



# Conference Summary Report

## Inspiring Meadows

A conference on the creation and  
management of wildflower meadows

7<sup>th</sup> September 2015, Stirling



# Inspiring Meadows

*Inspire: to fill someone with the urge or ability to do or feel something, especially to do something creative*

*Meadow: a tract of grassland, either in its natural state or used as pasture or for growing hay*

## Conference overview

On Monday 7<sup>th</sup> September 2015 ninety people, representing thirteen local authorities and over twenty other organisations from across Scotland (and one from England) attended the Inspiring Meadows conference.

The conference brought together specialists, practitioners and those with an interest, to share knowledge of the creation and management of wildflower meadows, which included, for the purposes of this conference, wildflower rich grasslands. The conference aimed to raise awareness of the benefits of meadows and encourage the creation of them across the country.

The conference was organised by Buglife Scotland, Inner Forth Landscape Initiative (IFLI), On the Verge and Stirling Council. It was funded by On the Verge and the IFLI (a Heritage Lottery Funded project).



## Executive summary

The speakers shared their expertise and experience to show that meadows provide **multiple benefits** and there are **few challenges** that cannot be overcome with proper preparation and sharing of information. There would seem to be very little reason to prevent the widespread conversion of underutilised open space, particularly intensively managed amenity grasslands, to meadows. The benefits discussed included:

- ^ **Long-term cost savings.**
- ^ **Carbon sequestration.**
- ^ **Biodiversity benefits.**
- ^ **Community acceptance.**
- ^ Potential for **energy production.**
- ^ **Health benefits.**
- ^ **Community involvement.**

The creation and proper management of native wildflower meadows can significantly contribute to the delivery of public body duties on biodiversity and climate change. To further encourage the widespread creation of meadows it was suggested that the following need addressing:

- The existing evidence on the benefits listed above needs to be gathered and made easily accessible.
- Work needs to be undertaken to identify the key barriers that impede decision-making, impede implementation and stop wider creation of meadows across the country.
- An event should be organised to highlight the benefits of meadows to decision makers in public bodies.



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## A summary of the pros and cons of meadow creation

The conference showed that the **benefits of meadows far outweighed the challenges**. Although fewer challenges were discussed they are not insignificant and can contribute to the failure of a site. Solutions were suggested for all the challenges identified.

### The challenges

- ✓ Failure to germinate. To maximise germination rates make sure that you use native seed of known quality that is suited to the site conditions.
- ✓ What to do when things go wrong. Having the necessary skills in house or knowing where to get advice.
- ✓ Dealing with community complaints and managing community expectations. Much of this relates to the need to ensure that people understand that difference between annual and perennial species.
- ✓ Initial expense and having the resources/knowledge required to manage over the first few years.

### The benefits

- △ **Long-term cost savings**. The initial costs are higher than existing amenity management but business cases, such as Stirling Council's, show that after a few years savings are made.
- △ **Carbon sequestration** and reduced emissions from the reduced use of machinery. Grassland management has the potential to sequester twice as much carbon as forestry.
- △ **Biodiversity benefits**. Academic studies have shown what many knew, native wildflower meadows support many more species than amenity grass.
- △ **Community acceptance** 'Try it, they get it!' In Edinburgh only two of 82 sites have been returned to amenity management. In Stirling only one of 50+ sites has been returned to amenity management and that is currently being converted back into a meadow. Compliments vastly outweigh complaints.
- △ Potential for **energy production** from biomass of cuttings. This concept is at the early stages but shows great potential to save on the cost of composting and generate income from energy production.
- △ **Health benefits**. A range of studies have shown that spending time in green outdoor spaces contributes to greater wellbeing and lower levels of mental stress and anxiety.
- △ **Community involvement** and partnership working. People nurturing spaces where they live and developing ownership of sites. They are then less likely to see anti-social behaviour in "no go zones" and have seen a notable reduction in litter.
- △ Potential for related activities around flowers –
  - skills development, learning and education
  - activities linked to biodiversity, our environment and ecosystem services
  - links to cultural and arts programmes, festivals and city wide awards



Site preparation



Year 1 – Annuals



Year 2 – Biennials and perennials



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## Things to consider when planning a meadow

The conference programme was arranged to cover the various elements that are critical to the successful creation and management of meadows. Below is a summary of these considerations taken from the presentations and discussions throughout the course of the conference.

