

Harvest time again: Seed-collection and Meadow Restoration in Pembrokeshire

*No habitat is more insecure and dependent on agriculture, or more stunningly rich in plant and insect life, than the traditional hay meadow. Surveys and conservation efforts have saved a few, but even these have to earn their keep. **Matt Sutton** and **Vicky Swann** describe their own experiences trying to reap a variety of meadow harvests.*



One needs faith not to see traditional wild-flower meadows as an anachronism, about to be swept away by a tide of concern for food security, energy production or new housing needs. The near total loss of such meadows during the last century is well-documented, and conservation efforts have belatedly focussed on the few remaining examples of note. Following a long and detailed programme of survey across Wales, some of the best are now designated as Sites of Special Scientific Interest (SSSI).

Our own farm in south Pembrokeshire comprises 87 acres of land which has escaped modern agricultural management. There are several flower-rich meadows and pastures at the heart of the farm (if we're getting technical, they're classed as MG5a and MG5c in NVC speak). These run into purple moor-grass and rush pastures wherever springs come up or clay impedes the drainage. A surrounding tangle of well established scrub and woodland provides good shelter, and a reminder of one fate awaiting such meadows should farming or conservation management be abandoned.

Matt initially became involved with the site as a grassland surveyor with CCW, then as a conservation officer after it was designated as Wyndrush Pastures SSSI in 1999. He somehow ended up as the owner in 2005, and began to farm for the first time. The transition from advising on management to carrying it out brought fresh perspectives and questions. Upon leaving CCW, one key question facing him was economic reality.

Does Conservation Management Pay the Mortgage?

Management agreements are generally available to owners of SSSIs, and these provide a financial incentive to carry out conservation management. Owners of non-designated grassland habitats often receive similar grant money through Tir Gofal or Glastir for carrying out a programme of management, albeit one less tailored to the individual circumstances of the farm. Such payments can be a significant income stream to small farms such as ours, and together with other farm

support measures such as the Single Farm Payment and Organic Farming Scheme, have kept extensive management alive in recent years. The costs and ethics of such support mechanisms are increasingly being called into question, and the anticipated reductions in payments due to CAP reform are now being felt. By limiting the agricultural inputs to a farm system, these schemes inevitably limit the agricultural outputs. Conventional farmers are often happy to leave them behind.



Our ripe meadow against a backdrop of early-cut silage

We have followed a conservation policy of no lime, fertilisers or field drainage for the last seven years, coupled to a late hay cut and organic cattle grazing. Whilst doing so we have witnessed the grass-dominated parts of the fields becoming rich in orchids and other meadow flowers, but we have also seen yellow rattle sometimes becoming aggressively dominant, and our soft rush management has had to increase in the wake of several cool, wet summers. We have also charted the decline in hay production and the reduction in the number of calves or finished beef cattle which we can rear and sell. Stephen and Anne Coker tell us that their spectacularly orchid-rich fields at Mountain Meadows SSSI in north Pembrokeshire can no longer really be called meadows, as their productivity has been so severely depleted that it's not often worth them trying to take a hay cut.

Keeping grazing animals is considered integral to good meadow management, but on a small scale this can be a financial liability as well as a large time commitment. Cattle reared exclusively on botanically-rich pasture and hay mature slowly, and although the finished animal can provide high quality, exceptionally flavoured beef, this is not rewarded by the conventional cattle trade. In common with one or two other meadow owners in the county, we take some of our animals right the way through from calving to butchering and sell boxes of 'conservation-grade' organic meat directly to customers. By doing this, we might cover our costs and eat well, but as cattle farmers will tell you, it's a numbers game if you want to make money.

Diversity and diversification

A field of rye-grass is there to produce just one crop – silage for dairy or meat production. Our meadows are now producing three harvests, as well as a host of other benefits which go beyond commercial products.

