

Whitehead Hall Meadow

Whitehead Hall Meadow Millennium Green Restoration & Community Project

Project Aims & Outcomes



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Whitehead Hall Meadow Millennium Green: An Introduction

Located within the Greater Manchester Wetland and Carbon Landscape boundaries, Whitehead Hall Meadow Millennium Green was formerly part of Astley Green Colliery and used for dumping colliery spoil. After the cessation of mining activity in this area, the site was left derelict. The colliery shale was re-profiled and capped with clay to create habitat of grassland, scrub, woodland and wetland for wildlife.

In 2000, it was granted Millennium Green status and work to construct the pond area, paths and insert benches around the site took place to make it a community green space. Since then the site has received little or no management resulting in the grassland becoming threatened by scrub encroachment and the pond created is only seasonal.

Despite the lack of management on the site, Whitehead Hall Meadow Millennium Green has developed into a rich and varied site with a range of unusual and locally rare habitats and species, including flush, mire, wet woodland and species rich grassland.

The main issue that the lack of management has led to is the encroachment of scrub onto the meadow which has resulted in the loss of portions of this botanically rich grassland and the pond area. The encroachment will continue and, if left unmanaged, this grassland will essentially become scrub and woodland and the pond intensively shaded out. Another factor is that a layer of rank grass has formed which reduces the opportunity for delicate wild plants to thrive. This domination of coarser grasses and scrub encroachment of the meadow can be reversed through a scrub removal programme and the implementation of an annual hay cut and sward removal.

This project will improve and conserve 5.58 hectares of important grassland habitat and woodland through a programme of scrub clearing, introducing an annual hay cut and thinning the woodland. Whitehead Hall Meadow Millennium Green's botanical biodiversity will benefit from the habitat improvements and the diverse habitats within the site, which include species poor grassland, flush and mire, will be protected.



Figure 1: Aerial view of Whitehead Hall Meadow Millennium Green highlighting different habitats on site



Figure 2: A comparison of the site showing the impact of the scrub encroachment from 2000 to 2017.

The site's location within the Greater Manchester Wetland Nature Improvement Area forms a pivotal link between the mossland landscape to the south and the fenscape to the north. The restored habitats of Whitehead Hall Meadow Millennium Green will create an important wildlife corridor to nearby Astley & Bedford Moss, Windy Bank Wood and Botany Bay Wood, which are all designated Sites of Biological Importance, and will allow wildlife to move through the urban landscape.

The Greater Manchester Ecology Unit (GMEU) considered designating the Whitehead Hall Meadow Millennium Green as a Site of Biological Importance (SBI). After a recent survey they concluded that the site showed great potential with a valuable mosaic of habitats, however was not given the SBI status due to the encroaching scrub and rank grass layer. This project will not only enhance site-wide biodiversity but also ensure positive future management of the site, supporting the goal to achieve SBI status.