### **What is your starting point?**

Survey the site to determine the existing ground conditions including:

- Soil conditions - drainage, fertility, pH and toxicity
- Existing vegetation

Determine any other existing or planned uses there are for the area you have chosen, including amenity, recreation, travel, food growing or more.

The results will influence your objectives for the site and the preparation and management that you will need to put in place.

### **What do you ultimately want to achieve?**

Be clear why you are seeking to create a wildflower meadow. Is it for cost savings, to enhance biodiversity, to produce a saleable hay crop or to result in a SSSI standard grassland?

What skills and resources do you have available? This may lead to the prioritisation of resources to certain sites and mean a less resource intensive management regime at others.

### **Get community buy in.**

Volunteer and school involvement is key to the acceptance and ownership of the site. Promote examples of what has worked elsewhere and raise awareness of the need to create wildflower meadows.

### **What site prep do you need to undertake?**

This will be influenced by the starting conditions. Does fertility need to be reduced? Is the pH acceptable? Are their toxins present? Are the existing plants acceptable/conducive to meadow creation?

What approach will you take towards creation? Over what timescale? Strip back to bare earth or work with what is present? You may adopt a variety of approaches depending on the requirements of different sites.

### **What species do you need to/would like to add?**

Don't waste resources. Select species that are suited to existing site conditions. Select quality seed of known provenance and known quality as this is most likely to successfully germinate.

### **Management and monitoring**

Again, consider the skills and resources that you have available? This may lead to the prioritisation of resources to certain sites and mean a less resource intensive management regime at others.

Monitoring is a crucial part of the successful establishment of meadows and should influence management choices. To get the best from your meadows you need to have flexibility in your management.

Make the most of the opportunities for citizen science. Volunteers can play a major part in monitoring sites and collecting biological data to show that your meadows are making a difference.

### **What happens if it goes wrong?**

Make sure you know where to go for advice?

Be willing to adapt your management regime or plans for the site based on the results of your monitoring.



# Inspiring Meadows

## Summary of the conference presentations

11 expert speakers covered a range of topics relating the creation and management of meadows. Their presentation are available on the [IFLI](#) website. Here is a brief summary:

### **Presentation 1 – The achievements of On the Verge in Stirling.**

**Leigh Biagi**, Chair, On the Verge (OtV)



Introduced OtV which focuses on the creation of wildflower areas through community engagement. This is important for the sustainability of sites.

Briefly covered the reasons for pollinator decline – lack of available food and agricultural changes. This has resulted in pollinators moving to urban environments which was the inspiration for On the Verge.

OtV has encountered two main challenges. First: it can be tricky to establish flowers and keep the community group on board while you wait. Second: annuals v perennials. Annuals are more aesthetically pleasing but we need to persuade the public to love perennials. Stirling University undergraduate research using On the Verge sites showed that perennials offer greater benefits to our biodiversity.

### **Presentation 2 – The importance of soil conditions. The potential for carbon sequestration.**

**Dr David Lawson**, Grassland Agronomist, SRUC



Spoke about the need to consider soil conditions prior to creating wildflower meadows. Stated that ‘the condition of the soil will have a major impact on the ability to successfully create a wildflower meadow’. Important factors include drainage, existing vegetation, fertility, pH and toxicity. Introduced different site preparation methods to overcome some of these issues including soil inversion and topsoil removal to reduce fertility and adding lime to reduce acidity.

Covered the carbon sequestration potential of meadows. It is now realised that soils play a major role in storing carbon. The amount depends on the management as most carbon is stored in root systems. So management that leaves the roots undisturbed and allows a long growing period followed by cut and lift (i.e. meadow management) sequesters most carbon.

