particular care must be taken with any biodiversity developments, ensuring no invasive species are introduced and the site is not damaged. The SAC and SSSI are designated due to its emergent vegetation that is often dominated by Stream Water-crowfoot *Ranunculus penicillatus* subsp. *Penicillatus*; and protected species that are found within this habitat that includes Bullhead *Cottus gobio*, River lamprey *Lampetra fluviatilis*, Brook lamprey *Lampetra planeri*, Sea Lamprey *Petromyzon marinus*, Atlantic Salmon *Salmo salar*, Otter *Lutra lutra* and Floating Water-plantain *Luronium natans*. Our Lampeter campus introduced beehives in October 2021, to enhance natural pollination and help conserve bee species and saw its first honey harvest in Summer 2022.

Carmarthenshire

The Carmarthenshire BAP focuses on actions that are needed to meet the objectives for the habitats and species of principal importance as set out in Section 42 of the Countryside & Rights of Way Act 2000. These habitats and species need conserving and are part of what makes Carmarthenshire special and distinctive.

The Carmarthenshire Biodiversity Action Plan concentrates on nine groupings of habitats. These are, Woodland, Upland Habitats, Freshwater, Wetlands, Farmland, Lowland Grassland and Heathland, Brownfield/Urban, Coastal and Marine habitats, and species. Species have been grouped in with habitats however a number of species are supported with individual action plans in order to positively manage the habitat or connect and expand where possible, there are; tree sparrow, water vole, bats, hedgehog, otter, dormouse, red squirrel, marsh fritillary and brown hairstreak butterflies, small-flowered catchfly, Deptford pink, barn owl (local priority), brown hare, little-ringed plover, amphibians, and reptiles.

The Campus in Carmarthen is potentially supporting 95 S7 priority species, as outlined in Table 1.

Table 1. S7 priority species recorded within 2km of UWTSD Carmarthen Campus

Scientific Name	Common Name
Mammals	
<i>Chiroptera</i>	Bats
<i>Erinaceus europaeus</i>	West European Hedgehog
<i>Lutra lutra</i>	European Otter
<i>Meles meles</i>	Eurasian Badger
<i>Mustela nivalis</i>	Weasel
<i>Mustela putorius</i>	Polecat
<i>Myotis daubentoniid</i>	Daubenton's Bat
<i>Myotis mystacinus</i>	Whiskered Bat
<i>Myotis</i>	Unidentified Bat
<i>Nyctalus noctule</i>	Noctule Bat
<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle

<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus pipistrellus</i>	Pipistrelle
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
<i>Pipistrellus</i>	Pipistrelle
<i>Plecotus auratus</i>	Brown Long-eared Bat
Birds	
<i>Acanthis cabaret</i>	Lesser Redpoll
<i>Alcedo atthis</i>	Kingfisher
<i>Cettia cetti</i>	Cetti's Warbler
<i>Chroicocephalus ridibundus</i>	Black-headed Gull
<i>Circus aeruginosus</i>	Western Marsh Harrier
<i>Emberiza schoeniclus</i>	Common Reed Bunting
<i>Falco columbarius</i>	Merlin
<i>Falco peregrinus</i>	Peregrine
<i>Falco tinnunculus</i>	Kestrel
<i>Larus argentatus</i>	European Herring Gull
<i>Linaria cannabina</i>	Linnet
<i>Locustella naevia</i>	Grasshopper Warbler
<i>Milvus milvus</i>	Red Kite
<i>Numenius arquata</i>	Curlew
<i>Passer domesticus</i>	House Sparrow
<i>Phalaropus lobatus</i>	Red-necked Phalarope
<i>Poecile montanus</i>	Willow Tit
<i>Poecile palustris</i>	Marsh Tit
<i>Prunella modularis</i>	Dunnock
<i>Pyrrhula pyrrhula</i>	Eurasian Bullfinch
<i>Sturnus vulgaris</i>	Starling
<i>Tringa ochropus</i>	Green Sandpiper
<i>Turdus iliacus</i>	Redwing
<i>Turdus philomelos</i>	Song Thrush
<i>Turdus pilaris</i>	Fieldfare
<i>Tyto alba</i>	Western Barn Owl
<i>Vanellus vanellus</i>	Lapwing
Reptiles and Amphibians	
<i>Anguis fragilis</i>	Slow worm
<i>Bufo bufo</i>	Common Toad
<i>Rana temporaria</i>	Common Frog
<i>Zootoca vivipara</i>	Common Lizard
Invertebrates	
<i>Acronicta psi</i>	Grey Dagger
<i>Acronicta rumicis</i>	Knot Grass
<i>Agrochola helvola</i>	Flounced Chestnut
<i>Agrochola litura</i>	Brown-spot Pinion
<i>Agrochola lychnidis</i>	Beaded Chestnut
<i>Allophyes oxyacanthae</i>	Green-brindled Crescent
<i>Amphipoea oculea</i>	Ear Moth
<i>Apamea remissa</i>	Dusky Brocade
<i>Arctia caja</i>	Garden Tiger
<i>Boloria euphrosyne</i>	Pearl-bordered Fritillary
<i>Bombus humilis</i>	Brown-banded Carder-bee
<i>Bombus muscorum</i>	Moss Carder-bee
<i>Bombus ruderarius</i>	Red-shanked Carder-bee
<i>Brachylomia viminalis</i>	Minor Shoulder-knot
<i>Caradrina morpheus</i>	Mottled Rustic
<i>Ceramica pisi</i>	Broom Moth
<i>Chiasmia clathrata</i>	Latticed Heath

<i>Cirrhia icteritia</i>	Sallow
<i>Cupido minimus</i>	Small Blue
<i>Diarsia rubi</i>	Small Square-spot
<i>Ecliptopera silaceata</i>	Small Phoenix
<i>Ennomos erosaria</i>	September Thorn
<i>Ennomos fuscantaria</i>	Dusky Thorn
<i>Ennomos quercinaria</i>	August Thorn
<i>Eucera longicornis</i>	Long-horned Bee
<i>Helotropha leucostigma</i>	Crescent
<i>Hepialus humuli</i>	Ghost Moth
<i>Hipparchia semele</i>	Grayling
<i>Hoplodrina blanda</i>	Rustic
<i>Hydraecia micacea</i>	Rosy Rustic
<i>Lasiommata megera</i>	Wall
<i>Litologia literosa</i>	Rosy Minor
<i>Lycia hirtaria</i>	Brindled Beauty
<i>Malacosoma neustria</i>	Lackey
<i>Melanchra persicariae</i>	Dot Moth
<i>Minoa murinata</i>	Drab Looper
<i>Orthonama vittata</i>	Oblique Carpet
<i>Orthosia gracilis</i>	Powdered Quaker
<i>Rhizedra lutosa</i>	Large Wainscot
<i>Scotopteryx chenopodiata</i>	Shaded Broad bar
<i>Spilosoma lubricipeda</i>	White Ermine
<i>Spilosoma lutea</i>	Buff Ermine
<i>Thecla betulae</i>	Brown Hairstreak
<i>Tholera decimalis</i>	Feathered Gothic
<i>Timandra comae</i>	Blood-vein
<i>Tyria jacobaeae</i>	Cinnabar
<i>Watsonalla binaria</i>	Oak Hook-tip
<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet

Ceredigion

The Ceredigion Local Biodiversity Action Plan was developed with the Ceredigion Biodiversity Partnership and is supported by the Countryside Council for Wales. The University hosts the 'Lampeter Resilience Group' which is a 'Town and Gown' initiative to support the biodiversity and ecological resilience of the area.

The Plan provides the framework for local biodiversity action with an aim to contribute to delivery of national targets for key habitats and species. The species and habitats included within the plan comprise UK Priority Species (those defined as globally threatened or declining in the UK) and Species of Conservation Concern (defined as meeting one or more of the four criteria stated in the 1995 UK Steering Group Report).

Habitat and Species Action Plans were created as part of the LBAP, establishing conservation targets for conservation action, current status of the species/habitat and a 'lead partner' to take on implementation and review. The Habitat Action Plans cover upland mixed ash woods, upland oak woods, wet woodland, and roadside verges. The Species Action Plans cover black grouse *Lyrurus tetrix*, brown hare *Lepus europeus*, chough *Elymus repens* and hornet robberfly *Asilus crabroniformis*.

Table 2. S7 priority species recorded within 2km of UWTSD Lampeter Campus

Scientific Name	Common Name
Mammals	
<i>Arvicola amphibius</i>	European Water Vole
<i>Erinaceus europeus</i>	West European Hedgehog
<i>Lepus europeus</i>	Brown Hare

<i>Lutra</i>	European Otter
<i>Mustela putorius</i>	Polecat
<i>Myotis</i>	Unidentified Bat
<i>Myotis daubentonii</i>	Daubenton's Bat
<i>Nyctalus noctula</i>	Noctule Bat
<i>Pipistrellus</i>	Pipistrelle
<i>Pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
<i>Plecotus auritus</i>	Brown Long-eared Bat
Birds	
<i>Alcedo atthis</i>	Kingfisher
<i>Falco tinnunculus</i>	Kestrel
<i>Milvus</i>	Red Kite
<i>Passer domesticus</i>	House Sparrow
<i>Phylloscopus sibilatrix</i>	Wood Warbler
<i>Poecile montanus</i>	Willow Tit
<i>Prunella modularis</i>	Dunnock
<i>Sturnus vulgaris</i>	Starling
<i>Turdus philomelos</i>	Song Thrush
Reptiles and Amphibians	
<i>Anguis fragilis</i>	Slow worm
Invertebrates	
<i>Lasiommata megera</i>	Wall Brown
<i>Spilosoma lubricipeda</i>	White Ermine

Swansea

The Swansea campus is in an urban location, consists of three distinct campus areas and is hindered somewhat from a conservation perspective, consisting of a mosaic of buildings and bare ground interspersed with managed amenity grasslands, beds of cultivated introduced shrub and ephemeral perennials and individual trees. This highlights the possibility for substantial enhancement opportunities. As the Waterfront IQ campus is situated in an exposed coastal location, there has been difficulty in the past establishing and supporting the growth of plant species. As such, hardy plants well suited to coastal environments should be selected for planting.

The development of a new building at the waterfront gives UWTSD the opportunity to enhance the external environment as well as develop a land management plan for all sites to compliment the Biodiversity Strategy.

Swansea Council's LBAP outlines the strategic actions needed to conserve both priority habitats and species and wider biodiversity. It aims to protect, manage, enhance, and promote Swansea's outstanding natural environment and natural beauty.

The Plan consists of 15 strategic objectives over five key themes:

1. **Understanding the natural environment – *Audit***
2. **Protecting and safeguarding the natural environment – *Plans, policies, and legislation***
3. **Managing and enhancing the natural environment**
4. **Understanding and appreciating the natural environment – *awareness raising and community involvement***
5. **Finding the resources**

The University Action Plan considers this strategy as a key enabler in its own BAP. Despite the lack of green space in the Swansea Campus, the areas support a vast range of S7 priority species as outlined in the table below.

Table 3. S7 priority species recorded within 2km of UWTSD Swansea Campus

Scientific Name	Common Name
Mammals	

<i>Chiroptera</i>	Bats
<i>Erinaceus europaeus</i>	West European Hedgehog
<i>Lepus europaeus</i>	Brown Hare
<i>Lutra</i>	European Otter
<i>Megaptera novaeangliae</i>	Humpback Whale
<i>Meles</i>	Eurasian Badger
<i>Mustela nivalis</i>	Weasel
<i>Myotis</i>	Unidentified Bat
<i>Nyctalus noctula</i>	Noctule Bat
<i>Phocoena phocoena</i>	Common Porpoise
<i>Pipistrellus</i>	Pipistrelle
<i>Pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus</i>	Pipistrelle
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
<i>Plecotus auritus</i>	Brown Long-eared Bat
Birds	
<i>Acanthis cabaret</i>	Lesser Redpoll
<i>Alauda arvensis</i>	Eurasian Skylark
<i>Alcedo atthis</i>	Kingfisher
<i>Anthus trivialis</i>	Tree Pipit
<i>Aythya marila</i>	Scaup
<i>Cettia cetti</i>	Cetti's Warbler
<i>Charadrius alexandrinus</i>	Kentish Plover
<i>Charadrius dubius</i>	Little Ringed Plover
<i>Charadrius hiaticula</i>	Common Ringed Plover
<i>Chroicocephalus ridibundus</i>	Black-headed Gull
<i>Circus aeruginosus</i>	Western Marsh Harrier
<i>Circus cyaneus</i>	Hen Harrier
<i>Cuculus canorus</i>	Cuckoo
<i>Cygnus</i>	Whooper Swan
<i>Emberiza citrinella</i>	Yellowhammer
<i>Emberiza schoeniclus</i>	Common Reed Bunting
<i>Falco columbarius</i>	Merlin
<i>Falco peregrinus</i>	Peregrine
<i>Falco tinnunculus</i>	Kestrel
<i>Ficedula hypoleuca</i>	European Pied Flycatcher
<i>Gavia immer</i>	Common Loon
<i>Gavia stellata</i>	Red-throated Loon
<i>Hydrocoloeus minutus</i>	Little Gull
<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull
<i>Larus argentatus</i>	European Herring Gull
<i>Limosa lapponica</i>	Bar-tailed Godwit
<i>Linaria cannabina</i>	Linnet
<i>Locustella naevia</i>	Grasshopper Warbler
<i>Loxia curvirostra</i>	Red Crossbill
<i>Melanitta nigra</i>	Common Scoter
<i>Milvus</i>	Red Kite
<i>Muscicapa striata</i>	Spotted Flycatcher
<i>Numenius arquata</i>	Curlew
<i>Numenius phaeopus</i>	Eurasian Whimbrel
<i>Oceanodroma leucorhoa</i>	Leach's Storm Petrel
<i>Pandion haliaetus</i>	Western Osprey
<i>Panurus biarmicus</i>	Bearded Reedling
<i>Passer domesticus</i>	House Sparrow
<i>Passer montanus</i>	Tree Sparrow