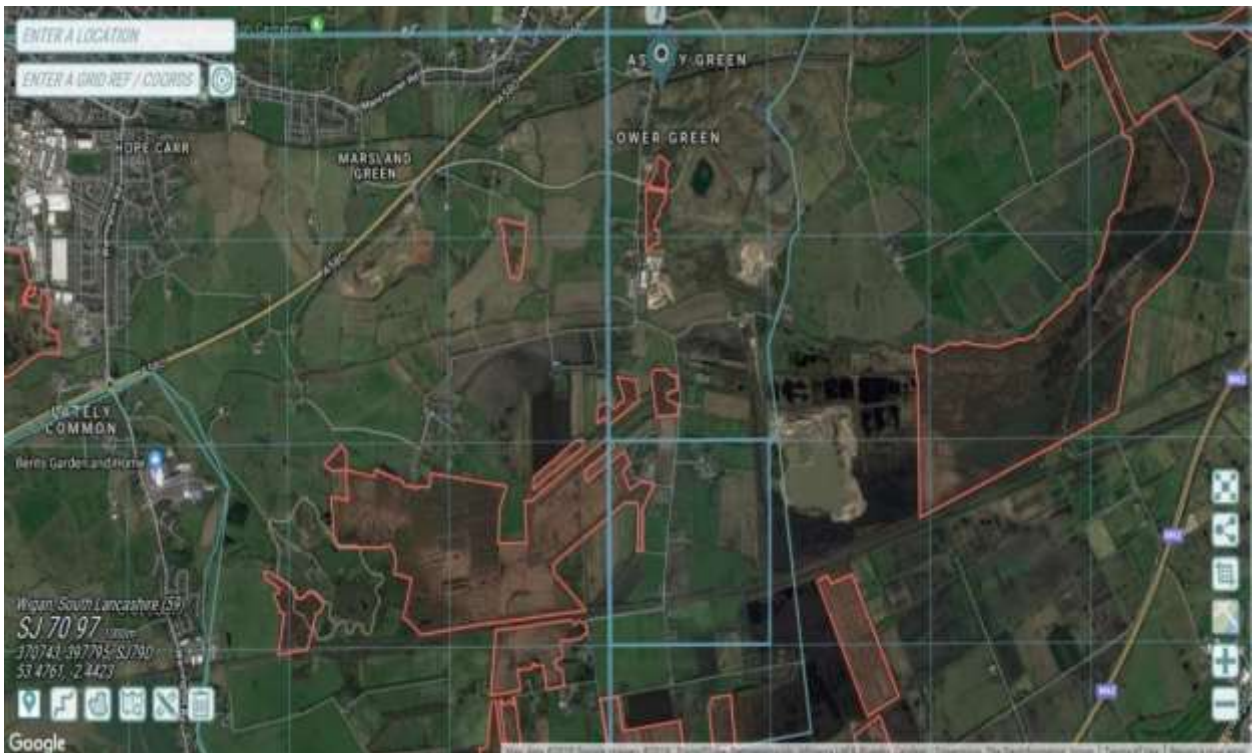


Figure 3: Aerial image of Astley Green and surrounding area. Blue marker is Whitehead Hall Meadow Millennium Green and red boundaries mark sites of biological importance (SBI)

The woodland that surrounds the meadow is an important site for Willow Tit, which is a bird that has declined rapidly in the UK over the last thirty years and is currently a 'red status' and a BAP Priority Species as Britain's fastest declining small bird.

While it is nationally scarce, Greater Manchester is a stronghold for the Willow Tit and it is important that as much habitat is managed for this species in the local area as possible. Willow Tit has been recorded at Whitehead Hall Meadow Millennium Green and this project will improve feeding and breeding opportunities, leading to increased numbers on the site.

As well as an important site for wildlife, Whitehead Hall Meadow Millennium Green has proven to be a key local green space in an area that is under continued pressure from development.

Whitehead Hall Meadow Millennium Green Project Aims

The Whitehead Hall Meadow Millennium Green project has four main aims:

Aim 1: Boost botanical biodiversity through a programme of scrub removal to the meadow and management of the woodland.

- Restore the wildflower meadow through a programme of scrub removal. This will not only increase the biodiversity of the mosaic of grassland habitats but also enable an annual hay cut, which will significantly reduce scrub encroachment, securing a future for the meadow.
- Creating a tractor turning circle, which will provide easy access for a tractor and mower onto the meadow, will allow the implementation of the annual hay, which will prevent the re-establishment of coarse grasses and scrub in the future. The installation of new gates at the site entrance will allow tractor and mower access to execute the annual cutting regime.
- Improve Willow Tit breeding and nesting habitat by creating more structure and density to the woodlands. This can be achieved by under planting the woodland to increase the variety and density of scrub species and removing some large canopy trees to allow light in which will encourage understory and ground flora growth. This work will not only enhance the site to support a breeding population of Willow Tit, but also increase the connectivity of the landscape in providing a vital stepping stone habitat to the nearby important Willow Tit habitats, such as Astley Moss and Windy Bank wood, see figure 3.

