



HLF Programme Objectives			
Objective	Outcomes	Main Objective (tick one box only)	Links to other areas
1	The heritage will be better managed		✓
2	The heritage will be in better condition	✓	
3	The heritage will be identified/recorded		✓
4	People will have developed skills		✓
5	People will have learnt about heritage		✓
6	People will have volunteered time		✓
7	Negative environmental impacts will have been reduced		✓
8	More people and a wider range of people will have engaged with heritage		✓
9	The local area/community will be a better place to live, work or visit		✓

Objective 1: Restore and enhance habitats as identified by the landscape character action plan

1a. Healthy bogs



Summary

This project seeks to improve the nature conservation status of areas of blanket bog on Elan's upland plateau. This habitat is important for a range of species and for maintaining the carbon and water storage benefits of the underlying peat. However, over the years, areas have been damaged by peat erosion and ingress of *Molinia caerulea* ('molinia'), an invasive grass species.

	<p>Actions to tackle these issues will help to secure the fantastic landscape and species of the upland plateau for the future.</p>
<p>Project Details</p>	<p>The upland plateau of Elan is an open, isolated and wild landscape with a wide skyline that forms the core of the Elenydd uplands. Much of the plateau is overlain with deep peat that is home to blanket bog communities of plants, birds, small mammals and invertebrates. The peat is a nationally significant store of carbon and water and the plant communities are critical to maintaining this resource. The best areas are designated as a Special Area of Conservation (SAC) with the blanket bog habitat a primary reason for selection. In addition, the area forms an important component of the Elenydd-Mallaen Special Protection Area (SPA). At the heart of the site lies the Claerwen National Nature Reserve.</p> <p>While much of the area of blanket bog in the SAC is in good condition in some areas peat has been eroded and gullies and channels have led to it drying out and a decline in the cover of more typical plants and bog mosses as well as a decline in associated breeding birds. In other areas, particularly on areas with shallower peat, <i>Molinia</i> has become over-dominant; this has created negative impacts for other species, the tussocky nature of this dominance has reduced accessibility for visitors and the poor palatability of the grass for livestock has an impact for those working on the land (i.e. farming). The deciduous nature of <i>Molinia</i> also increases the risk and severity of grass fires.</p> <p>In tackling these issues the Healthy Bogs project will start the restoration of key areas of degraded blanket bog on the upland plateau. Actions will focus on:</p> <ol style="list-style-type: none"> 1. Reducing the prevalence of <i>Molinia</i> in key areas through targeted cutting and grazing linked to scientific research in partnership with Aberystwyth University. 2. Rewetting eroded bog through peat re-profiling and gully blocking. 3. Securing habitat improvement through reseedling with heather and sphagnum species. <p>These actions will make an important contribution to getting all Elan's blanket bog into good condition and will also act as a testbed for rolling out the programme of work across all areas of degraded blanket bog in the future.</p> <p>Monitoring of the project will be coordinated by the Natural Heritage Officer supported by NRW and trained volunteers and delivered through Project 2b.</p>
<p>Need and Opportunity</p>	<p>Objective 1 and this specific project are derived to mitigate against the following threats identified in chapter four of the LCAP:</p> <p>4.2.1 Damage to Elan's distinct habitats</p> <p>Over dominance of <i>Molinia</i> is recognised by NRW as preventing favourable conservation status of a significant portion of the Elenydd SAC in the Elan Valley and is identified in the landscape character assessment. The scale of the issue is such that Welsh Government has recently awarded a six month Nature Fund grant to partners in the Elan Valley to trial ways of managing <i>Molinia</i> sustainably. This project was successful in</p>

