Vetch Field, Swansea
Habitat Management Plan 2025-2035

Habitat Management and Building Resilience ACNB6004

AUTHOR REDACTED

Table of Contents

Executive Summary **3**
1. Vision Statement **4**
2. Site Information **5**
2.1 Site Location 5
2.1 General Features 6
2.2 Physical Features 8
2.3 Biological Features 10
2.4 Socio-economic Features 12
3. Management Evaluation **13**
3.1 General Strategy 13
3.2 Biodiversity Management 15
3.3 Community Involvement and Education 17
4. Management Prescriptions **18**
4.1 Establish Species Rich Meadow 18
4.2 Establish Species Rich Hedgerows 20
4.3 Increase Biodiversity on Site 22
4.4 Increase Environmental Information Available on Site 23
4.5 Host Two Community Open Days Per Year 24
5. Schedule of Works **25**
6. Summary **26**
7. Reference List **27**

Executive Summary

Vetch Field is a historic part of Swansea, serving as a sports stadium since the early 1900s and then as a local park since the 2010s. Surrounded by the city, there is an opportunity for Vetch Field to become a biodiverse stepping stone for wildlife and provide a vital piece of local greenspace for the community. This management plan outlines establishing a small wildflower meadow and sections of hedgerow, while leaving plenty of space for amenity uses such as sports playing. Monitoring of biodiversity levels will be implemented, and community open days organised to create an environmentally healthy urban park for the city to enjoy.

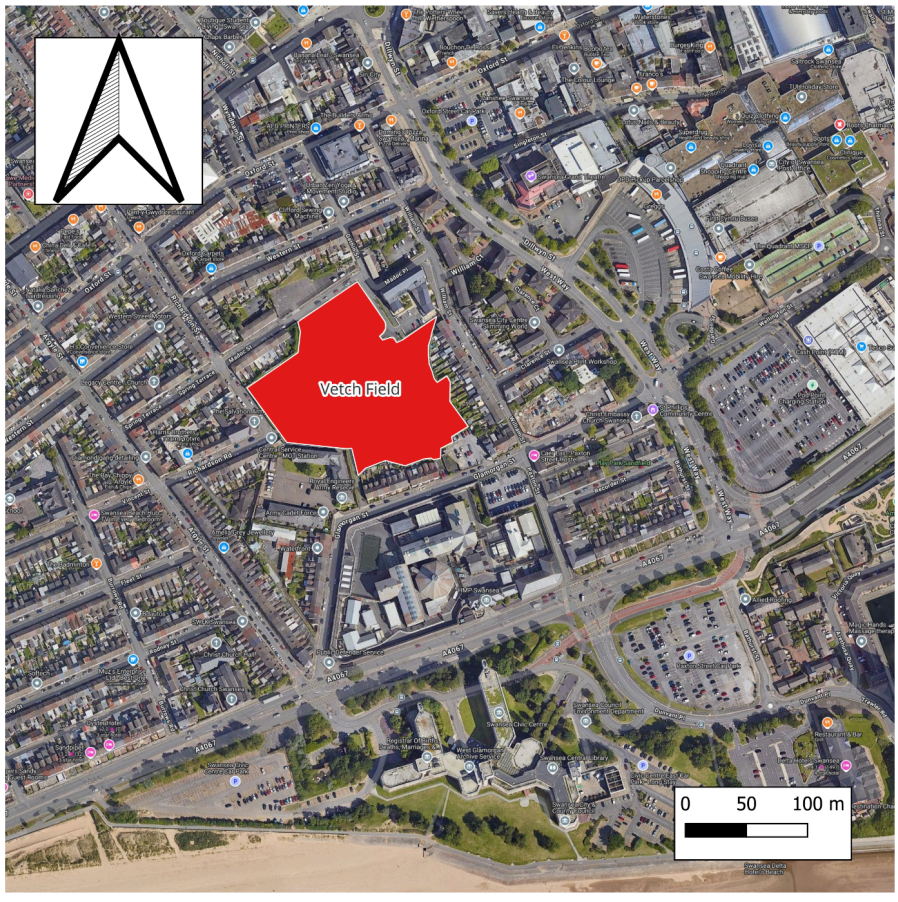
1. Vision Statement

The vision for Vetch Field is for the site to include two species rich hedgerows as well as a species-rich urban wildflower meadow, with high community involvement at every step. Providing environmental education for children through an eco-playground, and accessible green space for everyone, Vetch Field will also provide food resources and relationship building through the community garden on site. With the biodiverse hedgerows and the meadow acting as stepping stones for mammals, birds and invertebrates, Vetch Field will connect the other green spaces throughout urban Swansea to provide better habitat throughout the city.

2. Site Information

2.1 Site Location

- Address: Vetch Field, Madoc Place, Swansea, SA1 3RB
- Size: 1.8 hectares (approx)
- Grid reference: SS 65089 92664
- Local authority: Swansea Council
- Surroundings: Vetch Field is located near the centre of Swansea City, largely bounded by domestic housing (see figure 1). To the south is HM Prison Swansea, the A4067 Oystermouth Road, and Swansea Civic Centre, leading onto Swansea Bay at the southernmost extent.



Vetch Field Local Context

This map shows Vetch Field and the surrounding area.

Legend

Vetch Field

Google Satellite Hybrid

Google Satellite Hybrid attribution: @Google 2025

Autho[redacted]
Date: 22/03/2025
Version: 01

Figure 1: Vetch Field site surroundings.

2.1 General Features

Vetch Field is a small urban park located near the centre of Swansea (see figure 2). Formally a sports stadium, attempts were made to sell the land for development by Swansea Council during the 2010s, but there was little interest in the land by developers (BBC, 2011; Swansea Council, 2024). It was redeveloped as a community green space in 2015 and continues to be managed as a park and playground by Swansea Council.

