

Rhôs Pasture Restoration Project

Historical Research Report



Prepared for Radnorshire Wildlife Trust, Rhôs Pasture Restoration Project
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Radnorshire
Wildlife Trust
Ymddiriedolaeth Natur
Sir Faesyfed



Radnorshire Wildlife Trust is aiming to restore rhôs pasture habitat, a common component of the landscape of Mid Wales, though undervalued for its species richness and ecosystem services potential.

The Trust was successful in receiving two-years funding for the Rhôs Pasture Restoration Project from the Welsh Government's 'Sustainable Management Scheme' (SMS), under sub-Measure 16.5 of the Welsh Government Rural Communities - Rural Development Programme 2014-2020.

The SMS aims to support collaborative landscape-scale projects delivering action that improves natural resources in a way that delivers socio-economic and environmental benefits to farm and rural businesses and communities.

The Trust is working in partnership with [CARAD – Community Arts Rhayader And District](#), [Rhayader by Nature | The local natural history group](#), local farmers, landowners and community organisations and in recognition of the importance of the cultural heritage of rhôs pastures commissioned Browne Consultancy Services to undertake an initial Historic Research Study.

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1.1 Project Summary

Rhôs pasture is marshy grassland with purple moor-grass and rushes as the dominant vegetation. Purple moor-grass and rush pastures are most frequent in the west of the UK, extending eastwards where wet soils are found.

In Wales, they are particularly characteristic of the south Wales coalfields, extending westwards to Pembrokeshire and northwards through Ceredigion to Snowdonia and the Llŷn Peninsula. These pastures occur mostly on gently sloping land, where there is lateral movement of water through the soil, but also on river and lake floodplains, where they may be periodically flooded during the winter and early spring.

Although the rhôs pasture can appear drab from a distance, on close inspection these wet grasslands are often full of wildlife, with up to 50 different plant species in a 2 x 2 metre square. The habitat may be small and isolated or form large tracts of rough grazing and are often mixed with other habitats, such as heaths, fens, drier grasslands and scrub or woodland.

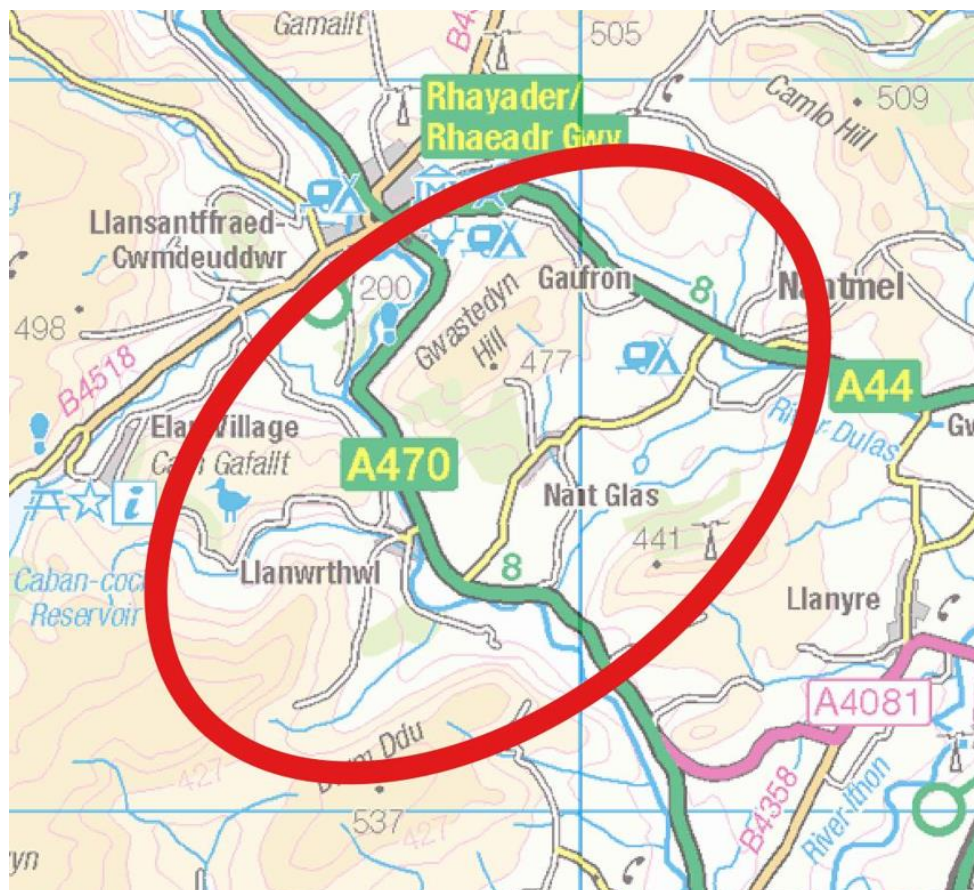
Changes in agricultural practices have caused the loss of marshy grassland (it is estimated that less than 70,000 hectares remain in the UK across the 4 countries, CCW, 2004). However, those that do remain and are managed appropriately are havens for wildlife. In addition to the intrinsic value in the plant communities and wildlife they support, rhôs pastures are also culturally significant. They are part of the historical landscape and were used traditionally as areas of former rough grazing for cattle or horses, or as hay meadows.