	<p>achieving the project outputs but there are a number of outcomes from this short-term project that need building on with longer-term science in order to develop and embed innovative solutions to managing Molinia and restoring degraded blanket bog. Principal among these is the need to better understand how to sustain the benefits of managing Molinia through integrated use of grazing (with cattle and sheep) and cutting. There is also the opportunity through this project to test out a range of other restoration techniques that have recently been developed in other moorland areas such as sphagnum transplanting to establish if such techniques have value in the Elan landscape. By enabling our farmers to learn from the project to address this problem we are turning the need into an opportunity for the future.</p> <p>4.2.2 The threat from changing land management practices & 4.2.7.1 Threats to upland farming</p> <p>Molinia dominance is ever increasing and alongside the natural conditions which have promoted its spread a reduction in some of the traditional farming activities such as Rhos Hay have further allowed it to expand. This project therefore works in conjunction with objective three to maximise the opportunity of 4.3.1.1Reinvigorating farming practices for the benefit of the habitats and the culture.</p> <p>4.2.6 External impacts and the threat to Elan’s heritage</p> <p>In addition to being an issue for nature, maintaining a functioning blanket bog community is critical to securing the carbon and water storage benefits of the underlying peat. Rewetting and reinvigorating the habitat on degraded blanket bog areas is therefore important mitigation against the external factors of climate change.</p>	
Project Management	Natural Heritage Officer reporting to the Natural Heritage Sub-committee and the Partnership Board where necessary.	
Project Partners	Lead Partner: EVT Other Partners:RSPB, NRW, Elan Valley Tenants Association, Cwmduddwr Commoners Association and Aberystwyth University	
Project Development	This project interlocks with a number of the natural heritage focused projects notably Rare Birds and Cattle Grazing and hence has been developed in conjunction with these related projects to ensure both synergy and compatibility. The project has been developed with technical and practical expertise from Aberystwyth University, NRW, RSPB and EVT using mapping data, site visits, and face-to-face meetings. Discussions have taken place with farmers around the proposed actions. Many of the actions are specifically designed to both provide benefits for bogs in the short term and trial future management options for bogs in the Elan Links area. Project partners have worked together to identify areas for project implementation resulting in the development of an opportunity map to target actions where they are most needed.	
Key Audiences (Please see Audience Development Plan, appendix LCAP3, for	Audiences that will be primarily targeted through this project:  Land managers including landowners,	Secondary audiences who will also benefit as a result of the project:  Volunteers;  Residents of Elan and Rhayader;

more details about Elan Links audiences.)	tenants and commoners.	<ul style="list-style-type: none"> 🌿 Visitors who are within 1 hour's drive away; 🌿 Visitors coming for a specific activity.
Activities and Timescale	<p>During the development phase at least 20 hectares of degraded blanket bog and molinia over-dominant habitat will be managed to restore habitat condition through a combination of:</p> <ol style="list-style-type: none"> 1. peat re-profiling, and building baled molinia or timber dams to slow the flow of water off eroded or degraded bogs; 2. targeted cutting and grazing of Molinia linked to scientific research in partnership with Aberystwyth University; and 3. cutting degraded bog areas followed by patch reseeding with heather and sphagnum species. <p>The <i>1a Better Bogs Opportunity Map</i> will guide the locations for project implementation.</p> <p>Activities will be coordinated by the Natural Heritage Officer with opportunities for training local farmers and contractors in bog management techniques and for volunteer activities through Friends of Elan.</p> <p>While all of these approaches have been successfully used in other areas of the UK, many of them are new to Elan. The first two years of the delivery phase will therefore be used to test the techniques on relatively modest areas before full roll out of the project in Years 3 to 5 following monitoring and evaluation led by the Natural Heritage Officer with advice from Aberystwyth University. The scientific research linked specifically to targeted cutting and grazing of Molinia is anticipated to be completed by end of Year 2 to inform activity in Years 3 to 5. At least two open days will be held for stakeholders and the wider public to better understand the project and the benefits of better managing bogs for the future.</p>	
Outputs	<ul style="list-style-type: none"> 🌿 At least 20 hectares of eroded and degraded bog better managed / restored. 🌿 Molinia control studies leading to a PhD 🌿 10 people trained in bog management skills 🌿 2 stakeholder days 🌿 All Elan Links farmers informed about project. 🌿 End-of-project report with recommendations for future activity to restore all of Elan's degraded bog habitat. 🌿 Biodiversity monitoring activity delivered through Projects 2b and 8a. 🌿 Interpretation to a wider audience delivered through Objective 7. 	
Output indicators and targets	<ul style="list-style-type: none"> 🌿 20 hectares of eroded and degraded bog in management agreement / small grants scheme 🌿 PhD 🌿 Recommendations for rolling out the project received by the Natural Heritage sub-committee during early part of Year 3. <p>Indicators:</p> <ul style="list-style-type: none"> 🌿 Progress with project implementation will be reported to the Natural 	

