



# Waun Las, Carmarthenshire

**S**itting in over 200ha of parkland in rural Carmarthenshire, the National Botanic Garden of Wales (NBGW) is dominated by the largest single-span glasshouse in the world. This contains an impressive display of plants from regions of the world with a Mediterranean climate, including California, Chile and Australia. Since it was opened in 2000 the NBGW has become the most visited garden in Wales, with many other features to delight the plant enthusiast, including a walled garden, a tropical house, a Japanese garden, a bog garden, and, surprisingly, a National Nature Reserve.

The gardens are set in a former Regency water park that once graced Middleton Hall, most of which was destroyed in a fire in the 1930s. The estate was acquired by Carmarthenshire County Council, which broke it up into seven starter farms. This farmland came under the management of the NBGW at the time it was being established, and it now forms the basis of the nature reserve, which is named after one of the farms, now abandoned, that lies at its centre. Because the NBGW has the infrastructure to engage with a large number of visitors, and has scientific staff, many of whom are

working on biodiversity conservation, it was felt that the reserve deserved special status. Therefore, even though none of it is an SSSI, it was declared a National Nature Reserve in 2008.

## Working organic farm

The reserve is managed as a working organic farm, and the NBGW has its own small herd of Welsh Black cattle and a flock of Welsh native sheep. The sheep play an important role in cropping short the reserve's waxcap grasslands during the summer, and through into the autumn when displays of over 20 species of waxcap fungi can attract many visitors. Another visitor attraction, in June and July, is the whorled caraway, the county flower of Carmarthenshire. The wet fields in which this grows are usually grazed by the Welsh Black cattle, which are removed in very wet conditions to prevent excessive poaching. Rushes and tufted-hair grass are occasionally topped if they become too dominant, but some of the wettest fields on the reserve only receive very occasional grazing, to keep scrub in check.

Another six fields are managed as species-rich pastures and grazed by cattle in the summer and

↑ Waun Las National Nature Reserve sits in the heart of the Carmarthenshire countryside, and is part of the National Botanic Garden of Wales, which is dominated by the dome of the Great Glasshouse. *Tony Robinson*

There is one National Nature Reserve in the UK where as part of your visit you can stroll through Mediterranean maquis and go looking for tropical orchids and bromeliads. Tony Robinson went to Carmarthenshire to investigate.



↑ The Great Glasshouse is the largest single-span glasshouse in the world. Designed by Norman Foster, it houses the best display of Mediterranean climate zone plants in the northern hemisphere.  
*Tony Robinson*

then by sheep in the winter. Occasionally hay is made on these fields, to help reduce fertility, and in years when there is excessive grass growth. Two large fields, however, are managed permanently as hay meadows, where hay is cut, except on the wetter areas, between mid-July and September. Two of the species-rich pastures are also being converted to hay meadows during 2014. Cattle are used to graze the meadows to suppress the coarser grasses in the autumn after the hay cut and again in the spring. The reserve also contains seven arable fields, which are spring-sown with cereals or root crops that are then harvested in late summer. These fields, which are left fallow over winter to provide a source of bird food, are a useful contrast with the surrounding countryside, which is dominated by grassland. As part of the arable rotation they are sown with grass and then used as clean parasite-free grazing for lambs. In addition there are four buffer fields of low conservation value that can be used to take the pressure off other areas in very wet, or very dry, summers.

With its visitor facilities, the reserve is in a good position to act as a demonstration site for organic farming, and links have been established with a local agricultural college. Many new owners of local smallholdings in the area are keen attendees at the

demonstration events that are held on the reserve.

### **Trees, woodland and river**

The farmland of the reserve is criss-crossed by a network of species-rich hedgerows. Scattered copses that have often grown up in old sandstone quarries are managed by selective coppicing, and are fenced, but cattle are occasionally allowed in to trample bramble and maintain open conditions. Many veteran trees from the old parkland survive, and new planting in clumps is being carried out to replicate the earlier planting of the designed landscape. Many remnant features from the Regency water park including lakes, a cascade, iron-rich chalybeate springs, and a network of informal paths, can be found in Pont Felin Gât, the largest single block of broadleaved woodland on the reserve. Management of this woodland is low-key but has included the ring-barking of sycamore to provide some standing dead wood.

