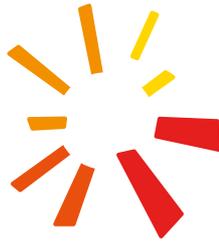


BRIEFING ON THE ENVIRONMENT

LEADING IDEAS FOR CLIMATE AND THE ENVIRONMENT

SEFARI

LEADING IDEAS
FOR BETTER LIVES



BIOMATHEMATICS AND STATISTICS SCOTLAND

THE JAMES HUTTON INSTITUTE

MOREDUN RESEARCH INSTITUTE

THE ROWETT INSTITUTE

THE ROYAL BOTANIC GARDEN EDINBURGH

SCOTLAND'S RURAL COLLEGE

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. Whilst this work takes place across a number of sectors, this briefing focuses on examples of **environmental** research funded within the SRP.



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Climate Change

- Providing options for lowering greenhouse gas emissions from arable farming systems;
- Understanding of the role of improving animal health on reducing greenhouse gas emissions from livestock;
- New tools, better-targeted crop protection strategies, and improved Integrated Pest Management to help improve resource use efficiency;
- The role peatland plays in releasing stored carbon into the atmosphere and its knock on effect on climate change;
- Research on the likely impacts of climate change on changes in species distribution at multiple spatial scales.

Biodiversity

- Development of Ecosystem Health Indicators and a Natural Capital Asset Index to help inform progress to 2020;
- Developing means to assess change in biodiversity and emissions due to peatland restoration efforts;
- Providing information on ecosystem function and connectivity to support conservation practice;
- Assessing and evaluating the effectiveness of management interventions (including ecological restoration and agri-environment schemes) to supply ecosystem services.
- Understanding the relationships between biodiversity and cultural ecosystem services.



Rural Communities and Wellbeing

- Incorporation of improved uncertainty methods into flood modelling and natural flood management;
- Supporting Sustainable Land Management for diffuse pollution and delivery of multiple benefits;
- Developing approaches that consider woodland expansion with other land use priorities;
- Developing evidence on the links between the environmental and landscape qualities of rural areas and the wellbeing of those that visit or live in these areas.