

A summary of preliminary comparisons
between Welsh land use in the 1840s and 2015
in Wales' non-LFA, DA and SDA areas

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Since 1992, Council Regulation (EEC) No 3508 has required land use by Welsh farmers to be recorded annually on a field-by-field basis through the Integrated Administration and Control System (IACS).

The 1836 Tithe Commutation Act resulted in similar land use data, as well as field names, being collected on a field-by-field basis between 1838 and 1850, with sets of data being grouped under the parishes in which tithes were payable.

The Cynefin Project has led to the digitisation of 1.2 million of the entries made under the 1836 Act in relation to Wales' 1,212 tithe maps, allowing land use and other data relating entire parishes to be analysed and compared with modern anonymised IACS land use data held by the Welsh Government.

Work undertaken to date has allowed initial comparisons to be made between contemporary IACS (2015) data and tithe map (1840s) data for six parishes; two in each of Wales' non-Less Favoured Area (non-LFA); Disadvantaged Area (DA) and Severely Disadvantaged Area (SDA) (*Table 1*)

Non-LFA	DA	SDA
Amroth, Pembrokeshire	Llanychaearn, Cardiganshire	Betws, Carmarthenshire
Llangystennin, (formerly) Caernarfonshire	Llanfechain, Montgomeryshire	Dolbenmaen, Caernarfonshire

Table 1

For the purpose of this initial study only changes in predominant land uses were considered, namely land use categorised as arable; meadow and pasture; and woodland.

The data suggests a fall in the proportion of land given over to those three main land uses of 20%, from 74% in the 1840s, to 59% in 2015, with the fall greatest in the SDA areas considered (-36%, from 65% to 42%) and lowest in the DA areas considered (-7%, from 82% in the 1840s to 76% in 2015). The fall for the non-LFA areas considered was 23% (from 75% in the 1840s to 58% in 2015). (*Table 2, Figure 1*)

Sum of all arable, meadow, pasture and woodland as a percentage of total parish areas							
non-LFA		DA		SDA		All land	
Tithe (1840s)	IACS (2015)	Tithe (1840s)	IACS (2015)	Tithe (1840s)	IACS (2015)	Tithe (1840s)	IACS (2015)
75%	58%	82%	76%	65%	42%	74%	59%