<i>Perdix perdix</i>	Grey Partridge
<i>Phoenicurus ochruros</i>	Black Redstart
<i>Plectrophenax nivalis</i>	Snow Bunting
<i>Podiceps auritus</i>	Slavonian Grebe
<i>Poecile montanus</i>	Willow Tit
<i>Poecile palustris</i>	Marsh Tit
<i>Prunella modularis</i>	Dunnock
<i>Pyrrhula</i>	Eurasian Bullfinch
<i>Recurvirostra avosetta</i>	Avocet
<i>Regulus ignicapilla</i>	Common Firecrest
<i>Sternula albifrons</i>	Little Tern
<i>Sturnus vulgaris</i>	Starling
<i>Tringa ochropus</i>	Green Sandpiper
<i>Turdus iliacus</i>	Redwing
<i>Turdus philomelos</i>	Song Thrush
<i>Turdus pilaris</i>	Fieldfare
<i>Tyto alba</i>	Western Barn Owl
<i>Upupa epops</i>	Eurasian Hoopoe
<i>Vanellus</i>	Lapwing
Reptiles and Amphibians	
<i>Anguis fragilis</i>	Slow worm
<i>Bufo</i>	Common Toad
<i>Lissotriton helveticus</i>	Palmate Newt
<i>Lissotriton vulgaris</i>	Smooth Newt
<i>Natrix helvetica</i>	Grass Snake
<i>Rana temporaria</i>	Common Frog
<i>Triturus cristatus</i>	Great Crested Newt
<i>Vipera berus</i>	Adder
<i>Zootoca vivipara</i>	Common Lizard
Invertebrates	
<i>Acronicta psi</i>	Grey Dagger
<i>Acronicta rumicis</i>	Knot Grass
<i>Amphipoea oculea</i>	Ear Moth
<i>Amphipyra tragopoginis</i>	Mouse Moth
<i>Anania funebris</i>	White-spotted Sable
<i>Apamea remissa</i>	Dusky Brocade
<i>Arctia caja</i>	Garden Tiger
<i>Argynnis adippe</i>	High Brown Fritillary
<i>Asilus crabroniformis</i>	Hornet robberfly
<i>Boloria euphrosyne</i>	Pearl-bordered Fritillary
<i>Boloria selene</i>	Small Pearl-bordered Fritillary
<i>Bombus humilis</i>	Brown-banded Carder-bee
<i>Brachylomia viminalis</i>	Minor Shoulder-knot
<i>Caradrina morpheus</i>	Mottled Rustic
<i>Celaena haworthii</i>	Haworth's Minor
<i>Ceramica pisi</i>	Broom Moth
<i>Chiasmia clathrata</i>	Latticed Heath
<i>Cirrhia icteritia</i>	Sallow
<i>Coenonympha pamphilus</i>	Small Heath
<i>Cossus cossus</i>	Goat Moth
<i>Cupido minimus</i>	Small Blue
<i>Diarsia rubi</i>	Small Square-spot
<i>Donacia bicolora</i>	Two-tone Reed Beetle
<i>Ecliptopera silaceata</i>	Small Phoenix
<i>Ennomos quercinaria</i>	August Thorn
<i>Epirrhoe galiata</i>	Galium Carpet

<i>Erynnis tages</i>	Dingy Skipper
<i>Eugnorisma glareosa</i>	Autumnal Rustic
<i>Euphydryas aurinia</i>	Marsh Fritillary
<i>Euxoa nigricans</i>	Garden Dart
<i>Euxoa tritici</i>	Dusky Dart
<i>Helotropha leucostigma</i>	Crescent
<i>Hepialus humuli</i>	Ghost Moth
<i>Hipparchia semele</i>	Grayling
<i>Hoplodrina blanda</i>	Rustic
<i>Hydraecia micacea</i>	Rosy Rustic
<i>Lasiommata megera</i>	Wall
<i>Leucania comma</i>	Shoulder-striped Wainscot
<i>Litologia literosa</i>	Rosy Minor
<i>Lycia hirtaria</i>	Brindled Beauty
<i>Malacosoma neustria</i>	Lackey
<i>Melanchra persicariae</i>	Dot Moth
<i>Melanthia procellata</i>	Pretty Chalk Carpet
<i>Orthosia gracilis</i>	Powdered Quaker
<i>Ostrea edulis</i>	Common Oyster
<i>Perizoma albulata</i>	Grass Rivulet
<i>Perizoma albulata</i>	Grass Rivulet
<i>Satyrium w-album</i>	White-letter Hairstreak
<i>Scotopteryx chenopodiata</i>	Shaded Broad bar
<i>Spilosoma lubricipeda</i>	White Ermine
<i>Spilosoma lutea</i>	Buff Ermine
<i>Tholera cespitis</i>	Hedge Rustic
<i>Tholera decimalis</i>	Feathered Gothic
<i>Timandra comae</i>	Blood-vein
<i>Tyria jacobaeae</i>	Cinnabar
<i>Watsonalla binaria</i>	Oak Hook-tip
<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet
<i>Xestia agathina</i>	Heath Rustic
<i>Xestia castanea</i>	Neglected Rustic
<i>Xylena exsoleta</i>	Sword-grass

1.4 Public Service Delivery

The University hosts the Lampeter Resilience Group which consists of University staff, students, and local community members. The Pro Vost for Carmarthen and Lampeter sits on this group and actively promotes the actions and collaboration it provides. The University is an active member of the Swansea Bay Travel Forum which has a focus to reduce pollution in order to assist in habitat conservation. The University has joined the pledge to Swansea Public Service Board Climate and Nature Charter. (Annexe A) UWTSO is also an invited participant organisation in Carmarthenshire and Ceredigion Public Service Review boards.

Given the SAC at Lampeter and the S7 priority species, the University engages regularly with the council Environment teams, NRW and through its BAP is working towards membership of all Local Nature Partnerships across the geographical spread.

1.5 Policies, Objectives and Performance Monitoring

The Biodiversity Policy statement and associated action plan are owned by the Executive Head of Estates and Operational Facilities. This plan is also supported by the Environmental Policy Statement which links to the University Strategic Plan as well as the [Strategic Equality Plan](#).

The development of a Biodiversity Steering Group will provide a specific, formal and minuted monitoring mechanism that includes the wider community. Currently the actions are discussed in the Sustainability Group Management review which works toward continual improvement of all aspects of our approach to Sustainability in conjunction with the FE Director of Estates.

The action plans also form part of the University EMS system which is managed and monitored by the Sustainability team in Estates and Facilities and externally certified to [Green Dragon Level 5](#).

Governance and delivery of S6 Duty

The S6 Duty Holder is the Executive Head of Operational Estates and Facilities. Recruitment of the Head of Sustainability and the Environment will see this transition over to them.

Sustainability for the University is governed by the Deputy Vice Chancellor Professor Dylan Jones with accountability for delivery sitting within the Estates and Facilities Unit lead by The Director of Resources and Business Planning Finance.

2 Highlights, Key Outcomes, and Issues

Go Green Week 2021 was implemented by the UWTSD Inspire Interns and involved a week of activities and talks to encourage individual behavioural change of students. This program highlights how small changes individual level can have broader impacts on the environment if enough of us undertake them. Go Green Week 22/23 is in planning and TSDSU and the interns are key in delivering a successful programme of events in May 2023.

In the 2021 People and Planet League Table, UWTSD achieved a 2:1 (38th in UK) with a 1st in Wales for Water reduction measures.

UWTSD was ranked as joint first in terms of water reduction against other HE bodies in the UK. This is due to our capture of rainwater and greywater reuse program within the IQ building at Swansea campus.

Working in partnership with the TSDSU we recruit Inspire Interns annually. For 22/23 we have 28 internships, 18 of whom are attached directly to Civic Mission within INSPIRE and 10 of whom are working directly with TSDSU to deliver on key operational sustainability tasks, including wildlife and habitats, greener spaces and wider communication and engagement (with students and the local community). This program provides the students with an opportunity to develop real world skills whilst promoting sustainable change across the university. The program allows for the students to be involved in sustainability and biodiversity enhancing projects across the campuses. The students bring with them a new perspective and can highlight emerging trends within the student community regarding biodiversity.

Finally, the University has been shortlisted for two [Green Gown awards](#). One of which is linked to digitisation and thus a reduction of environmental impact, plus Graduate Attribute Modules to all students studying at UWTSD which ensures a greater awareness of Environmental and Sustainability matters.

Green Dragon Audit Findings.

Strengths and Good Practice

- ✓ Continuing to maintain EMS during COVID working restrictions.
- ✓ Control of retained documents/records to confirm meeting EMS compliance requirement
- ✓ Monitoring of key environmental performance indicators.
- ✓ Hybrid /electric vehicles purchased and with campus charging points.
- ✓ Use of Google Meet /TEAMS reducing travel requirements.
- ✓ UWTSD 2:1 (39th in UK) on People and Planet University League table - 1st in UK for Water
- ✓ Utilising bio-degradable food containers/cutlery across at all catering outlets.
- ✓ Robust Biodiversity Action Plan and its inclusion in the EMS

Continual Environmental Improvement

- ✓ Environmental Manager appointed at time of audit but have yet to take up their posts.
- ✓ Installed 20 EV charging points at different campuses and 3 electric vans joined fleet.
- ✓ Reduced number of catering deliveries working with suppliers to deliver multitemperature vans.
- ✓ Increase in value and range of bikes as part of cycle to work scheme.
- ✓ Following success of home working during covid have started using hybrid working model reducing grey fleet usage.

3 **Action Report**

3.1 NRAP Objective 1: Engage and support participation and understanding to embed biodiversity throughout decision making at all levels

Commitments in Corporate Plans.

The University through its [Strategic Plan](#) articulates and supports the embedding of its values of Sustainable Development and Global Citizenship:

Sustainable development, by behaving in a way which ensures that the needs of the present are met without compromising the ability of future generations to meet their own needs, and by systematically embedding this principle in our approach to teaching and learning.

The concept of global citizenship, through the development of multi-national activities and opportunities for our learners, staff, and partners.

Strategic Priority 4: A University for Wales provides Measures of Success linked to sustainable development agendas and commitments, linked to Welsh Government priorities:

- Incorporation of the Well-Being of Future Generations (Wales) Act 2015 goals and ways of working into the strategic planning of faculties and professional departments
- Implementation of sustainability commitments within Faculty and Departmental strategic plans
- Completion of curriculum audits to support wellbeing and sustainability commitments
- Recording environmental sustainability data and carbon management plan information to underpin sustainable campus environments

Key Performance Indicator 8 (Estates and Infrastructure) contains sustainability-linked measures which include: energy consumption, cost of core utilities, Scope 2 emissions.

Progress in relation to sustainable aims is monitored through annual strategic plan reporting and Key Performance Indicator Reporting provided to the Resources and Performance Committee and University Council.

Incorporating Biodiversity

The UWTSD Environmental Policy Statement and Biodiversity and Eco-Systems Duty Forward Plan both ensure that at policy level, there is a demonstrable commitment to biodiversity. Further to this, the BAP ensures an effective and accountable monitoring system is in place that is subject to annual audit as part of the Green Dragon EMS certification.

The Biodiversity Action Plan is an integral key source document for all capital and operational projects and the University employs several consultants to ensure appropriate surveys are undertaken where there is an ecological impact. The formation of a Sustainability Team within the Estates and Facilities Unit has ensured that every opportunity to further ensure biodiversity is considered business as usual.

The University is also procuring an Environmental Awareness module to add to its essential staff training which all staff current and new will have to undertake on a 3 yearly basis. This training includes key pieces of legislation as well as individual and business level environmental impact.

Mandatory training for the Grounds Manager and in house grounds team now includes Conservation and Habitat Management which will ensure at an operational level the team are aware of how to identify, manage and protect habitats and vegetation conservation.

Further to this, our third year Sustainability students will soon be engaged with us in reviewing our management principles and processes for the SSSI and the SAC at Lampeter campus as well as providing a review of our EMS system as part of their learning journey.

Progress around our engagement, enhancing biodiversity and audits are shared during the Biodiversity Steering Group.

3.2 NRAP Objective 2: Safeguard species and habitats of principle importance and improve their management

Habitat Action Plans

Carmarthen

Table 4. Habitats of conservation importance at UWTSO Carmarthen Campus

Phase 1 Habitat Type	S7 Priority Habitat?	Reason for Inclusion in BAP (if not S7)	Conservation Target	Update Oct 22
A3.1 Mixed Semi-Natural Woodland	Yes		Maintain extent; protect mature/veteran trees; improve quality; retain undergrowth/scrub; plant native species to diversify habitats; retain log/dead wood piles; screen imported soils to prevent introduction of non-native species; where appropriate thin dense strands of saplings to prevent dark, dense woodland; allow open areas to encourage ground flora to develop; erect bird/bat boxes on mature trees	Extent maintained. New natives planned as part of Places for Nature grant
A2 Continuous and Scattered Scrub	No	Provision of habitat and food for birds, insects, and small mammals; resources for nesting birds	Maintain/Increase extent; encourage growth of native species; opportunity to increase habitat connectivity	Minor increase in extent and in depth review and proposal has happened in conjunction with the

		and foraging and commuting bats		National Botanical Garden of Wales and the Head Forester, Duchy of Cornwall
A3 Parkland and Scattered Trees	Yes		Maintain extent; improve quality; protect mature/veteran trees; opportunity to increase habitat connectivity; increase species and structural diversity; relaxation in management in appropriate areas to develop species to flower and seed	Extent maintained and new fruit trees have been planted
B Poor Semi-Improved Grassland	No	Aid in drainage; habitat and food for pollinators	Maintain extent; improve quality; increase native/wild species; relaxation in management in appropriate areas to develop species to flower and seed	Quality has highly improved following the no now May campaign. The management has been relaxed and there is evidence of rare and wild flower developing through the grasslands
C3.1 Tall Ruderal	No	Provision of habitat for birds and reptiles	Maintain extent; improve quality	
E3.2 Basin Mire	No	Potential for improvement; aid in drainage;	Maintain/Increase extent; improve quality	
F2.1 Marginal Vegetation	No	Protection of riverbank; provision of habitat	Maintain extent; improve quality	
G1.2 Man-Made Ponds	Yes		Use the Local Places for Nature Grant to repurpose the space to create a natural pond using drainage from the Library rainwater goods	Grant has been successful, awaiting project plan to commence.

I1 Artificial Exposures and Waste Tips	No	Habitat provision for small mammals, insects, and fungi	Improve quality for habitats. Introduce hedgehog houses across campus and detail these on maps in order to protect these.	Hedgehog houses have been distributed and a hedgehog survey has been undertaken with another planned for the Spring of 2023
Individual Trees	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Increase extent – improvement in habitat connectivity; opportunity to increase habitat connectivity	
J1.1 Arable	Yes		Maintain/Increase extent; improve quality	Allotments planned to be reinstated for Spring 23
J1.2 Amenity Grassland	No	Potential for improvement as offer little-to-no ecological interest; may offer; habitat provision for invertebrates, birds, and small mammals; aids with drainage	Maintain extent; improve quality; develop areas to manage as wildflower meadows/species-rich grasslands (can act as linking-habitat in built-up areas); allow areas of disturbed/bare ground for insects; sympathetic maintenance regimes; leave a margin of longer grassland alongside any features such as boundaries or ditches	Rewilded many areas, and offered a variety of lengths in order to encourage a diverse range of inhabitants
J1.3 Cultivated Ephemeral/Short Perennial	No	Potential for improvement; Habitat provision for invertebrates; feed pollinating insects	Maintain extent; if increase extent endeavour to use native species (although diversity of species/structure is of greater importance than naiveness’); improve quality for use by pollinating insects	Redesign of the landscaping will include perennials and nectar rich native pollinators

J1.4 Cultivated Introduced Shrub	No	Potential for improvement; Habitat provision for invertebrates and birds; feed pollinating insects	Maintain extent; if increase extent endeavour to use native species; improve quality for use by pollinating insects; maintain/encourage uncultivated areas as habitat for small mammals, birds, and insects	In areas that are not landscaped, habitat formation has been worked into the land management
J2.1 Species Poor Intact Hedge	Yes		Maintain/Increase extent; improve quality; opportunity to increase habitat connectivity; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries, and seeds	Gap filling and lower maintenance regimes in place. Hedges are only manicured twice per year, and only done to maintain safety and access
J2.3 Hedgerow with Trees	Yes		Maintain/Increase extent; improve quality; opportunity to increase habitat connectivity; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries, and seeds; encourage growth of tall vegetation along base of hedgerows	Hedges are only manicured twice per year, and only done to maintain safety and access
J2.5 Wall	No	Support mosses, lichens, and ferns; insect habitat	Maintain extent; encourage climbing plants	
J3.6 Buildings	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Improve quality; offer new habitats through green roofing, bat/bird boxes, insect bricks; environmentally mindful development	
J4 Bare Grounds	No	Potential for improvement as offer little-to-no ecological interest; may	Maintain extent	Much of the bare ground is footpaths, though areas are being assigned near

		offer; Basking habitat for small reptiles		the ponds though the project to cater for small reptiles
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Lampeter Campus

