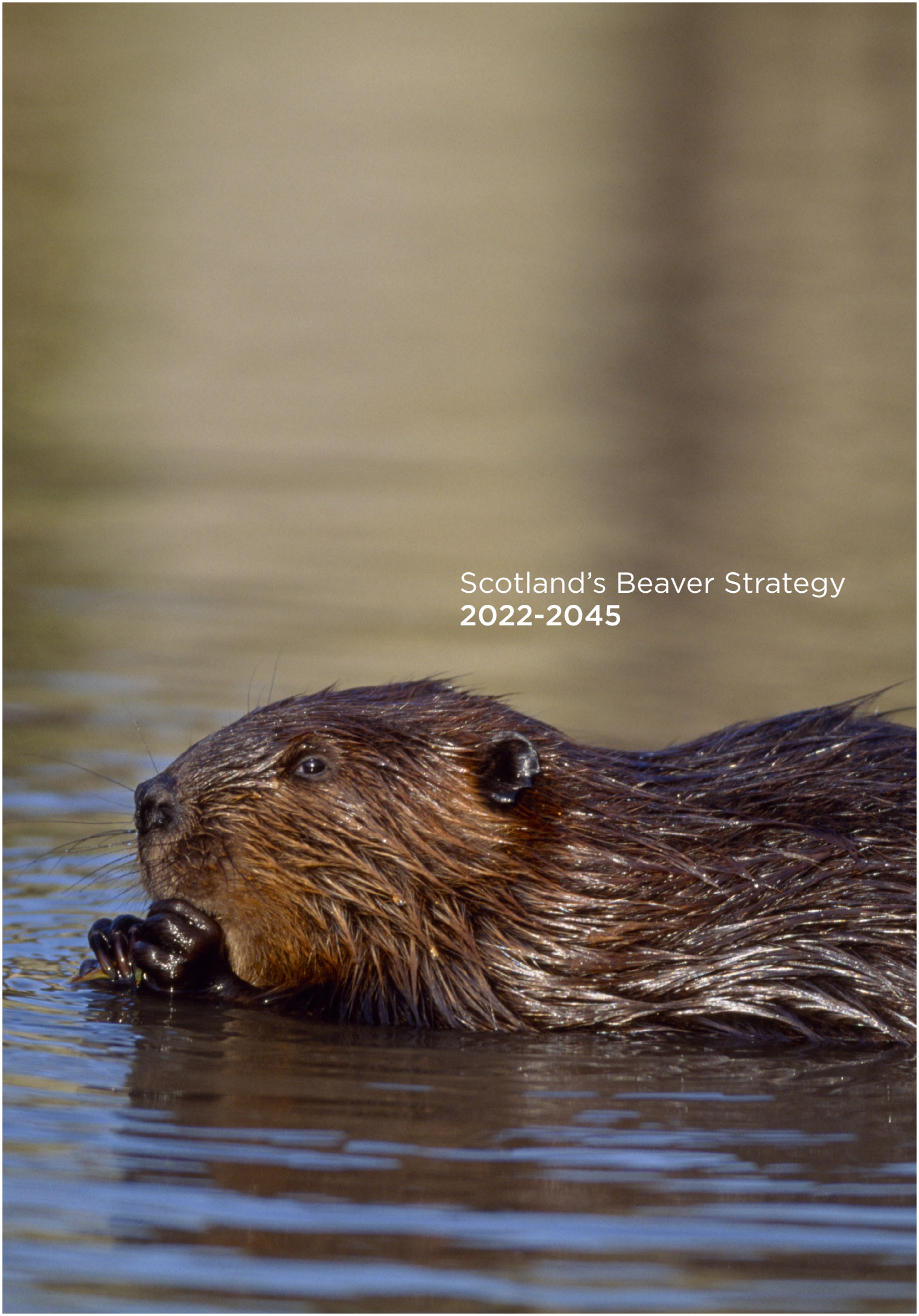

Scotland's Beaver Strategy
2022-2045

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IUCN SSC Conservation Planning Specialist Group (CPSG) was established in 1979. Its mission is to increase the effectiveness of conservation efforts worldwide through scientifically sound, collaborative planning processes that bring together people with diverse perspectives and knowledge to catalyse positive change for species. CPSG provides species conservation planning expertise to governments, other SSC Specialist Groups, zoos and aquariums, and other wildlife organisations. CPSG follows a core set of **Species Conservation Planning Principles and Steps** which underpin all of its planning processes.

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Recommended citation:
IUCN/CPSG (2022). Scotland's Beaver Strategy 2022-2045. IUCN SSC Conservation Planning Specialist Group, MN, USA.

ISBN 978-1-78391-966-6
Published August 2022

Front cover photo: Laurie Campbell

"Throughout Scotland, communities are supported in working together to maximise the ecosystem and wider benefits of beavers while minimising negative impacts.

The beaver population is actively expanded into appropriate areas; adaptive management and mitigation is used to protect assets and interests."

Vision 2045

Indicators of success

- Beavers in Scotland have achieved and are maintaining Favourable Conservation Status.
- Beaver populations are connected through networks of improved and expanded wetland and riparian habitat.
- Negative impacts on environmental interests or socio-economic assets, including land, are effectively managed and/or mitigated in a timely manner.
- Communities across Scotland feel empowered to act in an informed way to promote and benefit from beaver presence and their positive impacts and monitor and learn from the experience.
- The ecological, socio-cultural and economic benefits of beavers have been fully assessed at a national scale and effectively communicated.
- Research and monitoring are embedded within all management interventions to inform and improve the effectiveness and efficiency of actions.
- Stakeholder trust in strategy implementation is nurtured through effective communication, transparent decision-making and mutual respect.

Thematic areas of work 2022-2032

We will move towards our 2045 vision through strategic goals, objectives and actions linked to the following thematic areas:

- Conservation Translocation

Promoting the establishment and growth of more beaver populations within appropriate areas across Scotland.

- Management and Mitigation

Ensuring that, as more beavers are in the landscape, they are managed in a way that maximises biodiversity and wider environmental gains and effective action is taken to mitigate or avoid negative impacts on assets and interests.

- Research and Innovation

Improving the management of the expanding beaver population through the development of new techniques, technologies, and applied research to understand the full consequences of beavers within the Scottish landscape.

Stakeholder communication, decision-making and governance

The implementation of the strategy will require a governance structure that builds trust and encourages increasingly collaborative working relationships between those impacted by, or who could have an impact on, the success of the strategy.

Throughout, we will seek opportunities to integrate Scotland's Beaver Strategy with relevant national programmes and policies to maximise effectiveness and efficiency of implementation.

Foreword

by Lorna Slater MSP

The beavers' story so far in Scotland reflects our evolving relationship with the natural world. Once common, they were hunted to extinction here over 400 years ago. Now they have been reintroduced into a very different countryside. Our environment has been heavily degraded by decades of over-exploitation, but the reintroduction of beavers is at the vanguard of a growing movement that is bringing land managers and conservationists together to change this. To restore our natural environment, and to reset our relationship with the wildlife we share it with.

No great change such as this is without challenge, and this Strategy is inevitably focused on those challenges and how we work together to overcome them. Already, considerable effort has been made by many organisations and land managers to better understand beavers, their ecology and impact, and to find practical and effective solutions to any problems they have caused. This has been aided by a willingness to learn from each other, and indeed from other countries that have long lived alongside beavers.

This strategy has been produced by a partnership of stakeholders from across a range of land management, environmental, conservation and other sectors, and facilitated by the IUCN Conservation Planning Specialist Group. I would like to thank them all for their contributions and effort, and I look forward to seeing the results of their continued collaboration.

This strategy commits to an overarching aim of facilitating a "significant expansion of the range and size of the beaver population within Scotland" over a 10 year period. I welcome the consensus that has emerged around this goal, and have no doubt of the positive impact that delivering it will have on the natural environment across the country, as beavers re-engineer and restore rivers and create wetlands. Recognising the concerns and requests made by stakeholders during the development of this strategy, the Scottish Government will do its bit to support this expansion, ensuring land managers get the support they need to live with beavers and to reduce any negative impacts.

Just 25 years ago most people would not have imagined that beavers would soon return as a member of our Scottish fauna. Now they are returning we have a responsibility to look after and value them; to learn to live alongside these remarkable animals. This strategy, and our work together to deliver it, is an important and welcome step towards this goal.

Lorna Slater MSP
Minister for Green Skills,
Circular Economy and Biodiversity

August 2022

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Eurasian beaver. (Photo: Terry Whittaker)

Context

The reintroduction of the Eurasian beaver (*Castor fiber*) to Scotland has been a major topic of interest and debate since the mid-1990s. In the early years, the focus was on assessing the feasibility and desirability of reintroduction, culminating in a national consultation in 1998. A trial reintroduction in Knapdale, Argyll was then designed, although the first licence application for this was turned down. Further applications were made, however, and in 2009 beavers were released at the Knapdale trial site, the first licensed reintroduction of a mammalian species in Britain.

In the meantime, there were increasing numbers of reports of beavers in Tayside, **resulting from accidental or illegal releases**. Eventually the presence of beavers in Tayside was assessed in parallel with those in Knapdale. A range of studies and stakeholder group reports were published. These were collated, along with international work and experience, within the '**Beavers in Scotland**' report to the Scottish Government in 2015.

Scottish Ministers announced in 2016 that they were minded to allow the Tayside and Knapdale populations to remain. This was formalised in 2019 when the Scottish Parliament approved legislation that made the Eurasian beaver a European Protected Species in Scotland. This decision was made in parallel with the launch of a Beaver Management Framework that set out approaches to mitigation, support, licensing, translocations and other related issues. Before November 2021, translocations to Scottish sites outside the Tayside and Knapdale areas were not supported. This changed when Scottish Ministers announced a new approach allowing translocations to take place across Scotland.

Throughout this time (**Table 1**) views and experiences surrounding beavers differed markedly between various stakeholders. Many supporters of beavers have highlighted the environmental and socio-economic benefits the species can bring and there has been frustration at the slow rate of progress in reintroducing the species across Scotland. Others have voiced their concerns over the impacts of beaver activities on certain land uses, fisheries and some conservation interests, and there have been significant challenges for some land managers in Tayside where damage has been caused in low-lying areas.

The production of this National Strategy is therefore timely, and necessary. It draws on research and our experiences of living with beavers and aims to reflect the aspirations and concerns of stakeholders as we anticipate an expanding beaver population being restored to Scotland.

Table 1.

Timeline of beavers in Scotland since extirpation in the 16th Century.

16th Century	Last known record of beavers in Scotland before the population was lost due to human impact.
1992	Eurasian beaver listed on Annexes II and IV of the EC **Habitats Directive**.
1995	Beavers included in the SNH Species Action Programme.
2000	Decision made by SNH Board to organise a trial reintroduction. Knapdale Forest in mid-Argyll selected as the trial site.
2003	Scottish Ministers turn down a licence application to run a trial reintroduction.
2006	Confirmed record of animals in the Bridge of Earn area, originating from escapes, investigated by the Police (this follows anecdotal reports of wild-living beavers on Tayside prior to this date).
2007	Beavers included in **Scotland's Species Action Framework**.
2009	**Scottish Beaver Trial** commences at Knapdale, managed by SWT and RZSS on FCS land, licensed by Scottish Government, monitored by SNH (runs until 2014). **Beaver-Salmonid Working Group** established (runs until 2014).
2010	Attempts to remove beavers from Tayside begin.