Table 2

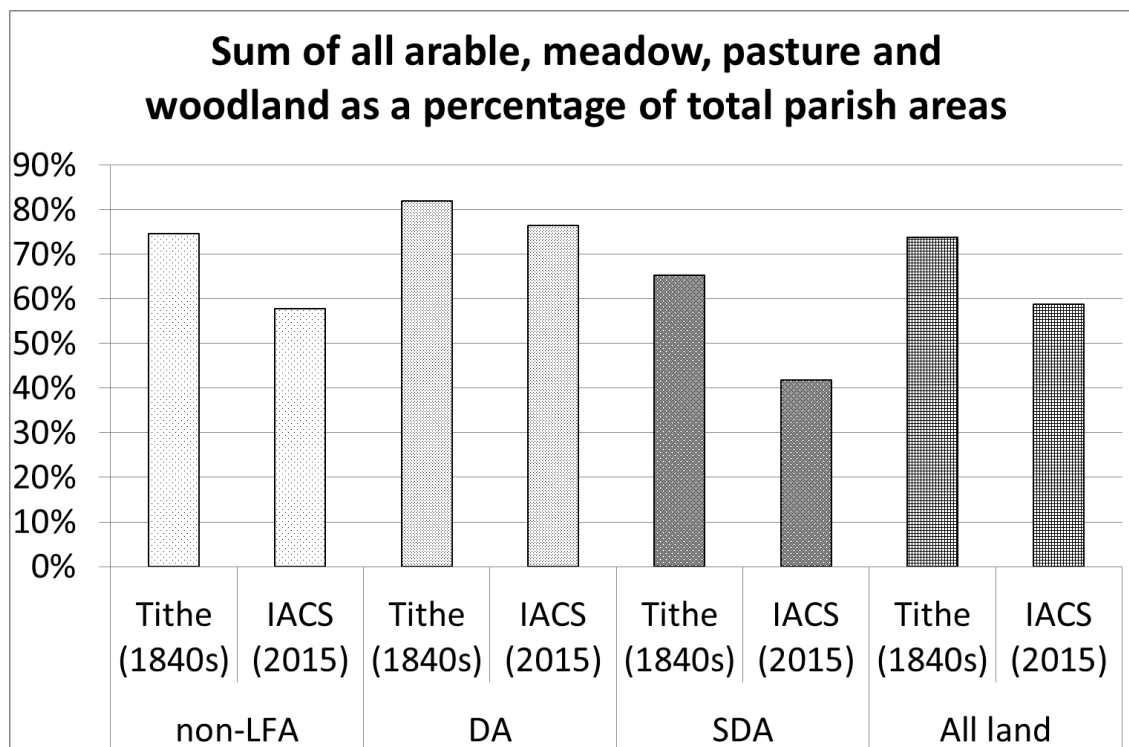


Figure 1

This pattern is reflected where all recorded land use areas are considered as a proportion of the total parish areas, with a fall in the total land recorded for tithe and IACS purposes of 37%, from 95% in the 1840s, to 60% in 2015, comprising falls in non-LFA, DA and SDA areas of -35% (from 90% in the 1840s to 59% in 2015), -20% (from 97% in the 1840s to 78% in 2015) and -56% (from 96% in the 1840s to 42% in 2015). (Table 3, Figure 2)

Total land recorded in tithe and IACS records as a percentage of total parish areas							
non-LFA		DA		SDA		All land	
Tithe (1840s)	IACS (2015)	Tithe (1840s)	IACS (2015)	Tithe (1840s)	IACS (2015)	Tithe (1840s)	IACS (2015)
90%	59%	97%	78%	96%	42%	95%	60%

Table 3

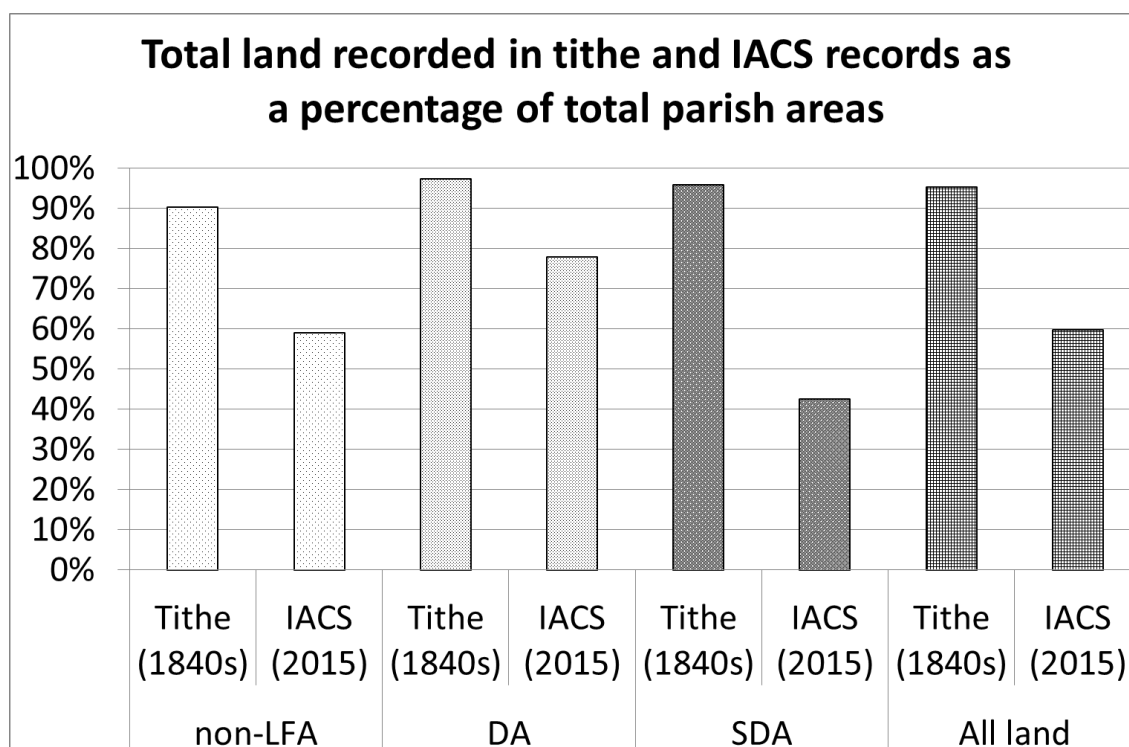


Figure 2

The significant fall in the combined SDA areas may in part be attributable to the urbanisation and industrialisation of one of the SDA parishes considered, as well as Forestry Commission or similar government funded afforestation. However, further work is required to investigate these apparent falls in land areas used for agricultural purposes, including the inclusion or otherwise of common land in figures.

