



# **PlantNetwork**

## **The Plant Collections Network of Britain & Ireland**

**Training Day**

**Wildflower Meadow Conservation:  
a botanic garden perspective**

13th July 2016

Wakehurst Place

**#meadowtraining**

**@plantnetwork**



# PlantNetwork

The Plant Collections Network  
of Britain & Ireland

**PlantNetwork** is the national network of botanic and heritage gardens and arboreta and other documented plant collections

- promoting botanical collections in Britain and Ireland as a national resource for research, conservation and education
- facilitating networking and training among holders of plant collections through a programme of conferences and workshops and a regular newsletter.

*Chairman: Simon Toomer*

*Vice-Chair: Faye Steer*

*Hon. President: Dr Matthew Jebb*

## Contact details

*Pamela Smith PlantNetwork Administrator*

PlantNetwork PO Box 17016. BIRMINGHAM, B30 9EY

*office@plantnetwork.org T: 0121 6797430*

**[www.plantnetwork.org](http://www.plantnetwork.org)**

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Edited by Pamela Smith

# Programme

- 9.30 - 10.00** Registration in the Visitor reception
- 10.00 - 10.15** Welcome and introduction Millennium Seed Bank Seminar Room  
Iain Parkinson, Conservation Manager
- 10.15 - 11.00** Presentation: Meadows at Wakehurst Millennium Seed Bank Seminar Room  
Iain Parkinson, Conservation Manager
- 11.00 - 12.30** Site Visit: Bloomers Valley Meadow – Meadow creation under Higher Level Stewardship
- 12.30 – 13.30** **Lunch**
- 13.30 – 14.30** Site Visit: Native Seed Hub Site – Preservation, use and multiplication of high quality seed samples  
Jo Wenham, Plant Propagation Manager  
Chris Cockle, UKNSH Project Manager UK
- 14.30 – 16.15** Site Visit: Home Farm, West Field – Creation of a Coronation Meadow  
Iain Parkinson, Conservation Manager  
Dr Margaret Pilkington, Emeritus Senior Lecturer, University of Sussex.
- 16.15** Summary of discussions
- 16.30** Close

All presentations from our training and conferences are shared through our website. [www.plantnetwork.org](http://www.plantnetwork.org). Our website search facility also allows you to find previous newsletter articles, presentations and downloads.

# Facilitator Biographies

## **Iain Parkinson, Conservation and Woodlands Manager, Wakehurst Place**

Responsible for managing Wakehurst's unique tree collections, nature reserves and woodlands. Iain has worked at Wakehurst for the past 28 years helping to restore the tree collections following the Great Storm in 1987. He has a particular interest in traditional woodland management and more recently has been involved in restoring and creating a suite of quintessential Wealden meadows across the Wakehurst estate. He enjoys the challenge of developing the botanic tree collections whilst protecting the inherent natural beauty of Wakehurst.

## **Jo Wenham, Plant Propagation and Conservation Manager, Wakehurst Place**

Jo studied a BSc degree in Land based enterprises, before joining Kew Jo worked in the commercial nursery sector for 6 years. Jo is responsible for managing the nurseries, parterres, UK Seed Hub production site and Children's Heritage Garden at Wakehurst. The Wakehurst's nursery grow thousands of plants for the Botanical collections and the Millennium seedbank. Jo has a particular interest in plants species from the southern hemisphere and has travelled to Tasmania, North America and Chile to collect seed. Jo also started Kew's project group which aims to collect and bank Kew and Wakehurst's own living collections. Jo has recently developed the Children's Garden at Wakehurst inspired by her two little boys Elliott and Alfie.

# Millennium Seed Bank Technical Information Sheets

A collection of technical information sheets produced by Millennium Seed Bank staff, covering various aspects of seed conservation practices and facilities. These are aimed at practitioners already working in seed conservation, although they are also used as resource materials in our training courses with university groups and to provide detailed information to visitors of the seed bank. The following sheets are available:

1. Protocol for comparative seed longevity testing
2. Assessing a population for seed collection
3. Seed collecting techniques
4. Post-harvest handling of seed collections
5. Measuring seed moisture status using a hygrometer
6. Selecting containers for long-term seed storage
7. Low cost monitors of seed moisture status
8. Small-scale seed drying methods
9. Equilibrating seeds to specific moisture levels
10. Identifying desiccation-sensitive seeds

11. Seed bank design - seed drying rooms
12. Seed bank design - cold rooms for seed storage
13. Not yet published
14. Cleaning seed collections for long-term conservation

**<http://www.kew.org/science-conservation/research-data/resources/millennium-seed-bank-resources>**

## **Kew's UK Native Seed Hub**

The UK Native Seed Hub aims to enhance the resilience and coherence of the UK's ecological network by increasing the quality, quantity and diversity of native wild flower plants and seeds available for conservation and habitat restoration.