Aim 2: Improving an ephemeral pond (seasonal pond with water level that fluctuates), which will not only boost biodiversity but will also provide recreational and spiritual opportunities for site visitors

- This pond is important for the site's overall biodiversity because, as it is devoid of fish, it allows the safe development of amphibians and insects during the breeding season.
- While this is a water body that does dry out, it is essential for amphibians on site as they need to lay their eggs in water. However, their quick development means they may have left the water by the time the pond dries out.
- The pond, which is fed only by rainfall, will be deepened to 0.5m to improve the water levels. The bunds that currently exist in this area will be re-profiled so the pond area is level to the mire habitat to the west, which is to act as a pond flood area in particularly wet seasons. The flood waters will run onto the surrounding mire habitat, increasing opportunities for marginal plants, amphibians and invertebrates.
- Trees that are around the pond will also be removed to help improve the hydrology, allow for the bund re-profiling work and to increase the levels of sunlight in this area, which is essential for aquatic and marginal plant growth.

- The creation of four new 5m x 8m scrapes in the flush habitat will create small areas of standing water, which will create further habitat suitable for invertebrates such as dragonflies to lay their eggs.
- Four ditch blocks will be constructed in the drainage ditch that follows the strip of woodland from the street entrance to the canal entrance, which is south of the pond area and flush habitat. These ditch blocks will create pools of standing water in the woodland, which will be new habitat for amphibians, invertebrates and mammals.
- This creation of ditch blocks, scrapes and re-profiling the pond area will increase the connectivity between the different bodies of water on the site. The open water habitats will be complemented by a pond on the land to the south of Whitehead Hall Meadow Millennium Green and the canal to the east.

Aim 3: Ensure that Whitehead Hall Meadow Millennium Green, a local green space, can be accessed and enjoyed by the whole community for the foreseeable future.

- The instillation of a new kissing gate at the main entrance to the site will create essential disabled access to Whitehead Hall Meadow Millennium Green. It is currently impossible for wheelchairs to access the site due to large concrete barriers that have been installed to reduce anti-social behaviour. New gates and fencing will also improve the security of the site, which was one of the main concerns of local residents during our consultation.
- Original hardstanding paths, that were installed in 2000 as part of the Millennium Green project, have become covered with a dense level of vegetation. The path will be skimmed and the top layer of hardstanding re-laid and widened to 1.5m. By relaying and widening the top layer of hard standing path, access will be opened up for everyone to enjoy the site.
- The main access track through the site which connects the west and east entrances will also be enhanced using the same method as above. The vegetation will be cut back and the 420m of the track widened to 1.5m to improve the access.
- Interpretation will also be installed at a new viewing area overlooking the pit head of nearby Lancashire Mining Museum, which will link visitors with this area's industrial past.
- The Lancashire Mining Museum, which is next to the site, has been a huge supporter of our project and we will be working with their blacksmith, Darren Block, to design and build the gates and fencing that will make the meadow secure. Darren is the fourth generation of his family to work at the museum and he keeps the traditional skills alive by using the old steam powered machinery in all of his work. Darren also only uses British steel in his work and this will allow the project to support not only our home industry but a local and traditional trade.

Aim 4: Create opportunities for local people to actively get involved in enhancing their local green space and taking ownership of their natural heritage.

- Whitehead Hall Meadow Millennium Green Trust has a 1000-year lease on the site and together with volunteers and local users will benefit from the site enhancements and the future management of the site. This project will help raise awareness of the importance of Whitehead Hall Meadow Millennium Green as a local green space and, through volunteering opportunities and site improvements, will encourage local people to take pride in their site and become passionate about protecting the habitats and wildlife into the future.
- There will be opportunities for Whitehead Hall Millennium Green Trust, Carbon Landscape volunteers and locals to get involved in some of the restoration work. This project will also upskill the volunteers through workshops that are focused around practical habitat

management, wildlife surveying and AQA accreditations, providing the skills and tools needed to deliver the essential conservation work into the future.

- Whitehead Hall Meadow Millennium Green is also going to part of the Carbon Trail, a Carbon Landscape project that will link key sites together to create a trail within Wigan, Warrington and Salford. This will increase footfall to the site and encourage residents and visitors to explore and experience the landscape in which they live and that they visit.

