NORTH AYRSHIRE

Local Biodiversity **Action Plan** 2019-2031

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Introduction

This Local Biodiversity Action Plan is intended for anyone who lives in, works in or visits North Ayrshire. We are all stakeholders in our shared local and global biodiversity.

Biodiversity is a shortened term for 'biological diversity', meaning the richness and variety of all life on Earth.

This rich variety of life is essential for sustaining the ecosystems that provide us with food, fuel, health, wealth and other vital services. The term used to describe the benefits that we receive, many times unknowingly, from the environment we live in is ecosystem services. All life on earth, including our economy, is linked to **ecosystem services** in numerous ways but it is difficult to place an economic value on them (known as "natural capital") and they largely go unnoticed. These include soil formation, nutrient and water cycling, photosynthesis, fresh water, food, fuel, timber, fibre, and pharmaceuticals, flood management, pollination, carbon sequestration, erosion reduction, regulation of regional and local climate, air purification, water filtration, pest control, as well as the non-material benefits we obtain from the environment such as recreation, tourism and improved health and well-being through the fulfilment that nature experiences can bring.

In order to protect the well-being of present and future generations we must give special consideration to what might be irreversible changes to our environment. In short, we need to carefully evaluate the decisions we take every day and take a precautionary approach to avoid loss and damage.

"An ecosystems approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way."

Whilst we rely on biodiversity, human actions have a wide range of impacts on the natural world. **Key pressures** on biodiversity include pollution; land use intensification and modification; the spread of invasive species and wildlife disease; a lack of connection to nature and consequent undervaluing of its benefits; climate change and exploitation of marine and coastal environments.

The cumulative impacts of these key pressures are having a profound effect on biodiversity. Losses of local populations of species can lead to extinction of species locally, nationally and globally. Global species extinctions are occurring at 50-100 times the natural rate and are predicted to rise dramatically. The national situation also calls for action. In a 2016 study of 218 countries assessed for the intactness of their biodiversity, the UK ranked 189th, indicating that nature is faring worse in the UK than in most other countries.

Recognising that the natural environment faces many threats, the UK Government in 1992 signed the Convention on Biological Diversity at the Earth Summit in Rio. As a result, we are committed to developing national strategies, plans and programmes for the conservation and sustainable use of biological diversity. Despite the international target to halt the loss of biodiversity by 2010, declines continue. To tackle this, we must plan for the protection and rehabilitation of our ecosystems. To do so, we need to take an **ecosystems approach**, defined by the UN Convention on Biological Diversity as a "strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way".

Successful management of ecosystems relies on the conservation of their living and non-living components. This is recognised in the Scottish Biodiversity List which lists the animals, plants and habitats considered by Scottish Ministers to be of highest priority for biodiversity conservation in Scotland.

North Ayrshire's variety of rocks, fossils, landforms and soils (known as geodiversity) are also a finite resource which form a vital component of our ecosystems. In North Ayrshire we are equally concerned with the local loss of species, reduction in populations of species and loss of quality or functioning of habitats and ecosystems. Such changes are not only of concern in terms of wildlife itself but because of the disadvantages to North Ayrshire of its natural heritage becoming impoverished, with resulting loss of ecosystem services and quality of environment for its residents.

Since 1992, the Convention on Biological Diversity has formed the basis for national strategies to address biodiversity loss. Biodiversity – the UK Action Plan was published in 1994. In 2004 the **Scottish Biodiversity Strategy** was adopted, with the publication of 'Scotland's Biodiversity: It's in Your Hands'. This was supplemented by the '2020 Challenge for Scotland's Biodiversity' (2013) as part 2 of the Scottish Biodiversity Strategy, followed by its implementation document 'Scotland's Biodiversity: A Route Map to 2020' in 2015. Another key driver of biodiversity action in Scotland has been the **biodiversity duty**. The Nature Conservation (Scotland) Act 2004 places a statutory duty on all public bodies to further the conservation of biodiversity. Section 1 of the Act states:

"It is the duty of every public body and office-holder, in exercising any functions, to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions."

'Public body or office-holder' refers to "a statutory undertaker and any person exercising functions of a public nature". Additionally, the Wildlife and Natural Environment (Scotland) Act 2011 requires all public bodies to make a report publicly available on their compliance with the biodiversity duty every three years.