2012	**Scottish Ministers announce** that beavers can remain on Tayside for the duration of the Scottish Beaver Trial and their impact monitored. **Tayside Beaver Study Group** established (runs until 2014).
2014	**The Scottish Code for Conservation Translocations** published.
2015	**Beavers in Scotland: A Report to the Scottish Government** published and submitted to Ministers.
2016	**Scottish Ministers announce** that the beaver populations in Knapdale and Tayside catchments can remain, subject to satisfactory completion of a SEA and HRA.
2017	**SEA consultation and an associated HRA** published (**the analysis** is published in 2018). Scottish Beaver Forum established. **Scottish Beavers** project, to reinforce the Knapdale population, begins (runs until 2020).
2019	Eurasian beaver made a **European Protected Species** under Scots law. **Beaver Management Framework** published following consultation with Scottish Beaver Forum members.
2021	NatureScot's licensing approach to beaver management challenged under **Judicial Review**. **Scottish Ministers announce a shift in policy** to enable translocations to new release sites from summer 2022. Work starts on organising the first national strategy for beavers in Scotland.

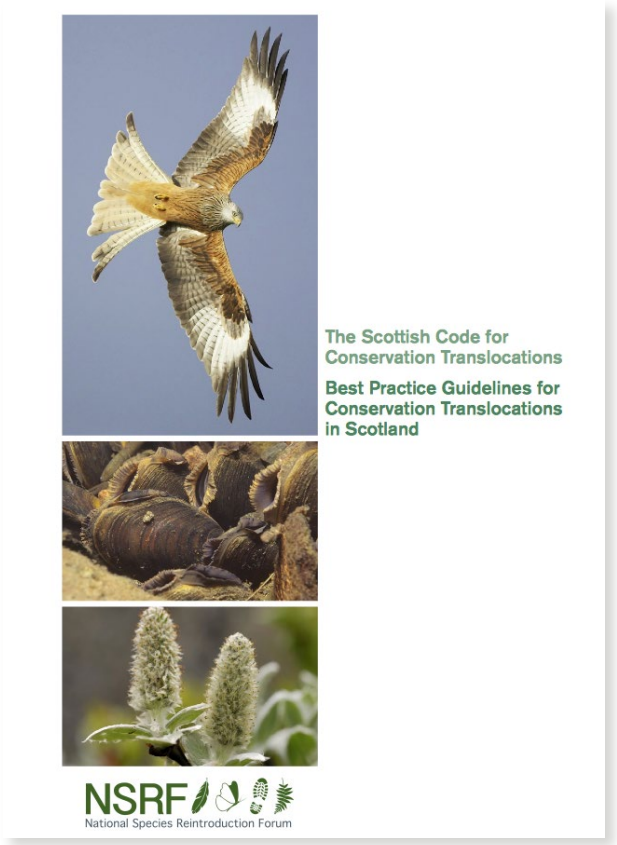
Knapdale Forest in Mid-Argyll, site of the Scottish Beaver Trial.

(Photo: Nigel Willby/University of Stirling/ NatureScot).

Scotland's Beaver Strategy
2022-2045

Opportunities and challenges

Opportunities and challenges



The Scottish Code for Conservation Translocations (NSRF, 2014).

A PESTLE analysis, undertaken as part of the planning process, identified a suite of opportunities and challenges to the proposed increased expansion in beaver population size and distribution in Scotland. Note, this analysis allows stakeholders to express their views (both as potential opportunities as well as challenges) rather than requiring any peer-reviewed or other evidence to be provided. These factors helped to inform the development of the strategic goals summarised below.

Opportunities

Political

Current Scottish Government policy provides strong support for the proposed expansion of beavers across Scotland. This expansion could make an important contribution to Scotland's reputation, both nationally and internationally, as a country taking positive steps to address biodiversity and climate emergencies. Opportunities exist to link the beaver strategy with the implementation of the Scottish Biodiversity Strategy, currently in development, and support the realisation of other national policy and programme reforms, such as those being led by the **Agriculture Reform Implementation Oversight Board**, which seeks to *'address the twin crises of climate and nature/loss of biodiversity'*. Additional links could be explored between Scotland's Beaver Strategy and Scottish Forestry, Deer Management and River Basin Planning and Flood Risk management strategies and plans that are in place or that will be implemented within the foreseeable future.

Economic

Beaver activities provide important ecosystem services, such as biodiversity support, regulating hydrological flows, water storage and trapping sediments and pollutants, and further socio-economic gains, such as through increased recreational and tourism opportunities. The presence of more beavers in the landscape, and the impacts they have, could allow for livelihood diversification for individual landowners through to whole communities, in particular through enhanced tourism opportunities. Where there is financial support available for the restoration of riparian habitats, these could be investigated, as they may also contribute to beaver restoration efforts. There may be other financial opportunities through connecting this strategy to flood prevention schemes, where beaver activity could offset some of the needs for man-made interventions.

Social

Expanding beaver populations offer opportunities for experiences in nature and environmental education. They could help communities across Scotland to engage in the nature-based activities sought by an increasingly urbanised population, fostering further ties with the countryside and the role of nature within the community. The development of the Strategy could allow more local community groups to get involved in projects to promote the spread of beavers across the landscape. There is public support for translocating beavers from conflict sites to new areas, prioritised ahead of lethal control whenever possible. The Strategy provides an opportunity to build a more collaborative and positive approach to beaver management that involves the engagement of local people, with Scotland being identified as a world leader in community-led ecosystem restoration.

Technological

Remote-sensing devices and programmes to monitor environmental change, plan and react in an adaptive manner to unforeseen or undesirable impacts are already being developed. For example, remote water level loggers and camera traps, alongside flow devices used for dam management may be developed to help us better understand the impacts of beaver activity on arable land, and salmonid behaviour at dams including potential impacts on the free passage of fish. Modelling the potential overlap between beaver expansion and transport networks would allow pro-active management of potential interactions. Genetic tools now make monitoring of genetic diversity of beaver populations in the wild possible. The use of **Environmental DNA (eDNA)** to survey beavers and assess landscape scale information on biodiversity changes associated with beaver expansion are now being trialled. Computer modelling of beaver population dynamics and their environmental impacts, e.g. through dam-building, can help inform more proactive management of the wild population.

Legal

The **Management Framework for Beavers** in Scotland includes a range of management responses. Government policy change to allow for an increase in the distribution of beavers across the landscape provides an opportunity for the recognised best practice hierarchy of management and mitigation measures to be applied, with lethal control being used as a last resort (as stated within the Management Framework). Combined with the **Scottish Code for Conservation Translocations**, these two documents provide a solid basis on which to build the Strategy, increasing the likelihood that further releases will be undertaken in accordance with national law and international guidelines. There may also be an opportunity to link the Strategy with the Natural Environment Bill.

Environmental

Beavers can bring diverse and significant benefits to **biodiversity**: habitat restoration, e.g. of standing deadwood; connectivity; and ecosystem services; as well as contributing to the national response to climate change concerns. Beavers can help restore and create riparian and freshwater habitats, boost populations and diversity of invertebrates, amphibians, birds, mammals and fish, as well as improve the abundance and diversity of many plant species, and increase downstream water quality. Indirect benefits of beavers include their potential roles as totemic species of riparian woodland/wetland habitats, raising project profiles and bringing in financial and/or practical support for local restoration initiatives. The ability of beaver populations to expand naturally where habitat, resources and connectivity permit, before levelling when carrying capacities are reached, presents an opportunity for this European Protected Species to become established back into the landscape.

Opportunities and challenges

Challenges

Political

With policy in place to authorise further beaver translocations in Scotland, it will be necessary to ensure that a coherent and agreed Strategy is implemented to ensure the policy can be carried out in a managed way. The timely implementation of the Strategy, including the streamlining of the licence application process, is also important to help reduce the proportion of removals from conflict sites that are subject to lethal control in the near future, and increase the proportion that are trapped to help to facilitate translocations to new areas. Such translocations need to be considered in terms of compatibility with other ongoing national programmes, policies and plans. Since any change in government could result in a change of policy, it is important that integration within the broader policy landscape builds resilience of the Strategy.

Economic

Some landowners within the Tayside catchment areas, especially those who manage low-lying land adjacent to water courses, are incurring significant costs due to the impacts of beaver activity. An increased distribution of beavers across the Scottish lowland landscape could elevate these costs, as more landowners are impacted by beaver activities. Some direct assistance is available through the management framework, though there is concern that it is insufficient to meet the current expectations and would need to be enhanced to deal with future requirements. Financial costs of beavers in the landscape may also include the need to mitigate impacts on physical infrastructure and other interests, such as where migratory fish that have had their passage upstream and/or downstream impeded at critical points in their breeding season by beaver activity. Further research is needed to establish the effects of beaver activities on fisheries. Lateral flooding may compromise productive woodland and extraction routes. As the primary focal point for dealing with such impacts, NatureScot may become increasingly stretched in its capacity to respond as the need for management and mitigation measures grows in line with beaver numbers and distribution. Resources, including financial, to support longer term, post-release monitoring and management are key, as will be the need for future translocations to be well planned and researched.

Social

Accidental or illegal releases of beavers has resulted in significant costs for some land managers and a loss of trust amongst stakeholder groups; trust needs to be rebuilt as further beaver expansion is considered. Whilst most **people consulted** support beaver expansion, new social groups and communities who are negatively impacted may materialise as the beaver population and range expands. For example, throughout Scotland alternative sources of 'raw' water have been identified to ensure the supply of public drinking water during periods of drought, and some of these are small and in remote areas. Beaver activity in these areas could impact flow from these water sources, and so affect recipient communities. The application of this Strategy needs to be responsive to such concerns as and when they occur. The Strategy also needs to consider how information is managed and shared to minimise inaccuracies and inconsistencies, thus reducing potential for public confusion or backlash over decisions. Although translocations present an important non-lethal management option, there may come a time when this approach is less feasible, as appropriate areas for beaver establishment become occupied and opportunities to translocate them to England or Wales become limited. This is likely to result in licensed lethal control taking place in more catchments; a topic of public concern that needs to be managed and communicated clearly and carefully.

