

Case Study

Adding value to timber from sustainably managed woods

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**COED CADW
WOODLAND
TRUST**

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The benefits of ancient woodland restoration are often extolled, but what added value is available for landowners?

Bodynfoel Woodland is an ancient woodland site which has been planted with non-native conifers. Timber from the plantation and other Welsh sourced timber has been used for two new Ty Unnos construction projects at the Royal Welsh Showground and for the Eisteddfod. This has been supported by the Woodland Trust, Coed Cymru and the Powys County Council, the owners of the wood.

Bodynfoel Woodland, located near the village of Llanfechain, is a 30ha site which includes 6.88ha of restored ancient woodland. It also contains 14.95ha of plantation on ancient woodland (PAWS), much of which was felled and re-stocked in the early-mid 1980s.

Programmed work to clear fell the 1965 plantation site was put on hold due to the potential negative impact on the ancient woodland fauna. The adjoining stands and pheasant pens would also have been subject to sudden, unwanted exposure. The protection of this area is a clear objective of the County Council's management plan.

The key priorities of the plan are to maximise economic returns, increase biodiversity and ensure long term sustainability.

Adding value

The Powys Ancient Woodland Restoration Officer from the Woodland Trust, Vaughan Lewis was approached to assess the ancient woodland features on the site and undertake timber volume and quality assessments.

Vaughan identified suitably sized timber at Bodynfoel for thinning, to supply Coed Cymru's Ty Unnos project. The build required 80m³ of spruce for both buildings, which would be designed and built in the county.

Local saw miller JM & EA Jones Sawmills of Llansantffraid was engaged to purchase, visually stress grade and convert the timber into suitable dimensions. All waste material was sent for biomass chip at a site only six miles down the road.

Welsh spruce generally grows quickly producing low grade and low density timber. It is, therefore, seldom used in modern timber frame construction. Normally higher grades of imported softwood with greater stability and superior strength from cooler and drier climates are used.

The Ty Unnos system was developed to ensure the use of 'home grown timber' and keep the carbon footprint to a minimum. This produced a unique configuration and lamination system to create structural components which could be insulated with high performing products such as recycled paper and sheep's wool. Even the wood shavings are fed back into the construction

Key Facts

- The Powys County Council woodland estate consists of 144ha over 45 woods at an average size of 3.2ha, ranging from 0.1 – 30ha.
- 36.86ha of PAWS on the Powys County Council Estate was assessed by the Ancient Woodland Restoration Project. The information gathered will contribute towards the whole woodland estate management plan.
- The main coniferous species at Bodynfoel are Douglas fir (*Pseudotsuga menziesii*), Sitka spruce (*Picea sitchensis*), Japanese larch (*Larix kaempferi*) and a minor element of Western red cedar (*Thuja plicata*).
- Ty Unnos literally means 'house in one night' and is rooted in an old Welsh tradition going back to the seventeenth century. It was believed that if a person could build a house on common land in one night, then the land belonged to them as a freehold.



Pre plantation oak shaded by conifers



Released crown of oak following halo thinning

process and used in woodcrete products. These two projects are examples of how Powys timber, and timber from PAWS woodlands in general, can be used for higher value and performance uses.

Seeing results

The Royal Welsh Showground Ty Unnos pavilion was opened at the Royal Welsh Agricultural Show. It showcases the diverse range of innovative Welsh timber products and attracted great interest.

Thinning as part of a lower impact approach to managing planted ancient woodland is preferable to clearfell. It gives the opportunity for advanced natural broadleaved regeneration to establish and releases the crowns of mature broadleaved trees while potentially producing timber that could become a saleable product.

The Ancient Woodland Restoration team at the Woodland Trust continue to act as a support partner in the management of Powys County Council's woodland estate. The partnership aims to maximise timber production while improving the overall biodiversity value of the woodland estate, particularly within their ancient woodland sites.