As expected, both tithe and IACS derived land use data show levels of arable production to be highest in non-LFA and DA areas, and lowest in SDA areas. However, the data shows pronounced reductions in areas devoted to arable production since the 1840s in all land categories; an overall reduction of 85% for all areas (from 2561ha in the 1840s to 385ha in 2015), and a reduction of 80% (from 573ha to 114ha), 82% (from 1427ha to 261ha) and 98% (from 561ha to 9ha) for non-LFA, DA and SDA areas respectively. (*Table 4, Figures 3 and 4*)

Despite the IACS data not including areas planted by the Forestry Commission and private commercial forestry companies, both non-LFA and SDA areas show significant increases in areas categorised as woodland since the 1840s, while the DA areas considered showed little change. The total area of woodland for all land categories increased by 56% (from 264ha in the 1840s to 415ha in 2015), comprising an increase of 76% (from 77ha to 136ha), 0% (115ha) and 123% (from 71ha to 159ha) for non-LFA, DA and SDA areas respectively.

Changes to areas of pasture and meadow are more difficult to assess due to variance in terms of the way land was recorded under the 1836 Act, and complicating factors such as the inclusion or otherwise of common land. However, the results suggest significant increases in areas of pasture and meadow in non-LFA (18%, from 627ha to 738ha) and DA areas (73%, from 1327ha to 2299ha), and a decrease in SDA areas (-22%, from 1692ha to 1323ha).

