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£13.4m
of UK Govt funding to
save the Montgomery Canal

Saving the Montgomery Canal

Fit for the future



Glandŵr Cymru
Canal & River Trust in Wales



WEDI'I YRRU GAN

**FFYNIANT
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**LEVELLING
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SCAN ME

About the Montgomery Canal

For many years, sections of the Montgomery Canal have been brought back to navigation, through strong partnership working and the dedication of hundreds of volunteers. It is a canal which holds high-quality natural and built heritage, a gem of our waterway network.

As a wetland habitat, the canal is constantly changing. As more competitive plant species establish and trap silt in the channel, the canal begins to change from open water habitat with surrounding fringe, to a filled-in dry channel in which trees would eventually begin to establish. The species for which the canal is

designated depend on the open water habitat. As succession reduces this, the rare species risk being lost.

Without restoration, the canal water will be more susceptible to increasing pressure from climate change and polluting runoff, leading to poorer water quality and the loss of many important species.



Floating water plantain

Rare species protection

- Special Area of Conservation (SAC) in Wales for the rare aquatic plant Floating Water Plantain (*Luronium natans*), boasting one of the best populations in the UK.
- Site of Special Scientific Interest (SSSI) for the marginal habitat, invertebrates and nationally important plant species such as Grass-wrack Pondweed (*Potamogeton compressus*).



Grass-wrack pondweed

The timeline

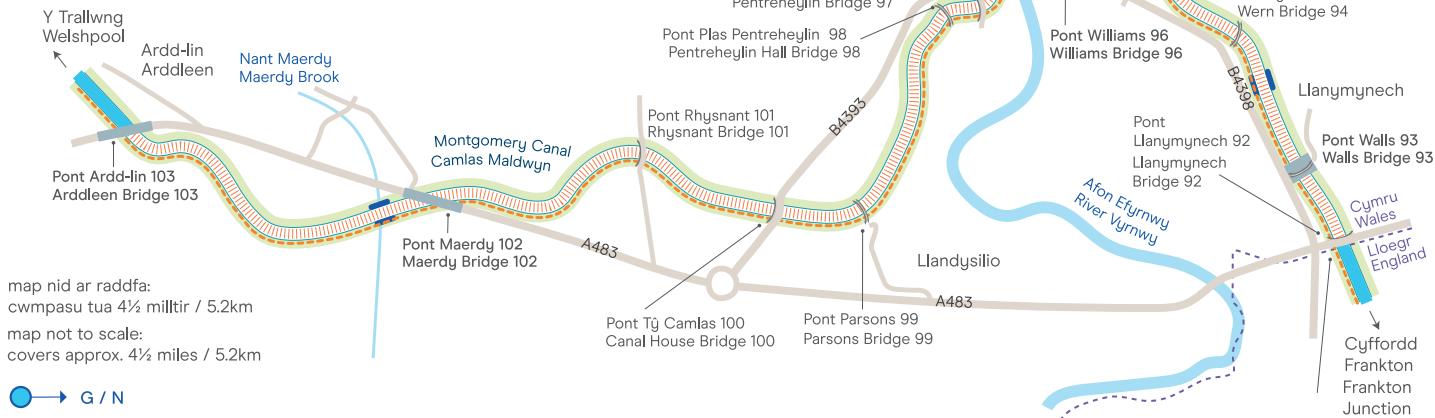
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The Montgomery Restoration saw the beginnings of works to this closed off waterway and the subsequent development of the Conservation Management Strategy (CMS); 15 organisations strategising how to progress sustainable restoration.

Now, 60% of the canal has been restored.

2022

The Levelling Up Fund (LUF) begins at Llanymynech and goes as far as Arddleen (see map below). The project will deliver phased dredging works, along with selective vegetation and tree works, engineering works to relocate one bridge and build another, and the potential to design and create several hectares of nature reserves, as set out in the CMS.



Wetland ecological succession

Wetlands are dynamic ecosystems which follow a pattern of establishment and change as illustrated here.



Area with large open body of water.



Fringe habitat develops on the borders.



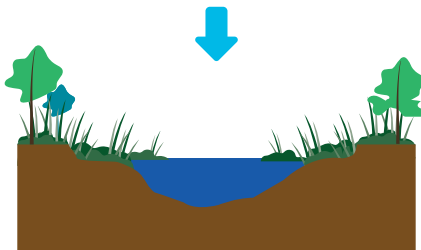
Small trees begin to develop on margins and fringe habitat closes in.



Trees establish in sediment eventually forming a woodland.



Sediment and organic material completely fills in the area.



Sedges form a floating mat that moves inwards as sediment and organic material is trapped.

