

Conserving Genetic Diversity

BIODIVERSITY AND ECOSYSTEMS

LEADING IDEAS FOR CLIMATE AND THE ENVIRONMENT



THIS THINK TANK INITIATIVE DRAWS EXPERTISE FROM:

- ROYAL BOTANIC GARDEN EDINBURGH
- THE JAMES HUTTON INSTITUTE
- SCOTLAND'S RURAL COLLEGE
- BIOMATHEMATICS AND STATISTICS SCOTLAND
- MOREDUN RESEARCH INSTITUTE
- CENTRE FOR ECOLOGY AND HYDROLOGY
- SCOTTISH NATURAL HERITAGE
- UNIVERSITY OF EDINBURGH

SEFARI stands for Scottish Environment, Food and Agriculture Research Institutes – it is the collective of Biomathematics and Statistics Scotland; The James Hutton Institute; Moredun Research Institute; The Rowett Institute; Royal Botanic Garden Edinburgh; and Scotland's Rural College. These institutes work together to deliver unique and globally distinctive multi and inter-disciplinary research.

This collective delivers the Scottish Government funded 2016-2021 Strategic Research Programme (SRP) on agriculture, environment, food and land. **SEFARI** improves the flow of research findings and expertise between the SRP and policy, commercial and public users. **SEFARI** works alongside the Scottish Centres of Expertise on climate, water and animal disease.

SEFARI aims to deliver 'Leading Ideas for Better Lives', reflecting that publicly funded research in Scotland must ultimately deliver positive impact for individuals, whether in Scotland or elsewhere. This briefing focuses on a short-life think tank for **Conserving Genetic Diversity** aiming to develop a world-first robust national strategy for conserving genetic diversity spanning agriculture, horticulture, forestry and species of cultural and socioeconomic importance.

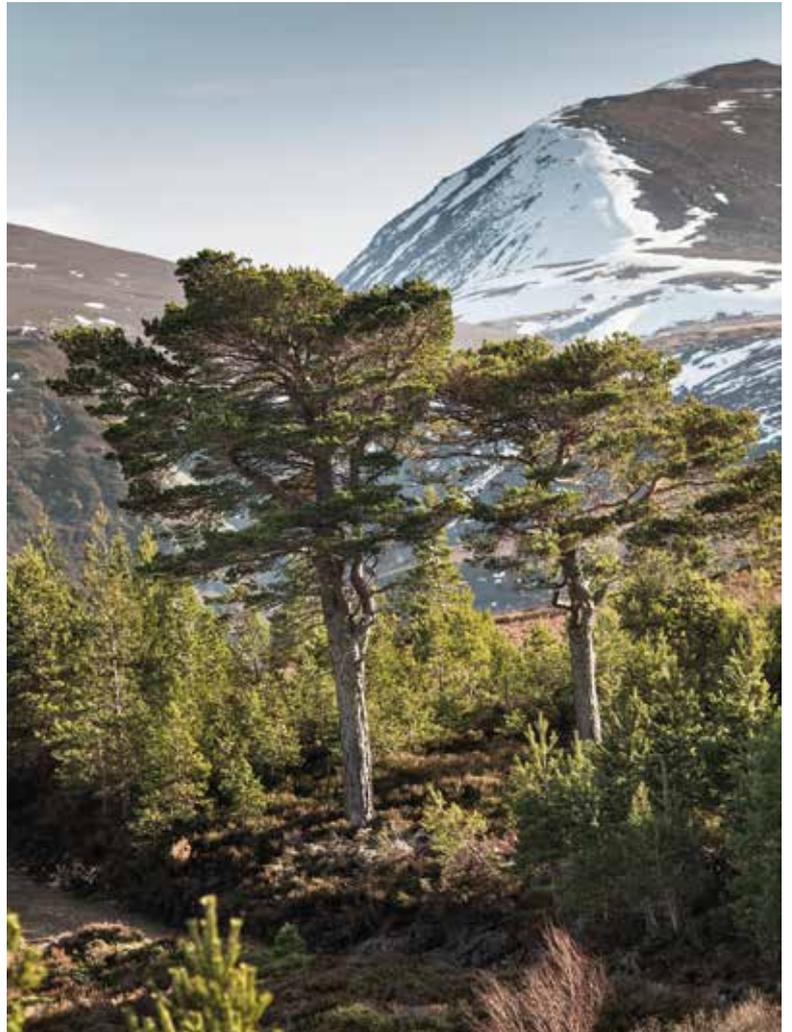


The Think Tank initiative is a new capability to the Strategic Research Programme within its central knowledge exchange strategy. Drawing on the breadth and depth of disciplinary expertise within **SEFARI** and driven to respond to global grand challenges, think tanks are commissioned to deliver insight on challenging and contested research questions of national and international importance.

Genetic diversity is relevant to biodiversity conservation. The loss of genetic diversity:

- reduces fitness and elevates extinction risks of varieties, populations and species;
- reduces the genetic resources available to enhance species traits;
- and impedes adaptive responses to environmental change.

Conserving genetic diversity is the focus of 2020 Aichi Target 13 of the Convention on Biological Diversity but tackling this target has proved challenging. Conserving genetic diversity has been applied to livestock and crops, but its application to the natural environment has been hampered by a lack of understanding on how to do it.



This Think Tank brings together a team with expertise including crop plants, livestock, wild plants and animals, and forest trees from across **SEFARI**, and in collaboration with key stakeholders (Scottish Government, NGOs and agencies like Scottish Natural Heritage) to:

- Evaluate how different sectors approach the conservation of genetic diversity and developed a new approach, which combines existing best practice and new methods for a cost-effective and robust assessment of genetic diversity conservation
- Produce a model report of Scotland's progress towards the Aichi Genetic Diversity Target, including the establishment of genetic baselines.