



THE CALEDONIAN GARDENER 2022

**Journal of the Royal Caledonian
Horticultural Society**


The Caley



Top left: *Meconopsis quintuplinervia*; Top right: *M. 'Marit'*. Middle left: *M. 'Strathspey'*; Middle right: *M. baileyi*. Bottom left: *M. 'Barney's Blue'*; Bottom right: *M. 'Slieve Donard'*. © Ian Christie.

THE CALEDONIAN GARDENER 2022

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and Pam Whittle assisted with this issue



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Cover: *The Caley's new treasurer Max Leslie in the teaching garden at Saughton Park. © Pam Whittle.*

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Foreword

This past year has again been challenging and I want to thank all in the Caley who have kept things on an even keel, especially our work at Saughton Park, Grow & Learn and Grow & Learn in Nature, organising talks, Dig Days, Saughton Sundays, the Caley's foray down to Harrogate in September, keeping the Caley Allotment productive and pulling together Preview and this Caley Journal. Thanks also to the Caley Council members, the support given by Hon Presidents and Vice Presidents and last but, by no means least, the Caley administrator, Julie Muir. She keeps us all on track and under control! A big word of thanks also goes to our outgoing Treasurer, Neil Woodcock, who will be stepping down at the AGM in March 2022.



Colin at Saughton. © Julie Muir.

The Caley mission continues to be to encourage gardening and tell people about its benefits. Grow & Learn and Grow & Learn in Nature exemplify this, and the work being done at Saughton seeks to encourage growing by all ages. The rise in community gardening is great to see. With my Beautiful Scotland judge's hat on, I am privileged to see a number of these inspiring gardening projects across Scotland.

As our talks and lectures have been on-line, we have reached people who would not usually attend the RBGE lecture theatre. Online talks have also increased our membership. By the time you read this we hope to be back at the RBGE for talks, but the talks will be live streamed or available on the website soon after the event.

Access to Saughton Park has been a welcome release for many and the positive comments bode well for the future. The Caley's relationship with Edinburgh City Council, and more importantly, the onsite gardeners, goes from strength to strength. When we are able to resume regular office-based presence then access to the Caley Library will be available for members.

In my own garden I want to be as sustainable as possible. I have been using recycled trays and pots for years and, over the past three years, have been using peat free composts. However the cost and availability of good peat free composts is a concern. Perhaps the imminent phasing out of peat will lead to economies of scale to the benefit of growers and the environment.

I can't do justice to all the hard work that goes on behind the scenes so I shall finish as I started by thanking you all without exception!

Colin Ainsworth, President



A dig day in May. Photos © RCHS members.

The Caley at Saughton

Pam Whittle and Max Leslie

Towards the end of 2019 and into early 2020 the final stages of the restoration were tantalizingly close. And although there were still issues to be sorted, the Caley office was slowly becoming a reality plus workshops and mini talks were shaping Saughton Sundays. But, as with so many other things, the pandemic put a hold on progress. With the park shut throughout the first lockdown it wasn't until June 2020 that we were able to start to tackle the weeds in the demonstration and teaching garden areas. Fortunately, the park remained open during the later lockdowns, although travel restrictions prevailed and the numbers of Caley volunteers able to work on site was severely restricted. As gardeners we know that being outside and working in the garden is good for you, physically and mentally, and we have slowly been able to increase activities, although we are still being careful with the numbers. But

despite everything there really has been a lot going on with The Caley at Saughton; we have been very busy.

Sturdy students

Having cleared the weeds in the teaching garden in 2020 we were keen not to allow the weeds to re-establish and were fortunate in having a group of sturdy student volunteers who managed to prepare the beds despite the long-drawn-out winter. We found that by planting the teaching garden with vegetables it became a key feature with the public. Charlotte Whittle (Council member in her final year at Napier University) and Max Leslie (MSc student at Napier) with other students all worked hard to ensure there was always something to see. This experience has significantly shifted our thinking about how to use the teaching garden.

It has been a pleasure witnessing the Caley Teaching Garden progress from a barren patch of earth in late 2019 to a flourishing fruit and vegetable garden over the 2020 and 2021 growing seasons. We had always seen potential in the growing space and are glad that, despite the difficulties imposed by consecutive lockdowns, we were able to have a positive impact within the local community by creating an area of interest for members of the public. Some of us had minimal personal experience growing fruit and vegetables before getting involved with the Caley and were grateful to

the existing members who have passed on their wealth of knowledge and experience. We have had particular success with growing potatoes of different cropping groups, leafy salad greens, root vegetables, blueberries, kitchen herbs, courgettes (or occasionally marrows when we had been away for too long!), while our latest success has been in converting the area with mesh tunneling for the growing of winter brassicas. We are already discussing what seed to order for 2022's growing season, so we hope to see you at Saughton to show you what we have chosen!



One of the displays.



Preparing the veg beds; vigorous growth.



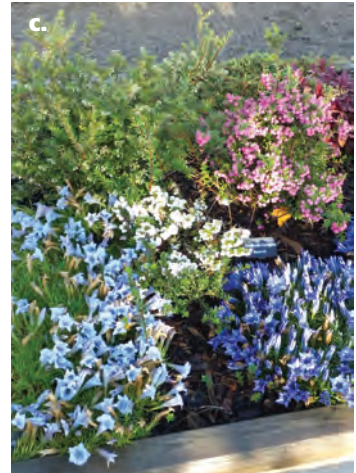
As always, it is a pleasure to guide members of the public, especially children, around the teaching garden and a few lucky visitors have had the chance to taste the fresh fruit and vegetables direct from the source. Our Family Workshops in 2022 will formalize this experience by running a series of workshops from spring through to late summer, which will guide families through the process of planning, planting, caring for and harvesting their own fruit and vegetable crops!

Other volunteering on Monday and Friday mornings began in earnest in April and was soon added to with our first weekend dig day in May when we took the opportunity to personally thank David Knott for his five years as President.

There is always something to see and enjoy in the park. In the demonstration garden interest kicked off with the alpine bed, followed by the *Meconopsis*, then the dwarf rhododendron



a. Early years. b. Handing over a pumpkin. c. RCHS in *Pyrethrum* 'Golden Moss'. d. Produce.



a. *Alliums* in the rose beds. © Rona Dodds. b. Floristry workshop in December. c. Autumn gentians and berries. d. *Agave attenuata*. e. The planned teaching greenhouse. © Karen Laing.



A recently planted bed in the Demonstration Garden.



Apple Day.



Scottish Gardeners' Forum scarecrows.



Sales table.

and gentians bed and the two newly planted sections of the main bed. Not to mention the edible flowers and the Bistro Salad Bar, all regular discussion points and enjoyed by diners at the Bistro. The Winter Border looked good all year, despite the constant battle with *Equisetum*.

Saughton Sunday workshops restarted in August. When we are in the park, we often try to have something currently in flower on display. As restrictions eased, we managed a small but real show in September, creating a very welcome and impressive display, followed a few weeks later by Apple Day, a joint event with The Friends of Saughton Park.

Thanks to the Bistro's donation of bookcases the Caley library is taking shape. We are pushing ahead with raising the money for the working glasshouse. All in all, it has been a

busy year. We will continue to be cautious as we move forward and develop, but we hope to see you at Saughton soon.

Pam Whittle.

Email: caleyatsaughton@rchs.co.uk

Max Leslie.

Email: caleyfinance@rchs.co.uk

Pam was Caley president from 2011–2016. Max is the incoming Honorary Treasurer of The Caley and is currently a student on the MSc in Food Security at The University of Edinburgh & Scotland's Rural College. He has an MA in Economics and, as an undergraduate at Edinburgh University, he experienced a reawakened passion for fruit and vegetable growing with The Caley at Saughton Park. Currently living in Penicuik, he is set to embark on a career aiming to educate the next generation on the importance of sustainable food systems and resilient crop growing techniques.



Otters on the riverbank. All photos © Bill Brown.

Wildlife at Saughton

Bill Brown

Readers will know Saughton Park for its floral interest and as the site of the Caley's educational and teaching gardens and office. However on a short walk in the park you will see wildlife. At first it will be the more obvious species such as woodpigeons and grey squirrels. If you stay a bit longer and move slowly you will see much more. The Water of Leith runs past the park providing a wildlife haven and corridor. A public walkway now runs the length of the river allowing easy access. Trees along many of the banks provide cover for more wildlife. The water is now much cleaner as many old industries along its banks shut allowing many invertebrate creatures to thrive. These now provide food for fish and other larger creatures. Otters and foxes are now seen regularly along the river and its banks. The photographs were all taken in and around Saughton Park. I didn't set up hides but took these photos by walking, waiting and hiding in some of my favourite

places, sometimes for hours on end; I normally go out for the whole day. I think that one of the best parts of wildlife photography is to pick a nice quiet part of the river and sit and wait till the wild creatures come to you. The kit I use most is my trusty Canon 7d mk2 digital camera while my favourite lens is the Canon 100-400mm and a 1.4x converter. The zoom lens gives flexibility while the converter can provide a useful increase in magnification. Keen wildlife photographers often use even larger lenses but these usually need a tripod which I find cumbersome.

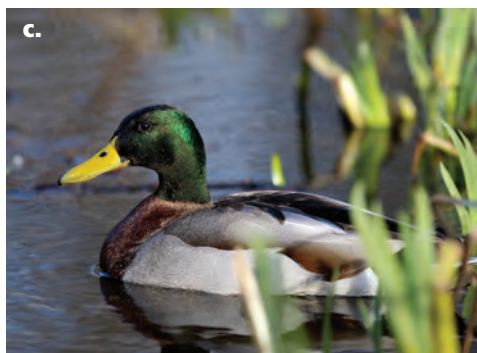
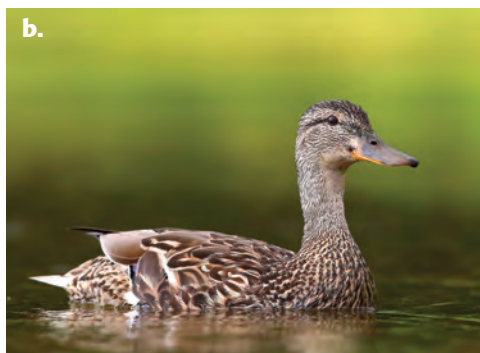
Bill Brown.

Email: bill.brown@blueyonder.co.uk

Bill lives close to Saughton Park and helps out with the local nature group there. His love for wildlife has spanned over 50 years first as a member of the Young Ornithologists Club then RSPB, the Scottish Ornithologists Club and the British Trust for Ornithology.



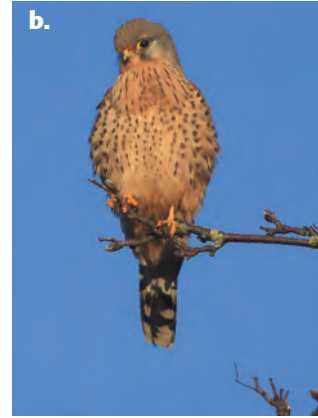
a. *Dipper*. b. *Grey heron*. c. *Drake goosander*. d. *Moorhen*. e. *Goosander duck with her brood*.



a. Kingfishers are colourful but small and remarkably easy to overlook. b & c. Duck and drake mallards. d. Grey wagtail collecting insects from the water's edge.



a. Blue tit on teasel. b. Goldfinch. c. Berries attract migrant redwings. d. Long-tailed tit. e. Starlings are colourful if you look closely. f. Robin waiting for the gardeners.



a. Young sparrowhawks. b. Male kestrel. c, d & e. Photogenic foxes.



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The Garden Bistro's ethos embraces fresh, local & seasonal produce. Our collaboration with 'The Caley' helps us to achieve these goals. Our team take great pleasure from picking fruits and vegetables from the gardens to use in our daily specials and seasonal menus ensuring our dishes, like our risottos are constantly evolving.



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The outdoor show at Saughton in September. Photos © the exhibitors except where stated.

Shows in 2021

Pam Whittle

By early in 2021 we knew the chances of a real Caley spring show were very slim. But we were still hopeful, and plans were in place for both a real show and a virtual show. As the bulb workshop had taken place in October 2020, we knew there would be some bulbs and we knew that some schools had planted their bulbs. In March it became clear that a real show was definitely not going to happen, so we switched to the slightly shorter schedule for an on-line noncompetitive show and split it into two parts: spring bulbs (for the first part) and dwarf bulbs, alpine and woodland plants for the second. As in 2020 schools sent us photos of their pots of dwarf daffodils and artwork plus some impressive reports of science, discovery and photography.

Then someone asked if we could do a cacti and succulent virtual show, so we did. We contacted Scottish branches of the British Cactus & Succulent Society who circulated their members. I've learned so much about my own cacti and succulents simply by putting the show together. By the end of summer, we were able to hold a show at Saughton albeit outside with 11 classes. Several well-known growers of chrysanthemums, dahlias and other cut flowers brought their blooms to enhance those from our local members and we were blessed with a sunny, calm Sunday in early September.

Some local horticultural societies were able to stage their autumn shows and we are very happy to be able to share some examples thanks to help from the Scottish Gardeners' Forum (SGF). Some SGF member societies produced scarecrows to display at the October Saughton apple day.

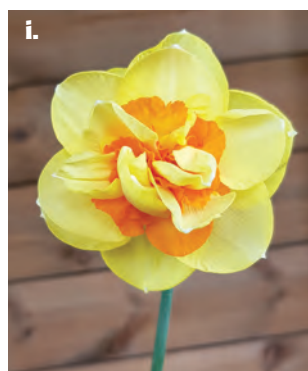
All our virtual shows are on the Caley website so do look and enjoy. Here's hoping we can enjoy real shows in 2022 large or small, but I also hope we can retain an element of a virtual display for folk who can't make it to Saughton.

We are planning more shows for 2022. In addition to the Spring Bulb Show on 2nd and 3rd April we will have an Auricula and Primula show on Sunday 1st May, then in June we have moved the Saughton Sunday date to the 12th when we plan to have a student display garden, a show and other activities, so keep your eyes open for more information.

Pam Whittle.

Email: springshow@rchs.co.uk or caleyatsaughton@rchs.co.uk

Pam is honorary vice-president of the Caley as well as show secretary and a keen exhibitor of daffodils. Whilst she grows auriculas she claims to be a real novice when it comes to showing them.



a. 'Chilmark' div 3, Derek Turbitt. b. 'Park Springs' div 3, George Anderson. c. 'Neon' div 2, Kathryn Westbrook. d. 'Aranjuez' div 2, Sarah Bennet. e. 'Rapture' div 6, Gillian Sharp. f. 'Chobe River' div 1, Robbie Brechin. g. 'Scamp Challenge' Julie Muir. h. 'Fresco' div 11, Alison Murison. i. 'Kiwi Sunset' div 4, Barbara MacGregor.



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James Gillespie's Nursery; Forthview Primary.



'China Pink' Moira Stevenson; 'Blue Jacket', Gill Anderson; 'Yellow Queen', Margaret Tait.



Corydalis 'Beth Evans', Stan da Prato; Hippeastrum cv. Izzie Finlayson; 'Candela', Margaret Teale.



Chionodoxa 'Rose Queen', Cathie Wright; Trillium chloropetalum, Ian Christie; Fritillaria graeca, Christine Watson.



Dionysia 'Marika', Sue Simpson; Primula 'Broadwell Milkmaid', Watt Russell.



Anemonella thalictroides, Anne Carlaw; Anemone blanda alba, Moira Lyne.



Primula 'Beatrice Wooster', Richad Whittle; Primula Lilac Fairy' Peter Westbrook.



Hepatica 'Millstream Merlin', George Watt; Draba rigida, Pam Whittle.



Echinocactus grusonii, Anne Bancroft; *E. g. brevispina*, Bernard Roberston; *Oreocereus trollii*, Elizabeth Ferro.



Rebutia 'Waltz', Jim Colledge; *Graptopetalum bellum*, Christine Russell; *Rebutia cv*, Jim Gibbs.



Euphorbia gorgonis, R. Stewart; mini garden, Susan da Prato.



Mammillaria zeilmanniana, Hamish McKelvie; *Ariocarpus retusus confusus*, David Bruno.



The Black Isle show.



Jam jars at North Berwick; chrysanthemum trio at Grangemouth; large exhibition chrysanthums at Grangemouth late show.



Impressive floral displays at Grangemouth HS main show.



Cut flowers at Kilmacolm.



Dahlias brighten the Fife show hall in Leven.



The Scottish National Vegetable Society show was held in Larbert in 2021.



Silverware for competition at Pathhead in August.

Grow and Learn Awards: connecting people, plants and nature

Jean Gavin



Grow and Learn Awards, person-centred learning

Grow and Learn is the Caley's flagship education programme, recognising individual progress and achievement in horticulture. Our awards are inclusive, individualised and offer life skills-based education for anyone. Our flexible framework offers the learner an alternative to more formal learning and is ideally suited for those who find mainstream education challenging.

Over the past year, it has been encouraging to watch projects gradually reopen again, allowing many people to reconnect with plants, meet friends and start growing again. And despite restrictions over the past year, we have over 300 people working towards their awards. We are delighted to welcome new

Grow and Learn projects from various social care providers, community garden projects, NHS settings, schools and also two young people, learning from home.

Grow and Learn Awards, celebrating achievement

Congratulations to all of our participants, the length and breadth of Scotland, who successfully completed their awards this year. To mark this special day, some of Scotland's leading horticulturists presented certificates in person.



*Jim McColl and Colin Stirling at Ellon Academy.
© Ellon Academy.*



Jim and Colin at Meldrum Academy. © Meldrum Academy.

grow and learn

The Caley's flagship award, recognising individual progress and achievement in horticulture.

Learn about

Seasonal, practical horticultural activities.

Other topics that interest you, such as cooking, arts and craft, garden maintenance or biodiversity, the list is endless.

Developing personal life skills and setting your own goals.

How it works

Flexible learning leads to your award, no formal learning required.

No exams - use your portfolio.

Learn 7 core horticultural activities.

Choose additional activities that interest you.

Achieve 3 personal goals.

Minimum of 80 hours of activities.

Minimum age requirement 13 years.

Two stages of the award if you want to develop your skills further.

What you achieve

Awarded The Caley's 'Certificate of Horticultural Achievement'.

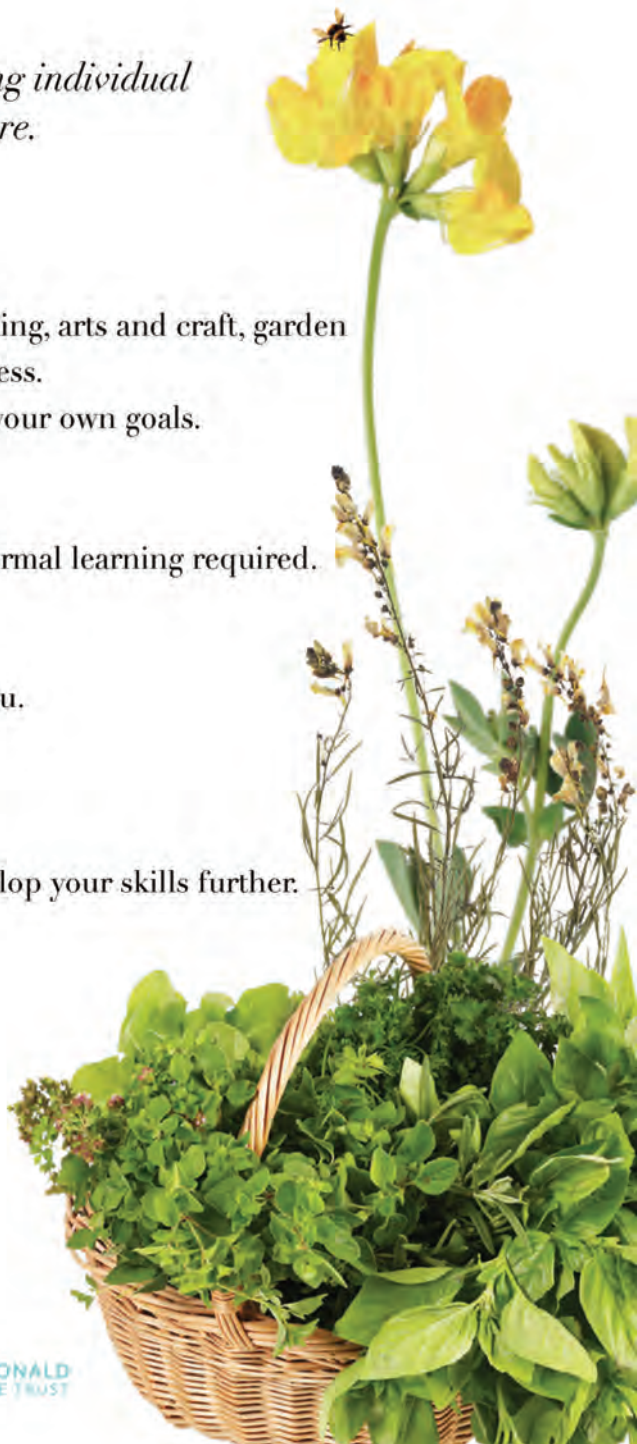
A portfolio of your work to evidence all you have achieved.

Ready to get started, contact:

caleygrowandlearn@gmail.com

www.thecaley.org.uk

[@caleygrowandlearn](https://www.instagram.com/caleygrowandlearn)



Supporting or people and projects

We continue to deliver online Grow and Learn/GLiN drop-in sessions for anyone interested in finding out more about our awards. New projects also benefit from our online 'train the trainer' session to help them deliver Grow and Learn successfully to the people they work with.

Our new Grow and Learn mentor scheme

Many people, on completion of their award, continue to garden at their project, often helping others to learn new skills and achieve their award. In recognition of all their efforts, we are currently developing our NEW Grow and Learn mentor scheme. Having past participants, help us co-produce this initiative will ensure we make it relevant and accessible to as many people as possible.

Tribute to Hazel McGowan 1959–2021 (Pathways, key worker)

For 30 years of her life before retiring in 2019, Hazel worked in caring roles for West Lothian Council. Laterally she supported the Pathways group to garden each week at Oatridge College, helping them achieve their Grow and Learn Awards. Always encouraging, helping the group to grow and be the very best they could be, will be one of her many lasting legacies. Everyone who worked with Hazel miss her, but have so many wonderful memories.



