

Scotland's Rural College

Changing how we think about Scotland's protected areas

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Changing how we think about Scotland's protected areas

More than biodiversity protection – how collaborative management of designated sites helps Scotland contribute to UN Sustainable Development Goals.



Image 1: Insh Marshes Nature Reserve. Photo taken by Alexa Green.

Key Points

- The Scottish Government has set out its intent to protect at least 30 per cent of Scottish land. At present, about 20 per cent is protected so questions arise about where the remaining 10 per cent should come from.
- Scotland's protected areas preserve environmental and cultural features which are important for ecosystem service provision.
- Successful management of protected areas can help Scotland contribute to UN Sustainable Development Goals by enhancing good health and wellbeing, contributing to sustainable cities and communities, and protecting life below water and on land.
- Stakeholder engagement and adaptive governance can contribute to the success and long-term sustainability of protected areas.
- Lunan Lochs Natural Care Scheme and Cairngorms Connect are two examples of how collaboratively managed protected areas can help Scotland achieve wider sustainability goals.

Introduction

In December 2020, the Scottish Government set out its intent to protect at least 30 per cent of Scottish land¹, in line with European Union and UK commitments. At present, about 20 per cent of Scotland's land is protected, so questions arise about where the remaining 10 per cent should come from. Findings from this Policy Spotlight suggest that protected areas deliver more than just local benefits as biodiversity protection and enhanced wellbeing contribute to international UN Sustainability Goals 3, 11, 14, and 15.

Protected areas are managed to ensure natural and cultural features remain in good condition now and in the future. There is a network of 5,389 designated marine and terrestrial natural features across Scotland². These designations are awarded to sites based on international directives and treaties (e.g., Natura 2000, Ramsar Convention), domestic legislation and policy (e.g., Wildlife and Countryside Act 1981), or local planning laws and interests which typically aim to preserve biodiversity and improve habitat connectivity. Designations may occur on public, private, or community-owned land.

During the Covid-19 pandemic, more people began visiting their local protected areas and greenspaces. When socialising could no longer take place indoors, outdoor spaces became safe places to interact with friends and family. When indoor entertainment and leisure activities were not accessible, visiting areas of natural beauty and observing wildlife became sources of wellbeing and cultural significance. Through these experiences, some have gained a deeper appreciation for protected areas.

The Scottish Government has committed to the UN Sustainable Development Goals³ (SDG), which are embedded and localised in Scotland's National Performance Framework (NPF). The 17 SDGs place ending poverty and other deprivations at the heart of sustainable development. The Scottish Government, the Convention of Scottish Local Authorities (COSLA), and the Sustainable Development Goals (SDG) Network Scotland work together to ensure Scotland is making progress towards these goals. In January 2021, SDG Network Scotland brought forward a Wellbeing and Sustainable Development (Scotland) Bill⁴ to urge the Scottish Government to address the issues caused by the Covid-19 pandemic and the climate crisis while continuing to deliver on the SDGs.

Considering the biodiversity and climate crises, and following the Covid-19 pandemic, radical transformative change is needed in the ways we govern and plan for protected areas. This Policy Spotlight will discuss Scotland's protected areas in the context of the UN SDGs and uncover the opportunities that come from adaptive governance and collaborative management of these valuable natural features using two Scottish case studies. Implications for NP4 and recommendations for next steps are also outlined.

¹ Read the Scottish Biodiversity strategy post-2020 statement of intent here: [Scottish biodiversity strategy post-2020: statement of intent - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/scottish-biodiversity-strategy-post-2020-statement-of-intent/pages/1-introduction.aspx).

² Explore designated sites across Scotland using NatureScot's SiteLink map and website: [SiteLink \(nature.scot\)](https://www.naturescot.gov.uk/site-link).

³ Read more about the 17 UN Sustainable Goals here: [THE 17 GOALS | Sustainable Development \(un.org\)](https://www.un.org/sustainabledevelopment/).