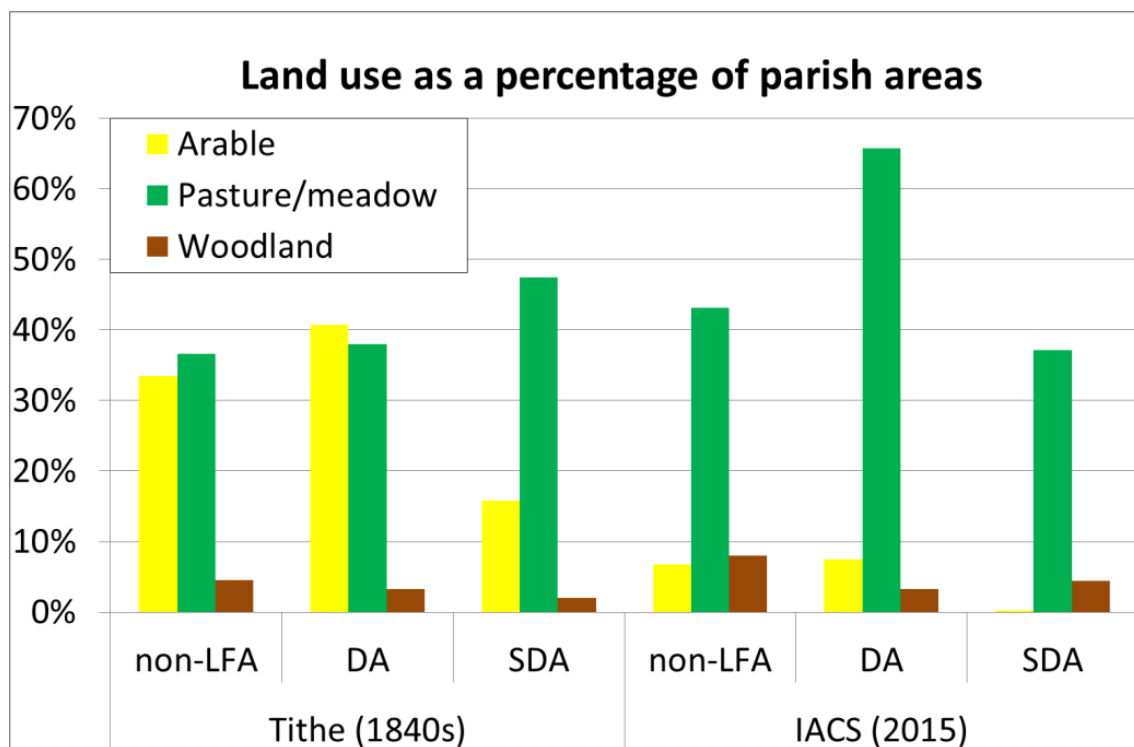


Figure 3

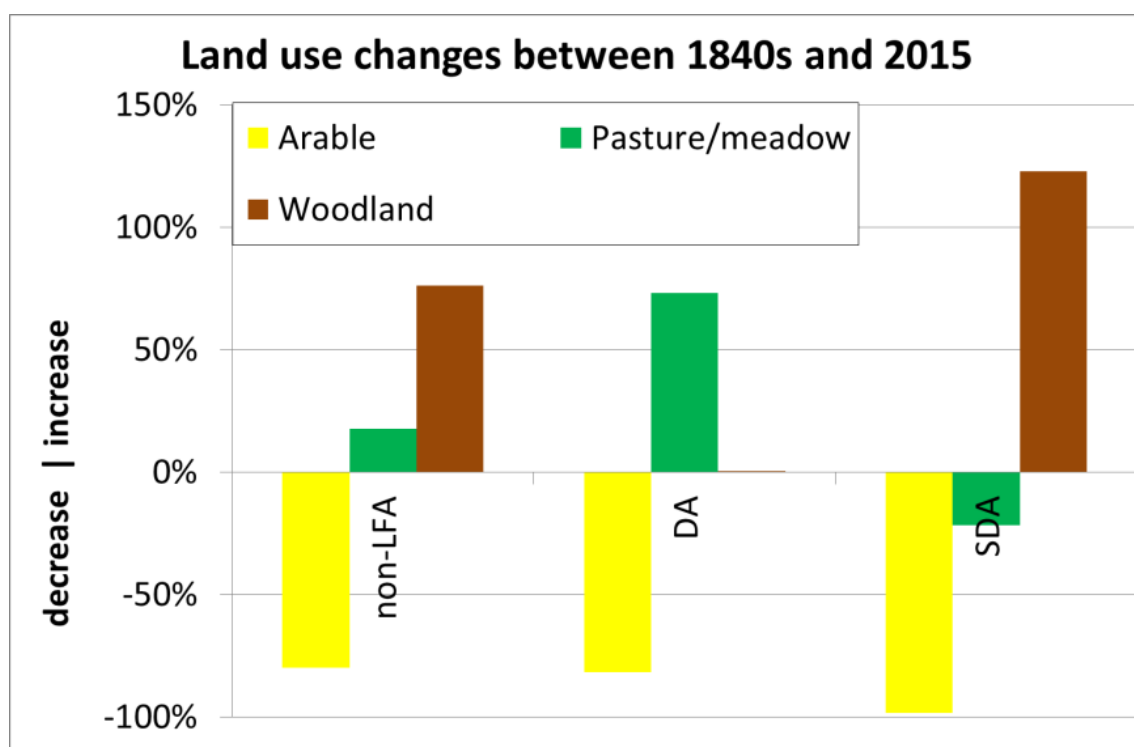


Figure 4

Since the results are preliminary, and relate only to six Welsh parishes (a total area of 88km² / 34miles²), all values should be treated with some caution. However, they appear to confirm known patterns in terms of changes in land use within different areas and land categories in Wales, and suggest that the scale of those changes are significant, particularly in terms of the reduction in cultivation.

Such comparisons are important both from an historical and environmental point of view, and highlight the importance of the type of digitisation undertaken through the Cynefin Project, and the scope for further work based upon the Cynefin and IACS datasets.

The authors are indebted to the Heritage Lottery Fund, National Library for Wales and Welsh Government for supporting this work, and to the Rural Payments IT department in particular for having provided anonymised IACS data without which this initial study would not have been possible.

<u>NON-LFA AREAS</u>	Tithe data		IACS Data		CHANGE	
Land Use	Area (ha)	% of total	Area (ha)	% of total	Area (ha)	%
Woodland	77	5%	136	8%	59	76%
Arable	573	33%	115	7%	-458	-80%
Pasture/meadow	627	37%	738	43%	111	18%
TOTAL PARISH AREAS (ha)	1712					