Various names have been given to these pastures in different parts of the UK, 'Culm grassland' in Devon and Cornwall after the Culm Measures on which they are predominately found and 'litter meadows' in East Anglia because of the practice of cutting them for bedding. In Wales, rhôs' is a frequent element in Welsh place names, suggesting that these habitats were much more common in the past.

This initial piece of research aimed to:

- develop an understanding of the historical extent of rhôs pasture across the project area and within the wider Radnorshire landscape
- detail when and why the habitat has reduced in size, i.e., farming policy changes, afforestation, abandonment, etc.
- find evidence as to how rhôs pasture was managed in the past, for example, by finding extracts of farmers' diaries, photographs and records from the area.

1.2 Map of Project Area



1.3 Definition of Rhôs Pasture

The term rhôs pasture has been coined relatively recently (within the last decades of the 20th century) and was initially used to describe unimproved acid meadows or pastures that included some dwarf shrub heath. It has since come to be used more broadly to include a range of wet acid pastures, also including heath and peatland habitats; a sign of the

characteristically diverse nature of these grasslands (Pryse, 2003). The NVC (Rodwell 1991) has since provided a formal means of characterising the range of typical vegetation communities.

Lowland purple moor-grass and rush pasture is a UK Biodiversity Action Plan (BAP) priority habitat.

1.4 Methodology and Results

Rhôs pasture has cultural value. To understand its history, the examination of a broad range of archaeological, historical, ecological, land-use and folk sources was required.

The results of this initial historical study are presented in the table below.

Source Name	Contact / Resource	Organisation	Value to Project	Limitations	Digital (Y/N)	Usefulness within this study
Archaeological						
Historic Environment Record (HER) Data	Gary Ducker	Clwyd-Powys Archaeological Trust, Welshpool	Contains information on historic and archaeological sites and archaeological investigations within the project area.	Rhôs pasture itself is not an HER site type and is not therefore easily searchable.	GIS capable. Can be imported as CSV, shp file and other formats.	Limited. No rhôs pasture sites were directly identified. Two areas of “turbarry” or peat digging were found showing evidence of associated land use. Several deserted upland rural settlement sites were identified giving social context and a record of land-use change.
National Monuments Record (NMR) data		Royal Commission on Ancient and Historic Monuments, Aberystwyth	Contains information on historic and archaeological sites and archaeological investigations within the project area.	Rhôs pasture itself is not an NMR site type and is not therefore easily searchable.	GIS capable. Can be imported as CSV, shp and other formats.	Not consulted as part of this pilot study. Thought to be limited.
Cartographic						
Ordnance Survey Drawings (2 inches to a mile)	Ordnance Survey Maps - National Library of Scotland (nls.uk)	A collection of preparatory drawings for the Ordnance Survey Old Series maps (early 1800s)	Can be used to map broad trends in woodland cover, rural settlement and enclosure of former open land.	The maps do not provide detailed land-use data and therefore no direct evidence of rhôs pasture.	Available for referencing online. Licensing considerations if to be imported into GIS as raster data.	Some use. Can be used to track broad trends in land-use change across the study areas. The map provides a benchmark within an early phase of agricultural improvement when the encroachment of fields onto the common enabled land to be farmed more intensively and brought into rotational grazing.
Tithe map	https://places.library.wales	Powys Archives	Field names listed within the apportionment can indicate rhôs pasture where place names such as	Accessibility of resource is inconsistent. Lanwrthwl tithe map has been digitised by a volunteer. Maps are otherwise	Yes for Llanwrthwl but digitised data is under private ownership; Nantmel has not digitised.	Very useful. A key source. Examples of rhôs and waun place names within the study area include rhôs and waun place names at Davids Well. The apportionment also documents “state of cultivation” with distinctions such as pasture, arable and wood used, making this a key tool for understanding land-use change within the study area.