Our first is gathered in by the honey bees from the dozen or so hives in our apiary – a fine crop of honey from all the nectar plants in and around the meadows. From the first dandelions of the spring,

to the knapweed in late summer and all the clovers and trefoils between, the visits that the bees make to these plants are responsible for our favourite harvest of the year. We were told by one conservation charity that beekeeping is incompatible with bumblebee conservation, as the honey bees take too much nectar away from their wild cousins. Here, we have significant numbers of several bumblebees, and the rare shrill carder bee is still in evidence later in the summer, visiting hedge woundwort, knapweed or devil's-bit scabious. Perhaps a more significant threat across much of the countryside is the loss of the diverse forage opportunities needed to sustain both hives and bumblebee nests through the year. Meadow restoration projects, even on a small-scale, can make a contribution here.

Our second harvest has been a fickle one, but may represent our most viable enterprise in the coming years. For the last three summers, we have been harvesting ripe hay meadow seed for sale to individuals and organisations wishing to establish new meadows or enhance existing ones. Initially, we collected seed of yellow rattle by hand, as this semi-parasitic species weakens grass growth and so is particularly useful in meadow restoration projects. We were sometimes able to borrow a brush-harvester – a machine which is towed through a well-ripened meadow in late July or August. This has a series of rotating bristles, which brush dry seed into a hopper. The contents of the hopper are emptied on to sheets and air-dried. Until last year, however, we weren't legally able to sell any brush-harvested seed. The commercial distribution of any seed mix which potentially contained seeds of 'protected' fodder plants such as clovers and trefoils was deemed illegal under the EU Seed Directive. Fortunately, the Welsh Government passed the Seed Marketing (Wales) Regulations 2012, which now allows the marketing of directly harvested 'preservation mixtures'. There are various requirements for registration, labelling and reporting which inevitably introduce a bureaucratic dimension to the operation, but we've also noted a willingness amongst Welsh Government staff to be pragmatic in their interpretation of the rules.



The Logic brush-harvester in action

With the assistance of the Welsh Government's Sustainable Development Fund (administered by the Pembrokeshire Coast National Park Authority), we've recently been able to buy our own brush-harvester together with a trailer to enable us to provide a mobile harvesting service. We've also bought a hand-held harvester, which uses a brush-cutter design with a specially modified collecting head to pluck seed from the heads of various species. With several meadow owners in west Wales

willing to allow seed to be harvested in return for a share of the proceeds, we will now be able to supply more meadow restoration projects with selectively matched seed. Our biggest challenge now will be working around weather and hay-making windows.

With our seed spread out to dry on racks in the barn, our attention turns to the third meadow harvest. Delaying the hay cut until August introduces an additional element of risk, as shortening days and dew-laden mornings can often mean that an extra day or two are needed for the hay to dry. Some plants such as ribwort plantain hold their moisture particularly well. A run of four or five good days can be a bit of a tall order, and on one or two occasions we've had to get contractors in to bale and wrap the crop as haylage instead. Hay or haylage, it's always a relief to get the crop off the field ready to keep our animals fed for at least part of the winter. It's not time to put our feet up yet though, as the harvested seed needs to be sieved through a series of meshes to remove as much stalk and chaff as possible, then weighed, bagged and labelled. As well as selling the seed, we've been getting involved with work on the ground for owners who'd like assistance with site preparation and seed sowing. A crawler tractor with flail-mower collector has proved useful in 'scalping' thick grass-dominated fields, and simultaneously firming in the seed sown in front of the tracks. All such work needs to be completed as early in the autumn as possible, as most meadow plant seeds germinate over the course of the winter.



Preparing ground and broadcasting seed

Will this approach pay the mortgage? Hopefully through the purchasers of seed this ethical business has the chance to make our farm viable. Working together with other meadow owners, perhaps we can help put their farms on a slightly more secure financial footing too. In time perhaps newly re-created meadows will be providing seed, keeping all these beautiful places alive in the landscape for future generations. You can but dream...



Matt Sutton spent several years surveying the grasslands of west Wales with CCW, then a few more working with landowners to conserve them. Before moving to Pembrokeshire, **Vicky Swann** carried out brown hare surveys for the North Wales Wildlife Trust. As well as looking after their farm and harvesting seed, Matt and Vicky run an ecological consultancy specialising in vegetation survey and habitat restoration. They can be contacted via wyndrushwild.co.uk