Technological

Ineffective action and/or conflict can result from insufficient access to or awareness of advice on how to respond to undesirable impacts of beaver activity. This advice needs to be linked

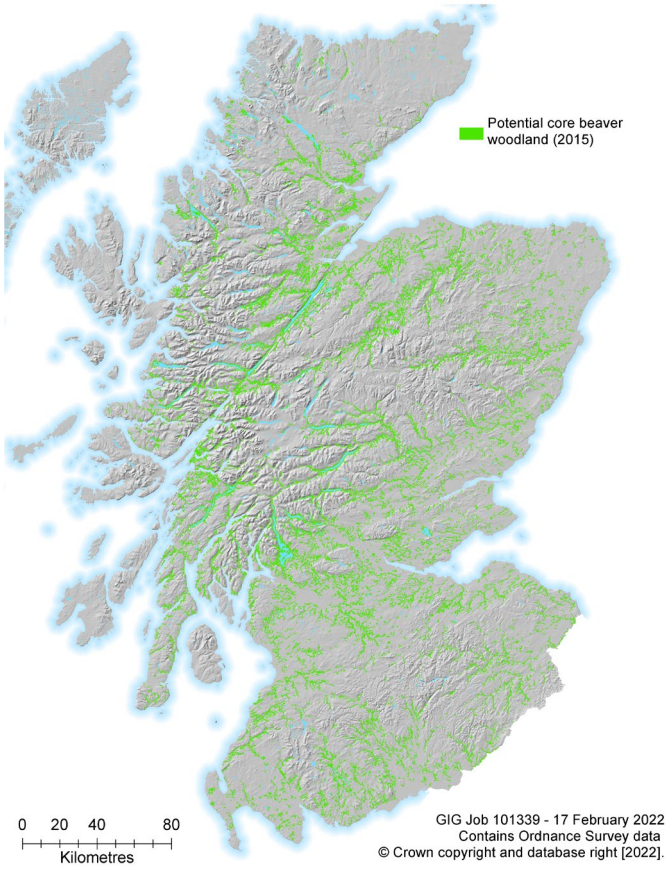
with comprehensive trialling of existing mitigation techniques, the development of new ones to respond to new challenges and scaling up implementation. Access to skills development will also be required, not just to deal with potential undesirable beaver impacts, but also to ensure planned translocations are carried out effectively as more translocation projects are proposed. Effective long-term monitoring systems must be put in place to trace biodiversity changes on ecologically relevant spatial-temporal scales and gain a comprehensive understanding of both positive and negative impacts (e.g. on threatened bryophytes and lichens), as well as other interests and assets (e.g. important historic sites).

Legal

Some organisations are legally required to ensure the health and safety of infrastructure and processes. For example, discharges of wastewater under the Controlled Activity Regulations (CAR) rely on the receiving water dilution factor, at a fixed point, to comply with the conditions set out in a licence. If beavers were to disrupt, block or divert flow then this could create a non-compliance, potentially cause flooding or create a pollution incident that would have to be resolved quickly. Environmental legislation will need to be considered when planning for future translocations. For example, if beaver releases are proposed in or in the vicinity of **Special Areas of Conservation** (SACs) or **Special Protection Areas** (SPAs), additional steps will be needed to ensure the sites are not compromised, including a **Habitats Regulations Appraisal**, as described in the **Scottish Code for Conservation Translocations**.

Environmental

Whilst beavers do provide significant biodiversity gains, their ability to modify the landscape means that there could be negative impacts on other species of concern, particularly when these species are already threatened for other reasons, such as certain lichen, bryophyte, and invertebrate species and, potentially, some migratory fish species, such as Atlantic salmon. In the absence of appropriate deer management, the added presence of beavers could undermine efforts to restore riparian woodland, particularly in areas where restoration efforts to date have been minimal. The genetic health of the population will need to be monitored considering the limited number of founder animals, and the potential, future need to import further animals from Europe if necessary. In this event, genetic checks will be required to confirm the provenance of translocated animals (e.g. to ensure that they are not the North American species), as will health screening to avoid pathogens being introduced.



Map showing predicted core beaver woodland habitat in Scotland. Note that this is not a map of appropriate sites for translocation – which would need to take account of other factors in addition to beaver habitat suitability.

Beaver bank lodge at Knapdale.

(Photo: Lorne Gill/NatureScot/2020VISION)

Scotland's Beaver Strategy
2022-2045

The Strategy

The Strategy

The following strategy has been designed to provide a 'direction of travel' for beavers in Scotland over the coming decades and a detailed description of priority goals, objectives and actions over the first 10 years. The strategy is designed to provide a long-term framework that will outlast political cycles and the changes they can bring. It should be used together with existing documents, in particular the **Scottish Code for Conservation Translocations** and the **Management Framework for Beavers in Scotland**. This 10-year workplan will need to be reviewed ahead of 2032 to encompass changes in the beaver landscape in Scotland (e.g. beaver population density, technology available for mitigation, research findings, and funding availability).

Strategy development process

The strategy was developed in accordance with international guidance on collaborative process design, as documented in **Species Conservation Planning Principles and Steps (CPSG 2020)**. The process was designed and facilitated by the International Union for Conservation of Nature (IUCN) Species Survival Commission (SSC) Conservation Planning Specialist Group (**CPSG**) in collaboration with a cross-stakeholder Organising Team (**Appendix I**). The process was divided into two discrete steps, each involving a facilitated, virtual multi-day workshop:

1) **2045 Vision Development Workshop**: 61 participants attended at least one day of this virtual event, run on Tuesday 1st February and Thursday 3rd February 2022 (**Appendix II**). At the conclusion of this two-day workshop (**Appendix III**), feedback from the participants was compiled and used to inform a single, proposed vision statement created through a separate, facilitated process involving a self-selected, cross-representative group of workshop participants. The proposed vision statement was shared, discussed and agreed by stakeholders at a follow-up, facilitated, virtual meeting on Friday 18th February 2022.

2) **2022-2045 Strategy Development Workshop**: The ongoing Covid pandemic caused this to be a three-day virtual event held between 28th February and 2nd March 2022 (**Appendix III**). Eighty-one stakeholders participated in at least one day (**Appendix II**). Goals, objectives and actions were developed around four themes (Conservation Translocation; Management and Mitigation; Stakeholder Communication, Decision-making and Governance; and Research and Innovation). Stakeholders chose to participate in one or more of the thematic working groups. Each thematic working group continued to interact after

The 2045 vision for Scotland's Beaver Strategy:

"Throughout Scotland, communities are supported in working together to maximise the ecosystem and wider benefits of beavers while minimising negative impacts.

The beaver population is actively expanded into appropriate areas; adaptive management and mitigation is used to protect assets and interests."

the three-day workshop to complete their goals, objectives and action documents. The results were then consolidated into a draft strategy circulated to all stakeholders for comments and revisions, resulting in the Strategy presented within these pages. Note, the results of the Decision-making and Governance thematic working group were used to inform the development of the governance structure section in this Strategy.

A vision for beavers in Scotland

Evidence from Scotland has shown that, in suitable locations, beavers can re-establish, their populations can expand, and they can have positive influences on ecosystems. Work to monitor, manage and mitigate their impacts in Tayside highlights their ability to expand their range and population, while their landscape engineering capabilities can pose challenges for some land management objectives. International experience has demonstrated a range of environmental and socio-economic effects arising from beaver presence. Plans for the expansion of beaver populations at a national scale will need to acknowledge this complexity and, hopefully, contribute to a re-imagining of our relationship with nature. Actions identified within the strategy will need to acknowledge the need for careful analysis of the most appropriate areas for beaver range expansion, recognising the need to minimise potential negative impacts on other assets and interests, and maximise opportunities and benefits. Given the time it will take for new beaver populations to become established and for existing ones to expand, it is appropriate for the Strategy to take a long-term view. The year 2045 also coincides with the target date for **net zero emissions** of all greenhouse gases as set out in **Scottish legislation**, which in turn relates to efforts to address the ongoing biodiversity crisis. A new Scottish Biodiversity Strategy is also being drafted at the time of writing and is expected to include a vision statement for 2045.

Indicators of success

The 2045 vision statement captures the key concerns and needs of the participants and reflects the positive changes they want to see as the strategy is implemented.

Delivery of the vision should involve and be measured against the following indicators of success:

Status improvements

- Beavers in Scotland have achieved and are maintaining **Favourable Conservation Status**.
- Beaver populations are connected through networks of improved and expanded wetland and riparian habitat.

Effective mitigation

- Negative impacts on other biodiversity interests or socio-economic assets, including land, are effectively managed and/or mitigated in a timely manner.
- Research and monitoring are embedded within all management interventions to inform and improve the effectiveness and efficiency of actions.

Societal engagement

- The ecological, biological, socio-cultural and economic benefits of beavers have been fully assessed at a national scale and effectively communicated.
- Communities across Scotland feel empowered to act in an informed way to promote beaver presence and their positive impacts, and to monitor and learn from the experience.

Trust-building

- Stakeholder trust in strategy implementation is nurtured through effective communication, transparent decision-making and mutual respect.

The Strategy

Thematic Goal to Actions: 2022-2032

Overview of the work

Significant expansion of the range and size of the beaver population within Scotland will need to be achieved over the next ten years to deliver the vision. This will be realised through natural expansion and carefully planned conservation translocations to appropriate areas. The identification of these areas will require comprehensive assessments of risks to human assets (e.g. infrastructure, Prime Agricultural Land) and other interests, including biological interests and species that might already be in a precarious state. It will be important to ensure that any significant negative effects on such species are also mitigated.

Whilst natural expansion of established beaver populations into these sites is likely to occur over time, translocations to areas that include sensitive features should be carefully considered and apply the best practice approach set out in the **Scottish Code for Conservation Translocations**. Effective, well-funded, management and mitigation measures will need to be in place to respond to such events, including the full hierarchy of intervention options (accommodation > mitigation > translocation > lethal control). Proactive, longer term restoration and creation of riparian woodland habitat in appropriate locations will also provide management and wider ecosystem benefits and reduce the need for further intervention. This careful expansion and adaptive management of the Scottish beaver population will be underpinned by thorough and ongoing research on the population itself, its interactions with the environment and wider ecosystem, and the interplay with human lives and livelihoods. In this way, the true balance of costs and benefits of re-establishing such an 'ecosystem engineer' to the Scottish landscape will be ascertained and its contribution to national biodiversity recovery, natural capital, climate change mitigation and human well-being recognised.

Creation of new wetland habitat following dam building on a 0.5m wide burn by beavers.

(Photo: Martin Gaywood).

Summary of 2022-2032 strategy goals

Nine goals have been identified across the thematic areas of work.

Table 2.

The three thematic work areas and goals.

Thematic work area	Goals (2022-2032)
Conservation Translocation	**Goal 1:** Secure availability of support and funding for all aspects of beaver translocation work.
-	**Goal 2:** Develop a considered and dynamic approach to beaver conservation translocations to new areas to maximise benefits and minimise conflict with humans and existing biodiversity.
-	**Goal 3:** Ensure a transparent, inclusive, timely and straightforward translocation licence application process to build trust and engagement.
Management and Mitigation	**Goal 4:** Implement the sequential hierarchy of: accommodation > mitigation > translocation > and lethal control, to support living with beavers and reduce negative impacts long-term.
-	**Goal 5:** Establish systems to support land managers in the development of naturalised riparian networks that can accommodate beavers.
-	**Goal 6:** Raise awareness within the Scottish public of beavers and the associated benefits and issues in order to improve the acceptance of management decisions.
Research and Innovation	**Goal 7:** Improve understanding of beaver biology and status within the Scottish context.
-	**Goal 8:** Assess the biological, environmental, economic and social implications of beaver presence on other species, habitats, physical processes, land use, wider society and wider ecosystem services (including general 'natural capital') and use this knowledge to inform decision-making.
-	**Goal 9:** Assess effectiveness of existing mitigation and install, test and develop new ideas and techniques.