Grow and Learn in Nature (GLiN) Award

Grow and Learn in Nature (GLiN) is a project-based award, helping people make that vital connection with nature and plants. It offers anyone an opportunity to learn new skills and reconnect with the natural world. The flexibility of GLiN has meant that many people are working at home to achieve this award as well as various projects. Demand for GLiN continues to grow, understandably in response to current global issues such as biodiversity and habitat loss. The GLiN award, in many ways, offers participants, a practical opportunity, to help mitigate these challenges to our world.

Just under 90 people have achieved their GLiN award this year, with a further 200 people currently working towards their award.

'Our first submission for a GLiN award, after 13 years and many awards, this one makes me the most proud. Well done to our young people involved.'

Roy Balfour, Gardener (Rossie Young People's Trust, Angus)



Hazel McGowan. Photos © Jean Gavin/RCHS.

grow.

and learn in nature


The Caley
Royal Caledonian Horticultural Society

*The Caley's new project based award
that connects people, plants and nature.*



Learn about

How to make your outdoors space more nature friendly.
Developing your skills in biodiversity, plant care, soil health,
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How it works

You decide what your Grow & Learn in Nature project will be.
Practical learning outdoors leads to your award.
No exams - use your portfolio.
Minimum of 30 hours of activities.
Can be a group or individual award.

What you achieve

Awarded The Caley's GLiN 'Certificate of Achievement'.
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Develop your connection with the natural world.

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[@caleygrowandlearn](https://www.thecaley.org.uk)

Supported by:





Colin Ainsworth at the SACRO awards in Bellahouston Allotments, Glasgow.

NEW Coalfield Regeneration Trust (CRT) GLiN Award Partnership

With thanks to CRT for their funding support, since March 2021, we have been working in partnership, trialling our GLiN award with five CRT garden projects, Scotland wide. This has been a successful partnership where CRT garden communities working towards a GLiN award, have developed a greater understanding and connection to nature and plants.

- A total of 51 participants from these projects have successfully achieved their GLiN award.
- A total of 5 online gardening master classes were delivered to over 89 participants.
- A total of 7 monthly online CRT/GLiN networking sessions were delivered to a total of 84 people.

CRT funding has also secured the development of our GLiN evaluation video, which will capture the impact the award has made to the CRT projects and people involved.

'We were thrilled to take part in the GLiN Award. It really means a lot to us to be involved in a bigger community of garden enthusiasts.'

Pamela Timms (Grow West Fife, Culross)



Colin Ainsworth, George Anderson and Jim Watson at the CRT/GLiN awards in Fife.

Funding support and note of thanks

A special thank you to all of our funders, RS MacDonald Trust, Coalfield Regeneration Trust, Nature Scot and The National Lottery, Community Fund.

Jean Gavin, RCHS Grow & Learn co-ordinator.
If you are interested in finding out more about our Grow and Learn Awards including GLiN Email: caleygrowandlearn@gmail.com or [@caleygrowandlearn](https://www.caleygrowandlearn.co.uk)



Photos © Rona McDowall and Alison Murison.

Caley on tour 2021

Rona McDowall

Thirty-three members and friends of the Caley were delighted to go on the Strathmore Travel coach trip to the Harrogate Autumn Show on a long weekend in mid-September 2021, after the show was cancelled in 2020. For many of us, it was our first trip away since the start of lockdown. Saturday was dedicated to the Harrogate Autumn Show taking place for the first time at Newby Hall & Gardens. The day was one of glorious sunshine and we explored everything the show had to offer - including competition vegetables, show gladioli and dahlias - and Newby Hall's beautiful 40 acres of gardens. The rest of the coach party travelled to York on the Sunday. Our keen gardeners enjoyed the walk from the Cairn Hotel in Harrogate through the English Heritage Grade II Listed Valley Gardens (special shout out to their dahlia border) and The Pinewoods to RHS Harlow Carr where we spent the rest of the day as so much to see. Good company, sunshine and plants. A perfect trip. We look forward to a longer trip to Norfolk in June 2022.

Rona McDowall.

Email: rona.mcdowall@hotmail.com



Harlow Carr alpine house.



It's not all plants.



Vintage car, modern flowers; heavyweights.



Quality veg; floral hall.



Rhododendrons along the south road, Corrour, in June. All photos © John Hammond.

The Rhododendron Species Conservation Group: taking rhododendron conservation forward in a wide-ranging, bio-secure and practical way

John M. Hammond

In the 15 years since the Rhododendron Species Conservation Group (RSCG) was inaugurated it has made major progress on tackling several wide-ranging projects in accordance with its aims and objectives. The Group is involved practically in carrying out primary surveys of gardens with collections of old rhododendrons to determine those which remain an important resource of species rhododendrons, then taking forward a detailed survey of the important gardens and establishing databased records for these collections, as very few owners have garden records. Additionally, the Group is actively taking forward several projects in the field, including establishing 'out-based' in-situ collections of plants that are threatened in the wild and those that are under threat in-situ in UK gardens. The Group continues to organise

a major two-day conference each spring and autumn, with a range of key speakers, garden visits, and plant propagation workshops as part of its educational objectives.

Surveys

Since the formation of the Group, it is gradually moving forward with arranging to survey its list of 100 gardens in Scotland that are known to have contained a significant collection of rhododendrons and azaleas since the 1920s, or from earlier times, and have worked on collections on several large estates in Scotland and Northern England. Some gardens we have visited to carry out a provisional survey have confirmed that the owner(s) have lost a substantial part of their collection over a long number of years and the garden is no longer of interest to the Group.

Equally, the Group is still finding, or becoming aware of, 'Lost Gardens' that contain a significant collection of both species and hybrids, so the overall number of gardens of interest remains at around 100 in total and has not diminished over time. Our garden surveys have a much wider purpose than just identifying, labelling, and recording on a database, the GPS locations and detailed contents of an individual garden. Conservation of gardens is fundamental regarding taking forward conservation of plants, and we have found that our overall activities when establishing records for a garden, together with providing advice on upkeeping the collection, also tends to reinvigorate the interests of the owner/administrator and encourages them to care for and take significantly more interest in their garden, often after many years of low-level maintenance.

To date we have surveyed around 30 gardens and have freely provided advice on garden restoration work and cultivation. This includes several major estates, such as Balbirnie Park, an old Balfour Family estate in Markinch extending to 400-acres. Fife Council had approached the Group for help with identifying



Challenging terrain at Baravalla.

the extensive rhododendron collection and recommending clearance work to be undertaken to restore the gardens that are spread over ten geographically segregated compartments. It took four separate visits, each a year apart, to gradually identify the plantings and make the necessary recommendations, which the team of gardeners then took forward completing the clearance work of *Rhododendron ponticum* and saplings, then labelled plants we had identified prior to our visit the following year. Perhaps more importantly, members of the local community who regularly visit the gardens, began to ask what the survey team were doing in 'their' garden, and why? Then they began to take an interest in the progress of the work, so this created ears and eyes, together with a sense of community ownership, which would watch over the resources in the gardens after the project had been completed. Fife Council staff were pleased with the outcome and prepared a set of large-scale plans of the gardens. More recently, at the request of the University of Strathclyde, we spent a total of three days with the Head Gardener of Ross Priory identifying, labelling and providing advice on the conservation of the major rhododendron collection of both species and hybrids in the gardens, together with setting-up arrangements for taking GPS readings to enable a database record to be established by the garden staff. This survey confirmed that the garden contains a more significant collection of both species and hybrids than was previously realised. A propagation workshop for the University gardening staff is scheduled to take place once COVID-19 restrictions have been lifted.



Surveying at Ardkinglas.



A working party ready to start at Corrou.



Rhodos in pots for Glenbranter.



*Planting; an example of a completed air-layer on a large-leaved *R. macabea*.*

Out-based collections

One of our on-going projects is the establishment of 'Out-based Collections' of threatened rhododendron species, collected during the early plant-hunting expeditions, that are becoming rare in ex-situ cultivation in Britain, which are listed in the *Red List of Rhododendrons*. In April 2013, the Group organised and managed the International Rhododendron Conservation Conference held in Edinburgh in liaison with David Knott, Curator of Living Collections at the Royal Botanic Garden Edinburgh (RBGE) and Botanical Gardens Conservation International (BGCI), which brought together an audience of key rhododendron speakers and delegates from around the globe to discuss the *Red List of Rhododendrons*, published in 2012, and set out a road map for taking conservation forward on a worldwide basis.

In 2013 the Group formally founded a Joint Conservation Project with Forestry Commission Scotland to restore and replant the original out-based Test Garden established in 1924 by the RBGE in the highly attractive Glenbranter Glen with its many waterfalls cascading off the surrounding moorland, located nine miles north of what is now Benmore Botanic Garden. Several hundred conifers and species rhododendrons from the RBGE nurseries were planted in the Glen over a two-year period after 1924. In 1928 the RBGE were offered the use of the policies surrounding Benmore House, part of the Younger Estate, that later became Benmore Botanic Garden, and then commenced planting at their new out-based garden, leaving their earlier plantings in-situ at Glenbranter Glen to their own devices. Many of the original plantings still survive in the Glen along what is now a popular circular public trail around the Glen and its waterfalls, known as Lauder's Walk. Areas of the Glen have been cleared to enable the original plantings to be rejuvenated and for conservation purposes an ex-situ Out-based Collection has been established. Each spring a large batch of large-leaved species, from the Fortunea, Grandia, Falconera and Auriculata sub-sections, have



Surveying the Rhododendron collection at Ross Priory in 2019 we came across this rare Ghent Azalea, 'Van Houtte Flore Pleno'.

been planted and these are now thriving in the Glen amongst the original plantings, including a host of *R. decorum* which have self-seeded. This continues to be a win:win project that is attracting an increasing number of public visitors to the Glen.

Corrour

In other ways 2013 was a 'watershed' year, as the RBGE approached the Group to ascertain if we were interested in coming to an arrangement with the Management Team and owner of the Corrour Estate to restore the large collection of mainly species rhododendrons that had been left to their own devices since the late-1950s. This remotely located collection of 3,000+ plants was originally established on the steep side of a hill above Loch Ossian at 1250–1650ft elevation by Sir John Stirling-Maxwell in the years after 1910, as part of his experimental high-elevation plantings on open moorland of various types of conifers on the 40,000-acre estate. In liaison with the Corrour Management Team, the RBGE arranged for a member of staff to tag all the rhododendrons on the estate with a new set of sequential numerical tags, which were listed in a new file on the estate database. Dr David Chamberlain then commenced an initial identification survey, which was difficult due to the vast number of self-seeded hybrids that had grown-up amongst the original plantings, coupled with the tall undergrowth and saplings that had been left to grow unchecked since maintenance of the plantings had ceased

some 60 years previously. In some locations old birch trees had fallen amongst the plantings, either wind-blown or brought down by heavy snow. In November 2013, an eight-man working party spent a long weekend, armed with a set of coloured tapes, surveying and confirming the identification of plants in the first of 25 compartments along the south side of Loch Ossian. White tape was used for original plantings to be retained, blue tape for original plantings that required pruning work, and red tape for the self-seeded hybrids and saplings to be taken out. Work was slow due to access problems, getting into the thickets of plants, the hillside was extremely wet underfoot, the plantings were rain soaked, and the midges were out in abundance! We completed three compartments on our first visit, then the pruning work and removal of hybrids and saplings was carried out as a separate exercise arranged by the Management Team the following spring.

In November 2019, seven annual working-party visits later, sometimes in the snow, heavy rain and wind at high elevation, we completed the surveying of the collection in what has been a major project to restore the largest and most diverse rhododendron species collection in Britain, containing 255 separate species,

together with some of Sir John Stirling-Maxwell's own hybrids. In the midst of carrying out the restoration we created another ex-situ 'Out-based Planting', this time with four large batches of the Taliensia & Lanarta sub-sections; the Taliensia subsection being a special trial, as this species does not perform well at low level elevations in Scotland, and we believe they need to experience all of the seasonal changes to grow well in cultivation. To date our thoughts are proving to be correct, as the plants are thriving and bushing out well. For similar reasons we are now aiming to plant a trial of the *R. pogonanthum* series and we identified a suitable site, away from the main collection, last November. We have yet to carry out restoration work on separate rhododendron plantings alongside the North Road around the loch. These have already been identified and include two groups of hardy hybrids planted by Waterer's in 1895. Our work has been greatly assisted by the Corrour Management Team who have carried out all the remedial recommendations we have made to date, including digging-out old drainage channels and providing new channels, as it is essential to get all the standing water off the hillside. Old dead birch trees have been cut down, trees brought down by windstorms and/or heavy snow have been removed, and the



A group of mature R. orbiculare adjacent to Loch Ossian that flowers abundantly each year.



*We have been assisting Arduaine Garden propagate bushes threatened by larch felling including this *R. sinogrande*.*

crowns lifted on many large conifers that were shading-out the plantings. The rhododendron collection is now budding up, bushing out and many plants that have not flowered for decades are blooming each spring.

Gargunnoch

With the support of the Gargunnoch Estate Trust we established a nursery area for growing-on species plants for conservation purposes in the old walled garden at Gargunnoch, near Stirling, from which plants were distributed in batches to plant-up Out-based Collections. More recently, we have established a new nursery on a croft in Glencoe and have transferred all the stock to the new site, then added plants to be grown on in a new poly-tunnel. Previously, our nursery at Gargunnoch was periodically checked when a plant health inspection took place in the main garden. Two years ago, we arranged a special visit by the Scottish Plant Health Inspectorate (SASA) to be sure that the contents of the new nursery met the bio-security requirements for establishing Out-based Collections. Following a detailed inspection of the whole site, no problems requiring further tests were found

and the contents were cleared for planting in other gardens or woodlands.

A couple of years ago we were offered the use of the East Glen on the Gargunnoch Estate, near Stirling, to establish a trial collection of rhododendron species that should perform well in Central Scotland. This is a Joint Conservation Project between the Gargunnoch Estate Trustees and the RSCG; the Trustees will clear areas within the Glen that require preparation work and carry out strimming and low-level maintenance, whilst the Group will provide the plants and maintain them. The first plantings took place in the autumn of 2019 and a further planting was planned for the spring of 2020, but this was not to be with the onset of the COVID-19 pandemic. The resurgence of the virus cancelled similar plans for the spring of 2021. Hopefully, it will take place later. The Glen will be open to the public in line with the arrangements already in place for opening of the main garden at Gargunnoch under the Yellow Book Scheme. We have also been offered other 'safe-sites' in other major gardens in Scotland to establish further ex-situ Out-based Collections and we have already identified suitable rhododendron sub-section species to plant at these locations.

West coast

In 2014 the Group was approached by Sir Peter Hutchison and Peter Cox, who were having increasing problems caring for their private west coast garden at Baravalla, near Tarbert in Argyll, containing many of their more tender rhododendron collections from their many expeditions in the wild. With their advancing years, they had decided to ask the Group if they would be prepared to take over the maintenance and care of the garden, subject to mutual agreement being reached on a formal basis. Over the next couple of years discussions continued with the lawyers with a view to seeking an arrangement to modify the existing agreement under which the garden was originally established. In June 2016, a joint meeting was held between 'The Two Peters', with the support of the Mackie-Campbell family on whose land the garden stands, and the RSCG to seek a way forward under a new legal framework. That approach proved to be agreeable to all the parties, and the details of the maintenance work, the replanting arrangements, and securing the property for the future, were all discussed. Since that time the RSCG has gradually taken over the care and maintenance of the garden, is creating a new database record of the plantings, which are all being relabelled, and are gradually restoring areas of the garden, as necessary. Tree-surgery has been carried out on several aged beech trees, regular working parties are taking place, grass cutting is being carried out by a contractor, and the nominated Maintenance Director now has a formal Maintenance Plan in place. The transfer of the



*A stunning specimen of *R. barbatum* lights up the entrance to the Oakfield Estate at Lochgilphead during a survey in spring 2016.*



A conservation project to propagate the over mature Ghent Azalea collection in the Ladies Garden at Ardkinglas House has now been running for over ten years.

garden took place prior to Sir Peter Hutchison sadly passing away in early-2019, so he was able to arrange for the handover of the garden records and see that the garden was now being cared for in an organised way.

The Group has left its mark on many important gardens in Scotland and continues to work in liaison with the RBGE taking forward conservation objectives, including an involvement with the recently established 'Global Conservation Consortium for Rhododendrons' project, being led by Dr Alan Elliott, Biodiversity Conservation Network Manager.

John M. Hammond, 12 Cockey Moor Road, Bury BL8 2HB.

John has been President of the Scottish Rhododendron Society for many years and organiser of major conferences and garden tours. He is a past long-time Board Member of the American Rhododendron Society and member of its Editorial Committee. He is Secretary, Conservation Conference Manager & Garden Survey organiser of the Rhododendron Species Conservation Group. He has been involved in rhododendron propagation work for over 30 years and has run many propagation workshops. His many historical articles on old gardens have been published worldwide.



Vireya rhododendrons in flower in one of the public display glasshouses. Photos © David Knott/RBGE.

Rhododendron* subgenus *Vireya

David Knott

The term *Vireya* refers to rhododendrons of subgenus *Vireya* and are defined as rhododendrons with scales whose seeds have a long tail at each end. They are distinct from many other *Rhododendron* groups in their diverse flowers and foliage characteristics which relates to their distributional range and pollinators. Historically they have been called ‘Tropical’ or ‘Malesian’ rhododendrons, however their distribution range, although predominantly within south-east Asia, extends into India, China, Nepal and north-east Australia.

The Royal Botanic Garden Edinburgh (RBGE) has had a long-standing research interest in the family Ericaceae with the first *Vireya* collections dating back to the 1950s with significant additions in the 1960s by Paddy Woods and Bill Burt from the Malay Peninsula, Borneo and New Guinea, and from the 1970s by world renowned *Vireya*

expert Dr George Argent. The *Vireya* Collection gained Plant Heritage (NCCPG) National status in 2007. RBGE has the leading collection of wild collected *Rhododendron* subgenus *Vireya* species in the world, comprising 902 accessions and 231 taxa which is approximately 56% of the 407 known species. Where possible, we keep multiple collections of each species, wild collected in different localities across their distribution range to give us wider genetic diversity material for scientific research such as taxonomic, genetic and biogeographic studies on these South-east Asian subtropical *Rhododendrons*. Each plant is given a unique accession number on arrival at the garden which it will keep for its lifetime which allows us to ensure that all specific collection and horticultural information stays with that plant and this is kept securely on our plant records database.

It is estimated that 50% of the 407 species known are threatened with extinction in the wild and, since July 2019, RBGE has been coordinating the Global Conservation Consortium for Rhododendron in partnership with Botanic Gardens Conservation International which aims to prevent any further extinctions of *Rhododendron* in the Wild. Papua New Guinea, Indonesia and Malaysia have been identified as the three countries with the highest proportion of threatened endemic *Vireya*

species not in ex-situ conservation collections. RBGE has plans post COVID-19 to work with in-country partners in both Papua New Guinea and Malaysia on *Rhododendron* conservation projects in the future.

As part of our contribution to this initiative we are now highlighting, with red plant labels, the level of threat on all our rhododendrons but with *Rhododendron* subgenus *Vireya* the 65 threatened species we cultivate.



Rhododendron himantodes.



Scanning electron microscope image of denroid leaf scales of *R. phaeochitum* magnification x1,000. © F. Christie/RBGE; *R. javanicum*.



Scanning electron microscope image of *R. malayanum* flower bract margin with simple hairs and a few scales magnification x500. © Freida Christie/RBGE; New growth on *R. acuminatum*.



Vireyas are generally a group of frost-tender woody shrubs or small trees which grow mainly as epiphytes but can also be terrestrial. Although they may come from diverse habitats (lowland subtropical forest to cloud forest to high alpine screes), over the years we have found an environmental regime which suits most species.

Many species can be seen all year round on public display in our montane tropical glasshouse with the best time to see the collection in flower from March to April. Most of the RBGE collection is grown in plastic pots or half pots or pans, with a recent increased use of aquatic pots and baskets to further aid drainage and good air movement around the roots, which can be particularly useful during the Scottish winter. Due to the epiphytic nature of many of the species in the collection, we tend to use a very open compost comprising potting bark (3–15mm) with added horticultural charcoal (5–15mm) at a ratio of roughly 70 litres of bark to 3 or 4 litres

of charcoal. Many of the species in the collection grow at higher altitudes (above 1000m) in their native habitat and because of this the night temperatures in the glasshouse can be allowed to fall to around 8°C. However, in the tropics, although low night-time temperatures may be experienced at higher altitudes due consideration should be given to the fact that that daytime temperatures can rise quickly once the sun has risen, to well over 20°C during the day. Currently we have a night-time house temperature of 10°C and day temperature of 15°C, with venting set at 18°C. This is not always achievable in the depths of a Scottish winter.

**David Knott Royal Botanic Garden
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David is Curator of the Living Collections at RBGE with many years' experience in the cultivation and conservation of plants. He is also a past president of the Caley.



The Livistona palm on the move. Photos © David Knott/RBGE.

The Edinburgh Biomes in 2021

Fiona Inches & Sadie Barber

The Edinburgh Biomes is one of the largest landscape development projects undertaken by RBGE since its relocation in 1820 from the Leith Walk site to its new home at Inverleith. It involves the construction of an energy centre that will eventually provide heat and electricity to all the buildings in the Edinburgh Garden; a state-of-the-art Plant Health Suite to regulate plant imports and diagnose plant pests and diseases; renovation of the two Victorian Palm Houses and the 1960s Front Range Glasshouses; replacement of the research glasshouses and the horticultural buildings and offices; and the creation of a 21st-century glasshouse which will become the new main entrance to the public glasshouses.

The project has been in the planning for many years, and in autumn 2019 RBGE staff started to move plants growing outside the

glasshouses that will be affected by construction work. The first phase of this seven-year project began in April 2021. By the September, 2,756 of the 8,645 individual plants growing outside had been moved. The others will be moved or removed over the next four years as the construction programme progresses.

