Future Nature

A draft Route Map for restoring biodiversity in Loch Lomond & The Trossachs National Park
Appendix 1

National Park Authority Board Meeting

14th June 2021

Paper for information

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1. Executive Summary

1.1. Future Nature is a new approach to restoring biodiversity and the natural environment across the Loch Lomond and Trossachs National Park. It is ambitious both in terms of scale and scope and aims to create a clear narrative of why we need to double our efforts for nature, what a future richer in nature looks like, and how we can work towards making this a reality for the benefit of biodiversity, climate and people.

1.2. The route map outlines where we are now in terms of the state of nature in the Park and why this needs to change. It also offers a literal picture of what success might look like in different places in the Park, outlining a future rich in

nature to work towards. It proposes a set of Future Nature Principles for focusing on delivering the vision and outlines a strategic approach for achieving the vision. This approach is built around three parallel pathways comprising of (i) Practical Action for Nature, (ii) Nature Friendly Processes and Practises and, (iii) Raising awareness and inspiring action for Nature.

1.3. An outline delivery plan and monitoring approach are described to summarise what type of practical delivery will take place and the approach to monitoring, with proposed next steps also being set out aiming for a finalised Future Nature Route Map by the end of 2021.

2. Foreword *(for future publication purposes)*

2.1. Humanity as a species is now finding itself at a crossroads. The choice of direction that we face will influence both the destiny of not only our own species, but a myriad of other organisms that we share our planet with. We are living through a time of existential crises where not only has a global pandemic changed our very way of life, but overwhelming scientific evidence has shown us that human activity has created the twin global crises of climate emergency and huge scale biodiversity loss. For governments, including Scotland's and many people this has been a world-wide wake-up call, and a time for us to collectively galvanise into action in order to tackle these threats to all our futures.

2.2. The climate emergency and the biodiversity crises are intricately related. Common threads interweave between them as they are both driven in part by natural, environmental processes, but they are separate issues caused by different, multiple pressures and as such we cannot assume that by tackling one we are tackling both. By using the benefits that nature can bring in tackling the climate emergency through Nature Based Solutions, we can achieve positive outcomes for both climate and biodiversity, such as restoring damaged peatlands that help sequester carbon and other greenhouses gases, creating new woodlands and forests, and restoring rivers to allow natural flood management. However we must also understand that biodiversity will not be restored by focusing on climate change and that we need dedicated, focused and large-scale action to halt and reverse the decline in nature.

2.3. In the Loch Lomond and Trossachs National Park we are lucky to have a rich legacy of natural and cultural heritage left to us by environmental processes combined with the labour of previous generations. Yet despite its inspiring landscapes, historic places and protected status, nature is still in trouble here. Pressures from over-grazing, pollution, invasive non-native species and a rapidly changing climate mean that many of our iconic habitats and species are in decline, and are in danger of becoming increasingly rare and therefore vulnerable. This matters as the gradual erosion of this natural capital means that we are not provided with all the potential benefits that come from a rich and varied nature, such as clean air and water, healthy soils, flood mitigation, pollinating insects and native timber. We will all be poorer as a result of this

loss, but we do have the opportunity to change our direction and alter what the future might look like.

2.4. In the National Park we must all play our part, individually, socially and professionally to come together to tackle these global threats to future generations and the health of our planet. Alongside working to tackle the climate emergency through our Mission Zero Route Map, and re-building a sustainable green recovery from the COVID-19 pandemic, we must take more action for nature. We now know that just working to preserve what we have left in nature is not enough – we need to actively re-build and restore nature and natural processes at a large-scale if we are to slow and reverse the losses.

2.5. Along with our existing Wild Park Biodiversity Action Programme we want to create a stronger identity and common purpose for all those with a stake in nature in the Park to achieve over time, more and bigger outcomes that help reverse biodiversity loss.

2.6. In December 2020 the National Park Authority Board signed the Edinburgh Declaration, an international agreement which is a statement of intent from the Convention on Biodiversity, agreeing that subnational, regional and local governments across the world commit to taking bolder action to halt global biodiversity loss. By putting our name to that agreement and by creating this route map, we are pledging to work for the delivery of a 'Future Nature'. To do this we need your help. This route map aims to set the National Park on a course for a richer future in terms of nature and it does this by outlining a clear vision of what we need and what that might look like – and critically the main actions, or 'pathways' we will follow to help deliver this vision.