The Montgomery Canal now

To develop a restoration plan, you first need to know where you are starting from.

Baselining

Start point: A botanical baseline survey of the entire length of the Montgomery Canal was carried out in 2022. This has given us an idea of the ecological state of the plant species that the canal is known and designated for.

Finding trends: When compared to historic data from surveys of the Montgomery Canal, it is possible to build up a picture of how the canal has changed over the decades, also reviewing the drivers behind this change.

Protected species surveys

Ahead of all works, whether they be dredging, nature reserve or bridge construction, surveys of the area are conducted for the following species (where suitable habitat is found): badgers, bats, great crested newts, water voles, otters, amphibians, reptiles, nesting birds and hazel dormice.

The area is also surveyed for the habitats that are present, checking to see if there are any priority habitats.

Wherever these species are identified as present, or potentially present, then further survey efforts are employed, and designs and mitigation implemented.



Badger



Bat



Grass snake



Otter



Great crested newt



Kingfisher



Dormouse



Water vole

Ecologically sensitive dredging

Carefully structured dredging programmes remove the naturally accumulating build up of sediment within canals.

Without dredging, nutrients, pollutants and contaminants can accumulate in the sediment, creating imbalances in the canal ecosystem. By enhancing aquatic ecosystems, dredging supports the health of plants, animals and humans who depend on the canal.

We manage 2,000 miles of canal including 60 SSSI sites and work with specialist individuals with extensive ecological expertise who support all our work. We are lucky to have a dedicated team on this project.

We also work closely with Natural Resources Wales, the regulator, to ensure that all work we do adheres to the necessary legal requirements and environmental guidelines, minimising any negative impacts on the ecosystem.

Dredging profiles and phasing

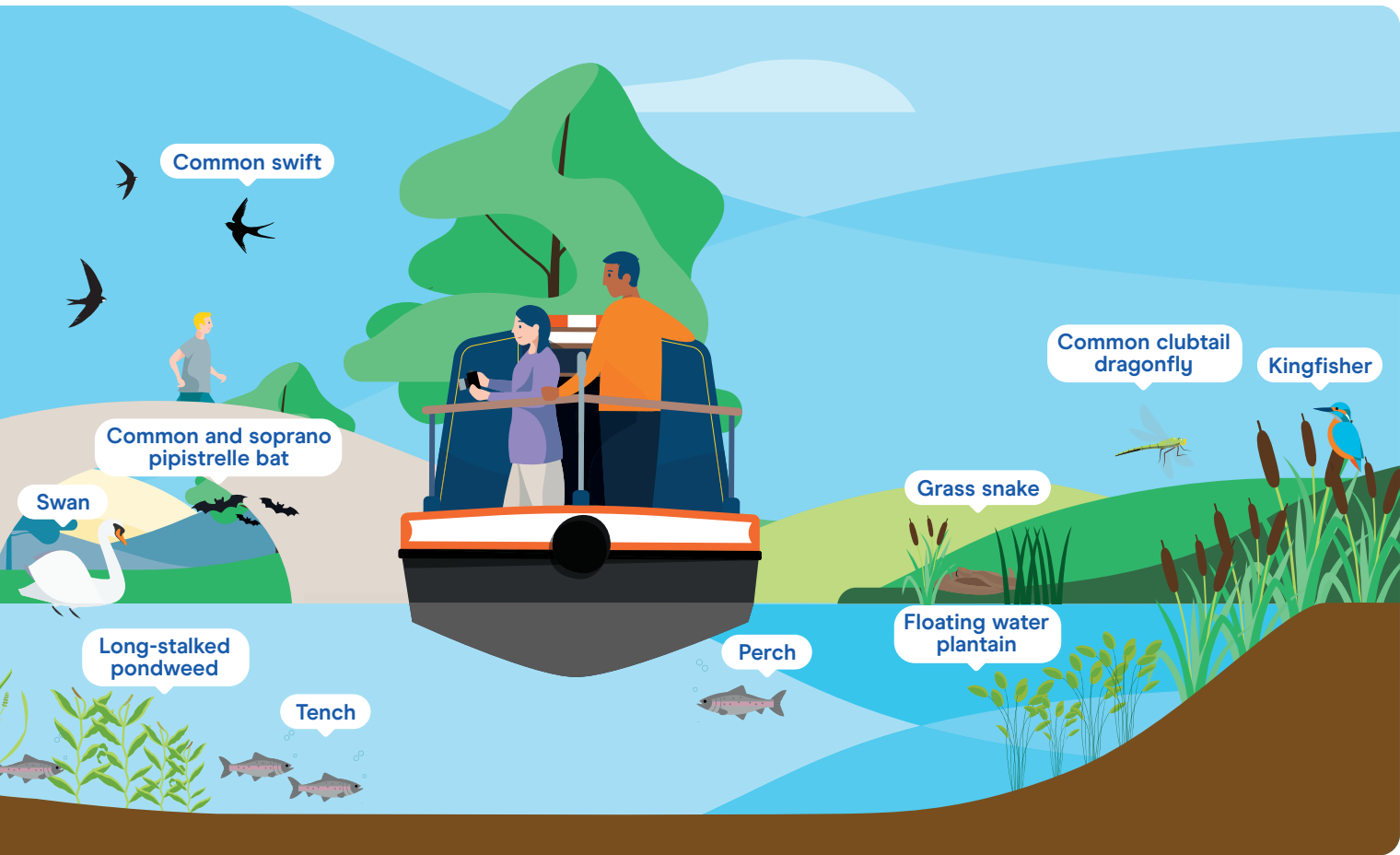
A site specific dredging design balances the requirements for open water and the fringe habitat.