The Strategy

Thematic Goals to Actions: 2022-2032

We now explore these goals within each theme in more detail. **Note that cross-linkages between goals, objectives and actions listed below are acknowledged. In the delivery of these goals, attention should be given to these linkages and how actions can be mutually supportive.**

Work theme 1: Conservation Translocation

Conservation translocation involves the, '*deliberate movement and release of living organisms for conservation purposes*' (**National Species Reintroduction Forum, 2014**). In line with Scottish Government policy, the focus of this work theme is in creating the framework in which carefully-planned, stakeholder-inclusive translocations to new sites across Scotland can be realised through addressing the approach laid out in the **Scottish Code for Conservation Translocations** (which is based on the **IUCN Guidelines for Reintroductions and Other Conservation Translocations**). These sites should be selected and managed in a way that maximises the positive benefits that beavers can bring and minimises the costs of adverse impacts on human assets (including infrastructure and agricultural land) and other interests. These interests should include other species of concern that, due to their current conservation status, may sometimes need to be protected from beaver activity.

Priority actions are highlighted. For further details on timelines responsibilities and means of verification, please see **Part 2: Implementation Plan.**

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Goal 1: Secure availability of support and funding for beaver translocations.

Objective A: Beaver specific funding for translocations and mitigation pre and post translocation.

Action i): Maintain commitments by NatureScot to fund and support strategic assessment and specific practical elements associated with conservation translocations (trapping, transport, captive care, health screening), together with associated mitigation.

Action ii): Maintain NatureScot funding for pre-mitigation in planned translocation sites and post-translocation mitigation where needed.

Action iii): Identify additional funding sources outside of NatureScot and government funding that could also be used to support those proposing beaver translocations and those affected by them.

Action iv): Publish conservation translocation case studies to inform the design of future projects.

Goal 2: Develop a considered and dynamic approach to conservation translocations of beavers to new areas to maximise benefits and minimise conflict with humans and existing biodiversity.

Objective A: Identify higher benefit, lower conflict areas for a phased programme of beaver translocations.

Action i): Use spatial assessment tools to identify interests and ground-truth this analysis.

Action ii): Identify and fill knowledge gaps for other species of interest to inform spatial analysis.

Action iii): Clear prioritisation of potential translocation sites.

Action iv): Publish call for expressions of interest from identified priority sites.

Action v): Provide support for those interested in submitting translocation proposals in line with strategic guidance in seeking funding and expertise where required.

Objective B: Conduct well-planned, responsible translocations to new sites in Scotland.

Action i): Engage with landowners to source beavers for translocation.

Action ii): Undertake thorough, proportionate stakeholder engagement at potential release sites in line with strategic guidance on translocations.

Action iii): Conduct trapping at relevant landowner properties.

Objective C: Ensure good practice in translocation population management to safeguard beaver welfare and maximise probability of successful establishment.

Action i): Create and integrate Standard Operating Procedures to safeguard welfare into all translocation applications, with reference to the review of wild beaver welfare in Scotland being conducted by SAWC (the Scottish Animal Welfare Commission).

Action ii): Apply disease screening based on existing DRA (Disease Risk Analysis) in translocation projects.

Action iii): Integrate blood/tissue sampling into all translocations for genetic analyses and management with samples banked in a shared national public resource.

Action iv): Integrate genetic data into planning for ongoing population management and future translocations, including from other European populations when required.

Action v): Ensure post-release monitoring included in translocation planning (immediately after release and follow-up, including data specifically to allow an audit of the impact of mitigation procedures on beaver health and welfare), in line with existing licensing procedures.

Action vi): Incorporate clear exit strategy into all translocation plans in case something goes wrong (for beavers, other organisms, or humans).

Goal 3: Ensure a transparent, inclusive, timely and straightforward translocation licence application process to build trust and engagement.

Objective A: Ensure support for pre-application and licensing.

Action i): Provide guidance to guide applications from appropriate and prioritised locations.

Action ii): Produce clear, transparent guidance on what engagement is proportionate to a given translocation proposal for beavers.

Action iii): Implement strategic assessment for proposed translocations into new catchments, in line with the Scottish Code for Conservation Translocations.

Objective B: Ensure transparency on decision-making re: translocation licences.

Action i): Produce publicly available decision documents for beaver translocation licences as standard practice.

Work theme 2: Management and Mitigation

Beavers deliver significant benefits as ecosystem engineers. They can contribute to the restoration of riparian habitats, develop wetlands that create habitats for a range of species, and help to manage physical processes such as water storage and flow. Their activities can also create challenges for land use practices such as those associated with farming, undermine infrastructure and may compromise habitats for specific species of interest that are already in a fragile or uncertain conservation status, such as certain lichen, bryophytes and migratory salmonids. This strategy recognises these challenges and opportunities, promoting the spread of beavers into appropriate areas and controlling their spread and mitigating their impacts elsewhere. This work will use the existing Management Framework for Beavers in Scotland.

For further details on timelines responsibilities and means of verification, please see **Part 2: Implementation Plan**.

Most woody stems felled by beavers are less than 0.1m diameter, but larger trees are sometimes felled.

(Photo: Martin Gaywood).

Goal 4: Implement the sequential hierarchy of: accommodation > mitigation > translocation > lethal control, to support living with beavers and reduce negative impacts long-term.

Objective A: Review and update guidance within the management framework and other related regulatory guidance.

Action i): Update guidance supporting the Beaver Management Framework to reflect the mitigation hierarchy, with due consideration given to the natural capital implications of management decisions being made.

Action ii): Undertake, publish and consult on a Strategic Environmental Assessment (SEA) that will include the identification of risks and constraints of beaver translocation and natural colonisation to other interests (habitats, species, migratory fish, land management, infrastructure).

Action iii): Develop criteria and map locations in Scotland that will provide broad assessments of potential benefits and constraints.

Action iv): Monitor best practice from other **beaver range states** to inform local/national options and ensure evidence-based practice.

Action v): Ensure national risk-based guidance on the regulatory control of engineering-based management options under the Controlled Activity Regulations is updated and then periodically reviewed to take account of innovative and novel engineering approaches to managing beaver impact, adapting to results from ongoing monitoring.

Action vi): Publish summary review and data on management and mitigation, including emerging issues and challenges, research and development and technological advances.

Objective B: Identify and resolve barriers to implementation of mitigation.

Action i): Develop knowledge exchange programme on existing and new techniques, and good practice.

Action ii): Utilise the evaluation of current and future mitigation techniques in landscape population modelling.

Objective C: Raise visibility of and access to existing guidance on management/ mitigation measures for all stakeholders.

Action i): Ensure information on management and mitigation is updated and more easily and readily accessible - including clarity for emergency actions for public safety and infrastructure.

Objective D: Establish funding mechanism for enacting the management framework to ensure sufficient funding in place to meet needs.

Action i): Scottish Government and NatureScot to work with stakeholders to understand the cost of mitigation and management efforts to ensure that funding needs are met.

Action ii): Scottish Government and NatureScot agree and set out the support to be provided for mitigation and management.

The Strategy

Thematic Goals to Actions: 2022-2032

Goal 5: Establish systems to support land managers in the development of naturalised riparian networks that can accommodate beavers.

Objective A: Goal-related best practice guidance and training support in place built on prior experience.

Action i): Review existing systems in place in **beaver range states** to encourage land managers to apply established beaver mitigation and land management practices that either mitigate problems and/or encourage beaver-appropriate habitats.

Action ii): Identify management and mitigation knowledge gaps.

Action iii): Identify and collaborate with existing training providers and delivery mechanism (e.g. Chartered Institute of Ecology and Environmental Management courses) to create training opportunities for target audiences.

Action iv): Publish Scottish-relevant protocols covering agreed best practices which incorporate assessed, practical guidance, with consideration of impacts on other species, habitats, land-use and animal welfare principles.

Objective B: System in place for encouraging cooperation between neighbouring land managers and other stakeholders, recognising the scale at which beavers operate.

Action i): Deliver incentives and guidance to support landscape scale, collaborative approaches which plan for and deliver maximum benefits and minimal risk from beaver activity.

Action ii): Review systems in place to encourage land managers to apply collaborative land management practices at a landscape scale that encourage beaver-appropriate habitats and put in place systems if they are lacking.

Action iii): Identify related policies and programmes in place nationally which could contribute resources to encourage collaborative development of beaver-suitable habitats.

Objective C: Support land managers and other stakeholders experiencing negative impacts from beaver activity.

Action i): Ensure clarity on the mitigation and monitoring measures receiving funding and advisory support and those actions expected to be delivered by land managers and other affected stakeholders.

Action ii): Beaver mitigation scheme resourced and delivered to meet demand.

Action iii): Scope and develop opportunities for integrated (biodiversity and climate) incentive-based schemes to support living with beavers and the opportunity costs of this.

Objective D: Explore the increase in buffer zones around water courses to reduce likelihood of beaver impacts on other land uses.

Action i): Assess, using existing Scottish Environment Protection Agency (SEPA) (and other) data, the status of riparian buffer zones in Scotland (e.g. extent, condition, connectivity).

Action ii): Review and collate all existing regulatory and rural payment mechanisms that affect riparian buffer zones (e.g. SEPA General Binding Rules, Good Agricultural and Environmental Conditions (GAEC), Agri-Environment Climate Scheme (AECS), etc), for both cultivation and grazing land.

Action iii): As part of the review, regarding the water margins funded through agri-environmental support establish how suitable buffer design, eligibility, application and management requirements relate to beavers.

Action iv): Establish - with all stakeholder interests - the costs and benefits of increasing the width, design or management of buffer zones around watercourses to determine barriers to implementation and how could these be taken account of in scheme design.

Action v): Explore with the Scottish Government and NatureScot the potential to build a more comprehensive and coordinated approach to managing riparian buffer zones into the next rural payments scheme.

Goal 6: Raise awareness within the Scottish public of beavers, and the associated benefits and issues, to improve the acceptance of management decisions.

Objective A: Develop and implement a public communications strategy.

Action i): Produce a public communications strategy.

Action ii): Implement the communications strategy.

Objective B: Develop additional learning resources for interested groups.

Action i): Work with Education Scotland and local authorities to produce teaching resources for schools.

Action ii): Ensure a Scotland's Beaver Strategy website is produced and maintained including accessible summaries of research findings, licence returns (including applications for dam removal, translocation and lethal control), etc.

Work theme 3: Research and Innovation

Whilst much has been learnt to date about how to establish and manage beavers and their impacts on the Scottish landscape and its biodiversity, there is much more to learn as the population expands nationally. To ensure this managed expansion is done effectively and sensitively, actions will need to be implemented in a way that allows adaptive management. Dedicated research initiatives will be required to answer critical questions about beaver impacts at scale and to improve the management of the expanding beaver population through the development of new techniques and technologies.

For further details on timelines responsibilities and means of verification, please see **Part 2: Implementation Plan.**

Goal 7: Improve understanding of beaver biology and status within the Scottish context.