In January 2021 staff started moving the plants located inside the glasshouses to the areas where they will be looked after for the duration of the project. Six additional staff were taken on in April 2021 for one year to help with the monumental task of moving the 2,824 accessions in the public glasshouse collections. Prior to 2021 each accession was reviewed, and in some cases difficult decisions had to be made. The review posed a series of questions to inform these decisions:

1. Are there already pot-grown plants in the back-up collections?
2. If not, can the accession be propagated and/or containerised and moved?
3. If not, are other accessions of the taxon available and are they wild-collected?

In each case, resources are directed to wild-collected material over garden-origin plants or species which can be relatively easily replaced.

Several collections have been moved to a glasshouse built on the Nursery to the north of the main Garden. Research and back-up collections of *Begonia*, and both tropical and temperate orchids, Cactaceae, *Pelargonium*, Coniferae and Ericaceae have all been relocated in 2021.

The biggest challenge in this first phase of the project is dealing with the enormous (up to 8.5 m) and historical collections of palm species. The grade A-listed Palm Houses will be



Decanting plants into temporary accommodation.



The end of the Sabal palm.



Artist's impression of the new biomes.



completely renovated, which means that all plants have to be removed. Some are, sadly just too big to lift and so will be de-accessioned; others have been carefully dug up and transported, using specialist equipment hired for the purpose and with many staff on hand, to be potted into 1,400-litre Air-Pots® on pallets in their temporary home in the Temperate House in the Front Range. Some, such as



Trachycarpus princeps on its travels.



Rhopalostylis sapida and *Archontophoenix alexandrae*, conveniently had seedlings growing at their bases and these have been collected, given new accession numbers and potted up.

The last plant to leave the Tropical Palm House is the mature *Sabal bermudana*, a plant that was brought from the Leith Walk site in 1820. It has no more room to grow in its current location, and everything possible has been done to maintain its health in recent decades (Elliott & Mullany, 2013). It is a sad loss but it was propagated in 2016, and these propagules will be planted out in due course.

Reference

Elliott, A. & Mullany, P. (2013). *Sabal bermudana* L.H. Bailey (The Sabal Palm). *Sibbaldia*, 11: 61–70. doi: <https://doi.org/10.24823/Sibbaldia.2013.51>

Sadie Barber & Fiona Inches, Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh EH3 5LR.

Sadie is Project Manager for the Glasshouse Department. Following an HND in Horticulture with Plantsmanship at RBGE, she has worked at the garden for 15 years, 12 as a horticulturist specialising in research collections under glass. She has carried out fieldwork in South-east Asia, East Africa, Central America, and the Middle East. More recently, a secondment to complete a leadership Fellowship at Longwood Gardens (PA, USA) was followed by a role back at RBGE as Research Collections and Project Manager for the Glasshouse Department.

Fiona is Edinburgh Biomes Project Glasshouse Manager. She started in Horticulture at Perth & Kinross Council producing bedding plants and interior displays. Then took a SCOTVEC certificate in Horticulture at Elmwood College and then the Diploma in Horticulture at RBGE. In 1993 she began looking after the Temperate Collection followed by promotion to Temperate propagator then one of the two Glasshouses Supervisors. Since 2018 she was seconded to the Biomes project to advise on glasshouse horticulture and program the decant for the 10 public and 17 support glasshouses which hold approx. 6491 taxa & 11330 accessions - 66% of which are wild sourced.



Arduaine is a woodland garden. Photos © Simon Jones/NTS.

Arduaine Garden: a heritage response to a contemporary pathogen

Simon Jones

The National Trust for Scotland's Arduaine Garden is situated on a green headland on the west coast of Scotland, 12 miles south of Oban, and is a Scottish horticultural gem recently given the accolade by Peter Cox, 'the second most important rhododendron garden in Scotland'.

Arduaine is the 20-acre brainchild and creation of James and Ethyl Arthur Campbell who, from 1897 to 1929, embarked upon designing a garden planted with exotic plants from all over the world. They embarked on a similarly maverick endeavour to James Campbell's friend, peer, and fellow plant enthusiast Osgood MacKenzie, who is famed for the horticultural masterpiece of Inverewe Garden in Wester Ross, also owned and managed by NTS. Both gardens

rely on complex shelter belt plantings which create the desired microclimate to grow plants that otherwise could not survive so close to the salty Atlantic seaboard. They are also linked by Campbell and MacKenzie's love of rhododendrons with historical records demonstrating that the more established garden of MacKenzie (c1860) helped establish Campbell's collection in Arduaine. In 1909 Osgood MacKenzie gifted Campbell a specimen of *Rhododendron arboreum* ssp. *zeylanicum*, still prominent in Arduaine today, complemented by many other fine species of plants, for example from the genera *Asteranthera*, *Magnolia*, *Hoheria*, *Pilgerodendron*, *Gevuina* and the magnificent champion specimen of *Trochodendron aralioides* to name a few.



The volume of larch to be felled. © I. Sinclair.

The unique character of the garden lies within its relationship to the woodland canopy, composed primarily of one species of tree, the Japanese Larch, *Larix kaempferi*, and its understorey planting composed primarily of *Rhododendron* spp. The deciduous larch not only creates ambience but also delivers the functional role of a windbreak in conjunction with other trees, protecting the understorey plantings which represent 95 countries of the world.

The succeeding members of the Campbell family opened the garden to the public, maintained the site and added some new plants through their horticultural connections up until 1971. The Wright brothers purchased the garden and continued the rhododendron interest from that point, either adding or, in some cases, replacing missing species, while reclaiming the infrastructure. Under NTS, from 1992, the plant collection has continued to develop with the infrastructure being extended in terms of buildings, garden structures and paths.

The problem

This designed landscape faces perhaps its most difficult challenge since its inception. In 2007 Arduaine Garden suffered an infection by the plant disease *Phytophthora ramorum*, a fungus-like pathogen called a water mould. It causes extensive damage and death to a wide range of trees and other plants (Forestry Commission 2018). This was found initially in the shrub layer but, more significantly, since 2011 sporadically in the larch canopy. In June 2016, 13 trees were identified as being affected. In July 2016 Forestry Commission Scotland (now Land and Forestry Scotland) revised the Statutory Plant Health Notice (SPHN) to require clear felling and extraction of the larch in a single operation by 31st March 2017. After due consideration, and consultation with our FCS partners, NTS proposed a more gradual transformation of the woodland over a 5-year time frame through patch felling allowing the team in Arduaine some time to create the correct project and business plans. The SPHN was revised allowing NTS until 31st March 2022

to remove all Japanese Larch. Why the larch? Their deciduous nature and the almost unique biology of the pathogen means that the tree perfectly helps sporulation and subsequent spread of the pathogen.

A report, business and project plans were duly written that set out the detailed logistical plan for the transformation of the larch shelterbelt and woodland garden aspect of Arduaine. Our challenge, within this 5-year time frame, is to fell all 885 *Larix kaempferi* utilising both sectional arboriculture and forestry felling operations whilst causing minimal damage to the designed landscape.

This may sound simple enough. In reality, this is one of the most logistically complex conservation projects that I have worked on. The bulk of the mature plant collection had been planted together, at the same time as the larch, meaning this garden has grown and established together thus making it extremely difficult to remove the larch without causing significant damage to the understorey. An analogous way to appreciate this project is to imagine removing the roof, bricks and structure of a house without causing any damage to the possessions inside!

Although this challenge was initially perceived as a destructive operation, I would argue that if delivered properly then NTS is creating one of the best opportunities a horticulturist could have; helping to curate, design and plant a new diverse, resilient woodland, within a



Valuable shrubs like rhododendrons were in among the larch.

designed landscape which will form the structure of the garden for the next generation of plant enthusiasts to enjoy. After all, no gardener has done this in 120 years! Not bad for the CV I would have thought although for anyone that loves plants, this is a challenge not for the faint hearted.

The plans

People

Gardens, in many ways, portray the lives and stories of people. For NTS to deliver this project we rely wholly on the input and understanding of a diverse range of people and stakeholders both internal and external. Because this is not only a garden project, we cannot forget our colleagues within the regional and senior management teams who have all had a part to play in bringing the project to fruition: natural heritage, gardens, communications, policy, health and safety, archaeology, fundraising, marketing, legal and finance as well as Land and Forestry Scotland who have approved the project plan and timeframe. Externally Friends of the Garden, botanical support groups, local businesses and the wider horticultural community have listened, commented and given support for the work we are doing. This, I feel, was crucial endorsement because there were no reference points for another project of this kind. The 5-year project is being supported internally, augmenting the skills of the Arduaine team with arborists from NTS Mar Lodge and staff from Crarae Garden near Inveraray.



Path widening.



Tree felling and brash burning.

Health, safety and environmental considerations

Most designed landscapes should engage the senses, often creating memories thereby providing a sense of place that is often rooted in nostalgia. Arduaine Garden is one such place and this in part explains why the garden is blessed with very strong local support for which I am very grateful. Removal of 885 mature trees is not only a visually devastating operation but one that is fraught with risk: risk of causing an injury to a member of staff and also risk of causing damage to the local environment. With this in mind a detailed aspects and impacts register was created that details all the elements that should be managed to minimise risk and mitigate our environmental impact. An example of this work was to conduct ecological surveys at key stages of the annual felling phases to help ensure operations cause minimal disruption to locally protected fauna like red squirrels and bats.

Communications

This, in many ways, is where projects that have local and national interest can quickly come undone. If internal and external stakeholders do not know and appreciate the details and context of what is being undertaken, then how can they support the work? It is quite simple really... communication is the key. Articles like this one and 35+ public speaking engagements over the last three years are attempts to make sure all stakeholders are given the same information. A rather charming example of the extent of this communication drive was when, on a beautiful sunny evening, the Head Gardener Gregor Anderson and myself were due to give a presentation in a local village hall. Despite our best efforts only one person turned up... suffice to say that this person received the most thorough presentation and left in no doubt as to what we are trying to achieve.

Felling operations

Under the terms of the SPHN, we must fell the larch and burn all brash and arisings. However, we are left with thousands of tonnes of infected waste timber which we would have to pay to be transported to an approved

sawmill for processing. We decided to buy a mobile Woodmizer sawmill and de-bark the timber to ensure SPHN compliance. NTS are then in possession of a timber resource generated from a waste product. This timber can be milled to order and utilised in all NTS gardens for cladding, fence posts, timber edging, dahlia stakes, tree stakes, sleepers etc... recycling at its best, creating a resource efficient solution to a waste problem. Furthermore, we also ensure that our staff upskill to be able to use new pieces of machinery, like the sawmill. The operations are specifically timed due to ecological constraints therefore we have an annual window of October–March for all felling operations with the spring and summer months used to clear the site and mill the timber to be ready for the next felling phase.

Infrastructure

The garden has a network of narrow paths that were not suitable for vehicle and machinery access and so the main spine of the garden path needed to be widened to allow access and extraction of the timber to the milling point. These temporary infrastructure changes are not aesthetically pleasing and there are plans in place to have all the original paths reinstated with local aggregate.

Heritage and conservation

As horticulturists, our primary concern was to protect the plant collection. There is a degree of acceptance that we cannot protect everything. We decided to tackle this issue in two ways: air layering of rhododendrons (generously taught by rhododendron expert John Hammond) and micropagation by the formation of a partnership with Duchy College where the wonderful Ros Smith is going to propagate some of our rhododendron species. Once the protective structure of the larch has been removed, the garden and remaining trees will then be exposed to the coastal elements. To diffuse the force of the wind the team are constructing artificial windbreaks on the edge of the garden using the larch timber, ensuring that there will be no metal or plastic fixings.

In addition there is a set of criteria for curating the plants that will make up the new woodland. These criteria have been designed to ensure resilience is delivered in terms of the new plant species being able to cope with the coastal conditions, less susceptible to pests and diseases, not known to be host plants for *Pramorum*, damp and acid tolerant, and provide a red squirrel food source. Once scored we will then be left with a group of plants that will fully justify their place within this designed landscape.

Summary of the project outcomes

- New woodland aspect of the garden and new visitor experience
- Milled timber for all gardens and properties
- Staff working together - One Trust
- Increased assets for Arduaine and Mar Lodge
- Stronger stakeholder relations
- Cost effective outcome - £243,724 over 5 years
- SPHN Compliance - removal of one major host plant
- Mitigated environmental impact
- Reputational enhancement
- Exemplar project to communicate to internal and external stakeholders



Magnolia campbellii.



The view from the garden.



Processing the timber.



Larch repurposed in the garden.

Progress in light of COVID-19

Complex logistical problems aside, I am confident that we can achieve the desired result because we have great support from all our colleagues within the Trust and support externally too. To date we are around the halfway mark in terms of felling numbers and the impact of lockdown has been keenly felt. The team has felled 443 trees and lost on average 28% of the allotted time to inclement weather with no accidents plus we are on time and on budget... pleasing all managers.

The future

What will the future woodland aspect of Arduaine Garden look like? The team will have created a garden with a woodland canopy based on sustainable development principles. This garden must be able to face into the risks posed by a rapidly changing climate whilst creating new plant conservation opportunities. If we consider Arduaine Garden is like a land locked island then surely there is scope to curate a new woodland canopy plant collection

that contains plants from the temperate island ecosystems of the world, because the islands are where the impacts of a changing climate will be most sharply felt. We have been presented with the opportunity to create an ex-situ refuge for threatened plants grown on the wet, west coast of Scotland.

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Simon is NTS Gardens and Designed Landscapes Manager for the South and West managing gardens such as Threave, Culzean, Broughton, Greenbank, Hill House, Geilston, Crarae and Arduaine. Previously he worked for 15 years for at Edinburgh Zoo and he still does freelance zoo design consultancy work. He trained at Oatridge College and the Royal Botanic Garden Edinburgh. He is a past Vice President of the Caley, Member of the Incorporation of City Gardeners of Glasgow, past Director of Gardening Scotland Show and now an advisor for Kinghorn Community Land Association. He lives in Kinghorn with his partner and two daughters.



In the Scottish hills. Photos © Natacha Franchon, Roger Hyam and Steven Jones.

Working with Scottish wild plants at RBGE

Martine Borge

The Horticulture Division at Royal Botanic Garden Edinburgh (RBGE) has been focused on Scottish Biodiversity conservation for over 20 years now. The Scottish Rare Plants Programme began in response to the Global Strategy for Plant Conservation. Target 8 of the strategy specified that there should be: *At least 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.* This started as a collaborative project with Plant Network. To date the garden has collected 150 threatened Scottish species, which form the ex-situ conservation collection of Scottish natives held by the four gardens here at RBGE (Benmore, Inverleith, Dawyck and Logan). Nowadays, that is only a small part of the horticulture team's activity to preserve Scottish Biodiversity. The Scottish Rare Plants Programme has, over time, become more

diverse and holistic, ranging from education, public engagement, communications, re-introductions, ornamental horticulture, natural climate solutions and urban biodiversity. As a conservation horticulturist here at RBGE, working on Scottish biodiversity, my role involves four core aspects: safe-guarding, re-introductions, garden inspiration, and education and communication.

Safeguarding

Our ex-situ conservation collection of Scottish plants, which we call Target 8, acts as an insurance policy against these threatened plants' loss in the wild. We prioritise and collect seed or cuttings from these endangered plants, where they grow in the Scottish landscape. We ensure these collections are made with all the correct permissions and with careful biosecurity measures in place and

target our collections to sample as broad a genetic and geographic diversity as possible. Keeping careful records of our collections, we can trial and document different propagation and cultivation techniques for these, sometimes little-grown and challenging, plants. Displaying many of the rare plant collections give members of the public a chance to actually see these elusive rare plants for themselves and get to know the beautiful treasures in the Scottish landscape which need our protection. A much more focused selection of these species is chosen for more intensive re-introduction work which involves close collaborative working with our science division and other conservation agencies as well as supportive landowners.



Cicerbita habitat.



Coming into flower.

Re-introductions

This is an approach we've taken with a number of native species including woolly willow, *Salix lanata*, whorled Solomon's seal, *Polygonatum verticillatum*, the Catacol whitebeam, *Sorbus pseudomeinichii*, sticky catchfly *Silene viscaria*, mountain milk-vetch *Oxytropis halleri*, oblong woodsia *Woodsia ilvensis* and others. Currently our focus is on alpine blue sow thistle, *Cicerbita alpina*, a beautiful blue flowered mountain herb which grows on only four small precarious and



Collecting.



Cicerbita flower.

inaccessible ledges in the Cairngorms. The initial stage is to try to establish the specific threats facing a plant, which we then use to inform our response. In the case of alpine blue sow thistle, my colleague Dr Aline Finger, a conservation geneticist here at RBGE, has looked into the genetic health of these isolated populations to discover whether a lack of diversity will prevent these plants from being able to recover. In response to her findings, the collections of different blue sow thistle populations brought here to RBGE, were cross-pollinated to produce new plants and monitored for fitness. We have recently used these healthy new plants to perform a large-scale translocation back into the wild of 898 plants between five carefully chosen sites across the Cairngorms National Park and one other location. These will be monitored for many years to come, and we hope our efforts will allow these plants to survive current and future threats such as damage by over-grazing and climate change.

Garden inspiration

Conservation can seem like a distant thing, high on inaccessible mountain tops, involving mostly people with PhDs and climbing ropes and obscure plants that, by some, may be described as an acquired taste. It might seem like a world away from the simple pleasures of a domestic garden, full of colour and craft. This is far from the case and through the project we are really keen to show why. Built up areas have become important sites for biodiversity. We can no longer think of homes for people and homes for nature as separate. The risk is that natural spaces become like islands, detached from one another and ever shrinking. All living things



Informative label.

need to be connected with diversity, able to move location as the climate changes and breed outside of their population to stay healthy. This means that built up areas need to act as networks and highways where everything from lichens to butterflies to birds can travel through and settle. Any ecosystem needs the right plants as the groundwork to support it, and domestic gardens are the ideal places to bring these native plants in. What could be a more nourishing prospect for us human animals too? Not only can the presence of lots of native plants help our general environment by cleaning our air, balancing temperatures and mitigating floods, but they also create beautiful spaces to keep our spirits high. Many Scottish native plants are absolutely beautiful and often used in borders, without us knowing that these are in fact local wildflowers. Unfortunately,



Native plants added to a meadow in RBGE.



Plants growing on in the RBGE nursery.



The Rain Garden in Edinburgh.

these might be sourced from genetic stock which is not native and therefore not quite compatible with our ecosystem. There is no reason why more herbaceous plants couldn't be made available from native stock without any compromise on beauty and even with some benefits to their suitability for our climate.

Showcase

To showcase the potential that native plants have for use in ornamental displays, we are in the process of installing a new herbaceous border within our Experimental Garden. This one will be an example of a shade friendly design. In the future we hope to do more. We also have other demonstration pieces in the gardens to provide some garden inspiration with Scottish natives. Our Rain Garden is an example of a natural climate solution, which can be used in urban areas to reduce flooding. The Rain Garden contains excess rainfall in a below-ground basin. This supports a varied planting scheme where we are trialling many Scottish native plants, which further mitigate flooding as they absorb and then release moisture through evapotranspiration whilst also supporting biodiversity. In addition, building on our previous trials with pollinator friendly lawns, we are implementing a large-scale grass-less lawn. A way to incorporate useful habitats, food for pollinators and add beauty to amenity spaces. Finally, we are about to launch a special set of plant labels within the garden, which will be green to point out Scottish native plants, to make sure these gorgeous native plants don't end up hidden in plain sight.

Education and communication

In the last few years, we've seen a significant increase in interest in Scottish biodiversity conservation. This has come from media outlets, members of the public and from young people and it has become a priority for the Scottish Rare Plants Programme to focus on raising awareness and sharing all the, sometimes adventurous, sometimes heart-breaking, sometimes monotonous stories that accompany the work of trying to rescue a flora under threat. To meet the interest from young



The author in the field.

people we've been lucky to get support from funders and organisations over the last couple of years to provide a range of different work experience opportunities for students from outside of, and within the RBGE. This has brought young people into the project, getting hands on experience both in the field and nursery within this field of horticulture, which although currently rather niche will most likely become more in demand. This know-how, understanding and particular sets of skills will need to be shared and developed to meet the biodiversity crisis that we are facing.

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Martine is the Scottish Native Plant Horticulturist at RBGE. Prior to that she trained at RHS Hyde Hall and Cambridge University Botanic Garden, followed by working at Benmore Botanic Garden. She loves the sense of place and appreciation of hidden miracles that working with native plants gives her. For the Convention on Biodiversity targets see: <https://www.cbd.int/gspc/targets.shtml>



Carrifran Valley in summer 2020. Photos © Borders Forest Trust except where stated.

Reviving the wild heart of southern Scotland: 25 years of ecological restoration by Borders Forest Trust

Rosalind Grant-Robertson

It's always good to find you are ahead of the game. As others have woken up to the need not just to conserve precious parts of our world but to restore whole systems, they look around for inspiration and evidence that it is possible. They could look to the Moffat Hills, where Borders Forest Trust has spent the last 25 years demonstrating their belief that native woodlands can be re-established in the southern uplands, where sheep have been grazed for centuries.

Borders Forest Trust's vision is of a patchwork of woodland habitats across the Southern Uplands of Scotland cared for and enjoyed by local communities. In place of denuded hills overgrazed by sheep and goats for hundreds of years, this vision sees native woodland providing the base for whole systems to revive

and regenerate, once given the resources. This is not conservation in the sense of preserving what is left, but in the sense of building back ecosystems which have been degraded with overuse. This belief in nature's own ability to heal is at the basis of all the Trust's work.



The valley back in 1999.

Borders Forest Trust owns three large tracts of land in the area north of Moffat, and three smaller ones across the Borders. The three larger sites make up approximately one third of the area designated as Talla Hartfell Wild Land and together we refer to them as our Wild Heart Sites. These are demanding hills to walk, let alone to plant, with steep-sided valleys cut by glaciers and with a full range of heights up to over 800m asl at White Coombe. All three of our larger sites share the challenges of remote, previously heavily grazed land, sheer-sided valleys soaring to high peaks, large tracts of peatland including blanket bogs and locally important water sources.