2.7. Our society, its wealth and its heritage is built largely upon the resources that our natural environment has provided us freely for hundreds of thousands of years. We now know that by the over-exploitation of these resources humanity has devastated biodiversity at a global scale and fundamentally shifted the planetary life-support systems that have allowed us to move from the stone-age to a technologically advanced civilisation. Our duty as stewards of this special place has therefore changed in the face of this crisis – it is no longer sufficient to just work to protect what is here now, we must proactively and vigorously re-build and restore a richer nature that will continue to yield us and our world benefits for long into the future.

It is time to pay nature back. This needs to be our legacy.

3. Introduction

3.1. At both and international and national level, the rationale to re-build nature is growing in scale and in pace., noticeably following the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) stark report on the state of global biodiversity. This global report has reset the international biodiversity agenda and raised concerns in many national governments. Both the biodiversity crisis and the climate emergency now

feature highly in government agendas, and this has led to an increase in associated policy making at European, UK and Scottish Government levels.

3.2. Across Europe the new EU Biodiversity Strategy for 2030 highlights ambitious nature restoration targets, including:

- Establishing protected areas for at least 30% of all land and sea in Europe;
- Increasing organic farming and biodiversity rich landscape features on agricultural land;
- Halting and reversing the decline of pollinators;
- Restoring at least 25,000 km of EU rivers to a free flowing state;
- Reducing the use and risk of pesticides by 50%;
- Planting 3 billion trees.

3.3. Building on previous work the Scottish Government is now developing a post-2020 Scottish Biodiversity Strategy, and the recently published biodiversity statement of intent sets out the increased ambitions and key actions for nature restoration. Priorities include:

- Endorsing the Leaders' Pledge for Nature at the United Nations General Assembly in September 2020;
- Publishing a new, high-level, policy-focused biodiversity strategy, and associated delivery plan (Scottish Biodiversity Action Plan);
- Highlighting the need to facilitate the creation of new, locally driven projects (such as The Great Trossachs Forest) which aim to improve ecological connectivity across Scotland;
- Extending the area protected for nature in Scotland to at least 30% of land area by 2030;
- Developing ambitious new proposals to secure positive effects for biodiversity through development, through the National Planning Framework 4 (NPF4).

3.4. Additionally the Environment Strategy for Scotland, published in 2020 provides an overarching framework, a long-term vision and supporting outcomes bringing together various environmental strategies and plans. The vision in the Environment Strategy is: *'By 2045… by restoring nature and ending Scotland's contribution to climate change, our country is transformed for the better - helping to secure the wellbeing of our people and planet for generations to come.'*

4. Vision

4.1. The Future Nature Route Map has been created for the National Park Authority, our partners, communities and land managers to help deliver:

"A resilient nature-rich National Park, where abundant wildlife and a healthy natural environment provide a wealth of benefits through an extensive, well-connected living network."

5. What is Future Nature & who is this Route Map for?

5.1. Future Nature is a new approach to restoring biodiversity and the natural environment across the Loch Lomond and Trossachs National Park. It is ambitious both in terms of scale and scope and aims to create a clear narrative

of why we need to double our efforts for nature, what a future richer in nature looks like, and how we can work towards making this a reality for the benefit of biodiversity, climate and people.

5.2. It has grown from and builds upon the good work done to date by the various bodies working on nature conservation in the Park, including statutory bodies, third sector organisations and local trusts – but it also accepts that this work to date has been insufficient to fully protect and prevent an ongoing decline in biodiversity in the Park which also mirrors the deeply worrying situation in the wider countryside and beyond. Future Nature also recognises the value and experience of generations of land managers, including the farming and forestry communities, and how they are vital to delivering future success. We have learned from the collective experience and lessons learned of nature conservation in the Park and beyond over past years, and applied these to the development and delivery of action for biodiversity.

5.3. The route map aims to provide clear objectives for any organisation, group or individual who needs or wishes to work for nature and the natural environment in the Park. It is deliberately ambitious out of necessity and is not just for 'traditional' conservationists, but planners, community bodies, land managers, farmers, foresters, local authorities, funders and many others.

5.4. The approach is designed to complement, not replace the existing Wild Park Biodiversity Programme, but proposes a significant expansion in the scope and scale of activity to include further work on nature-related policies, processes and engagement. Future Nature is a mix of existing projects and new programmes, but with an emphasis on up-scaling efforts for nature which means working at a landscape scale, mainstreaming nature into decision making and providing clear calls to action.

