Forward look: SRP from April 2022

Scottish Government
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SEFARI
LEADING IDEAS
FOR BETTER LIVES

Themes

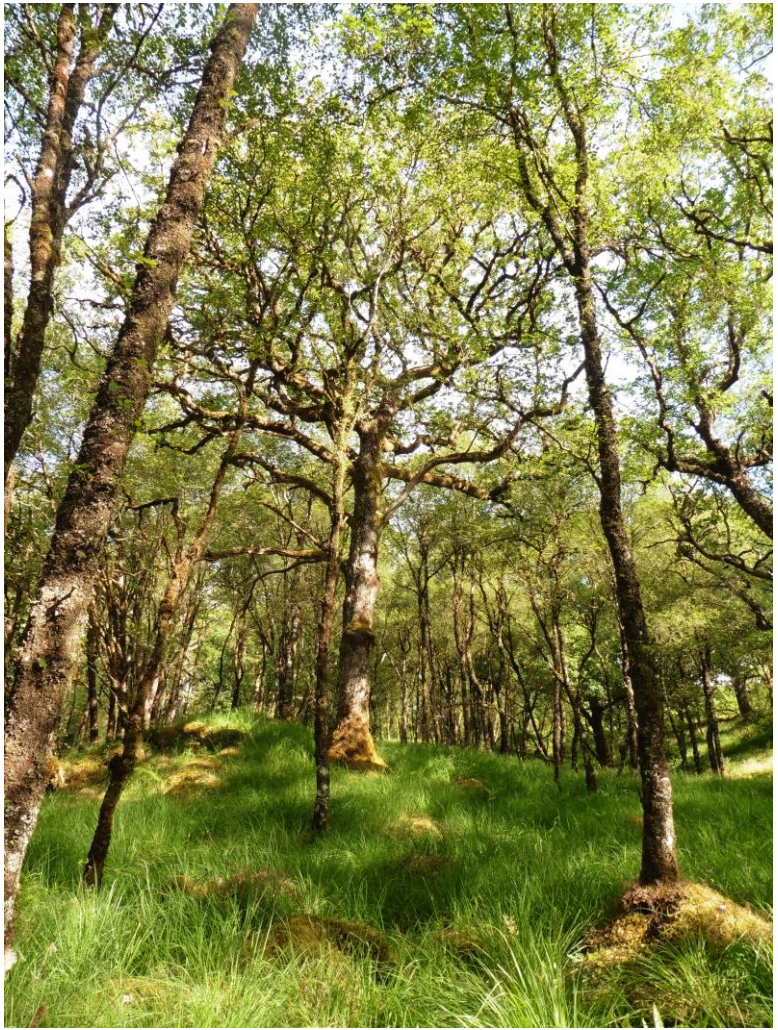
- A: Plant and Animal Health
- B: Sustainable Food System and Supply
- C: Human Impacts on the Environment
- D: Natural Resources (Robin Pakeman)
- E: Rural Futures