Table 3. Habitats of conservation importance at UWTSO Lampeter Campus

Phase 1 Habitat Type	S7 Priority Habitat?	Reason for Inclusion in BAP (if not S7)	Conservation Target	Update Oct 22
A3.1 Mixed Semi-Natural Woodland	Yes		Maintain extent; protect mature/veteran trees; improve quality; retain undergrowth/scrub; opportunity to increase habitat connectivity; plant native species to diversify habitats; retain log/dead wood piles; screen imported soils to prevent introduction of non-native species; where appropriate thin dense strands of saplings to prevent dark, dense woodland; allow open areas to encourage ground flora to develop; erect bird/bat boxes on mature trees	200 new trees have been planted, mixture of saplings and more mature native specimens. Log piles are being retained and the base of the trees is now left to mulch.
A2 Continuous and Scattered Scrub	No	Provision of habitat and food for birds, insects, and small mammals; resources for nesting birds and foraging and commuting bats	Maintain/Increase extent; encourage growth of native species	Extent increased, notably around the Arts Building, Library outdoor auditorium and on the upper roundabout
A3 Parkland and Scattered Trees	Yes		Maintain extent; improve quality; protect	Relaxed maintenance to ensure

			mature/veteran trees relaxation in management in appropriate areas to develop species to flower and seed	strimming around tree bases ceased
B Poor Semi-Improved Grassland	No	Aid in drainage; habitat and food for pollinators	Maintain extent; improve quality; increase native/wild species/species-rich grasslands (can act as linking-habitat in built-up areas); allow areas of disturbed/bare ground for insects; sympathetic maintenance regimes; leave a margin of longer grassland alongside any features such as boundaries or ditches	Quality has highly improved following the no now May campaign. The management has been relaxed and there is evidence of rare and wild flower developing through the grasslands
C3.1 Tall Ruderal	No	Provision of habitat for birds and reptiles	Maintain extent; improve quality	Quality improved via relaxed maintenance regime
G2 Running Water	Yes	River Dulais SAC/SSSI	Should be left undisturbed – any works should include a ‘buffer strip’ to maintain riparian corridor	Specific management plan has been developed for this area
I1 Artificial Exposures and Waste Tips	No	Habitat provision for small mammals, insects, and fungi	Improve quality for habitat	
Individual Trees	No	Potential habitat for bats and birds (possible S7 species) – roost/nest; opportunity to increase habitat connectivity	Increase extent – improvement in habitat connectivity	Increased number of bat and bird boxes across all trees on the estate
J1.2 Amenity Grassland	No	Potential for improvement as offer little-to-no ecological interest; may offer habitat provision for invertebrates,	Maintain extent; improve quality; develop areas to manage as wildflower meadows/species-rich grasslands (can act as linking-habitat in built-up areas); allow areas of	Quality has highly improved following the no now May campaign and relaxed maintenance regime. The

		birds, and small mammals; aids with drainage	disturbed/bare ground for insects; sympathetic maintenance regimes; leave a margin of longer grassland alongside any features such as boundaries or ditches	management has been relaxed and there is evidence of rare and wild flower developing through the grasslands
J1.3 Cultivated Ephemeral/Short Perennial	No	Potential for improvement; Habitat provision for invertebrates; feed pollinating insects	Maintain extent; if increase extent endeavour to use native species (although diversity of species/structure is of greater importance than naiveness'; improve quality for use by pollinating insects	Review with Head Forester, Duchy of Cornwall has happened and landscaping plan to include natives and pollinators has started to be enacted.
J1.4 Cultivated Introduced Shrub	No	Potential for improvement; Habitat provision for invertebrates and birds; feed pollinating insects	Maintain extent; if increase extent endeavour to use native species; improve quality for use by pollinating insects; maintain/encourage uncultivated areas as habitat for small mammals, birds, and insects	Review with Head Forester, Duchy of Cornwall has happened and landscaping plan to include natives and pollinators has started to be enacted.
J2.1 Species Poor Intact Hedge	Yes		Maintain/Increase extent; improve quality; opportunity to increase habitat connectivity; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries, and seeds; encourage growth of tall vegetation along base of hedgerows	Gap filling exercise has begun and extent of hedgerows has increased around parking areas
J2.3 Hedgerow with Trees	Yes		Maintain/Increase extent; improve quality; opportunity to	

			increase habitat connectivity; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries, and seeds; encourage growth of tall vegetation along base of hedgerows	
J2.5 Wall	No	Support mosses, lichens, and ferns; insect habitat	Maintain extent; encourage climbing plants	
J3.6 Buildings	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Improve quality; offer new habitats through green roofing, bat/bird boxes, insect bricks; environmentally mindful development	
J4 Bare Grounds	No	Potential for improvement as offer little-to-no ecological interest; may offer Basking habitat for small reptiles	Maintain extent	

Swansea Campus

Table 1. Habitats of conservation importance at UWTSW Swansea Campus

Phase 1 Habitat Type	S7 Priority Habitat?	Reason for Inclusion in BAP (if not S7)	Conservation Target	Oct 22 update
A3.2 Parkland and Scattered Trees	Yes		Maintain extent; improve quality; protect mature/veteran trees; relaxation in management in appropriate areas to develop species to flower and seed	
J1.2 Amenity Grassland	No	Potential for improvement; habitat provision for invertebrates, birds, and small mammals;	Maintain extent; improve quality; develop areas to manage as wildflower meadows/species-rich grasslands (can act as linking-habitat in built-up areas); allow areas of	Very few opportunities to develop grasslands, however Technium 2 front has been grassed over

		aids with drainage	disturbed/bare ground for insects; sympathetic maintenance regimes; leave a margin of longer grassland alongside any features such as boundaries or ditches	and planters with native pollinators will be added as next phase. Trinity Gardens will be developed in conjunction with the Innovation Matrix development
J1.3 Cultivated Ephemeral/Short Perennial	No	Potential for improvement; Habitat provision for invertebrates; feed pollinating insects	Maintain extent; if increase extent endeavour to use native species (although diversity of species/structure is of greater importance than nativeness; improve quality for use by pollinating insects	Rear of Dynefor and Llys Glass courtyard have been developed to incorporate planters with pollinators, grasses and shrubs
J1.4 Cultivated Introduced Shrub	No	Potential for improvement; Habitat provision for invertebrates and birds; feed pollinating insects	Maintain extent; if increase extent endeavour to use native species; improve quality for use by pollinating insects; maintain/encourage uncultivated areas as habitat for small mammals, birds, and insects	Rear of Dynefor and Llys Glass courtyard have been developed to incorporate planters with pollinators, grasses and shrubs
J2.1 Species Poor Intact Hedge	Yes		Maintain/Increase extent; improve quality; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries, and seeds; encourage growth of tall vegetation along base of hedgerows	Gap filling exercise has started and less rigorous maintenance plan has been enacted
J2.3 Hedgerow with Trees	Yes		Maintain/Increase extent; improve quality; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries, and seeds; encourage growth of	Gap filling exercise has started and less rigorous maintenance plan has been enacted

			tall vegetation along base of hedgerows	
J2.5 Wall	No	Support mosses, lichens, and ferns; insect habitat	Maintain extent; encourage climbing plants	
J3.6 Buildings	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Improve quality; offer new habitats through green roofing, bat/bird boxes, insect bricks; environmentally mindful development	Swift box locations have been identified and await install
J4 Bare Grounds	No	Potential for improvement as offer little-to-no ecological interest; Basking habitat for small reptiles	Maintain extent	
Individual Trees	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Increase extent – improvement in habitat connectivity	

3.3 NRAP Objective 3: Increase the resilience of our natural environment by restoring degraded habitats and habitat creation

Lampeter campus introduced beehives in October 2021, to enhance natural pollination and help conserve bee species. The University is looking to develop this across Swansea and Carmarthen by 2025.

Further to this the following habitat related actions are contained within the BAP.

Action No.	Action	Campus	Target Date	Progress Sept 22
3.1	Review current grounds maintenance regimes (where appropriate look to reduce cutting frequency and extent of grass cutting, put signs in place to identify areas of reduced management)	All	May-22	Complete
3.2	Identify areas for creation of wildflower meadows	Lampeter, Carmarthen	June-22	Complete
3.3	Identify areas to allow “scruffy” and uncultivated habitat development	All	June-22	Complete

3.4	Identify hedges to be less rigorously maintained (allowing more dense hedges to develop and leaving taller vegetation along base)	All	Sep-22	Ongoing review through nesting season
3.5	Ensure woodlands are sympathetically maintained (where appropriate retain undergrowth/scrub; plant native species to diversify habitats; retain log/dead wood piles; screen imported soils to prevent introduction of non-native species; where appropriate thin dense strands of saplings to prevent dark, dense woodland; allow open areas to encourage ground flora to develop)	Lampeter, Carmarthen	Ongoing – soil survey identified lime in Lampeter which needs to be neutralised in order to ensure the native trees to be planted are not compromised	In progress, log piles are in place, native trees have been planted and bases of all trees have been mulched.
3.6	Identify locations to erect bat/bird boxes	All	May-22	Locations identified and boxes ordered ready to be displayed on map
3.7	Plant nectar rich plant species and native wildflowers in place of less-diverse ornamentals	All	Ongoing	Advised on type, time and method by National Botanical Gardens for Wales
3.8	Redevelop existing pond and identify areas to create new ponds	Lampeter, Carmarthen	Jan-23	Awaiting grant from Local Places for Nature
3.9	Embed pond management into grounds management procedures	Lampeter, Carmarthen	Jan-23	Identifying appropriate course and method
3.1	Remove/control all non-native, invasive plant species and replace with native where appropriate	All	Ongoing	
3.11	Ensure building projects considers and protects biodiversity and ideally results in overall biodiversity net gain, or mitigation of any potential damages	All	Ongoing	

In addition to the above, the “200 Trees for 200 years” project is part of the University’s bicentenary celebrations which links to the Queen’s Platinum Jubilee Green Canopy, that invites people to ‘plant a tree for the Jubilee’. The initiative also supports the Welsh Government’s aims of planting trees to tackle climate change.

This project involved:

- The planting of 130 saplings secured from Woodland Trust, with links to community engagement through the Canolfan Tir Glas. The saplings will be a mixture of trees from the Woodland Trust's 'Working Wood' and 'Year Round Colour' selections. Species will include: hawthorn, wild cherry, silver birch, rowan, hazel, common oak, grey willow.
- The securing of selected tree species to complement existing planting on the meadow area, for example a range of maples and acers.
- The establishment of an orchard made up of native and heritage fruit trees. This will be an area for the University's students, staff, and wider community to enjoy.
- The project will provide an opportunity to remove 15 non-native evergreen trees (e.g. adjoining the Sports Centre), that offer minimal habitation and cause damage to the soil, restricting the growth of native species. These trees will be taken down in March, and the soil will then be given some months to recover. Soil sampling will be carried out 6 months later, and then the new orchard trees will be planted in their place.

Case Study

Pupils from Ysgol Bro Pedr, Lampeter worked closely with Lampeter Tree Services to plant saplings to the stretch of grassland on the old railway site on the campus.

Deputy Headteacher Llinos Jones from Ysgol Bro Pedr said: "The pupils from Ysgol Bro Pedr are delighted to have been given the opportunity to support the planting of trees to celebrate the University's bicentenary. They will remember this special occasion for many years to come as they continue to visit the site to see the trees growing."

Meirion Williams from Lampeter Tree Services adds: "We as a company are pleased to be invited to plant trees as part of the University's celebrations. We often hear that more trees need to be planted and planting with the help of Ysgol Bro Pedr will be a special opportunity to educate the next generation about the importance of planting trees."

The planting of 130 saplings secured from Woodland Trust, has links to community engagement through the Canolfan Tir Glas initiative. The saplings will be a mixture of trees from the Woodland Trust's 'Working Wood' and 'Year-Round Colour' selections. Species will include hawthorn, wild cherry, silver birch, rowan, hazel, common oak, and grey willow.

The planting of additional trees across the campus aims to enhance biodiversity and is linked to the University's strategic recognition that environmental enhancement is fundamental to the future health and well-being of the University, the wider community, and the planet. The trees to be planted on the campus boundary are native orchard trees and woodland species which will benefit, for example, the pollination and habitat enhancement of a recently established bee farm.

Emyr Jones – Executive Head of Property & Estate Development at UWTSD said: "Trees and woodlands are the lifeblood of communities, essential to supporting wellbeing, reducing pollution, and improving people's quality of life. These initiatives will help promote biodiversity, ensure resilient tree growth and management across the University estate. It also forms part of the University's Bicentenary celebrations and its commitment to futureproof against the implications of climate change."

Gwilym Dyfri Jones, Provost of UWTSD's Lampeter and Carmarthen campus also noted: "The university is delighted to invite the first group from Lampeter's community to the campus to assist us with the '200 Trees for 200 Years' project. It was fantastic to see the children's interest and enthusiasm, and we are looking forward to inviting them back to the campus in the future to see the results of their hard work."

3.4 NRAP Objective 4: Tackle key pressures on species and habitats

- Reduction of use of pesticides by creating new Weed Control Plan which through review will identify better solutions and specific area plans for spraying
- All non-native invasive species (notably Japanese Knotweed and Himalayan Balsam) are contracted to specialist and local contractors to ensure professional removal with long term results and insurances. A map of high-risk areas will be developed by Jan 2023 alongside the development of an invasive species plan
- Felled trees will be repurposed into new projects where possible, where not suitable will be left as sizable as possible to ensure maximum carbon release as well as creation of habitats
- All catering disposable packaging is either recyclable, compostable or biodegradable where provided internally. We are working with our suppliers to apply this principle to bought in ready made goods.
- Decarbonisation of our fleet has started with a view to be 100% electric by 2026
- Machinery and plant are currently under review, specifically for the Grounds Maintenance – battery powered tools are being explored
- Personal printers have been eradicated and default print settings are double sided
- All new UWTSD issued devices have a 2-minute power save function applied that cannot be changed by the individual user in order to reduce charge time required
- Building Improvements, which include: -
 - (i) Installation of more energy efficient controls linked to a comprehensive Building Energy Management System (BEMS)
 - (ii) Replacement of boiler plants with energy efficient systems including air source heat pumps
 - (iii) Lighting upgrades and installation of lighting controls
 - (iv) SMART Metering of utilities
 - (v) Water Saving Conservation Measures and additional metering
 - (vi) Assessing the viability of further Solar PV installations at Carmarthen, Swansea and Lampeter Campuses
 - a. Over 200,000 kWh of additional Solar PV installations planned for completion by 1st December 2022.
 - (vii) Installation of only A++ energy rated electrical equipment for all replacement goods

UWTSD currently operates 1 rainwater harvesting system on its Swansea Campus and is currently reviewing where else this could be implemented to help in the protection of water supply.

The University is linking with NRW to assess natural flood prevention measures on the Lampeter Campus.

All UWTSD external sites are accessible and well used by the local community. Lampeter in Particular is home to 'Gwddi Hws' a nursery provider whose children regularly spend time within the meadow in the grounds, however the University seeks to develop a nature trail through and work to ensure we become members of Local Nature Partnerships across Wales.

Air Quality Monitoring is an integral part of the Capital Projects programme and will be part of the schedule for all major building developments. All Capital Projects aim for BREEAM excellence.

Every professional and academic unit has been charged with developing a Sustainability Action Plan and the Catering Plan is at Annexe B to demonstrate as an example of further wider actions the University is working through to tackle key environmental pressures.

