

Wales Grassland and Heathland Ecosystem Group Priority Action

Floodplain Grasslands of Wrexham

Habitat summary

Wales has extensive areas of floodplain land (estimated at over 40,000 ha; Dargie & Dargie, 1998), but this has mostly been converted to improved grassland and semi-natural habitats are fragmentary. Unimproved neutral grasslands (BAP = **Lowland meadow**) on floodplain land are particularly rare in Wales, but would once have been more common (Stevens et al, 2010). Two neutral floodplain grasslands are described in the NVC, *Alopecurus pratensis* - *Sanguisorba officinalis* grassland (MG4) and *Cynosurus cristatus* - *Caltha palustris* grassland (MG8), but the Lowland Grassland Survey of Wales (Stevens et al, 2010) recorded only 9 ha of MG4 and 3 ha of MG8. These remnant stands are mostly found in the eastern part of Wales, close to the English border, in the districts of Wrexham, Montgomery and Radnor. Outlying stands of MG4/8, or MG5 with flood meadow affinities, occur in Anglesey, Gwent and West Glamorgan.

MG4 is the representative community for the Annex 1 Habitat **Lowland hay meadow** in Britain. MG4 and MG8 form, along with MG5, the BAP Priority Habitat **Lowland meadow**. Floodplain grassland (improved as well as semi-natural) also falls within the **Coastal and floodplain grazing marsh** Priority Habitat.

Unimproved neutral grasslands on floodplain land support a range of uncommon or geographically restricted plant species, including greater burnet *Sanguisorba officinalis*, pepper saxifrage *Silaum silaus* and common meadow-rue *Thalictrum flavum*. Two S42 plant species marsh stitchwort *Stellaria palustris* and tubular water-dropwort *Oenanthe fistulosa* occur in MG4 in England and are associated with rush pasture on floodplain land in Wales (e.g. The Wern (Montgomeryshire), Malltraeth Marsh (Anglesey)); introduction of these species to re-created sites could be considered. Some floodplain sites are important for breeding waders.

Opportunities for the re-creation of unimproved neutral grassland (MG4 and MG8) on floodplain land should be sort for the following reasons:

- The habitat is uncommon and very localised in Britain and very rare in Wales.
- The habitat is of European significance.
- Re-creation of the habitat would build on efforts in England by the Floodplain Meadows Partnership and make use of their expertise and knowledge base.
- Re-creation of the habitat could help meet targets under two HAPs.
- Re-creation of the habitat has high potential ecosystem service benefits, particularly relating to water quality and storage.

There is potential for expansion of unimproved neutral grassland on floodplain land throughout Wales, but most ecological gain comes from re-creation close to existing sites: to make them more robust; to improve connectivity; and as existing sites can act as seed/green hay donor sites. Choice of potential restoration sites requires careful consideration of site hydrology and soil nutrient status (Wheeler et al, 2004; Gilbert et al, 2009).

Wrexham summary

The Old Pulford Brook Meadows SSSI supports the largest remaining area of MG4 on a site in Wales along with a small area of MG8. The SSSI is situated on the English border alongside a minor tributary of

the River Dee (the Old Pulford Brook). The SSSI and much of the neighbouring (mostly improved) floodplain land still floods in winter.

Water from land within the project area runs into the River Dee, from whence it is extracted at various locations. A pumping station lies close to the Old Pulford Brook Meadows SSSI. Several small local settlements lie immediately adjacent to or within the floodplain land, including Holt and Rossett, where some properties have been flooded during recent high rainfall events; the whole area is considered at risk of flooding by the EA.

The project area takes in surrounding floodplain land, as identified in Dargie & Dargie (1998), up to about 4km from the SSSI. This project area should be regarded as flexible. Not all of the land within this area would be appropriate for grassland re-creation and land outside the project area may be considered appropriate for action on examination. Existing guidelines and experience on choice of re-creation site is critical (e.g. Wheeler et al, 2004; Gilbert et al, 2009), particularly using the experience and knowledge of the Floodplain Meadows Partnership.

BAP area: Wrexham

Action required

- Maintain or enhance the interest on the current SSSI.
- Re-create areas of floodplain meadow/pasture on appropriate sites, especially sites close to the existing SSSI, utilising existing expertise.
- Highlight the ecosystem service benefits of grassland re-creation on floodplain land, including the affect of reduction in fertiliser inputs across the whole project area in terms of reduced fertiliser run-off.
- Consider restoration/re-creation of other habitats, such as floodplain woodland.

Key habitat

Annex 1 Habitat **Lowland hay meadow** (NVC = MG4)

Species Interest

Section 42 species

Eurasian Curlew	<i>numenius arquata</i>
Northern lapwing	<i>Vanellus vanellus</i>
Marsh stitchwort	<i>Stellaria palustris</i>
Tubular water-dropwort	<i>Oenanthe fistulosa</i>

The project has potential to benefit a range of other S42 fauna, including:

Skylark	<i>Alauda arvensis</i>
Grasshopper warbler	<i>Locustella naevia</i>
Reed bunting	<i>Emberiza schoeniclus</i>
Grass snake	<i>Natrix natrix</i>
common toad	<i>Bufo bufo</i>
brown hare	<i>Lepus europaeus</i>
bat species.	

Other notable plant species

Greater burnet	<i>Sanguisorba officinalis</i>
Smooth brome	<i>Bromus racemosus</i>
Meadow barley	<i>Hordeum secalinum</i>
Greater meadow-rue	<i>Thalictrum flavum</i>
Mousetail	<i>Myosurus minimus</i>
Pepper saxifrage	<i>Silaum silaus</i>

References

- Dargie, T., Dargie, J. (1998). An inventory and conservation review of coastal grazing marshes and floodplain habitats in Wales. Stage 1:Inventory. CCW report no. 274, Countryside Council for Wales, Bangor.
- Stevens, D. P., Smith, S. L. N., Blackstock, T. H., Bosanquet, S. D. S., Stevens, J. P. (2010). *Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004*. University of Wales Press, Cardiff.
- B.D. Wheeler, D.J.G. Gowing, S.C. Shaw, J.O. Mountford and R.P. Money. (2004). *Ecohydrological Guidelines for Lowland Wetland Plant Communities*. Final Report Environment Agency.
- Gilbert, J.C., Gowing, D.J.G. and Wallace, H.L. (2009) Available soil phosphorus in semi-natural grasslands: assessment methods and community tolerances. *Biological Conservation*, 142, 1074-1083