Carrifran

Carrifran valley was the first site BFT purchased. It was bought at the end of 1999 with funds raised largely from individual donors, and that is how I became involved with the Trust. Ordinary people are at the heart of the Trust, so much of the planting is done by volunteers. My early volunteering memories include struggling up steep bare slopes in all weathers, high-stepping through bracken and heather with bags of tiny trees grown from seed in Root-trainers. But, as any gardener knows, the joy is in the doing, and my planting companions were always good company, with interesting and very varied backgrounds, who shared stories and many slices of cake! It was quite a stretch of the imagination then to think of mature woodland on those slopes, but we had as inspiration the story of a broken 6000-year-old yew bow found at the top of the valley in an eroded peat hag. This chance find, made shortly before BFT purchased Carrifran, plus the existence of peat cores from the same place which gave us the best pollen record for an upland site in Britain, meant we had evidence of how differently the valley must have looked to an archer back then. He and those like him had the resources of a forest rich in flora and fauna. This bow gave a fundraising focus to the purchase of this valley: to restore a complete landscape to its condition before significant human impact, and it sparked the name *Wildwood*. Another symbol of the valley then was a lone rowan clinging to the bank of



BFT map showing the Wild Land.

Carrifran Burn. The rallying cry to donate was *where one rowan survives, a million trees will grow*. That same rowan won the award of Scottish and UK Tree of the Year 2020. It now is disappearing in its own little forest of progeny from seeds and suckers surrounding it and looks across the burn at half a million trees of different native species filling the valley. Bringing to life quite literally the vision of Borders Forest Trust in just 20 years.

Expansion

Some 640 hectares at Corehead Farm and the Devil's Beef Tub were added to the land under BFT management in 2009. Separated from the Wildwood valley by just 3 km as the raven flies, the history attached to this area - of reivers hiding stolen cattle, of a Covenanter fleeing for his life from dragoons - lends other stories to tell about the Trust's sites and backs up the Trust's aim of restoring native woodland where it belongs. This area would have been part of the ancient royal Ettrick Forest, stretching from Ayr to Selkirk. The Beef Tub itself will remain *the damned deep, black, blackguard-looking abyss of a hole* described by Sir Walter Scott, albeit with richer flora, but in its first ten years of ownership of Corehead Farm, the Trust has planted 195 ha of native woodland over the valleys of Tweed Hope, Whitehope and Lochan Burn, and created more diversity with an orchard, wetlands and flower-rich meadows.

The Talla and Gameshope estate came into the ownership of the Trust in 2013. The largest acquisition at 1832 ha and contiguous with Carrifran Wildwood to its south, this land is



Remnant trees.

equally dramatic, with the tumbling Gameshope Burn and its rocky pools, boggy Talla Moss and rolling hills towering over deep glacial valleys. Years of sheep grazing here, as at Carrifran, had left only some remnant vegetation of rowan, downy birch, ash, hazel and willow along the Gameshope Burn, but regeneration soon started to appear after sheep were taken off and these fragments of woodland have already started to spread, joined by new young trees and shrubs. Woodland and alpine meadow flowers are also reappearing and increasing with globeflower, dog violet, alpine meadow rue and moonwort fern. Already where once the view was of grass and yet more grass, a small but flourishing stand of young alder now welcomes the visitor who starts up the track beside the burn. Yet it was only at the end of April 2016 that a group of supporters and volunteers braved snow to plant the first trees around the bothy. This is testament to the speed with which nature can recover and establish in the harshest of places when given a chance. This year, in its 25th anniversary, Borders Forest Trust has just marked the milestone of its two millionth tree. And, harking back to the first of those two million, planted at Carrifran on 1st January 2000, long-standing supporters were invited to plant trees together at Talla and Gameshope.



Variety

Having a significant landholding meant Borders Forest Trust could move beyond simple woodland restoration to rebuilding self-sustaining natural eco-systems and enabling the return of thriving and varied habitats. The land under their ownership includes heathlands, moorlands, wetlands, deep peat and high-altitude montane scrub. Some might use the label *rewilding* for our work, but BFT's ecological restoration started long before that word gained currency, so we stick to our terminology, which avoids some of the controversy which has arisen around the term *rewilding*. Borders Forest Trust land covers differing geology and soils, which means a variety of habitats will thrive and evolve. By researching local conditions and following the results to plant appropriate species, we feel we are not creating what could be an artificial system based on set ideas. On our Wild Heart sites, we help nature build back and then allow her to take the lead. But she does need a boost after being abused for so long. Some types of habitat have become so rare it would take many years to wait for them to re-establish naturally, so it has been necessary to put back some building blocks. These landscapes have been heavily grazed for so long that simply

removing stock is not enough. In small trials elsewhere, where land has been fenced off and monitored, pockets of birch and rowan have slowly re-established, but for fully functional eco-systems to get re-established, more input is needed especially where seed sources may be lacking. Without focusing on any one species, the Trust plans its restoration work around three main native habitat types: creating woodland with native species appropriate to the terrain, extending this by restoring montane woodland species on higher ground (between 600m and 800m) above the natural line of tall trees, and restoring existing peatland, which is mostly deep blanket bog, to a healthy condition.

This is all long-term work, of course, establishing habitats which will gradually evolve over decades, while the Trust maintains and monitors the natural development and interaction of these ecosystems. There are no shortcuts: when you plant tiny whips in this sort of terrain, even in their hundreds, you need to hold fast to the vision. And yet it has not been so slow to evolve; you can almost feel and hear the sighs of relief as nature relaxes and reappears. In just 20 years, as the woodland has developed, Carrifran has seen a change to woodland rather than grassland birds with far greater species diversity. Flora that could not survive grazing pressure is now flourishing. Bluebells, coltsfoot, butterwort, scabious, orchids, bog asphodel colour up the open flushes. The herbs among the grasses now trail and form cushions where once they crouched low to survive. Bracken is slowly being shaded out while more interesting ferns spread. Notable plant species have increased both in abundance and diversity with new records of plants such as alpine saw-wort *Saussurea alpina* and alpine cinquefoil *Potentilla crantzii*. More insect life, especially butterflies and moths, and fungi have increased the diversity of the valley, small mammals are returning, including the red squirrel, and it will not be long, we hope, before the golden eagle chooses a nest site within the Wild Heart sites.

On the tops

Up high, where those eagles will soar and seek nesting spots, tall trees won't grow. Above the timber line of tall trees in Scotland we usually see mountain tops with only low vegetation. In other countries, such as Norway just across the North Sea, there is a gradual change with altitude from tall trees and associated vegetation to more open areas of scrub and dwarf trees stunted by altitude and climatic conditions. This is known as montane scrub or mountain woodland. These were new terms to me and I had to have them explained. That was hardly surprising as this is such a rare habitat now anywhere in Britain, and there is little information on its extent in the past. For the last 25 years, members of BFT have been part of the Montane Scrub Action Group, now called the Mountain Woodland Action Group. This group of conservation organisations with NatureScot and Forestry and Land Scotland has sought to raise awareness of this missing ecotone. Once again, BFT was in at the start, sharing experience and building knowledge. The topology of our Wild Heart Sites with over 60% of the ground at 600m asl or over means that this is an important habitat to establish to complete the picture. It is also the most challenging, in terms of planting and funding.

Fortunately this neglected habitat has found funding support from the Woodland Trust and NatureScot's Biodiversity Challenge Fund. This has allowed BFT to extend its mountain woodland planting programme onto Hartfell above Lochan Burn at Corehead and to sites in Talla and Gameshope, making a connection across Rough Craig to earlier mountain woodland already establishing at Firth Hope at Carrifran. The number of species appropriate for these altitudes is fewer: dwarf willows (downy, tea-leaved, dark-leaved, eared, grey) and dwarf birch, plus juniper. Dwarf birch had become locally extinct, so it is especially gratifying to see it re-establishing on our sites. Alpine flora already occurring at these altitudes will complete the habitat. In the last couple of years, we have also been trying to re-establish bearberry, *Arctostaphylos uva-ursi*, which is scarce in the Southern Uplands. This



Volunteering in sun, sleet and snow.

translocation project, subject to the Scottish Code for Conservation Translocations, is only a couple of years old. It uses cuttings from a source about ten miles away, and initial plantings seem to be flourishing, though it is proving hard to propagate.

Bogs

While BFT is committed to increasing woodland from the valley floor to hilltops, it happens that its Wild Heart sites include some of the highest and wettest areas in the Southern Uplands with areas of nationally significant blanket bog. Bog, moor, mire, marsh, moss, fen, flow, carr... as a linguist, I rejoice in the variety of names we give to wetlands, and have learnt that to the expert, they are not synonyms but subtly differentiated by the way they form or the niche they occupy in an ecosystem. Unsurprisingly, as nearly 10% of Scotland is wetland, we find them all in place names, and on BFT's Wild Heart sites Talla Moss, Crunklie Moss, Brad Moss and Rotten Bottom aptly describe this terrain and show its age. The varied underlying geology of our sites means that the blanket bogs of the Wild Heart hold no fewer than 22 of the 39 British species of *Sphagnum* mosses. Over a third of the species of bryophytes in Scotland have been recorded in the three sites, so conserving and improving the quality of this habitat is important for biodiversity at a national level.

Boggy areas have suffered from an image as the Ugly Sisters of the countryside. Often described as wastelands, especially by those



wishing to exploit them commercially, they often mean wet feet and loss of direction to the walker, and spooky tales of the supernatural to a child. Peatlands have for centuries been drained as populations have increased and agricultural demands have grown. More recently, significant wetland areas have been threatened with drainage for vast commercial forestry plantations, largely of non-native conifers, and now wind farms.

They are in fact an under-appreciated Cinderella, and with climate change now high on everyone's agenda, they may finally get to the ball. Their image is changing as their value as carbon sinks becomes more widely accepted. Peatlands are now recognised as the greatest land-based carbon store as well as a valuable ecosystem in their own right, providing vital habitat for specialised species of mosses and insectivorous plants and breeding grounds for waders like the golden plover. For society healthy peatland bring benefits such as clean water and flood management. The counterpart of this is that 80% of our UK peatlands are damaged, eroded or badly managed and producing emissions rather than acting as carbon sinks. Gardeners will all be aware that commercial extraction of peat for horticulture has at last been given an end date of 2030. I haven't used peat since the mid-nineties; are any gardeners still using it?

Stabilisation

Once again, BFT was one of the first to leave the starting blocks and seek advice on stabilising areas of peat erosion by stopping

run-off. With its purchase of Carrifran, BFT had inherited a bog pool high up at Firthhope Rig, surrounded by dwarf shrubs and frequented by dragonflies. This area of deep peat was eroding badly and threatening our only bog pool. At first only small-scale work was possible, partly because of access (the area is just below the summit of White Coombe), partly because of lack of funding. Efforts to impede runoff by erecting small dams made of wood or rolls of coir together with laying sisal or jute mats to stabilise and encourage regrowth of vegetation were of limited success. As soon as funding became available, more effective mechanised techniques could be tried. Grossly simplified, this restoration work can be likened to gardeners sorting out bumps and hollows in lawns, but on a much larger scale. The surface vegetation is peeled back, the peat underneath re-profiled and the vegetation replaced. Tackling such work is not for the faint-hearted. Apart from difficult access across the uplands and the unhelpful winter weather, the seasonal window is narrow in order to avoid

disturbance to ground-breeding birds. Using machinery doesn't make the job easy either; the diggers have been stranded in winter snowdrifts on the tops of our hills!

BFT's funding sources for peatland restoration is also innovative. It is a blend of income from government, through NatureScot's Peatland Action Programme, and private sources, channelling business investment into carbon mitigation. Selling carbon related to the reduction of emissions associated with peatland restoration is relatively new, but BFT has used carbon finance for over a decade through Forest Carbon under the Woodland Code, and with the recent introduction of the Peatland Code, for peatland restoration too. Managed by the International Union for Conservation of Nature (IUCN), the code sets requirements including a standard method of quantification which must be verified by an independent body and guarantees to a buyer of carbon that their money will return a verifiable climate benefit. Businesses are keen to support nature in this way.



Downy willow.



Birch and willow regeneration.



Juniper berries. © Philip Ashmole.



Birch cherry blossom.



Fir club moss, Huperzia selago.



Slender cruet moss, Tetraplodon mnioides, growing on an old bird pellet. © David Long.



Ostrich plume feather moss, Ptilium crista castrensis. © D. Long.



Parsley fern, Cryptogramma crispa.



Spore dispersal by Xerocomus ferrugineus.



Hylocomium splendens with Cladonia cristatella.



Alpine saw-wort, Saussurea alpina.



Bog bilberry Vaccinium uliginosum and crowberry Empetrum nigrum.



Cloudberry, Rubus chamaemorus.



Butterwort, Pinguicula vulgaris.



Mossy saxifrage, S. bryoides.



Starry saxifrage, S. stellaris.



Globe flower.



Mountain pansy, Viola lutea.



Early purple orchid, Orchis mascula.



Heath spotted orchid, Dactylorhiza maculata.



Wood anemone.



Wood cranesbill.



The Scottish bluebell/harebell with creeping buttercup and selfheal.



Willow warbler. The developing woodland supports higher numbers and much greater songbird diversity than the grazed hill. © Richard Clarkson.



Blackcock-male black grouse - on a lek on the edge of the trees.

Vision

Borders Forest Trust has always wanted to share its vision. Beyond the boundaries of our Wild Heart sites lie other pieces of land under private or community ownership which we hope will be inspired to replicate our achievements and contribute to that patchwork of native woodlands for all to enjoy. To that end we work with other landowners, guiding their own visions and plans. The hurdles they face also mean we may have to temper their ideas with realism. Trees themselves are cheap and self-sustaining given the chance but caring for them is expensive. Any new woodland becomes a target for grazing animals, so protection in the form of tubes or fencing is needed, and/or strict deer control during establishment. Costs are helped by grants, but even the most determined can be disheartened by a multi-page application form. Borders Forest Trust has to date provided support services, often free, to 45 landowners and thereby helped to create another 1150 ha of woodland habitat across the Southern Uplands. The projects produce benefits beyond just woodland, as we have found on our sites. These new woodland owners develop a greater understanding of the connectivity of habitats, appreciating and protecting other habitats such as wetlands and rivers, seeing the increase in wildlife they bring, and they in turn inspire others.

Man has treated these landscapes as best served human needs over the centuries. These needs have now changed as the unsustainable impact of such uses has hit home. Over the last few months many have discovered, quite literally, the countryside and the refreshment it can provide. This has meant some places have become much more popular and visitor footfall brings its own demands. BFT wants everyone to enjoy these new habitats, but it means understanding them too. Wildness needs respect, and a light touch. From its early days, BFT has run an education programme, offering an outdoor classroom to primary schools and teaching woodland skills to college students, providing activities which will encourage children and young people to explore and learn

about their environment, so they understand and care for nature. Some, including families, work towards John Muir Awards.

People are central to the success of BFT. We have a fantastically faithful band of volunteers and supporters and dedicated professional staff. I am proud to belong to a community of people who can see the importance and benefits of ecological restoration. I have taken heart from seeing the green desert of BFT sites, where once we had to imagine soaring eagles, small mammals and carpets of flowers, come alive into vibrant and varied landscapes in just 20 years.

At the root of BFT's work is a belief in nature's resilience. Nature can be revived where it has been exploited and will repay those who support its processes rather than try to control them. Whole ecosystems can recover given the chance and some sympathetic help. It is not an overnight process. Our vision of *Reviving the Wild Heart of Southern Scotland* needs long-term commitment but that determination already shows results. Borders Forest Trust has shown that it is not just a pipedream: come walk our sites and imagine the landscape there in another 20 years, in another 50, in a hundred...

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Rosalind has been part of Borders Forest Trust for 21 years, serving as a volunteer, trustee and past Chairman. She is a Founder of Carrifran Wildwood and a member of the Wildwood Steering Group. She has been a member of The Caley for even longer and served on Council as Treasurer for several years. For more information look at www.bordersforesttrust.org; www.msag.org.uk; www.iucn-uk-peatlandprogramme.org



a. Two spot. b. Striped pine. c. Ten spot. d. 14 spot. e. Seven spot. f. Cream ladybirds. Photos © Sarah Adamson.

Putting ladybirds on the map

Sarah Adamson

Ladybirds are often called the gardener's friend because their favoured foods include aphids. However, not all ladybirds are the same. There are 30+ species in Scotland across two groups; conspicuous and inconspicuous. There are 30+ because some have not been recorded in Scotland yet but they may well be present. Many are large for beetles and have distinctive patterns which makes them ideal for study. Although there is not a great number of ladybird species, some are very variable and even experts can find identification challenging. See Variability of elytral color patterns in Coccinellidae' on: www.kerbtier.de.

New species

When a new ladybird species was expected to arrive on our shores a group of scientists was ready and waiting to monitor its spread and effects. There were news stories of killer ladybirds and mass invasions. What happened? A group from Cambridge University collected data; a citizen science project which expanded on the success of the Ladybird Survey led by Michael Majerus.

The harlequin ladybird arrived from Asia via the USA and mainland Europe in 2003 where it had been introduced as pest control. Its



Orange ladybirds.

distribution expanded rapidly and the feared elimination of native ladybirds did not happen though there is still a question about the relationship between the native 2-spot and the harlequin. The initial population boom of harlequins spread through England reaching Scotland in about 2015. Where harlequins do exist they eat a great number of aphids and

some native ladybirds, however, all ladybirds are carnivorous and will cannibalise their own species. Over a decade or two it is normal to see cycles of boom and bust in native ladybirds, and this has continued. In autumn 2021 harlequins have been recorded in many urban sites in Scotland but not in the numbers seen in England. Some consider that climate may have slowed their spread northwards.

Recording

To keep track of what is happening we need a better understanding of where ladybirds are and how many there are. Nature recording is unevenly distributed and can recognise where the recording hotspots exist as these are the places where the recorders live.

You can help by recording ladybirds in your area. The only equipment you need is a smart-phone or a camera and computer; a hand lens and small pot are useful additions. A camera with macro facility is helpful but a smartphone will normally produce a good enough photo.

Where should you look? Once you have seen some ladybirds near to your home, you may want to find more unusual ladybirds. The chart gives an idea of what ladybirds eat and

Table with 6 columns: Habitat/Food, Aphids, Adelgids, Scale insects, Mildew/fungus, and Other eg beetle larvae, pollen, nectar, fruit. It lists various habitats like deciduous trees, conifers, and urban areas, and the ladybird species found there.

the kind of habitat they prefer. Although most species can be found in urban areas a small number reside in highly specialised locations, such as alongside wood ant nests or on unstable river shingle.

Which one is it? As with many other insects the Internet is a good place to learn about ladybirds.

The Natural History Society of Northumberland have a one-stop webpage www.nhsn.org.uk/identifying-ladybirds-resources

By joining a Facebook group like Ladybirds of UK you will get assistance with identification; you can look to see what has been seen recently and ask questions about your sightings.

For a useful book see *Field Guide to the Ladybirds of Great Britain and Ireland 2018* by Helen Roy and Peter Brown, Bloomsbury. Illustrated by Richard Lewington it is a well laid out and comprehensive field guide.

How do you record it? iRecord allows you to submit your records to the main National Biodiversity Network database. Register on brc.ac.uk/irecord/ and check out the homepage about how to submit records.



Harlequin ladybird.



Both adults and larvae are carnivorous.

Alternatively, you can use the iRecord App which some prefer, although you submit less detail of your sighting. The website account and app are linked and you can add more detail on the website. Wait for your sighting to be verified by an expert and track your own records on the website.

What can you do for ladybirds?

Living in a temperate area we think of winter as downtime. This is unhelpful for nature which lives throughout the year and, although having its own downtime, it shelters in its habitat. There is much talk about gardening for wildlife but the best help is to leave what is habitat for overwintering species. Ladybirds as adults will move into houses with old wooden windows, cracks in bark, under small overhangs, dying plants, rolled up leaves, beech mast, cones and to a great extent in leaf litter. It's not tidy but it is natural. You can be selective by caring for more tender plants but leaving areas untouched. This way in the spring your garden's mini ecosystems will be ready to carry on with life.

**Sarah Adamson, 32 Downie Grove,
Edinburgh EH12 7AX. Email:
sarahsubs@gmail.com**

Sarah collected ladybirds as a child, including those from Ladybird vests. She first recorded ladybirds in the 1980s as part of a Blue Peter project with children in hospital. Now she hunts for them everywhere, photographs them and records on iRecord. Along with her husband David she is one of the mainstays of the Edinburgh Natural History Society.



Priorwood orchard. Photos © Colin Wren/NTS.

Apples and orchards in the care of the National Trust for Scotland

Colin Wren

Scotland has a long history of fruit production both for private consumption and on a commercial scale, the well-known localities for commercial production were the Carse of Gowrie and Lanark. Less well known are the many small orchards associated with private dwellings, some containing up to 100 trees, others just a handful of trees.

Apple collections

Most National Trust for Scotland (NTS) gardens contain some fruit trees, for example, Culzean, Geilston and Threave. Below are some of our larger collections.

Falkland Palace Garden

The orchard at Falkland contains many early plantings, with some trees possibly dating from the 1890s planting. Many of these older trees are at the end of their lives and our focus has been to propagate from these. Around 20 trees were donated for the millennium planting and are now of a reasonable size, since then additional trees have been added from time to time as a space became vacant. At the far end of the orchard is a group of old pear trees; naming and propagation of these will be a future project.



Displays help the identification and appreciation of apples.

Fyvie Castle Garden

Established by NTS in 2000–2001, this is a modern fruit and vegetable garden in a traditional setting which is home to a collection of fruit and vegetables with Scottish connections. All the available Scottish Apples were brought together along with some pears and raspberries. Some Scottish potatoes are also grown to further champion the rich heritage of Scotland's plant breeders.

Kellie Castle Garden

This garden laid out by James Lorimer and planted by Mary Lorimer includes many old roses added by Louise Lorimer. Planted in the Arts and Craft style this is a very special space, with a mix of flowers and vegetables in perfect harmony. With around 30 varieties of apple growing across the property, many can be purchased from the Lorimer designed summerhouse along with seasonal vegetables. There are some very old trees including two Hesse pear trees, believed to be over 100 years old growing on the south wall.

Pitmedden Garden

With a modern orchard containing over 200 trees as well as old established wall trained fruit, Pitmedden has many interesting apple varieties on show.