5.5. **Existing work combined with some new emerging concepts and proposals means that we need to focus much more on the prioritisation of nature restoration or re-building rather than being content to protect what biodiversity we have left.** Good examples of this approach already exist in the Park, most notably The Great Trossachs Forest, but we need to develop and deliver more joint initiatives of this scale in the coming years. It is expected that following further discussions with delivery partners and stakeholders across the Park that the range of programmes and projects will grow in number and detail.

5.6. In section 6 the route map outlines where we are now in terms of the state of nature in the Park and why this needs to change. In section 7 it then offers a literal picture of what success might look like in different places in the Park, outlining a future rich in nature to work towards. This is followed in section 8 which proposes the principles applied to focus on delivering the vision. Section 9 outlines of our strategic approach for achieving the vision, which is built around three parallel pathways comprising of (i) Practical Action for Nature, (ii) Nature Friendly Processes and Practises and, (iii) Raising awareness and inspiring action for Nature. Finally an outline delivery plan (section 10),

monitoring approach (section 11) are described to summarise what type of practical delivery will take place and the approach to monitoring. The route map concludes with proposed next steps in section 12.

6. What is the state of Nature in the National Park?

6.1. In this route map we have defined the current state of nature using two main criteria:

(i) the extent and health of ecosystems across the Park, and;
(ii) the trends in the quantity and quality of biodiversity - habitats and species.

6.2. What is certain is that there is more that we do not know about the current state of nature in the Park, than we do know and this presents problems when setting our biodiversity baseline and setting clear objectives for nature restoration. 'What is the state of nature?' is not only a highly complex and huge question to answer accurately, but also practically speaking it has been several years since a comprehensive audit of the Park's habitats has been carried out. This has only been done once in the National Park Authorities history in 2012, with an earlier, pre-Authority audit in 2002. To address this knowledge gap a proposed action is outlined in section 11.

6.3. Accepting that we have current gaps in our knowledge, we need therefore to turn to national level criteria and trends and also use the proxy measures that we do have for certain key habitats and species to give us indicators as to the state of nature and the natural environment. We can then combine these proxies with what we do know about the state of our 'best' nature sites, i.e. our protected or designated Special Areas of Conservation, Sites of Special Scientific Interest and other protected areas which cover approximately 20% of the Park.

6.4. At a national level two key sources we draw upon are the State of Nature report, 2019[1] and the Scottish Biodiversity Strategy, Report to Parliament 2017-19[2]. Both reports clearly show that the abundance and distribution of Scotland's species has on average declined over recent decades and most measures indicate this decline has continued in the most recent decade. Overall there has been no reduction in the net loss of nature in Scotland.

6.5. Within the Park, approximately 80% of our protected sites (which cover a range of habitats from mountain tops, to woodlands and water bodies), are currently in favourable or recovering condition, with approximately 20% in unfavourable or declining condition. The key pressures causing unfavourable status to protected habitats and species include heavy grazing and browsing pressure from livestock and wild deer, the presence of Invasive Non-Native Species,

[1] https://www.nature.scot/sites/default/files/2019-10/State-of-nature-Report-2019-Scotland-full-report.pdf

[2] https://www.gov.scot/publications/scottish-biodiversity-strategy-report-parliament-2017-2019/

pollution and development impacts on water bodies and climate change impacts. The Wild Park Action Programme 2018-23 outlines more specifically the scale and location of some of the key pressure points for biodiversity in the Park, including priorities and action aimed at tackling these.

6.6. We also have some complementary proxy measurements which can be considered alongside these in the context of assessing the state of nature and our current progress in restoring nature. These include the current National Park Partnership Plan indicators, with their associated targets:

- Area of new woodland indicator, with a target of 2000 hectares expansion by 2023
- Area and condition of restored peatland indicator, with a target of 2000 hectares of restored peatland by 2023
- Percentage of designated sites in favourable condition indicator, with a target of increasing from the 2017 baseline of 76% of designated site features, to 80% by 2023
- Percentage of water bodies achieving at least good ecological condition indicator, with a target of increasing from 2016 baseline of 44% to 59% by 2023

6.7. At the time of writing the COVID-19 pandemic has had some impact on the gathering and analysis of data in relation to indicators and targets, but the overall trend is that to date all these indicators show that despite efforts from delivery bodies so far, current progress is below target.

