

Introduction

Forestry and Land Scotland (FLS), previously Forestry Commission Scotland, experimented with restoring small areas of afforested or otherwise degraded peatland during the 1990s and 2000s as part of several EU LIFE Nature projects. Larger areas were restored after 2012 when funding became available via the Scottish Government's Green Stimulus and Peatland Action funds. In 2020 FLS became a delivery partner in the Peatland Action Programme. It has now restored more than 10,000 ha of afforested or otherwise degraded peatland.

FLS peatland restoration

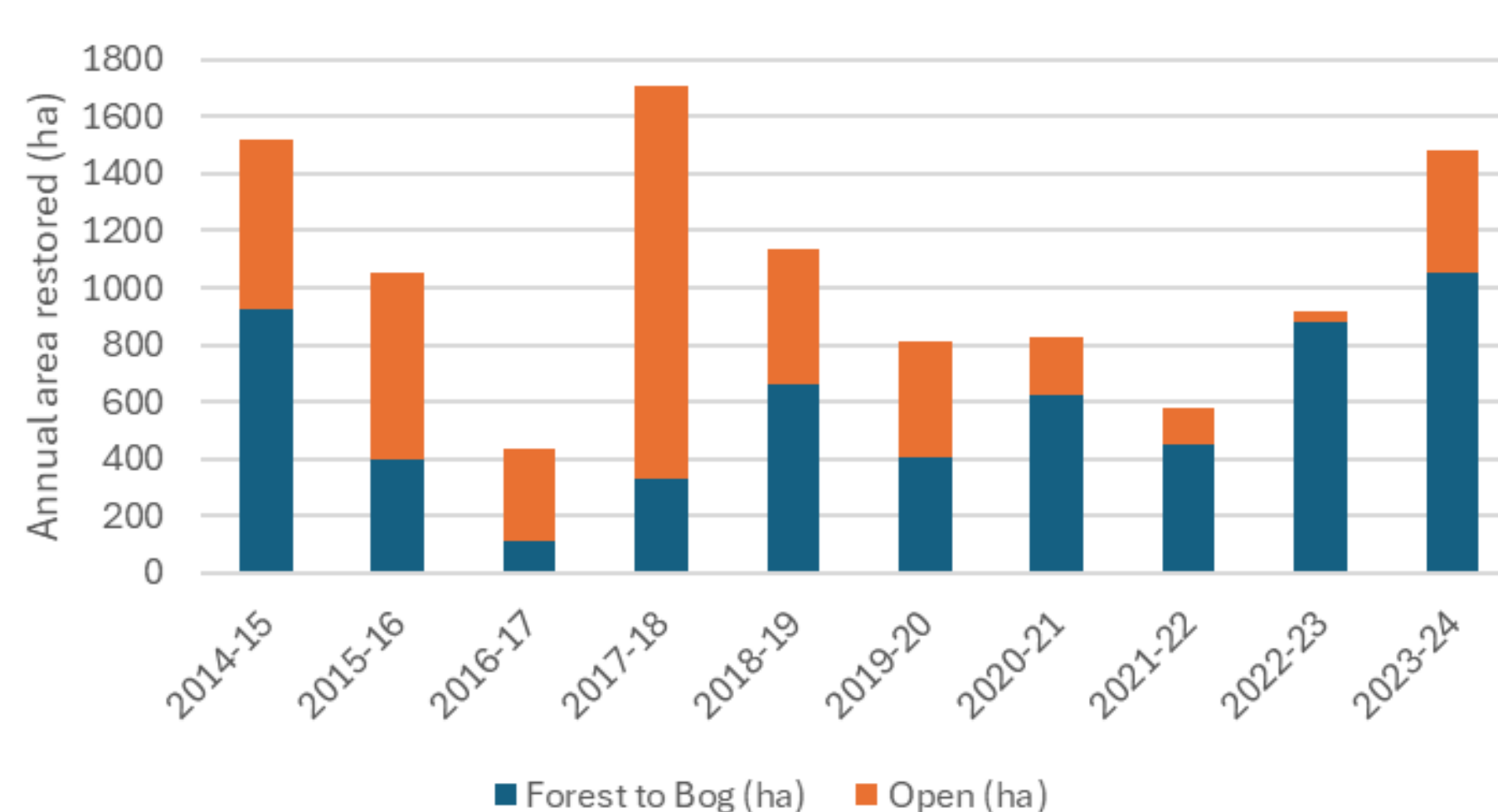


Figure 1. Annual Forestry and Land Scotland peatland restoration areas since 2014. Funding, forestry devolution and the Covid-19 pandemic have influenced areas.