The benefits of restoring ancient woodland

Support: Bodynfoel is one of many ancient woodland sites within Wales being assessed and managed as part of the Woodland Trust's Heritage Lottery Funded Ancient Woodland Restoration project.

Protection: by entering Bodynfoel into low impact continuous cover forestry systems (CCF) the ancient woodland remnant features will be protected. This is particularly pertinent as the adjoining PAWS site under differing ownership has recently been clear felled and restocked.

Income: by managing Bodynfoel under a CCF system, while favouring the development of broadleaf trees, the woodland will continue to provide a financial return on thinnings. Established CCF systems tend to allow for greater flexibility and opportunistic supply when responding to market demands for timber of varying dimensions. Local supply chains and smaller mills with a diverse range of products enable each log to be assessed – ensuring the overall highest value is obtained from each log. This enables timber to reach higher value with only the co-products going to the low value firewood/chip market.

Security: ultimately full restoration to predominantly native or naturalised broadleaved woodland will aim to secure the sites ancient woodland indicator species and features which are becoming scarce in the UK.

How the Trust can help

Bringing damaged ancient woodland back into restoration requires careful management. Thanks to funding from the Heritage Lottery Fund, the Woodland Trust is offering landowners and managers professional support and training to sustainably manage and restore their woodlands.

If you own a plantation on ancient woodland site, we can help you discover its history and provide independent and practical advice on topics including:

- how restoration can complement your woodland business and interests
- how restoration can support forestry certification
- making the most of grant funding

FOR MORE INFORMATION CONTACT:

Ancient Woodland Restoration Team
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Ty Unnos Coed Cymru pavilion at Royal Welsh Showground



The Woodland Trust, Kempton Way, Grantham, Lincolnshire NG31 6LL.
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Ychwanegu gwerth at goed o goedwigoedd sy'n cael eu rheoli'n gynaliadwy

Cenir clodydd buddion adfer coetir hynafol yn aml, ond pa werth ychwanegol sydd ar gael i dirfeddianwyr?

Mae Coetir Bodynfoel yn safle coetir hynafol sydd wedi'i blannu â chonwydd anfrodorol. Mae coed o'r blanhigfa a choed arall a gyrchwyd yng Nghymru wedi'i ddefnyddio ar gyfer dau brosiect adeiladu Tŷ Unnos newydd ar Faes Sioe Frenhinol Cymru ac ar gyfer yr Eisteddfod. Mae hyn wedi'i gefnogi gan Goed Cadw, Coed Cymru a Chyngor Sir Powys, perchnogion y goedwig.

Mae Coetir Bodynfoel, a saif yn agos i bentref Llanfechain, yn safle 30 hectar sy'n cynnwys 6.88 hectar o goetir hynafol wedi'i adfer. Ar ben hynny mae'n cynnwys 14.95 hectar o blanhigfa ar safle coetir hynafol (PAWS), y cafodd llawer ohono ei gwympo a'i ailstocio yn nechrau-canol yr 1980au.

Cafodd gwaith rhaglunedig i lwyrgwympo safle planhigfa 1965 ei ohirio dros dro oherwydd yr effaith negyddol bosibl ar fflora'r coetir hynafol. Byddai'r cellioedd a'r llociau ffesantod cyfagos wedi cael eu datguddio'n sydyn ac yn annymunedig i oleuni hefyd. Mae diogelu'r ardal yma'n amcan clir yng nghynllun rheoli'r Cyngor Sir.

Blaenoriaethau allweddol y cynllun yw mwyhau enillion economaidd, cynyddu bioamrywiaeth a sicrhau cynaliadwyedd tymor hir.

Ychwanegu gwerth

Aethpwyd at Swyddog Adfer Coetir Hynafol Powys o Goed Cadw, Vaughan Lewis, a gofynnwyd iddo asesu'r nodweddion coetir hynafol ar y safle a gwneud asesiadau o gyfaint ac ansawdd y coed.