6.8. Whilst caution is needed about using these national and regional level mega-trends to extrapolate for all of nature and the natural environment in the Park, it is clear that in order to seriously tackle the loss of nature then a far greater scale of nature restoration is needed from that which is currently occurring, and there is no evidence to suggest that the situation is significantly different in the National Park than around it.

6.9. **Efforts to date through Wild Park and other nature conservation work, although best intentioned and restricted by multiple resourcing and other constraints, indicates that we are failing to achieve the necessary impact in nature restoration that we need to if we are to demonstrate real progress in reversing the decline in biodiversity in the Park. This is why a systemic step change in action is required.**

6.10. An example of the scale of the issue that we face in restoring nature the Park comes from our peatlands. Peatlands are hugely important stores of carbon, water and specialist species, as well as providing extensive areas of grazing and upland stalking for land managers. Peat soils cover approximately 37% (690km_2 or 69,000ha) of the Park and hold an estimated 20 million tonnes of carbon and other greenhouse gases and may well be our single greatest natural asset in terms of tackling climate change. However our Peatland ACTION team also estimate that 11,000ha of the Park's peatlands could be in poor condition, due to artificial drainage and surface damage, meaning that rather than trapping and capturing carbon they are currently emitting carbon

and greenhouse gases and therefore contributing to global warming. To date 654ha of peatland has been restored in the Park over 5 years, but this example shows that significantly scaling up our collective efforts on peatland restoration needs to be a high priority.

6.11. Our forests and woodlands also provide another example of where to date we need to do more if we are to restore our native biodiversity. Looking across many areas of the Park and the large swathes of forest that can be seen here, it could seem that all is well for woodlands and the nature that is found there, but this is not the complete picture.

6.12. Holding an estimated 2 million tonnes of carbon, around 29% (541km² or 54,100ha) of the Park is currently under tree cover, but this is favoured heavily by productive conifer plantations which make up 33,550 ha of this total, with 12,600ha of native woodlands and 7,950ha of as yet unclassified new woodland or felled areas waiting restocking. Overall this gives a ratio of 73% non-native to 27% native woodlands. Large-scale, healthy, productive non-native plantations are essential elements of providing timber other products and employment, as well as being important natural carbon stores. However not only we need to increase efforts to improve their structural and species diversity, resilience to new diseases and promote more low impact silvicultural systems over clear-felling, but importantly from a biodiversity perspective we also need to expand the proportion of native Scots pine and broad leaf woodlands to achieve greater benefits for nature as well as timber and other resources.

6.13. Many of our native woodlands suffer badly from infestations of Invasive Non Native Species, and combined with low species diversity, high levels of grazing pressure across many sites and the spread of plant pathogens like Ash-dieback, this means that more needs to be done to restore nature in our forests. The Park hosts a significant proportion of Scotland's high rainfall Atlantic woodlands, a type of forest that is very rare globally, giving the quality and extent of our native woodlands a particular importance that needs greater emphasis and effort to expand its current range.

7. What would a Nature-rich future look like?

7.1. The scientific evidence shows us that we need to reverse the loss of biodiversity, but that our collective efforts to date have been insufficient to make a significant difference to this continued decline. Efforts need to increase in both scale and scope if we are to start making demonstrable progress to tackling the biodiversity crisis – as with the climate emergency. For many, if not most people in Scotland, the climate and biodiversity crises can appear distant and irrelevant to their everyday lives. This view may be gradually altering as the profile of the twin global crises gain greater understanding and as governments adopt policies and practises to tackle them, but why would a resident or visitor in the National Park think there is an biodiversity crises here when they are surrounded by stunning landscapes and iconic wildlife? The answer to this question is partly that culturally we accept this as the norm because our

increasing detachment from the natural world and the long-term timescales involved in ecosystem-scale change mean that we do not notice that nature is slowly declining around us. Scientists refer to this as 'Shifting Baseline Syndrome'.

7.2. One way to address this issue is by helping people to visualise what a nature rich future ***might*** look like, and what additional benefits it ***could*** bring. In this route map we have provided an 'alternative future' for readers, based within the Park and focused on the key habitats and land uses that are found here.

7.3. It is important to state that this is not re wilding. It would not be achieved by removing livestock, farming, forestry and related practises from large areas of the Park and allowing the land to take its own course. It could only be achieved through a mix of active management, collaborative working with all stakeholders, particularly land managers, and by having enabling resources and policies in place. The 'alternative future' is illustrative only, but is within reach should we collectively decide to make it a reality.