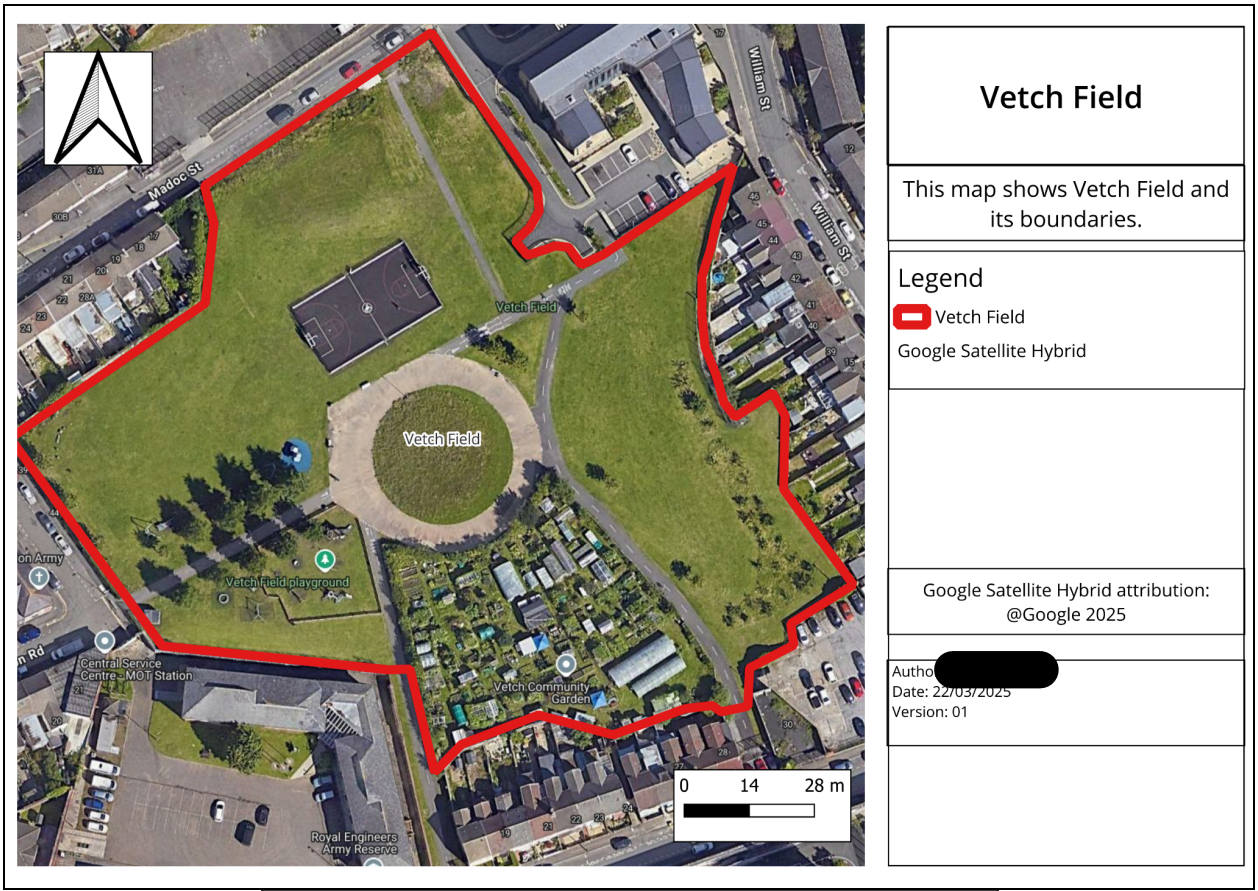


Figure 2: Vetch Field site boundaries.

There is no full time staffing for this site, and no staff buildings. It has no environmental designations. There is no existing management plan for this site that is publicly available. Currently on site there is a community garden and community orchard, which is managed by volunteers one afternoon a week. Many of these volunteers are students organised by

Discovery Student Volunteers Swansea, which operates out of Swansea University (Discovery Student Volunteers Swansea, 2024). There is also a playground on site, including a fenced off area for young children, a sports pitch and a zipline. The majority of the site, however, is managed as closely mown grassland. It is open full time, and there is no fence on the side of the site running along Madoc Street.

By managing this site as an urban biodiversity haven with a strong community engagement focus, Swansea Council would be fulfilling its duties as a public authority under Section 6 of the Environment (Wales) Act 2016 to maintain, enhance and promote biodiversity (Jenkins, 2018). It is noted that small scale, local actions also work towards fulfilling this duty, and that embedding ecosystem thinking in everyday life is a crucial step towards achieving a community-wide awareness of ecosystem and biodiversity protection (Wales Biodiversity Partnership, 2025). This also complies with the Resilient Wales goal of the Wellbeing of Future Generations (Wales) Act (2015), which describes the need for a biodiverse, ecologically resilient Wales with healthy ecosystems (Future Generations Commissioner for Wales, n.d.). The Swansea Local Wellbeing Plan 2023-2028 also highlights enhancing biodiversity as a primary objective (see figure 3).



CLIMATE CHANGE & NATURE RECOVERY

To restore and enhance biodiversity, tackle the causes, and reduce the impact of climate change.

Figure 3: Objective 3 of the Local Wellbeing Plan (Swansea Council, 2025)

2.2 Physical Features

Regarding the geology of Vetch Field, Swansea is located within the South Wales Coalfield, an area rich in coal deposits that have been highly exploited (see figure 4).

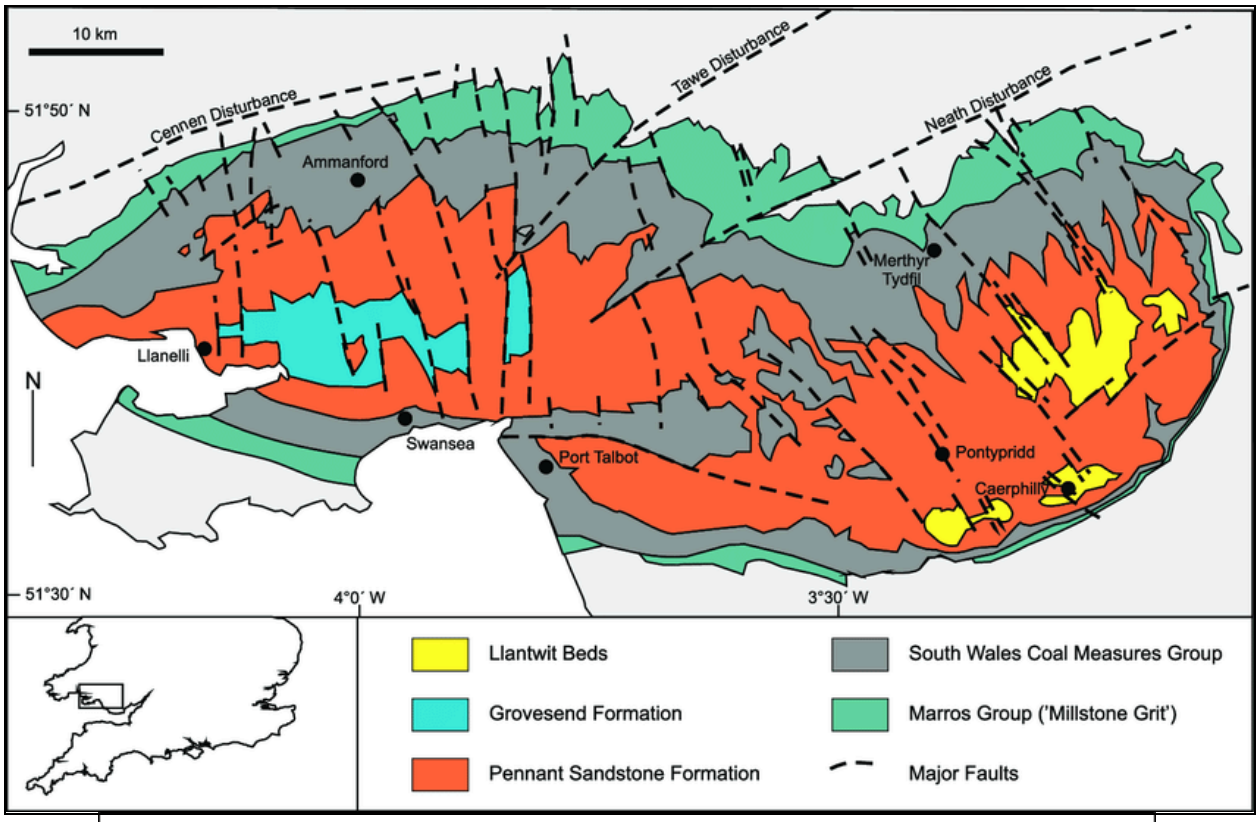


Figure 4: Map showing the geology of a section of South Wales (Cleal *et al.*, 2010)

Vetch Field itself underwent a ground hazards survey after it had stopped being used as a stadium and was on the market for development in the early 2010s, and it was identified that there were elevated levels of polyaromatic hydrocarbons and arsenic on site. This was remedied using a 'clean cover' system, which involves placing layers of clean materials such as topsoil over contaminated ground. The use of raised beds was also recommended for growing on the site (Earth Science Partnership, 2025).

Topographically, Vetch Field is not uniform. Due to the remains of the stadium stands, the site is raised towards the edges, with a level interior.

Swansea receives a lot of rainfall (see figure 5), and risk of flooding has been identified, particularly as climate change increases the likelihood of extreme weather events (Swansea Council, 2021). As shown previously in Figure 1, Section 2.1, much of the area around Vetch Field is built upon with minimal green areas to allow for natural drainage.