3.5 NRAP Objective 5: Improve our evidence, understanding and monitoring

The University has in place a Biodiversity and Eco-Systems Duty Forward Plan which includes actions linked to better community engagement, habitat management and monitoring.

Some future actions include.

- Receive the expert field consultant review and audit the S7 species and habitats
- Developing Biodiversity and habitat protection skills within our in-house grounds team

- Green Business Centre developed a sustainability gap analysis for the University and the University continues to work toward many of the recommendations
- Developing a weed management plan to provide target areas with the overarching aim to reduce herbicide use.
- Environmental evidence is publicly available through our biodiversity plan updates on the website.
- Ongoing engagement with local community groups and biodiversity steering groups to understand biodiversity trends and develop internal monitoring programs.
- Inclusion of the Cardiff, London and Birmingham Estate into the BAP.
- Move toward electric vehicles and grounds maintenance equipment

The physical actions linked to the BAP and associate land management works are to be recorded on the University's CAFM (Computer Aided Facilities Management) System in order to maintain a central repository of work in terms of scheduling, completion, and costs.

3.6 NRAP Objective 6: Put in place a framework of governance and support for your delivery

The University's Biodiversity and Eco-Systems Duty Forward Plan details the direction and requirements regarding decision making and planning around biodiversity. The development of a biodiversity steering group will review and update this plan in line with the universities ongoing goals. The Biodiversity Policy Statement will sit within the sustainability team and forms part of the broader EMS strategy and policies. The Biodiversity and Eco-Systems Duty Forward Plan will be reviewed on a no less than annual basis and will be submitted to the Sustainable Development Group for approval.

The University will use the Green Dragon annual certification of the EMS to ensure we maintain compliance within all legislative requirements as well as bi-annual internal audits to be undertaken by the Head of Sustainability and Head of Facilities. Ongoing external auditors will continue to monitor the biodiversity within the three campuses and provide updates regarding the s7 species and habitats. The biodiversity steering group will use the results of the s7 audit to identify targets for improvement and develop internal monitoring plans.

4 Review of S6 Duty

The section 6 review has been undertaken by Ecology Planning and the final report is expected imminently though informal feedback has so far been that the actions in place are making a real difference to the eco-systems and biodiversity.

The key issues that we will face in Swansea is the urban nature of our campuses as well as the geographical spread. The review will also incorporate an assessment of the newly acquired Cardiff Estate and again, the opportunities to enhance biodiversity here are slim given the nature of the grounds, the leased basis on which we operate in two buildings and the City Centre location.

5. Glossary of Terms

BAP – Biodiversity Action Plan

BEMS – Building Energy Management System

BMS – Building Management System

BOH – Back of House

CAFM – Computer Aided Facilities Management System

EMAS – Eco-Management and Audit Scheme

EMS – Environmental Management System

EV – Electric Vehicle

FE – Further Education

HE – Higher Education

LBAP – Local Biodiversity Action Plan

NRW – Natural Resources Wales

PV – Photovoltaics (Solar Panels)

SAC – Special Area of Conservation

SSSI – Site of Special Scientific Interest

TSDSU – Trinity Saint David Student Union

UKAS – United Kingdom Accreditation Service

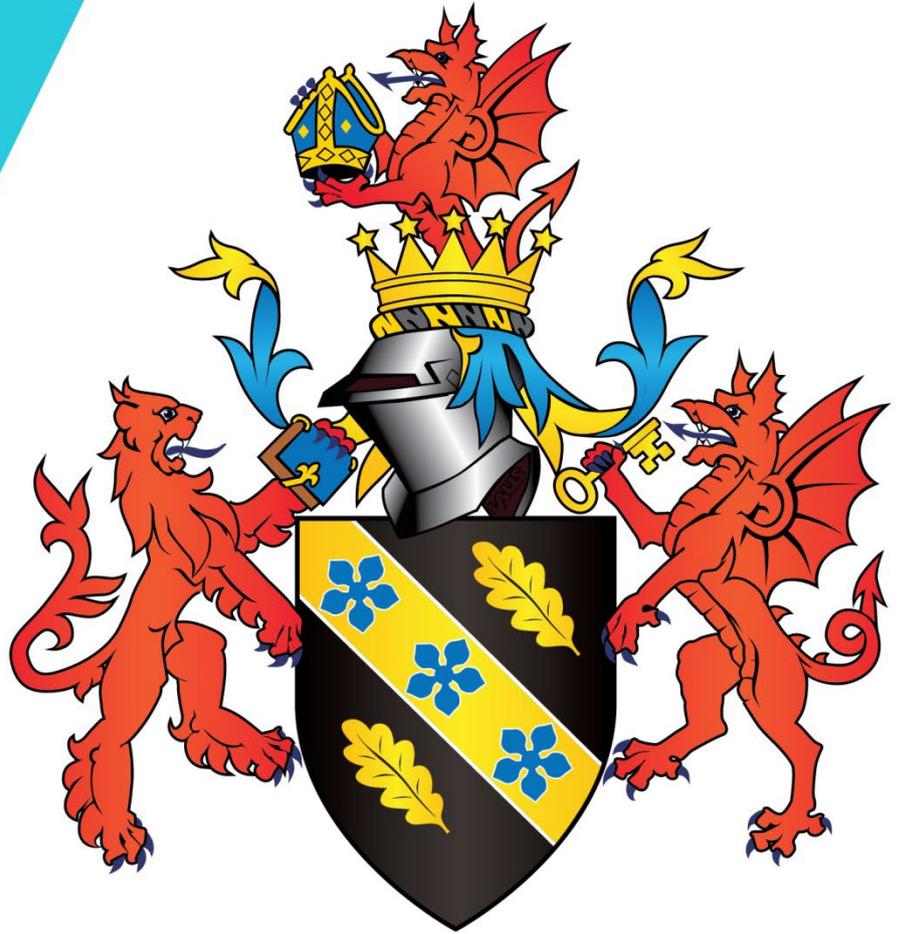
6. Annexes

Annexe A – Biodiversity and Eco Systems Forward Plan 2022-2025

Annexe B – Climate



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David



Biodiversity and Eco-
Systems Duty –
Forward Plan 2022
2025

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Introduction

Biodiversity Action Plans

The WWF defines biodiversity as “the variety of animals, plants, fungi and microorganisms that make up the natural world. Each species and organism working together in ecosystems to maintain balance and support life”. Biodiversity provides essential services needed for our survival, including flood mitigation, provision of clean water and air, pollination of crops and production of natural resources like coal and timber. The intrinsic value of biodiversity is not limited to lush meadows or rain forests, but extends to back gardens, former quarries, factory roof tops and almost any other space.

The continued promotion and protection of biodiversity is of paramount importance as it is under threat domestically and internationally. Anthropogenic activities are largely responsible for wide-scale decline in biodiversity. Land use changes, agricultural and woodland management practices, water and air pollution and intensification of development are just some of the ways we have negatively impacted global biodiversity.

Legal Background and Requirements

The UK responded to the continued loss of global biodiversity by publishing the **UK Biodiversity Action Plan** in 1994. It set out a programme to conserve the UK’s biodiversity by creating a series of actions plans to help priority habitats and species.

A list of habitats and species of principle importance in Wales was set out under **Section 42 of the Natural Environment and Rural Communities Act (NERC) of 2006**.

In 2015, the Welsh Assembly published the **Nature Recovery Plan for Wales**. This identified how Wales was to deliver on commitments required by the UN’s Convention on Biological Diversity and the EU Biodiversity Strategy, which aimed to stop the biodiversity decline by 2020.

More recently the **Environment Act (Wales) 2016** was introduced. This Act reviewed and updated Section 42 of NERC and placed a duty on public bodies in Wales to ‘seek to maintain and enhance biodiversity’. Via the Biodiversity and Eco Systems Duty Plan.

The **Environment Bill 2020, Part 6: Nature and Biodiversity** makes amendments to **Section 40 of NERC**. It explicitly sets the requirement of public bodies to assess how they can take action to enhance and conserve biodiversity, and to then take these actions.

UWTSD Biodiversity Action Plan: Scope and Goals

At the University of Wales Trinity St David, we understand the environmental impact of our activities and aim to tackle and mitigate any negative impacts and achieve biodiversity net gain. As such, we have implemented our 2022 – 2025 Biodiversity and Eco-Systems Action Plan. The Plan also seeks to fulfil the requirements of the Environment Act (Wales) 2016, Part 6 of

the Environment Bill 2020 and to work towards the 'Resilient Wales' goal set within the Well-being of Future Generations (Wales) Act 2015.

This plan and Environmental Management System are in place to help us achieve this. The scope of these documents covers all of UWTSD' Welsh campuses; in Swansea, Lampeter, Cardiff and Carmarthen.

We are committed to not only maximising the ecological value of habitats already present on our campuses, while retaining their functional value, but also increasing the amount of green space present on campus. Aside from environmental improvements, we hope that the actions of our BAP will provide positive physical and mental benefits to our staff and students.

This Biodiversity Action Plan is a live, working document and will be subject to review at least every four years. The BAP does not focus on specific habitat or species action plans, but instead focuses on four broader goals, which in turn encompass specific plans. The goals cover:

1. Management and Reporting
2. Survey, Monitoring and Data Management
3. Habitat and Species Management
4. Engagement, Awareness Raising and Education

Specific actions designed to achieve these goals have been outlined in the Action Plan section this document, along with timelines for their completion and their lead contact.

Biodiversity on Campuses and Local Council Biodiversity Plans

University of Wales Trinity St David is already seeking to improve our environmental performance in the areas of waste, energy and transport through our Environmental Management System. We are extending our improvements to biodiversity gains through our BAP. This will provide clear physical environmental improvements, but also considerably more benefits. According to the Environmental Association for Universities and Colleges, universities with an active biodiversity agenda can expect to see:

- Improved reputation and green image
- Potential to develop partnerships between staff and students
- Opportunities for education and curriculum greening
- Campus contribution to healthy living and wellbeing
- Enhanced volunteering opportunities for students
- Greater support from local authorities for planning and new development
- Cost savings in maintenance
- Legislative compliance
- Wider benefits in terms of flood and carbon reduction

The University is unique in that each campus setting is different from the others; this offers many opportunities to pursue a variety of initiatives throughout Wales without being limited by a single landscape. The University is set across five campuses, ranging from city centre sites to rural locations. This scope of this Biodiversity Action Plan covers our three Welsh campuses. Across these locations the University is attended by approximately 11000 students and employs more than 2000 members of staff.

The Swansea campus is in an urban location and is relatively poor from a conservation perspective, consisting of a mosaic of buildings and bare ground interspersed with highly managed amenity grasslands, beds of cultivated introduced shrub and ephemeral perennials and individual trees. This highlights the possibility for substantial enhancement opportunities. As the Waterfront IQ campus is situated in an exposed coastal location, there has been difficulty in the past establishing and supporting the growth of plant species. As such, hardy plants well suited to coastal environments should be selected for planting.

The Lampeter and Carmarthen campuses offer more scope for biodiversity improvement than Swansea campus, as they have a richer diversity of habitats. Both contain large areas of amenity grassland as well as poor semi-improved grassland. The Lampeter campus specifically is of conservation importance owing to an estuary of the Teifi River flowing through it which is a designated Special Area of Conservation (SAC) and a Site of Specific Scientific Interest (SSSI). As such particular care must be taken with any biodiversity developments, ensuring no invasive species are introduced and the site is not damaged. The SAC is designated due to its emergent vegetation that is often dominated by Stream Water-crowfoot *Ranunculus penicillatus* subsp. *penicillatus*; and protected species that are found within this habitat that includes Bullhead *Cottus gobio*, River lamprey *Lampetra fluviatilis*, Brook lamprey *Lampetra planeri*, Sea Lamprey *Petromyzon marinus*, Atlantic Salmon *Salmo salar*, Otter *Lutra lutra* and Floating Water-plantain *Luronium natans*. Our Lampeter campus has introduced bee hives in October 2021, to enhance natural pollination and help conserve bee species.

Carmarthenshire Biodiversity Action Plan

The Carmarthenshire BAP focuses on actions that are needed to meet the objectives for the habitats and species of principal importance as set out in Section 42 of the Countryside & Rights of Way Act 2000. These habitats and species need conserving and are part of what makes Carmarthenshire special and distinctive.

The Carmarthenshire Biodiversity Action Plan concentrates on nine groupings of habitats. These are, Woodland, Upland Habitats, Freshwater, Wetlands, Farmland, Lowland Grassland and Heathland, Brownfield/Urban, Coastal and Marine habitats and species. Species have been grouped in with habitats however a number of species are supported with individual action plans in order to positively manage the habitat or connect and expand where possible, there are; tree sparrow, water vole, bats, hedgehog, otter, dormouse, red squirrel, marsh fritillary and brown hairstreak butterflies, small-flowered catchfly, Deptford pink, barn owl (local priority), brown hare, little-ringed plover and amphibians and reptiles.

The Carmarthenshire Biodiversity Action Plan and their priority habitats will be considered throughout the development of our Biodiversity Action Plan.

Ceredigion Local Biodiversity Action Plan

The Ceredigion LBAP was developed with the Ceredigion Biodiversity Partnership and is supported by the Countryside Council for Wales

The Plan provides the framework for local biodiversity action with an aim to contribute to delivery of national targets for key habitats and species. The species and habitats included within the plan comprise UK Priority Species (those defined as globally threatened or declining in the UK) and Species of Conservation Concern (defined as meeting one or more of the four criteria stated in the 1995 UK Steering Group Report).

Habitat and Species Action Plans were created as part of the LBAP, establishing conservation targets for conservation action, current status of the species/habitat and a 'lead partner' to take on implementation and review. The Habitat Action Plans cover upland mixed ashwoods, upland oak woods, wet woodland and roadside verges. The Species Action Plans cover black grouse *Lyrurus tetrrix*, brown hare *Lepus europeaus*, chouch *Elymus repens* and hornet robberfly *Asilus crabroniformis*.

The Ceredigion Local Biodiversity Action Plan will be considered throughout the development of our Biodiversity Action Plan.

Swansea Local Biodiversity Strategy and Action Plan

Swansea Council's LBAP outlines the strategic actions needed to conserve both priority habitats and species and wider biodiversity. It aims to protect, manage, enhance and promote Swansea's outstanding natural environment and natural beauty.

The Plan consists of 15 strategic objectives over five key themes:

6. Understanding the natural environment – *Audit*
7. Protecting and safeguarding the natural environment – *Plans, policies and legislation*
8. Managing and enhancing the natural environment
9. Understanding and appreciating the natural environment – *awareness raising and community involvement*
10. Finding the resources

The Swansea Local Biodiversity Strategy and Action Plan will be considered throughout the development of our Biodiversity Action Plan.

Habitats and Species of Conservation Importance

The tables below were developed through a Phase 1 Habitat Survey carried out at all three campuses in September 2021. The habitats are included if they are in Section 7 of the Environment Act's habitats and species of particular conservation concern in Wales, or if they provide important ecosystem services. Section 7 replaces section 42 from the NERC Act.

We do not currently have complete lists of all plants and animals using the campuses. Opportunities for increasing knowledge are and will be undertaken. Species-specific presence/absence surveys will be undertaken when the 2022 ecological survey season commences. This will allow species of conservation importance at each campus to be recorded, with subsequent conservation targets set.