			rhôs, waun or cors are used.	available in paper form or online but not in a format that can be imported to GIS.	Both are viewable online in the interactive map viewer.	
Enclosure Maps		Powys Archives; National Library of Wales	Record the enclosure of former open land	No land-use data.	Not digitised.	Enclosure maps do not exist for the study area. The awards that are present within the Powys Archives have no associated mapping. e.g., Nantmel had around 3000 acres enclosed because of the Parliamentary Act in the 1860s but the precise areas that were subject to this change are not recorded.
Estate maps		Powys Archives	Can contain field names that are useful for documenting historic land use.	The amount of detail depends on the surveyor.	Not digitised.	No estate maps with field names listed were present within the study area. Penlanole Estate Papers 1910 were located but are of limited use, giving little land-use information and there was no accompanying field name data. Land tenure in Radnorshire has typically been dominated by small to medium-sized owner-occupied farms with proportionally fewer large estates than other counties. This could explain why estate map coverage is generally poor for Radnorshire (R Silvester (former director of Clwyd Powys Archaeological Trust <i>pers. Comm.</i>)
Radnorshire Woman's Institute, Field Names Survey		Radnorshire Powys-Archives	Field-name surveys were carried out in the ?1960s or 70s (Amanada Jones, Powys-Archives pers comm)	No date was found for the survey.	Not digitised but readily searchable by parish.	A useful resource to help document the decline of rhôs pasture.
Welsh Government Historic Aerial Photography	https://lle.gov.wales/home	Welsh Government	Aerial photography covering different areas of Wales from		Searchable online.	Very useful resource adding to the picture of change. These are useful in documenting afforestation, land drainage and improvement and field boundary changes.

			1945 to the present.			
Ecological/ Land-use Data						
R.G. Stapledon (1936) The Grasslands of Wales		Published literature	The first major land-use study to have been undertaken across Wales. This summarises the grassland communities, but the mapping data is not of sufficient resolution to be of any use in monitoring change at the field parcel scale.			Map scale too large to be useful for this project. This is however a key historical document providing an insight into economic and political pressure influencing land-use change at this time.
James, A. Taylor (1961 – 65) The land-use study of Wales.		National Library of Wales	The National Library of Wales holds paper copies, carried out against the 6-inch OS mapping and then redrawn on the 1:25000 mapping. Some of the sheets for Wales, but not many were published as part of the 2 nd Land Use Survey of England and Wales		These have been scanned but are not yet available digitally on the NLW website.	Not seen as part of this pilot assessment. Said to be a key source for this project by Dr Fred Slater. This resource will be invaluable for tracking land-use change, although it is not currently available in a digitised format.

Phase 1 mapping (2016)	https://lle.gov.wales/home	Welsh Government	This dataset holds comprehensive habitat cover data for the whole of Wales, derived from a programme of field recording that was begun by the Wales Field Unit of the Nature Conservancy Council in 1979 and continued by the Countryside Council for Wales after restructuring in 1991.		Available online. Can be imported into GIS	Very useful. The data is of sufficient resolution (including codes such as B5 marshy grassland) to be of use in monitoring vegetation change.
Individual species and plant data		Biological recording centre, Brecon.	A freely available, readily interrogable record of key rhôs pasture indicator species.	The data has not been collected in a systematic manner however so whilst providing useful pointers into areas of rhôs pasture, its usefulness for identifying trends in vegetation change might be limited.	Freely available in GIS format	Key resource but limitations of data.