⁴ You can read the open letter here: [Open Letter](https://www.gov.scot/publications/wellbeing-sustainable-development-scotland-bill-2021/pages/1-introduction.aspx).

How do protected areas address international sustainability goals?

Enhancing good health and wellbeing and sustainable cities and communities

UN SDGs 3 and 11 aim to improve health and wellbeing and establish sustainable cities and communities⁵. We all have both a role to play and a benefit to be gained by supporting the extent and health of protected areas. One way to enhance positive influences on a site, and prevent negative impacts, is to engage people in connecting with designated sites and understanding their value (Barnes and Glass, 2021).

While learning to appreciate protected areas, individuals' health and wellbeing can also benefit from interactions with the natural environment. One way to measure wellbeing impacts is through monitoring the health of ecosystem services provided by protected areas. Ecosystem services represent a myriad of direct and indirect benefits that protected environments provide to social and natural systems (see Figure 1).

Natural landscapes in good health provide tranquility and comfort to people through sheer enjoyment of the natural landscapes for their intrinsic value and positive social interactions experienced in these spaces (Fagerholm et al., 2016). Studies have found that individuals appreciate cultural services gained from protected areas such as recreation and aesthetics (Fagerholm et al., 2016). Protected sites are also found to deliver higher levels of ecosystem services than non-protected sites (Eastwood et al., 2016).

People place greater social value on areas with formal acknowledgement of environmental significance, like protected areas (Raymond and Curtis, 2013; Eastwood et al., 2016; Fagerholm et al., 2016). For example, implementation and management of Marine Protected Areas (MPAs) in the UK are supported by enhanced cultural services like tourism and education which in turn lead to improved spiritual and psychological wellbeing (Mallarach, 2012; Saunders et al., 2015).

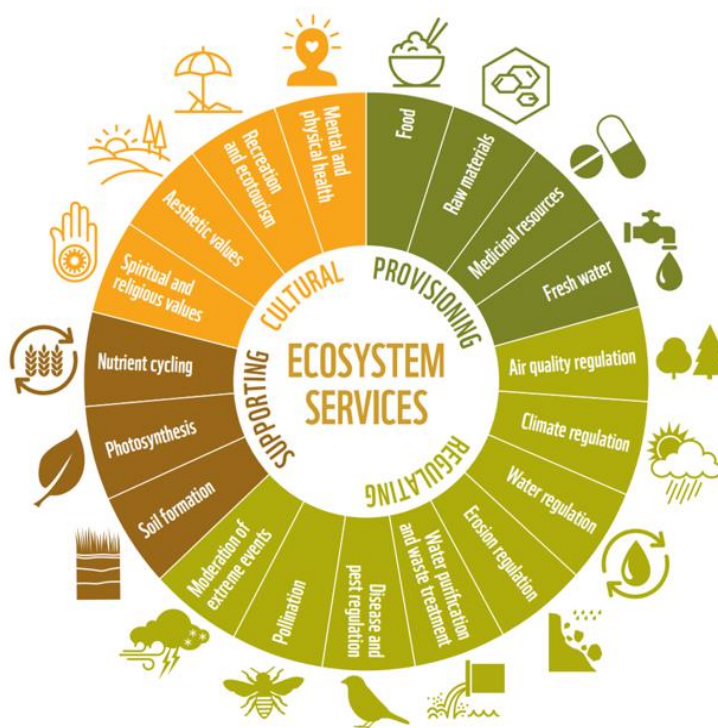


Figure 1: Examples of various ecosystem services (WWF, 2004)

⁵ Read more about [Goal 3 | Department of Economic and Social Affairs \(un.org\)](#) and [Goal 11 | Department of Economic and Social Affairs \(un.org\)](#).

The UN goal for sustainable cities and communities aims to strengthen efforts to protect the world's cultural and natural heritage and enhance access to green spaces. Many protected sites in Scotland are in or near urban areas, including country parks and local nature reserves. Protected areas with high habitat diversity and presence of wooded areas which are also easily accessible to urban areas are highly important for the delivery of cultural ecosystem services that benefit wellbeing such as spiritual enrichment, recreation, and tourism, etc. (Ridding *et al.*, 2018). Woodlands and the presence of sites of historic interest are also influential to cultural ecosystem services (Ridding *et al.*, 2018).

