



Growing local wildflowers in NE Scotland seed collecting and sowing

prepared by John Malster - 2022



Introduction

Why wildflowers?

Wildflowers are a key part of our biodiversity. They provide food for many other species, including insects which in turn provide food for many other species and pollinate our crops. While species like butterflies may lay their eggs on non-native wildflowers, there is growing evidence that survival of juveniles is then much less. Below ground their relationship with mycorrhizal fungi is important both in terms of soil biodiversity, soil fertility and carbon storage.

You may think that NE Scotland has plenty of wildflowers and wildflower habitat. In fact a study by Plantlife revealed Aberdeenshire (north) to have had more local extinctions than anywhere else in the UK.

Why local?

There are likely to be distinct genetic differences between local populations of the same species, especially in the shorter lived species. NE Scotland is a distinct area of the country, both geographically and in terms of the local climate, so seed not collected locally may produce plants with poorer survival rates.

Ideally all seeds and other material for use in the North East should be collected in the North East, remember that local flowers are more likely to be suited to our conditions and will flower and bud at the best times for our insects.

Why collect your own?

It is not generally possible to buy true local provenance; certainly not from large suppliers. Involving children can be a valuable educational activity, and a fun family or community group activity..



The Challenges

All stages of growing your own local wildflowers can present challenges. When seeds fail to germinate, we tend to think we have done something wrong. That may be the case, but often it is factors beyond our control - even for the most experienced. Best advice is to try and, if necessary, try and try again.

Getting started

Most of us have wildflowers in our local areas, start off by collecting one or two species. Peat-free compost and some seed trays or similar containers are all that is required once you have some seed. For complete novices and those working with children I recommend starting with easy species. Red Campion, is easy to collect and pretty well guaranteed to germinate. More experienced wildlife gardeners or a bigger scale of growing might want to plant in a seed tray in a mix of peat-free compost, sharp sand and vermiculite (roughly a third each). Seedlings can then be pricked out and grown on in suitable pots or if you have them root trainers. Have a look at our facebook page for [sharing seed and plants](#) and [for general wildlife gardening tips and discussion](#). Please join in and post. The [NESBiP web site](#) also has some great information on different ways of approaching this including previous presentations.

The Process

Collecting seed

Where to go

Most local nature reserves and country parks have suitable areas. Road verges have some good patches (recommend wearing a high visibility vest).

Try to collect from large populations, thus reducing the chance of problems caused by inbreeding.

Collect no more than 20% of the seeds available.

When to go

The best time of the year to collect for each species is covered in the text. Try to collect on sunny dry days. Afternoons are generally a good time as the seeds will be at their driest. However, for species that fling their seed, such as the Cranes-bills, I find collecting in the forenoon can be more successful.

Equipment

Cloth bags, paper bags and old envelopes are ideal for putting the seed in as you collect as plastic bags will retain moisture and make rotting more likely.

Which species are included and which excluded?

Rare species, such as several orchid species have not been included as it is not appropriate to encourage collection of their seed as a general rule. Bluebell or Wild Hyacinth is not included as there is a legal requirement to acquire a license before collecting.

Invasive non-native species have also been excluded for obvious reasons. Very common species that are widely regarded as “weeds”, such as Broadleaved Dock, Creeping Thistle, Goose-grass (Sticky Willie) and Nettle have been excluded, although they all can be valuable for biodiversity, especially Nettle.

The third group that are excluded consists of annuals of disturbed habitat: once known as arable weeds. This includes Cornflower, Corn Marigold, Corncockle and Poppy, unlike true meadow plants, growing these species is not sustainable.



When to sow

Sow in spring or autumn as seeds may have specific requirements that are listed below. Spring sowing can begin as soon as the soil starts to warm up. Sowing after May will require taking extra care so the soil doesn't get too dry. Autumn sowing gives plants the advantage of an early start in spring but the disadvantage of early seedlings being vulnerable to frost. Different seed treatments needed are included below for example vernalisation is for seeds requiring a cold period in the soil before they germinate - these seeds should be sown in autumn. If you have failures, try sowing some seed in Spring and some in Autumn.