	<ul style="list-style-type: none"> 🏡 Heritage sub-committee on a quarterly basis and HLF 6 monthly. 🏡 Ecological change will be recorded photographically. 🏡 Ecological biodiversity monitoring surveys. 🏡 Specific Key indicators measured for each target habitat. 🏡 Project completion reports with evidence. 🏡 Biodiversity monitoring using a mix of expert input / advice and trained volunteers will be implemented through Project 2b and supported by Project 8b. 🏡 Stakeholder days will be used to understand the benefits of the project from the point of view of farmers and other stakeholders. 🏡 Data collection – management agreements, small grants, farmer groups active. 🏡 Stakeholder feedback.
Outcomes	<p>Heritage Outcomes:</p> <ul style="list-style-type: none"> 🏡 Natural heritage is in better condition and better managed for the future 🏡 Improved ecological condition of the bog and related habitats on peat will contribute to increased carbon storage and sequestration and water storage and quality 🏡 The Healthy Bogs project will reinforce the distinctive landscape character as outline by the commissioned Elan Landscape Character Assessment 🏡 Farmers will be supported by both practical help and advice – collectively from the partnership and individual partners 🏡 Continuing monitoring work will demonstrate that improved management reduces Molinia over dominance and encourages growth of a more balanced mix of species, contributing to biodiversity improvement 🏡 Increased knowledge and coordinated action will ensure that farmers, land managers and decision makers make informed decisions that will strengthen Elan Valley as a stronghold for nature into the future 🏡 The natural heritage of Elan will be more visible and accessible to both our community and our visitors 🏡 The resilience of Elan’s natural heritage is strengthened for the future <p>People Outcomes:</p> <ul style="list-style-type: none"> 🏡 Farmers will have been supported with practical help and advice and financially through the scheme 🏡 Farmers have learned effective techniques to manage this type of habitat and farm businesses will have benefited from partnership with upland scientists 🏡 PhD student trained 🏡 Farmers, land managers, policy makers and visitors have a greater awareness of the natural heritage of the Elan Valley and the complex issues surrounding its effective management and what needs to happen to restore the significant bog resource. 🏡 People will be able to access and see exemplar examples of wet heath / bog habitat as described in the Landscape Character Assessment and gain more of an understanding of it 🏡 People will have volunteered time and learned new skills and

	<p>benefited from being outdoors in the natural environment of Elan</p> <p>Community Outcomes:</p> <ul style="list-style-type: none"> 🌿 Communities will have better knowledge and awareness and respect for the natural heritage of Elan and the importance of safeguarding it. 🌿 During the duration of the Scheme local communities and regular visitors will notice a step change in the quality of wet heath and bog areas as a result of the project activity. 🌿 Elan will become known as an exemplar destination for sustainable management of natural resources for the benefit of nature, carbon sequestration and storage and water storage and quality.
Monitoring and Evaluation	<ul style="list-style-type: none"> 🌿 Progress with project implementation will be reported to the Natural Heritage sub-committee on a quarterly basis and HLF 6 monthly. 🌿 Ecological change will be recorded photographically. 🌿 Ecological biodiversity monitoring surveys. 🌿 Specific Key indicators measured for each target habitat. 🌿 Project completion reports with evidence. 🌿 Biodiversity monitoring using a mix of expert input / advice and trained volunteers will be implemented through Project 2b and supported by Project 8b. 🌿 Stakeholder days will be used to understand the benefits of the project from the point of view of farmers and other stakeholders. 🌿 Data collection – management agreements, small grants, farmer groups active. 🌿 Stakeholder feedback.
Evidence	<p>Elan Valley completed a Welsh Government Nature Fund project: <i>Elenydd Purple Moorgrass Project</i> (2015) (appendix PP1). The baseline data collected as part of this project: Lewis, S & Vincett, J. (2015). <i>Purple Moor Grass Baseline Survey</i> (appendix PP2), alongside the experience of working in these areas has provided sound knowledge on the areas which require actions.</p> <p>Previous golden plover works including work on the bogs of Abergwesyn Common and Trumau which have informed habitat benefits to the actions suggested.</p>
Wider Context	<p>Management of most of Elan's blanket bog areas is supported by Glastir Advanced through individual contracts between farmers and the Welsh Government. The works in the current project tailor the Wales-wide prescriptions available under Glastir with the specific requirements of the Elan Links area in ways that could not be undertaken through Glastir (e.g. peat reprofiling) or have proved impractical to deliver through Glastir within current constraints (e.g. Molinia cutting integrated with cattle grazing on the hill).</p> <p>Maintaining blanket bog and associated habitats in good ecological condition and hence securing the carbon stores in the underlying peat is a key objective in achieving Wales' targets for mitigating the impacts of climate change. The resilience of these habitats is reduced by factors such as atmospheric pollution and is likely to be increasingly tested by changing weather patterns. While Glastir, the Wales agri-environment scheme, goes some way to promoting appropriate grazing management</p>