7.4. **Future Nature - Loch Lomond & The Trossachs National Park in 2030?**

7.5. 'By 2030 the Park is seeing the beginnings of widespread natural ecosystem recovery taking place, as a result of the successful implementation of ambitious nature restoration policies across land and water, which are being led by local land managers, supported by public agencies and third sector environmental bodies. Alongside the return of our native wildlife and improving natural habitats, land use and water-related businesses are prospering in the Park, with increased levels of diversification and investment taking place across the nature conservation, farming, sporting and forestry sectors.

7.6. All protected sites within the Park are in favourable condition and form the key nodes in an increasingly well connected ecological network, with ribbons of semi-natural vegetation linking them across landscapes in a web of nature-rich corridors. The internationally important Atlantic temperate rainforests of the Park are now physically and ecologically connected north to south and east to west, with new establishing native woodland corridors found in between the ancient, semi-natural core areas. The remnant Caledonian pine forests in Breadalbane are no longer restrained and local land managers have worked to expand and connect them into areas they were once found.

7.7. Native broad leaved woodland and scrub continues to expand in extent both in the lowlands and uplands of the Park, as a result of decreasing pressure from sustainably managed deer populations, widespread uptake of forestry grant schemes, and new agro-forestry initiatives. Reducing impacts from wild deer populations, combined with close livestock management allow less reliance on deer fencing, with defunct fences starting to be removed. Sensitively sited productive conifer plantations are widespread across the landscape, although the proportion of native broadleaf species within them has increased within new schemes and many historic plantations have now been converted to native species. The quality and diversity of all woodland types has also improved as

invasive non-native species are in decline. Shrubby woodlands have started to regenerate alongside many burns and lochsides in the uplands, providing important ecological linkages to lowland woodlands.

7.8. Many degraded upland peatlands in the Park have been restored or are in recovering condition as a result of restorative management works and lower pressures from wild deer and grazing livestock. Many old artificial drainage systems have been removed and along with the forests of the Park these mountain bogs are nationally important carbon stores, helping to reduce the impacts of the climate emergency.

7.9. All natural water bodies within the Park are either in favourable or improving condition as a result of the effective reduction in diffuse pollution from surrounding land uses, and pilot re-naturalisation projects have taken place on some rivers to create free-flowing water courses which provide improved natural habitats and enhanced flood water storage capacity at a sub-catchment scale. As beaver populations have now recolonized many of the Park's waterbodies, so many rivers and burns in previously open habitats now also have establishing native tree cover growing alongside them from local planting schemes or protected natural regeneration. Improving water quality and expanding native fish populations support a growing number of fishing activities, which in turn support local businesses. Natural flood management techniques, such as woody dams, weirs and retention ponds are widely used to help mitigate flood events, with land managers rewarded through subsidy support and private finance schemes for the important role that their positive management plays to a sustainable, long-term solution to climate change impacts.

7.10. New agri-environment policies and funding from both the state and private sectors have encouraged smaller livestock grazing systems and units, whilst simultaneously rewarding for the production of other public goods, such as carbon sequestration and water storage. This has allowed the recovery of woodland and other important habitats such as tall herb and arctic alpine vegetation communities in and around Strathfillan, as well as seeing more young people and families move into the countryside to take advantage of new jobs, skills and other business opportunities. Red squirrel populations are expanding as grey squirrels retreat in the face of landowner and community-led management programmes. Black grouse populations increase across the Park reflecting the spread of native woodland mosaics and upland restoration, whilst re-naturalised river systems and in-bye grazing areas along the floors of the glens support growing wading bird and abundant wildflower populations.

7.11. Litter levels in and around our sea lochs are starting to reduce as a result of effective waste reduction and recycling strategies and volunteer action to clean up beaches. Marine wildlife is recovering following effective management of the Upper Loch Fyne and Loch Goil Marine Protected Area, with more sustainable fishing practises reducing impacts on sensitive seabed habitats.

7.12. Invasive non-native species including Rhododendron ponticum and Himalayan balsalm are in decline as a result of coordinated and targeted action in catchments across the Park, with local communities taking the lead in tackling the threat these species cause in and around towns and villages. Road and rail infrastructure now changed as a result of the expansion in sustainable public travel and transport, are also important connected wildlife corridors, particularly for wild flowers and pollinators. All the Park's built settlements are well connected with green and blue nature-rich corridors, and native habitats stretch out into the surrounding countryside, providing routes for wildlife and people to move freely.