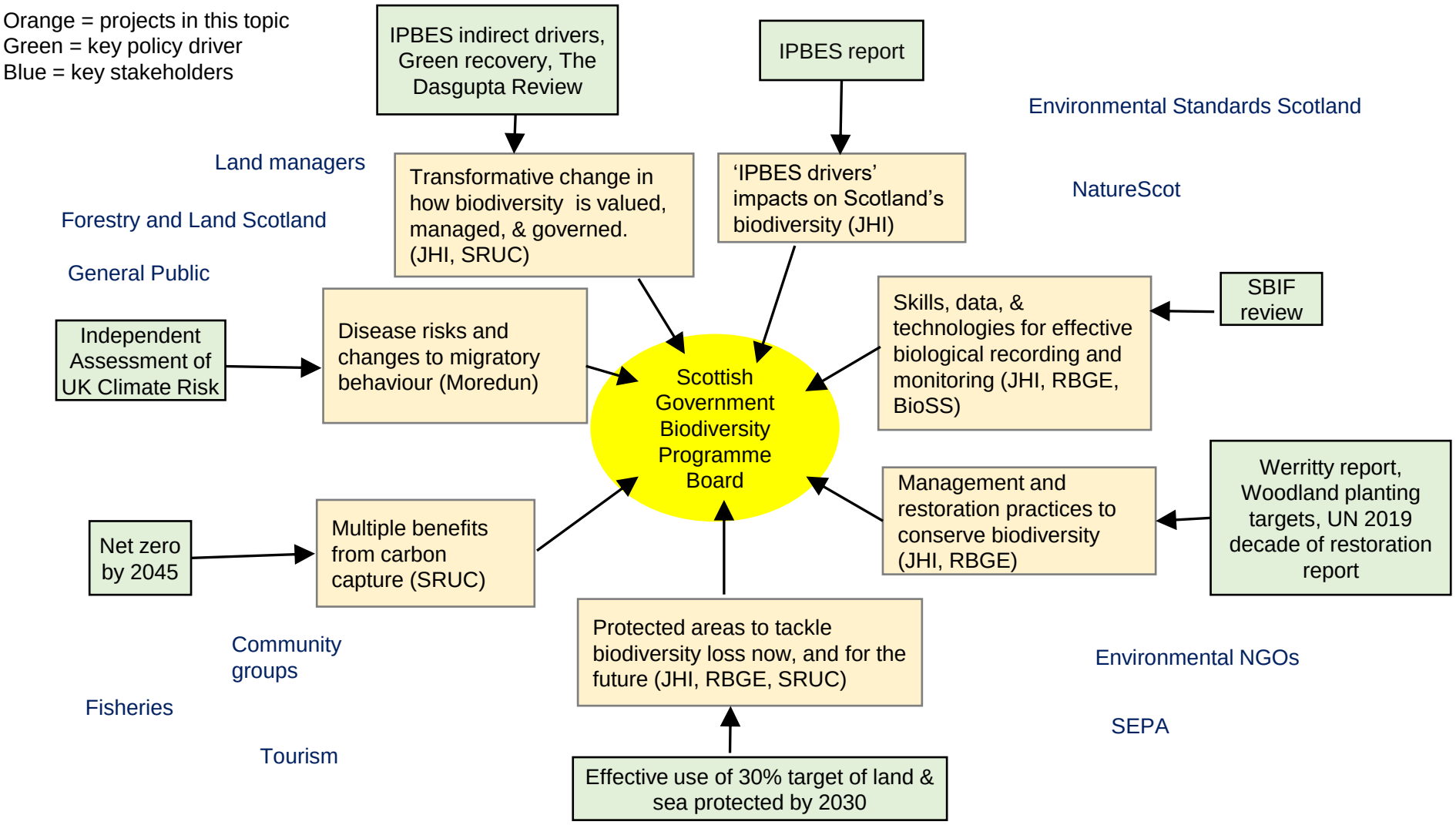
Topics

- D1. Air Quality (Andrea Britton)
- D2. Water (inc flooding) (Mark Wilkinson)
- D3. Soils (Eric Paterson)
- D4. Biodiversity (Ruth Mitchell)
- D5. Natural Capital (Kerry Waylen)

D4 Biodiversity

- 22 Research questions
- 7 projects
- SRUC
- RBGE
- Moredun
- JHI




Orange = projects in this topic
Green = key policy driver
Blue = key stakeholders
IPBES indirect drivers, Green recovery, The Dasgupta Review
IPBES report
Environmental Standards Scotland
Land managers
Transformative change in how biodiversity is valued, managed, & governed. (JHI, SRUC)
'IPBES drivers' impacts on Scotland's biodiversity (JHI)
NatureScot
Forestry and Land Scotland
General Public
Independent Assessment of UK Climate Risk
Disease risks and changes to migratory behaviour (Moredun)
Scottish Government Biodiversity Programme Board
Skills, data, & technologies for effective biological recording and monitoring (JHI, RBGE, BioSS)
SBIF review
Net zero by 2045
Multiple benefits from carbon capture (SRUC)
Management and restoration practices to conserve biodiversity (JHI, RBGE)
Werritty report, Woodland planting targets, UN 2019 decade of restoration report
Community groups
Protected areas to tackle biodiversity loss now, and for the future (JHI, RBGE, SRUC)
Environmental NGOs
Fisheries
SEPA
Tourism
Effective use of 30% target of land & sea protected by 2030

JHI-D4-1: People and Nature. **PI:** Antonia Eastwood

Planned Research Covering:

- Nature people
- Enabling inclusivity in biodiversity narratives
- Enabling transformative biodiversity research and change
- Harnessing Green/Blue Infrastructure for people and nature

Policy drivers: IPBES indirect drivers, Green recovery, The Dasgupta review

JHI-D4-2: Identifying the causes of biodiversity change with specific references to the IPBES drivers **PI:** Robin Pakeman