Protecting life below water and on land

UN SDGs 14 and 15 aim to conserve, protect, and sustainably use marine and terrestrial resources to halt degradation and biodiversity loss⁶. Designated sites aim to ensure healthy ecosystems both below water and on land and protect and enhance local and regional biodiversity. Biodiversity indicators are used on global, regional, national, and local scales to measure the progress towards biodiversity targets (Henly and Wentworth, 2021). There are 24 biodiversity indicators⁷ established in

Box 1: International and National Biodiversity Policies:

- The Convention on Biological Diversity (CBD) post-2020 Global Biodiversity Framework
- Oslo/Paris (OSPAR) Convention for the Protection of the Marine Environment of the North-East Atlantic
- UK's Biodiversity Action Plan (UK BAP)
- The UK's biodiversity strategy to 2030
- Scottish Biodiversity Strategy
- 25 Year Environment Plan (YEP)

the UK which are grouped by five strategic goals, one of which aims to "improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity" (Department for Environment Food and Rural Affairs, 2021). One indicator that reflects the health of ecosystems is the extent and condition of protected areas.

Responsibility for biodiversity is devolved and each UK nation has its own biodiversity strategy (see Box 1 for more examples of international and national biodiversity policies). In Scotland, NatureScot, the Scottish Environment Protection Agency (SEPA), Marine Scotland and Scottish Forestry monitor progress against the aims of the [Scottish Biodiversity strategy](#). Scotland has met the Convention on Biological Diversity (CBD) target of protecting at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas; however, there is still work to be done to ensure the protected areas are healthy and well-connected

(Scottish Environment LINK, 2021). Currently, 65 per cent of these sites are in good condition – a percentage which has dropped since 2007 (Scottish Environment LINK, 2021).

Over 5,000 individual natural features such as habitats, species, and geological formations are monitored by NatureScot (2021). Sites are categorised under one of eight conditions depending on whether the features are favourable or unfavourable and if they are maintained, recovered, declining, recovering, no change or destroyed. Sites are inspected for potential pressures that can contribute negatively or positively to site features. Contributing factors include human and natural activities such

⁶ Read more about [Goal 14 | Department of Economic and Social Affairs \(un.org\)](#) and [Goal 15 | Department of Economic and Social Affairs \(un.org\)](#).

⁷ Read more about the UK Biodiversity Indicators: [UK Biodiversity Indicators 2021 | JNCC – Adviser to Government on Nature Conservation](#).

as: land use and development (agriculture, extraction, grazing, etc.), pollution and waste disposal, tourism and recreation and invasive species, amongst others⁸.

Landowners can work with organisations like NatureScot to minimise the pressures on designated sites through proper management. NatureScot's site condition monitoring practices are undergoing improvements to ensure connectivity with other habitats and surveillance work which considers interactions between habitats. This is crucial as biodiversity targets are not just focused on species health, but also ecosystem connectivity.



*Image 2: Bottlenose dolphins off the Berwickshire Coast.
© Walter Baxter and licensed for reuse under this Creative Commons Licence.*



Image 3: Red squirrels are native to Scotland and protected by the Wildlife and Countryside Act 1981 (as amended). © Creative Commons

The potential of protected areas – seizing opportunities through policy and planning

Scotland's Fourth National Planning Framework (NPF4) is underway and open for consultation⁹. One of the policies in the report aims to address the ecological crisis with development plans that enhance biodiversity and nature restoration in part through the creation or improvement of protected areas. It recognises the value that natural spaces bring to our economy, health, and wellbeing, as well as to biodiversity and climate resilience. NPF4 refers to some partnerships which can help deliver the strategies outlined in the report including Regional Land Use Partnerships (RLUPs)¹⁰.