Canfyddodd Vaughan bod coed o faint addas ym Modynfoel i'w deneuo, i gyflenwi prosiect Tŷ Unnos Coed Cymru. Roedd y gwaith adeiladu'n galw am 80m³ o goed sbriws ar gyfer y ddau adeilad, a fyddai'n cael eu cynllunio a'u hadeiladu yn y sir.

Cyflogwyd perchen y felin lifio leol JM & EA Jones Sawmills o Lansantffraid i brynu a graddio grymedd y coed yn weledol a'i drawsnewid yn fesuriadau addas. Anfonwyd yr holl ddeunydd gwastraff i wneud sglodion biomas ar safle dim ond chwe milltir i lawr y ffordd.

Yn gyffredinol mae coed sbriws Cymreig yn tyfu'n gyflym gan gynhyrchu pren isel ei radd ac isel ei ddwysedd. Yn anaml, felly, y caiff ei ddefnyddio mewn gwaith adeiladu fframiau coed cyfoes. Fel arfer mae graddau uwch o bren meddal wedi'i fewnforio gyda mwy o sadrwydd a gwell cryfder o wledydd â hinsawdd oerach a sychach yn cael eu defnyddio.

Datblygwyd y system Tŷ Unnos i sicrhau bod 'coed cartref' yn cael ei ddefnyddio ac i gadw'r ôl troed carbon i'r lleiaf posibl. Fe wnaeth hyn gynhyrchu system gyflunio a laminadu

FFEITHIAU ALLWEDDOL

- Mae ystâd goed Cyngor Sir Powys yn cynnwys 144 hectar yn ymestyn dros 45 coedwig, gyda'u maint yn 3.2 hectar ar gyfartaledd, yn amrywio o 0.1 – 30 hectar.
- Cafodd 36.86 hectar o Blanhigfeydd ar Safleoedd Coetir Hynafol ar Ystâd Cyngor Sir Powys ei asesu gan y Prosiect Adfer Coetir Hynafol. Bydd yr wybodaeth a gasglwyd yn cyfrannu tuag at gynllun rheoli'r ystâd goed gyfan.
- Y prif rywogaethau coniferaidd ym Modynfoel yw ffynidwydd Douglas (*Pseudotsuga menziesii*), sbriws Sitca (*Picea sitchensis*), llarwydd Japan (*Larix kaempferi*) a rhyw ychydig o gedrwydd cochion (*Thuja plicata*).
- Mae'r Tŷ Unnos wedi'i wreiddio mewn hen draddodiad Cymreig sy'n mynd yn ôl i'r ail ganrif ar bymtheg. Y gred oedd petai rhywun yn gallu adeiladu tŷ ar dir comin mewn un noson, yna roedd y tir yn perthyn iddo fel rhydd-ddaliad.



Derw cyn-y-blanhigfa dan gysgod conwydd



Brigdyfiant derw wedi'i ryddhau ar ôl cylch-deneuo

unigryw i greu cydrannau saerïol y gellid eu hinswleiddio gyda chynhyrchion uchel eu perfformiad megis papur wedi'i ailgylchu a gwlân defaid. Mae hyd yn oed y naddion yn cael eu bwydo'n ôl i'r broses adeiladu a'u defnyddio mewn cynhyrchion prencrid. Mae'r ddau brosiect hwn yn enghreifftiau o sut y gall coed Powys, a choed o goetiroedd PAWS yn gyffredinol, gael ei ddefnyddio ar gyfer defnydd gwerth a pherfformiad uwch.

Gweld canlyniadau

Agorwyd pafiliwn Tŷ Unnos Maes Sioe Frenhinol Cymru yn Sioe Amaethyddol Frenhinol Cymru. Mae'n arddangos yr amrediad amryfal o gynhyrchion coed Cymreig arloesol ac fe ddenodd ddiddordeb mawr.