Priorwood Garden

The garden sits on part of the former Melrose Abbey site. It was purchased by the Trust in 1974, and is part of the Melrose Conservation Area, with listed walls and buildings. The orchard appears on the first edition OS map of 1859 and formed part of the grounds of Priorwood House to the south. Very few of the current fruit trees have any great age as large parts of the garden were previously used for vegetable production until the 1950s. Today we have a good selection of varieties traditionally grown in the Borders. There is a large 'Bramley seedling' which dominates the orchard and crops well.

Apple varieties

Scotland has a rich heritage of apples with over 100 varieties previously recorded. Many are lost or waiting to be rediscovered in these old orchards, others are still grown and some trees are commercially available; even if you do not see the fruit in your local supermarket it can sometimes be found at local farm shops.

The following are some apples associated with Scotland:

'**Hawthornden**' was raised by Drummond of Hawthornden near Roslin on the south side of Edinburgh. In Victorian times this was one

of the most well-known varieties, Hogg pronounced it to be 'one of the most valuable and popular apples in cultivation... very healthy and vigorous, an early and abundant bearer'. We have a couple of these trees, one can be found at Kellie Castle Garden.

'James Grieve' was named after the famous Edinburgh nurseryman, a dessert variety introduced by Dickson's Nursery of Edinburgh. Also cooks well, with a sweet delicate flavour, dessert & juicy, harvested in September, very reliable all-rounder. This is a fairly common apple across our orchards because it is a good reliable early cropping apple, look out for it at Fyvie Castle or Kellie Castle.

'Scotch Bridget' is an old Scottish culinary variety from 1851, it was often grown in the Borders region and into northern England. It

produces large crops of somewhat angular fruits and appears to crop annually at House of the Binns (NTS).

'White Melrose' is an old Tweedside variety first recorded in 1831, but probably older it is seldom seen and not readily available. The fruit has a tender and juicy fruit suitable for eating and cooking. There is an old established tree at Priorwood Garden.

Apple events

A number of National Trust for Scotland properties hold apple events, which are usually held in October; please check the NTS website (www.nts.org.uk) for details. At these events you will find many unusual varieties displayed, often with the chance to taste or purchase some fruits and occasionally there may be young trees for sale. Apple events, COVID-19 restrictions



'James Grieve'.



'White Melrose'.



'Hawthornden'.



'Scotch Bridget'.



permitting, are usually held at Culzean Castle Garden, Geilston Garden, Hill House Garden, Kellie Castle Garden, Pitmedden Garden and Priorwood Garden, to name a few.

Fruit identification

Many of the apples growing in NTS orchards have lost their names. Over the years material has been sent to The National Fruit collection at Brogdale or the Royal Horticultural Society's fruit identification service for assistance. We are particularly grateful to Scotland's own apple guru, Willie Duncan, who has been a help with naming old varieties. Despite this there remain plenty of un-named trees. For the last few years I have made a start to look at these with a view to trying to identify some of them. Using a selection of books and the FruitID website has made this task easier but there are still many that I have been unable to identify.

Where an older tree remains unnamed, I have begun a programme of grafting to maintain as much diversity as possible. Scion material has been collected from the older un-named trees and grafted onto MM106 rootstocks. These new trees will be planted back in the donor NTS garden until we can identify them. Where possible this process has been carried out by NTS Modern Apprentices at SRUC, Oatridge College or at the property, taking the opportunity to do some staff development for gardeners and other property personnel.



The National Trust for Scotland is not just about looking after Scotland's built heritage, but also the more fragile natural and horticultural heritage. Gardens and garden plants are easily lost; fortunately apple and pear trees are quite resilient and old specimens can still be found. Maybe I will be lucky enough to re-discover a lost variety!

Colin Wren, Gardens & Designed Landscapes Manager (Edinburgh & East), National Trust for Scotland, Newhailes House & Gardens, Musselburgh, EH21 6RY.

Colin is one of four Gardens and Designed Landscape Managers with The National Trust for Scotland, supporting and advising property garden staff across East and Central Scotland. His role includes researching the gardens and plants held by NTS for the benefit of the people of Scotland. www.nts.org.uk



Photos © *Lauder in Bloom*.

Lauder in Bloom's Sustainability Award

Ray Theedam Parry

Lauder in Bloom began in 2014 partly in response to a comment that *Lauder is a long grey town and nothing much could be done about it!* As with most community gardening groups our aim was to use some flower power to brighten our village which, like so many others throughout Scotland, was affected by cuts in local authority budgets which so often seem to hit public parks and open space hardest. We began by adopting the handful of existing council beds and neglected planters in the centre of town. Since then we have expanded outwards adopting various un-loved areas and working with many other community groups. We currently look after 51 planters, 35 hanging baskets and 35 beds. Our aim is to keep our hometown looking loved for all of us who live and work here and for all who visit. We are a relatively small core group of 16 have-a-go volunteer gardeners, many of us

have been involved from the beginning and we are very fortunate that we have great support from our community.

Over the years our group has gradually been evolving and moving away from using peat-based products, pesticides and herbicides. We now reuse plants, plastic pots, Christmas trees, roofing slates and anything else which had previously been seen as waste but which we now view as the valuable resource it is. We've been altering our planting and moving towards more sustainable perennial and wildlife-friendly plant choices. Our help-yourself community herb planters, book swap cupboard and our ongoing free plant and seed swaps are well used by our community. Like many groups we've been planting native trees for future generations and raising awareness of the effect of our litter on our wildlife.



Encouragement

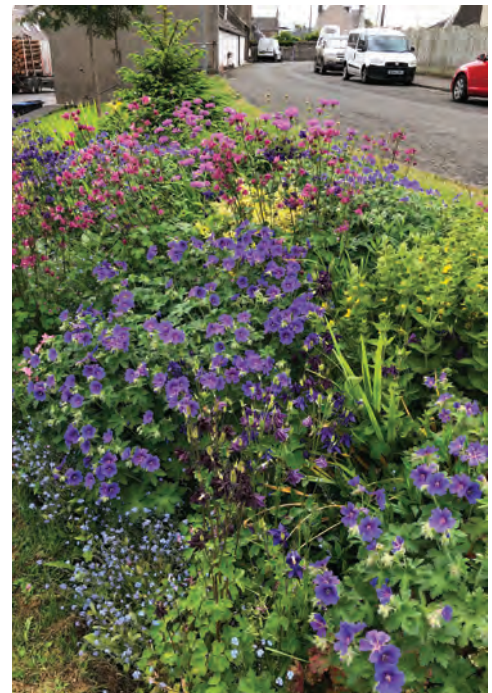
We have been working hard to gently encourage our community to alter some of their more traditional practices by promoting environmentally friendly gardening methods and the reasons behind them. No-one wants to be told that they are doing something negative, especially when they are unaware of the detrimental impact of their actions, and they are simply doing/buying what they have always done. With the gradual awakening of the general public to the very real issues of man-made climate change, community gardening groups have a good opportunity to gently educate anyone who wants to listen.

Lauder in Bloom has been working to connect with other community gardening groups nationally through the Keep Scotland Beautiful network and locally so that we can support each other and share best practice. This helps us all to keep going despite the inevitable reduction in local authority assistance. We've also been looking at our own volunteers' expectations and are working hard to help make all the team feel valued and appreciated whatever their level of involvement.

It's up to us as communities to help to raise awareness of the relatively simple actions we can all take which collectively can make a difference. It's too easy to wait for someone else further up the tree to do something about it. As I write this COP26 is in the news and we can no longer stick our heads in the sand. But by focusing on our own gardens and our own communities we can make some of the big and quite frankly scary, environmental issues more approachable at the same time empowering locals to do something in their own back gardens. The work of the RHS and Keep Scotland Beautiful In Bloom groups has made it much easier for us to start these conversations.

Examples

I'm a relative newbie on the gardening block and it hasn't always been easy when faced with 'aye been' but I'm delighted that our group, and as a result many in our community, are embracing or at least having-a-go with home-composting, water butts, peat-free products, recycling, reusing, sharing equipment and gardening with wildlife in mind. There is no doubt that a key to this has been seen out in the village getting our hands dirty by making





demonstrable improvements. This includes hanging baskets and seasonal bedding at key points along our main street. People are then more likely to listen when we talk about sustainability. Shifting perceptions leads to increased awareness, for example realising that there can be an amazing wildlife safari outside your own back door.

We were delighted to have been the 2021 recipients of the Jim Murdie Trophy for Sustainability. It is named after a well-known and much respected member of the Royal Caledonian Horticultural Society. This award is given to the group which demonstrates sustainable practices across the three pillars of the Beautiful Scotland Awards: Horticultural Achievement, Environmental Responsibility and Community Participation.

***Ray Theedam-Parry, Chief Organiser,
Lauder in Bloom.***

Ray has been involved with Lauder in Bloom since it started. She is chief organiser, fundraiser and secretary for the group as well as a volunteer assessor for Keep Scotland Beautiful. In her spare time she is a charity trustee, a volunteer gardener at Abbotsford House, a Macmillan volunteer and is lucky enough to be able to garden most days. For more information on the group see their website, Facebook page and their entry on the Beautiful Scotland webpage.



Broch Bottom. Photos © Colin Ainsworth.

Tales from an Angus garden

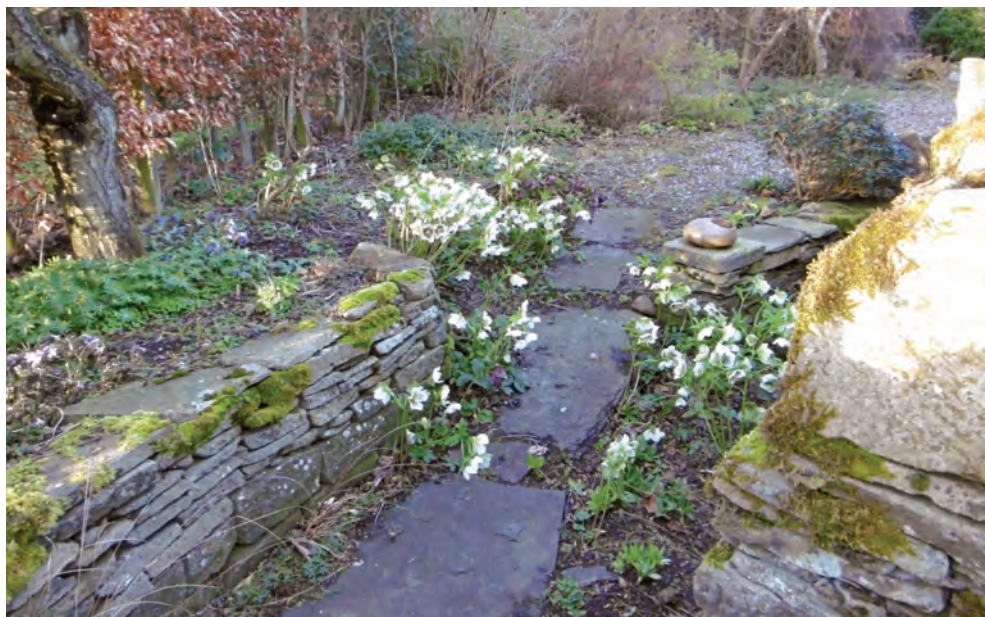
Colin Ainsworth

Some readers will have had an insight into our garden in Letham in Angus in the first talk of the Caley 2021–22 season back in October. The house was called Ardmear formed from two cottages and situated to the north end of the village of Letham. Letham is five miles south-east of Forfar and relatively quiet with no main roads running through it. The garden is triangular in shape with the house in the middle and is approximately a third of an acre. The soil is good Angus silty loam with a pH of 6.5. Having the cottage in the centre of the plot gave a number of aspects and we had a wonderful south facing front of the house.

As we had been in the house since Christmas 1984 the garden underwent several changes over the years until we left in May 2018. The biggest changes to the garden were the building of a poly tunnel for the propagation of herbaceous perennials in the winter and tomatoes in the summer and laying unwashed gravel in the back garden. When we first moved in the house, which needed quite a lot of work doing to the interior, was surrounded by grass and various piles of stones. Initially the garden layout stayed pretty much as we first found it, apart from the formation of a mixed herbaceous border running down the hedge in

the back garden. Most of the plants in the border were gifts and swaps from like-minded people as what plant material existing in the garden consisted of naturalised snowdrops and daffodils, a solitary cherry tree - which we moved - and an established clump of *Geranium psilostemon*. Behind our ground was an impressive backdrop of three giant Californian redwoods which have grown considerably over the years. We did buy one or two things early on. One of our earliest purchases was from

Blooms of Bressingham of one *Crambe cordifolia*, one *Paeonia* 'Bowl of Beauty' and one *Geranium macrorrhizum* 'Czakov', all which we still have. We used these plants in a long herbaceous border. Other herbaceous plants we have added include the stately *Rheum palmatum atrosanguineum*, the yellow-green flowered *Hacquetia epipactis* which does well in damp shade and several forms of the wand flower *Dierama*. *Euphorbia* is a useful genus but watch out for the highly irritant white sap. Good





Primula vulgaris sibthorpii.



P. 'Wanda'.



False oxlip P. vulgaris x P. veris and Epimedium.



Hacquetia epipactis.



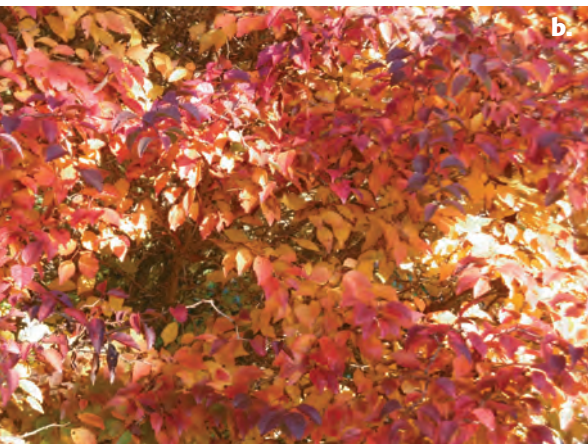
Cardamine pentaphylla with Corylopsis.



herbaceous types include *E. griffithii* 'Fireglow' and the smaller *E. polychroma*. *Eryngium* 'Miss Willmott's Ghost' did well for us, the bees loved it, but the plant usually died after flowering though it always set abundant seed. Legend has it that the lady it was named for used to sprinkle its seeds into any garden she visited.

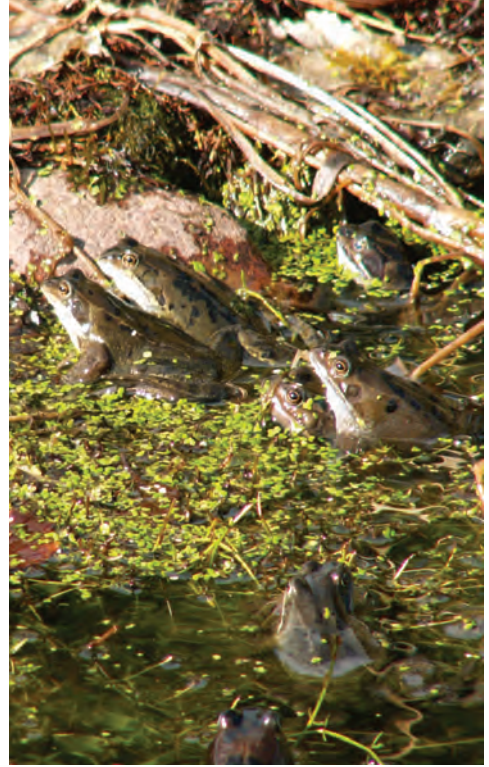
Gravel

The garden stayed much the same until the mid-1990s when we decided to get rid of the grass at the back. Secondhand geotextile membrane was laid and 16 tonnes of unwashed gravel was delivered from Lochside Quarry just outside Forfar. Purchasing unwashed gravel was to have some unexpected but pleasant surprises! At this time a wildlife pond was dug at the request of our son and lined with a butyl rubber liner. Our next-door neighbour gave us some marginal aquatics from their pond and we stood back to see what nature would bring. We purchased the striking but invasive skunk cabbage *Lysichiton americanus*. We now know this can be a problem when seeds get into watercourses but it's fine to grow it in a site with no water outlets. Also yellow but less vigorous was the double form of our native marsh marigold *Caltha palustris*. Ponds need submerged oxygenators and we planted the native hornwort *Ceratophyllum demersum* which has thrived. Also thriving rather too well was duckweed. This seems to get into most ponds and all you can do is scoop it out to stop it covering the entire water surface. The pond eventually attracted a variety of wildlife including diving beetles, leeches and over 30 frogs which spawned every spring and gave us what we called the staff as they worked quietly away, reducing our slug population. We were able to grow very good hostas. Also enjoying damp conditions were several primulas including *P. sibthorpii*, the lilac flowered subspecies of our native primrose from Turkey, the good old hybrid *P.* 'Wanda' and the white 'Sneekissen' (Snow Cushion). We also grew the natural hybrid between primrose and cowslip sometime called the false oxlip. We know the false oxlip arrived without our help, and again these free plants thrived.





Skunk cabbage in flower.



Frogs in the pond.



Fred enjoying the garden.

Opposite page: a. Garrya good form. b. Acer 'Osakazuki'. c. Prunus 'Ko-Jo-Mai'. d. Parrotia persica.

Structure

Back on dry land, we bought from a nursery closing down sale a job lot of holly hedging, a snakebark maple *Acer davidii* and *Acer palmatum atropurpureum* while from Binny Plants came a prostate form of the South Atlantic beech *Nothofagus antarctica* and from Cluny House Garden a seed raised *Acer davidii*. This was considerably smaller than the half standard tree bought from the sale, but over a period of five years almost caught its bigger brother up and was a nicer shaped plant as well. The adage big is beautiful doesn't always hold true! Other effective shrubs we added included *Parrotia persica*, *Acer* 'Osakazuki' both with superb autumn colour. The relatively dwarf Japanese cherry *Prunus incisa* 'Kojo no mai' has all year interest with attractive twisted stems, spring blossom and autumn colour while the dwarf elm *Ulmus* 'Jacqueline Hillier' is another attractive tree for a smaller garden. We had a good form of *Garrya elliptica* with long tassels, possibly 'James Roof,' and *Corylopsis* which we then underplanted with *Cardamine pentaphyllum*; the contrast of pale yellow and lilac flowers being very effective.



The unwashed gravel provided numerous free gifts, starting with a number of ferns, followed by alpine strawberries and a good mix of foxgloves and then a Scots pine. We often wondered how old these spores and seeds actually were, but we were very pleased with the free plants. The gravel garden evolved over the years with what was originally *Geranium oxycarpum* 'Walter's Gift' which started seeding itself into the gravel and gave us a good mix of *Geranium* hybrids. We made paths through the gravel by hauling out what was in the way, but otherwise left things to get on with it. Planting was quite easy. A bit of gravel was scraped back, a cross was cut in the geotextile fabric, the plant was put in, the geotextile was folded back and, finally, gravel was scraped back into place. We always found that planting small sizes of trees and shrubs was not only cheaper but the plants established quicker and grew away well.

My wife Lucy was responsible for creating a stone feature in the form of a curved drystone wall with a stone bench in front. My role was to carry the stones! We named it Broch Bottom after the mysterious highland brochs.

Most gardeners enjoy sharing their gardens and their plants. We hosted charity open days and Hardy Plant Society visits. We donated and exchanged seeds and plants within the village and beyond; it was nice to walk along the street noting where 'our' plants had been introduced.

We thoroughly enjoyed our garden so why did we leave? After 30 plus years we both felt it was time for a change as well as a less labour-intensive garden. However we did take 23 crates of plants with us to our new home in Fife.

**Colin Ainsworth, Fordell East Garden
Cottage, Hillend, by Dunfermline,
Fife KY11 7HB.**

Colin is the current Caley president. He started his gardening career as an apprentice at Blackpool Parks dept but moved north, first to study at RBGE, then to work for many years with Dundee parks dept. He was recently awarded the Caley's Andrew Duncan medal and a full citation is later in this journal.



Spring colour. Photos © Christine Watson.

A small Borders garden

Christine Watson

I moved into my present house, then a new build on 12th August 2002. Growing up I started helping my mother in our family's Edinburgh garden which boasted a fine rock garden. I moved to work in the Borders in 1962 and, after getting married, moved to St Boswells. Our first garden was more like a field and included a large amount of grass, frequented by many moles, so proved a challenging start to my own gardening hobby. The present garden is at the back of the house, L shaped and measures approx. 22 metres across the bottom and 25 metres at the longest section. As a keen plantswoman and after many years cutting grass I replaced the grass with gravel on membrane on the main part allowing plants to seed freely and

added bark round the ericaceous and woodland gardens. The whole garden was rotovated and cleared of weeds before the membrane was laid. All gardens need structure so I planted a birch tree (only 12" high, now 20' high) and a dwarf magnolia adding to a rowan I inherited in order to create a woodland corner. There are also several shrubs in the ericaceous beds, azaleas, rhododendrons, pieris and acers.

Along the boundary fence I grow herbaceous plants with climbing roses from David Austin and honeysuckles along the fences. Some other taller plants in this area are delphiniums, *Meconopsis cvs*, *Cardiocrinum giganteum*, poppies, asters and peonies. In

spring for the last four years I have mulched the beds with Strulch (minced straw with added minerals) which stops annual weeds and also helps deter slugs and snails. It has proved to be successful as it also helps to break up the clay soil. In the centre of the garden is a raised scree bed with dwarf rhododendrons, pasque flowers, *Erigeron karvinskianus* and alpines. The bed is raised on sleepers giving a bit of height to the garden and is backed by two special rowans and a large *Yucca filamentosa* which in 2020 produced eight spikes of flowers.

Sharing

One of the pleasures of gardening is sharing plants with friends. Plants seeded into the gravel give an ample supply of young plants to share with friends and donate to the plant stall at the garden club. I enjoy growing seeds from the SRGC's remarkable seed exchange as well as from my large collection of lewisias. I have also been successful growing cyclamen from seed. As the seed ripens spread it on a piece of damp kitchen towel to which has been added one drop of washing up liquid. Leave overnight and plant in a loose free draining



Herbaceous border.



Yucca filamentosa.