	<p>the more localised and targeted actions needed to improve habitat condition in degraded areas has not been possible. There is a need to test actions and interventions on the ground supported by good science.</p> <p>The project has strong links with a number of the other natural heritage projects. Many elements of the other projects are designed in such a way that they will have positive benefits for birds. The more specific and focused bird actions will however be delivered through this project. The principal delivery mechanism will be through a Natural Heritage Delivery Contract for farmers and the scheme will be coordinated by a Natural Heritage Officer (for further details please refer to the Natural Heritage Implementation Plan in appendix PP3).</p>
<p>Legacy and maintenance of benefits</p>	<p>This project has been designed to benefit the natural heritage of the area while at the same time supporting key scientific research and trials to better understand how to manage our bogs in the future. Importantly, it is anticipated that an understanding of how to manage bogs to deliver improved habitats and hence other benefits (carbon storage, water regulation) will help to unlock the availability of payment for ecosystem services (PES) in the programme area. The development of PES approaches will be a key means of securing the benefits of the project and extending the scope of the work across the wider bog habitats of the Elan landscape.</p>
<p>Risks and risk mitigation</p>	<p><u>Risk 1</u>: The natural heritage projects in Elan Links are designed to complement and tailor agri-environment provision in Wales. Following the Brexit vote there is considerable uncertainty associated with the future shape of this provision. Any changes may impact on the suitability of components of the natural heritage projects delivered through Elan Links. <u>Mitigation</u>: uptake and suitability of the natural heritage projects will be monitored by the Natural Heritage Sub-committee. This committee will consider and recommend alterations to the projects to ensure they are fit-for-purpose and deliver best value-for-money.</p> <p><u>Risk 2</u>: Uptake by farmers is lower than expected. <u>Mitigation</u>: This project has been developed in conjunction with Elan Links farmers and is supported by them – this reduces the risk of this happening. The project will be reviewed annually by the Natural Heritage Sub-committee which will recommend alterations if uptake is low.</p>
<p>Links to other Elan Links projects</p>	<p>Objective 2a: Works completed in this project will be done in conjunction with 2a. Both projects will include elements of bog and bird management working together.</p> <p>Objective 2b: 2b completes the majority of the survey work to ensure projects are developing and achieving the wider outputs.</p> <p>Objective 3b: Rhos hay is the collection of molinia hay and as such some areas of production will be on or near bog habitats. These projects will work together to ensure no mismanagement or doubling of actions.</p> <p>Objective 3d: Cattle grazing is a beneficial element to the control of molinia and mechanical actions will have a greater effect when combined with cattle grazing.</p>

Objective 4: The actions and management agreements are better informed by the Heritage at Risk survey and actions are considerate of the goals of this project. Vegetation works can be agreed as capital works within these management agreements.

Objective 5a: Capital work actions under these projects can be completed in harmony with works necessary under Project 4a and clearing works which may be necessary to this project. It is essential that capital works are assigned and completed with a holistic view across the projects.

Objective 6: Monitoring of this project is important and as noted above, photographic recording of the project will happen. This will be implemented through project 6.

Objective 7a: Interpretation of this project will happen through objective 7a. Information about this project will appear on the app as well as on the Elan Valley website and Elan Links' social media platforms. All of the events that are organised will be promoted on all of these platforms and they will be updated regularly to show the work that is carried out through the whole Scheme. Any content that is being recorded, either through photograph or film, will be shared and placed on all of the platforms to ensure that the profile of Elan is raised and that all followers that have been gathered during the development phase are kept up to date and interested in the project throughout the delivery.

Objective 7c: Artists will take inspiration from some of the themes in these objectives. As well as inspiration, it is possible that some of the artists may wish to interpret the different themes in their own way.

Objective 7d: Objective 7d will hold various events that will include those to do with Healthy Bogs.

Objective 8: The volunteers that are required for this project can be selected from the database of volunteers that is collected through objective 8. Volunteers who participate in activities that aren't already part of Friends of Elan can be referred over and from there they will be offered a wider range of volunteering opportunities.

Objective 9: The proposed routes and rights of way may go through some of the habitat areas in these projects. Project management for these projects as well as the project management for objective 9 need to be aware of the different habitat areas and ensure that the proposed routes does not interfere with the work proposed to the habitat and does not affect the rare upland birds in objective 2a.

Objective 10a: There is a possibility that the participants and trainees, who are taking part in the training courses at Elan, will undertake some of the work that is required in this project.

Objective 11: Working to expand the knowledge and the connection between the habitat and water management to the people who benefit

	<p>from the water. Engaging in this elements supports the principles of payments for ecosystem services and raise the public profile of this concept between Elan and Birmingham. Thus developing a longevity to the actions.</p>
<p>Background information</p>	<p>Elan is located in the Cambrian Mountains, Mid Wales, 5 miles to the east of the Market town or Rhyader. Elan's 20,000 hectares comprises 1% of Wales and is a unique landscape combining remote hill land, isolated farmsteads, steep-sided wooded valleys and the extraordinary feat of Victorian engineering that brought clean water to Birmingham.</p> <p>The community of farmers, tenants, the town of Rhyader and the village of Elan are the backbone of this vast area, with farming and tourism activities being the most significant economic activity in the area.</p> <p>Elan Links: People, Nature & Water Landscape Partnership has an ambitious vision: to generate a step-change increase in beneficial outcomes for people, communities and heritage.</p> <p>Elan Links is a £3.5 million project with a significant £1.8 million secured from the Heritage Lottery Fund Landscape Partnership Scheme.</p> <p>The Elan Links: People, Nature & Water Landscape Partnership is currently made up of 17 different organisations who aim to deliver 26 projects under 12 strategic objectives over 5 years.</p>