Land use	Carbon sequestered kg/ha/yr
Grassland	240 (+/- 200)
Forestry	110 (+/- 4)
Arable	Loses 140 (+/- 100)

Also introduced one potential use for the cuttings. The ProGrass project <http://www.prograss.eu/> is exploring the potential to use cuttings as feedstock for anaerobic digestion systems to produce energy.

### **Presentation 3 – Grow Wild in the UK.**

**Claire Bennett**, Scotland Partnership Manager, Grow Wild/Royal Botanic Gardens Kew



Introduced the Grow Wild project which aims to inspire individuals and communities, bringing them together to transform local spaces by sowing and enjoying native wildflowers. Grow Wild aims to encourage 30 million people to get involved and sow 6.64bn seeds. It also has large scale flagship projects in each country. The England flagship ‘Tale of Two Cities’ is being delivered in Liverpool and Manchester, with a potential 24 ha for cultivation to meadows.

Highlighted that communication is vital. Key stakeholders must be on-board from the outset and the community must buy in to the concept. The high up-front costs are outweighed by the longer term savings.



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## Presentation 4 – Barrhead Water Works, Grow Wild’s Scotland flagship project

Mark Brand, Greenspace officer, East Renfrewshire Council



Introduced the Water Works project to create a new community garden in a disused space. The idea was to work with the ground conditions and structures already on site. The community were heavily involved. Volunteers undertook a lot of work on site and school pupils helped to propagate plug plants and seedlings.

The plants are native but the planting is not always natural. Some large blocks of single species have been planted for aesthetic impact as shown in the image on the right. East Renfrewshire Council are investigating whether wildflowers will encourage investment in the area.



## Presentation 5 – Seed Quality and Local Origin

Giles Laverack, Managing Director, Scotia Seeds



Stated that we have lost most of the lowland meadows in Scotland and lost the experienced people who managed them. We have new reasons for creating them. This is especially true in local authorities which have obligations to manage space for the benefit of the public and have duties to conserve biodiversity and reduce carbon emissions.

Warned us not to get caught up trying to replicate a precise NVC community. Highlighted the importance of non-brightly flowering species, including grasses and plantains for biodiversity.

Management choices must relate to the objectives for having a meadow and should be flexible with the knowledge of people looking after them being critical. We need to develop experience and knowledge among people involved in creating meadows.

Talked about seed origins. A recent study of meadow species showed that **first** there are genetic differences between populations, **second** that the local populations do perform better in terms of flowering and **third** that the insect populations they support are better adapted to the local populations. Also highlighted the need to know the quality of the seed you use, again local provenance is best for successful germination.

Creating meadows is a great way to engage people with the environment at a time when many seem to be separated from it. We are starting to appreciate the health and other benefits. Collecting and sowing seeds are great community projects and even weeding offers opportunities for people to learn about meadows.

## Presentation 6 – Why we need wildflower meadows

Jane MacKintosh, Grassland Adviser, Scottish Natural Heritage



Stated that we have lost 97% of our lowland wildflower meadows since WWII. Those that do remain are small in size and isolated. Only 0.3% of available land is under species rich grassland, so there’s lots of potential for the creation of new meadows.

Spoke about the reasons for decline of priority grasslands; more intensive management and inadequate management, including abandonment.

Introduced the ecosystem services that good quality grasslands provide.



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*Meadow management is incredibly simple.*

*Meadow management is incredibly difficult. Both are true.*

## **Presentation 7 – Meadow creation through changed management. Management of established meadows.** **Dallas Seawright**, Grassland Management Expert



Opened with the above statement, adding 'It is easy to create a meadow but the slightest change in management will alter it in numerous ways.'

Spoke about meadow creation through changed management. The importance of establishing your starting point; test the soils and survey the plants. Introduced the different options for meadow creation and the different timescales they require. Whether starting from bare ground, amenity grassland, rank/degraded or something that is already stunning.

Then spoke about the management of existing meadows. The need to determine what you are managing the meadow for. Is it to make hay, reduce costs, increase biodiversity, maximise aesthetic impacts? Then work out how to get there taking into account the resources and skills available.