Project Breakdown: Outputs and Outcomes

Scrub removal

- Improve the site's variety of grassland through a programme of removal of the scrub that has encroached onto the meadow. There has been no management on the site for twenty years and many of the encroaching trees are large and well established. The larger trees will be felled with chainsaws and smaller scrub felled with mattocks, tree poppers and loppers. Any chainsaw work will be delivered by a trained professional. The brash will be removed off the grassland to prevent enrichment and used to build habitat piles and any dead wood will be strapped to tress to rot down and increase nesting opportunities for breeding Willow Tit in the woodland. Willow Tit will nest in a dead tree or stump and need wood that is soft enough for the bird to excavate its own cavity. They will build a new nest every year, so plenty of dead wood is needed in the woodland to support a breeding population. The stumps will be treated with pesticide to prevent regrowth. Areas A and B (see figure 1) to the north of the site are suffering the most from encroachment - these are areas of species poor grassland and cover 1.9 hectares of the site.
- This scrub removal is essential in enabling an annual hay cut which is required to ensure future scrub encroachment is kept to a minimum. The annual cut will also remove each year's sward, which will prevent coarser grasses and scrub from out-competing finer species and reducing the variety of species. The meadow areas that are represented as A and B in figure 1 will particularly benefit from the annual cut as they are areas of currently species poor grassland. Removal of the yearly sward in these areas will remove nutrients from the meadow, which will increase the variety of plants able to flourish.
- The Grassland AQA accreditation will upskill the Whitehead Hall Meadow Millennium Green Trust and volunteers in the identifying of encroaching trees and scrub, techniques on how to safely remove them and selecting the correct tools to do the work. This will give the site a lasting legacy and as Whitehead Hall Millennium Green Trust will have the confidence and the skills to take responsibility for the management of the site into the future.

The scrub removal from the meadow will increase the floral biodiversity of the grassland which, in turn, will boost numbers of invertebrates and birds and act as a vital stepping stone habitat connection the nearby Sites of Biological Importance.



Figure 4: Tree removal works. Individual trees marked in blue, areas of tree removal marked in orange.

Woodland management

- Woodland encircles the grassland and makes up 1.6 hectares of the site. A small amount of thinning will take place to open up the canopy to allow light to reach the woodland floor which will provide better conditions for ground flora to develop. The trees will be felled with chainsaws and, working alongside volunteers, the brash will be used to create habitat piles and standing deadwood. All stumps will be treated with herbicide to stop regrowth.
- Under planting will take place in an area of the woodland with Willow Tit preferred species to help boost the process of developing better structure for Willow Tit to take place. Logs from the canopy thinning will also be used for standing deadwood, which will act as nesting areas for breeding Willow Tit.
- Treatment of invasive species Giant Hogwood from the woodland to prevent spread. The work will be undertaken by a professional with the correct pesticide training and certification. The treatment of these invasive species will reduce the competitive pressures that these plant place on native species for space and nutrients, which will boost the overall biodiversity of the woodland.

Willow Tit is one of the Whitehead Hall Meadow Millennium Green's key species and improving habitat to support a breeding habitat is a key aim of this project. Improving the woodland for this species will create a wildlife corridor to nearby Astley Moss, where Willow Tit has also been recorded. Managing the wood through a small amount of thinning will improve the biodiversity of the understory and help to improve the age structure throughout the woodland.



Figure 5: Woodland woods. Areas of woodland for thinning and Willow Tit habitat creation in blue and red dot is an area of Giant Hogweed.