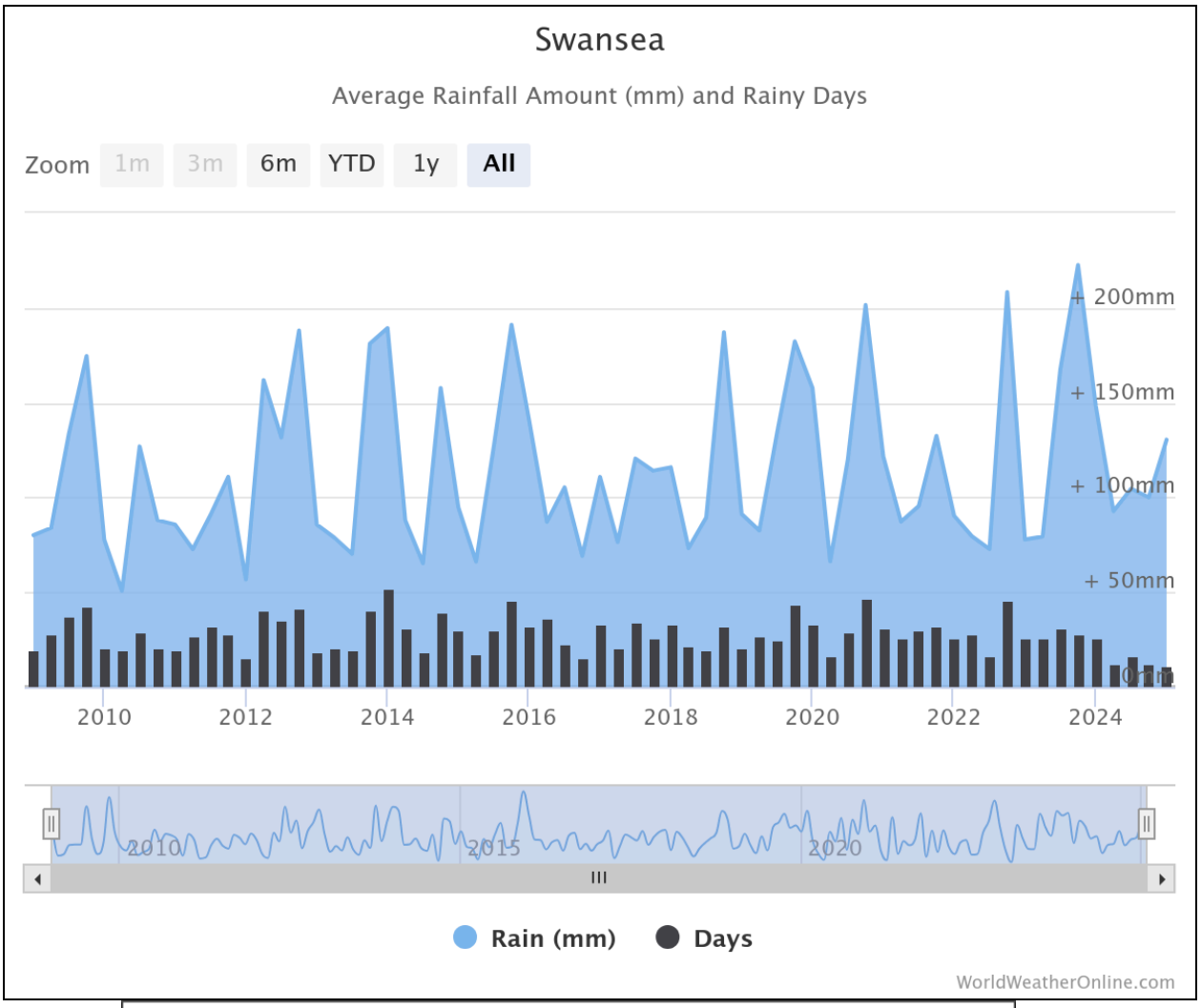


Figure 5: Rainfall in Swansea (World Weather Online, n.d.)

2.3 Biological Features

Vetch Field is made up primarily of modified closely mown amenity grassland. There are 29 trees on site, all less than 20 years in age as saplings were planted post 2005, when the site was no longer used as a sports stadium. The tree species on site are alder (*Alnus glutinosa)*, rowan (*Sorbus aucuparia)*, white poplar (*Populus alba)* and unidentified fruit trees, potentially apples (*Malus* spp.). There is also the community garden, which harbours a wide number of plant species but was not accessible for surveying.

	Common Name	Species
1.	Herring Gull	*Larus argentatus*
2.	Rock Dove	*Columba livia*
3.	Lesser Black-backed Gull	*Larus fuscus*
4.	Magpie	*Pica pica*
5.	Black-headed Gull	*Chroicocephalus ridibundus*
6.	Jackdaw	*Coloeus monedula*
7.	Starling	*Sturnus vulgaris*
8.	Woodpigeon	*Columba palumbus*
9.	Carrion Crow	*Corvus corone*
10.	House Sparrow	*Passer domesticus*
11.	Pied Wagtail	*Motacilla alba yarrellii*
12.	Large Yellow Underwing	*Noctua pronuba*
13.	Light Brown Apple Moth	*Epiphyas postvittana*
14.	Holly Blue	*Celastrina argiolus*
15.	Silver Y	*Autographa gamma*
16.	Heart & Dart	*Agrotis exclamationis*
17.	Lesser Yellow Underwing	*Noctua comes*
18.	Brimstone Moth	*Opisthograptis luteolata*
19.	Red Admiral	*Vanessa atalanta*
20.	Angle Shades	*Phlogophora meticulosa*
21.	Common Marbled Carpet	*Dysstroma truncata*
22.	Hebrew Character	*Orthosia gothica*
23.	Dark Arches	*Apamea monoglypha*
24.	Marbled Beauty	*Bryophila domestica*
25.	Common Quaker	*Orthosia cerasi*

Figure 6: The top 25 most commonly recorded species within 0.5km of Vetch Field (NBN Atlas Partnership, 2025)

There are no species of conservation concern recorded as present within the site itself. However, the National Biodiversity Network Atlas shows records of many species present within 0.5km of the site (see figure 6), including many moths and butterflies which are overall in decline in the United Kingdom (Butterfly Conservation, n.d).

A Phase 1 Habitat Survey was carried out for this site (see figure 7). Phase 1 Habitat surveys are designed to identify all key habitats on a site efficiently but accurately, allowing for appropriate management to take place (Joint Nature Conservation Committee, n.d).