The information in the tables below serves to highlight current biodiversity priorities and will be updated as new information is gained, allowing management to further improve. Good management practices can still be carried out with only preliminary information, including reducing pesticide/herbicide use, reducing frequency of grass cutting, allowing wild flowers to seed and controlling invasive species. Data for the habitats of conservation importance were obtained from Phase 1 Habitat surveys of each site. Data for the Swansea campus species of conservation importance were obtained from South East Wales Biodiversity Records Centre (SEWBReC). Data for the Lampeter and Carmarthen campuses were obtained from West Wales Biodiversity Information Centre (WWBIC)

Table 1. Habitats of conservation importance at UWTSD Swansea Campus

Phase 1 Habitat Type	S7 Priority Habitat?	Reason for Inclusion in BAP (if not S7)	Conservation Target
A3.2 Parkland and Scattered Trees	Yes		Maintain extent; improve quality; protect mature/veteran trees; relaxation in management in appropriate areas to develop species to flower and seed
J1.2 Amenity Grassland	No	Potential for improvement; habitat provision for invertebrates, birds and small mammals; aids with drainage	Maintain extent; improve quality; develop areas to manage as wild flower meadows/species-rich grasslands (can act as linking-habitat in built-up areas); allow areas of disturbed/bare ground for insects; sympathetic maintenance regimes; leave a margin of longer grassland alongside any features such as boundaries or ditches
J1.3 Cultivated Ephemeral/Short Perennial	No	Potential for improvement; Habitat provision for invertebrates; feed pollinating insects	Maintain extent; if increase extent try to use native species (although diversity of species/structure is of greater importance than nativeness; improve quality for use by pollinating insects
J1.4 Cultivated Introduced Shrub	No	Potential for improvement; Habitat provision for invertebrates and birds; feed pollinating insects	Maintain extent; if increase extent try to use native species; improve quality for use by pollinating insects; maintain/encourage uncultivated areas as habitat for small mammals, birds and insects
J2.1 Species Poor Intact Hedge	Yes		Maintain/Increase extent; improve quality; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries and seeds; encourage growth of tall vegetation along base of hedgerows
J2.3 Hedgerow with Trees	Yes		Maintain/Increase extent; improve quality; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries and seeds; encourage growth of tall vegetation along base of hedgerows
J2.5 Wall	No	Support mosses, lichens and ferns; insect habitat	Maintain extent; encourage climbing plants
J3.6 Buildings	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Improve quality; offer new habitats through green roofing, bat/bird boxes, insect bricks; environmentally-mindful development

J4 Bare Grounds	No	Potential for improvement as offer little-to-no ecological interest; Basking habitat for small reptiles	Maintain extent
Individual Trees	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Increase extent – improvement in habitat connectivity

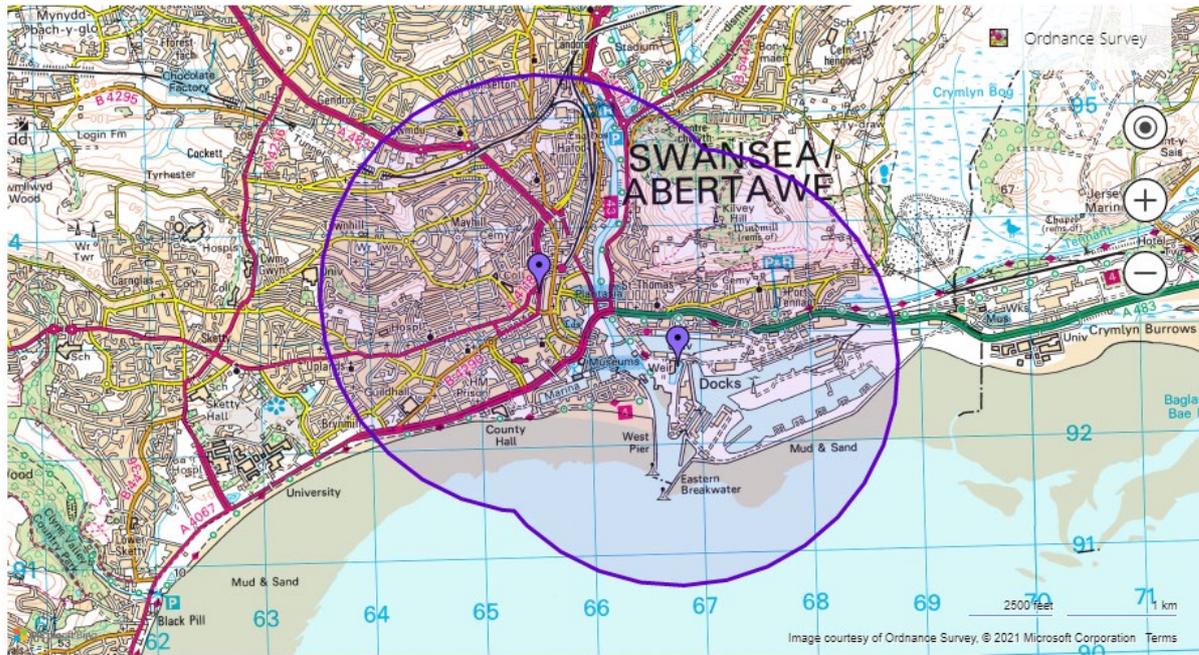


Table 2. S7 priority species recorded within 2km of UWTSD Swansea Campus (search area highlighted above)

Scientific Name	Common Name
Mammals	
<i>Chiroptera</i>	Bats
<i>Erinaceus europaeus</i>	West European Hedgehog
<i>Lepus europaeus</i>	Brown Hare
<i>Lutra lutra</i>	European Otter
<i>Megaptera novaeangliae</i>	Humpback Whale
<i>Meles meles</i>	Eurasian Badger
<i>Mustela nivalis</i>	Weasel
<i>Myotis</i>	Unidentified Bat
<i>Nyctalus noctula</i>	Noctule Bat
<i>Phocoena phocoena</i>	Common Porpoise
<i>Pipistrellus</i>	Pipistrelle
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus pipistrellus</i>	Pipistrelle
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
<i>Plecotus auritus</i>	Brown Long-eared Bat
Birds	
<i>Acanthis cabaret</i>	Lesser Redpoll
<i>Alauda arvensis</i>	Eurasian Skylark
<i>Alcedo atthis</i>	Kingfisher
<i>Anthus trivialis</i>	Tree Pipit
<i>Aythya marila</i>	Scaup

<i>Cettia cetti</i>	Cetti's Warbler
<i>Charadrius alexandrinus</i>	Kentish Plover
<i>Charadrius dubius</i>	Little Ringed Plover
<i>Charadrius hiaticula</i>	Common Ringed Plover
<i>Chroicocephalus ridibundus</i>	Black-headed Gull
<i>Circus aeruginosus</i>	Western Marsh Harrier
<i>Circus cyaneus</i>	Hen Harrier
<i>Cuculus canorus</i>	Cuckoo
<i>Cygnus cygnus</i>	Whooper Swan
<i>Emberiza citrinella</i>	Yellowhammer
<i>Emberiza schoeniclus</i>	Common Reed Bunting
<i>Falco columbarius</i>	Merlin
<i>Falco peregrinus</i>	Peregrine
<i>Falco tinnunculus</i>	Kestrel
<i>Ficedula hypoleuca</i>	European Pied Flycatcher
<i>Gavia immer</i>	Common Loon
<i>Gavia stellata</i>	Red-throated Loon
<i>Hydrocoloeus minutus</i>	Little Gull
<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull
<i>Larus argentatus</i>	European Herring Gull
<i>Limosa lapponica</i>	Bar-tailed Godwit
<i>Linaria cannabina</i>	Linnet
<i>Locustella naevia</i>	Grasshopper Warbler
<i>Loxia curvirostra</i>	Red Crossbill
<i>Melanitta nigra</i>	Common Scoter
<i>Milvus milvus</i>	Red Kite
<i>Muscicapa striata</i>	Spotted Flycatcher
<i>Numenius arquata</i>	Curlew
<i>Numenius phaeopus</i>	Eurasian Whimbrel
<i>Oceanodroma leucorhoa</i>	Leach's Storm Petrel
<i>Pandion haliaetus</i>	Western Osprey
<i>Panurus biarmicus</i>	Bearded Reedling
<i>Passer domesticus</i>	House Sparrow
<i>Passer montanus</i>	Tree Sparrow
<i>Perdix perdix</i>	Grey Partridge
<i>Phoenicurus ochruros</i>	Black Redstart
<i>Plectrophenax nivalis</i>	Snow Bunting
<i>Podiceps auritus</i>	Slavonian Grebe
<i>Poecile montanus</i>	Willow Tit
<i>Poecile palustris</i>	Marsh Tit
<i>Prunella modularis</i>	Dunnock
<i>Pyrrhula pyrrhula</i>	Eurasian Bullfinch
<i>Recurvirostra avosetta</i>	Avocet
<i>Regulus ignicapilla</i>	Common Firecrest
<i>Sternula albifrons</i>	Little Tern
<i>Sturnus vulgaris</i>	Starling
<i>Tringa ochropus</i>	Green Sandpiper
<i>Turdus iliacus</i>	Redwing
<i>Turdus philomelos</i>	Song Thrush
<i>Turdus pilaris</i>	Fieldfare
<i>Tyto alba</i>	Western Barn Owl
<i>Upupa epops</i>	Eurasian Hoopoe
<i>Vanellus vanellus</i>	Lapwing

Reptiles and Amphibians	
<i>Anguis fragilis</i>	Slow-worm
<i>Bufo bufo</i>	Common Toad
<i>Lissotriton helveticus</i>	Palmate Newt
<i>Lissotriton vulgaris</i>	Smooth Newt
<i>Natrix helvetica</i>	Grass Snake
<i>Rana temporaria</i>	Common Frog
<i>Triturus cristatus</i>	Great Crested Newt
<i>Vipera berus</i>	Adder
<i>Zootoca vivipara</i>	Common Lizard
Invertebrates	
<i>Acronicta psi</i>	Grey Dagger
<i>Acronicta rumicis</i>	Knot Grass
<i>Amphipoea oculaea</i>	Ear Moth
<i>Amphipyra tragopoginis</i>	Mouse Moth
<i>Anania funebris</i>	White-spotted Sable
<i>Apamea remissa</i>	Dusky Brocade
<i>Arctia caja</i>	Garden Tiger
<i>Argynnis adippe</i>	High Brown Fritillary
<i>Asilus crabroniformis</i>	Hornet robberfly
<i>Boloria euphrosyne</i>	Pearl-bordered Fritillary
<i>Boloria selene</i>	Small Pearl-bordered Fritillary
<i>Bombus humilis</i>	Brown-banded Carder-bee
<i>Brachylomia viminalis</i>	Minor Shoulder-knot
<i>Caradrina morpheus</i>	Mottled Rustic
<i>Celaena haworthii</i>	Haworth's Minor
<i>Ceramica pisi</i>	Broom Moth
<i>Chiasmia clathrata</i>	Latticed Heath
<i>Cirrhia icteritia</i>	Sallow
<i>Coenonympha pamphilus</i>	Small Heath
<i>Cossus cossus</i>	Goat Moth
<i>Cupido minimus</i>	Small Blue
<i>Diarsia rubi</i>	Small Square-spot
<i>Donacia bicolora</i>	Two-tone Reed Beetle
<i>Ecliptopera silaceata</i>	Small Phoenix
<i>Ennomos quercinaria</i>	August Thorn
<i>Epirrhoe galiata</i>	Galium Carpet
<i>Erynnis tages</i>	Dingy Skipper
<i>Eugnorisma glareosa</i>	Autumnal Rustic
<i>Euphydryas aurinia</i>	Marsh Fritillary
<i>Euxoa nigricans</i>	Garden Dart
<i>Euxoa tritici</i>	Dusky Dart
<i>Helotropha leucostigma</i>	Crescent
<i>Hepialus humuli</i>	Ghost Moth
<i>Hipparchia semele</i>	Grayling
<i>Hoplodrina blanda</i>	Rustic
<i>Hydraecia micacea</i>	Rosy Rustic
<i>Lasiommata megera</i>	Wall
<i>Leucania comma</i>	Shoulder-striped Wainscot
<i>Litoligia literosa</i>	Rosy Minor
<i>Lycia hirtaria</i>	Brindled Beauty
<i>Malacosoma neustria</i>	Lackey
<i>Melanchra persicariae</i>	Dot Moth

<i>Melanthia procellata</i>	Pretty Chalk Carpet
<i>Orthosia gracilis</i>	Powdered Quaker
<i>Ostrea edulis</i>	Common Oyster
<i>Perizoma albulata</i>	Grass Rivulet
<i>Perizoma albulata albulata</i>	Grass Rivulet
<i>Satyrrium w-album</i>	White-letter Hairstreak
<i>Scotopteryx chenopodiata</i>	Shaded Broad-bar
<i>Spilosoma lubricipeda</i>	White Ermine
<i>Spilosoma lutea</i>	Buff Ermine
<i>Tholera cespitis</i>	Hedge Rustic
<i>Tholera decimalis</i>	Feathered Gothic
<i>Timandra comae</i>	Blood-vein
<i>Tyria jacobaeae</i>	Cinnabar
<i>Watsonalla binaria</i>	Oak Hook-tip
<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet
<i>Xestia agathina</i>	Heath Rustic
<i>Xestia castanea</i>	Neglected Rustic
<i>Xylena exsoleta</i>	Sword-grass

A table listing the species of conservation importance specifically at UWTSD Swansea Campus will be added to this BAP upon completion of species-specific ecological surveys in the 2022 ecology season.