Pont Felin Gât is also the site of a small river-bank stabilisation trial. A major footpath that was difficult to divert was in danger of collapsing into the River Gwynon. So, in 2010, the bank was repaired using 'compost socks'. These fibre-mesh socks were filled with high-quality compost made from organic kitchen and garden waste, and then



← The reserve has its own small herd of Welsh Black cattle. *Tony Robinson*



← The rush pasture on the reserve is a habitat for the whorled caraway, the county flower of Carmarthenshire. The tower on the skyline is Paxton's Tower, a folly built by the estate owner in the early 1800s and now owned by the National Trust. *Tony Robinson*



← The reserve includes over 18ha of arable farmland. Grass is sown as part of the rotation and provides clean grazing for lambs. *Tony Robinson*



↑ 2010 – The bank of the River Gwynon below a footpath was stabilised using ‘compost socks’ and willow stakes. *National Botanic Garden of Wales*

↑↑ 2014 – The willow stakes have not taken but the socks have been colonised by opposite-leaved golden saxifrage. *Tony Robinson*

transported to the site. Willow stakes were then planted through the socks in order to provide more long-term stabilisation. The trial was a partial success. Water quality has been monitored and the compost does not appear to have caused any enrichment. The socks are still in place at the foot of the slope but none of the willow stakes grew to produce trees, although the mesh has been colonised by opposite-leaved golden saxifrage. Subsequent discussions about how this technique might be improved have included a consideration of the use of a more biodegradable material for the socks, filling them on site, and the use of different plants to provide long-term stabilisation.

### Plant conservation and research

Voluntary groups carry out much of the day-to-day biological monitoring on the reserve and students can use it for research projects. However, the

## Waun Las

**Location:** 10km southeast of Carmarthen. Grid Reference: SN518178 (entrance to National Botanic Garden of Wales).

**Area:** 150.14ha.

**Main habitats:** Hay meadows, wet grassland including some Rhôs pasture, woodland, parkland, and arable farmland on Silurian and Devonian sandstones and mudstones.

**Most notable species:** Brown hare, snipe, pied flycatcher, marsh tit, whorled caraway, greater butterfly orchid, meadow thistle, white-flowered yarrow, waxcaps, parkland lichens.

**Site designations:** National Nature Reserve.

**Managed by:** National Botanic Garden of Wales.

**Associated sites:** None.

**Site manager:** Simon Goodenough, Curator. Contact: National Botanic Garden of Wales, Llanarthne, Carmarthenshire SA32 8HN; tel: 01558 668768; e-mail: simon.goodenough@gardenofwales.org.uk

**Other staff:** Estate Assistant and volunteers.

**Main items of machinery:** Avant pivot-steer loader, general farm machinery.

**Website:** [www.gardenofwales.org.uk](http://www.gardenofwales.org.uk)

reserve also has a part to play in the NBGW’s wider role in plant research and conservation. Wales was the first nation in the world to DNA-barcode all of its wildflowers, and many of the samples used in this were collected from species growing on the reserve. The NBGW is also working on the conservation of individual species through the Welsh Rare Plants Project. One such species is meadow thistle, a key species of the Rhôs pasture habitat, which can be found on parts of the reserve. In 2009 a patch of Rhôs pasture that would have been lost due to the expansion of a local school was translocated to a suitable site on the reserve. 300m<sup>2</sup> of soil and vegetation was carefully lifted from the donor site, one turf at a time. Each turf was 1m<sup>2</sup> with a depth of about 15–20cm. The turfs were then transported to the reserve on pallets wrapped in plastic to stop them drying out, and then carefully laid at the prepared site. Although the translocated turfs have taken well there has been a problem grazing them, and the sward has become more rank and colonised by soft rush. To achieve the best conditions for Rhôs pasture, the new turf had to be placed in the wetter part of the field, which the cattle have tended to avoid; a situation not helped by the currently low stocking rates on the reserve.

### Visitors

With over 130,000 visitors a year, the NBGW is well placed to attract visitors to its National Nature Reserve, which complements its more formal displays of exotic plants. The reserve helps generate repeat visits to the gardens, particularly by those who sign up as members of the NBGW and so can gain free admission. Many are inspired by a visit to the gardens to become volunteers on the reserve. Visitors to the reserve are catered for with interpretation boards and guided walks, and attempts are made to encourage garden visitors



onto the reserve with special events. For example, an archaeological dig was held on the site of the original Middleton Hall. One unusual development has been the appearance of model aeroplanes in the skies above the reserve. The NBGW was recently approached by members of the South West Wales Electric and Gliding Group, who were looking for a site to fly their aircraft. Because these are very quiet, and because a field of low conservation interest was available on the edge of the reserve, the request was granted. The planes are not allowed to fly over the gardens themselves, but their occasional presence may entice a few more visitors onto the reserve.

Alongside the Mediterranean climate zone plants in the glasshouse and the other botanical attractions they certainly add another dimension to a visit to a National Nature Reserve.

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↑ Some of the trees from the Regency water park still survive, and replacement trees are being planted. *Tony Robinson*

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← Turf from a nearby Rhôs pasture site was translocated to the reserve in 2009. *National Botanic Garden of Wales*