As demonstrated by the NPF4, there is a strong commitment in Scotland to regional scale land use planning and partnership working. For protected areas, this includes collaborative management of sites and an emphasis on engagement with stakeholders. In the context of the climate crisis, it is increasingly important to ensure conservation efforts are compatible with sustainable use of natural resources, with opportunities for stakeholders to discuss what and who each area is important for – in other words, how biodiversity and wellbeing can be enhanced in every location (Russi, 2021).

The following two case studies highlight the importance of consultative processes in protected area management, with both stakeholders and the wider public.

⁸ For a full list of site pressures see [Pressure table for SCM website | NatureScot](#).

⁹ Consultation for the draft National Planning Framework 4 (NPF4) opened 10 November 2021 and closes 31 March 2022: [Draft National Planning Framework 4 – Scottish Government – Citizen Space \(consult.gov.scot\)](#)

¹⁰ For more information on RLUPs: [Rural and Environment Working together to maximise the potential of our land. – Rural and Environment \(blogs.gov.scot\)](#)

Case Study 1: Lunan Lochs Catchment Area in Perthshire

The Dunkeld–Blairgowrie Lochs in the Lunan Lochs Catchment area comprise five lochs in northeast Perthshire: Loch of Butterstone, Loch of Clunie, Loch of Craighush, Loch of Lowes and Marlee Loch. They are designated Sites of Special Scientific Interest (SSSI) and Special Areas of Conservation (SAC) because they are home to important species like otters (*Lutra lutra*) and slender naiad (*Najas flexilis*). Nutrient enrichment from agricultural practices has posed a threat to the health of these areas and the species within them.

NatureScot developed the Lunan Lochs Natural Care Scheme to restore the water quality of the lochs by working collaboratively with local land managers to reduce phosphate pollution from farming as well as to establish other best management practices (Scottish Natural Heritage, 2004). Land managers received financial and practical support to reduce the application of inorganic phosphate fertiliser, adhere to phosphate budgets and water management plans, plough cereal crops later than usual, create grass buffers, revert to grass in flood risk fields, and improve and fence watercourses from cattle (Lawrie and Sime, 2021). This led to measurable reductions in the phosphorous inputs to the Lunan Lochs Catchment Area and was reported as a success story by the BBC¹¹.



Image 4: Lunan Valley Flood shed © Lunan Valley Flood Forum

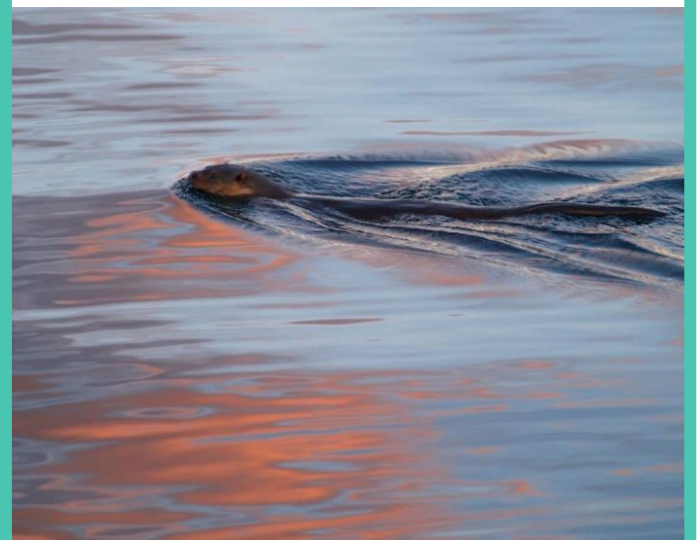


Image 5: Otter swimming in Loch Glencoul, Scotland © Tony Roberts

Case Study 2: Cairngorms National Park

Priority 1 of the Cairngorms' Park Partnership Plan¹² is to support landscape scale collaboration in contributing to national biodiversity targets. In addition to expanding woodlands, restoring peatlands, and enhancing rivers and wetlands, they aim to increase the proportion of designated sites in favourable conditions. Catchment partnerships and landowner-led collaborations like Cairngorms Connect will help ensure habitats are enhanced for both environmental protection and wellbeing. The Cairngorms Connect project is included in a series of projects that highlight best examples of nature-