Re-profiling pond and creating scrapes and ditches

- Deepening the existing ephemeral pond will help improve the water levels. Lowering/re-profiling of the bunds in this area will connect the pond area to the mire habitat to the west. Connecting these two areas of habitat will allow for the movement of water back and forth.
- Trees that surround the pond will be removed to improve the hydrology and also prevent the pond from becoming over-shaded. Stumps will be treated with herbicide to prevent regrowth.
- The creation of four 5x8m shallow scrapes in the area of flush (see figure 1) will create more areas of standing water, which will benefit invertebrates such as dragonflies as it provides more habitat to lay their eggs, as well as plant and amphibians.
- The creation of small pools of standing water will also make the flush habitat more suitable for birds such as snipe, which is a species that has been recorded on site as a winter passage bird in the past. The common snipe is an amber list species and numbers have fallen due to the draining of agricultural land in recent years and creating suitable habitat for this species is a must.
- The creation of four ditch blocks in the East West drainage ditch in the woodland to the south of the grassland will create a series of standing pools within the wet woodland area. Two plastic pile dams are to be inserted along the narrow section of the ditch. They will be keyed into the bank edge by 1m, inserted into the ground by 1m and will be 30cm above ground. Two further blocks are to be inserted where the ditch becomes wider but will be made of clay.

The improvement of the pond area, creation of scrapes and ditches will increase the number of diverse water habitat within the site for invertebrates, amphibians and mammals. This work will also increase the connectivity between the different water bodies on site and link into the pond area in the land to the south and the canal to the east, creating a maze of different types of water bodies that will support wildlife.

Improving access

- The main access track between the west and east entrances to the site (see figure 5 for location) will be skimmed and the top layer of hardstanding re-laid, widened to 1.5m and the vegetation cut back for ease of access. This vegetation that encroaches over the main pathway will be kept in check by Whitehead Hall Meadow Millennium Green as part of a management plan.
- A viewing point will also be created along this main access track that looks out over the meadow and towards the pithead at Lancashire Mining Museum (see figure 5 for location). An interpretation board, which will feature the Enover logo, will inform visitors about the industrial heritage of this part of the North West.
- A 180m path through the meadow will be reinstated (see figure 5 for location). The current track will be skimmed and the top layer of hardstanding re-laid. This path will also be 1.5m wide to allow wheelchairs access onto the meadow. All paths will be constructed using Hop pathway surfacing, which can withstand regular use, reducing future infrastructure maintenance. All recycled path material will be certified. A formalised pathway within this habitat will improve access for all users visiting the site and direct footfall away from more sensitive areas of this grassland.
- Better access to the meadow for all users will instil pride and ownership of this valuable local habitat and its wildlife and allow them to enjoy their local green space.
- A flight of six steps at the rear of the site will be removed and replaced to provide safer access to the meadow from the canal path.
- The instillation of new gates and fencing, which will be made by a local tradesman, will provide disability access to Whitehead Hall Meadow Millennium Green as well as securing the site, which was something that locals highlighted they were keen to see happen during our public consultation period.

Improving the access for all to Whitehead Hall Meadow Millennium Green is a key aim of the project as paths and gates have fallen into a state of disrepair in recent years. The lack of hardstanding paths in the meadow make it difficult for wheelchairs, due to the often wet and muddy conditions. The current wooden fencing lacks access points that are wide enough for wheelchairs and prams to access the meadow and receives the benefits it offers.

Having access to green spaces has a positive impact on our physical, mental and social health and Whitehead Hall Meadow Millennium Green is a vital space for locals due to the squeeze by urban development. The aim of the project is to make this site a place where locals and visitors can experience and reconnect with wildlife and escape from the hustle and bustle of everyday life.

Whitehead Hall Meadow Millennium Green Work Map



Figure 6: Location of new path (black dashes) around pond area (marked in blue). The steps at the rear of the site is marked in purple.

Potential risks

- The timing of the capital works and the scrub clearance on the meadow has been designed to avoid bird and invertebrate breeding season. The work will be done in compliance with Natural England and The Forestry Commission's best practice guidelines when working with a site with protected species, which guarantee sensitive measures and methods to reduce the chance of disturbing protected species, in our case UK Biodiversity Action Plan species, Willow Tit.
- Woodland management will also be done at the end of the bird breeding season (between September and March) and will be done in conjunction with Natural England and The Forestry Commissions best practice guidelines to reduce the disturbance of protected species.