Fringe habitat, also provides:

- a biodiverse corridor for invertebrates, birds, amphibians, reptiles and mammals.
- a natural form of buffer, protecting the soft banks of the canal from erosion.
- natural filtration for water coming from adjacent land into the canal.

Phasing of works across a few winters allows time for the canal to recover and allows us to protect each important plant population as we work.





The species of the Monty

Species profiling and research

Some of the protected plant species found within the canal are under-researched. As a result, past management for the species has been based on our learning through experience. As part of this project, we are hoping to improve on past approaches, through research of these plant species and the conditions that they need to thrive.

By the end of this, we hope to have prescriptive guidance for the species that can then be fed into future management plans for the canal and reserve sites. This information will be shared with other organisations working on pondweed conservation.



Floating water plantain



Flat-stalked pondweed



Grass-wrack pondweed



Long-stalked pondweed

Photos courtesy of Biopix.dk

Tree works

Maintaining the right amount of shading is important for the canal. Some rare plant species can handle a little shade, but others can't. However, all the rare plants still need enough light to grow properly.



As leaves fall and enrich the water with nutrients, it promotes the growth of more competitive species. Gradually, this leads to the canal filling up with sediment, allowing marginal species to dominate the area. This is not good for our protected aquatic plant species.

Removing carefully selected trees or limbs, and laying hedgerows helps achieve a fine balance.



Habitat enhancement

All projects undergo environmental appraisal to assess impacts of a project, in addition to identifying areas for habitat improvement. For both bridge and any potential nature reserve designs this will mean looking for every opportunity to create new habitat and create a net benefit for biodiversity through our landscaping choices. For example, restoring hedgerows, creation of wildlife refugia and planting the right trees in the right places.

Nature reserves

We are exploring the potential to create several hectares of new nature reserves with open water habitat.

Management planning for the reserves, if created, will be key to success. They would be a man-made habitat that will otherwise be subject to ecological succession and loss of open water, as happens to a derelict canal.

Species propagation

To help the rarer plant species to extend their range and establish in the newly dredged sections of canal and the new reserves, a plan of collection, off site propagation and reintroduction is planned. We will work closely with a team of propagators who have the specialist expertise to support the project.



Creating suitable habitats

Our nature reserves would be an open body of water designed with shelving from the outside to a depth similar to that of a canal in the centre, helping to control the encroachment of the emergent fringe. They would create a habitat where some water movement and flow is built in, and help smaller aquatic plants found submerged in the water to disperse and colonise.



Our ponds would have a complex bed profile. This would provide a range of spots – sheltered, exposed, deep, shallow, shade and sun – to enable species to flourish according to their needs.

The unique management plan for the sites would be developed at creation, including a dedicated programme of monitoring that would feed into the exact management that is required at each stage, whether that be tree works, spot dredging or invasive species control.

Future use of the canal

The end goal for the Montgomery Canal Restoration is the return of navigation by boat.

The LUF section of works does not deliver a fully navigable canal but delivers the next stage. Boating is not anticipated in the immediate future, giving the channel, and any nature reserves created, time to

establish and be monitored. Once we are confident all habitats are in good condition, small numbers of boats will be introduced gradually, monitoring for impacts and adjusting management accordingly.

This careful approach to the restoration of a very special canal allows us to realise the social, economic and ecological possibilities of the canal, with a measured approach informed by the sensitive ecology. Without these major interventions the canal's ecology would continue to decline in quality and eventually risk being lost.

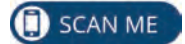


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Find out more
information about our
ecology work here



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