7.13. Several catchments within the Park have Integrated Land Use groups active within them, allowing adjoining land managers and representatives from agencies and local communities to engage and make collective decisions on sustainable, integrated land management to ensure that multiple benefits are realised from land and water use. A Regional Land Use Partnership straddles the Park and through a framework agreement supports local groups with resources and data to assist local level decision making and project delivery. Land is now recognised for its natural capital value and many landowners have engaged in Natural Capital Valuation Schemes which have taken place in several places across the Park and are supported by private finance and investment.

7.14. Nature and climate focused place planning in the Park has encouraged new development that reflects climate change mitigation along with the value of natural capital and ecosystem health. New micro-settlements are being established in the Park, providing new homes for families as rural employment grows, with forests providing desirable locations and opportunities for sensitive landscape siting. Low carbon construction techniques and a Net Positive approach means that nature-friendly design have become standard practise, and the Park is seen as an exemplar of good practise at an international level.'

8. Future Nature Principles

8.1. The destination point for this route map is reaching a time when we will have made demonstrable progress towards achieving the Future Nature vision. The aim is that by 2030 we will be well on this journey.

8.2. In the coming years the operating environment for this route map will change as external drivers, such as practises, policies and resources shift. With this in mind we have created a series of Future Nature Principles to guide next steps and ensure that actions remain focused on delivering nature restoration outcomes in the Park.

8.3. Future Nature Principles - we will:

- Mainstream nature restoration thinking across all collective decision making, processes and practises in our organisation;
- Work in partnership with all the stakeholders required to help realise the Future Nature vision;

- Tackle the key pressures to nature in the Park – through coordinated action against climate change, unsustainable grazing pressures, invasive non-native species, threats to water quality and inappropriate development;
- Focus on the National Park becoming the most nature-rich area in the region, acting as a key landscape for biodiversity, and from which nature restoration expands through extensive ecological corridors;
- Prioritise the protection, expansion and where required restoration of our special Protected Sites for nature and iconic species;
- Use and expand the use of Nature Based Solutions to help tackle the causes and effects of the climate emergency – through woodland expansion and management, peatland restoration and river restoration;
- Promote better integration of land uses that will help restore nature and build resilience for rural communities – including agro-forestry, payment for ecosystem services and the sustainable management of livestock and wild deer;
- Work for a Just Transition approach in realising the Future Nature vision where people and livelihoods are integral in the journey towards a more nature-rich future;
- Be evidence led and look to increasing our knowledge, skills and information to ensure the best outcomes for nature and people

9. How do we achieve the Vision? – Creating an outline Route Map

9.1. This route map contains three different areas of focus, or 'Pathways' designed to develop and deliver nature restoration outcomes from distinct areas of activity. These are:

- **Action for Nature: Practical Delivery**: focused on nature restoration projects and programmes on the ground, with an emphasis on bigger, strategic scale.
- **Nature Friendly Processes & Practises:** focused on integrating and mainstreaming nature restoration thinking into planning, development and land use decision making.
- **Raising Awareness and Inspiring Action for Nature:** focused on engaging and educating key audiences around why nature is so important and how they can take personal and collective action to help nature.

9.2. Outlined below in section 10 is a summary of key objectives that we need to deliver in order to progress towards the Future Nature vision. These are a mix or existing and new, they not the complete picture, nor are they a detailed plan at this time, but they are designed to be the main strands which we will further expand upon in the coming months, in discussion with our partners and stakeholders in the Park. **They are intended to drive greater ambition, and promote the support of innovative new nature restoration proposals.**

9.3. Some are existing projects or approaches from the Wild Park Action Programme (including the Trees and Woodlands Strategy), such as peatland restoration and woodland creation that we need to scale up, while others, such as 'Net Positive for Nature', are emerging proposals or concepts designed to be further developed, but within our collective power to deliver. It is expected,

indeed required that this list is just a starting point for a fuller route map. Final outputs and incremental targets will be set in the coming months, with a focus on achieving significant, positive impacts by 2030.