Unified peat map of Wales	https://lle.gov.wales/home	Welsh Government		A map showing the peat areas based on BGS surface peat, Forestry Commission survey peats, Lowland peat survey (NRW), Phase 1 habitat peats.		May help to identify additional rhôs pasture areas and will help to find historic peat cutting or turbary areas.
Key Literature						
Moore-Colyer (2011) Farming in Wales 1936 - 2011		Published literature	Traces the development of Welsh agriculture in the context of the Aberystwyth Farm Business Survey over the past 75 years against the socio-economic and political backdrop of the time.	No specific data on rhôs pasture		A key resource. Introduces a timeline for change in the modern era. Provides essential socio-economic and political context.
Transactions of the Radnorshire Antiquarian Society		Powys-Archives; CPAT HER	These publications provide an essential background within which to describe change within the farmed landscape.			Various country historical studies on the state of agriculture within the county.
Folk Sources						
Interviews with farmers - Llanwrthwl	Henry Thomas, Talwr Maenog. 6 th generation farmer.	Llanwrthwl Commoners Association				The most important element of this study, providing essential insight into how these habitats were managed historically and

Commoners Association						understanding ideas of value towards rhôs pasture, in the context of historic land-use policy.
Julain Ravest	Local historian	Radnorshire Antiquarian Society	Julian has been a key conduit to members of the Society		Has strong GIS capabilities; undertakes drone photography and can import into GIS platforms.	Is undertaking original research into the medieval and earlier land-use of the area slightly to the north of the study area as part of the Abbey Cwm-hir project, led by David Austin, Lampeter University and therefore understands the source material for earlier land-use change. Julian is willing to engage with this project and carry out some drone photography. Could be useful for monitoring change and identifying some key features (e.g., WW2 potato ridges).

1.5 Conclusions

A detailed assessment of land-use change within the study area was beyond the scope of this report. However, some broad findings have been identified as summarised below:

- Historic land-use data is hard to come by and consists of a few disparate sources in many different repositories, not all of these are digitised.
- Despite the above limitations there is good scope to record a narrative of change using a combination of cartographic data, land-use data and species data (as rhôs pasture has some specific key butterfly, flora and possibly also bird species).
- Landowner accounts indicate that some of the rhôs pasture within the study area was managed by grazing with cattle, whilst some of the drier areas were used for hay cutting.
- The tithe map for Llanwrthwl corroborates the above land uses 150 years previously, with areas of *rhôs* and *waun* identified as both pasture and meadow.
- In common with other areas of purple moor-grass and rush pasture, e.g., Culm in Devon and Cornwall or the South Wales coalfield, these areas may have been burned periodically if the summer growth of purple moor-grass had not been adequately removed by grazing. However, this practice has not yet been recorded within the study area.
- Afforestation has resulted in localised significant land-use change in parts of the project area: large plantations being present NW of Gwastedyn.
- The policy, political and social framework against which the reduction in rhôs pasture has occurred is well documented (Stapledon, R. G 1936; Moore-Colyer 2011; Deakin, R.M. 2005). This is an important structural framework from which to analyse the land-use change and will help target questions to farmers.
- Understanding farmers' attitudes to rhôs pasture is a key question that is fundamental to understanding the land-use change. Engaging the Llanwrthwl

Commoners Association for example would be important in the success of any future study or project.

- The map evidence, policy framework and local accounts indicate several successive land-use change events, which have resulted in the loss of rhôs pasture. An early example of agriculture improvements is the enclosure of Nantmel in the 1860s when land was enclosed and able to be rotationally grazed. The incentives for change accelerate from the 1930s, although the substantial change did not occur until the second World War, and through successive acts in the post-War years.