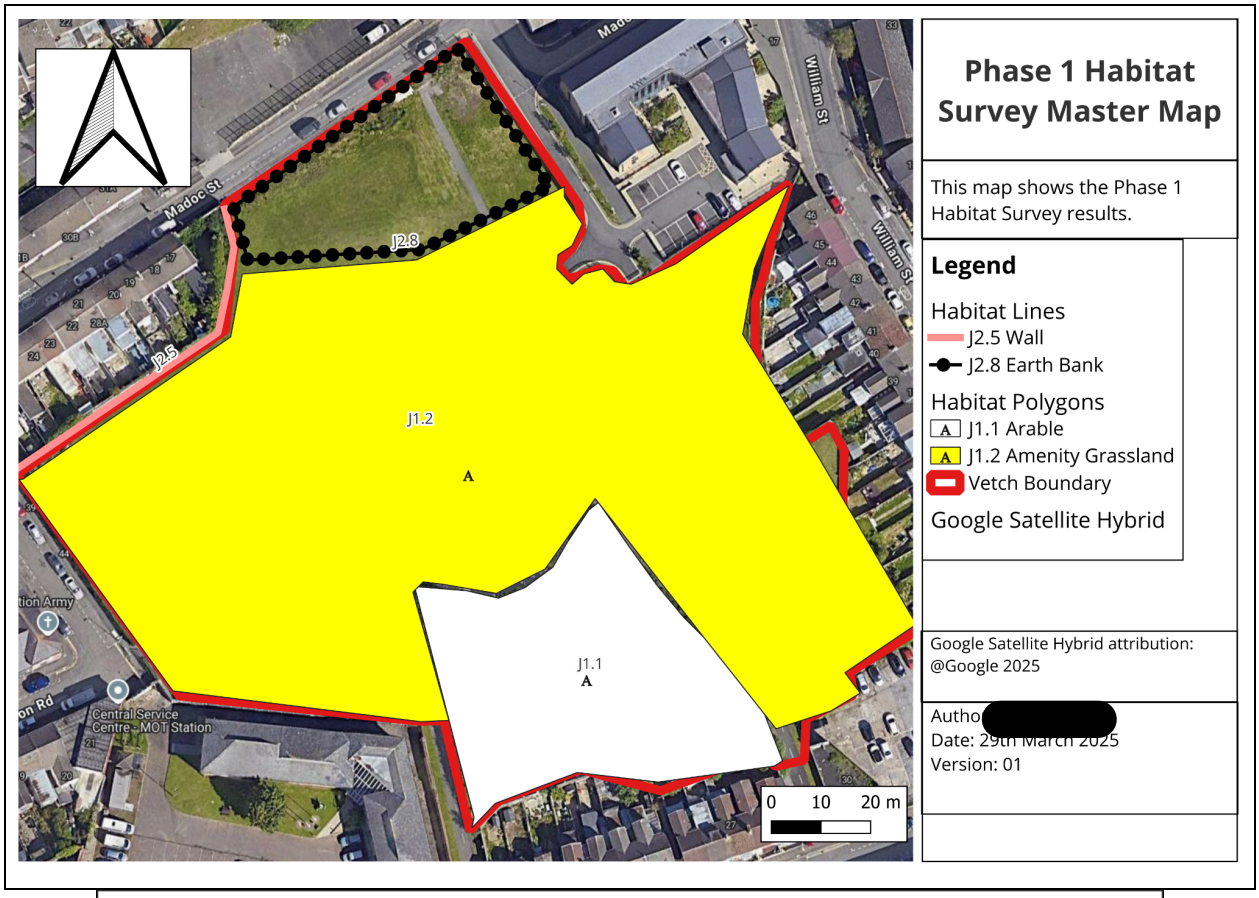


Figure 7: Vetch Field Phase 1 Habitat Survey Master Map

Only 4 habitats were identified on this site, primarily the arable area that makes up the community garden, and amenity grassland on the rest of the site. There is also an old wall behind a fence in the top left corner of the site, which harbours heavy Ivy *(Hedera helix)* growth, and the raised bank on the top right which used to be part of the stadium. Beyond this, no target notes were identified.

2.4 Socio-economic Features

As the longtime home of the Swansea City Football Club, Vetch Field holds cultural significance to sports fans in Swansea. For example, when the stadium closed in 2005, fans took pieces of seating and fencing as souvenirs (Swansea Museum, 2025). This history must be acknowledged within future management of this site. This site also has current amenity uses, in particular the playground, zipline and sports pitch. The Vetch Field Community Garden and associated volunteers represent a particular community group interest, but Vetch Field is heavily used by many people for walking dogs and being outdoors as well as as a shortcut (see table 1). It is also open full time and not monitored, so there is potential for vandalism to take place, although no reports of this in the past have been found. There are no public rights of way recorded as passing through Vetch Field.

Table 1: Vetch Field Stakeholders

Stakeholder:	Interests:	Strategy:
Community garden volunteers	Use and shared management of community garden area	Involvement in site plans, involvement in conservation measures
Playground users	Use of playground area which is safe, clean and secure	Communication about site plans and maintenance of playground area - keeping clear paths and mown areas
Sports players	Use of sports pitch	Involvement in site plans, maintenance of sports pitch
Dog walkers	Access to site, dog waste bins	Communication about site plans, clear signs communicating rules regarding dogs on site
General public	Access to site, access to seating, safety, access to nature	Communication about site plans before changes and continuously, opportunities to get involved

3. Management Evaluation

3.1 General Strategy

As the previous section has described, Vetch Field does not currently have features of particular note for conservation. Due to physical infrastructure replacing habitat areas, high resource use and high pollution levels, urban areas experience higher levels of biodiversity loss than rural areas (Knapp *et al.,* 2021), and in the central areas of cities this is intensified further (Ding *et al.,* 2025). Urban areas therefore experience loss of ecosystem services such as flood water absorption and dissipation of heat, leading to flooding and the urban heat island effect wherein cities are hotter than rural areas (Mitchell & Devisscher, 2022). Prioritising urban habitat connectivity is becoming increasingly important in cities to combat these impacts (Kirk *et al.,* 2023). Vetch Field has the potential to become a stepping stone for biodiversity in Swansea, linking Swansea Bay to Mount Pleasant through the city centre.

As well as increasing biodiversity, Vetch Field can provide nature education and green space wellbeing benefits for the local population. Education and hands on experience about and with nature increases positive attitudes towards the environment (Uralovich *et al.,* 2023), and in the most heavily urbanised areas of cities, which are often correlated with higher populations of poorer residents, this education and access is often lacking (Baro *et al.,* 2021). Involving the local community in biodiverse management provides environmental education and awareness raising for an urban centre population who may not receive access to these otherwise.

Broadly, this site will be zoned into two areas. Zone 1 focuses on management for biodiversity, and Zone 2 focuses on amenity, community and educational space (see figure 8). While aspects of both site goals will be found in each of the zones, this allows the current amenity uses to continue with minimal change, and lessens risk of conflict between biodiversity restoration efforts and current users.