Lampeter Campus

Table 3. Habitats of conservation importance at UWTSD Lampeter Campus

Phase 1 Habitat Type	S7 Priority Habitat?	Reason for Inclusion in BAP (if not S7)	Conservation Target
A3.1 Mixed Semi-Natural Woodland	Yes		Maintain extent; protect mature/veteran trees; improve quality; retain undergrowth/scrub; opportunity to increase habitat connectivity; plant native species to diversify habitats; retain log/dead wood piles; screen imported soils to prevent introduction of non-native species; where appropriate thin dense strands of saplings to prevent dark, dense woodland; allow open areas to encourage ground flora to develop; erect bird/bat boxes on mature trees
A2 Continuous and Scattered Scrub	No	Provision of habitat and food for birds, insects and small mammals; resources for nesting birds and	Maintain/Increase extent; encourage growth of native species

		foraging and commuting bats	
A3 Parkland and Scattered Trees	Yes		Maintain extent; improve quality; protect mature/veteran trees relaxation in management in appropriate areas to develop species to flower and seed
B Poor Semi-Improved Grassland	No	Aid in drainage; habitat and food for pollinators	Maintain extent; improve quality; increase native/wild species/species-rich grasslands (can act as linking-habitat in built-up areas); allow areas of disturbed/bare ground for insects; sympathetic maintenance regimes; leave a margin of longer grassland alongside any features such as boundaries or ditches
C3.1 Tall Ruderal	No	Provision of habitat for birds and reptiles	Maintain extent; improve quality
G2 Running Water	Yes	River Dulais SAC	Should be left undisturbed – any works should include a ‘buffer strip’ to maintain riparian corridor
I1 Artificial Exposures and Waste Tips	No	Habitat provision for small mammals, insects and fungi	Improve quality for habitat
Individual Trees	No	Potential habitat for bats and birds (possible S7 species) – roost/nest; opportunity to increase habitat connectivity	Increase extent – improvement in habitat connectivity
J1.2 Amenity Grassland	No	Potential for improvement as offer little-to-no ecological interest; may offer habitat provision for invertebrates, birds and small mammals; aids with drainage	Maintain extent; improve quality; develop areas to manage as wild flower meadows/species-rich grasslands (can act as linking-habitat in built-up areas); allow areas of disturbed/bare ground for insects; sympathetic maintenance regimes; leave a margin of longer grassland alongside any features such as boundaries or ditches
J1.3 Cultivated Ephemeral/Short Perennial	No	Potential for improvement; Habitat provision for invertebrates; feed pollinating insects	Maintain extent; if increase extent try to use native species(although diversity of species/structure is of greater importance than nativeness; improve quality for use by pollinating insects
J1.4 Cultivated Introduced Shrub	No	Potential for improvement; Habitat provision for invertebrates and birds; feed pollinating insects	Maintain extent; if increase extent try to use native species; improve quality for use by pollinating insects; maintain/encourage uncultivated areas as habitat for

			small mammals, birds and insects
J2.1 Species Poor Intact Hedge	Yes		Maintain/Increase extent; improve quality; opportunity to increase habitat connectivity; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries and seeds; encourage growth of tall vegetation along base of hedgerows
J2.3 Hedgerow with Trees	Yes		Maintain/Increase extent; improve quality; opportunity to increase habitat connectivity; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries and seeds; encourage growth of tall vegetation along base of hedgerows
J2.5 Wall	No	Support mosses, lichens and ferns; insect habitat	Maintain extent; encourage climbing plants
J3.6 Buildings	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Improve quality; offer new habitats through green roofing, bat/bird boxes, insect bricks; environmentally-mindful development
J4 Bare Grounds	No	Potential for improvement as offer little-to-no ecological interest; may offer Basking habitat for small reptiles	Maintain extent

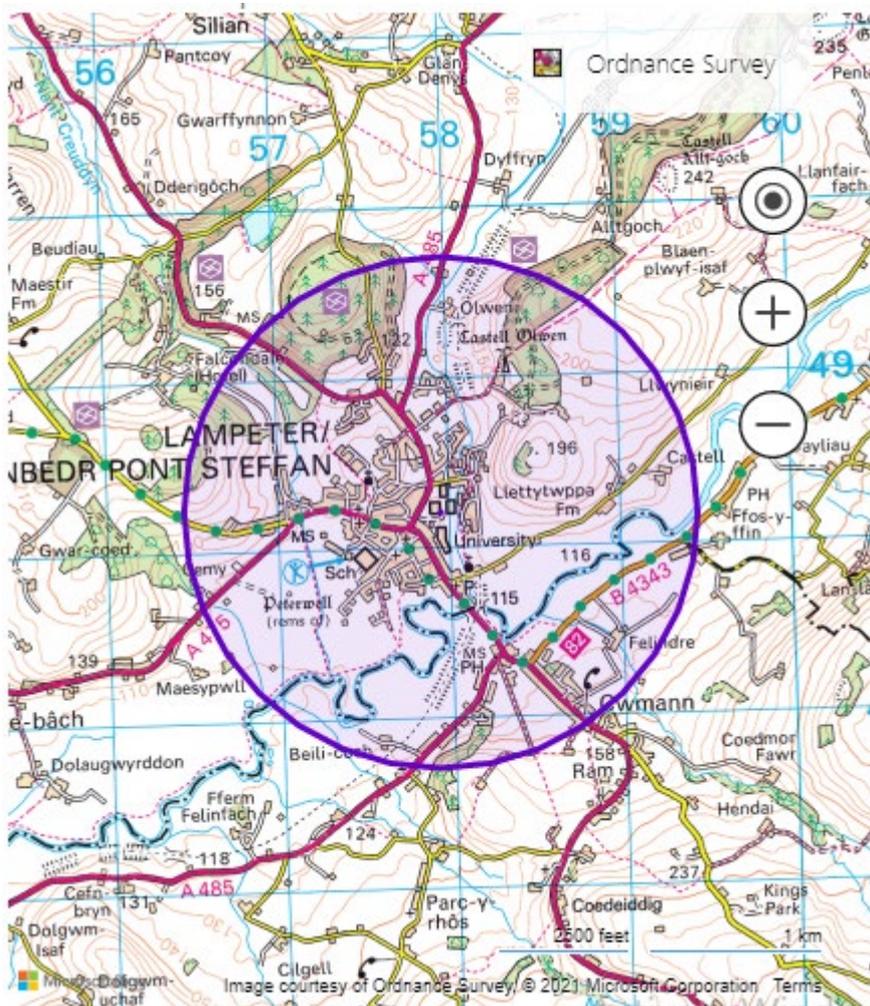


Table 4. S7 priority species recorded within 2km of UWTSD Lampeter Campus (search area highlighted above)

Scientific Name	Common Name
Mammals	
<i>Arvicola amphibius</i>	European Water Vole
<i>Erinaceus europaeus</i>	West European Hedgehog
<i>Lepus europaeus</i>	Brown Hare
<i>Lutra lutra</i>	European Otter
<i>Mustela putorius</i>	Polecat
<i>Myotis</i>	Unidentified Bat
<i>Myotis daubentonii</i>	Daubenton's Bat
<i>Nyctalus noctula</i>	Noctule Bat
<i>Pipistrellus</i>	Pipistrelle
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
<i>Plecotus auritus</i>	Brown Long-eared Bat
Birds	
<i>Alcedo atthis</i>	Kingfisher
<i>Falco tinnunculus</i>	Kestrel
<i>Milvus milvus</i>	Red Kite
<i>Passer domesticus</i>	House Sparrow
<i>Phylloscopus sibilatrix</i>	Wood Warbler
<i>Poecile montanus</i>	Willow Tit
<i>Prunella modularis</i>	Dunnock
<i>Sturnus vulgaris</i>	Starling
<i>Turdus philomelos</i>	Song Thrush
Reptiles and Amphibians	

<i>Anguis fragilis</i>	Slow-worm
Invertebrates	
<i>Lasiommata megera</i>	Wall Brown
<i>Spilosoma lubricipeda</i>	White Ermine

A table listing the species of conservation importance specifically at UWTSD Lampeter Campus will be added to this BAP upon completion of species-specific ecological surveys in the 2022 ecology season.

Carmarthen Campus

Table 5. Habitats of conservation importance at UWTSD Carmarthen Campus

Phase 1 Habitat Type	S7 Priority Habitat?	Reason for Inclusion in BAP (if not S7)	Conservation Target
A3.1 Mixed Semi-Natural Woodland	Yes		Maintain extent; protect mature/veteran trees; improve quality; retain undergrowth/scrub; plant native species to diversify habitats; retain log/dead wood piles; screen imported soils to prevent introduction of non-native species; where appropriate thin dense strands of saplings to prevent dark, dense woodland; allow open areas to encourage ground flora to develop; erect bird/bat boxes on mature trees
A2 Continuous and Scattered Scrub	No	Provision of habitat and food for birds, insects and small mammals; resources for nesting birds and foraging and commuting bats	Maintain/Increase extent; encourage growth of native species; opportunity to increase habitat connectivity
A3 Parkland and Scattered Trees	Yes		Maintain extent; improve quality; protect mature/veteran trees; opportunity to increase habitat connectivity; increase species and structural diversity; relaxation in management in appropriate areas to develop species to flower and seed
B Poor Semi-Improved Grassland	No	Aid in drainage; habitat and food for pollinators	Maintain extent; improve quality; increase native/wild species; relaxation in management in appropriate areas to develop species to flower and seed
C3.1 Tall Ruderal	No	Provision of habitat for birds and reptiles	Maintain extent; improve quality

E3.2 Basin Mire	No	Potential for improvement; aid in drainage;	Maintain/Increase extent; improve quality
F2.1 Marginal Vegetation	No	Protection of river bank; provision of habitat	Maintain extent; improve quality
G1.2 Man-Made Ponds	Yes		Restore pond to favourable condition; improve/maintain water quality; establish marginal and aquatic vegetation; identification of areas for new ponds
I1 Artificial Exposures and Waste Tips	No	Habitat provision for small mammals, insects and fungi	Improve quality for habitat
Individual Trees	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Increase extent – improvement in habitat connectivity; opportunity to increase habitat connectivity
J1.1 Arable	Yes		Maintain/Increase extent; improve quality
J1.2 Amenity Grassland	No	Potential for improvement as offer little-to-no ecological interest; may offer; habitat provision for invertebrates, birds and small mammals; aids with drainage	Maintain extent; improve quality; develop areas to manage as wild flower meadows/species-rich grasslands (can act as linking-habitat in built-up areas); allow areas of disturbed/bare ground for insects; sympathetic maintenance regimes; leave a margin of longer grassland alongside any features such as boundaries or ditches
J1.3 Cultivated Ephemeral/Short Perennial	No	Potential for improvement; Habitat provision for invertebrates; feed pollinating insects	Maintain extent; if increase extent try to use native species (although diversity of species/structure is of greater importance than nativeness); improve quality for use by pollinating insects
J1.4 Cultivated Introduced Shrub	No	Potential for improvement; Habitat provision for invertebrates and birds; feed pollinating insects	Maintain extent; if increase extent try to use native species; improve quality for use by pollinating insects; maintain/encourage uncultivated areas as habitat for small mammals, birds and insects
J2.1 Species Poor Intact Hedge	Yes		Maintain/Increase extent; improve quality; opportunity to increase habitat connectivity; less rigorous management would encourage a dense hedge to develop, encouraging fruits, berries and seeds
J2.3 Hedgerow with Trees	Yes		Maintain/Increase extent; improve quality; opportunity to increase habitat connectivity; less rigorous management would encourage a dense hedge to

			develop, encouraging fruits, berries and seeds; encourage growth of tall vegetation along base of hedgerows
J2.5 Wall	No	Support mosses, lichens and ferns; insect habitat	Maintain extent; encourage climbing plants
J3.6 Buildings	No	Potential habitat for bats and birds (possible S7 species) – roost/nest	Improve quality; offer new habitats through green roofing, bat/bird boxes, insect bricks; environmentally-mindful development
J4 Bare Grounds	No	Potential for improvement as offer little-to-no ecological interest; may offer; Basking habitat for small reptiles	Maintain extent

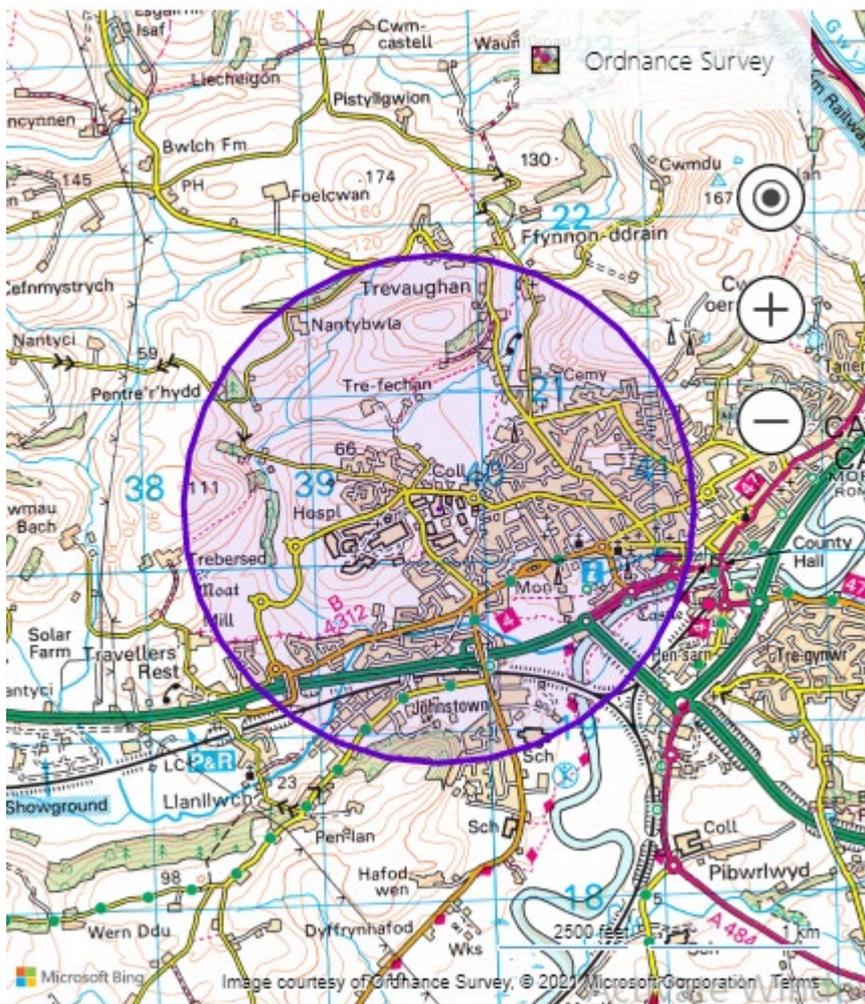


Table 6. S7 priority species recorded within 2km of UWTSD Carmarthen Campus (search area highlighted above)

Scientific Name	Common Name
Mammals	
<i>Chiroptera</i>	Bats
<i>Erinaceus europaeus</i>	West European Hedgehog
<i>Lutra lutra</i>	European Otter

<i>Meles meles</i>	Eurasian Badger
<i>Mustela nivalis</i>	Weasel
<i>Mustela putorius</i>	Polecat
<i>Myotis daubentonii</i>	Daubenton's Bat
<i>Myotis mystacinus</i>	Whiskered Bat
<i>Myotis</i>	Unidentified Bat
<i>Nyctalus noctula</i>	Noctule Bat
<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus pipistrellus</i>	Pipistrelle
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
<i>Pipistrellus</i>	Pipistrelle
<i>Plecotus auritus</i>	Brown Long-eared Bat
Birds	
<i>Acanthis cabaret</i>	Lesser Redpoll
<i>Alcedo atthis</i>	Kingfisher
<i>Cettia cetti</i>	Cetti's Warbler
<i>Chroicocephalus ridibundus</i>	Black-headed Gull
<i>Circus aeruginosus</i>	Western Marsh Harrier
<i>Emberiza schoeniclus</i>	Common Reed Bunting
<i>Falco columbarius</i>	Merlin
<i>Falco peregrinus</i>	Peregrine
<i>Falco tinnunculus</i>	Kestrel
<i>Larus argentatus</i>	European Herring Gull
<i>Linaria cannabina</i>	Linnet
<i>Locustella naevia</i>	Grasshopper Warbler
<i>Milvus milvus</i>	Red Kite
<i>Numenius arquata</i>	Curlew
<i>Passer domesticus</i>	House Sparrow
<i>Phalaropus lobatus</i>	Red-necked Phalarope
<i>Poecile montanus</i>	Willow Tit
<i>Poecile palustris</i>	Marsh Tit
<i>Prunella modularis</i>	Dunnock
<i>Pyrrhula pyrrhula</i>	Eurasian Bullfinch
<i>Sturnus vulgaris</i>	Starling
<i>Tringa ochropus</i>	Green Sandpiper
<i>Turdus iliacus</i>	Redwing
<i>Turdus philomelos</i>	Song Thrush
<i>Turdus pilaris</i>	Fieldfare
<i>Tyto alba</i>	Western Barn Owl
<i>Vanellus vanellus</i>	Lapwing
Reptiles and Amphibians	
<i>Anguis fragilis</i>	Slow-worm
<i>Bufo bufo</i>	Common Toad
<i>Rana temporaria</i>	Common Frog
<i>Zootoca vivipara</i>	Common Lizard
Invertebrates	
<i>Acronicta psi</i>	Grey Dagger
<i>Acronicta rumicis</i>	Knot Grass
<i>Agrochola helvola</i>	Flounced Chestnut
<i>Agrochola litura</i>	Brown-spot Pinion
<i>Agrochola lychnidis</i>	Beaded Chestnut
<i>Allophyes oxyacanthae</i>	Green-brindled Crescent
<i>Amphipoea oculea</i>	Ear Moth