This is the fifth Local Biodiversity Action Plan to include North Ayrshire, and the second to exclusively cover North Ayrshire. It has been structured to align with the Scottish Biodiversity Strategy and in turn with the Biodiversity Duty Report template produced by Scottish Natural Heritage, such that the Vision, Central Aims and Work Programme are all compatible with these national documents to facilitate focused, easily demonstrated success. To view this template, please visit https://www.north-ayrshire.gov.uk/planning-and-building-standards/conservation-natural-environment/biodiversity-and-conservation-information.aspx and open "SNH Biodiversity Duty Report Template".

The guidance document "LBAPs in Scotland – The Manual" (1997) has been used to ensure that this Local Biodiversity Action Plan forms the basis of a functioning LBAP process. This document covers a period of 12 years to enable short, mid and long-term projects to be planned, fundraising to be carried out and relevant legacy work to be factored within the lifespan of the document. The 12-year period has been divided into 3-year reporting quarters to ensure that progress towards milestones is monitored and work programmes adjusted as required to ensure tasks are achieved within the life of the plan.

NALBAP 2019-2031 will be a rolling document maintained as an online resource which will be shaped by input from local stakeholders during its implementation period. As recommended by the original LBAP guidance 'Local Biodiversity Action Plans – A Manual' (1997), a 'twin-tracking approach' has been adopted in which a biodiversity audit has been recommended, with interim actions adopted in the meantime.

The establishment of a Local Environmental Records Centre (LERC) covering North Ayrshire (provided by South and West Scotland Environmental Information Centre) was a key success of the previous LBAP. This is an essential resource underpinning all aspects of NALBAP 2019- 2031 for prioritising LBAP work, monitoring its impact, and assessing whether priorities need to change over time. Sustaining our LERC in the long term is therefore central to the success of NALBAP 2019-2031.

Development, management and implementation of this Local Biodiversity Action Plan will be carried out by the North Ayrshire Biodiversity Partnership (NABP), which intends to bring a wide range of biodiversity stakeholders together to work towards shared objectives and to agree priorities for the limited resources. The Partnership recognises that these individuals and organisations have different roles and responsibilities but believes that they can easily have a shared agenda and a common approach.

The overall aim for the Partnership is:

'To support, encourage and positively influence the conservation and enhancement of biological diversity in North Ayrshire as part of the Scottish Biodiversity Strategy.'

The work of the Partnership and coordination of NALBAP 2019-2031 is overseen by a small Management Group, with a wider network of NABP partners contributing to the implementation of LBAP project work as appropriate.

A **Work Programme** for 2019-2031 has been developed to achieve the 2030 Vision and Central Aims. It comprises six **Workstreams**, each addressing one of the six points of the 2030 Vision.

The essence of NALBAP 2019-2031 can be expressed as three Central Aims, based on those of the Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" (2013):

01

Protect

Protect and restore biodiversity on land and seas, and to support healthier ecosystems

02

Connect

Connect people with the natural world, for their health and well-being and to involve them more in decisions about their environment

03

Maximise

Maximise the benefits for North Ayrshire of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Within these Workstreams, **Theme** subsections address key biodiversity topics. Biodiversity action within the Workstreams and Themes has been divided into defined **Tasks**.

A biodiversity audit will be carried out to create an itinerary of North Ayrshire's biodiversity resource and how it is faring. This will allow future biodiversity work to be prioritised based on the local context of ecosystems, habitats and species and to target the key pressures impacting upon these.

The information gathered by the biodiversity audit process will be maintained by South and West Scotland Environmental Information Centre and regularly updated as a live resource, allowing progress and impact of NALBAP 2019-31 Tasks to be monitored, and informing changes in priorities over time. The Work Programme is therefore composed of interim Tasks, selected from a long-list by North Ayrshire Biodiversity Partnership, which will be carried out whilst the biodiversity audit is being undertaken. Input from a wider range of stakeholders will be sought following publication of NALBAP 2019-2031 to ensure that key issues affecting locally valued biodiversity are addressed.

The combination of a structured set of interim tasks based on national strategy and partner input, followed by prioritisation of tasks determined by an objective biodiversity audit and local input, will provide the basis for addressing the key issues for North Ayrshire's biodiversity over the next 12 years.

Through the implementation of NALBAP 2019-2031, North Ayrshire Biodiversity Partnership will work towards the following vision for North Ayrshire's biodiversity, based on the Six Big Steps for Nature set out in 'Scotland's Biodiversity: A Route Map to 2020 (2015)':

01 Ecosystem restoration

Historical losses of habitats and ecosystems have been reversed, to meet the Aichi target of restoring 15% of degraded ecosystems.