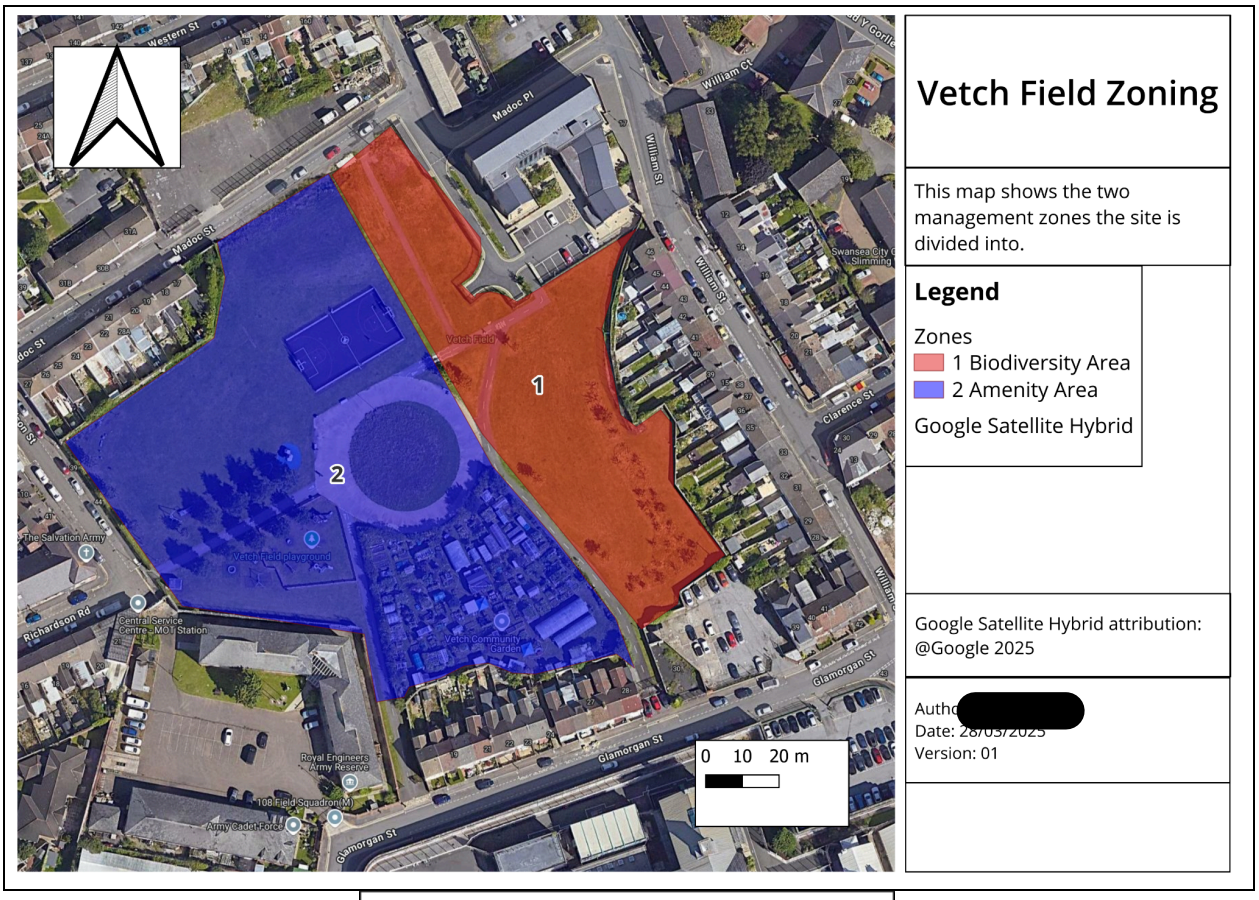


Figure 8: Vetch Field Zoning

3.2 Biodiversity Management

Existing trees on the site will be maintained. While White poplar (*Populus alba)* is not endemic to the United Kingdom, it is considered naturalised (Woodland Trust, n.d), and both alder (*Alnus glutinosa)* and rowan (*Sorbus aucuparia*) are endemic species.

The community orchard within Zone 1 will also be maintained. These trees appear stunted perhaps due to ground contamination beneath the topsoil layer, and it is unclear how much fruit they produce, but as a community feature they still provide value. Blossom is also useful to pollinators.

The area around the community orchard (see figure 9) will be managed as a wildflower meadow, which have high biodiversity value even when they are small in size and in urban locations (Norton *et al.,* 2019).

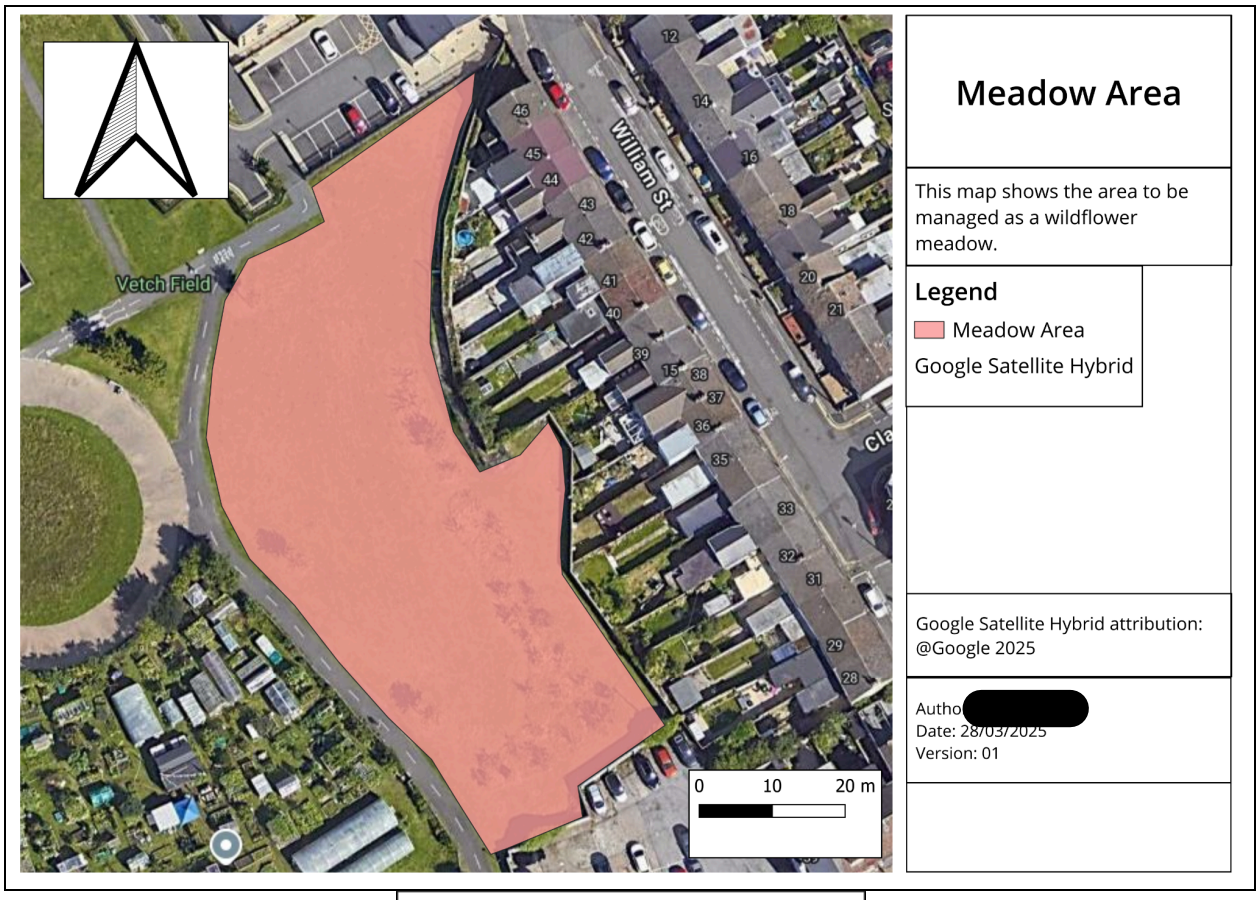


Figure 9: Meadow area

Cutting and subsequent collection of grass cuttings, known as arisings, will be implemented. As the area to be managed as a wildflower meadow is small and will not produce an unwieldy amount of material, the arisings will be piled on an outer boundary to provide habitat for invertebrates and grass snakes. Signage will be implemented to explain to the community the processes at work in this area, as wildflower meadow restoration takes multiple years and may appear messy to people used to closely mown grassland. After a year of cut and collect being implemented to lower nutrient levels, semi-parasitic wildflower seed such as Yellow-rattle (*Rhinanthus minor)* should be introduced to control grass species growth to allow wildflowers to compete.

Hedgerow establishment will be undertaken along the outer boundaries of Zone 1 (see figure 10). This will provide a habitat corridor from one side of the site to the other, and provide a boundary between the park and the back gardens of the street backing onto this side of the site.