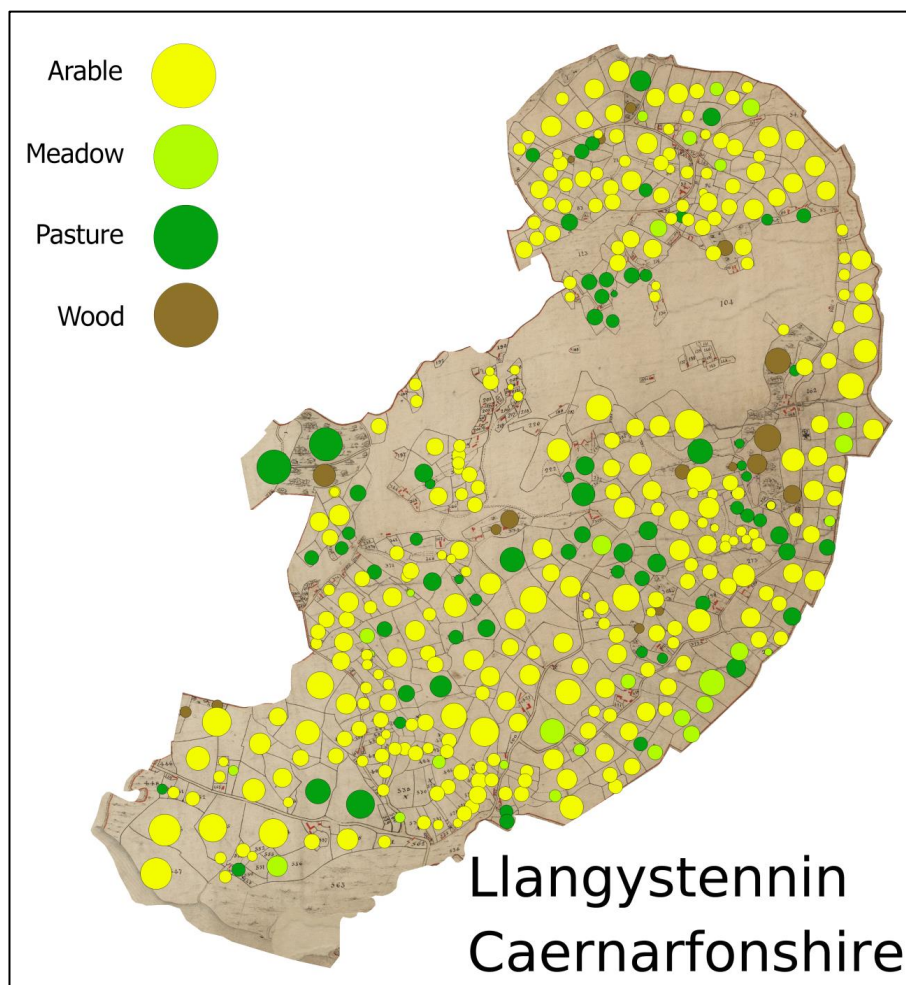
<u>DA AREAS</u>	Tithe data		IACS Data		CHANGE	
Land Use	Area (ha)	% of total	Area (ha)	% of total	Area (ha)	%
Woodland	115	3%	115	3%	0	0%
Arable	1427	41%	261	7%	-1166	-82%
Pasture/meadow	1327	38%	2299	66%	972	73%
TOTAL PARISH AREAS (ha)	3499					

<u>SDA AREAS</u>	Tithe data		IACS Data		CHANGE	
Land Use	Area (ha)	% of total	Area (ha)	% of total	Area (ha)	%
Woodland	71	2%	159	4%	88	123%
Arable	561	16%	9	0%	-552	-98%
Pasture/meadow	1692	47%	1323	37%	-369	-22%
TOTAL PARISH AREAS (ha)	3564					

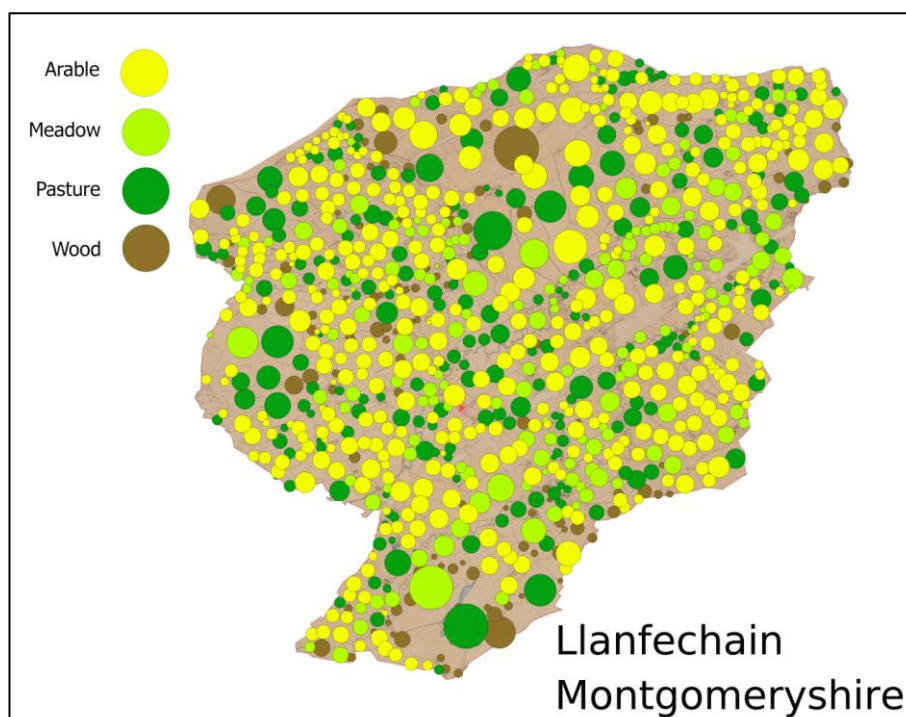
<u>ALL AREAS</u>	Tithe data		IACS Data		CHANGE	
Land Use	Area (ha)	% of total	Area (ha)	% of total	Area (ha)	%
Woodland	263	3%	410	5%	147	56%
Arable	2561	29%	385	4%	-2176	-85%
Pasture/meadow	3647	42%	4360	50%	714	20%
TOTAL PARISH AREAS (ha)	8774					