10. Outline Delivery Plan - a draft Route Map

10.1. Action for Nature: Practical Delivery:

Nature-Based Solutions Programme

(i) Woodland-Forest Expansion and Management:

- Delivery of Trees & Woodlands Strategy through widespread creation of new native woodlands of all types (riparian through to montane habitats) across the Park through an ambitious and ongoing planting and native regeneration programme
- Prioritisation of projects involving the positive management and expansion of existing Atlantic oak woodlands and Caledonian pine forest
- Expansion of The Great Trossachs Forest and support for new landscape-scale woodland projects, with a focus on East Loch Lomond and Breadalbane areas
- Active management of wild deer, sheep and feral goat populations to ensure that all woodland expansion and management schemes are not negatively impacted upon
- Increase in proportion of native tree species in existing and new forestry schemes from 25% to 40%
- Significant decrease in all woodland Invasive Non Native Species populations across the Park, including eradication from all Protected Sites and buffering areas
- Expansion of Woodland Carbon Code type support schemes in the Park and piloting of new public and private financing initiatives that stimulate creation of new woodland and management of existing woodlands

(ii) Peatland Restoration

- Expansion of Peatland ACTION programme into larger-scale, multi-year funding package, employing a dedicated team of peatland specialists, including plant operators and using skilled local contractors
- Restoration work prioritised on Loch Lomond catchment, Trossachs, Glen Dochart, Glen Ogle and Cowal uplands (between Loch Goil and Loch Eck)
- Research project to fully map scale and condition of remaining peatlands at finer detail and monitor effectiveness of restoration work
- Promotion of Peatland Code type support schemes as part of emerging carbon market finance and investment portfolios
- Establishment of Park-wide Peatland Restoration Support Fund to support land managers undertake skills training and smaller-scale restoration work on their own land

(iii) Natural Flood Management and River Restoration

- Support the expansion of Natural Flood Management techniques in priority catchments including trialling of woody debris dams, water storage ponds/lochans, naturalised embankments, artificial barrier removal, riparian planting and river restoration through water course re-profiling projects
- Priority catchments include Strathard, Teith and Loch Lomond

- Support in principle for the translocation of Eurasian beaver individuals from within current Tayside population range into suitable sites within the Park as part of ecological restoration projects

Protected Sites & Core Nature Areas Programme

(i) Protected Sites Enhancement

- Project to support getting all Protected Sites and associated features into favourable status by 2030 *latest* – by tackling key pressures and threats, such as INNS, unsustainable grazing and poor water quality
- Strategic expansion of clusters of Protected Sites to form 'Core Nature Areas', through management partnerships and where appropriate acquisition. Following example of The Great Trossachs Forest focus on Special Areas for Conservation within Breadalbane, Loch Lomond, Teith and Forth catchments areas
- Trial new public and private funding initiatives to fund longer-term management and strategic acquisition of 'Core Nature Areas'

(ii) Natural Connections Programme

- Creation of ambitious landscape-scale programme to increase ecological connectivity between Protected Sites and Core Nature Areas within and around the Park, focusing on the Breadalbane east to west corridor, Lomond catchment north to south corridor and north easterly towards highland Perthshire
- Including native woodland and scrub expansion such as along riparian corridors (e.g. Riverwoods) and management of associated open habitats such as wildflower meadows, transport corridor verges for pollinators (e.g. B-Lines) and pond/wetland creation
- Strategic mapping and management of where the 'ecological connectivity gaps' are in the Park and through partnerships and potential acquisition to create new, large-scale nature corridors

(iii) Natural Challenges Programme

- Support through new public and private funding and staff expertise to help local-scale community and business nature projects in the Park that aim to deliver Future Nature principles and vision, such as habitat creation or expansion and management for wildlife
- Review of public sector estate and infrastructure management across the Park, to explore further development opportunities for nature restoration practises including pollinator-friendly grassland management, habitat creation projects and improved ecological connectivity

10.2. Mainstreaming Nature Friendly Processes & Practises:

Natural Planning & Development

(i) Nature Friendly Place Making

- Seeking to embed ambitious nature restoration thinking, such as Future Nature vision, principles and priorities into new strategic development plans and policies including the new Local Development Plan, future Rural Development Frameworks, forthcoming Regional Land Use Framework,/Regional Spatial Strategy and next National Park Partnership Plan