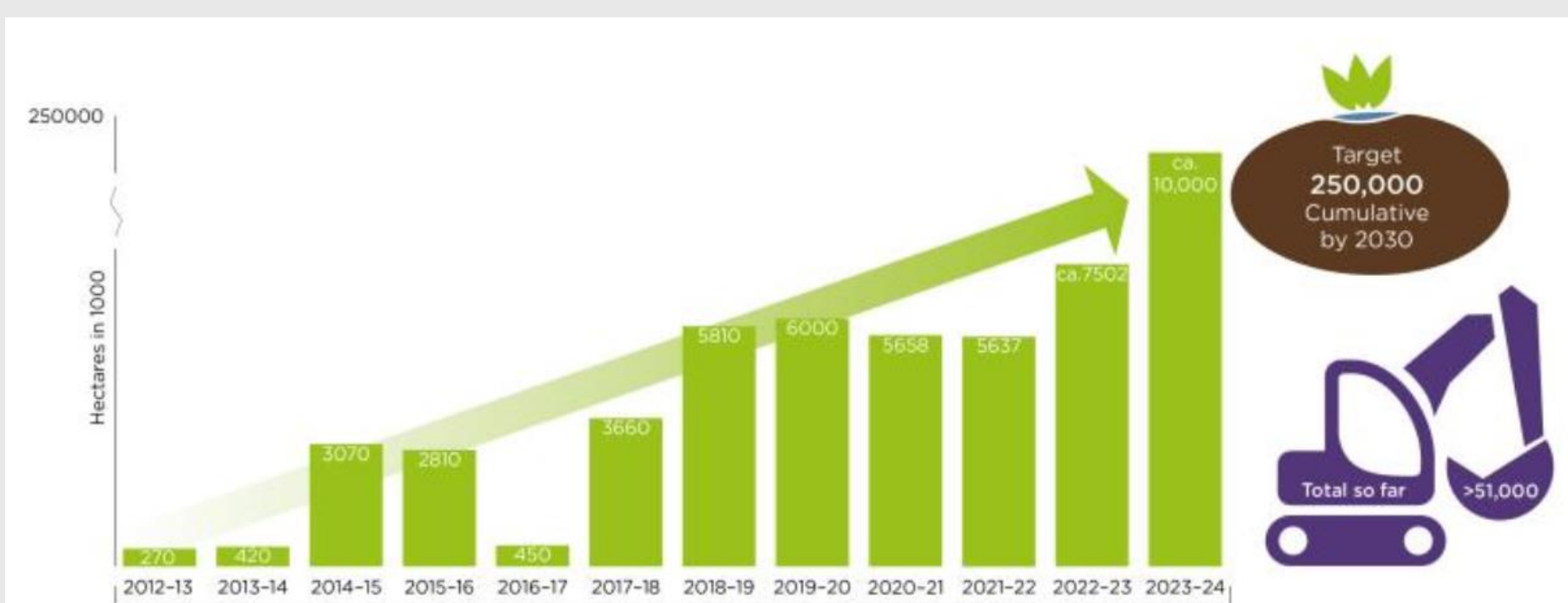


Figure 2. Growth of peatland restoration in Scotland as a whole under the Peatland Action Programme since 2012.

How have we grown our programme?

1. Created a small National Team to manage and support the programme.
2. Created small peatland delivery teams in each of our 5 regions.
3. Dedicated some forest planners to peatland restoration planning.
4. Compiled extensive guidance and run training events to bring delivery team up to speed on skills and techniques.
5. Shared experience and lessons learned, particularly from our very experienced North Scotland team to the other regions.
6. Identified peatland areas for restoration in future as part of our 10-yearly Land Management Plan revisions.

The key role of contractors

Rapid growth in funding peatland restoration meant that contractor capacity was a limiting factor. By offering 5-year contracts with guaranteed annual contract minima, FLS has increased confidence in the successful bidders, encouraging them to invest in new machinery and employ more operators.



Figure 3. Contractors on 5-year contracts can invest in specialist machinery like this wide-tracked excavator being used for ground smoothing on a forest-to-bog restoration site. Operators gain expertise through working on many different sites and in turn they help refine techniques.

Developing and refining techniques

The ground smoothing technique developed by Scottish Power Renewables, specifically 'stump flipping and cross tracking' has transformed forest-to-bog restoration since around 2016 by delivering more effective water table rise and more rapid vegetation recovery than the earlier drain and furrow damming approach.



Figure 4. Ground-smoothed blanket bog beside Loch na Fuaralachd set on the road to recovery after 40 years under forest

During this work, FLS in close co-operation with its contractors has developed a better understanding of what works for what sites and starting conditions.

We now recognize a modified ground-smoothing method that works best for sites with shallow peat, small trees, or a long gap since felling. Sliding the stumps into the furrows without flipping them reduces the amount of bare peat on the rewetted surface, avoids bringing mineral soil to the surface and retains much of the vegetation where it has partially recovered. Provided the stumps are compressed into the furrows, the rewetting is generally effective.

Specialist tree harvesting uses a shears head to recover trees left standing after normal harvesting in areas of soft ground.



Figure 5. Shears harvesting leaves a much larger proportion of the ground free of brash than normal harvester/forwarder harvesting. This creates better conditions for ground smoothing to rewet the peatland.

We are developing our understanding of other techniques like backfill trenching and other trench-bunding techniques for sites where peat cracking would otherwise hinder rewetting.

Conclusion

FLS has scaled up its peatland restoration programme by ;

- Developing internal capacity to plan and deliver projects
- Encouraging contractors to build their capacity and expertise
- Trialing, developing and refining techniques for effective and efficient restoration.

Acknowledgements

The reported growth is thanks to our funders and the dedication of FLS peatland team and our contractors.

Contact information

Russell Anderson

Email: russell.anderson@forestryandland.gov.scot