Volunteer activity

- The volunteering and training opportunities are a vital part of this project and are designed to upskill and support local action. The project will give Whitehead Hall Millennium Green Trust, locals and volunteers a chance to better understand their local green space, it's importance to the community and the wildlife that lives there and develop a sense of pride and ownership of this space.

To do this we will deliver 17 volunteer activity task days with a minimum of six volunteers attending each session, outlined below:

Practical Habitat Management

- 6 x scrub clearance
- 1 x small amount of tree thinning and understory scrub removal to open up the canopy and boost the biodiversity of the understory and ground flora.
- 1 x creation of Willow Tit habitat, including some under-planting of preferred species.

- 2 x creation of dead hedges, creation of habitat piles and installing of dead wood within the woodland.
- 1 x hedgelaying session
- 1 x work as required (including the completion of scrub removal and under planting.)

Biological Surveys and Training Courses

- 1 x bird training and survey on Whitehead Hall Meadow Millennium Green
- 1 x Willow Tit training and survey on Whitehead Hall Meadow Millennium Green
- 1 x Butterfly and dragonfly training and survey on Whitehead Hall Meadow Millennium Green
- 1 x Wildflower training and survey on Whitehead Hall Meadow Millennium Green
- 1 x Grassland Conservation AQA vocational accreditation introduction and training (30 hours of volunteer time required, consisting of 1 introduction session and 5 practical delivery volunteer sessions.) The sessions will be delivered by the Carbon Landscape Partnership program team and the practical volunteering through the practical sessions outlined above.

Volunteering opportunities will be open to all members of the community, existing Carbon Landscape volunteers and will provide new opportunities to get involved in activities in the local area. No prior knowledge or experience will be needed to get involved with the activities and training. We will create 102 new volunteering opportunities through the 11 different volunteer activities.

New volunteers will be introduced to the Carbon Landscape Partnership project and offered opportunities for further training and volunteering opportunities.

Training and volunteer activities will protect and important site for wildlife, will create opportunities for local people to be socially and physically active and allow them to be involved in restoring and enhancing an important green space on their doorstep.

Future Management

- After the programme of scrub removal on the meadow an annual hay cut will take place, which will prevent any scrub regrowth and remove the yearly grass sward, which will boost floral biodiversity. Not only will this boost biodiversity, an annual cut will also prevent the need for annual scrub removal sessions in the future.
- A management plan has already been written by Lancashire Wildlife Trust, which covers the management of Whitehead Hall Meadow Millennium Green until 2023, which will be used by the Whitehead Hall Meadow Millennium Green Trust for future management.
- Whitehead Hall Meadow Millennium Green Trust have a 1000-year lease on the site and are responsible for its upkeep, such as keeping pathways clear.
- Enabled through the training programme, members of Whitehead Hall Meadow Millennium Green Trust and locals will develop the skills to be able to undertake grassland conservation tasks and empower them to want to protect their local green space going forward. They will be supported by the Carbon Landscape Partnership, which is committed to helping with management until the project ends.

Monitoring and Evaluation

- All capital works will be overseen by Whitehead Hall Meadow Millennium Green Trust and the Carbon Landscape Project Officer. Only satisfactory work will be signed off as complete. Before and after photographs of the scrub clearance and woodland management will be used as a tool to monitor the impact the restoration work and the changes to the landscape.
- Invasive species that exist on Whitehead Hall Meadow Millennium Green will be assessed, recorded using GPS and photographed. The site will be re-assessed and photographed following works taking place.
- All attendees of the volunteer work days will be asked to complete sign in sheets and this will be used to monitor volunteer numbers and ensure that we are reaching our target of six volunteers for each practical session.
- The Whitehead Hall Millennium Green Trust and Carbon Landscape volunteers will be trained in bird, willow tit, dragonfly/damselfly and wild flower surveys and can follow the same methodology to collect future data. The survey training will be delivered through the Citizen Science Project arm of The Carbon Landscape Partnership, which is supported by the Greater Manchester Local Record Centre (GMEU). The Citizen Science project aims to support volunteer recorders to undertake the monitoring works, using structured survey methods and allow repeatable surveillance to be undertaken year on year. In addition, the project helps provide invaluable data, using volunteer recorders, which provides an important mechanism for involvement and immersing people in their local wildlife and providing a feeling of ownership of the landscape. Future surveys by Whitehead Hall Meadow Millennium Green Trust will give us an understanding of the site's condition and the impact that the work has had on habitats and species.