The Species - our top 10 for starters

Species	Information
Bird's-foot Trefoil - <i>Lotus coniculatus</i>	Pick the "bird's foot" of seed pods once it has turned brown in late summer. A bit of a fiddle, extracting the seeds from the pods, but worth it!
Cowslip – <i>Primula veris</i>	Wait until the seed case is open and collect the black seeds in August. Sow in autumn/ early winter.
Hardheads, Knapweed - <i>Centaurea nigra</i>	Pick the seed heads late August and September. Seed heads remain in place until well into the winter, but collect them before the seeds have all been eaten by the birds, especially finches. Pluck off the top of the seed head and look for the cream coloured seeds. Store until the spring.
Kidney Vetch – <i>Anthyllis vulneraria</i>	Collect the fluffy light brown seeds in June. Sow in spring when there is normally a good germination rate.
Ragged Robin – <i>Silene flos-cuculi</i> (formerly <i>Lychnis flos-cuculi</i>)	Shake seeds out of pods when ripe. Usually I store and sow in the spring.
Red Campion – <i>Silene dioica</i>	Collect the ripe black seeds in June. Try to avoid crushing the caterpillars of the Campion moth that live in the pods. Sow seeds thinly immediately or in the spring.
Selfheal – <i>Prunella vulgaris</i>	The nut-like dark brown seeds can be tipped out of the brown seed cases after flowering at the end of the summer.
Sweet Cicely – <i>Myrrhis odorata</i>	Collect the seeds once they have turned to a light brown colour in July/Aug.
Wood Sage – <i>Teucrium scorodonia</i>	Collect the brown seed heads in late summer/autumn. Store and sow in spring.
Yellow Flag Iris – <i>Iris pseudocorus</i>	Collect when the large green seed cases are turning from green to brown in autumn. Sow into very damp peat-free compost.



Additional species for more variety

Species	Information
Autumnal Hawkbit – <i>Leontodon autumnalis</i>	Similar seed heads to Cat's-ear, but these come later in late August to September. After collection store until spring.
Betony- <i>Stachys officinalis</i>	September is a good month to collect these seeds. Collect the spiky seed heads and shake out the brown seeds. Sow in spring.
Bittersweet – <i>Solanum dulcamara</i>	After collecting the ripe red berries in late summer/autumn, mash them up in order to extract the cream coloured seeds. Plant the seeds immediately or in spring.
Bloody Crane's-bill – <i>Geranium sanguineum</i>	As for Meadow Cranesbill, except seeds appear later in late Aug./Sept.
Branched Bur-reed - <i>Sparganium erectum</i>	Although seeds can be collected in late summer, I have found it easier to collect the new plants grown from underground runners.
Brooklime – <i>Veronica beccabunga</i>	Some success with seed but usually easier to reproduce vegetatively.
Bulbous Buttercup - <i>Ranunculus bulbosus</i>	Seeds are easy to collect in late June/July. Similar to Meadow Buttercup in most respects, but seems to have a much lower germination rate from my limited experience with this species.
Burdock – <i>Arctium nemorosum</i>	It is useful to wear gloves when extracting the seeds from the prickly seed-heads. Sow early enough in winter to allow a period of frost chilling.
Bush Vetch – <i>Vicia sepium</i>	Collect seed pods once they have turned black. Then as for Tufted Vetch.
Carlina Thistle – <i>Carlina vulgaris</i>	Collect the prickly seed heads in July. Store seeds and sow on in spring.
Cat's-ear – <i>Hypochaeris radicata</i>	The fluffy seed heads usually appear in late June and July. Store and sow in spring.
Clustered Bellflower– <i>Campanula glomerata</i>	The ripe seed heads should be collected in August or early September. Store and sow in spring.
Comfrey – <i>Symphytum officinale</i>	Collect the dried out seed cases in July and August. Sow in spring.
Common Dog-Violet – <i>Viola riviniana</i>	Ripe seeds can be found any time between June and October. Sow seeds in autumn or early winter allowing time for the seed coat to be broken down by frost.
Common Figwort - <i>Scrophularia nodosa</i>	You can shake the dark seeds out of the light brown seed cases in late summer and early autumn.