Mae teneuo fel rhan o ffordd is ei heffaith o fynd ati i reoli coetir hynafol a blannwyd yn well na llwyrgwmpo. Mae'n rhoi'r cyfle i ailgyfiant llydanddail naturiol cynnar ymsefydlu ac yn rhyddhau brigdyfiant coed llydanddail aeddfed tra'i fod yn gallu cynhyrchu coed a allai ddod yn gynnyrch gwerthadwy.

Mae tîm Adfer Coetir Hynafol Coed Cadw yn dal i weithredu fel partner cymorth wrth reoli ystâd goed Cyngor Sir Powys. Mae'r bartneriaeth yn anelu at fwyhau cynhyrchu coed tra'i bod yn gwella gwerth bioamrywiaeth cyffredinol yr ystâd goed, yn arbennig o fewn eu safleoedd coetir hynafol.

Buddion adfer coetir hynafol

Cymorth: Mae Bodynfoel yn un o lawer o safleoedd coetir hynafol yng Nghymru sy'n cael eu hasesu a'u rheoli fel rhan o brosiect Adfer Coetir Hynafol Coed Cadw, yn cael ei Ariannu gan y Loteri Dreftadaeth.

Gwarchodaeth: trwy roi Bodynfoel mewn systemau coedwigaeth gorchudd di-dor (CCF) bach eu heffaith bydd y nodweddion sy'n weddill o'r coetir hynafol yn cael eu gwarchod. Mae hyn yn arbennig o berthnasol gan fod y safle PAWS cyfagos sydd dan wahanol berchenogaeth wedi'i lwyrgwmpo a'i ailstocio'n ddiweddar.

Incwm: trwy reoli Bodynfoel dan system CCF, er yn ffafrio datblygiad coed llydanddail, bydd y coetir yn dal i ddarparu elw ariannol wrth deneuo. Mae systemau CCF sefydledig yn tueddu i ddarparu ar gyfer mwy o hyblygrwydd a chyflenwi oportiwnistaidd wrth ymateb i alwadau'r farchnad am goed o faintiol amrywiol. Mae cadwyni cyflenwi lleol a melinau llai gydag amrediad amryfal o gynhyrchion yn galluogi i bob boncyff gael ei asesu - gan sicrhau y ceir y gwerth uchaf drwyddo draw am bob boncyff. Mae hyn yn galluogi i goed gyrraedd gwerth uwch gyda dim ond y cyd-gynhyrchion yn mynd i'r farchnad goed tân/naddion isel ei gwerth.

Diogelwch: yn y pen draw bydd adfer yn llawn yn goetir llydanddail brodorol neu gynefin yn bennaf yn anelu at ddiogelu rhywogaethau dynodol a nodweddion coetir hynafol y safle, sy'n mynd yn brin yn y Deymas Unedig.



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Sut y gall Coed Cadw helpu

Mae dod â choetir hynafol sydd wedi cael niwed yn ôl i'w adfer yn golygu rheoli gofalus. Diolch i gyllid gan Gronfa Treftadaeth y Loteri, mae Coed Cadw yn gweithio i gynnig cymorth a hyfforddiant proffesiynol am ddim i dirfeddianwyr a rheolwyr i reoli ac adfer eu coetiroedd yn gynaliadwy.

- Os ydych yn berchen ar blanhigfa ar safle coetir hynafol gallwn eich helpu i ddarganfod ei hanes, a darparu cyngor annibynnol ac ymarferol ar bynciau sy'n cynnwys:
- Sut y mae adfer yn gallu gwneud eich busnes a'ch buddiannau coetir yn gyflawn
- Sut y mae adfer yn gallu cefnogi ardystiad coedwigaeth
- Gwneud y gorau o gyllid grant

I GAEL MWY O WYBODAETH CYSYLLTWCH Â'R:

Tîm Adfer Coetir Hynafol

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Pafiliwn Tŷ Unnos Coed Cymru ar Foes Sioe Frenhinol Cymru