Objective A: To assess the conservation and population status of Eurasian beaver in Scotland.

Action i): Research and further develop survey and monitoring methodology.

Action ii): Undertake population research and monitoring at appropriate time periods.

Action iii): Create and maintain a shared national public resource for long-term archiving of samples and specimens to better understand beaver biology and genetics in Scotland and inform population development and management.

Action iv): Plan for long-term population and genetic monitoring and assign responsibility for genetic analyses, including ongoing surveillance for North American beaver presence.

Objective B: Collate appropriate biological information to inform development of tools, models and the application of management and mitigation.

Action i): Develop a system for data retention and sharing.

Action ii): Improve understanding of habitat use and availability at different scales.

Action iii): Develop and refine tools to inform management and scenario planning.

Action iv): Research and monitor physical health (including zoonoses) of the population and interactions with other species and public health.

Goal 8: Assess the biological, environmental, economic and social implications of beaver presence on other species, habitats, physical processes, land use, wider society and wider ecosystem services (including general 'natural capital') and use this knowledge to inform decision-making.

Objective A: Assess interactions between beavers and species and habitats of conservation interest to inform adaptive management.

Action i): Develop technologies to assess interactions with priority terrestrial and aquatic species and communities (e.g. salmon, aspen, some lichens and invertebrates).

Action ii): Implement monitoring to take account of the effects of beaver presence at designated sites.

Action iii): Develop a protocol for proportionate and appropriate baseline monitoring prior to translocations.

Action iv): Review the extent of existing hydro-morphological monitoring and compare to the assessment of areas likely to be colonised by beavers.

Objective B: To understand modifications in physical and biogeochemical processes (carbon sequestration, sediment storage, decomposition rates) resulting from beaver activity.

Action i): Establish monitoring systems for wetland creation and measurement of stream flows (low flows, average flows, high flows, dam failure, upstream flooding).

Action ii): Develop and implement an appropriate monitoring strategy that captures the role of beaver presence in relation to climate change.

Action iii): Develop an approach to assessing the continuity of riparian vegetation as a measure of the connectivity of a naturalised riparian network, then apply to establish a baseline measure of network integrity.

Action iv): Explore how the existing SEPA hydro-morphological monitoring system (MIMAS) could be combined with fluvial audit survey to capture both morphological alterations and the changes to processes resulting from arrival or introduction of beavers.

Objective C: Identify areas where beaver presence results in changes to physical processes that can confer benefits/risks to ecosystem services.

Action i): Further develop beaver dam models to understand the changes in physical processes.

Action ii): Use beaver dam models to predict the benefits/risks to the physical processes.

Objective D: Undertake economic monitoring and research to help inform the design of wider beaver restoration.

Action i): Undertake an economic cost-benefit assessment of beaver presence in Scotland to date, and of potential future scenarios.

Action ii): Develop a framework for assessing cost-benefits of beaver presence in localised areas (considering

expected variation between different stakeholder groups).

Objective E: Undertake social monitoring and research to help inform action to support management of current and future beaver zones.

Action i): Undertake research on the current perceptions/impacts of having beavers, across different stakeholders and at differing scales.

Action ii): Undertake research to assess the effect of beaver restoration on mental wellbeing including different stakeholders.

Action iii): Use the research generated from Actions i) and ii) to inform the design of wider beaver restoration in appropriate areas.

Goal 9: Assess effectiveness of existing mitigation and install, test and develop new ideas and techniques.

Objective A: Review on the ground mitigation measures to ensure they are effective.

Action i): Review mitigation measures to ensure they are effective in supporting fisheries management.

Action ii): Review mitigation measures to ensure they are effective in supporting forestry management.

Action iii): Review mitigation measures to ensure they are effective in supporting agricultural land management.

Action iv): Review mitigation measures to ensure they are effective in supporting other land and water uses (e.g. ornamental gardens, historic sites, biodiversity sites).

Action v): Review mitigation measures to support protection of infrastructure and its function.

Health screening of a Eurasian beaver prior to translocation.

(Photo: Beaver Trust).

Objective B: To test and refine methods/ technologies taking account of progress in Europe and North America.

Action i): Test and refine methods/ technologies taking account of progress in Europe and North America to support fisheries management.

Action ii): Test and refine methods/ technologies taking account of progress in Europe and North America to support forestry.

Action iii): Test and refine methods/ technologies taking account of progress in Europe and North America to support agricultural land management.

Action iv): Test and refine methods/ technologies taking account of progress in Europe and North America to support other land and water uses (e.g. ornamental, historic sites, biodiversity sites).

Action v): Test and refine methods/ technologies taking account of progress in Europe and North America to support protection of infrastructure.

Action vi): Identify and resolve barriers to implementation of mitigation.

Action vii): Establish a database to record and monitor working experiences with an online, open access platform for information dissemination and knowledge exchange on existing and new techniques, and good practice.

Action viii): Utilise the evaluation of current and future mitigation techniques in landscape population modelling.

Policy and programme links

The Strategy should be implemented in a way that maximises synergies and minimises discord with other, existing or planned national or regional policies and programmes. **Table 3** below shows current programmes with which links may be usefully explored.

Table 3.

Potential key programme and policy links.

Scottish Biodiversity Strategy
(consultation on the new strategy will take place in summer 2022)

Nature Restoration Fund

A Fairer, Greener Scotland: Programme for Government 2021-22

Scotland's Forestry Strategy 2019-2029

Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018–2032 - Update

The Environment Strategy for Scotland; Visions and Outcomes

Scotland's National Strategy for Economic Transformation

Agricultural Transition - First Steps Towards our National Policy: Consultation

Sustainable and Regenerative Farming - Next Steps: Statement

Sustainable and Regenerative Farming - Next Steps: Statement - A National Test Programme to Start Transforming Agriculture in Scotland

Agriculture Reform Implementation Oversight Board

Scottish Wild Salmon Strategy

Scottish Code for Conservation Translocations

Scottish Land Use Strategy 2021 - 2026

GB Invasive Non-Native Species Strategy

Scotland's Wild Deer: A National Approach

Climate Change and Mitigation Support

Infrastructure, Development Planning

River Basin Management

Tourism Strategy - Scotland Outlook 2030

Transport Scotland Landscape and Biodiversity Policy

The Pollinator Strategy for Scotland 2017-2027

Scotland's Flood Risk Management Plans

SAWC Review of Wild Beaver Welfare in Scotland

Bank erosion at a Tayside farm following diversion of water flow around a beaver dam.

(Photo: Helen Dickinson/Tayside Beaver Study Group)

Beaver tunnelling into the soft banks of Prime Agricultural Land in south-east Tayside. This can undermine the bank structure and may result in collapse and erosion.

(Photo: University of Exeter/NatureScot)

Scotland's Beaver Strategy
2022-2045

Strategy governance

Strategy governance

The Scottish Beaver Advisory Group will monitor, review and guide implementation of the strategy, providing balanced advice and support to all delivery partners, in particular NatureScot and the Scottish Government.

The Scottish Beaver Advisory Group (SBAG) will consist of single representatives from organisations with national remits, who could have an impact on, be impacted by (positively or negatively) or have expertise to contribute to the delivery of the strategy.

Initially composed of 16 representatives, the SBAG will consult and represent the diversity of views of their organisations/members and other organisations with similar interests. To widen the community of interest, it is anticipated that SBAG members will also feed back to their sector (including public bodies, local authorities, fisheries and water, land management and conservation) the key issues arising through the work of the group. Membership of the SBAG will be kept under review to ensure that it remains fit for purpose in guiding implementation of the strategy. The Chair of the SBAG will be proposed by NatureScot and will need the approval of the membership before beginning their two-year term of office.

The work of the SBAG will include, but not be restricted to, working with key delivery partners to finalise successive implementation plans; supporting effective linkages of the strategy to wider national policy and programme developments; encouraging the focus of beaver expansion on 'appropriate areas'; maintaining a focus on the translocation licensing process to ensure its effectiveness and efficiency; and promoting the use of clearly defined metrics and evidence-based decision-making throughout the implementation of the strategy. An early task for the SBAG will be the development of an induction process for members of the group to foster collaborative work and nurture trust and transparency between members of the SBAG and between the group and their stakeholder constituencies.

The SBAG may form sub-groups on an ad hoc basis to advise and report on specialist topics relating to individual site specific and technical beaver management issues or to address broader topics, such as research and innovation in the field of beaver management. Members of the sub-groups may include both SBAG members and non- members. Members of the SBAG may propose additional representatives to report or present on specialist topics at SBAG meetings on an ad hoc basis.

The SBAG will meet on a quarterly basis (online) with minutes of the meetings, reflecting a summary of key points and action points, being made publicly available through a dedicated webpage hosted on the NatureScot website. The webpage will also provide information on the function of the SBAG; terms of reference for the group; membership and sub-group information; links to technical and site specific information; and contact information.

Installation of a beaver deceiver pipe at Gelly Burn, Tayside.

(Photo: Lorne Gill/NatureScot).

Flow device pipe installed in a beaver dam at Forfar, Tayside.

(Photo: Neil Mitchell/NatureScot)

Scotland's Beaver Strategy 2022-2045

Implementation plan

Implementation plan

Implementation plan

Implementation of this strategy will require clarity around which institutions are committed to undertaking the specific actions outlined, along with clarity around collaborating institutions, means of verification and timelines to completion. This information is contained within a separate ‘Implementation Plan’ document, which will be reviewed and updated on a regular basis through consultation between the Scottish Beaver Advisory Group and delivery partners.

Eurasian beaver.

(Photo: Laurie Campbell)

Beaver exclusion fence at Meigle, Tayside.

(Photo: Neil Mitchell/NatureScot)

Scotland's Beaver Strategy
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Glossary

Glossary

Definitions are taken from accepted international sources where practical such as the Convention on Biological Diversity (**CBD Glossaries**) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (**IPBES Glossary**). Where these definitions have been modified, this is noted e.g. replacing "animals and plants" with "organisms" in order to include other taxa such as fungi, shortening particularly long definitions or adding examples for clarity. Other definitions are taken from sources as stated. Many of these terms have been collated for the drafting of the forthcoming Scottish Biodiversity Strategy, and have been made available for this document.