### **We do this by:**

- providing high quality UK native plant material for conservation and habitat restoration
- supporting UK native seed and plant producers, conservationists and others through the provision of training, technical advice and research

- building awareness and demand for best practice habitat restoration and conservation using high quality UK native plant materials

<http://www.kew.org/business-centre/welcome-uk-native-seed>

## The Global Seed Conservation Challenge (GSCC)

A major new initiative of BGCI. The GSCC will increase the contribution of botanic gardens towards the Global Strategy for Plant Conservation (GSPC) which seeks to halt the continuing loss of plant diversity.

Target 8 of the GSPC calls for '**75% of threatened plant species in *ex situ* collections, preferably in the country of origin and at least 20% available for recovery and restoration programmes**'. The Convention on Biological Diversity's mid-term review of the GSPC highlighted that more needs to be done if the 2020 targets are to be achieved.

*Ex situ* collections of plant species act as an insurance against extinction in the wild while being available for research, reintroduction and restoration. Botanic gardens are the main institutions involved in *ex situ* conservation of threatened species with nearly one third of all known plants grown in botanic gardens.

More than 400 botanic gardens worldwide are banking seed for conservation.

The GSCC seeks to highlight and commend the progress achieved by the botanic garden community in *ex situ* seed conservation. All gardens that actively contribute to *ex situ* seed conservation are making progress towards the ambitious objectives of Target 8 and are therefore participating in the GSCC.

## **How can you participate?**

### Share data

- Upload seed data to PlantSearch.  
[http://www.bgci.org/plant\\_search.php](http://www.bgci.org/plant_search.php)

### Promotion

- Send us your seed banking stories;
- Enter the seed banking competition.

### Conservation

- Collect and conserve seed from more threatened species.

## **How is BGCI contributing?**

### Training

- Organise training courses on seed conservation;
- Provide resources on seed banking;

- Support capacity building according to priorities.

### Review and reporting

- Collate information on *ex situ* seed collections;
- Baseline study and gap analysis of current seed banking activities within the global botanic gardens network;
- Work towards a major review of seed banking efforts which will be reported on at the 6th Global Botanic Gardens Congress.

### Prioritisation

- Provide information on which species are not represented in *ex situ* collections;
- Determine priorities for collection.

### Promotion

- Highlight stories/news from botanic gardens on seed conservation;
- Award prizes for seed conservation at the 6th Global Botanic Gardens Congress.
- Set intermediary seed collecting targets and challenges.

**[www.bgci.org](http://www.bgci.org)**

# Coronation Meadows

In 2012, Plantlife published *Our Vanishing Flora*, a report highlighting the loss of wild flowers from individual counties across Great Britain since the Coronation. In his foreword for the report, Plantlife's Patron, HRH The Prince of Wales called for the creation of new wild flower meadows, at least one in every county, to celebrate the 60th anniversary of the Coronation.

The Coronation Meadows Project, led by Plantlife and in partnership with The Wildlife Trusts and the Rare Breeds Survival Trust, is working to achieve this goal by:

**i) Celebrating our surviving meadows** - identifying a flagship Coronation Meadow in each county in Britain. These “jewels in the crown” are places where people can enjoy a riot of colour and an abundance of wildlife in settings that have remained largely unchanged since the Coronation.

**ii) Creating new meadows** at ‘recipient’ sites in the same county, using the Coronation Meadows as source or ‘donor’ meadows to provide seed. In this way, new Coronation Meadows will be created, increasing the area of this valuable habitat, providing new homes for bees, butterflies and other pollinators and helping to secure our wild flower heritage for the next 60 years and beyond.

**iii) Encouraging people to discover meadows** local to them; to visit and enjoy them, celebrate their beauty, recognise their importance and to get involved with their conservation. The

project will work with a wide range of partners, land owners and managers, conservation organisations and volunteer groups.

**Coronation Meadows** are outstanding examples of our remaining meadows, rich in a wealth of flowers and able to be held up as the flagship meadow for the county. They will typically be semi-natural grasslands resulting from natural regeneration, managed with low-key and traditional methods and full of local character and identity. The meadows are selected by the project technical group having been assessed and verified against the project criteria.

**Recipient Meadows** are specially selected grassland sites located in the same county as the donor Coronation meadow from which they will receive seed. They are selected by the project technical group and verified against agreed criteria to ensure that they are suitably representative of the habitat type, conditions and geographical area exhibited by the donor meadow in order that they stand the best chance of thriving and are conserved for the future through sympathetic management.

