

Environmental benefits of low impact machinery in small scale farm woodlands

A feature of the Welsh agricultural landscape is the small woodlands scattered widely over the countryside. Many of these woodlands are under-managed due to their size as the high cost of larger forest machinerys make it uneconomical to manage or harvest them. This also has implications for biodiversity as single age structures of trees are less diverse than varied age structures and areas choked by brambles restrict natural regeneration of trees and structural diversity.

Project outline

Investigate the benefits of low impact machinery to identify the most appropriate methods of minimising environmental disturbance. Low impact machinery has the potential to offer great benefits to small woodland owners in Wales. These small, light-weight machines such as tracked skid steers and articulated alpine tractors can have less impact on the topsoil and can be used in less favourable weather conditions.

Woodland sites in the Vale of Glamorgan were surveyed and four representative study areas were identified based on their uniformity in surface and subsurface site conditions. The project quantified the volume of water and sediment concentration lost from four treatment areas, including a control (no harvesting), conventional harvesting, and two low-impact forestry methods.



ADAS expertise

ADAS was the project facilitator providing help and advice to project participants by:

- preparing application forms
- procurement
- overseeing delivery to time and budget
- report writing
- providing technical advice through its experienced consultants



EIPWALES

Cydweithio er ffyniant gwledig
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Manteision amgylcheddol o ddefnyddio peiriannau effaith isel mewn coetiroedd fferm ar raddfa fechan

Un o nodweddion tirwedd amaethyddol Cymru yw'r coetiroedd bach sydd wedi eu gwasgaru yn eang trwy gefn gwlad. Nid yw llawer o'r coetiroedd yma yn cael eu rheoli'n llawn oherwydd eu maint gan fod cost peiriannau trin coed mawr yn ei gwneud yn aneconomaidd i'w rheoli a'u cynaeafu. Mae gan hyn oblygiadau hefyd o ran bioamrywiaeth gan fod strwythurau lle mae'r coed o'r un oedran yn llai amrywiol na strwythurau lle mae'r coed o oedrannau gwahanol ac mae ardaloedd sy'n cael eu mygu gan ddrain yn cyfyngu ar aildyfiant naturiol y coed ac amrywiaeth o ran strwythur.

Amlinelliad o'r prosiect

Ymchwilio i fanteision peiriannau llai eu heffaith i ddynodi'r dulliau mwyaf addas o leihau'r amharu ar yr amgylchedd. Mae gan peiriannau llai eu heffaith y potensial i gynnig buddiannau mawr i berchenogion coetiroedd bach yng Nghymru. Gall peiriannau bach ysgafn fel offer llywio sgid ar draciau a thractorau alpaidd gael llai o effaith ar y pridd uchaf a gellir eu defnyddio hefyd mewn tywydd llai ffafriol.

Arolygwyd safleoedd coetiroedd ym Mro Morgannwg a dewiswyd pedair ardal astudio gynrychioliadol ar sail unffurfiaeth ar yr wyneb ac o dan yr wyneb. Mesurwyd y cyfaint o ddŵr a'r gwaddod a gollir o'r pedair ardal, gan gynnwys ardal reoli (dim cynaeafu), cynaeafu confensiynol, a dau ddull coedwigaeth effaith isel gan ddefnyddio tractor alpaidd a cherbyd cynaeafu ar draciau.



Arbenigedd ADAS

ADAS oedd hwylusydd y prosiect yn darparu cymorth a chynghor i gyfranogwyr y prosiect drwy:

- baratoi ffurflenni
- caffael
- oruchwylio cyllideb a threfn amser
- ysgrifennu adroddiadau
- ddarparu cyngor technegol trwy ei hymgyngorwyr profiadol