Adaptive management
A systematic process for continually improving management policies and practices by learning from the outcomes of previously employed policies and practices. In active adaptive management, management is treated as a deliberate experiment for purposes of learning. (IPBES)

Agri-Environment Scheme
Schemes that provide funding to farmers and land managers to farm in ways that supports biodiversity, enhance the landscape, and improve the quality of water, air and soil. (IPBES)

Baseline
A minimum or starting point with which to compare other information (e.g. for comparisons between past and present or before and after an intervention). (IPBES)

Biodiversity
Short for biological diversity, the diversity of life in all its forms—the diversity of species, of genetic variations within one species, and of ecosystems. (CBD)

Buffer zone
The region adjacent to the border of a protected area; a transition zone between areas managed for different objectives. (CBD)

Carbon sequestration
The long-term storage of carbon in plants, soils, geologic formations, and the ocean. Carbon sequestration occurs both naturally and as a result of anthropogenic activities and typically refers to the storage of carbon that has the immediate potential to become carbon dioxide gas. (IPBES)

Connectivity (Functional connectivity, Landscape connectivity)
The degree to which the landscape facilitates the movement of organisms (animals, plant reproductive structures, pollen, pollinators, spores, etc.) and other environmentally important resources (e.g., nutrients and moisture) between similar habitats. Connectivity is hampered by habitat fragmentation (q.v.). (IPBES – for Landscape connectivity)

Conservation
The management of human use of nature so that it may yield the greatest sustainable benefit to current generations while maintaining its potential to meet the needs and aspirations of future generations. (CBD)

Conservation translocation
The intentional movement and release of a living organism where the primary goal is a conservation benefit. This usually involves improving the conservation status of the focal species, and/or restoring natural habitat or ecosystem functions or processes. (**IUCN**)

Ecology
A branch of science concerned with the interrelationship of organisms and their environment; the study of ecosystems. (CBD)

Ecosystem
Communities of organisms interacting with each other and with their non-living environment—forests, wetlands, mountains, lakes, rivers, deserts and agricultural landscapes. (CBD - modified)

Ecosystem services
Processes by which the environment produces benefits useful to people, akin to economic services. (CBD)

Extirpation
The local or regional loss of a species that stills exists elsewhere. This is sometimes referred to as local extinction.

Genetic diversity
The variety of genes within a particular population, species, variety, or breed. (CBD)

Habitat
A place or type of site where an organism or population naturally occurs. (CBD)

Habitat fragmentation
Fragmentation of habitats occur when a continuous has become divided into separate, often isolated small patches interspersed with other habitats. Small fragments of habitats can only support small populations and these are more vulnerable to extirpation. The patches may not even be habitable by species occupying the original undivided habitat. The fragmentation also frequently obstructs species from migrating. Habitat fragmentation stems from geological processes that slowly alter the lay out of the physical environment or human activities such as land clearing, housing, urban development and construction of roads or other infrastructure. Adverse effects sometimes are not immediately noticeable and sufficient habitats may ostensibly be maintained. However inbreeding, lack of territories and food shortage are some of the problems small populations can encounter. Fragmentation of habitats is therefore expected to lead to losses of species and genetic diversity in the longer term. (CBD – modified)

Licensing return
A report that a licence holder has to complete and which provides details of the licensed activities carried out. In terms of licences that may apply to beavers, such activities may include dam removal or modification, translocation, lethal control.

Land use (Land-use)
Land use refers to how a specific piece of land is allocated: its purpose, need or use (e.g. agriculture, industry, residential or nature). (CBD)

Mitigation
Measures that allow an activity with a negative impact on biodiversity, but reduce the impact on site by considering changes to the scale, design, location, process, sequencing, management and/or monitoring of the proposed activity. It requires a joint effort of planners, engineers, ecologists, other experts and local stakeholders to arrive at the best practical environmental option. (CBD - modified)

Natural capital
The world's stocks of natural assets which include geology, soil, air, water and all living things. It is from this Natural Capital that humans derive a wide range of services, often called ecosystem services, which make human life possible (**CBD Natural Capital** – modified)

Nature (Natural environment)
All living and non-living things, and processes that occur naturally on Earth. (CBD – modified)

Pathogen
An organism causing disease to its host.

Reintroduction
The conservation translocation (q.v.) of an organism inside its natural range from where it has disappeared, to re-establish a viable population of the focal species. (**IUCN** - modified)

Restoration
The return of an ecosystem or habitat to its original community structure, natural complement of species, and natural functions. (CBD)

Species
A group of organisms capable of interbreeding freely with each other but not with members of other species. (CBD)

Well-being
A perspective on a good life that comprises access to basic resources, freedom and choice, health and physical well-being, good social relationships, security, peace of mind and spiritual experience. Well-being is achieved when individuals and communities can act meaningfully to pursue their goals and can enjoy a good quality of life. The concept of human well-being is used in many western societies and its variants, together with living in harmony with nature, and living well in balance and harmony with Mother Earth. All these are different perspectives on a good quality of life. (IPBES)

Beaver proof tree guards being installed in a Tayside garden.

(Photo: NatureScot)

Scotland's Beaver Strategy
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Abbreviations used

Abbreviations used

AECS	Agri-Environment Climate Scheme
ARED	Agriculture and Rural Economy Directorate
BASC	British Association for Shooting and Conservation
BBS	British Bryological Society
BLS	British Lichen Society
CAR	Controlled Activity Regulations
CBD	Convention on Biological Diversity
CEO	Chief Executive Officer
CIEEM	Chartered Institute of Ecology and Environmental Management
CNPA	Cairngorms National Park Authority
CPSG	Conservation Planning Specialist Group
CREW	Centre of Expertise for Waters
DRA	Disease Risk Analysis
EC	European Commission
eDNA	Environmental DNA
EOI	Expression of Interest
EPIC	Centre of Expertise on Animal Disease Outbreaks
FCS	Forestry Commission Scotland (now replaced by Scottish Forestry)
FLS	Forestry and Land Scotland
FMS	Fisheries Management Scotland
GAEC	Good Agricultural and Environmental Conditions
GIS	Geographic Information System
GWCT	Game and Wildlife Conservation Trust
HES	Historic Environment Scotland
HRA	Habitats Regulations Appraisal
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IUCN	International Union for Conservation and Nature
LAs	Local Authorities
MImAS	SEPA's Hydro-morphological Monitoring System
MSP	Member of Scottish Parliament
MSS	Marine Scotland Science
NE	Natural England
NFUS	National Farmers Union Scotland
NGO	Non-governmental Organisation

NMS	National Museum of Scotland
NRS	Natural Resources Wales
NS	NatureScot (formerly Scottish Natural Heritage)
NSRF	National Species Reintroduction Forum
NTS	National Trust for Scotland
PAL	Prime Agricultural Land
PESTLE	Political, Economic, Sociological, Technological, Legal and Environmental
R&I	Research & Innovation
RPID	Rural Payments Inspection Division
RSPB	Royal Society for Protection of Birds
RZSS	Royal Zoological Society of Scotland
SAC	Special Area of Conservation
SASA	Scottish Agricultural Science Agency
SAWC	Scottish Animal Welfare Commission
SBAG	Scottish Beaver Advisory Group
SBF	Scottish Beaver Forum (governance group that operated up to 2022)
SC	Scottish Canals
SCF	Scottish Crofting Federation
SEA	Strategic Environment Assessment
SEPA	Scottish Environment Protection Agency
SF	Scottish Forestry (formerly Forestry Commission Scotland)
SG	Scottish Government
SLE	Scottish Land & Estates
SNH	Scottish Natural Heritage (now re-named NatureScot)
SPA	Special Protection Area
SOP	Standard Operating Procedure
SRUC	Scotland's Rural College
SSC	Species Survival Commission
SSPCA	Scottish Society for the Prevention of Cruelty to Animals
SW	Scottish Water
SWT	Scottish Wildlife Trust
UHI	University of the Highland and Islands

The Scottish Trial attracted several thousand visitors during its five years, and recreational visitors were estimated to have brought in £355-£520K revenue (Moran & Lewis 2014, the site continues to attract visitors).

(Photo: Lorne Gill/NatureScot/2020VISION)

Scotland's Beaver Strategy
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Appendices

Appendix I

Strategy development Organising Team

The strategy development process was initiated by NatureScot, in consultation with the Scottish Beaver Forum, in recognition of the desire to develop a stakeholder-inclusive national strategy for the species. NatureScot approached the **Conservation Planning Specialist Group (CPSG)**, of the IUCN SSC as an internationally respected organisation with more than 40 years' experience of designing and facilitating collaborative species conservation planning processes. The first step in the process was to assemble a cross-stakeholder representative Organising Team, which could clarify what sort of strategy was needed, identify a broad range of stakeholders and inform the planning process itself. The following individuals formed this Organising Team.

Individual	Institutional affiliation
Jamie Copsey	CPSG - Facilitator
Martin Gaywood	NatureScot
Sue Haysom	NatureScot
Kate Maitland	National Farmers Union Scotland
Karen Ramoo	Scottish Land & Estates
Sarah Robinson	Scottish Wildlife Trust
Helen Taylor	The Royal Zoological Society of Scotland

The Organising Team played an editorial role during the drafting of the strategy, particularly where stakeholder comments on early drafts of the strategy needed to be resolved, with the lead editing role being played by Jamie Copsey as the independent facilitator.

Secretariat support was provided by Heather Reilly, Hollie Sturton and Sarah O'Mullan of NatureScot.

Appendix II

Workshop participants

Below we provide a list of the participants and their affiliated organisations, who attended the first virtual workshop (1st and 3rd of February 2022), in which the 2045 vision was developed

Individual/Organisation	Representatives	Present at Workshop 1 Day 1	Present at Workshop 1 Day 2
Aigas Field Centre	John Lister-Kaye	Y	N
Beaver Trust	Roisin Campbell-Palmer	Y	Y
British Association for Shooting and Conservation (BASC)	Colin Shedden	Y	Y
British Bryological Society	Gordon Rothero	Y	N
British Lichen Society	Andy Acton	Y	Y
Buglife	Natalie Stevenson	Y	Y
Cairngorms National Park Authority (CNPA)	Sally Mackenzie / Sarah Henshall / Andy Ford	Y	Y
Chartered Institute of Ecology and Environmental Management (CIEEM)	Chris Spray	Y	Y
Confederation of Forest Industries (UK) Ltd	John Bruce	Y	Y
Eadha Enterprises	Joseph Greenlees	Y	Y
Fisheries Management Scotland (FMS)	Alan Wells / David Summers	Y	Y

Individual/Organisation	Representatives	Present at Workshop 1 Day 1	Present at Workshop 1 Day 2
Forestry and Land Scotland (FLS)	Kenny Kortland	Y	Y
Heart of Argyll Wildlife Organisation	Pete Creech / Oly Hemmings	Y	Y
Historic Environment Scotland (HES)	Tom Gardner	Y	Y
James Hutton Institute	Mark Wilkinson / Katya Dimitrova	Y	Y
Loch Lomond and Trossachs NP Authority	Simon Jones	Y	Y
National Access Forum	Don Milton	Y	N
National Farmers' Union Scotland (NFUS)	Kate Maitland	Y	Y
National Museum of Scotland (NMS)	Andrew Kitchener	Y	Y
Natural England	Delphine Pouget	Y	Y
Natural Resources Wales	Liz Halliwell	Y	N
NatureScot	Denise Reed	Y	Y
NatureScot	Donald Fraser	Y	Y
NatureScot	Jenny Bryce	Y	Y
NatureScot	Martin Gaywood	Y	Y
NatureScot	Robbie Kernahan	Y	N