<i>Apamea remissa</i>	Dusky Brocade
<i>Arctia caja</i>	Garden Tiger
<i>Boloria euphrosyne</i>	Pearl-bordered Fritillary
<i>Bombus humilis</i>	Brown-banded Carder-bee
<i>Bombus muscorum</i>	Moss Carder-bee
<i>Bombus ruderarius</i>	Red-shanked Carder-bee
<i>Brachylomia viminalis</i>	Minor Shoulder-knot
<i>Caradrina morpheus</i>	Mottled Rustic
<i>Ceramica pisi</i>	Broom Moth
<i>Chiasmia clathrata</i>	Latticed Heath
<i>Cirrhia icteritia</i>	Sallow
<i>Cupido minimus</i>	Small Blue
<i>Diarsia rubi</i>	Small Square-spot
<i>Ecliptopera silaceata</i>	Small Phoenix
<i>Ennomos erosaria</i>	September Thorn
<i>Ennomos fuscantaria</i>	Dusky Thorn
<i>Ennomos quercinaria</i>	August Thorn
<i>Eucera longicornis</i>	Long-horned Bee
<i>Helotropha leucostigma</i>	Crescent
<i>Hepialus humuli</i>	Ghost Moth
<i>Hipparchia semele</i>	Grayling
<i>Hoplodrina blanda</i>	Rustic
<i>Hydraecia micacea</i>	Rosy Rustic
<i>Lasiommata megera</i>	Wall
<i>Litologia literosa</i>	Rosy Minor
<i>Lycia hirtaria</i>	Brindled Beauty
<i>Malacosoma neustria</i>	Lackey
<i>Melanchra persicariae</i>	Dot Moth
<i>Minoa murinata</i>	Drab Looper
<i>Orthonama vittata</i>	Oblique Carpet
<i>Orthosia gracilis</i>	Powdered Quaker
<i>Rhizedra lutosa</i>	Large Wainscot
<i>Scotopteryx chenopodiata</i>	Shaded Broad-bar
<i>Spilosoma lubricipeda</i>	White Ermine
<i>Spilosoma lutea</i>	Buff Ermine
<i>Thecla betulae</i>	Brown Hairstreak
<i>Tholera decimalis</i>	Feathered Gothic
<i>Timandra comae</i>	Blood-vein
<i>Tyria jacobaeae</i>	Cinnabar
<i>Watsonalla binaria</i>	Oak Hook-tip
<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet

A table listing the species of conservation importance specifically at UWTSD Carmarthen Campus will be added to this BAP upon completion of species-specific ecological surveys in the 2022 ecology season.

Biodiversity Action Plan, Objectives and Targets

1. Management and Reporting

- I. Ensure structured, multistakeholder management system approach
- II. Ensure BAP progress/issues reported on campus
- III. Implement Biodiversity Steering Group
- IV. Create interactive app/intranet page for BAP

2. Survey, Monitoring and Data Management

- I. Agree a programme of data collection and surveys to monitor trends/progress
- II. Design and commission surveys (inc. protected species surveys)
- III. Undertake biodiversity metric calculations

3. Habitat and Species Management

- I. To maintain and improve current campus biodiversity
- II. Improve habitat connectivity/meld green and grey spaces on campus
- III. To establish new areas of habitat and introduce native species, where appropriate
- IV. Ensure UWTSD activities and developments result in overall biodiversity net gain

4. Engagement, Awareness Raising and Education

- I. Explore possibility of (re)introducing gardening/allotment clubs
- II. Explore possibility of using BAP development as a teaching resource
- III. Ensure engagement with staff, students and local community
- IV. Raise awareness of UWTSD role in improving biodiversity
- V. Use biodiversity to promote healthy living and wellbeing

Action Plan

Management and Reporting

1: Management and Reporting					
Objective 1.1: Ensure structured, multistakeholder management system approach					
Objective 1.2: Ensure BAP progress/issues reported on campus					
Objective 1.3: Implement Biodiversity Steering Group					
Objective 1.4: Create interactive app/intranet page for BAP					
Action No.	Action	Campus	Target Date	Progress	Lead Contact
1.1	Publish BAP on UWTSD website	n/a	Jan 2022	Complete	KW
1.2	Develop Biodiversity Steering Group (STG)	n/a	Feb 2022	Complete	KW
1.3	Ensure BSG members have adequate training	n/a	Feb 2023	Identifying courses	KW
1.4	Hold STG meetings termly	n/a	Termly	Ongoing	KW
1.5	Produce minutes of STG meeting, including targets for next term and review of previous actions taken	n/a	Termly	Ongoing	KW
1.6	Send monthly/termly email with BAP updates, achievements and volunteering opportunities to staff, students and local community	n/a	Begin October 23		
1.7	Develop an app or interactive page on UWTSD intranet (allow staff/students to see	n/a	Jan 2023		

	what/where work is being done, make suggestions and how to get involved)				
1.8	Produce annual implementation plan, including all biodiversity-related projects to be undertaken over next year	n/a	March 2022	Complete	KW
1.9	Carry out annual review of BAP, updating action plan	n/a	Jan 2023		
1.10	Carry out full review of BAP every 4 years	n/a	Sept 2022	In progress – Surveys done – await report	Ecology Planning
1.11	Publish updated BAP after each review	n/a	Ongoing		

Survey, Monitoring and Data Management

2: Survey, Monitoring and Data Management					
Objective 2.1: Agree a programme of data collection and surveys to monitor trends/progress					
Objective 2.2: Design and commission surveys (inc. protected species surveys)					
Objective 2.3: Undertake biodiversity metric calculations					
Action No.	Action	Campus	Target Date	Progress	Lead Contact
2.1	Create dedicated folder on Teams for BAP-related documentation	n/a	Jan 2022	Complete	KW
2.2	Determine programme of ecological surveys, including annual Phase 1 and protected species surveys	All	Sept 2022	In progress – Surveys done – await report	Ecology Planning
2.3	Order local environmental data searches to supplement Phase 1 survey and to inform future species-specific surveys	All	Sept 2022	In progress – Surveys done – await report	Ecology Planning
2.4	Characterise level and distribution of biological diversity on site via intensive ecological surveys	All	Mar-Sept 2022	In progress – Surveys done – await report	Ecology Planning
2.5	Create list of ecological surveys that could be undertaken by bioscience students/volunteers	All	Oct 2022		
2.6	Map and record condition and location of all bird/bat boxes	Lampeter, Carmarthen	Oct 2022		
2.7	Create a register of species of conservation importance at each campus	All	Oct 2022	Complete	Ecology Planning
2.8	Maintain records of all surveys undertaken on campus, review as agenda item at BSG meetings	All	Ongoing		KM
2.9	Using Year 1 as a baseline to calculate the extent of each habitat, undertake biodiversity metric calculations to monitor progress	All	Jan 2023		KW

Habitat and Species Management

3: Habitat and Species Management					
Objective 3.1: To maintain and improve current campus biodiversity					
Objective 3.2: Improve habitat connectivity/meld green and grey spaces on campus					
Objective 3.3: To establish new areas of habitat and introduce native species, where appropriate					

Objective 3.4: Ensure UWTSD activities and developments result in overall biodiversity net gain					
Action No.	Action	Campus	Target Date	Progress	Lead Contact
3.1	Review current grounds maintenance regimes (where appropriate look to reduce cutting frequency and extent of grass cutting, put signs in place to identify areas of reduced management)	All	Feb 2022	Review complete subsequent action plan to be published	NS
3.2	Identify areas for creation of wildflower meadows	Lampeter, Carmarthen	June 2022	Complete Meadow Implementation plan to be created	NS
3.3	Identify areas to allow “scruffy” and uncultivated habitat development	All	May 2022	Complete	NS
3.4	Identify hedges to be less rigorously maintained (allowing more dense hedges to develop and leaving taller vegetation along base)	All	Mar 2022	Complete Gap filling commences Sept 2022	CE
3.5	Ensure woodlands are sympathetically maintained (where appropriate retain undergrowth/scrub; plant native species to diversify habitats; retain log/dead wood piles; screen imported soils to prevent introduction of non-native species; where appropriate thin dense strands of saplings to prevent dark, dense woodland; allow open areas to encourage ground flora to develop)	Lampeter, Carmarthen	Ongoing	Complete. All trees are mulched at base	NS
3.6	Identify locations to erect bat/bird boxes	All	April 2022	Complete	KM
3.7	Plant nectar rich plant species and native wildflowers in place of less-diverse ornamentals	All	Ongoing	Working in conjunction with National Botanical Garden of Wales team to increase species	CE
3.8	Redevelop existing pond and identify areas to create new ponds	Carmarthen	Jan 2023	Local Spaces for Nature Grant successful and 1 x pond area to be naturized and 1 x pond area to be developed	CMJ
3.9	Embed pond management into grounds management procedures	Carmarthen	Jan 2023	Training delivered as part of the grant. Pond Mgt Level 2	CMJ
3.10	Remove/control all non-native, invasive plant species and replace with native where appropriate	All	Ongoing	Develop an invasive species hot-spot map for	
3.11	Ensure building projects considers and protects biodiversity and ideally results in overall biodiversity net gain, or mitigation of any potential damages	All	Ongoing		

Engagement, Awareness Raising and Education

4: Engagement, Awareness Raising and Education					
Objective 4.1: Ensure engagement with staff, students and local community					
Objective 4.2: Raise awareness of UWTSD role in improving biodiversity					
Objective 4.3: Explore possibility of using BAP development as a teaching resource					
Objective 4.4: Use biodiversity to promote healthy living and wellbeing					
Objective 4.5: Explore possibility of (re)introducing gardening/allotment clubs/bee keeping					
Action No.	Action	Campus	Target Date	Progress	Lead Contact
4.1	Communicate BAP objectives/progress to all ground maintenance staff to raise awareness of importance	All	Jan 2022	Complete	KW
4.2	Communicate BAP objectives/progress to staff, students and local community through local press and social media	n/a	Oct 2022		KW
4.3	Identify any biodiversity-related training required for staff to ensure BAP objectives are met	n/a	Oct 2022		NS
4.4	Develop volunteering opportunities for students, staff and local community (Use social media/SU to communicate)	All	Jan 2023	Working in conjunction with SU	KW
4.5	Develop teaching resources around biodiversity gain/BAP (interactive learning, developing fieldwork skills, student research projects)	All	Jan 2024	Review whether this action is appropriate given curriculum	KW
4.6	Look into feasibility of (re)introducing gardening and allotment clubs and beehives	Lampeter, Carmarthen (Swansea potential for beehives)	Jan 2023	Space is available, ensuring consistency and participation is under review	NS
4.7	Promote the use of green space on campuses for the wellbeing of staff and students	All	Ongoing	Wellbeing and Wildflower walks are in place	ELW
4.8	Develop an on campus nature trail	All	Complete		ELW



CHARTER on CLIMATE CHANGE and NATURE ACTION

We, the Signatories to this Swansea Charter on Climate and Nature Action, affirm our commitment on behalf of our company/organisation to work towards nature recovery, and becoming net zero carbon by 2050 and in doing so commit to the following:

WHAT WE AIM TO DO

- Review our organisation's current strategies and action plans for addressing climate change and nature recovery and identify any further policy changes or actions which we could undertake, within the scope of our powers and resources, to meet the challenge of the climate and nature emergencies.
- Fully align our actions with our well-being and biodiversity obligations and ensure our commitments meet the requirements of our future generations and the need to halt and reverse the decline in biodiversity.
- Work with Swansea Council, experts, businesses, investors, environmental advocates and other stakeholders to develop and implement a decarbonisation strategy for the region and a Nature Recovery Action Plan for Swansea
- Maximise the use of renewables, and the reduction of energy use and loss both within our own energy consumption and in relation to utilising our assets for renewable energy generation.
- Review our procurement methodologies and criteria to align with emerging principles of what constitutes "value for money" to ensure appropriate inclusion of climate change and biodiversity is an appropriate part of award criteria.

HOW WE AIM TO DO IT

- Working collaboratively with others through seeking the help of local partners including the public, private, community and voluntary sectors.

MONITORING PROGRESS AND KEEPING ALL PARTIES INFORMED

- Report in the public domain on how we are performing against our committed actions
- Fully engage with children and young people in line with the core principles of the UNCRC (United Nations Convention on the Rights of the Child)
- Quantify, track and publicly report on our carbon emissions and actions for nature, consistent with standards and best practices of measurement and transparency

GETTING THE MESSAGE ACROSS

- Above all, communicate a shared vision and understanding through the development of a common strategy and messaging, including by championing climate action and nature recovery within our sectors through an enhanced and trust-building dialogue with relevant stakeholders.

A handwritten signature in black ink, appearing to read 'Dylan Jones'.

Signed by

26 January 2022
Date.....

University of Wales Trinity Saint David
On behalf of.....

Final draft following workshop 9 Dec 2021

Swansea Bay Healthy Travel Charter

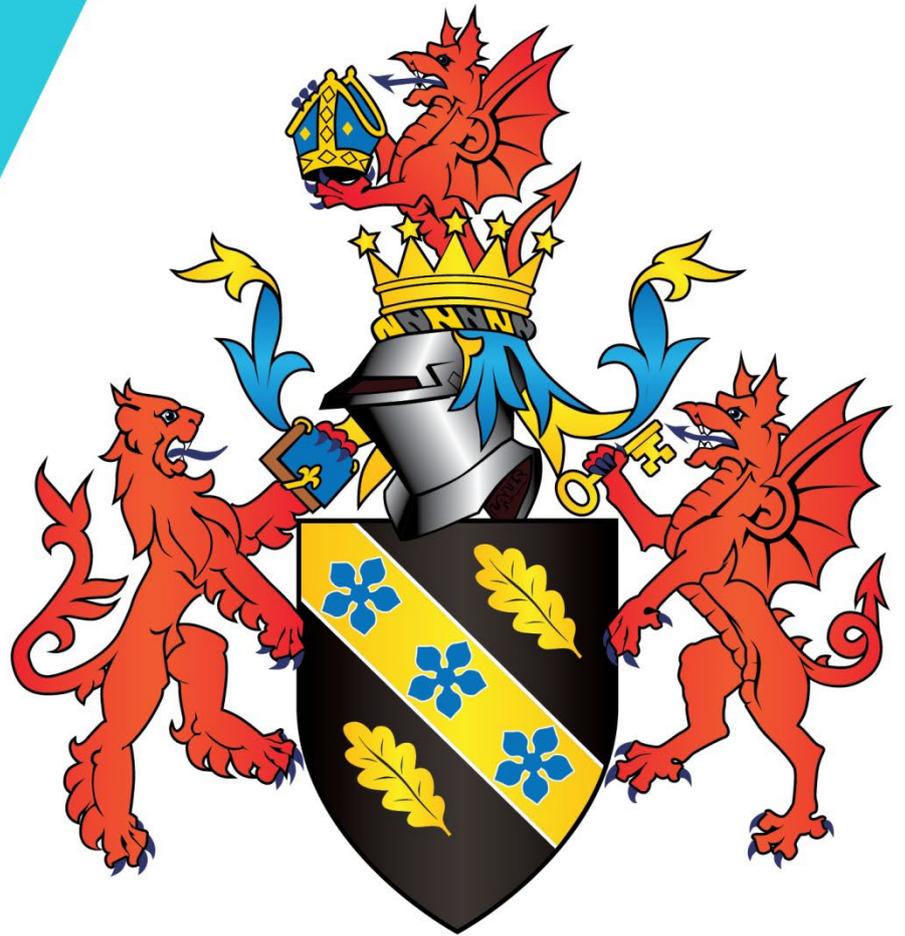
Working together across Swansea Bay, over the next two years we commit to...