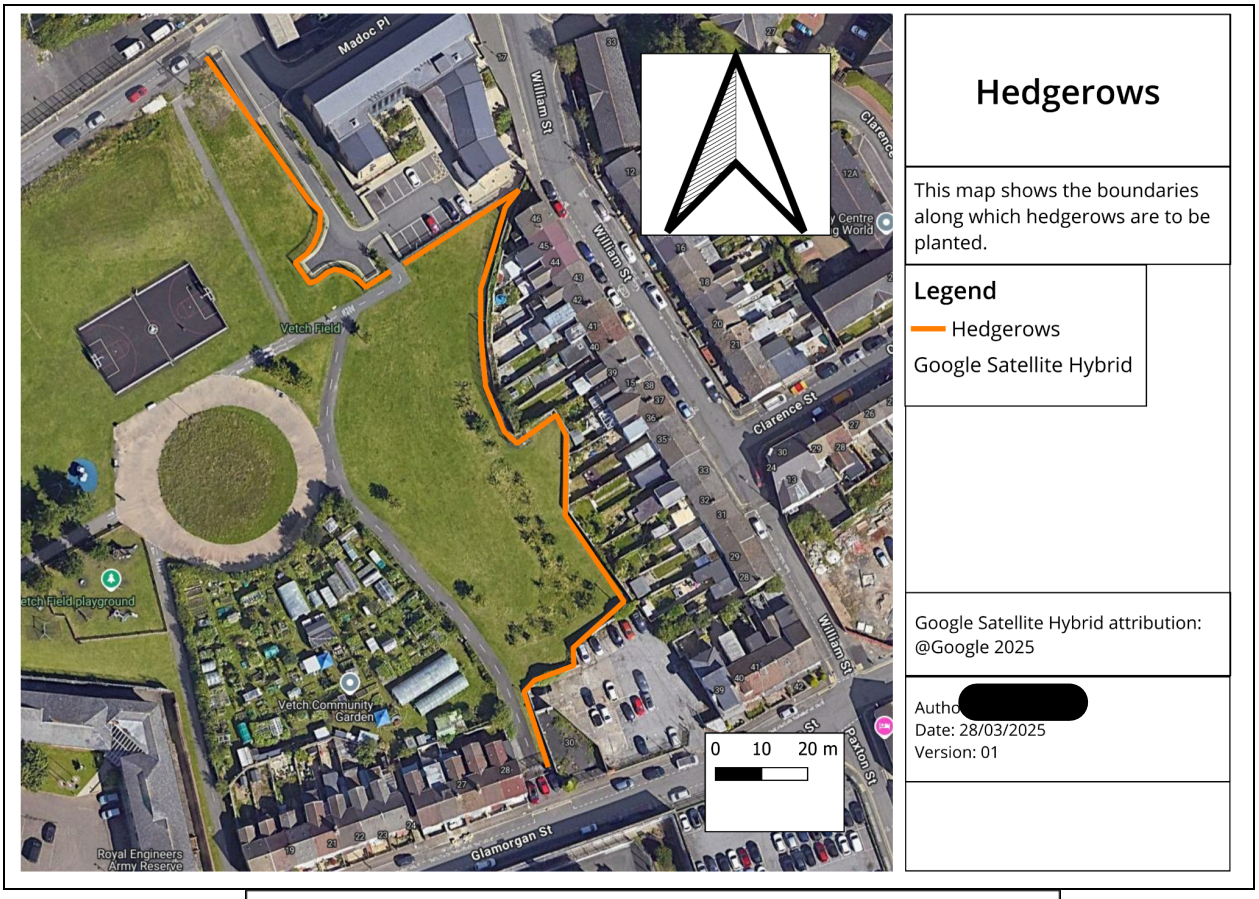


Figure 10: Hedgerows to be implemented.

3.3 Community Involvement and Education

Zone 2 will be managed for community and amenity use. The community garden will remain managed as is, with volunteers taking the lead, however options will be explored for including more site users in the community garden, such as current community garden volunteers taking part in site 'open' days to talk to potential new volunteers. The mown areas in this zone will be mown with a slightly higher cut to allow small flowers to grow, with only paths and the areas around key features such as the playground and sports pitch being mown to the current shortest level.

The playground equipment will be slowly phased out as replacements are needed to keep costs low and the playground consistently accessible. Green playgrounds have been created using recycled materials, such as the use of wind turbine blades in Wikado Playground located in Rotterdam, the Netherlands (InHabitat, 2012). In this example, a product that would otherwise become waste is reused, and children get the opportunity to interact with renewable energy infrastructure in a hands-on way (see figure 11).



Figure 11: Wikado Playground, constructed from wind turbine blades (Trending City, 2012).

4. Management Prescriptions

This section will outline the objectives, prescriptions and subsequent monitoring methods required to achieve the aims discussed in the previous section. The objectives will describe what the goal to achieve, with the management prescription then detailing the steps to be taken to achieve this goal. Monitoring, finally, establishes how it will be confirmed that the objective really has been achieved (Ausden, 2007).

4.1 Establish Species Rich Meadow

Objective: Establish a species rich wildflower meadow in the existing area of closely mown grass around the community orchard in Zone 1. This area is small enough that management will be achievable, especially as after meadow establishment the area will no longer require the quantity of regular mowing throughout the year that it does as a closely mown area. Establishing the meadow from bare earth would involve removing a significant amount of turf and rendering the area unusable and vulnerable to erosion due to Swansea's wet climate, so this method has been discarded as unsuitable. Instead, techniques designed for creating meadow habitat on existing urban grassland (Bretzel *et al.,* 2024) will be used.

Management prescriptions:

- **Year 1:** Continue to mow regularly in accordance with the current closely mown regime, but ensure all arisings are collected immediately after mowing. These can be piled in a sunny corner to create a habitat pile.
- **Year 2:** In early April, thoroughly scarify grass to create bare patches in the place of full turf removal. Sow site with wildflower meadow seed mix, made up of exclusively endemic wildflowers. Species should be a mixture of annual and perennial, and should include semi-parasitic species such as Yellow-rattle *(Rhinanthus minor)* to control the growth of grasses (Marshall *et al.*, 2023).
- **Year 3 and onwards:** Meadow should be mown approximately twice yearly, the first cut taking place in March/April to help control annual weeds and allow wildflowers light to germinate (Hristova, 2024). This site is not appropriate for grazing due to its open nature, so two cuts helps to simulate grazing behaviours. The second cut

should take place after wildflowers have set seed, from mid-July to August. Arisings should be removed after both cuts as in previous years.

Monitoring: Plant species present should be surveyed annually and compared to the species rich grassland criteria as the ultimate goal (see figure 12).

Species-rich grassland is open, grassy habitat that is normally maintained by traditional grazing and cutting methods. Grassland is species-rich if it has:

- more than 15 plant species per square metre
- more than 30% cover of wildflowers and sedges (excluding white clover, creeping buttercup and injurious weeds)
- less than 10% cover of white clover and perennial rye grass

Figure 12: Species rich grassland criteria list (Department for Environment, Food and Rural Affairs, n.d).

4.2 Establish Species Rich Hedgerows

Objective: Establish two short sections of species rich hedgerow along the outer boundary of Zone 1. Hedgerows increase biodiversity by providing habitat, food sources and increasing habitat connectivity by acting as wildlife corridors through open areas (Montgomery *et al.,* 2020). Even in urban areas, hedgerows planted with a variety of endemic plant species support more organisms than single species, non-endemic hedges (Hopfl *et al.,* 2021). A variety of traditional hedgerow species will be planted to establish these hedgerows (see figure 13).