Individual/Organisation	Representatives	Present at Workshop 1 Day 1	Present at Workshop 1 Day 2
Network Rail	James Morrison / Ashleigh Wylie / Mingaile Anderson	Y	N
Plantlife	Alistair Whyte / Oliver Moore / Dave Lamacraft	Y	Y
Reforesting Scotland	Alan Carter	Y	Y
Roy Dennis Wildlife Foundation	Roy Dennis	Y	N
Royal (Dick) School of Veterinary Studies	Rob Ogden	Y	Y
Royal Society for the Protection of Birds (RSPB)	James Silvey / Robyn Stewart	Y	Y
Royal Zoological Society of Scotland (RZSS)	Helen Taylor	Y	Y
Scotland's Rural College (SRUC)	Fiona Howie	Y	Y
Scottish Agricultural Science Agency (SASA)	Jackie Hughes	Y	Y
Scottish Animal Welfare Commission (SAWC)	Simon Girling	Y	Y
Scottish Canals (SC)	Julia Johnstone	Y	Y
Scottish Crofting Federation (SCF)	Yvonne White	Y	Y
Scottish Environment Link	Bruce Wilson / Juliet Caldwell / Deborah Long	Y	Y

Individual/Organisation	Representatives	Present at Workshop 1 Day 1	Present at Workshop 1 Day 2
Scottish Environment Protection Agency (SEPA)	Scot Mathieson	Y	Y
Scottish Federation for Coarse Angling	Gus Brindle	Y	Y
Scottish Government (SG)	Hugh Dignon	Y	Y
Scottish Land & Estates	Karen Ramoo	Y	Y
Scottish Water (SW)	Doreen Bell	N	Y
Scottish Wild Beaver Group	James Nairne	Y	Y
Scottish Wildlife Trust	Sarah Robinson	Y	Y
Transport Scotland	Angus Corby	Y	Y
Trees for Life	Steve Micklewright / Alan McDonnell	Y	Y
University of Aberdeen	Josie Geris / Flurina Wartman	Y	Y
University of Exeter	Richard Brazier	N	Y
University of Newcastle	Aileen Mill	Y	Y
University of Southampton	Paul Kemp	Y	Y
University of Stirling	Nigel Willby	Y	Y
University of the Highlands and Islands	Melanie Smith / Bernd Haenfling	Y	Y
Woodland Trust	Ben Harrower / Ewan McHenry	Y	Y
Individual landowner	Adrian Ivory	Y	Y

Individual/Organisation	Representatives	Present at Workshop 1 Day 1	Present at Workshop 1 Day 2
Individual landowner	Ben Barron	Y	Y
Individual landowner	David Colville	Y	Y
Individual landowner	Dee Ward	N	Y
Individual landowner	Euan Walker Munro	Y	Y
Individual landowner	Jonathan Guest	Y	Y
Individual landowner	Martin Kennedy	Y	Y
Individual landowner	Matthew Steel	Y	N
Individual landowner	Peter Grewar	Y	Y
Individual landowner	Rory McLeod	Y	Y
Individual landowner	Tom Bowser	Y	Y

Below we provide a list of the participants and their affiliated organisations that attended the second virtual workshop (28th of February 2nd-3rd March, 2022), in which the strategy was developed.

Individual/Organisation	Representatives	Present at Workshop 2 Day 1 (Y/N) 28.02.22	Present at Workshop 2 Day 2 (Y/N) 01.03.22	Present at Workshop 2 Day 3 (Y/N) 02.03.22
Beaver Trust	Roisin Campbell-Palmer	Y	Y	Y
British Lichen Society	Andy Acton	Y	Y	Y
Buglife	Natalie Stevenson	Y	N	N
Cairngorms National Park Authority (CNPA)	Sally Mackenzie / Sarah Henshall / Andy Ford	Y	Y	Y
Chartered Institute of Ecology and Environmental Management (CIEEM)	Chris Spray	Y	N	N
Eadha Enterprises	Joseph Greenlees	Y	N	N
Fisheries Management Scotland (FMS)	Alan Wells / David Summers	Y	Y	Y
Forestry and Land Scotland (FLS)	Kenny Kortland	Y	Y	Y
Game and Wildlife Conservation Trust (GWCT)	Adam Smith	Y	Y	N
Heart of Argyll Wildlife Organisation	Pete Creech / Oly Hemmings	Y	Y	Y

Individual/Organisation	Representatives	Present at Workshop 2 Day 1 (Y/N) 28.02.22	Present at Workshop 2 Day 2 (Y/N) 01.03.22	Present at Workshop 2 Day 3 (Y/N) 02.03.22
James Hutton Institute	Mark Wilkinson / Katya Dimitrova	Y	Y	Y
National Farmers' Union Scotland (NFUS)	Kate Maitland	Y	Y	Y
National Museum of Scotland (NMS)	Andrew Kitchener	Y	Y	Y
National Trust for Scotland (NTS)	Stuart Brooks	Y	N	N
Natural England	Delphine Pouget	Y	Y	Y
NatureScot	Donald Fraser	Y	Y	Y
NatureScot	Jenny Bryce	Y	Y	Y
NatureScot	Martin Gaywood	Y	Y	Y
Network Rail	James Morrison / Ashleigh Wylie / Mingaile Anderson	Y	Y	Y
Reforesting Scotland	Alan Carter	Y	Y	Y
Royal Society for the Protection of Birds (RSPB)	James Silvey / Robyn Stewart	Y	Y	Y
Royal Zoological Society of Scotland (RZSS)	Helen Taylor	Y	Y	Y

Individual/Organisation	Representatives	Present at Workshop 2 Day 1 (Y/N) 28.02.22	Present at Workshop 2 Day 2 (Y/N) 01.03.22	Present at Workshop 2 Day 3 (Y/N) 02.03.22
Scottish Animal Welfare Commission (SAWC)	Simon Girling	Y	N	N
Scottish Canals (SC)	Julia Johnstone	Y	N	N
Scottish Crofting Federation (SCF)	Yvonne White	Y	N	N
Scottish Environment Protection Agency (SEPA)	Scot Mathieson	Y	Y	Y
Scottish Government (SG)	Hugh Dignon / Sam Taylor / Samuel Turner	Y	Y	Y
Scottish Land & Estates	Karen Ramoo	Y	Y	Y
Scottish Water (SW)	Doreen Bell	Y	Y	Y
Scottish Wild Beaver Group	James Nairne	Y	Y	Y
Scottish Wildlife Trust	Sarah Robinson	Y	Y	Y
Trees for Life	Steve Micklewright / Alan McDonnell	Y	Y	Y
University of Aberdeen	Josie Geris / Flurina Wartman	Y	Y	Y
University of Newcastle	Aileen Mill	Y	Y	Y

Individual/Organisation	Representatives	Present at Workshop 2 Day 1 (Y/N) 28.02.22	Present at Workshop 2 Day 2 (Y/N) 01.03.22	Present at Workshop 2 Day 3 (Y/N) 02.03.22
University of Stirling	Nigel Willby	Y	Y	Y
University of the Highlands and Islands	Melanie Smith	Y	Y	Y
Woodland Trust	Ben Harrower / Ewan McHenry	Y	Y	Y
Individual landowner	Adrian Ivory	Y	Y	N
Individual landowner	Ben Barron	Y	Y	Y
Individual landowner	David Colville	Y	Y	Y
Individual landowner	Dee Ward	Y	Y	N
Individual landowner	Euan Walker Munro	Y	Y	Y
Individual landowner	Jonathan Guest	Y	Y	Y
Individual landowner	Martin Kennedy	N	Y	N
Individual landowner	Matthew Steel	Y	N	N
Individual landowner	Peter Grewar	Y	Y	N
Individual landowner	Rory McLeod	Y	Y	N
Individual landowner	Tom Bowser	Y	Y	N

Workshop facilitation team (involved in supporting one or both workshops)

Name	Affiliation	Role
Alastair MacGugan	NatureScot	Facilitator
Claire Raisin	Chester Zoo	Facilitator
Eugenia Cordero Schmidt	Center for Species Survival Brazil/CPSG	Facilitator
Fabiana Rocha	Center for Species Survival Brazil/CPSG	Facilitator
Heather Reilly	NatureScot	Facilitator support
Hollie Sturton	NatureScot	Facilitator support
Jamie Copsey	IUCN SSC CPSG	Lead facilitator and process designer
Jon Taylor	Save the Rhino	Facilitator
José Antonio Díaz Luque	Endangered Conservation Consultancy	Facilitator
Lara Jordan	Endangered Wildlife Trust	Facilitator
Mirjam Neu	Benista	Facilitator
Paul Bamford	Chester Zoo	Facilitator
Sue Haysom	NatureScot	Facilitator

Appendix III

Workshop agendas

Vision development workshop agenda
Below is a copy of the agenda for the two-morning vision development workshop, on the 1st and 3rd of February 2022.

Agenda
Tuesday 1st February, 09:00-13:00

Time	Activity	Description	Lead
09:00-09:20	Presentation: Process overview	This presentation will explain the process we will go through and the desired output.	Jamie Copsey (IUCN, SSC Conservation Planning Specialist Group)
09:20-09:30	Presentation: Scene-setting	Scene-setting presentation.	Robbie Kernahan (Director of Sustainable Growth, NatureScot)
09:30-09:50	Presentation: Beavers in Scotland	Here we take the opportunity to provide a summary of the history of beavers in Scotland, their biology, ecology and impacts.	Denise Reed (Area Manager and Scottish Beaver Forum chair, NatureScot) Roisin Campbell-Palmer (Restoration Manager, Beaver Trust)
09:50-10:00	Presentation: Beavers and land managers	Beavers can and do have certain impacts on land management practices, in particular farming. Here we provide an opportunity to share some of these experiences.	Martin Kennedy (President, National Farmers Union Scotland)
10:00-10:10	Presentation: Beavers and fisheries	In this presentation we highlight the interactions between beavers and fisheries.	Alan Wells (CEO, Fishery Management Scotland)
10:10-10:20	Presentation: Beavers and conservation	Here we provide an opportunity to hear about the potential benefits beavers could bring to Scotland, from the perspective of the conservation community.	Sarah Robinson (Director of Conservation, Scottish Wildlife Trust)
10:20-11:00	Open discussion 1	Facilitated group discussion to allow for clarifying questions, add further information etc.	Jamie Copsey
11:00-11:15	BREAK	-	-

Time	Activity	Description	Lead
11:15-11:30	Presentation: The evidence base and the tools to help decision making	A summary of the key sources of information we have on beavers and their interactions, and the tools we have that help us understand how beaver populations change, and the effects these may have.	Martin Gaywood (Species Projects Manager, NatureScot) Aileen Mill (Senior Lecturer in Vertebrate Ecology and Biodiversity, University of Newcastle)
11:30-11:45	Open discussion 2	Facilitated group discussion	Jamie Copsey
11:45-11:50	Mural practice session	Group activity to ensure everyone understands how to add their ideas to a virtual whiteboard.	Jamie Copsey
11:50-12:15	Focused discussion: Defining the problem	The starting point for this planning work is to develop agreement around the fundamental problem to be solved. Here we begin this process through reflections on a draft problem statement.	Jamie Copsey
12:15-12:50	Small group work: From current problems to future hopes and concerns	You will be divided into groups and asked to generate and collate your hopes and concerns for the future in relation to beavers in Scotland.	Working group facilitators
12:50-13:00	Wrap-up and next steps	In your own time, you will have the opportunity to continue to add to your hopes and concerns and read others in the shared working space. Tomorrow these points will be grouped together, and we will review them at the start of the next session, on Thursday. Volunteers will be requested to help refine the problem statement.	Jamie Copsey
13:00	END	-	-

Agenda

Thursday 3rd February, 09:00-13:00

Pre-workshop activity

Opportunity to add further thoughts or questions following on from Session I to shared online working space. This will also be the time to review any additional information generated or identified as being important for all to see in advance of today. The group refining the problem statement will also, ideally, complete this work in advance of this session.