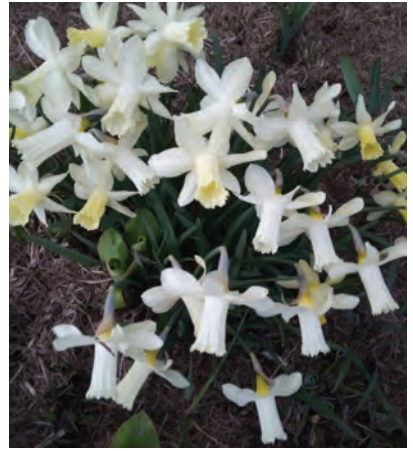
compost, cover lightly with compost... it works for me! I also have a collection of auriculas and a small collection of gentians as well as seven alpine troughs. Another pleasure is harvesting my own supply of that very expensive spice saffron from my own plants of *Crocus sativus*.

Indoors

As soon as possible after moving in we added a relatively large conservatory. It measures 4.5 x 5 metres, faces north but can be very hot in summer owing to lack of shade. Here I grow a variety of indoor plants with quite a number of orchids. I've been fortunate enough to see tropical orchids abroad in Singapore Botanic Gardens. Most numerous are phalaenopsis which are great value plants now modern propagation methods have reduced the price so dramatically. They have an exceptionally long flowering period and will reflower if you cut off the old flowers and are careful not to over water them. If the roots rot I have had success with miniature phalaenopsis by removing all bark compost, washing carefully, soaking overnight in cold tea, drying overnight and then soaking in water for 24 hours. Repot and watch new roots grow.



Tulipa batalinii.



Dwarf Narcissus.



Pulsatillas in a central bed.



Hybrid hellebore.



Trillium chloropetalum.



a. *Cypripedium*. b. *Pleione*. c. *Cymbidium*. d. *Lewisia* 'Sunset Strain'. e. *Amarine*. f & g. Two of the *auriculas*.



a. Dwarf Iris from France. b. Strulch on the beds. c & d. Some of the roses.

I also grow some large cymbidiums. These benefit from being outside in summer when the cooler night temperatures encourage initiation of flower buds. I've grown a variety of *Pleiones* but found some forms deteriorate over time. Other indoor plants I enjoy include the small, borderline hardy cyclamen so prominent in garden centres in autumn. Another indoor bulb I flower year after year is what gardeners still call amaryllis even though the botanists say we should call them *Hippeastrum*. Many find these flower well in their first year but some people have trouble getting them to flower in subsequent years. I feed them as the flowers die and leaves develop, then dry them off for an autumn rest which is usually successful. Other less usual plants currently in the conservatory include the Chinese foxglove *Rehmannia* and the Guernsey lily, *Nerine sarniensis*, which isn't hardy outside.

I have a small unheated greenhouse used for propagation and also home to my collection of *Lewisia* cvs. These are easy and very colourful plants to grow provided they get protection from our wet winters. One recent addition to my collection has been the hybrid between *Amaryllis belladonna* and *Nerine bowdenii* sold as amarines. They combine the vigour from the *Amaryllis* and the flower shape from *Nerine*.

Christine Watson, 14 Buccleuch Chase, Borders.

Christine taught Home Economics in Border schools for 30 years. She was a founder member and Chair of the Scottish Borders Rock Garden Group for most of the time since its formation in 1996. The group has become a centre for Borders growers not confined to rock garden plants as Christine recognised that most members had a wide range of interests. Meetings have gone from strength to strength with people travelling miles from all over the Borders. The group is also famous for its cakes at the end of the talks; Christine is a notable baker. She received a Caley certificate of merit at the 2021 AGM.



The cactus house. Photos © S. da Prato.

Cacti and succulents in the Borders

Jim Colledge

I started growing cacti and succulents in 1952 with a packet of seed from Woolworths. Three plants germinated after a year in my mother's warm cupboard and I grew on three specimens of the golden barrel cactus *Echinocactus grusonii*. I still have the smallest of the trio now a bit bigger than a football; the larger ones went to large greenhouses in Inverness and Ardchattan. My small collection was housed on a wide windowsill in the family home. When we married our new home had a small 6 x 8 greenhouse on the south facing wall. My plants showed their appreciation of the move by regularly coming into flower. My collection of well over 100 species and varieties, many grown from seed, is now housed in two greenhouses one 10x8 the other 9 x 12 on the south side of my house in Kelso,

overlooking the River Tweed. Good light, especially in winter, is one of the most important factors in growing these plants successfully. Although it's their distinctive shapes and spines that initially attract most enthusiasts, many cacti will flower relatively easily if given the right conditions.

Flowering

One house is mainly devoted to cacti with an emphasis on those plants that flower freely and don't grow too large making them very difficult to take to shows. Most of my plants flower every year with late May and early June the peak flowering months. Besides good light cacti need good drainage. Garden centres often sell imported plants grown in peat which should be repotted into a soil-based compost.



Mammillaria pseudoperbella.



M. hahniana.



M. plumosa.



Rebutia cv.



Rebutia heliosa.



R. donaldiana.



Repotting is different to other pot plants. Besides wearing gloves and/or using a rolled-up newspaper or packaging material don't water the plants for around two weeks. Like many growers I use John Innes no 2 with added grit. As I repot most plants annually feeding is limited to a maximum of three times over the growing season with liquid Tomorite. I use traditional clay pots which I feel are better than plastic which can hold water. Cacti don't need deep pots as most are shallow rooted, storing water in their swollen stems. Most enthusiasts like to name their plants especially for shows. It's always worth buying plants properly labelled. I first showed at Edinburgh but after that branch of the BCSS folded I joined the Glasgow branch; I've also shown in Fife. Cacti often appeal to young people and many fine collections have started with a few plants on a child's bedroom windowsill. Genera that will flower as quite young plants are *Rebutia*, *Gymnocalycium* and *Mammillaria*.

Watering is of course key with all pot plants. It's surprising how many people think cacti don't need any water at all! Experienced growers will water at weekly to ten-day intervals in the growing season starting slowly in March and withholding water by October. Again as with all pot plants don't just water by the calendar but judge when the plant needs it. If your cacti don't flower it may mean that they aren't getting enough light - a common problem if in a house as even a bright window has lower light levels than a greenhouse.

As so many cacti come from deserts and other cloudless habitats they have evolved to grow in much cooler night temperatures than during the day, something not practical in a house. In a greenhouse they do need to be kept frost free. Some growers use bubble wrap over the winter. Many cacti can tolerate quite low temperatures provided they are kept dry. As a rough guide those with grey or white woolly



Two Astrophytums.



Gymnocalycium horstii.



Echeveria zaragosa.



Kalanchoe pumila.



Euphorbia meloformis.



Lithops.



Agave victoriae-reginae.



Euphorbia horrida.



In the succulent house.

hairs or spines are adapted to colder conditions. Some cacti even grow on trees. Well known examples are the Christmas and Easter cacti and orchid cacti with spectacularly large flowers. Their leaf-like stems tend to droop so are best in raised pots or even hanging baskets. All these need more humidity and some shade from strong sun than more typical cacti. All true cacti, apart from one species which grows on trees in Madagascar, are from America. They are succulents but there are many more succulents than there are true cacti.

Succulents

A succulent is simply any plant with thick, fleshy (succulent) water storing leaves, stems, or roots. They have adapted to survive dry conditions throughout the world. Many are from Africa such as many of the aloes and some of the most intriguing succulents the living stones or *Lithops*. These last are in the family Aizoaceae often called mesembs after the genus *Mesembryanthemum*. This includes the well-known annual Livingstone daisy. Some African euphorbias look so similar to cacti they are often sold as 'cowboy cacti'. My largest plant is a *Euphorbia horrida* which is so heavy it never leaves the greenhouse. Other

plants in this very large — c. 2,000 species — genus are poinsettias from Mexico, the well-known herbaceous spurges, and the small green weeds familiar to any British gardener. All have the characteristic white irritating sap. A few succulents such as the houseleeks (*Sempervivum*) grow wild in Europe and are hardy outside in Scotland though they do not like too much winter wet. Although all succulents flower some are mainly grown for their distinctive leaves and stems. *Echeveria*, *Gasteria*, *Haworthia* and many *Crassula* species all look good even in small pots. Some are fun plants e.g. the string of pearls *Senecio rowleyanus*. There are even a number of succulent bulbs such as *Ledebouria* sometimes classified as a *Scilla*.

Jim Colledge, 100 Roxburghe Street, Kelso.

Jim started work with a local seedsman's business in Kelso moving on to manage a garden centre. He and his wife Margaret then ran a successful florist's business in the town for many years. He has served on Kelso flower show committee for 40 years and is a founder member of the Borders branch of the SRGC. The British Cactus & Succulent Society website has details of the active Scottish groups as well as lots of useful information about cacti and succulents.



A trio on an Alpine Garden Society show bench. Photos © Peter Maguire except where stated.

Late autumn saxifrages

Stan da Prato and Peter Maguire

The genus *Saxifraga* is a large one with close on 500 species. Gardeners usually think of these as compact mountain plants best grown in a rock garden or even alpine house. However, some species are quite different from the compact alpine types. London Pride, *Saxifraga x urbium*, a cross between two European species, is the best-known example. *Saxifraga fortunei* grows among shaded mountain rocks in parts of China, Japan and Korea. It was named by Hooker after the Scottish plant hunter Robert Fortune who spent so much time exploring in the Far East. Some botanists regard it as subspecies of the closely related *S. cortusifolia*. The wild plants have numerous white flowers in graceful 40cm panicles. Leaves are glossy, rounded and lobed often tinted with bronze or dark red; the

undersides are usually a rich red. Different forms occur in different parts of its range. Selecting and hybridizing between the forms and closely related species has led to an increasing number of good garden plants which flower after most others have finished. We have some still in flower as this article was written in December. Flowers now range from white through to red in colour.

The plants are hardy though many enthusiasts keep them under cold glass to protect the flowers from autumn weather. All need moist, lime-free soil rich in humus in a sheltered and partially shaded corner of the garden or frame. Some are stronger growers than others. As with many other plants, forms with attractive leaves with less chlorophyll can be less



S. 'Black Ruby'. © Christine Boulby.



S. rubrifolia.



S. fortunei in the open ground.
© Rosie Oberlander.



The new cv. 'Sybil Trelawney'.



S. 'Eiga', © C. Boulby.



S. 'Moe'.



S. 'Sugar Plum Fairy'.



Three new Japanese hybrids. © S. da Prato.



S. 'Gokka'.



S. 'Fumiko'.



S. 'Cherry Pie'.

vigorous. The very attractive 'Silver Velvet' is best cosseted in a pot rather than the open garden. The biggest problem in cultivating these saxifrages is that vine weevil love them. Regular treatment with nematodes is recommended remembering that the tiny predators only work in the warmer months. Edrom Nursery in Berwickshire has a very wide range of these plants and many of those in the photos came from there.

Stan da Prato, Email:
standaprato@talktalk.net
and Peter Maguire

Stan is the editor of the Caley Gardener and a regular exhibitor of these and other plants at Scottish Rock Garden Club shows. Peter is a keen photographer specializing in outdoor subjects and a long standing member of the Alpine Garden Society's Newcastle branch.



Bonnington House. Photos © Scotland's Gardens Scheme.

A year of garden adventures

Liz Stewart

Having joined Scotland's Gardens Scheme just after lockdown in July 2020, my first year in the role has been a rollercoaster, to say the least. Let's move swiftly past the winter challenges of compiling our 2021 programme, of writing and producing the Yellow Book online. Then the inevitable but bitter disappointment of the early 2021 lockdown, losing our snowdrop and early spring openings. However, when we finally could open again towards the end of April, I was determined to get out and about to as many gardens as possible. I share with you my first Scotland's Gardens Scheme season and hope to inspire you to pick up the 2022 Yellow Book or take to the website to create your own garden adventures. You might even think about opening your own garden!

New gardens and gardeners

We opened at the end of April with quite a splash, with Bonnington House gardens making a memorable start to the delayed season and one of the new gardens to open

with Scotland's Gardens Scheme in 2021. The private gardens of the owners of Jupiter Artland sit within the park's estate yet are mostly hidden from view to visitors. Created by Arabella Lennox-Boyd, the gardens feature terraced gardens, a laburnum arch, potager and late April tulip displays, with a spectacular swimming pool designed by Joana Vasconcelos. The pool is on occasion open to the public for a pre-booked dip! Visit the Jupiter Artland website to find out more.

Meet the charities

Opening gardens for charity is, of course, at the heart of what we do and it was a great pleasure to meet charities that are supported by Scotland's Gardens Scheme. Fresh Start in Edinburgh helps people who have been homeless to get established in their own homes. They joined us to tell their story at the opening of Redcroft, Anna Buxton's wonderful garden in west Edinburgh, which raised a fantastic sum to support the charity this year.



Fresh Start at Redcroft.



Maggie's Centre at The Garden of Cosmic Speculation.

Our belated opening of The Garden of Cosmic Speculation was finally able to take place in October, a much smaller opening than usual and on a day that can only be described as dreich, but very special nonetheless. Created by the late Charles Jencks and Maggie Keswick-Jencks, the founders of Maggie's Cancer Caring Centres, the garden is an important pilgrimage for many, especially those who have been affected by cancer, and it was a privilege to meet the wonderful Maggie's team at the gardening opening, also, of course, one of Scotland's Gardens Scheme's own main beneficiaries.

Groups and villages

As a keen garden visitor myself, I have a particular soft spot for villages and groups, where there is a chance to see a number of smaller gardens which have so much to offer in terms of interest and variety. One garden can be completely different to the next and there's always an idea or two to take back to your own garden - and sometimes a plant or two as well! As my own village of Gifford opened this year, I took the plunge myself and joined in with my own garden. While rather nerve-wracking in the run up to the big day, I



Redcroft pond.

thoroughly enjoyed the experience as it was a lovely opportunity to chat to fellow garden lovers and meet new people!

We are proud to present urban trails of tiny gardens, to selections of town and village gardens, all curated by our amazing volunteer District Teams.

Our garden owners

Talking of people, our garden owners are a unique, generous and very special bunch of people. Admire a plant and they are likely to dig up a piece for you; get them talking and you will hear the stories behind the plants, the projects and their plans for the future. More than anything, they are keen to share their passion for plants and their joy in gardening and I defy anyone to chat to a garden owner and not be fuelled with ideas and inspiration for their own garden.

The garden of Susan and Michael Burns in Nantwich Drive in Edinburgh is astonishing as from a quiet city street, the garden stretches out behind the house into an organic haven for wildlife with mini orchard and woodland walks, productive veg area with composting, greenhouse and enormous pond. Although not a large garden, it's easy to lose yourself and while away an hour or two, with so much to see and explore.



Michael Burns.

New visitors

We've heard a lot about the three million new gardeners in the UK who caught the gardening bug during lockdown. Whether or not that will continue, we were certainly delighted to welcome new visitors to gardens this year, with reports of amiable goths and Hell's Angels visiting and we certainly noticed younger visitors as the Instagram generation discovered our gardens. We hope they will keep coming!

Gardens by arrangement

This is an under-explored but very special part of Scotland's Gardens Scheme. Did you know that many of our gardens open by arrangement? This may be because of limited parking or simply because the owner prefers a smaller opening but sharing a garden in this way offers a wonderful opportunity for an exclusive visit at the convenience of both the visitor and the garden owner and is often available at short notice. Small groups of two or three visitors are often welcome, as are larger groups such as horticultural societies. Explore the book and the website and you will find many hidden gems to explore.

A midsummer visit to Kilbryde Castle was a wonderful opportunity to enjoy the gardens in full bloom and escape the heat by exploring the surrounding shady woodland walks.

Practising what we preach, the Scotland's Gardens Scheme Head Office team visited Glassmount Gardens in Fife at the end of September. Initially enticed by the spectacular Mackenzie & Moncur glasshouse, we found the garden to be a joy with fascinating plantings, many artefacts and seating areas, threaded through with winding paths amongst pokeweed, *Gunnera* and *Cardiocrinum giganteum*. We were treated to a garden tour, guided by the fascinating and charismatic owners, Irene and James Thomson and had such a memorable and enjoyable afternoon.

If you haven't yet tried arranging a private visit, I would urge you to do so; the owners will be delighted to welcome you!



Kilbryde.



Glassmount.



Kincardine Castle.



Portrack.



Temple village.



Stobshiel.



Elgin.

Sublime planting and special places

I'm a fickle garden visitor and usually the latest garden I've visited is my favourite! The beauty of Scotland's Gardens Scheme is that the garden owners schedule their open days or opening season for when their garden is at its best, although for many, those openings may extend across the year with many points of seasonal interest.

A garden that comes back to my thoughts time and again is Stobshiell in East Lothian. Having been affected by box blight, the edging in the walled garden had to be removed and along with that, a re-design with new stone, gravel paths and soft edging. The garden in July was just breathtaking, with frothy *Crambe* and armfuls of heavenly blue, towering delphiniums.

No less special, is our smallest garden, created by a doctor in Elgin as a secret sanctuary to relax between shifts and

surround herself with the energy of plants as an antidote to stress and anxiety, as well as learning how to create something beautiful in a tiny space, using local nurseries.

Every garden that opens with Scotland's Gardens Scheme, opens with love; a love of gardening and a desire to share that with others. In that spirit of generosity, you can't fail to find something to enjoy and inspire in every garden opening with us.

Liz Stewart, 23 Castle Street, Edinburgh.

Liz is the National Organiser of Scotland's Gardens Scheme, having joined in summer 2020 from the Royal Horticultural Society, where she was Scotland Development Manager and national programme lead for RHS community grants. She gardens in Gifford in East Lothian where she is a keen supporter of the local horticultural society. She is a judge for Beautiful Scotland. For lots more information visit the website: Scotlandsgardens.org



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More hidden gardens opening their gates in 2022. Where will you visit?

scotlandsgardens.org
Charity no SC049866



photo © S Littlewood



John Marshall senior at Milton of Kincaigie. Photos © the Marshall family.

Plant viruses: the Dalreoch story

John Marshall

The recent International Year of Plant Health 2020 coupled with my participation in the British Library's Oral History project of post war agriculture encouraged me write about my father, John Marshall, and his involvement in the Virus Tested (VT) scheme for potatoes during the 1950s. Gold medal awards in his agricultural studies led to the post of a college economics advisor in the East of Scotland. Shortly after this he took up the tenancy of a mixed arable farm, Mid Fordoun, near Auchterarder just before WW2 and then with the help of his father he purchased Dalreoch farm near Dunning. During this time he developed a strong and long-lasting interest in potatoes.

Food security

WW1 emphasised the need for food security and the potato was at the top of the list. The corner stone of achieving good crops was healthy seed. As early as 1770 degeneration,

senility and running out were terms used to describe the poorer crops; there was even a comparison with smallpox! It was recognised by farmers in the Lincolnshire Fens and Yorkshire that Scottish seed lasted longer and produced more vigorous crops with higher yields. Much later, the vector an aphid, *Myzus persicae*, was identified as the culprit for the spread of viruses, particularly in warmer climates. By the beginning of the 20th century varietal purity and wart disease had been tackled by the Department of Agriculture, however viruses were having devastating effects on crop yields.

My father grew and rogued Stock Seed (SS) potatoes on a remote (that is from other potatoes) upland farm, Milton of Kincaigie, Dalguise, Pitlochry. This healthier seed, all 'Majestic', the variety of the day, was then multiplied up at Dalreoch before being sold to commercial growers. At the end of one back



My parents.



Dr McIntosh.

breaking long day, rogueing, he was heckled from the gate *Pull the good ones out and grow them!* He approached 'the townie with the fedora', and, biting his tongue, he listened politely. Dr McIntosh, the then head scientist of The Department of Agriculture, outlined their proposals for the Virus Tested scheme for seed potatoes *to raise the health status of Scottish seed and increase national crop yields.*

Glasshouse laboratory

During my research for the British Library in my father's records I discovered an almost illegible draft letter to a Young Farmers Club contact in North America . I unravelled it with some interesting revelations about his potato work. *I have had a most interesting year on the farm not least the addition to our family of a son Johnnie last February (1950). Me!*



He continued *During this summer to comply with the advance in our Department of Agriculture schemes for certification of healthy stocks I decided to erect my own glasshouse-laboratory to virus test my own stocks. This was done in June to test leaf samples from the eight families of the popular variety 'Majestic' which I have been rejuvenating for some years; again quite exciting especially since all successfully passed the required tests on the 'White Burly' tobacco and Datura stramonium.* Both were used as marker plants to show low levels of unseen virus infections in the field grown potato crops. *Datura stramonium* is also known as thorn apple or Jimson weed.

The greenhouse laboratory was key to the virus tested VT enterprise which is best explained using a diagram. One visually healthy plant, true to type, was selected and now tested using the tobacco plants. This produces 10–15 tubers (top of the apex). The ten tubers, provided they passed the health test, pass on to year two multiplying up year by year for five years maximum, all done in the field plots. It was a substantial undertaking, no tomatoes or other exotics in this greenhouse which was strictly for tobacco plants! These were marker plants. An unseen low level of virus in the potato leaf would show up and be clearly visible on the fast-growing tobacco plant.

Bob Marshall in a field of 'Majestic'.



The Dalreoch laboratory.

Labour force

The labour force was at hand in the form of three Marshall Children: myself, aged four, sister Anne six and James ten. The lab was now fully functioning. My first task was holding terra cotta pots to be filled with sterilised soil by Old Tom, a retired cattleman, for transplanting the Burly tobacco seedlings. When the plants had reached the four-leaf stage they were ready for inoculation. Leaf samples collected from the first, second and third year field plots were placed in paper bags, labelled, bundled up and put into the freezer. There was little room for the plentiful peas, beans and fruit from the kitchen garden at the critical time! The freezing and subsequent thawing of the potato leaves produced mushy leaves with easily extractable



Anne checking leaves for signs of virus.

juice. My job in the hot house was to take the frozen leaves from the pack and place on squares of cheese gauze. Anne meantime had rubbed carborundrum powder on the leaves to break the skin then father would squeeze the gauze bags with pliers so juice flowed onto the tobacco plants. After a few minutes, allowing time for penetration, excess was washed away and the plants were left to grow for two or three weeks. There was a constant family vigil on ambient temperatures, opening and closing the greenhouse, usually remembered at mealtimes, also ensuring plenty of water, particularly on hot days. This could get quite fraught when my father went off to his frequent London meetings with the Potato Marketing Board with my brother taking charge of our farm.



Old Tom.