Rather than trying to replicate a specific plant community, use the NVC as a shopping list to find species that may thrive on your site. Then touched briefly on the benefits of grazing for meadow management.

## **Presentation 8 – Edinburgh Living Landscapes**

**Alan Bell**, Parks & Gardens Manager, City of Edinburgh Council



Covered the drivers for the Council to be involved in this project – cost savings and enhanced biodiversity. Spoke of the need to convince the community, elected members and Council staff. Staff were the hardest to convince as it goes against 20+ years of keeping grass short. Provided training and a 'How to' guide for all gardeners and briefings to councillors and communities. Placed signage on sites to provide information.

Introduced their online map showing the different management regimes. This is part of an open approach to keep everyone informed and reduce conflict. Very few sites received complaints, only two of 82 have been put back to amenity grass.

The project is looking to change the management of underused open spaces, including relaxed management areas that are cut 1-3 times a year but cuttings left on site. The project is not limited to use of native species, 'floral meadows' have been created in some places.



## **Presentation 9 – Living Landscapes**

**Dr Maggie Keegan**, Head of Policy, Scottish Wildlife Trust



Introduced the ecosystem approach of Living Landscape projects. Raised the question of whether wildflower areas are ecologically connected? Are they functioning as an ecological network with populations interacting and is there genetic sharing?

Touched on management through grazing with the SWT flying flock and herd.



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## Presentation 10 – Get Britain Buzzing, the biodiversity benefits of wildflower areas.

Suzanne Bairner, Conservation Officer, Buglife Scotland



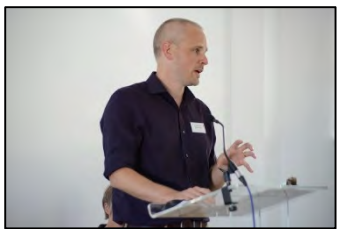
Spoke about the importance of pollinators, worth over £510 million per year to the UK, and the decline that many species are experiencing. Highlighted the problem of honey bees, which are not native, outcompeting our native pollinators for existing food sources. Reiterated the importance of meadows and multiple benefits they provide.

Introduced the Get Britain Buzzing campaign which aims to transform urban mown grassland into meadows. Engaging schools and communities in meadow creation events. In Scotland specific projects have been run through Glasgow's Buzzing and Fife's Buzzing. Surveys over project lifetime identified 139 species at these sites.

Highlighted the biodiversity benefits of meadow over amenity grass, backed by academic research, and native over non-native. Also covered some of the challenges encountered during the project including inappropriate management and public expectations.

## Presentation 11 – Closing remarks

Guy Harewood, Sustainable Development Senior Officer, Stirling Council



Provided a closing summary. Restating that the aim of the conference was to inspire the delegates and encourage the creation of meadows across Scotland.

Reiterated the many benefits that meadows provide and the few disadvantages the speakers had encountered. Reminded everyone that the creation and proper management of wildflower meadows has the potential to significantly contribute to the delivery of public body duties on biodiversity and climate change. And closed by quoting both Mark Brand and Dallas Seawright:

*Try it, people get it*

## List of case studies provided to delegates

To complement the speakers and their presentation's the following case studies, copies of which can be found on the [IFLI](http://www.innerforthlandscape.co.uk) website, were provided to the delegates:

- Edinburgh Living Landscapes
- Fife's Buzzing
- The Coronation Meadows Project
- Keeping the Wild in Wildflower
- On the Verge
- Barrhead Water Works
- Keep the Buzz in Leighton Buzzard
- Business and biodiversity - managing greenspace in and around business premises

These case studies highlighted just some of the meadow creation and management projects that are happening across the country. There are many more examples that could have been included.

For more information contact: Guy Harewood, Stirling Council, [harewoodg@stirling.gov.uk](mailto:harewoodg@stirling.gov.uk), 08452 777 000 or visit <http://www.innerforthlandscape.co.uk/events/cal/93-inner-forth-festival-2015/139-inspiring-meadows>

Conference images kindly provided by Duncan C Clark.