It has been beyond the resources of this initial scoping study to gain a detailed understanding of where these changes happened in the project area but there are anecdotal accounts that add detail to the overall picture (e.g., agriculture improvements leading to mechanisation, local knowledge of fossilised WW2 potato ridges persisting on Llanwrthwl Common, and discussion of later grant incentivise drainage and hedgerow removal).

- The Radnorshire Society is a thriving county antiquarian group who are actively engaged in historical study within the project area. The society has been helpful and willing to engage in this pilot study. There is scope for drone photography to illustrate some of the themes from one of the volunteers who is very keen to help (e.g., Wartime potato ridges on unenclosed land, arterial drainage).
- Historic accounts for the study area relating to agricultural history are hard to come by. The Radnorshire Society has in its custodianship a stack of farmers' diaries, but these relate to Pen-ithon outside the study area. To study these accounts for relevant information would be a massive undertaking and only achievable fortuitously. Future funding for resources would be required to support the interrogation of the diaries and to coordinate and engage with local volunteers (see recommendations below).

1.6 Recommendations for further study

Our recommendations for further study are suggested below:

- Assess extent for a digital map layer with the following sources
 - Tithe map fields with rhôs , waun or cors
 - OS 1st edition, 2nd edition 25"
 - 2nd land-use study of Wales (1961 -5)
 - NVC data from 2016
 - Species (Lerc) data
 - Peat map of Wales
 - 1946 RAF maps and later Google Earth maps

- Decide on a definition of rhôs pasture and agree on what categories are consistent with rhôs in the Phase 1 habitat data classifications.

- Further work on the limitations of the different sources listed above will need to be undertaken but they do collectively provide a workable route forward for understanding landscape change and the reasons for the decline in rhôs pasture.

- Create a questionnaire on this subject to discuss this with farmers in a structured way. Key questions to explore include knowledge and attitudes/value toward rhôs pasture.

- Draw up an agricultural timeline to lead questions on different themes and include a section on machinery and infrastructure grants which may further engage farmers (e.g., some tractors purchased during the War may exist in sheds and field corners). Key to this will be engaging with the Commoners Association.

- Engage further with local specialists.

- Other sources to be consulted that were beyond the scope of this initial study, include BTO Atlas data, and information held within the Aberystwyth University farm business survey, which specifically relates to Radnorshire, other antiquarian

accounts of the agricultural situation within the county held in NLW. For example, Clarke's general view of agriculture in Radnorshire

- Consider engaging with volunteers in a formal way to help progress the project (e.g., communicating the project to the Radnorshire society. Further funding may support outputs such as farmer interviews, development of a questionnaire framework, engaging local volunteers to analyse farm diaries, or fund specialist skills to bring on board such as drone photography and evaluation.
- Map opportunities for linking with small cottage industries that may be related to rhôs and engage the knowledge of the project with stakeholders and cultural heritage partners, i.e., <https://carad.org.uk/>.
- Continue to use the Llanwrthwl area and consider other areas in future study. One approach could be to use source material in Welsh Historic Gardens Register (Cadw 1998) to identify areas with good estate map coverage, which could also fill in some of the gaps on land-use change.

OCCUPIERS,	referring to the Plan,	OF LANDS AND PREMISES,	OF CULTIVATION,	IN STATUTE MEASURE		
				A.	R.	P.
John Lewis (continued)	186	Main yard	Brought forward	13	1	30
	187	Gae Gwyn	Pasture	4		35
	188	Main cefn ty	Pasture	2	2	16
	189	Homestead	Pasture	2	3	16
	190	Cwm Bach	Arable & Wood	3	3	32
	192	Gae Tallyn	Arable & Wood	6		25
	193	Lobby garrag	Arable & Wood	1	3	12
	194	Uchaf wawr	Pasture	7		35
	195	Mr Rhos	Arable	8	3	5
	199		Pasture	3	2	1
				55	3	5

An extract from the Llanwrthwl parish tithe map

1.7 References

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- Stapledon, R.G 1936 The Grasslands of Wales. Faber & Faber, London
- Thompson, T 1999 Agriculture and change in a 19th century Radnorshire Valley Transactions of the Radnorshire Society