Common Rock-rose - <i>Helianthemum nummularium</i>	Collect ripe seed pods in Autumn and sow the relatively large light brown seeds immediately or before the winter's end.
Common Sorrel – <i>Rumex acetosa</i>	As for Sheep's Sorrel.
Common Toadflax – <i>Linaria vulgaris</i>	Collect the small, brown seeds from the pale seed cases, soon after the flowers have died from August to September. Store and sow in spring.
Cow Parsley – <i>Anthriscus sylvestris</i>	Collect seeds once they have turned black in late summer. Sow in autumn or winter.
Crow Garlic - <i>Allium vineale</i>	A somewhat unusual species that in August to September produces bulbils rather than seeds. The bulbils can be stored and sown in spring.
Cuckoo Flower – <i>Cardamine pratensis</i>	I have found collecting seeds from this species very difficult as they tend to be ejected as soon as they are ripe. I remove leaflets in the spring and which when left in water will produce roots and ultimately small plants.
Dandelion – <i>Taraxacum officinale</i>	The familiar fluffy seed heads are at their most numerous in May and early June. Easy to pluck and sow immediately or the following spring.
Devil's- bit Scabious – <i>Succisa pratensis</i>	Collect the pale brown seeds in August at a time when you can see the seed head starting to disintegrate. Sow immediately or store to the following spring. The seeds do not remain viable for much longer than this.
Enchanter's Nightshade – <i>Circaea lutetiana</i>	Collect the seeds of this woodland plant in July and August by stripping them off the stem. Plant immediately in damp compost.
Enchanter's Nightshade - <i>Circaea lutetiana</i>	Collect the light brown seeds in September. Sow in autumn. Probably best to plant in the same season as these young plants do not seem to last long in "captivity".
Field Scabious – <i>Knautia arvensis</i>	The seed heads can be collected in late summer. This is a species I have found difficult and can only recommend sowing half the seeds immediately and storing the rest for spring sowing.
Foxglove - <i>Digitalis purpurea</i>	September is a good month to collect the dark brown seed cases. The tiny, brown seeds can be sown in spring.
Germander Speedwell - <i>Veronica chamaedrys</i>	Collect the seed heads from June onwards. Store and sow in spring.
Giant Bellflower – <i>Campanula latifolia</i>	Collect the seed heads once they have turned fully brown in late Aug./Sept. Carefully extract the very tiny seeds and store before sowing in spring. Ensure the germinating seeds are kept in a high humidity environment.



Great Hairy Willowherb – <i>Epilobium hirsutum</i>	Once the seed pods are beginning to open and looking fluffy, collect and store until spring.
Great Mullein – <i>Verbascum thapsus</i>	Once the flowers have died back, shake out the tiny seeds from the old flower heads. Store until spring.
Great Pond Sedge – <i>Carex riparia</i>	Seeds can be collected in June, but this is another wetland species which is easier to grow from young plants growing from the runners.
Great Willowherb, Codlins and Cream - <i>Epilobium hirsutum</i>	Pick off the seed pods as they are splitting to release the feathered seeds. September is the time to look out for this. Store and sow in spring.
Greater Bird's-foot Trefoil – <i>Lotus pedunculatus</i>	As for Bird's-foot Trefoil, but ripens later in September.
Greater Spearwort - <i>Ranunculus lingua</i>	Seeds can be picked when still green in late summer/autumn. However, results are more guaranteed by vegetative means, i.e. take on or two plants from a large group.
Greater Stitchwort – <i>Stellaria holostea</i>	Collect seeds when they start to turn brown in mid summer. Few seeds may be found as they shed very readily when ripe. Sow in autumn. I am experimenting with stem cuttings to see if they can be successfully rooted. Looking promising so far.
Ground Ivy – <i>Glechoma hederacea</i>	This species spreads rapidly by runners and the easiest method of propagation is to relocate the young plants after snipping the runner.
Hairy St.-John's-wort - <i>Hypericum hirsutum</i>	As for the other species of this family.
Harebell– <i>Campanula rotundifolia</i>	The seeds can be collected in late summer/autumn. Sow in spring.
Hedge Bedstraw – <i>Galium mollugo</i>	Collect the numerous seeds once they have turned black in late summer. Sow in spring.
Hedge Garlic – <i>Alliaria petiolata</i>	Collect seed pods in early summer. Remove the seeds and sow in autumn.
Hedge Woundwort - <i>Stachys sylvestris</i>	Collect seeds from late summer onwards and sow in autumn/early winter. Like its relative, I find this to be another difficult species. Hopefully, you will have more success!
Herb Robert – <i>Geranium robertianum</i>	Pick seed pods once they have turned red in August/ Sept. store seeds and sow in autumn/early winter.
Hogweed – <i>Heracleum sphondylium</i>	Very large light brown seeds can be collected in August to September. Sow in autumn or early winter.
Hybrid Avens – <i>Geum x intermedium</i>	Unsurprisingly, this naturally occurring hybrid sets seed midway between Water and Wood Avens, July/Aug. Store and sow in spring.