The rapidly growing tobacco plants were inspected frequently and would clearly show up mottling or deadened veins caused by the viruses, thankfully a rare occurrence. Meticulous records were kept. Any sign of virus and the field plot was written off, dug up and removed. You can imagine what one infected plant at this stage would mean to the commercial ware grower ten years down the line!

The used tobacco plants were then dumped in the compost heap. When I was a bit older I naively dried some for my pipe smoking and fishing transport uncle. This was not a great success and fishing trips were put on hold.

The letter to America also revealed the logic behind another bizarre land purchase: the policy parks and ruins of Duncrub Castle. His



Plots on virgin soil.



Hand lifting with Tom.

vision to use the clean virgin soil, which had not been cultivated or many years, for the virus free potatoes, and the former stables for compartmentalised storage.

Towards the end of the 1950s the new man in the Department of Agriculture, Dr Jim Hardie, was the driving force behind the next phase in improving plant health, the stem cutting plan. The potato shoots were topped at 12", axillary shoots encouraged then used as cuttings at three inches high which produced tubers free from skin spot and blackleg diseases. Dr Kassanis from Rothamsted, a specialist in meristem culture, took this a quantum leap further. Some varieties such as 'King Edward' and 'Golden Wonder' had resident viruses which could not be removed by a simple stem cutting. He demonstrated with 'King Edward' by taking a cutting from

the very tip, i.e. the newly formed cells, that it was free from virus. The Para Crinkle virus free 'King Edward' plant eventually produced a tuber which was introduced into the VT regime at Dalreoch, 'Red King Edward' followed close behind. National yields were now on the up.

Red Craigs Royals

'Craigs Royal' in the 1950s was a very popular second early which my father grew in his VT plots. A Londoner and one time evacuee in Dunning returned as a 'mudstudent' to gain some practical experience of farm work. Over lunch he told my father they had found a red skinned potato in amongst the particoloured Craigs Royal plot in The Railway Field. My father, who had rogued this field, knew this was no rogue but a red variant, a mutation. Soup was left and they made a mad ten-mile dash to



Potato store for a fourth generation.



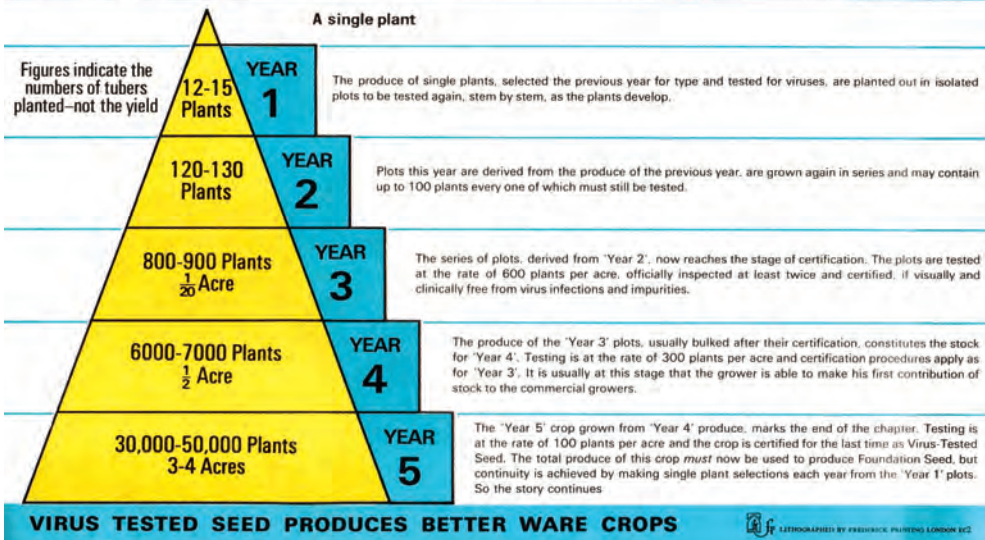
Dr Kassanis' field of 'King Edward'.



THE STORY OF VIRUS-TESTED SEED

Production of tested seed is a serial story of plant selection, of testing in the greenhouse, the laboratory and the field, of co-operative endeavour by the private grower and the Government Agricultural Department, of the development of commercial crops from the smallest unit, the single plant, in this way, stocks of

desirable type and free from crop-reducing viruses are produced and there are many viruses to be considered X.A.B.C.S.M (including paracrinkle), Y, vein necrosis and leaf-roll. Growing crop health, in terms of national certification schemes, now depends mainly on the inflow of tested seed. How is this seed produced?



Perth. It was a Saturday and the picker had been allowed to take them home for the pot. The scrubbed tubers were saved from the boiling water and produced a crop the following year. What ensued was a five-year battle with the Department of Agriculture which ended amicably when it was accepted as a separate variety called 'Red Craigs Royal'. It became very popular and by the 1970s 20,000 acres were being grown. It was prone to hairline cracking and splitting so, with the progression of mechanisation, the variety today is confined to the museum plots. Many new varieties including the A-S of Pentlands: Ace, Beauty, Dell down to Squire, found their way into the Dalreoch plots as the breeding station was keen to get them off to a disease-free start.

Scientists from the leading research stations streamed through, leaving their expertise with us: Dr Hirst and Dr Hyde from Rothamsted, experts on the latent diseases such as skin spot, Dr Boyd from Edinburgh and so on. Sadly my father died in 1970. Brother James ably continued the enterprise. Unfortunately he was no match for global warming as high-grade seed potato production migrated to Aberdeenshire and the Black Isle were there were fewer aphids. The Virus Tested Growers Association - now The Pre-Basic Growers Association - was founded in 1971 to encourage collaboration between the high-grade growers, the government and scientists and so promoting the health of the potato crop.

The scheme has moved forward with micro propagation from government nuclear stock, mini-tuber production, Elisa testing and the more recent voluntary Safe Haven Scheme to minimise the risk of Brown Rot and Ring Rot. For my part I left the farm but a heavy fatherly footprint of unshakeable enthusiasm for the humble spud remained.

Footnote

In the 1940's there were approximately 80,000 UK potato growers with average yields of seven tonnes per acre and total UK production of about six million tonnes. In 1970, 46,000 growers were producing a



Drs Hyde and Hird from Rothamsted inspecting.

similar tonnage with yields of 11 tonnes per acre. Today 2,000 growers with yields touching 20 tonnes acre produce 5.4 million tonnes. There is lower total production due to falling consumption and more imports in the form of fries. Wartime Dig for Victory saw a surge in allotments but interest in garden production of potatoes since then declined although the enthusiasm of the remaining enthusiasts is undiminished. Lockdown did see a turnabout in vegetable growing and other forms of gardening. Watch this space!

**John M Marshall, 36 High Road,
Auchtermuchty, Cupar, Fife KY147BE.**

From early days on the potato farm John has journeyed through the ever-changing potato industry initially with the Potato Marketing Board, then as a seed trader both home and internationally, then a short spell with James Hutton Institute was followed by a run up to retirement with WCF, a leading company which supplied seed potatoes through all the main retailers to the garden trade. Retirement brought experiences at the Chelsea Flower Show, working with schools in the Royal Highland Education Trust, participation in Potato Days and more visits to potato fields around the globe. Talks/zoom talks available Email: johnmarshall278@btinternet.com



a. *Soil-based John Innes compost.* b. *Peat-based multipurpose.* c. *Reduced peat Levington professional compost with wood fibre.* d. *Reduced peat amateur compost with recycled green waste.* e. *Melcourt peat-free compost based on wood chips.* © Stan da Prato & Ian Christie.

John Innes composts

William Tait

Until the 1940s there was a plethora of composts used by gardeners throughout the land. Many were their own special secret recipes which were claimed to produce the heaviest vegetables, most productive fruit and exotic flowers. Head gardeners would usually keep a notebook as they had so many mixes. All this changed in the 1930s with the advent of John Innes composts. These are based on a set of simple formulae, developed at the John Innes Horticultural Institution (now the John Innes Centre). The scientists who developed the formulae were William Lawrence and John Newell. Lawrence was prompted to study seed and potting composts following a failure of *Primula sinensis* seedlings, an important experimental plant for the institute's geneticists. After hundreds of trials, Lawrence and Newell decided on two basic composts and a base fertiliser for use in the potting compost. The formulae contain loam (soil), peat, sand or grit, and fertiliser in varying ratios. They also realised

the importance of sterilising the soil that was the major component of the compost. The formulae of these composts were published for all to use in 1938. The JIHI never manufactured the composts for sale nor benefited financially from their production. The name John Innes Compost was given in 1938–39 by the horticultural trade.

I worked for a year at the JIHI looking after the Commonwealth Potato Collection and had the pleasure of meeting the two originators of the compost.

The compost mixing shed was arranged so that un-sterilised material was at the entrance. It was a long building having seven bays with brick walls on either side. A few doors along the outer walls opened outwards through which loam was shovelled to be sterilised. The loam had to be of a medium texture and made from turf 1.5 inches thick.

The turf was stacked grassy side down in heaps and left in the open for at least six months to allow the foliage to rot down. It was then transferred to the first bays from where it would be made into compost during inclement weather. Towards one side of the centre was the steam injected steriliser. Coarse river sand was kept in one of the bays and granulated peat in another. Bins of ground limestone and John Innes base fertilizer were kept in another. The fertilizer was a mixture of hoof and horn, superphosphates and sulphate of potash. The loam for the compost was passed through a mesh riddle to remove stones and roots, sterilised for two hours at 180 F then allowed to cool. Bushels (eight gallons or 36.4 litres) was the measurement used when making the compost.

John Innes Seed Compost was made up from two bushels of sterilised loam, one bushel of coarse sand and one bushel of granulated peat sieved through a ¼ inch riddle. To this was added an ounce of ground limestone and an ounce of superphosphate. This was turned over three times to mix before being put into the bay nearest to the potting shed.

John Innes Potting Composts all used seven bushels of loam, three bushels of peat sieved through a 3/8th inch sieve and two bushels of coarse sand. All then received an ounce of ground limestone. The difference between the three JI potting composts was in the amount of base fertiliser. No 1 for young plants had four ounces, No 2 for potting on plants eight ounces and No 3 for mature plants 12 ounces. For lime hating plants John Innes Ericaceous Compost had no limestone included. The mixes were turned over three times for a complete mix and then put into the appropriate bays. All of this was manually done and the floor was scrupulously swept after each time.

There were no plastics in those days. The seed trays were wooden and made up in the potting shed. The pots were terracotta and came in a variety of sizes. To ensure that the pots were clean and sterile, they had to be scrubbed and washed before steam sterilising and then stored

on racks in the potting shed. Used pots were kept outdoors. The potting benches were built at a comfortable height at which to work. They had a rubberised cover to prevent splinters and to keep the compost in good condition.

The problem with making JI compost was sourcing good quality loam. This was a major reason why soilless composts were developed for example by the University of California. These were mostly based on peat which is now being phased out on environmental grounds. Peat free composts are also soilless using materials such as wood fibre, bracken or coir from coconut palms. However experienced growers still use John Innes especially for plants that are to stay in their pots for a long time. The advantage of the soil base is that it buffers against fluctuations in water and nutrient levels. That is why you often see composts which mix JI with multipurpose. Some modern JI composts now use a peat substitute in their mix. Modern JI compost can contain quantities of soil ingredients such as clay or silt that are not traditional loam. There is no legally binding standard for John Innes potting compost. However suppliers who are members of the John Innes Manufacturers' Association claim to supply reliable John Innes potting composts that will support good plant growth even though not all ingredients match the original specification.

Finally if you want to try making your own JI compost with garden soil you will need to sterilise the soil to kill off pests. Soil can be sterilised in an oven in a baking tray heated for ten minutes at between 71°C (160°F) and 79°C (175°F).

**William Tait, 18 Warriston Terrace,
Edinburgh EH3 5LZ.**

Bill started his gardening career in Perthshire but moved gaining experience including the year he describes at the John Innes Institute in 1960. He then worked for many years at the Royal Botanic Garden Edinburgh.



Gladioli make wonderful cut flowers as at Dundee Flower Show. Photos © Keith Brand.

Following in the footsteps

Keith Brand

The sad passing of William (Bill) Murray SHM has made me do a lot of reflecting on his influence on my hybridising projects and those of his other prodigy, Graham Anderson. To compose an obituary for Bill for the British Gladiolus Society Annual, I had to carry out an extensive search of old BGS Annuals where Bill was a regular contributor. Bill was a hybridiser of gladiolus on a scale unequalled in his early days. His award of the Patrick Neill Medal is testimony to his efforts in hybridising gladiolus and making them available to all latterly via Great Western Gladiolus. Bill did not just hybridise gladiolus but carried out crossing of Lilies (the lily, Jimmy Aitken, is one of his creations) and in later years daffodils. The gladioli and daffodil projects are ongoing, with the daffodil hybridising in its infancy to see any tangible results. I would suggest that anyone wanting to hybridise

daffodils should start early in life and not when you are in your late seventies! However, in his eighties Bill decided to start breeding his own potato cultivars, more work in progress.

I suppose the greatest compliment to our mentor is that we both still follow the processes that he learnt and perfected and through his writings in various BGS Annuals and personal chats at shows or over the phone, with relatively minor adaptations.

Crossing

The genesis of the process is the selection of the cross you want to make and having a good, healthy stock of the parent plants. They don't necessarily need to flower at the same time as we can successfully store pollen. A small container, sealed and labelled can be kept in the fridge until the seed parent is flowering.

The key to all this is ensuring the pollen parent flowers first, either by natural earliness or planting the pollen parent much earlier, then the cross can still be made that year. Personally, I have never done this but I know Bill's great friend and fellow hybridiser, the late John Pilbeam, often collected pollen and stored it prior to use.

Once the parents are chosen, good cultivation practices are needed. Bill and I diverge at this point from Graham who lives much further south, near Burton on Trent. Bill discovered over years that his best takes (those being when the cross is successful) and seed production always occurred with crosses done indoors. I have to say after the 2020 season (the effects of lockdown finally hit me) where I made far too many crosses, the majority of which were made outside and seeing the weather destroy a number of these crosses, the future is very much indoors. The crosses I did inside my greenhouse were all fruitful and produced nice plump seed. Sometimes a monumental set back reinforces the words of wisdom written many years ago.

For crossing, I have now gone back to utilising the plants grown from cormlets for corm production when doing my crosses under cover. I say under cover as it doesn't matter whether it is glass or polythene. The cormlets are grown in a mix of 3 parts potting compost, 3 parts bracken compost, 3 parts loam and 1 part vermiculite with a 500ml carton of Remin Rockdust added in and put into polystyrene fish boxes. I feed with a fertigation fertiliser 12-8-30 on two occasions. When the plants start to flower, I take the ripe pollen from the pollen plant and transfer it on to the stigma of the seed parent. I then cut back the petals and remove the anthers of the seed parent. This makes it very unattractive to bees and other insects as I have removed the landing pad and the benefits of seeking out this flower. You can pollinate further flowers on the same plant as they open and have a multitude of crosses made on the same plant. I tend to do only one floret per plant as I still want a corm at the end of the season. Although there is anecdotal

evidence that doing the crosses during the middle part of the day is preferable, as someone who is still in employment, this isn't always feasible. So, my crosses are, in the main, done in the early morning or evening to no disadvantage. I then break the top of the flower spike as I don't need to exhaust the plant's energies any more than necessary. That is a slight diversion from Bill's methods where he used full sized plants grown from corms in pots and did the crosses inside. Graham, with the benefits of a much warmer climate, does his crosses outside on fully mature plants and once the cross is made the plant is then covered with a fine mesh cloth bags to exclude any further potential pollinators. Once the cross has taken the ovaries start to swell and eventually end up with a pod about two inches long and full of seed. These stay on the plants until they start to split naturally, then it is time to remove the pod from the plant, open the pod up and spread the seeds on a paper towel for a few days before storing them in paper bags/envelopes. The seeds are contained with a papery case. I don't remove the case but John Pilbeam certainly did, spending hours laboriously removing the seed case. The seeds are viable for a number of years if stored dry initially, and should be capable of germinating, four or five years later. In the envelope is the label from the cross. I use different colours for different years. It gives me an instant clue as to the year the cross was made. All 2020 crosses are orange. Bill used to write on the leaves of the plant the cross in a waterproof ink.

Growing on

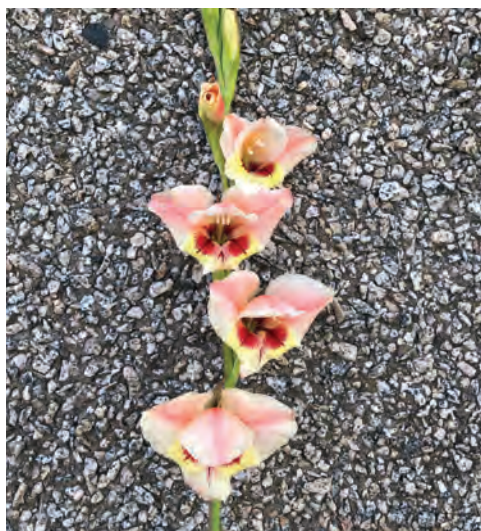
The following year the seed is sown in the spring and grown in my case in polystyrene fish boxes and Graham's case plastic washing up basins with holes in the bottom. Bill used a heated growing bed with a compost mix inside his greenhouse and he covered the top with grit to reduce any weed growth and retain moisture. They require regular watering and maintenance as any plant would in such an environment. They stay in these boxes from mid-March right through until November. The last watering will be made in mid-September and I use the same fertigation



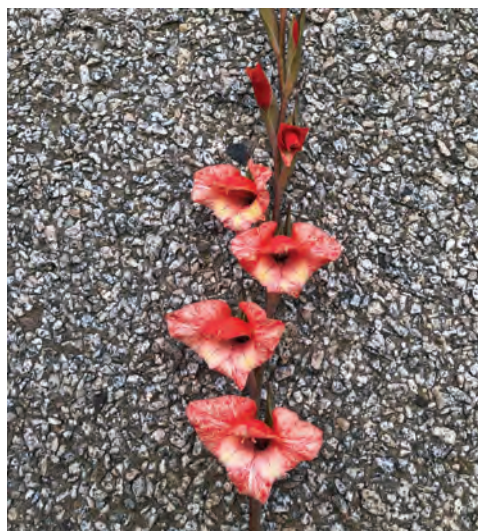
Seedlings growing on.



Corms in storage.



'Loch Katrine' ('Inchgarvie' x 'Shalimar').



'Loch Arklay' also ('Inchgarvie' x 'Shalimar').



'Inchgarvie' ('Corncrake' x 'Lady Penelope').



A John Pilbeam seedling. John and Bill constantly swapped seedlings so no doubt some Edinburgh breeding is behind this.

fertiliser as for the cormlets, twice through the season. The long growing season is to give the plant a chance to form as large a corm as possible at the base of the plant. The corms are all invariably near the bottom of the receptacle in which they were grown. Those grown in the polystyrene boxes have some of the roots penetrating the boxes. This was Bill's least favourite time as the small corms were close to the heating cables and entwined themselves around the cable. Getting them free without damaging the cable was always an issue. He also rigorously riddled the growing medium to get every last corm out. The size of the harvested maiden corms, determines their destination the following year. Any mini corm, the size of a petit pois is subjected to further season in containers, a standard treatment we all follow.

Later years

In Graham's case the maiden corms always go into pots to grow them on for a further year to get some size into the corms. My own and Bill's method is to plant them into the garden soil. I can do this as my specialisation is *primulinus gladioli* and they grow perfectly well from corms the size of a large pea upwards. The row has vermiculite below and above the corm, this is for ease of lifting and saves a huge amount when cleaning the corms. The spacing is 5cm between the corms. Bill's garden had grown numerous *gladiolus* crops and he had been using Basamid to control soil diseases. I have always been lucky enough to have reasonably new ground for growing my glads. It has meant a few different allotment sites and gardens to find clean soil. Once the maiden corms are planted a good general cultivation regime is carried out. Hoeing, weeding and any spraying would be done in a similar way to any other *gladiolus* bed. Bill loved the flowering season. He used to say every day he went down to the garden he saw a new flower show. The different colours, diversity of markings and colour combinations make a wonderful sight. One thing we all do is rogue out any unhealthy plants. In my case and Graham's that will be a very odd, if any plant. However, Bill would have a few that even with the Basamid treated soil would

succumb. These and the corms that die in winter storage were Bill's favourites. As he wonderfully put it *they deselected themselves!* The selection process is the same for us all as we have an ideal flower description to follow and we look for flowers that match this ideal. However, we are not just concerned with these ideal plants, but also the ones that don't match the epitome of the perfect flower description. New colour combinations, unusual colours, high bud count, exceptional placement are all characteristics that can make these plants worth retaining and propagating for future breeding plans. Faults that we all look for are face up flowers, poor weather resistance, poor floret attachment and inconsistency of floret form. From a larger corm you may get a few more buds in the following year but none of the other issues will improve or disappear. Selecting all done, the corms allowed to grow on and are lifted later in the year and those not selected initially but not deselected are given another chance the following year when a larger corm is planted. At this stage, a secondary selection can take place, one not given any consideration by many hybridists but a factor Bill was acutely wise to. To propagate further stock, the new seedling has to produce cormlets and some cultivars are notoriously shy cormlet producers. This is a characteristic I have concentrated on in my breeding programme and I won't use poor cormlet producing cultivars and certainly not any cultivars that have a history of poor storage qualities. Whilst Bill and I would be seeing this wonderful flower show in the first year from seed, Graham snaps the heads off the maiden plants grown the pots to further increase the size of the corm!! His excitement starts the year after ours. That said he does have a new flower show each year as he has a continual conveyor belt of seedlings to assess. One real diversion Bill never had to deal with is maintaining a stock of parent plants.

Sometimes a hybridist may want to reinforce the characteristics from a grand-parent or even great grand-parent and crossing back to this cultivar will take place. Therein lies a problem if we haven't maintained a stock for



Bill in his garden. © Family photo.

our personal use. The turnover of cultivars and the effects of Brexit and fewer North American suppliers willing to export to the UK has made things more difficult than was the case in Bill's days. The cost of a phytosanitary certificate varies dramatically between suppliers in the USA and Canada and when we may only want a few corms this makes things quite prohibitive. Sadly, last season two suppliers decided to call it a day exporting to the UK.