Communications and leadership
Establish a network of sustainable travel champions, including senior staff and managers and, where relevant, students and elected members, who routinely promote and model active and sustainable travel behaviour, in line with the sustainable travel hierarchy
Regularly involve staff in discussing what measures would help them shift to sustainable modes of travel, through travel surveys (at least an initial baseline and annual survey) and other initiatives, e.g. staff competitions and awards to encourage healthy travel
Agree and use consistent communications messages with the public, visitors and staff on healthy travel and reducing unnecessary travel
Promote and consider healthy travel options and benefits across wider functions, such as: procurement, conferences, planning of workplace and office accommodation, and when advertising roles in our organisations
Review our travel expenses policies, to encourage uptake of sustainable travel
Collaborate with partners and provide strategic leadership and planning on healthy and sustainable travel, for example scoping the feasibility of partnership Park and Ride services
Public transport
Explore discounts for staff on Transport for Wales rail services and with local transport providers
Walking, cycling and public transport
Contribute to an interactive map showing, where relevant, all walking and cycling infrastructure and public transport links within our main public sector sites in Swansea Bay
Make accessories available to staff and/or visitors to encourage walking and cycling. Examples include umbrellas, local walking/cycling maps, locks, puncture repair kits and maintenance tools
Assess and provide, as appropriate, secure cycle storage, lockers, showers and clothes drying areas at all main sites
Promote an 'active wear for active travel' approach to work clothing and footwear, for example, allowing staff to wear trainers if their commute involves walking or cycling
Cycling
Offer the cycle to work scheme to all staff (including e-bikes)
Improve access to bicycles at work where appropriate, e.g. pool bikes and public hire bikes
Explore and promote opportunities for offering cycle training and maintenance sessions
Agile working
Provide flexible working options wherever possible, including home and/or local hub working, and develop a culture of agile working
Explore opportunities to enable staff to hot-desk between public sector organisations/facilities across Swansea Bay, where appropriate
Ultra low emission vehicles
Review the current and future need for electric vehicle (EV) charging infrastructure on our sites, and explore the potential for making charging infrastructure available to other public sector bodies in the area
Review our fleet and procurement arrangements (where applicable) for introduction of ultra low emission vehicles, including e-bikes and e-cargo bikes, where relevant



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Trinity Saint David



Water Management Plan 22/23

University of Wales Trinity Saint David

Water Management Plan 2022-23

1. Introduction

The university identifies water as a key priority within its Sustainability Plan, in line with the UN Sustainable Development Goals. The University has a duty to ensure its consumption and discharge of water resources is not negatively impacting the environment community or future generations. Water scarcity may be a major factor impacting society moving forward so as a large body we need to ensure we are taking action to mitigate our potential impact.

2. Purpose

To ensure the university is in statutory compliance with all legislative requirements regarding water. We have a statutory duty to ensure our consumption of water resources is not negatively impacting the environment or future generations in line with the Environment Wales Act 2016. We need to ensure we are looking to improve our flood mitigation and rainwater capture to improve groundwater recharge and improve peak overland flow intervals to reduce capacity loading on local authority infrastructure.

3. Objectives

The overarching objectives of the water management plan are:

- To reduce overall water consumption to below 3.5m³ per FTE student and staff member.
- Develop a baseline of agricultural and grounds based water consumption
- Reduce consumption through identification and elimination of leaks
- Develop rainwater collection and ground water recharge systems to reduce infrastructure loading.
- Improve water efficiency through utilization of technology
- Compliance with all applicable legislation
- Develop and maintain sub metering system

4. Scope

This plan is applicable to all members of staff, students and contractors working within the capacity of the university. The objectives will be met through the implementation of the tasks within the action plan.

5. Monitoring

Water consumption is measure through mains incoming meters within the campuses and separate estate. The water data is monitored by the sustainability team and to be reviewed annually to ensure abnormal consumption is identified.

The water consumption baselines have been set in line with the formation of the university body in 2012/13 academic year. The total consumption baseline is 49611m³ and the individual consumption rate baseline of FTE students and staff is 5.46m³.

Adoption of a submetering system across the estate will allow for further baseline values to be established at departmental and building level. Allowing for developing SMART targets at this level ensuring we are focussing reductions on the least efficient areas within the business.

6. Roles and Responsibilities.

Water Usage	Responsible Officer(s)	Key Stakeholders
Accommodation	Accommodation Manager	Campus Managers, Students, Domestic Team, Site Operative Team, Grounds Team
Catering Outlets	Catering and Conferencing Manager	Campus Managers, Domestic Team, Site Operative Team, Customers
Grounds and Landscaping	Grounds and Landscaping Manager	Grounds team, Site Operative Team
Campus Wide	Sustainability Team	All staff and students

7. Links to other policies / procedures

Sustainability Strategy

Carbon Management Plan

Grounds Management Plan

8. Document version control

Version No:	Reason for change:	Author:	Date of change:
1.00		KM/KW	30/06/2022

Current Status of Policy: Not a Policy



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Is the Policy applicable to: HE

Date effective from: 30/06/2022

Policy review date: 30/06/2023

For publication: on UWTSD (University of Wales Trinity Saint David) website

Appendix A to Water Management Plan: Water Management Action Plan 2022 - 2023

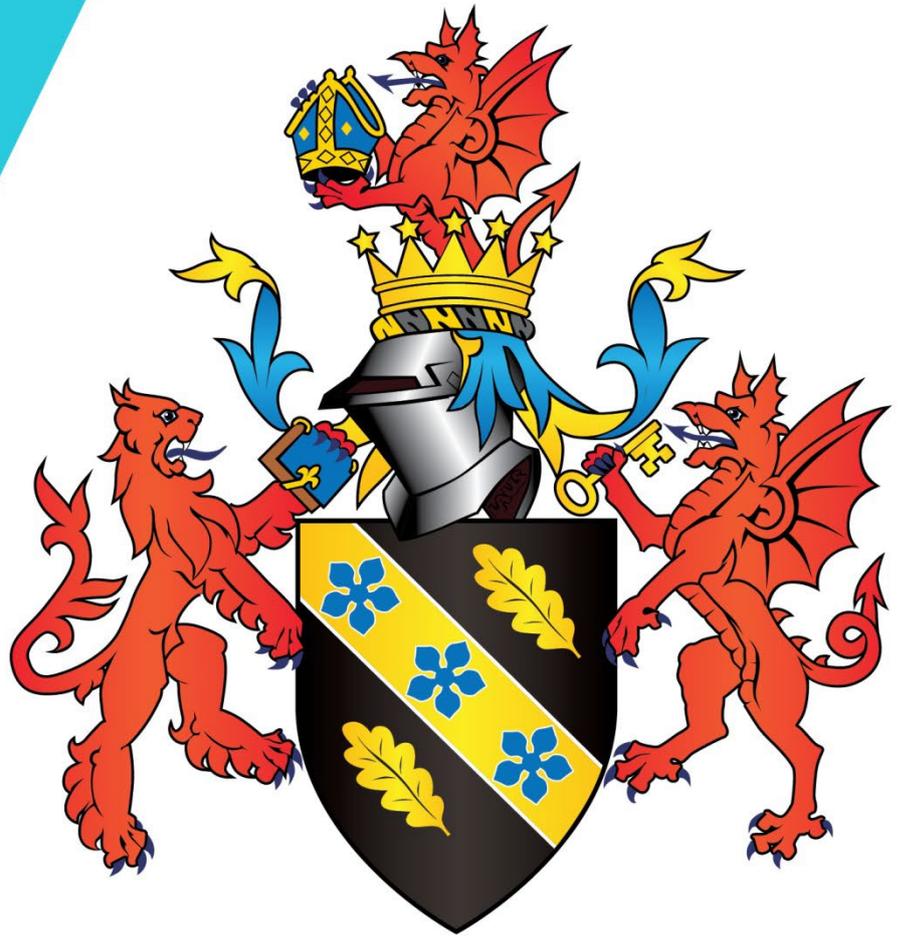
Issue	Action	By Department	By When	Estimated Target
Lack of data to identify high usage and leaks	Implement sub metering at strategic supply points.	Sustainability & Technical Services and Compliance	End of 22/23 academic year. Ongoing	
Taps left to run for extended periods	Upgrade existing taps with percussion/IR taps.	Technical Services and Compliance	Ongoing	
Water Consumption Savings	Audit existing infrastructure, build priority matrix to target improvements.	Sustainability & Technical Services and Compliance	Audit to be completed by end of December 2022. Matrix to be completed for works to commence June 2023.	3% annual reduction in usage up to a maximum saving of 21%
Accommodation showers	Audit existing stock Installation of eco shower heads.	Sustainability Technical Services and Compliance	Summer 2022 22/23 academic year end	Reduction based on audit findings
Legionella flushing consumption	Develop consumption baseline. Develop flushing sequence in line with plumbing layout to reduce tap run times	Sustainability Compliance	May 2023 Sequence flushing: July 2022 Flushing schematics May 2023	40% reduction of determined baseline.
Treated drinking grade water for maintaining grounds	Water butts and rainwater diverters for grounds water storage and trickle watering.	Sustainability Grounds	April 2023	100% of watering grounds will come from rainwater
Education in water conservation	Education campaign to highlight the importance of personal actions regarding water consumption. Water Saving Week	Sustainability	September 2022 May 2023	
Ground water recharge and overland flow reduction	Development of 2 natural ponds in Carmarthen to aid ground water recharge and	Projects	April 2023	



	act as over land flow buffer during high rainfall events.			
Lack of accommodation consumption rate data	Develop accommodation FTE baseline. Utilize submetering to produce water score cards	Sustainability	August 2023 September 2023	
Manual washing of dishes in accommodation leading to high consumption.	Fit dishwashers within accommodation	Technical compliance	September 2023	50% reduction in current student kitchen consumption.
Current waste water is estimate based on incoming supply.	Look at drainage system and develop waste water metering station for baseline development.	Sustainability Technical Compliance	August 2023	Accurate measured waste water figures.



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Sustainable Food Plan 2022 - 2025

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1. Introduction

The University of Wales Trinity Saint David (UWTSD) recognises not only its responsibility to provide healthy and sustainable food to its customers, but to ensure it conducts its procurement activities in an environmentally, ethically and socially responsible manner, influencing sustainable food production and consumption throughout the wider locality. UWTSD endeavours, when appropriate, to support local businesses in the sourcing and procurement of its products and services, whilst working with its suppliers to minimise the negative environmental and social effects of the products and services they provide.

2. Purpose

This Sustainable Food Plan has been developed to reduce the negative environmental impact of catering services at UWTSD through committed actions established by the University Catering department. The Plan applies to the University's catering outlets on the Swansea, Carmarthen and Lampeter campuses.

3. Scope

The scope of the Plan is to:

- Provide a high quality catering and hospitality service.
- Actively seek to promote and source food and other products locally and seasonally in order to support the local economy and reduce environmental impacts.
- Promote the use of free range eggs and organic fresh milk in line our commitment to
- “Food for Life” Catering Mark, where possible.
- Actively seek to promote responsible animal welfare by procuring Red Tractor animal products.
- Reduce the amount of foods from animal origin (meat, dairy and eggs) served, as livestock farming has a significant influence on Climate Change.
- Promote meals rich in fruit, vegetable, pulses and nuts.
- Whenever possible, work with suppliers to ensure, marine products used are from sustainable stocks as verified by the Marine Conservative Society.
- Use Fairtrade products where appropriate, actively support Fairtrade Fortnight and support Fairtrade initiatives where possible.
- Work with our suppliers to improve the provision of healthy products and minimise the environmental impact of their produce and deliveries.

4. Plan

4. 1. Use of local seasonally available ingredients:

- Termly menu planning to reflect seasonal food.
- Work with suppliers to encourage proximity purchasing to reduce road miles.
- Promote and source products from Wales and where possible, from South West and Mid Wales, whilst achieving best value for money.
- Ensure Small and Medium Enterprises, local and regional suppliers, are given equal opportunity to bid for supply agreements through the HEFCW catering group tender process.

4.2. Specify food from farming systems that minimise harm to the environment:

- Employ procurement policies that reflect the use of cost-effective cuts of meat to promote responsible animal welfare.
- Reduce the amount of foods from animal origin (meat, dairy and eggs) served, as livestock farming has a significant influence on Climate Change.
- Promote meals rich in fruit, vegetable, pulses and nuts, and where possible procure Red Tractor products.

4.3. Reduce use of fish species identified as most “at risk” by Marine Conservation

Society:

- Menus for University Events are designed around fish available in local waters.
- Work with suppliers to ensure, marine products used are from sustainable stocks as verified by the Marine Conservative Society.
- Use diverse species of Fish to reduce pressure on sensitive stocks.
- Promote only fish on the Marine Conservation Society’s “fish to eat” list.
- The promotion of sustainable fish and seafood will be carried out within the University’s catering and hospitality services.

4. 4. Fairtrade focus:

- Identify opportunities to increase the university’s range of Fairtrade products.
- Continue to promote Fair trade Fortnight and introduce one campaign per year to help promote.
- Participate in Fairtrade activities.

4. 5. Promote Health and Well-being:

- Introduce ‘Healthy Living Day’.
- Employ cooking methods that promote the reduction of salts, fats, oils and artificial additives.
- Always provide a range of fruits, vegetables and salads.
- Limit the use of cooked chilled products, and ready meals.
- Reduce the use of hydrogenated vegetable oils and artificial additives.
- Promote the use of wholemeal breads, pastas and brown rice and include in menus.

4. 6. Promote initiatives that encourage the use of tap water:

- Ensure tap water is available in all catering outlets.
- Encourage and promote the use of re-usable or recyclable drinking vessels across our campuses and ensure tap water is freely available to all students, staff and visitors.
- Promote the use of tap water for Conferences and Events.
- Discourage the use of bottled water in any University events.

4.7. Waste Reduction and Recycling:

- Introduce a food waste composting system into central production kitchen.
- Reduce the use of individually packed items e.g. sugars, condiments etc.
- Work closely with suppliers to reduce the amount of packaging and reduce the number of food deliveries required.
- Employ methods to monitor and minimise food waste, and continue to recycle used kitchen oil.
- Where possible reduce water and energy use in food preparation, operations and

cleaning.

4. 8. Catering awards linked to Sustainability:

- Continue to maintain and attain further accreditations to recognised environmental standards e.g. "Food for Life" Catering Marks.
- The University has built on its earlier achievements of four Silver "Food for Life" Catering Marks for its catering outlets across the Carmarthen and Lampeter campuses. Including the Swansea campus the University now has 10 Silver and one Bronze in addition to a Gold Catering Mark for University "Events".

5. Monitoring

The University will set appropriate sustainability targets in consultation with the University community and measure performance against agreed targets:

- Customer surveys to be carried out annually to obtain feedback on menus, prices, quality and choice.
- Annual Plan review, including targets and reassessment, and progress reporting for all relevant stakeholders.
- Training of all staff in the various appropriate certifications, healthy cooking practices, sustainable food preparation practices, and waste monitoring methods.

6. Links to other policies / procedures

- Environment Policy Statement
- Sustainability Plan 2022-25
- Sustainable Procurement Policy

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