Lady's Bedstraw– <i>Galium verum</i>	Perhaps because of my impatience, it always seems to be an especially long wait for the seeds to ripen and go black. Collect the tiny black seeds and sow in spring.
Large Bittercress* - <i>Cardamine amara</i>	Closely related to Cuckoo Flower and similarly difficult to collect seed. Any seed collected should be stored and planted in spring. A difficult plant to establish, but I have found it will soon increase once established. *I think Marsh Bittercress might be a much more appropriate name.
Lesser Celandine - <i>Ranunculus ficaria</i>	Growing from seed is not really a viable option. Best done vegetatively using small bulbils.
Lesser Meadow-Rue – <i>Thalictrum minus</i>	Seeds collected in autumn and planted in spring, with only a low rate of germination.
Lesser Stitchwort – <i>Stellaria graminea</i>	Look for the light brown seed heads in late Aug/Sept. Sow in autumn.
Marjoram – <i>Origanum vulgare</i>	Collect the dark brown seeds once they have gone brown in autumn. Sow in spring.
Marsh Bedstraw– <i>Galium palustre</i>	Collect the tiny seeds in mid-summer or grow from vegetative cuttings.
Marsh Cinquefoil – <i>Potentilla palustris</i>	Collect the seeds in July, once they have become a lovely dark red colour. Sow in spring.
Marsh Marigold – <i>Caltha palustris</i>	Collect when seed case opens in early summer. Can be sown immediately or stored.
Marsh Woundwort - <i>Stachys palustris</i>	Collect the round black seeds in late summer and sow some immediately. Try some in spring too. I have found this to be a difficult species with very poor germination.
Meadow Buttercup – <i>Ranunculus acris</i>	Collect the green seeds in July – August. Sow seeds immediately. Seeds can be stored, but the hardened seed coat takes a long time to break down (up to 3years). Young plants can be left in seed tray for up to a year. Once pricked out plant in root trainers and then plant out that season.
Meadow Crane's-bill – <i>Geranium pratense</i>	The purpose of the "cranes bill" on the seed pods is to fling the ripe seeds as far as possible. So we need to collect the seed when it is ripe, but before it is catapulted away. I have experimented with cutting the "cranes bill" before the seed is ripe in order to disable the catapult mechanism. This proved to be time consuming, so now I collect the seed when the pod is brown on damp mornings. I store the large black seeds, collected in July-Aug and sow in the spring.
Meadow Vetchling - <i>Lathyrus pratensis</i>	Collect seed pods once they have turned a shiny back colour.



Meadowsweet – <i>Filipendula ulmaria</i>	Collect the dark brown seeds in autumn. Sow in the spring, although not usually a high rate of germination.
Melancholy Thistle – <i>Cirsium helenioides</i>	Collect the fluffy seed heads after flowering in mid-summer. Try sowing in autumn and spring. I find it has a very low germination rate and have taken young plants from root suckers in the garden.
Mouse-ear Hawkweed - <i>Hieracium pilosella</i>	Small seed heads on a small plant can be found in mid-summer. Collect the seeds and sow in spring.
Mugwort – <i>Artemisia vulgaris</i>	The seeds can be collected in autumn and may stay on the plant into the winter. They can be planted immediately, but probably best stored until spring.
Northern Marsh Orchid – <i>Dactylorhiza majalis</i>	Collect the seed heads at the end of July/August. Seeds are like dust. Usually planted in spring, but can be years before any germination occurs and then only small numbers.
Ox-eye daisy – <i>Leucanthemum vulgare</i>	Collect the seeds when the seed heads have turned dark brown in late summer. Store and sow in spring.
Pendulous Sedge – <i>Carex pendula</i>	There are many seeds on each seed head. Strip the light brown seed heads in late summer. Store and sow in spring.
Perforate St-John's-wort – <i>Hypericum perforatum</i>	Collect seed heads once they have turned brown in late summer/early autumn. Store and sow in the spring.
Pignut – <i>Conopodium majus</i>	Collect the small dark red seeds in July/August. Sow in autumn/early winter. Does not do well being planted on in spring. I have found this species does not do well being planted on in root trainers. Best to sow in pots and allow them to grow large in situ.
Primrose – <i>Primula vulgaris</i>	Look for the light yellowish seed cases from the end of July. The seed cases are often hidden under the plant's leaves and can be difficult to find. Usually I would plant the ripe brown seeds to catch the winter frosts. It is reported that collecting the green seeds and planting immediately can result in germination in the same season. I have tried this once with no success, but may be worth trying again.
Purple Loosestrife - <i>Lythrum salicaria</i>	Collect the brown seed cases from September into October. Sow in spring – usually expect low germination rate.
Ramsons - <i>Allium ursinum</i>	Seed heads can be plucked from end of May-June. Try planting immediately.
Red Clover - <i>Trifolium pratense</i>	Collect dark brown seed clumps in late summer/autumn. Sow immediately or store until spring.
Ribwort Plantain (Carl Doddies) – <i>Plantago lanceolata</i>	A common species that, surprisingly I have found difficult to grow with a very low germination rate. Collect the ripe brown seeds in mid to late summer. Try planting immediately or at least before the end of winter.