All is not lost and there are a great number of hybridists in Eastern Europe. Czechia, Latvia, Estonia, Ukraine and Russia are all possible sources of new genetic material. These gladioli all share a common characteristic in that they

have the thickest of petals and have incredible ruffling. Some do not have the bud counts we so desire in the UK; however, their beauty is regarded very highly.

The dainty primulinus is an almost exclusive British domain. Bill's creation 'Corncrake' is still in the hands of a few enthusiasts. It is the parent of one of my own releases, 'Inchgarvie', named after one of the small islands in the Forth estuary. The cultivar 'Blue Tit' is still in the hands of a few and cormlets have been available through the BGS in recent years. 'Blue Tit' will always bring back a memory of the day I showed at my first Glasgow Evergreen show and I managed to beat Bill that day with his own creation.

The BGS used to run a series of trials and Bill was a great supporter of these. He won numerous awards and was always thrilled when his Edinburgh seedlings did well. Sadly, the trials are no more.

It is hoped that once his family have the time to look through the plethora of gladioli material Bill will have accumulated, there may be some cormlets and packets of seed we can distribute amongst our membership and thus continue Bill's legacy.

Keith Brand, Ardshiel, Bruce Terrace, Kinghorn, Burntisland, Fife KY3 9 TH.

Keith has been an exhibitor, breeder and judge of gladiolus since 1984. He is only the second secretary of the Scottish Gladiolus Society founded in 1972 following Bill Murray's retirement in 2004. He was the 2021 judge for the British Gladiolus online show series and has judged at Harrogate on numerous occasions. He is currently focusing on maintaining the cultivars of the late Bill Murray and late John Pilbeam and breeding new cultivars for release to other exhibitors the proceeds of which are forwarded to Dementia Charities.

Scottish Horticultural Medal



Stephen McCallum has made a considerable contribution to Scottish horticulture, most recently as Head of Gardens for the MacRobert Trust where he instituted a successful Horticultural Training Scheme for trainee and apprentice horticulturists based at Douneside House, Tarland. In the past seven years, 22 students have participated in the scheme, going on to successful careers with a range of employers. Such has been the success of the scheme that the MacRobert Trustees approved an increased intake of trainees from four to six from 2017 and the possibility of one or two year traineeships. His achievements at Douneside as Head of Gardens has resulted in the successful remodelling of much of the estate, including the planting of rare and interesting trees, the establishment of an ornamental garden adjacent to the house and the improvement of the walled garden. His responsibilities extend to the strategic and operational management of ornamental and productive horticulture and ornamental arboriculture for the MacRobert Trust's 7,200-acre estate. An important contributory factor to Stephen's success at Douneside is his openness to new ideas and his mentoring abilities. Students, past and present, speak warmly of their time under his supervision. Before Douneside, Stephen was responsible for the construction and management of a three-acre specialised garden development for Tern Television: The Beechgrove Garden. While at Beechgrove, where he was Head Gardener, he introduced a successful volunteer programme. Stephen serves on the

Scottish Committee of the Chartered Institute of Horticulture and the Board of Trustees for Scotland's Garden Scheme.



Elizabeth Macgregor and husband Alasdair moved to Ellenbank, near Kirkcudbright in Galloway, 30 years ago to start a nursery and garden. Now renowned for both growing and breeding plants, Elizabeth first discovered her passion for horticulture while studying art in Warwickshire. During this time, she acquired her first garden and very quickly realised she wanted to work with plants professionally. She started doing a little hybridising, which she found interesting, realising just what was possible. After completing horticultural courses at the Garden House in Devon, Elizabeth began her professional gardening career. She started with a small collection of violas selling the plants via mail order. Eventually she and Alasdair acquired Ellenbank, which had a small walled garden in which to grow and test plants and enough space for a nursery. The couple's son, John, now helps run the thriving business. In the days before the internet, horticultural shows were an important way of promoting a nursery, and Elizabeth quickly honed her skills as an exhibitor, raking in no fewer than nine gold medals in nine consecutive years from 2003 to 2011, as well as an award for Most Creative Display in the RHS Floral Marquee in 2004 and Best Exhibit in 2007. She has made a significant contribution to Scottish horticulture providing top quality plants grown in Scotland and has an outstanding knowledge of, and an eye for, exceptional and interesting plants.

Patrick Neill Medal



Brian Ballinger is a very experienced amateur field botanist. His working career as a consultant psychiatrist in Dundee is documented elsewhere, but Brian's contribution

to field botany, conservation and improvement of urban spaces is celebrated here. For years he has been Botanical Society of Britain & Ireland County Recorder for Easter Ross, voluntarily recording the changing flora of this enormous area, from coast to mountain top. Here, he has highlighted the fragile flora of locations such as Morrich More and been involved in protecting important species such as the coralroot orchid. He is also closely involved with the Botanical Society of Scotland's (BSS) Urban Flora Project and has contributed more than 15,000 records so far. He has had input into numerous ecological and environmental projects around Dundee through his roles with the Scottish Wildlife Trust, Dundee Naturalists and Butterfly Conservation. One example is his guiding hand over the SWT The Miley reserve, a one-mile length of disused railway track, transformed into a pleasant urban space. Brian is always happy to share his knowledge and experience with others. Each year he runs a botanical display at the Dundee Flower and Food Festival, leads and supports many field meetings with groups across Scotland, and his infectious enthusiasm was well demonstrated when he was BSS President, from 2017–19.

Andrew Duncan Medal



Colin Ainsworth worked in public horticulture for over 40 years. Having started as an apprentice in 1972 with Blackpool Parks he studied at the Royal Botanic Garden

Edinburgh, moved to teach in Warwickshire College, before moving back north to Dundee City Council in 1983 where he held several different roles including managing the Dundee Flower and Food Festival, until taking early retirement in 2011. Retirement has been

very full. Colin undertook part time lecturing for Arbroath College and voluntary work at Forfar Open Gardens and continued with a range of other horticultural activities. He has been a long standing and active member of the Hardy Plant Society, including being Vice Convener for the Scotland & Northern Borders Group. He was Chair of the Letham Gardening Club for over 20 years and Chair of Letham Feuars an organisation formed when Letham was formed as a village in the 1700s to look after village assets, buildings and green spaces. The two organisations took over the planting and maintenance of the village square when Angus Council pulled out. Colin is one of the longest serving Beautiful Scotland Judges and an It's your Neighbourhood Assessor. He is show convener for the new Scottish Auricula & Primula Society. He has judged at many flower shows. Colin is an essential member of the Caley team at Saughton Park and is greatly appreciated by the Friends of Saughton Park as well as Caley members. In March 2021 he was elected as the new Caley president.

Queen Mother's Memorial Medal



Nicola Cole has worked in a number of therapeutic gardening projects for people with mental health problems over the last 20 years. She shares her horticultural wisdom gently helping

shape a therapeutic environment in which people with serious health problems can work towards recovery. Nicola worked at Chrysalis in Dundee and The Walled Garden in Perth before becoming the manager at Redhall Walled Garden in Edinburgh run by the Scottish Association for Mental Health. She creates the perfect conditions for gardening to work its magic for everyone who comes to Redhall. She balances the responsibilities and demands of preserving and developing a historical walled garden with the role of providing a safe and nurturing environment for the trainees. It is a special blend of knowledge at the intersection between horticulture and

health that Nicola has honed over the years and she puts it to good use every day to help people get the most out of their time in the garden. This includes supporting people to take on a plot of their own, a big step for most, and to realise creative projects.

Carter Patterson Medal



Jamie Sinclair is a NTS apprentice, currently at Branklyn Garden in Perth, where he has shown a tremendous aptitude for the role. Despite the challenges caused by the COVID-19 restrictions, Jamie shown great willingness to play his part in all that pertains to running a garden. He has developed a passion for alpine plants and is always keen to expand his knowledge. Jamie has also been given some extra responsibilities, including the role of acting Registrar of the Plant Heritage Meconopsis Collection as well as devising a method of supporting a bank with an alternative to peat walls as NTS prepares for a peat-free era. Jamie also attends SRUC Oatridge Campus on a block release basis where he has proved to be a hardworking and enthusiastic student who is popular with his peers.

The Caley Award



Pam Whittle moved to Scotland in 2001 to become Director of Health Improvement for the Scottish Government. Her most important criterion when looking for a house was a decent sized garden. She soon joined the Caley and became an enthusiastic exhibitor at the Spring Show. Pam was elected Caley President in 2011 and served until 2016. Under her energetic presidency, the Caley Council held development days and subgroups were formed to take the society forwards while the website was further developed. She firmly believes the Caley should continue its 200+ year contribution to Scottish horticulture with a strong emphasis on education in its widest sense. A

strong supporter of Grow & Learn, she did much to progress bids for Lottery funding and the programme's subsequent development. In 2016 she successfully led the Caley's partnership bid with the City of Edinburgh Council for £4 million Lottery funding to restore Saughton Park and provide a home for The Caley. She promotes Saughton as an educational facility for Scottish horticulture as well as leading hands-on work sessions with Caley volunteers in the garden. Always looking for new challenges she is now fundraising for a large glasshouse to further the educational work. She is convenor of the spring show and a keen and successful grower of daffodils and auriculas. She has put in a prodigious amount of work for the Caley and continues as a tireless ambassador for the Society and for Scottish horticulture. Without her, The Caley would not be in the position that it is in today.

Certificates of Merit



Agnes Rossi better known as Mike, is at the core of a two Scottish horticultural groups, the Scottish Bonsai Association and the Scottish Gardeners' Forum. She joined the SBA after a chat to one of its founder members, Jimmy Russell, and became Secretary of the Fife SBA group before going on to become Convenor, representing the group on the SBA Council. She had roles as Secretary and Vice Chair of the SBA Council before she became Chair. She is also a Trustee of the National Bonsai Collection, presently held at Binny Plants in Ecclesmachan. Mike is also a member of the SGF Council and is the Membership Secretary of the organisation which involves doing the majority of the administration on behalf of the Council. She chases up subscriptions, mails out the Newsletter, records member clubs' events and keeps the records in excellent order. She is currently Vice Chair of the SGF. She is also a calm and dedicated presence on SGF council. Both the SBA and the SGF would be the

poorer were it not for Mike's impressive support of the organisations.



Andrew Cathcart was a technical teacher at Broxburn Academy, where he spent his entire teaching career. His interest in growing fuchsias increased when

he joined the Central Scotland Fuchsia Society and the British Fuchsia Society in the 1970s. For many years he was Secretary of CSFS. He became a National Judge of the BFS and travels extensively to judge at many shows. He was also a long-time manager of the BFS Scottish Show and still takes an active part in ensuring that it runs smoothly. He is also a committee member of Polmont Horticultural Society. He enjoys sharing his vast knowledge of fuchsia cultivation and his other interest, Streptocarpus. Another fuchsia related interest developed when he received a thank you card with a fuchsia on it, thus starting more than 30 years' enthusiasm for collecting fuchsia lore. The collection has been much admired when displayed at various shows and talks around the country.



Carolann Philp has, for many years, been an enthusiastic beekeeper, gardener and community volunteer in her hometown of Rosyth. She is also The Caley's very first recipient of our Grow &

Learn in Nature award. December 2020 saw her complete her ambitious GLiN award, focusing on improving biodiversity in her own garden and also a local primary school. She enlisted the support of teachers, parents and pupils to plant over 300 bulbs in a neglected area of the school. Her infectious enthusiasm ensured everyone involved thoroughly enjoyed the experience, with pupils, parents and teachers learning specifically about the importance of pollinators and the environment. Carolann has also been involved in a community project Eats Rosyth for many

years. They have successfully entered many pallet gardens and planters to Gardening Scotland. She volunteers at her community orchard and enjoys nothing better than chatting to people there about nature and growing. She is not only a community champion, but also a worthy ambassador for growing and connecting people to both plants and nature.



Christine Watson has been Chair of the Scottish Borders Rock Garden Group for most of the time since its formation in September 1996. Her enthusiasm is infectious, making members feel

welcome, involved and very much part of the group. The group hold monthly talks throughout the winter not necessarily confined to rock garden plants as Christine recognised that most members had a wide range of interests. Members are encouraged to bring along plants for display at the meetings which have gone from strength to strength with people travelling miles from all over the Borders. Without Christine's hard work and enthusiasm there would not be such a thriving garden group in the Borders. She has borders full of herbaceous and woodland plants and not content with just growing outdoors, inside her house she grows pot plants to perfection, especially tropical orchids.



Graham Greenwell has been an active member of Helensburgh & Gareloch Horticultural Society for many years. She recently stood down after serving on the Management Committee

for three years and in addition has been organiser of the Schools Bulbs Competition for several years, Convenor of the annual Plant Sale and the Flower & Vegetable Show. Her knowledge of plants is encyclopaedic, and she is always ready to help and advise others. In 2020, the Society found it was

unable to run both its annual Plant Sale and Bulb Sale due to COVID-19. Graham, however, decided that it would be feasible to run these as online events. For the Plant Sale in May, an extensive list of plants available was circulated to members and orders taken by phone or Email. For the Bulb Sale, Graham produced a PowerPoint slideshow detailing all the bulbs available which was Emailed to members. Once sales were over, members were allocated individual time slots to collect their purchases from a member's garden and those who were shielding had theirs delivered to their gate. This year, because they were run online and overheads were lower, the consequent profit was higher. Graham had a small team of helpers, but the initiative and drive were all hers. The goodwill that these events generated from members and the community cannot be overstated.



Mary Holligan is a teacher at Grove Academy in Dundee. She is also the school's Eco-Coordinator and has, for many years, motivated pupils to learn, enjoy and grow in confidence in gardening activities. Through her passion, enthusiasm and sense of fun, Mary has empowered pupils to lead on two projects turning disused waste ground into wildlife havens. The community gardens created at Queen Street and Shiell Street have been recognised in number of ways: through Keep Scotland Beautiful's It's Your Neighbourhood initiative, both being awarded the highest level of achievement; through Dundee City's Beautiful Scotland entry and through Dundee City Council's annual Garden Competition. The outreach work at both Queen Street gardens and at Shiell Street provides a very tangible link between the impact of pupil actions outwith the school and how this reflects positively on the school as a whole. Mary manages to pull the pupils together to achieve things which other people would have had doubts about.



Robert Moran Blooming Haddington was formed in 2013. With practical on the ground cooperation from East Lothian Amenity Services and advice from longer-established community gardening groups in the county, rapid progress saw the group win best newcomer and a silver-gilt medal in its first year entering Beautiful Scotland. Since then, the group has won a series of gold medals and the medium town category at both Scottish and UK levels in Britain in Bloom. From the outset Rab has been a key volunteer. He very quickly decided that he would be the volunteer responsible for the hanging baskets in the town. From early June until October, he is out before 6 am, every day if necessary, watering and feeding up to 200 baskets. The baskets always receive many compliments from residents and visitors while judges regularly describe them as the best they have seen. Growth is so vigorous they sometimes have to be cut back for the benefit of pedestrians. He also enthusiastically does the digging and other heavy work in the group's beds in the local park, as well as helping to maintain the many planters that the group places around the town.



Stuart Ritchie is the Educational Gardener working for Lanark Community Development Trust at their Horticultural Centre at Castlebank Park. He is responsible for providing horticultural, educational and volunteering opportunities to local people from all ages and backgrounds. These groups include long term unemployed young people, those returning to work, children and adults with additional support needs, and older isolated residents. He delivers lifelong learning through activities, demonstrations and teaching to school and community groups encouraging good horticultural practice. Stuart is an excellent educator, able

to tailor his teaching to all levels and ages. During the lockdown in 2020, Stuart proved himself as an invaluable resource to the Development Trust and to the local community. He single-handedly maintained the park's beautiful gardens, and also used the growing facilities at the centre to allow ongoing donations to the local food bank and fresh herb/veg boxes for the local community. He also provided activities and ideas online to keep young people and their families engaged with gardening from the safety of their own homes.



Wullie and Myra Dyer are members of the University of the Third Age in Barrhead and they maintain the floral planters in the local railway station. The

group worked in the Walled Garden within Barshaw Park in Paisley and under Wullie and Myra's leadership, helped to restore the garden from a neglected plot to the place of beauty and calm it is today. Wullie can turn his hand to most things from recycling materials to making compost bins to all things horticultural. Myra has great depth of

knowledge about plants. They are generous in sharing their horticultural knowledge with less experienced gardeners, giving them confidence to have a go! They have travelled widely visiting gardens and, in the winter months, have kept their group enthused with entertaining slide shows featuring the inspiring places they have been and with fun quizzes. Their service to the community in leading the restoration of the garden has been outstanding.

Groups

Alcohol & Drug Recovery Garden Project

Started in 2015, the Recovery Garden Group is run by volunteers to support people in recovery from substance misuse. The project is supported by Aberdeen City Council who provide a polytunnel where the group meet. Each year a core group of participants decide what they want to grow at the start of the year and then plant, care for and harvest the produce to either use themselves or give to other vulnerable people in the community. The group has participated in Keep Scotland Beautiful's It's Your Neighbourhood achieving progressively good results including a Certificate of Distinction, Level 5 in 2019. They helped the Aberdeen entry for Britain in Bloom by partnering with the council and



Carter Patterson Medal.

others to provide small planters for shop keepers and maintaining a larger planter which is dedicated to people who have lost their lives due to addiction. These are planted with flowers and plants that reflect hope and remembrance. Involvement with the project also led to some group members becoming beekeepers with the Aberdeen Urban Bee project. This influences the plants grown as they want them to be pollinator friendly. As with all projects 2020 has been particularly challenging but the volunteers kept the project running. Growing and gardening is particularly beneficial for people in recovery as it allows them to get absorbed in something where they feel needed with something positive to show for their hard work.



Bonnie Blantyre and Friends This Bloom group has had an enormous impact on their community. Led by Susan Lindner Kelly (Bonnie Bee) and her mother, Margaret

(Grumble Bee), and Mary Cowan from TACT Healthy Park, the group has worked in partnership with, among others, the Community Council, Blantyre Project, Blantyre Telegraph, Friends of the Calder, and two highly successful It's Your Neighbourhood groups. The group maintains a number of areas in the town. By using pit bogie style planters, built by Community Payback, the group highlights the town's mining history. A wildflower bed has been planted surrounding the memorial to the Blantyre mining disasters of 1877 and 1879. The Sunny Blantyre Sunflower competition distributes 2500 sunflower kits to nurseries, schools and care homes. To promote the group Susan regularly dons her bee costume and can be seen at open days throughout North Lanarkshire. In 2020 they continued to go from strength to strength with Susan and Margaret inspiring community growing through the use of social media supporting others and numerous seed and plant exchanges.

Dalkeith Guerrilla Gardeners were formed in 2019 by Denise McKenzie who believes that the individual has personal and collective responsibility for the environment and specifically for the appearance of Dalkeith's historic town, a place they all care passionately about. With council budgets stretched they tend neglected public spaces, planting and maintaining them using bee friendly plants and ensuring they are maintained all year round for the public to enjoy. They regularly weed, tidy and litter pick, tidying the town's bus shelters and tending to public seating areas. Their biggest project to date has been the removal of overgrown shrubs from the large beds at the local library. With the help of their local tool hire they were able to replant the area. The final planting display was only possible due to the level of public donations and support generated from a successful crowdfunding campaign. Since 2019 the group has grown to 20 guerrillas, plus an additional team of ten who focus on Keeping Woodburn Tidy. The process has been true community activism that has led to the formation of many other small groups across the local authority.



Certificates of Merit.



The Maxwell Centre in Dundee is host to the community gardening project, Every1's Garden. Originally a derelict builder's yard the Maxwell Centre transformed it into a community garden, with an array of raised beds, allotments, a polytunnel, orchard, seating areas, and a building used for education and garden therapy. The garden provides access to growing facilities in an area of the city where access to green spaces is limited. Many of the children who visit the centre for regular workshops have little access to gardens, and the space provides children with educational opportunities relating

to food production, healthy living, the environment and ecology. Many of the groups which meet in the centre use the garden to produce fresh fruit and vegetables, and as a way to socialise and relax. The Maxwell Centre aims to empower members of their community to improve their quality of life with welfare advice, art groups, IT classes, and, of course, its award-winning community gardening which is endorsed by Keep Scotland Beautiful's It's Your Neighbourhood Campaign. This project exudes what a community gardening project should be.



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Choose from over 300 herbaceous, intersectional, and tree peonies ready for delivery. Printed catalogue – 4 x 1st class stamps to – Binny Plants, Ecclesmachan, EH526NL. Over 1,500 perennials, grasses, shrubs and ferns.

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Ashbrook Nursery

A treasure trove for plant lovers,
an inspiration for gardeners



Ashbrook Nursery is a family run business, established for over 30 years. We pride ourselves on the wide range of plants we offer, and grow over 2000 varieties on site.

Our café serves delicious home cooking & baking, and also houses a gift shop stocked by local artists and crafters.

You can also explore our newly created 'Woodland Wander' where you can see our stumpery, shade border, stone circle, bug hotel and hunt for fairy doors!

Garden Centre – Open 7 days, 9am–5pm | Café – Open 7 days, 10am–4.30pm

Forfar Road, Arbroath, Angus, DD11 3RB (Opposite R.M. Condor)

www.ashbrooknursery.co.uk

01241 873408

enquiries@ashbrooknursery.co.uk

Spending time in your garden can be such a joy: it can transport you to a blissful oasis and provide a calming experience that can enhance your health and wellbeing.

Thank you for a great service and all the staff are so lovely! - Hil

With this in mind, we aim to provide the best quality composts and mulches allowing you to get the best out of your garden by putting the best in from the start.

Your Enriched Organic Manure is amazing.—Fiona

Love your Plantermix! I wont use anything else now in my raised beds. —Jim

Just want to say that your company has been great to deal with... in this world of poor service...it was a pleasant surprise to receive honest reliable service.—Tanya



CONTACT US:

Visit us at **www.gardensolutions.info**

Call us on **08000 430 450** to request a catalogue

Email your questions to **enquiries@gardensolutions.info**

WHY
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Bloomin' mar



At Saughton Dig Day



Carrots from the allotment

To Do:

~~Rake leaves~~

~~Tidy greenhouse~~

~~Divide perennials~~

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thecaley.org.uk/join
(Only £26 a year!)

Scotland's National Horticultural
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