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Hope for rare woodland flower as Scottish conservation project is roaring success in the Cairngorms National Park

- The UK's first ever conservation project for One-Flowered Wintergreen has resulted in a 70% survival rate after the crucial first 9 months
- Estimated that half of UK population of this flower has been lost over last 50 years
- Project success lays the groundwork for a bright future for Scotland's rare plant species

The rare and illusive One-flowered Wintergreen *Moneses uniflora*, a small flowering plant found in pine woodlands, has defied expectations of Plantlife Scotland and partners in the UK's first ever project to restore the species.

One-flowered Wintergreen has seen a 70% survival success rate following a translocation (movement of a species from one location to another) from a secure population of the species in Roseisle Forest and Old Grantown Wood to RSPB Abernethy, led by Plantlife Scotland (1).

The flower has suffered a sharp decline globally and it is estimated that in the last 50 years over half of the UK population has been lost, with only two known remaining patches in the Cairngorms National Park and as few as just seven populations in the whole country (2).

Instead of relying on photosynthesis to create energy to survive, One-flowered Wintergreen can also take energy from fungus in woodland soils (known as a partial-mycoheterotroph). This complexity means it has been a challenge for conservationists to understand it and help it thrive again.

Alongside the translocation, 12 of the collected plants were sent to the Royal Botanic Gardens Edinburgh for research into the complex fungal interactions that One-flowered Wintergreen relies on to survive.

There have been further breakthroughs in our understanding about the plant during this project. Trials of cattle grazing and invasive species removal in woodland generated a rapid recovery of One-flowered Wintergreen, suggesting this plant might prefer heavily disturbed woodland soils.

The pioneering conservation work for One-flowered Wintergreen is part of the Cairngorms Rare Plants project and is a cause for celebration for Plantlife and its partners – RSPB Scotland, Royal Botanic Garden Edinburgh, NatureScot, Forestry and Land Scotland and the Cairngorms National Park Authority.

Sam Jones, Senior Ecological Advisor, Plantlife Scotland, said:

'I am thrilled with the success of One-flowered Wintergreen in this translocation – the first of its kind for this species. Translocating a species comes with its challenges, especially when our understanding of the plant is limited, so a 70% survival rate is considered a huge success. We now hope to do more translocations of One-flowered Wintergreen to allow genetic mixing

between populations and to rescue the plants from threatened sites, allowing it to thrive in Scotland once again. Collaborating with partners was vital to the success of this project, and I look forward to continuing our joint efforts for the future of One-flowered Wintergreen and the pine woodlands of Scotland it calls home.”

Chris Tilbury, Assistant Warden, RSPB Abernethy, said:

“At RSPB Abernethy, we are passionate about saving Scotland’s rare and endangered species. Although our existing colony of one-flowered wintergreen, one of only a few left in Scotland, had responded positively to recent cattle grazing trials, it remained isolated and vulnerable. This dynamic translocation project, as part of an exciting partnership led by Plantlife Scotland, has provided the opportunity to strengthen the genetic diversity and increase the abundance of this beautiful plant. Working with our partners from NatureScot, RBGE, FLS and Cairngorms National Park has also been invaluable in terms of exchanging knowledge and sharing best practice, as we aim to secure the future of one-flowered wintergreen in Scotland’s iconic pine forests.”

Jennifer Baker, Horticulture Student, Royal Botanic Gardens Edinburgh, said:

“As a horticulture student at RBGE, participating in the One-flowered Wintergreen translocation project with Plantlife was an honour. Collaborating on this initiative allowed us to uncover crucial insights into the soil microbiome supporting this delicate species. Isolating various types of soil mycorrhizal fungi has paved the way for future research into developing propagation methods to grow and conserve One-flowered Wintergreen. This work is vital for safeguarding the species from future population declines, and I look forward to further research and collaboration with Plantlife, and the Scottish native Plants section at RBGE.”

Through more research and collaboration, Plantlife and partners will manage woodlands holistically, providing a mosaic of habitat for One-flowered Wintergreen in Scottish pinewoods, as well as other rare native species. As we learn how to protect and preserve One-flowered Wintergreen, and by extension the community of other rare true wintergreen’s, we also learn more about the health of the soils and fungi community of pine woodlands and how best to enhance it in future.

ENDS

Notes to editors:

- The Cairngorms Rare Plants and Wild Connections project is a 4-year Heritage Lottery funded project working to restore rare plants and their habitats in the Cairngorms and engage people and communities in their protection. With additional support from the Cairngorms National Park Authority, we have pioneered citizen science surveys across mountain tops and rare waxcap grasslands, aided upland farms in establishing new nature friendly grazing techniques, and developed and performed translocation of both Twinflower and One-flowered Wintergreen.

- With so few patches remaining, and highly limited populations at each patch, plants have extremely limited opportunities to reproduce. This summer we saw 16 flowers on translocated plants, meaning it is likely that cross-pollination between patches and the production of fresh seed on site has already occurred.

About Plantlife:

Plantlife is the global charity working to enhance, protect, restore and celebrate the wild plants and fungi that are essential to all life on earth.

With two in five plant species at risk of extinction, biodiversity loss is now the fastest it's ever been and Plantlife's work has never been more vital. Plantlife champions and accelerates conservation action, working at the heart of a global network of individuals and organisations, to influence and inspire landowners and land managers, public and private bodies, governments and local communities. As time begins to run out, Plantlife's position as the global voice for wild plants and fungi will help to bring lasting and positive change to our natural world – for everyone's sake.

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