

Natural Capital

Past drivers

A wide range of factors influence the Natural Capital Asset Index. Farm management practices have an important impact. The impact of climate change on our natural capital is difficult to predict. Similarly the interaction between climate impacts may be uncertain leading, for example, to extreme weather conditions.



Where are we now?

- After decades of decline until the 1990s, our 'natural capital stocks' have stabilised or improved slightly since 2000. The Natural Capital Asset Index in 2016 is 0.6 percentage points higher than the previous year and 0.1 percentage points higher than the base year in 2006.
- Evidence suggests that within lochs, rivers, woodland and coastal habitats, natural capital stocks increased between 2000 and 2016. For example, there have been improvements in the quality of coastal bathing water and the ecological status of our lochs and rivers.
- For bogs, heathland and agricultural habitats, natural capital stocks have declined.

Key evidence gaps

The best way to develop a sustainable, efficient, productive primary production sector and economy in Scotland, supporting a range of ecosystem services & natural capital.

The key adaptation actions needed to develop, maintain and enhance the resilience of Scotland's natural capital to future pressures including a changing climate.

Initiatives to raise public awareness of natural capital and ecosystem services in order to enhance public engagement.

The full impacts on economic growth of investing in natural capital/resources.

The contribution and value of soil to Scotland's Natural Capital, and how can land management practices maintain and enhance the benefits soils provide over the long term, and minimise soil losses.

Knowledge about the quantity and quality of change for upland habitats.

Future drivers

Threats to Scotland's natural capital include: invasive non-native species; climate change; development; habitat destruction; pollution; and changing land management.



Where do we want to be?

- Increase natural capital to pass it on to the next generation.¹



Current initiatives and their impact

The Scotland's Biodiversity: A Route Map to 2020 identifies 'investment in natural capital' as one of the six Big Steps to help us deliver the 2020 Challenge. It cites the Woodland Carbon Code and the Peatland Code as examples of on-going investment in natural capital. It also mentions investment in green infrastructure.

Within the Scotland Rural Development Programme, Agri-Environment Climate Scheme, Peatland Restoration and the Forestry Grant scheme will help enhance natural capital.

¹ Scotland's Biodiversity: a route map to 2020

Draft Knowledge Account – Natural capital

A Introduction

1. Natural capital, which is a relatively new concept, is the environmental resources (e.g. plants, animals, air, water, soils) that combine to yield a flow of benefits to people. Scotland's natural assets are the basis of our quality of life and underpin our economy, and it is crucial that they are protected and enhanced in order to benefit us now and for future generations. Investing in Scotland's natural capital is seen as fundamental to maintaining a healthy and resilient economy.
2. Many of Scotland's growth sectors, such as tourism, food and drink, depend on high quality air, land and water. There are many other less tangible ways in which nature sustains us, contributing to our health, wellbeing, enjoyment, sense of place and who we are as a nation.

B Recent trendsⁱ

3. After decades of decline until the 1990s, our 'natural capital stocks' have stabilised or improved slightly since 2000. The Natural Capital Asset Index in 2016 is 0.6 percentage points higher than the previous year and 0.1 percentage points higher than the base year 2006.
4. Evidence suggests that within lochs, rivers, woodland and coastal habitats, natural capital stocks increased between 2000 and 2016. For example, there have been improvements in the quality of coastal bathing water and the ecological status of our lochs and rivers. For bogs, heathland and agricultural habitats, stocks have declined.
5. There has been significant increase in the quantity of broadleaved deciduous woodland, and some evidence of quality improvements, for instance in the area of certified forests and prevalence of woodland birds. However, designated natural features have deteriorated throughout the 2000 to 2016 period.
6. There have been improvements in the 'ecological status' of rivers and lochs, with pollution (e.g. nitrates) less widespread in rivers. However, there has been a decline in designated natural features to 2009, but has remained stable since then. In terms of coastal areas, there have been improvements in designated natural features and a similar upturn in bathing water quality.
7. In urban areas there is evidence of a decline in investment and maintenance of greenspace leading to a decline in levels of use.ⁱⁱ
8. Overall, there has been good progress with woodlands and freshwater but a consistent decline in upland bird populations.

C Past drivers of change

9. A wide range of factors influence natural capital, both positively and negatively, and the headline trend in the Natural Capital Asset Index must be dissected to understand patterns for particular ecosystem services and/or habitats. For example, anything which affects the quality or quantity of our terrestrial habitats will have an influence on natural capital.

10. Farm management practices have an important impact on natural capital. For example, the reduction in cattle and sheep numbers has partly contributed to a recovery in the condition of grasslands since 2011.
11. The impact of climate change on our natural capital is difficult to predict. Similarly, the interaction between climate impacts may be uncertain leading, for example, to extreme weather conditions.
12. There are trade-offs associated with different management choices. For instance, the choice to harvest trees on a particular piece of land might have a positive impact on provisioning ecosystem services (timber), but a negative impact on regulation & maintenance (e.g. flood risk mitigation) and cultural (e.g. opportunities for recreation) ecosystem services. In this example, the overall impact on the indicator might be neutral, and this illustrates why it is important to investigate overall changes within the Natural Capital Asset Index.

D Future drivers

13. Threats to Scotland's natural capital include: invasive non-native species; climate change; development; habitat destruction; pollution; and changing land management

E Current interventions and their impact

14. *Scotland's Biodiversity: A Route Map to 2020* identifies 'investment in natural capital' as one of the six Big Steps to help us deliver the 2020 Challenge. It cites the Woodland Carbon Code and the Peatland Code as examples of on-going investment in natural capital. It also mentions investment in green infrastructure.
15. Agri-environment Climate Scheme: as part of the EU Common Agriculture Policy Pillar 2 (Scotland Rural Development Programme), this scheme promotes land management practices which protect and enhance Scotland's natural heritage, improve water quality, manage flood risk and mitigate and adapt to climate change.
16. Overall, there is strong scientific underpinning of the agri-environment options but scope to increase efficacy of options through better targeting and habitat connectivity. However, weak baseline data makes it difficult to assess the overall impact of the scheme.
17. Forestry Grant Scheme: this supports the creation of new woodlands, contributing towards the Scottish Government's target of 10,000 hectares of new woodlands per year and the sustainable management of existing woodlands. There is a strong scientific underpinning of the forestry options within the Forestry Grant Scheme.
18. Peatland Action Fund: aims to restore Scottish peatlands whilst also supporting demonstration sites and events to raise standards and encourage innovation for effective peatland restoration (with funding of £8 million for 2017-18). Initial evaluations show positive biodiversity benefits.

ⁱ <https://www.nature.scot/professional-advice/planning-and-development/valuing-our-environment/natural-capital-asset-index>

ⁱⁱ The Third State of Scotland's Greenspace Report, 2018

http://www.greenspacescotland.org.uk/Data/Sites/1/media/docs/sosgreport/3rdstateofscotlandsgreenspace-report_010218.pdf