Legacy

The restored landscape of Whitehead Hall Meadow Millennium Green will boost the site's biodiversity and provide a valuable stepping stone for wildlife through the urban landscape. The project will provide the Astley Green community with a valuable green space in an area that continues to be developed. It will also be a way for locals to rediscover their natural heritage as they will have played a major role in conserving and protecting this vital local green space.

The community has been involved with this project since the year 2000, when the site received its Millennium Green status, and Whitehead Hall Meadow Millennium Green Trust will continue to raise awareness of this green space within the local area. The volunteer sessions that will be run by the Carbon Landscape Partnership throughout this project are designed to give Whitehead Hall Meadow Millennium Green Trust and the community the skills and know-how to care for and protect this site into the future – with the help of a management plan. The conservation work done by Whitehead Hall Meadow Millennium Green Trust and members of the community will engender pride in this green space as well as raise awareness of this important habitat and its associated wildlife.

Whitehead Hall Meadow Millennium Green will also be an accessible visitor attraction for all and will help users reconnect with the nature that is on their doorstep. Whitehead Hall Meadow Millennium Green will also be part of the Carbon Trail, a thirty-mile trail that links key sites through Wigan, Warrington and Salford. The trail will provide greater access to the landscape for users, while telling the story of the landscape and the Carbon Landscape. The trail, which will be waymarked, will lead from the canal through Whitehead Hall Meadow Millennium Green, where users will be able to experience the site and learn about this area's industrial past.

The site has already been used for some events, including some delivered by the Carbon Landscape Project, and the site enhancements will make it an attractive venue for more groups going forward. More events on site was something that locals wanted to see when a public consultation about this local green space was conducted ahead of this grant application.

Examples of site activity:

A test event was held over the summer as Whitehead Hall Meadow Millennium Green was used for an umbrella doodle walk, along with Lancashire Mining Museum and the nearby canal, which was aimed at families. Children were given a see-through umbrella and we stopped at various points on the walk to draw what they could see, which was a great way to connect them to the environment around them.

The woodland and meadow of Whitehead Hall Millennium Green were used as stopping points, which introduced those on the walk to the site for the first time. The event gave us the opportunity to see the site being used as an event space as well as some of its access restrictions, which will be addressed through the work that we have planned.



Figure 7: Families drawing the view around the pond on Whitehead Hall Meadow Millennium Green.

A fungi foray, which was the second Carbon Landscape event to be held on Whitehead Hall Meadow Millennium Green, was delivered in October. Fungi expert Dave Winnard from Discover the Wild led the session and introduced attendees to the wonderful world of fungi on a great tour of the site.

Twenty people, including members of the Whitehead Hall Meadow Millennium Green Trust and locals, found over a dozen species in just over ninety minutes. Attendees left with a greater understanding of how to identify some species of fungi and many were introduced to Whitehead Hall Meadow Millennium Green for the first time.



Figure 8: Group listening to fungi expert Dave Winnard at Whitehead Hall Meadow Millennium Green fungi foray.



Figure 9: This batch of Fly Agaric was found during the fungi foray.

A survey day was also organised on the site for Whitehead Hall Meadow Millennium Green Trust, the Carbon Landscape and the Greater Manchester Ecology Unit (GMEU) to visit and record trees, plants, bird, insects and mammals on site. This set a baseline of species on site, which will be monitored to chart the impact the work will have on the site's biodiversity.

The GMEU also expressed an interest in using Whitehead Hall Meadow Millennium Green as a potential survey spot in the future as part of its Citizen Science project, which will play an important role in the future monitoring of the site.



Figure 10: Surveyors getting to grips with the wildlife of Whitehead Hall Meadow Millennium Green