Planned Research Covering:

- Building resilience and sustainable use (global change impacts on sustainable upland land use, collective landscape management for farm land biodiversity)
- Apportioning biodiversity change to different drivers (IPBES direct drivers) land use change, climate change, pollution, invasive species and direct exploitation
- Effects of invasive non-native species, pest and pathogens on ecosystems

Policy drivers: IPBES report

JHI-D4-3: Scotland's biodiversity: People, Data and Monitoring PI: Jenni Stockan

Planned Research Covering:

- Creating a Scottish biodiversity inventory
- What is special/unique about Scottish biodiversity?
- Developing new approaches for monitoring Scottish biodiversity
- Improving understanding of terrestrial species indicator trends and habitat relationships
- Developing an indicator-function matrix
- Testing the validity of a generic, metrics approach for biodiversity-system function assessment
- Scaling metrics from farm to landscape level natural capital

Policy drivers: SBIF review

JHI-D4-4: Habitat management and restoration PI: Scott Newey

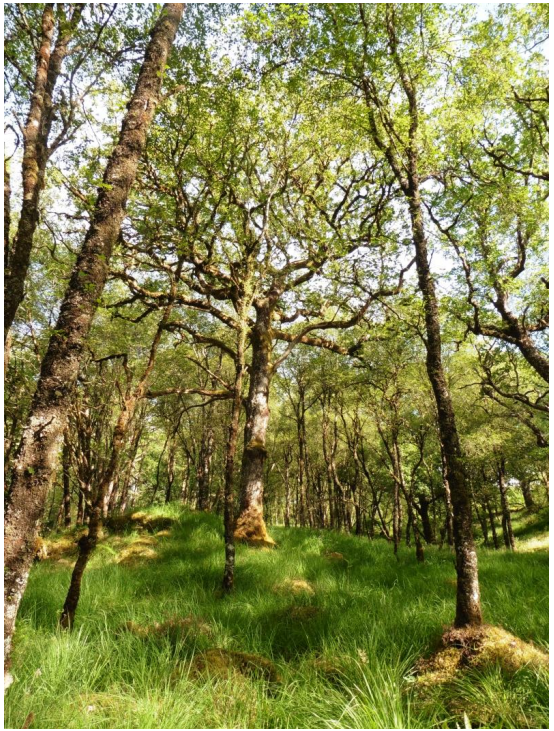
Planned Research Covering:

- How can public and private sector investors, at low risk, restore woodland habitats for the most multiple benefits to society in addition to increasing natural carbon capture and biodiversity, and what land is available for this?
- What is the impact of Muirburn on nature and how does this impact compare to wildfires and mechanical removal of vegetation?
- How do our ancient woodlands function and how successful is woodland restoration?

Policy drivers: Werritty report, Woodland planting targets, UN 2019 decade of restoration report

JHI-D4-5: Protected areas to tackle biodiversity loss now, and for the future.

PI: Ruth Mitchell



Planned Research Covering:

- A Seascape approach for biodiversity protection
- Genetic diversity and PAs
- Providing climate refugia in PAs
- Resilience and measuring success

Policy drivers: High Ambition Coalition (HAC) for Nature and People: 30 % of world's land and ocean protected by 2030

MRI-D4-2: Assessing the impact of changing migratory patterns and population size of greylag geese on livestock and public health.

PI: Eleanor Watson

Planned Research Covering:

- Investigating transmission dynamics of Cryptosporidium parvum between geese, calves, and the environment
- Comparative genomic analysis to investigate transmission of Campylobacter between greylag geese, cattle and the wider environment
- Analysis of antimicrobial resistome and the presumed flow of ARGs between greylag geese, cattle and the wider environment.

Policy drivers: Independent assessment of UK climate risk

SRUC-D4-1: Seeking multiple benefits from natural carbon stores in the uplands. PI: Davy McCracken

Planned Research Covering:

- Explore the relationship between carbon storage, biodiversity conservation and flood mitigation to detect synergies and trade-offs and identify land management practices that optimise the benefits derived.
- Generate evidence to inform land-use management practices in the Scottish uplands that contribute to tackling the twin challenges of biodiversity loss and the climate emergency.

Policy drivers: Net-zero by 2045

ELSEG and ELPEG into the future……

Written into Biodiversity Topic and Air topic

Will make links to other Topics – e.g. soils