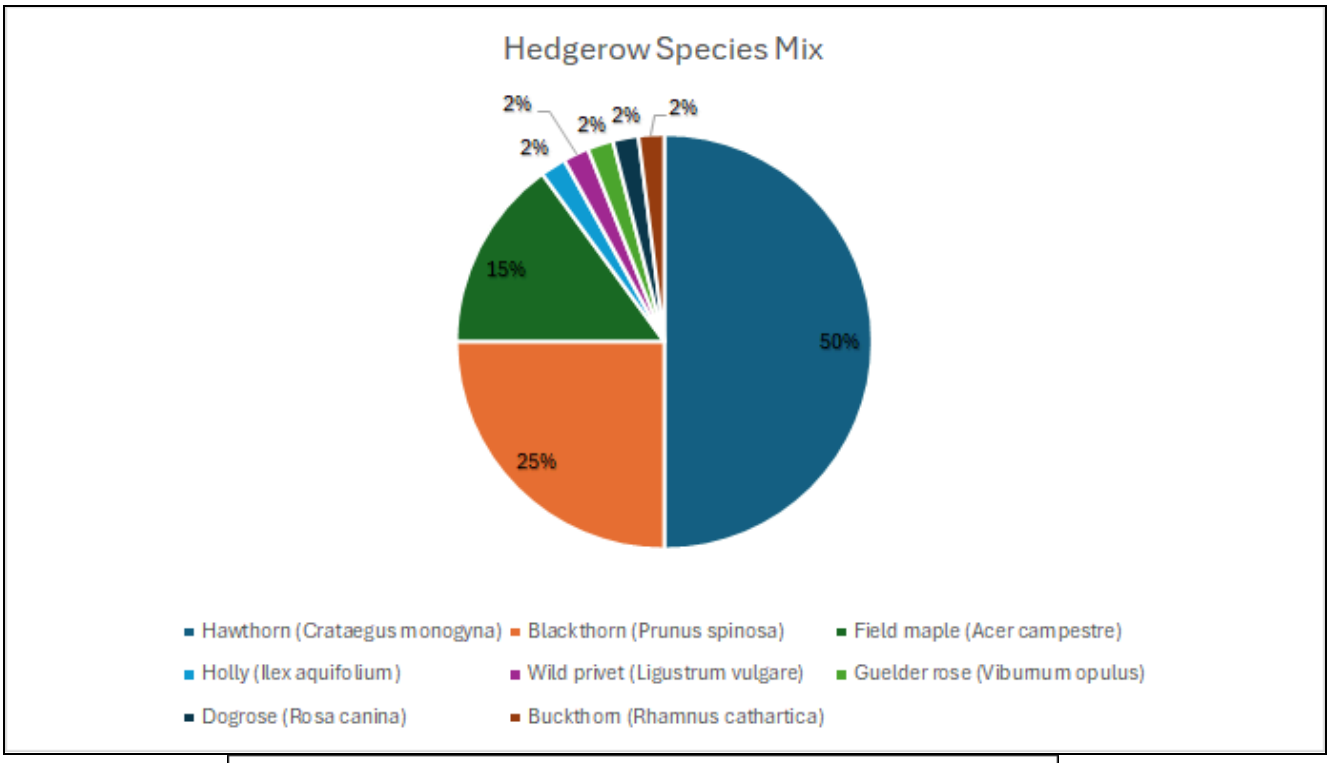


Figure 13: Hedgerow species mix (Adapted from Suffolk Wildlife Trust, n.d).

Management prescriptions:

- **Year 1:** Using whips, young, unbranched tree seedlings, of the species mix shown in figure 13, the hedgerows should be planted in winter during tree dormancy. A double row of whips approximately 30cm apart should be planted to create thick hedgerows. Being located at the outer site edge and remaining relatively inconspicuous when young, the whips should remain undisturbed, but if damage does occur, temporary fencing can be implemented.
- **Year 2 and onwards:** Any particularly injurious weeds should be removed. When hedge is approximately ten years old, it will be laid, using a billhook to partially sever upright stems and lay them sideways to form a solid structure.

Monitoring: While the two hedgerow extents on this site will take time to fully establish, monitoring should still be undertaken in the meantime to track progress. A species rich hedgerow is required to have 5+ woody endemic species per 30 metres (Buglife, 2025), and the two hedgerows should each be surveyed annually to see if they meet this criteria.

4.3 Increase Biodiversity on Site

Objective: Increase biodiversity on site from pre-management plan implementation levels. This includes plant, mammal, bird, and invertebrate biodiversity. Baseline surveys should be taken prior to management implementation to provide the comparison point.

Management Prescriptions: Implementation of site zoning and prioritising Zone 1 for biodiversity. Undertaking projects such as the meadow and hedgerow establishment objectives.

Monitoring: Annual biodiversity surveys should be undertaken. These can include the surveys monitoring meadow and hedgerow species richness for ease. The results should be recorded and compared year upon year. An increase in biodiversity should be seen as management comes into effect, but if that is not the case, adaptations can be made.

4.4 Increase Environmental Information Available on Site

Objective: Have information about the environment initiatives taking place available on signage within the site. This information should be engaging and non-technical, so site users are able to understand regardless of environmental knowledge level. Information should be presented bilingually in Welsh and English, with the Welsh appearing first. This is to comply with the Welsh Language Standards, which is mandatory for public organisations (Welsh Language Commissioner, 2025), because Welsh is the official language of Wales.

The adaptation of the playground into an eco-playground using recycled wind turbine blades also comes under this objective, and signage about this must comply with the same standards as above.

Management Prescriptions:

- Implement signage explaining the meadow management, hedgerow establishment and general management goals.
- As playground equipment needs to be replaced, environmentally focused replacements such as reusing wind turbine pieces should be sourced. Signage explaining this should also be produced.

Monitoring: Signage should be inspected annually when other surveys are taking place to ensure they are in good condition and still legible. Replacements must be produced if they are not.

4.5 Host Two Community Open Days Per Year

Objective: Involve the community in site planning and progress by hosting open days in the spring and summer to explain site management strategies, encourage use of the site, and interact with site users. Community garden volunteers will be invited to assist with facilitation and display their work over the year.

Management Prescriptions: Host two community days which are advertised locally, free to attend and allow people to explore the site fully.

Monitoring: Records should be kept of when open days are hosted, activities taking place during the open days, and approximate attendance level.

5. Schedule of Works

Baseline biodiversity surveying must be undertaken before site changes are implemented, this is therefore the first priority. After that has been achieved, the management prescriptions for the other objectives can be implemented. See table 2 for the full schedule of works.

Table 2: Schedule of Works, Vetch Field

What?	When?	Why?
Survey biodiversity to collect baseline data	April 2025-September 2025	Collect baseline data before big changes implemented
Mow meadow area and remove arisings	April 2025-March 2026	Reduce nutrient levels so meadow can be planted in April 2026
Plant hedgerow whips	Jan-Feb 2026	Plant whips while dormant in winter
Implement new signage on site	Feb 2026 onwards	This will explain what is happening on the site going forward as changes become noticeable
Scarify meadow area and sow wildflower seed	April 2026	Seedlings will no longer be killed off by frosts once seeds have been sown by this time
Host community open day	June-Aug 2026	Weather will be suitable and site will be at most attractive with summer growth

6. Summary

Creating small scale, urban versions of habitat types that would once have been widespread across the United Kingdom, this management plan aims to restore biodiversity to Vetch Field and re-establish its status as a site important to the local Swansea community. Taking into account the physical, biological and socio-economic features of the site, management objectives and prescriptions have been developed to suit the particular conditions of Vetch Field. Monitoring schemes have been established to collect data about the site operation and effectiveness of techniques planned. A schedule of works has then been developed to structure these undertakings.

7. Reference List

Ausden, M. (2007) *Habitat Management for Conservation : A Handbook of Techniques.* 1st edn. Oxford: OUP Oxford.

Baró, F., Camacho, D.A., Pérez Del Pulgar, C., Triguero-Mas, M. and Anguelovski, I. (2021) 'School greening: Right or privilege? Examining urban nature within and around primary schools through an equity lens', *Landscape and Urban Planning,* 208, pp. 104019 Available at: 10.1016/j.landurbplan.2020.104019.

BBC (2011) *Veg plots for Swansea's Vetch football ground.* Available at: https://www.bbc.co.uk/news/uk-wales-south-west-wales-14602643 (Accessed: 11th March 2025).

Bretzel, F., Vannucchi, F., Pezzarossa, B., Paraskevopoulou, A. and Romano, D. (2024) 'Establishing wildflower meadows in anthropogenic landscapes', *Frontiers in Horticulture,* 2 Available at: 10.3389/fhort.2023.1248785.

Buglife (2025) *Ancient and species-rich hedgerows.* Available at: https://www.buglife.org.uk/resources/habitat-management/ancient-and-species-rich-hedgerows/ (Accessed: 29th March 2025).

Butterfly Conservation *Moth conservation.* Available at: https://butterfly-conservation.org/moths/moth-conservation (Accessed: 26th March 2025).

Cleal, C., Opluštil, S., Thomas, B. and Tenchov, Y. (2010) 'Late Moscovian terrestrial biotas and palaeoenvironments of Variscan Euramerica', *Netherlands Journal of Geosciences,* 88, pp. 181–278.

Department for Environment, Food and Rural Affairs *Maintain species-rich grassland.* Available at: https://defrafarming.blog.gov.uk/maintain-species-rich-grassland/ (Accessed: 28th March 2025).

