



**the BIG  
Biodiversity  
Challenge**  
*do one thing*

**Parc Coed Elai**  
**Rhondda Cynon Taf, Wales**  
(Welsh Government/Arcadis)

## BIG Biodiversity Challenge Award Category: *Client-led Project Award*

### Project overview

Coed Elai colliery closed in 1986. Remediation were completed in 2001 with prepared development plots for a 31 ha Parc Coed Elai Business Park. However, due to economic opportunities the site was not developed. In 2021, Arcadis were appointed to update the ecological surveys and assessments to extend the outline planning permission. To deliver the biodiversity vision and maximise community benefits, design principles and a Landscape and Habitat Management Plan (including monitoring) were produced for Years 1 to 10 (Year 0 2021) with a comprehensive review and dedicated species surveys proposed in Year 5 and 10 (2031). This has already shown positive impacts upon biodiversity on the site through Years 1 and 2 monitoring.

### What were the biodiversity conditions on site, prior to the enhancement?

Following remediation, minimal maintenance was undertaken, brownfield habitats developed, supporting invertebrates, reptiles, birds, bats and small mammals with some important fungi including a diverse range of waxcap. However, woodland on site had a uniform structure with minimal ground flora (although important for some fungi). Wetland areas were heavily vegetated, shaded with limited areas of open water but still supported common amphibians.

### What were the reasons behind this project ?

Multiple landowners and developers are involved in the development. To ensure that the biodiversity vision and public benefits are realised, Arcadis are working with the client and stakeholders to ensure that advanced site-wide habitat is delivered via the design guides and the LHMP and that plot development is in line with these designs and management vision. |



*Creation of more brownfield through scrub clearance especially alongside drainage channels and adjacent to woodland*



*One of the ponds before and after clearance*

### What were the biodiversity measures taken?

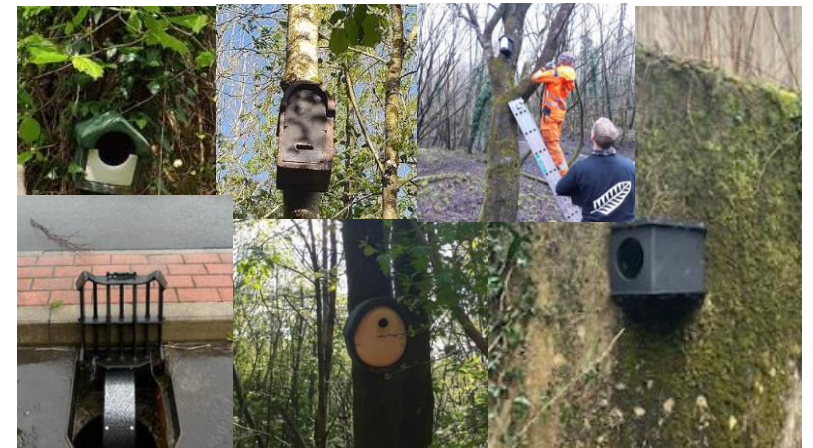
In order to deliver the aspirational vision for the brownfield site, the previously consented scheme was amended by Arcadis, in liaison with the County Ecologist and the Welsh Government, to incorporate more brownfield habitats, informal (rather than formal) recreation areas, active transport routes with managed verges for connectivity, additional planting and positive management including transitional zones from development platforms to woodland for biodiversity benefit. There are 15ha dedicated to biodiversity surrounding the 16ha development plots which has been delivered and managed in advance of development. In addition to the planning redesign, design guidance has been developed for habitats within the development plots.

The design guides and LHMP was created and implemented to move from traditional design and maintenance to positive active management, and it is this vision and implementation of its delivery that is award worthy. Invasive species are managed, additional brownfield and grassland has been created and maintained through strategic clearance, wildlife boxes installed and being used, invertebrate scrapes, beetle banks hibernacula and grass piles have been created. Wetland areas and ponds have been reinstated through de-silting and vegetation clearance. Species are targeted. Devil's-bit scabious has been planted to form a stepping-stone habitat for known colonies of marsh fritillary in the nearby Blaen Cynon SAC. Woodlands managed to create open spaces and more varied age structure to support the wide range of fungi including waxcaps and provide more diverse ecosystems resulting in new populations of wild strawberry and early dog-violet; "Enkamatting" has been installed in highways drainage to allow a means of escape for any amphibians that may find themselves trapped in the highways drainage.

Monitoring includes quarterly site visits by an ecologist and the landscape contractor to review management and identify remedial actions combined with annual habitat assessments. Annual reports and update species surveys feedback into the management which will be continually reviewed and amended where required to ensure the legacy of the site.



*Beetle scrape and bank, habitat piles, pond excavation, knot grass moth caterpillar, wildflower planting, marsh fritillary*



*Wildlife boxes for birds, dippers and bats and Enkamatting for amphibians*



### Further information

In addition to the site-wide management, an Environmental Management Group formed of Arcadis, the County Ecologist, landscape contractors, the Welsh Government and plot developers support the landscape proposals within the plots in line with the biodiversity design and management vision. Compliance, is legally secured through each plot's 999-year lease, planning conditions are attached to reserved matters decision notices for adherence to the design guide and development of plot specific LHMPs, Wildlife Protection Plans and Construction Environmental Management Plans to be guided by the overarching site-wide LHMP and design principals.

This will allow continuity between the mitigation areas and the development plots and allow the area to be managed holistically. Other sustainability goals are also considered within the management and maintenance regime. All landscape arisings are either reused on site as wildlife piles or chipped and used in the office bio-mass generator of the landscape contractors.

### Project Team

**Organisation and Funders:** Welsh Government

**Design team members:** Arcadis, Welsh Government

### What was the motivation for carrying out the enhancement?

The Welsh Government are committed to reversing the decline in biodiversity in Wales by delivering Net Benefit for Biodiversity and increasing the resilience of its ecosystems (Diversity; Extent; Condition; Connectivity; Adaptability). They have the vision that the employment site will continue to reflect the local history and ecological value of the site, whilst providing access to natural spaces for local residents and employees at the site. The design of plots balances the needs of biodiversity whilst ensuring a viable employment-led development can be delivered in deprecation areas. Parc Coed Elai will become an exemplar of how similar employment sites on ex-coliery sites in South Wales can be actively managed to deliver value for business, biodiversity and the community.



*Wetland area Year 0 and Year 1*



*Central Bund Year 0 and Year 1*