Time	Activity	Description	Lead
09:00-09:30	Presentation: Looking forward	We begin with a summary of the current context and identify the themes emerging from your work on Tuesday around future hopes and concerns.	Jamie Copsey
09:30-10:00	Open Discussion	Here we encourage reflections on the themes raised and focus on what the points raised so far mean in relation to the strategy going forward.	Jamie Copsey
10:00-10:15	Presentation: Developing a vision statement	A brief explanation of what a vision statement could look like.	Jamie Copsey
10:15-10:30	Activity: Initial aspirations	Here we begin the visioning process with a short activity to begin to identify possible vision themes using a word cloud.	Jamie Copsey
10:30-11:30	Small group work: Drafting potential 2045 vision statements	In working groups you will take the results of the word cloud, add any additional aspirational thoughts you feel are missing, and then begin work developing a potential vision statement to be shared in plenary.	Working group facilitators
11:30-11:45	BREAK	-	-
11:45-12:40	Plenary feedback and selection of the vision statement	Presenters from each group will share where they got to with vision development. We will then undertake a poll to identify those statements that best-capture everyone's aspirations for the future. We will also decide if there is a need for further refinement of the vision statement by a cross-organisational group, who can then share and edit the vision according to feedback from wider stakeholders in advance of our next workshop.	Working group facilitators
12:40-13:00	Last questions/ loose ends/ comments. Thanks and short-term wrap-up.	-	-
13:00	END	-	-

Strategy development workshop agenda
Below is a copy of the agenda for three day strategy development workshop, on the 28th of February, and 1st and 2nd of March 2022.

Day 1: 28th February 2022

Pre-workshop activity
Today stakeholders will reflect on the vision statement developed, considering what it might mean in terms of areas of work within the next ten years. Drawing from the work produced in the first workshop, they will then collate understanding on what the socio-political and environmental landscape is in which this plan is being developed, reflecting on what threats and opportunities exist within the current range of the species and how these might relate to new areas for suitable establishment.

Time	Activity	Description	Lead
09:30-09:50	Process overview presentation	An outline of why we are here, what we want to achieve over the next three days, and how we will get there.	Jamie
09:50-10:00	Welcoming words	-	Minister, Lorna Slater MSP
10:00-11:00	Whole group activity: How could you measure progress towards realising your vision?	Beginning with a reminder of the vision statement developed we will then begin to identify the means of measurement you might use to track progress towards realising the vision.	Jamie
11:00-11:20	BREAK	-	-
11:20-11:50	Whole group activity: Measures of future success… distilled themes	If needed, we use this extra time to look back on the measures from the previous session and identify any key themes.	Jamie
11:50-12:30	Presentation/ short discussion: Understanding the current context	Here we present the results of the pre-workshop analysis of Political, Economic, Social, Technological, Legal and Environmental opportunities and threats/ concerns that capture the current context. It is this context that will inform the strategy goals.	Jamie

Time	Activity	Description	Lead
12:30-13:30	LUNCH	**Participants sign up for one of the thematic working groups during lunch - share google sheet link and can add further to PESTLE Analysis**	-
13:30-13:50	Presentation: Where is suitable beaver habitat in Scotland?	Here we present what is currently understood to be the availability of ecologically-suitable habitat across the country, including some preliminary work to overlay with other important areas, such as Prime Agricultural Land. We will also highlight in this talk the requirements set within the translocation 'code' and revisit the population models to show how the current Knapdale/Tayside populations may change over time/space through natural colonisation alone.	Martin Gaywood
13:50-14:15	Whole group discussion	-	-
14:15-15:30	Thematic, small working groups: Identifying potential goals	Goals represent the tangible achievements you intend to make, within the next ten years to move the current context in the direction of the vision. The following themes emerge from the issue generation and vision: **Conservation Translocation; Management and Mitigation; Policy and Programme links; Research and Development; Stakeholder Communication, Decision-making and Plan Governance**. In this session, we begin with a presentation on goal statements, then small working groups will begin to identify potential goal statements for their thematic area.	Small working group facilitators
15:30-15:50	BREAK	-	-
15:50-16:30	Small working groups... continued	WORK CONTINUES...no presentation back today.	...
16:30-16:45	Recap, homework and intro for tomorrow	-	Jamie
16:45	END	-	-

Day 2: 1st March 2022

We will begin with presentations from working groups on their identification of potential goals for each of the thematic areas of concern. This feedback provides an opportunity for all to contribute to all the themes. Working groups then move through prioritising goals, and then identifying potential objectives and actions to achieve each priority goal, presenting back at each step to allow for all stakeholders to contribute.

Time	Activity	Description	Lead
09:30-09:45	Intro to the day	Based on any required revisions, here we present where we want to get to by the end of today and how we will do it.	Jamie
09:45-11:00	Thematic small working group presentations: identifying our goals	Presenters from each small working group will present back on their goals, including background on which aspects of the vision and PESTLE factors their goals respond to.	Jamie
11:00-11:20	BREAK	-	-
11:20-12:30	Thematic small working groups: Refining Goals and Identifying Objectives	Beginning with incorporating any feedback from the whole group presentation, working groups will refine any goal statements/add additional ones and then begin work defining how they will achieve the goals through beginning to identify specific objectives/actions.	Jamie
12:30-13:30	LUNCH	-	-
13:30-13:50	Presentation/ Discussion: what do we know/ assume about management techniques and their efficacy	As groups move into identifying how to achieve the goals, this presentation will provide an opportunity for a quick overview on our current understanding of management interventions and their efficacy, identifying areas of uncertainty and potential areas for development drawing on examples from Scotland and elsewhere.	Speaker to be finalised

Time	Activity	Description	Lead
13:50-14:35	Thematic small working groups: From Goals to Objectives and Actions	Working groups continue to identify the tangible steps (objectives and actions) they will take to realise the goals, beginning to identify roles and responsibilities for achieving them.	Small working group facilitatorS
14:35-14:55	BREAK	-	-
14:55-15:20	Thematic small working groups-back together to review work and prepare for presentation	Here the thematic working groups are back together and reviewing their sub-group work so that the presenter can give an overview of the point they have reached in the following feedback session.	Small working group facilitators
15:20-16:30	Feedback from working groups and discussion	-	Jamie
16:30-16:45`	Wrap-up, homework and intro to tomorrow	-	Jamie
16:45	END	-	-

Day 3: 2nd March 2022

By the end of today stakeholders should have produced a draft strategic plan, identifying agreed goals and actions over the next ten years to enable them to move towards realising the vision. Depending on the end point from Day 2, we will need to modify the sessions, though it is likely that more work is needed to detail out the actions, particularly after feedback from the whole group discussions. Time is also included to develop provisional unit cost estimates for specific areas of work and to identify potential risks associated with the realisation of the goals and how these risks could be minimised.

Time	Activity	Description	Lead
09:30-09:45	Intro to the day	Based on any required revisions, here we present where we want to get to by the end of today and how we will do it.	Jamie
09:45-11:00	Thematic small working groups: From goals, objectives and actions to provisional unit costs and risks	Beginning with an opportunity to incorporate feedback from other stakeholders during the presentation at the end of Day 2, working groups will then continue work on developing action tables under each goal. Once completed working groups can then identify the unit costs for particular actions or objectives and identify any major risks, they see that could compromise the ability to achieve goals, identifying how these risks could be minimised.	Small working group facilitators
11:00-11:20	BREAK- chance for photo too	-	-
11:20-12:30	Time for further work on thematic goals etc.	-	-
12:30-13:30	LUNCH	-	-
13:30-14:30	Draft plan presentation	Beginning by revisiting the vision statement, groups then present the draft plan, identifying any gaps to be filled and suggestions as to how they can do this. Time will be allocated for discussion after the presentation.	Working group presenters

Time	Activity	Description	Lead
14:30-14:45	Closing remarks	-	-
14:45-15:00	Wrap-up, next steps, and feedback	Here we will outline the next steps in drafting the written plan and the timeline to completion.	Jamie
15:00	END	-	-
15:20-16:30	Feedback from working groups and discussion		Jamie
16:30-16:45`	Wrap-up, homework and intro to tomorrow		Jamie
16:45	END	-	-

Supporting organisations


REFORESTING SCOTLAND


RSPB
SCOTLAND


RZSS
THE WILDLIFE CONSERVATION CHARITY


SCOTLAND'S RAILWAY


SAWC
Scottish Animal Welfare Commission


SCOTLAND
THE BIG PICTURE


Scottish
Canals


Scottish Crofting
Federation


SEPA
Scottish Environment
Protection Agency
Buidheann Dìon
Àrainneachd na h-Alba


Scottish Government
Riaghaltas na h-Alba
gov.scot


Scottish
Land&Estates


Scottish
Water
Trusted to serve Scotland


SCOTTISH
WILD
BEAVER
GROUP


Scottish
Wildlife
Trust


TRANSPORT
SCOTLAND
CÒMHDHAIL ALBA


Trees for Life


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UNIVERSITY OF
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of EDINBURGH


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EXETER


UHI | INVERNESS


University of
Southampton


UNIVERSITY of
STIRLING


WOODLAND
TRUST

Supporting Organisations:

Angling Scotland
Beaver Trust
British Association for Shooting and Conservation
British Bryological Society
British Lichen Society
Cairngorms National Park Association
Chartered Institute of Ecology and Environmental Management
Community Woodlands Association
Eadha Enterprises
Forestry & Land Scotland
Heart of Argyll Wildlife Organisation
Historic Environment Scotland
IUCN SSC Conservation Planning Specialist Group
James Hutton Institute
Loch Lomond & Trossachs National Park Authority
National Access Forum
National Farmers' Union Scotland
National Museum of Scotland
Natural England
NatureScot
Newcastle University
Plantlife
Reforesting Scotland
Royal Society for the Protection of Birds
Royal Zoological Society of Scotland
Scotland: The Big Picture
Scotland's Railway
Scottish Animal Welfare Commision
Scottish Canals
Scottish Crofting Federation
Scottish Environment Protection Agency
Scottish Government
Scottish Land & Estates
Scottish Water
Scottish Wild Beaver Group
Scottish Wildlife Trust
Transport Scotland
Trees for Life
University of Aberdeen
University of Edinburgh
University of Exeter
University of Southampton
University of Stirling
University of the Highlands and Islands
Woodland Trust

IUCN/CPSG (2022). Scotland's Beaver Strategy 2022-2045. IUCN SSC Conservation Planning Specialist Group, MN, USA.
ISBN 978-1-78391-966-6
Version August 2022