- Continuation of Strathard Framework process and development, trialling natural capital valuation and production of a programme of nature-restoration projects, including Natural Flood Management and Nature-Based Solutions programme
- Piloting of Nature Friendly Place Making within new 'Wild Strathfillan' proposal
- Review of Park Authorities Strategic Environmental Assessments and Environmental Impact Assessments approach to ensure more pro-active enhancements to biodiversity (such as Nature-Based Solutions criteria), alongside mitigating negative impacts
- Develop a 'Net Positive for Nature' approach and pilot projects that build upon Biodiversity Net Gain principles and realise them, (alongside Net Zero for climate) in developments ahead of creating new draft National Park Local Development Plan and associated guidance
- Pilot initiatives to explore further use of development-related mitigation funds ('Planning Gain') to finance nature restoration projects in the Park, including habitat creation, wildlife management and strategic land acquisitions to improve ecological connectivity

(ii) Nature Restoration Policies & Practises

- Commission consultant's review of where current regional and national policies and subsidies hinder efforts for nature restoration within the Park, focused around Protected Sites, including recommendations for action and stakeholder engagement
- Utilise new opportunity from Regional Land Use Partnership pilot status to explore and further develop integration of Future Nature principles and delivery actions into RLU Framework, including Natural Capital mapping, Nature-Based Solutions/Natural Connections investment programmes
- Review Procurement and other related public body policies to explore opportunities for embedding Future Nature principles and priorities

(iii) Investing in Nature & People

- Develop and pilot new Park-based biodiversity funding models that support large-scale nature restoration projects (including Nature-Based Solutions), and long-term management of nature-friendly practises. Focused on Core Nature Areas and ecological connectivity gaps as priority areas
- Engage with training providers and researchers to develop a 'Jobs4Nature' research project, exploring (1) current roles and skills involved in management of biodiversity and land in the Park, (2) where capacity and skills shortages exist (e.g. peatland restoration contractors), and (3) what future nature jobs might be (e.g. 'Carbon Farmers', Natural Flood Management Engineers, Natural Capital Planners/ Valuers, Biodiversity Data Scientists, Foresters)
- Develop innovative 'nature restoration' concepts and proposals for CivTech-type challenges to explore new technological solutions to tackle pressures on nature and develop opportunities for restoration (e.g. remote sensing, robotics and A.I.)

10.3. **Raising Awareness and Inspiring Action for Nature:**

Nature for All

(i) Value & Respect Nature

- Project to map key audiences and stakeholders across the Park to understand how best to engage at different levels, promote narratives around the value of re-building nature and calls to action for nature. Focus on land managers/owners, young people, rural and urban fringe communities, local businesses and visitors
- Nature & Climate Education programme – a new, multi-audience outreach programme, based in and around the Park with a focus on tackling the biodiversity and climate crises. Partnership delivered and including expansion of current Junior Ranger and John Muir Award Programmes

(ii) Action for Nature

- Developing a new joined-up partnership programme of practical actions projects and activities for different audiences across and around the Park including volunteering, raising awareness, support, personal pledges for nature (e.g. wildlife gardening, organisational membership) and Citizen Science recording
- Development of a 'Natural Legacy and Stewardship' campaign with targeted events and communications focused on the land management and owning community, building on audience mapping project to work specifically with land managers and owners on practical steps for land use businesses wishing to do more for nature

11. How do we measure progress?

11.1. As outlined in section 6 understanding the state of biodiversity in the Park is both challenging and complex. Building upon current methodologies at a national level, the Site Condition Monitoring carried out on Protected Sites and monitoring of National Park Partnership Plan indicators, we can at this point in time improve our understanding of progress working towards the restoration of nature and realising the Future Nature vision in two stages:

11.2. Firstly, as part of next step discussions with delivery partners and key stakeholders we will agree draft outputs, targets and milestones before finalising the route map delivery plan. This will then give us some indicator metrics against which to monitor progress. Secondly we will further develop a new area of work currently entitled 'Future Nature Index' which is based on a monitoring methodology currently being established in the Cairngorms National Park – the Cairngorms Nature Index, and that we are collaborating on and contributing towards. This work will establish a baseline and framework for monitoring the health of the Park's habitats, species and ecosystems and improve on our ability to assess the state of nature in the Park and how Future Nature work is contributing towards improving this.

12. Implementation - Next Steps

12.1. Following consideration of the draft route map approach by the National Park Authority Board we will then engage with delivery partners and key stakeholders, chiefly through the Wild Park Partnership and National Park Partnership Plan network. We would aim to have a finalised Future Route Map agreed by the end of the 2021 calendar year, with existing work already ongoing and new projects starting as soon as agreement and capacity allows. Development work has already commenced on several elements of the Outline Delivery Plan, but it is expected that these will begin in earnest in the 2021/22 financial year.