

Scotland's Natural Capital Asset Index

2017 Summary

"Improving the quality of life for more people, while better protecting our fragile and finite natural capital, is the defining challenge of our time."

Ban Ki-Moon, Secretary-General of the United Nations.

Key message

1. Following decades of decline until the 1990s, Scotland's stock of natural capital has stabilised;
2. Some habitats (e.g. uplands) continue to deteriorate. Others (e.g. lochs & rivers) are improving.

Capital refers to any productive source, and includes manufactured capital (e.g. machines and buildings) and human capital (knowledge and health of people).

Natural capital is the environmental resources (e.g. plants, animals, air, water, soils) that combine to yield a flow of benefits to people. Natural capital has historically been eroded by human activity, partly because it has not been properly valued compared with other types of capital.

Why have a Scottish measure?

The Natural Capital Asset Index (NCAI) helps us assess Scotland's prosperity. Scotland's natural capital assets are the basis for our quality of life, so it is crucial that they remain available to benefit the next generation of people living in our country. Scotland's Economic Strategy recognises that investment in natural capital is, "fundamental to a healthy and resilient economy."

When our NCAI was launched in 2011, Scotland became the first country in the world to publish such a detailed attempt to monitor annual changes in its natural capital. It was reviewed by experts in 2014, and has been revised. In 2016, the NCAI was included as a measure for the National Indicator 'Increasing our natural capital' in the National Performance Framework.

The NCAI is a work in progress and efforts will continue to refine its methodology and data. Please get in touch or see the link on the next page if you would like further information.



Natural Capital (stock)



Ecosystem Service (flow)

Natural capital stocks help to deliver flows of ecosystem services. These flows can be categorised as follows:

Provisioning services

For example: grass for livestock; dairy products; timber; soft fruits such as raspberries; wild salmon and venison; freshwater for drinking and whisky production.

Regulation & maintenance services

For example: climate regulation via carbon storage in peatlands; natural flood protection in bogs and woodland; pollination of crops; habitats for wildlife.

Cultural services

For example: watching wildlife; recreational fishing; symbolic species and landscapes; information for education.



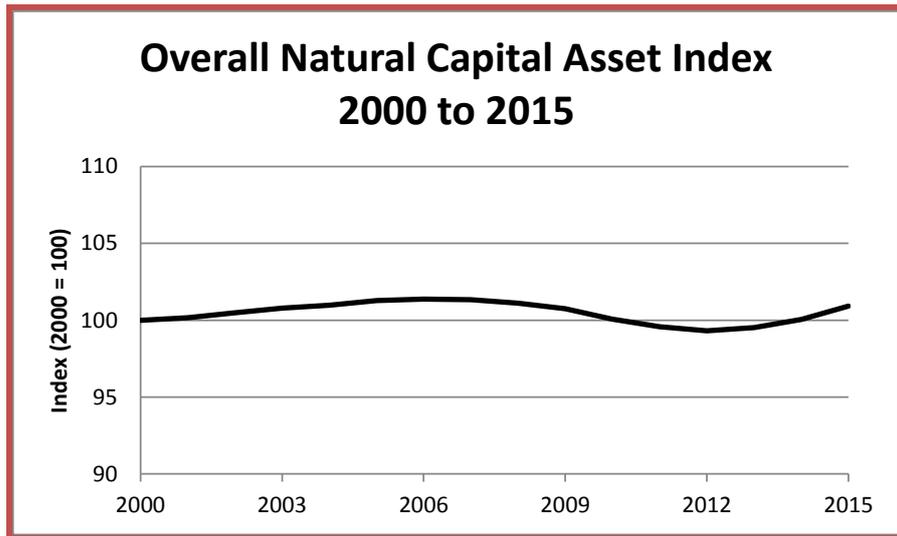
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Results

Scotland's natural capital deteriorated historically until the 1990s. Most habitats were declining during this period, especially bogs and grassland. Things have stabilised or slightly improved since 2000.



Evidence suggests that Scotland's potential to deliver provisioning ecosystem services has grown slightly over the past 15 years. This is probably not the case for regulation & maintenance or cultural ecosystem services. However, the trend over the past few years seems to be positive for all three types of ecosystem service.

It appears that for three habitats (lochs & rivers, woodland, coastal), natural capital stocks recovered between 2000 and 2015, while for three (bogs, heathland, agricultural) stocks declined. Our knowledge of uplands outside of protected areas is limited.

Future threats to Scotland's natural capital include invasive non-native species and climate change.

More information about the NCAI, including trends for all terrestrial habitats, is contained [on our website](#). The NCAI model and technical guidance are also available via the link.

We hope that the NCAI will help provide a robust and consistent framework for monitoring changes in Scotland's natural capital. This can lead to better informed decisions, based on an awareness of the relationship between nature and economic activity.

Methodology

The NCAI monitors the quality and quantity of terrestrial habitats in Scotland, according to their potential to deliver ecosystem services now and into the future. It is a composite index, based (i.e. equal to 100) in the year 2000.

Following an evaluation of the NCAI in 2014, the methodology for the 2017 version has been revised. We now use the European Nature Information System (EUNIS) land cover classification, and the following Scottish habitats are included in the NCAI:

- Coastal
- Inland surface waters (lochs & rivers)
- Raised and blanket bogs
- Grasslands
- Heathland
- Woodland and forest
- Unvegetated or sparsely vegetated
- Cultivated agricultural
- Montane
- Artificial habitats

The first stage of the NCAI's revised methodology involves an evaluation of each habitat's potential, if in good condition, to deliver the range of ecosystem services for Scotland. Each ecosystem service is also assessed to estimate its relative contribution to human well-being.

The second stage involves the use of a number of indicators to monitor change in the quality of our habitats (in terms of ability to deliver ecosystem services). An 'ideal' indicator is available since at least 2000, is updated regularly and provides information about the state of the habitat. In some instances data availability has been limited and indicators chosen as proxies are less than ideal.

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