Ding, G., Guo, J., Yi, D., Ou, M. and Yang, G. (2025) 'Evaluating habitat isolation driven by future urban growth: A landscape connectivity perspective', *Environmental Impact Assessment Review,* 113, pp. 107886 Available at: 10.1016/j.eiar.2025.107886.

Discovery Student Volunteers Swansea (2024) *The Vetch Allotments - Gardening Volunteers 2024-25 / The Vetch - Gwirfoddolwyr Garddio 2024-25.* Available at: https://volunteering.discoverysvs.org/volunteers/opportunity/10227916 (Accessed: 22nd March 2025).

Earth Science Partnership (2025) *Sport Ground Site Investigation, Vetch Field.* Available at: https://www.earthsciencepartnership.co.uk/projects/sport-ground-site-investigation/ (Accessed: 26th March 2025).

Future Generations Commissioner for Wales *A Resilient Wales.* Available at: https://futuregenerations.wales/discover/about-future-generations-commissioner/future-generations-act-2015/a-resilient-wales-2/ (Accessed: 22nd March 2025).

Höpfl, L., Sunguroğlu Hensel, D., Hensel, M. and Ludwig, F. (2021) 'Initiating Research into Adapting Rural Hedging Techniques, Hedge Types, and Hedgerow Networks as Novel Urban Green Systems', *Land,* 10(5) Available at: 10.3390/land10050529.

Hristova, M. (2024) 'Impact of maintenance regimes on species richness in newly established perennial wildflower meadows', *Silva Balcanica (Sofia),* 25(2), pp. 61–73 Available at: 10.3897/silvabalcanica.25.e121469.

InHabitat (2012) *Wikado Playground is Built From Recycled Wind Turbine Blades in The Netherlands.* Available at: https://inhabitat.com/wikado-playground-is-built-from-recycled-wind-turbine-blades-in-the-netherlands/ (Accessed: 29th March 2025).

Jenkins, V. (2018) 'Sustainable Management of Natural Resources: Lessons from Wales', *Journal of Environmental Law,* 30(3), pp. 399–423 Available at: 10.1093/jel/eqy012.

Joint Nature Conservation Committee *Terrestrial habitat classification schemes.* Available at: https://jncc.gov.uk/our-work/terrestrial-habitat-classification-schemes/#phase-1-habitat-classification (Accessed: 28th March 2025).

Kirk, H., Soanes, K., Amati, M., Bekessy, S., Harrison, L., Parris, K., Ramalho, C., van de Ree, R. and Threlfall, C. (2023) 'Ecological connectivity as a planning tool for the conservation of wildlife in cities', *MethodsX,* 10, pp. 101989 Available at: 10.1016/j.mex.2022.101989.

Knapp, S., Aronson, M.F.J., Carpenter, E., Herrera-Montes, A., Jung, K., Kotze, D.J., La Sorte, F.A., Lepczyk, C.A., MacGregor-Fors, I., MacIvor, J.S., Moretti, M., Nilon, C.H., Piana, M.R., Rega-Brodsky, C.C., Salisbury, A., Threlfall, C.G., Trisos, C., Williams, N.S.G. and Hahs, A.K. (2020) 'A Research Agenda for Urban Biodiversity in the Global Extinction Crisis', *Bioscience,* 71(3), pp. 268–279 Available at: 10.1093/biosci/biaa141.

Marshall, C.A.M., Wilkinson, M.T., Hadfield, P.M., Rogers, S.M., Shanklin, J.D., Eversham, B.C., Healey, R., Kranse, O.P., Preston, C.D., Coghill, S.J., McGonigle, K.L., Moggridge, G.D., Pilbeam, P.G., Marza, A.C., Szigecsan, D., Mitchell, J., Hicks, M.A., Wallis, S.M., Xu, Z., Toccaceli, F., McLennan, C.M. and Eves-van den Akker, S. (2023) 'Urban wildflower meadow planting for biodiversity, climate and society: An evaluation at King's College, Cambridge', *Ecological Solutions and Evidence,* 4(2), pp. e12243 Available at: 10.1002/2688-8319.12243.

Mitchell, M.G.E. and Devisscher, T. (2022) 'Strong relationships between urbanization, landscape structure, and ecosystem service multifunctionality in urban forest fragments', *Landscape and Urban Planning,* 228, pp. 104548 Available at: 10.1016/j.landurbplan.2022.104548.

Montgomery, I., Caruso, T. and Reid, N.2. 'Hedgerows as Ecosystems: Service Delivery, Management, and Restoration', *Annual Review of Ecology, Evolution, and Systematics,* 51(Volume 51, 2020), pp. 81–102 Available at: 10.1146/annurev-ecolsys-012120-100346.

NBN Atlas Partnership (2025) *Explore Your Area.* Available at: https://records.nbnatlas.org/explore/your-area#51.6168|-3.9498|15|ALL_SPECIES (Accessed: 26th March 2025).

Norton, B.A., Bending, G.D., Clark, R., Corstanje, R., Dunnett, N., Evans, K.L., Grafius, D.R., Gravestock, E., Grice, S.M., Harris, J.A., Hilton, S., Hoyle, H., Lim, E., Mercer, T.G., Pawlett, M., Pescott, O.L., Richards, J.P., Southon, G.E. and Warren, P.H. (2019) 'Urban meadows as an alternative to short mown grassland: effects of composition and height on biodiversity', *Ecological Applications,* 29(6), pp. e01946 Available at: 10.1002/eap.1946.

Suffolk Wildlife Trust *Planting a hedgerow for wildlife.* Available at: https://www.suffolkwildlifetrust.org/conservationadvice/woodlands-and-hedgerows/planting-hedgerow-wildlife (Accessed: 29th March 2025).

Swansea Council (2025) *Local well-being plan 2023-28.* Available at: https://www.swansea.gov.uk/article/9453/Local-well-being-plan-2023-28 (Accessed: 22nd March 2025).

Swansea Council (2024) *Blue plaque to The Vetch Field.* Available at: https://www.swansea.gov.uk/article/30099/Blue-plaque-to-The-Vetch-Field (Accessed: 11th March 2025).

Swansea Council (2021) *Preliminary Flood Risk Assessment.* Available at: https://www.swansea.gov.uk/preliminaryfloodriskassessment (Accessed: 26th March 2025).

Swansea Museum (2025) *Swans100: Vetch Field.* Available at: http://www.swanseamuseum.co.uk/whats-on/past-exhibitions/swans-100-exhibition/vetch-field (Accessed: 27th March 2025).

Trending City (2012) *Upcycled-windmill playground, Rotterdam.* Available at: https://www.trendingcity.org/windmill-playground-rotterdam (Accessed: 29th March 2025).

Uralovich, K.S., Toshmamatovich, T.U., Kubayevich, K.F., Sapaev, I.B., Saylaubaevna, S.S., Beknazarova, Z.F. and Khurramov, A. (2023) 'A primary factor in sustainable development and environmental sustainability is environmental education', *Caspian journal of environmental sciences,* 21(4), pp. 965–975 Available at: 10.22124/CJES.2023.7155.

Wales Biodiversity Partnership (2025) *Section 6 Biodiversity and resilience of ecosystems duty.* Available at: https://www.biodiversitywales.org.uk/Section-6 (Accessed: 22nd March 2025).

Welsh Language Commissioner (2025) *Public Organisations.* Available at: https://www.welshlanguagecommissioner.wales/using-the-welsh-language/public-organisations (Accessed: 29th March 2025).

Woodland Trust *Poplar, white.* Available at: https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/a-z-of-british-trees/white-poplar/ (Accessed: 28th March 2025).

World Weather Online *Swansea Annual Weather Averages.* Available at: https://www.worldweatheronline.com/en-gb/swansea-weather-averages/swansea/gb.aspx (Accessed: 26th March 2025).