Table 4

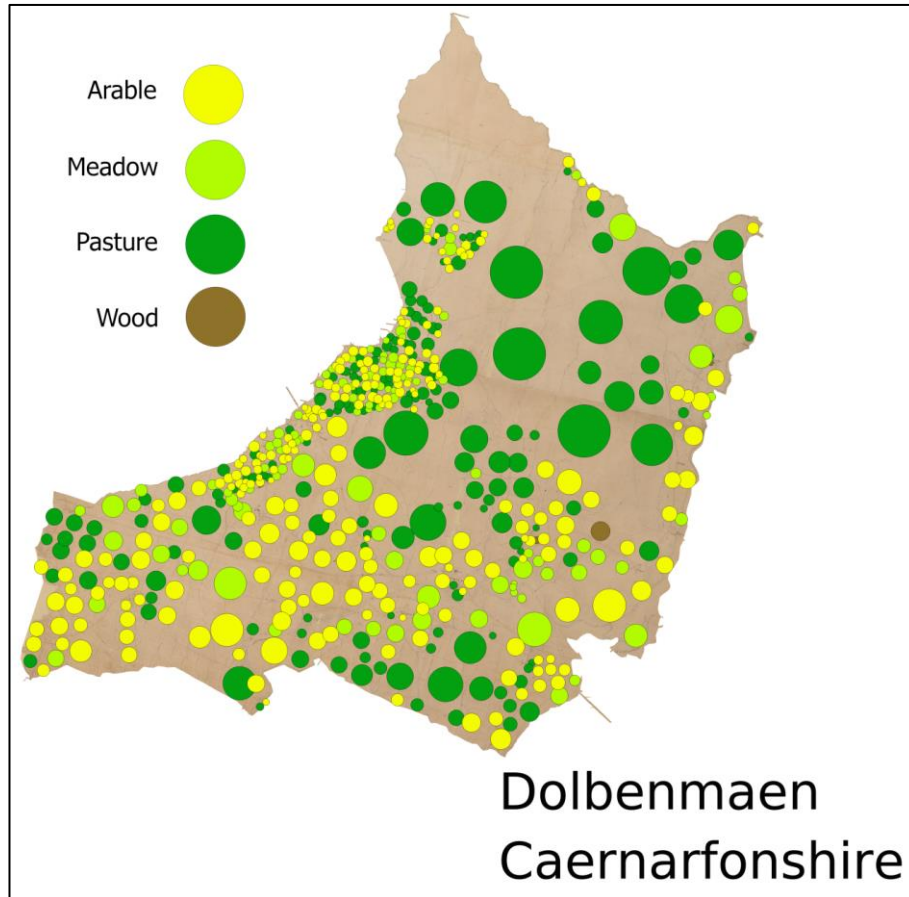
Selected tithe maps showing land use in 1840s
Non-Less Favoured Area



Disadvantaged Area



Severely Disadvantaged Area



The Cynefin project is run by a partnership led by Archives Wales. Most of the funding is by the Heritage Lottery Fund and there is support also from The Welsh Government's Museums, Archives and Libraries Division, the National Library of Wales and Archives Wales. Most of the work is done at the National Library of Wales using their collection of tithe maps.