¹¹ Read article here: [BBC News – Lunan Lochs fertiliser pollution reduced.](#)

¹² More information about Priority 1 of the Cairngorms National Park Plan can be found here: [Priority 1: Supporting Landscape Scale Collaboration – Cairngorms National Park Authority](#)

based solutions across the UK (JNCC, 2021). NatureScot, RSPB Scotland, Forestry and Land Scotland, and Wildland Limited are involved as project partners.

Cairngorms Connect is described as the UK's biggest habitat restoration project. The initiative includes land managers and organisations who oversee more than 600 square kilometres within the Cairngorms National Park (JNCC, 2021). Its ambitious 200-year vision aims to improve the ecological health of habitats, in part through expanding native woodland conservation areas. It plans to accomplish this in conjunction with ensuring a high-quality social experience in the park and supporting the local economy. The goal is to enable natural capital and ecosystem services to increase so that ecological processes can support sustainable economies and improve wellbeing (JNCC, 2021).

A report prepared by the UK Centre for Ecology & Hydrology explains that nature protection projects are more successful in ensuring long term sustainability when they involve a wide range of volunteers, are designed in collaboration with key stakeholders, and work closely with organisations and partnerships like Cairngorms Connect (Dewhurst-Richman *et al.*, 2021). Research on adaptive governance¹³ supports the notion that working in collaboration with the public and stakeholder partnerships creates best management practices which enhance and protect natural capital and ecosystem services (Schultz *et al.*, 2015).



Image 6: Image taken in the Cairngorms National Park © Juan Antonio Segal via Flickr.

Closing Remarks

During the Covid-19 pandemic, global visitation rates to green spaces increased due to mobility restrictions imposed by governments (Geng *et al.*, 2021). Time spent in nature and access to large green spaces also became valued more by the public (Plecak *et al.*, 2022). However, one study conducted in Snowdonia National Park in Wales found that protected areas within the park saw ecological benefits to reductions in visitation (Jones *et al.*, 2021). The authors of this study recommend that "adaptive co-management" and "coproduction of knowledge with local stakeholders" can aid park managers in planning for "equal benefit sharing in the long term" (Jones *et al.*, 2021, pp. 7–8). Coming out of imposed mobility restrictions, now is a good time to tap into heightened awareness of the importance of local greenspace with high nature value and engage the public in identifying how to best manage protected areas for shared benefits.

¹³ Adaptive governance integrates science and public participation in decision-making efforts. Policies proposed through adaptive governance are informed, co-created, and flexible to ensure different values are represented in addition to scientific findings.

There should be a conversation about the potential for stakeholder and wider public engagement in the protection of natural areas. The two case studies discussed can be used as models for future protected area management efforts, perhaps informing the ongoing work of the Regional Land Use Partnerships (RLUP) pilots. Expansion of, and improvement in, the management of protected areas in Scotland should also consider best practices in collaborative management to ensure local and global sustainability goals are met.

Recommendations

- **Engage the public in deciding where the next 10 per cent of protected areas should be designated.** Capitalise on the public's enhanced appreciation for green spaces and protected areas following the Covid-19 pandemic to help inform the next locations of protected areas.
- **Collaborate with key stakeholders in a decision-making process regarding how to best manage newly designated protected areas.** Local place-based partnerships should be included or formed to help establish and manage new protected areas in Scotland.
- **Consider the benefits of protected areas in helping Scotland fulfil its commitments to international and localised Sustainable Development Goals.** Protecting areas that could deliver improved habitat connectivity, biodiversity, and ecosystem service provision should be prioritised.
- **Learn from best practices in adaptive governance already underway in Scotland.** Co-creation of best management practices should be informed by the case studies and other examples of participatory approaches in Scotland.

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