**Peoples Meadows** are suggested by members of the public as their favourite places to see meadow wild flowers. They encompass a range of sites; many with public access, some historic and others modern. Whilst the submissions are not verified against the criteria of this project they remain valuable places for people to enjoy our wonderful flora.

The Coronation websites include downloadable wild flower identification resources. <http://coronationmeadows.org.uk/>



Meadows and other species-rich grasslands are an intrinsic part of the UK's natural and cultural heritage - rich in landscape character, farming, folklore and history, they are as much a part of our heritage as the works of Shakespeare.

The UK's remaining species-rich grasslands now cover a minute fraction of the area they once covered, even relatively recently in the early 20th Century. There were once natural wildflower meadows in every parish – today only 2% of the meadows that existed in the 1930's remain. Nearly 7.5 million acres of wildflower meadow have been lost so far and they are still being destroyed. Of those that do survive, around 75% occur in small fragments and remain vulnerable to destruction.

Meadows and species-rich grasslands can support a huge range of wildlife including wildflowers, fungi, bees, flies, beetles, spiders, moths, butterflies, reptiles, amphibians, small mammals, bats and birds. In the UK, more priority species (for conservation attention) are associated with grasslands than with any other habitat type. Only 1% of the UK's land area now supports species-rich grassland and only 2% of the UK's grasslands are species-rich. Species-rich grasslands also provide other environmental benefits including carbon storage, water retention to prevent flooding and habitat for crop pollinators, they are also archaeologically important.

Culturally speaking grasslands have a long history of inspiring artists and writers such as Constable and Shakespeare, they are

the landscape setting for many of our most important historical battles, village greens have long been the hub of rural community life, and many a common day phrase take their origin from grasslands..."off to pastures new" and "chalk and cheese".

The decline and loss of meadows and species-rich grasslands is without parallel in the history of nature conservation in the UK. What had been a widespread and ubiquitous part of agriculture and people's daily lives, disappeared altogether in the space of a single generation. Six million acres of grassland was ploughed to grow cereals during the Second World War and this started a process which would see the area of lowland meadows decline by 97% in the following 40 years. Other species-rich grasslands met a similar, albeit marginally less catastrophic, fate.

Save Our Magnificent Meadows will help address the current absence of public awareness of the importance and plight of meadows and species-rich grasslands.

**Save Our Magnificent Meadows** is the UK's largest partnership project transforming the fortunes of vanishing wildflower meadows, grasslands and wildlife.

- Targeting just under 6,000 hectares of wildflower meadows and grasslands in nine strategic landscapes across the UK
- Giving people all over the UK the chance to visit, enjoy and learn about our wildflower meadows and grasslands
- Raising awareness of the desperate plight of wildflower meadows and grasslands and equipping communities with the knowledge and skills to reverse this devastating trend.

Led by Plantlife, the partnership is made up of 11 organisations and is primarily funded by the Heritage Lottery Fund.

There are four common methods of restoring or recreating a wildflower meadow:

- natural regeneration - best if the area you wish to restore is adjacent to a species-rich grassland
- using green hay - best if sites lie within close proximity (within an hour's drive)
- using brush-harvested seed - is best if it is available and from a local site
- using a wildflower mix - good in situations where none of the others are available or wildflowers tolerant of higher nutrient levels are required.

Try to keep the wild in wildflower by making sure that whichever seed source used is as local to the site as possible. Management is the key to successfully establishing and maintaining a wildflower meadow and long-term planning should always be undertaken before any seed is introduced.

The Magnificent Meadows website includes resources and guidance notes, including:

- What type of meadow do I have?
- How can I manage my meadow?
- Is my land suitable for restoring or creating a meadow?
- How can I restore or create a meadow?
- How can I fund my meadow restoration?
- How can I protect a meadow?
- Technical information for advisers

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

# Useful Contacts & Links

## Management, restoration and recreation of meadows and grasslands

- The Wildlife Trusts
- Plantlife
- Floodplain Meadows Partnership
- High Nature Value Farming
- Farm Wildlife
- Landlife

## Meadows Groups

- Carmarthenshire Meadows Group
- Monmouthshire Meadows Group

## Other meadow projects

- Coronation Meadows
- Hay Time

## Livestock

- Rare Breeds Survival Trust
- Grazing Animals Project
- PONT (Pori, Natur a Threftadaeth – Grazing, Nature and Heritage)

## **Conservation Bodies**

- Buglife
- Butterfly Conservation Trust
- Bat Conservation Trust
- European Forum on Nature Conservation and Pastoralism
- Plantlife
- RSPB
- The Wildlife Trusts
- British Mycological Society
- BSBI

## **NOTES**