Roseroot – <i>Rhodiola rosea</i>	As the yellow flowers of June fade into the light brown seeds, look for this species in damp patches on our sea cliffs. Please exercise extreme caution on the cliffs.
Scots Lovage – <i>Ligustum scoticum</i>	Collect seeds at end of July / beginning of August when they are changing from green to light brown. Sow in spring. I have generally found quite a low germination rate for this species.
Scurvy Grass – <i>Cochlearia officinalis</i>	When the seed pods go from green to light brown, collect and store until sowing in spring.
Sea Campion – <i>Silene maritima</i>	Collect seed pods in mid-summer. Sow immediately or save until spring. According to folklore this plant should not be picked as it is said to bring death: so far so good, but it will be right in time!
Sea Plantain– <i>Plantago maritima</i>	The light brown seeds can be stripped off the seed heads in late summer. Store and sow in spring.
Sheep’s Sorrel – <i>Rumex acetosella</i>	Small red seeds can be collected in July. Sow in spring.
Slender St-John’s-wort - <i>Hypericum pulchrum</i>	As for the Perforate species, but generally more difficult with fewer seeds and a lower germination rate.
Tansy – <i>Tanacetum vulgare</i>	Once the seeds have turned dark brown, they are ready for collection. The seeds store well and can be sown in spring; however they tend to have a very low germination rate.
Teasel – <i>Dipsacus fullonum</i>	Once flowering is complete, shake the seeds out of the head of the plant. Can be stored until spring.
Thrift – <i>Armeria maritima</i>	Collect the fluffy, light grey seeds in late summer and store until spring.
Tormentil - <i>Potentilla erecta</i>	Pick off the seeds in autumn and sow before the end of winter.
Tuberous Comfrey - <i>Symphytum tuberosum</i>	Once the creamy yellow flowers have died back in June, the seed heads can be collected. This, like many woodland species. Spreads mainly vegetatively and it might be easiest to take root cuttings from established clumps.
Tufted Vetch – <i>Vicia cracca</i>	Seeds are ready for collection when the pods have turned a light brown. Store until spring and then scarify seeds before sowing.
Valerian <i>Valeriana officinalis</i>	As flowering ceases, the feathery seeds soon develop and can be plucked off the top of the plant. Seeds can be stored and sown. My experience is that there is a low rate of germination.
Water Avens – <i>Geum rivale</i>	The first of the Avens to flower and seed. The fairly soft , light brown seeds will easily come away in your hand once they are ready. This is usually in late June/early July. Store and sow in spring.



Water Forget-me-not – <i>Myosotis scorpioides</i>	This species produces large numbers of young plants in the spring which are produced vegetatively from the old runners of last. Collecting some of these is the easiest method. If seed is collected sow in autumn.
Water Mint – <i>Mentha aquatica</i>	As with most pond margin species, it is easier to propagate this species by pinching off new growth in spring. If seeds are collected, sow immediately.
Watercress - <i>Rorippa nasturtium aquaticum</i>	Easiest way to increase Watercress is by vegetative means; cut off sections of stems and leaves which should then grow as new plants.
White Campion – <i>Silene alba</i>	Collect the ripe brown seeds in August/September and either sow immediately or in the spring.
White Clover – <i>Trifolium repens</i>	Collect seed when it has turned brown in late summer and sow immediately or in spring.
Wild Angelica - <i>Angelica sylvestris</i>	Collect the large light brown seeds in late summer. Sow in spring.
Wild Thyme – <i>Thymus vulgaris</i>	The pale brown seeds appear in late summer. Sow in spring.
Wood Anemone - <i>Anemone nemorosa</i>	Seed is not often viable. <u>With land-owners permission</u> , digging up a few plants from a large population could be effective as they will then spread by their roots.
Wood Avens – <i>Geum urbanum</i>	This is the last of the Avens to flower; seeds can be collected in Sept-Oct. Once they have turned dark brown. The seeds feel harder than those of Water Avens. Store and sow in spring.
Wood Forget-me-not - <i>Myosotis sylvatica</i>	Seeds are ready to collect from mid June onward. These can be planted immediately or stored until spring.
Wood Sorrel – <i>Oxalis acetosella</i>	I have had no success growing from seed. Probably best to take small number of plants from healthy populations.