02 Investment in natural capital

The benefits which nature provides are better understood and appreciated, leading to better management of our renewable and nonrenewable natural assets.

03 Quality greenspace for health and education benefits

The majority of people derive increased benefits from contact with nature where they live and work.

04 Conserving wildlife in Scotland

The future of priority habitats and species has been secured.

05 Sustainable management of land and freshwater

Environmental, social and economic elements are well balanced.

06 Sustainable management of marine and coastal ecosystems

A healthy balance has been achieved between environmental, social and economic elements.

North Ayrshire Biodiversity Partnership

North Ayrshire's biodiversity relies on everyone whose activity either directly impacts on the natural environment or influences the attitudes and understanding of those who do.

Successful conservation of North Ayrshire's biodiversity must therefore involve a variety of stakeholders including government and statutory agencies, local authorities, farmers and landowners, voluntary conservation organisations, businesses, educators and local communities.

The North Ayrshire Biodiversity Partnership (NABP) intends to bring all these sectors together to work towards shared objectives and to agree priorities for the limited resources. The Partnership recognises that these individuals and organisations have different roles and responsibilities but believes that they can easily have a shared agenda and a common approach. The overall aim for the Partnership is 'to support, encourage and positively influence the conservation and enhancement of biological diversity in North Ayrshire as part of the Scottish Biodiversity Strategy.'

Membership of the Partnership is informal, broad and inclusive and involves a wide range of relevant public and voluntary sector bodies. Currently partnership organisations have a focus on nature conservation and the environment, although the partnership aims to reach beyond these sectors to maximise the opportunities available for biodiversity awareness and action. Lead players in the Partnership during the preparation of this Plan included North Ayrshire Council, particularly Corporate Sustainability, Planning, Streetscene and Ranger Services; South and West Scotland Environmental Information Centre (SWSEIC); Scottish Natural Heritage (SNH); Scottish Wildlife Trust (SWT); Community of Arran Seabed Trust (COAST); and the Royal Society for the Protection of Birds Scotland (RSPB).

The work of the Partnership and coordination of NALBAP 2019 is overseen by a small Management Group which manages the business of the NABP Partnership.

A wider network of NABP partners contributes to the implementation of LBAP project work as appropriate.

The following North Ayrshire Biodiversity Partnership partners endorse the current North Ayrshire Local Biodiversity Action Plan 2019-2031 document and where possible will contribute to developing and actively implementing the plan over its 12-year period.

Clyde Porpoise Community Interest Company

Community of Arran Seabed Trust (COAST)

North Ayrshire Council

Royal Society for the Protection of Birds Scotland (RSPB)

Scotland's Agricultural College (SRUC)

Scottish Wildlife Trust (SWT)

South and West Scotland Environmental Information Centre (SWSEIC)

Acknowledgments

Local Biodiversity Action Plans (LBAPs) are made possible by a diverse and wide community of people past, present and future, who actively care about our natural environment.

The North Ayrshire Biodiversity Partnership would like to thank all who have contributed directly or indirectly to this action plan.

Special thanks go to the following individuals and organisations for their contributions.

- Naturalists – both amateur and professional – who have contributed their time and skills to understanding and conserving our biodiversity locally, nationally and globally.
- North Ayrshire Biodiversity Partnership, with direct input received gratefully from the following partners:
  - Scottish Natural Heritage
  - Ardeer FRIENDS Group
  - South and West Scotland Environmental Information Centre
  - Scottish Natural Heritage
  - Scottish Wildlife Trust.

Evaluation of Tasks within the LBAP will be key to its success, ensuring that it responds to the dynamic nature of the field of biodiversity conservation and to build on successful project work. This will only be possible through the continued commitment of North Ayrshire's strong network of biodiversity stakeholders. Thank you in advance to those who are currently part of this positive force for biodiversity, as well as those newcomers who will become actively engaged over the coming months and years through the action plan.

Who Is This Document For?

This Local Biodiversity Action Plan is intended for anyone who lives in, works in or visits North Ayrshire. We are all stakeholders in our shared local and global biodiversity.

So whether your interest in biodiversity is personal or professional (or both), this plan will point you in the right direction to begin:

- learning more about biodiversity
- experiencing biodiversity for yourself
- taking positive action to conserve and enhance biodiversity in North Ayrshire.

Depending on how you decide to get involved, your actions could benefit wildlife, habitats and people around the globe.

So please read on to learn about the fascinating and useful biodiversity we have, the issues facing biodiversity and what can be done to help.

If you are unfamiliar with any terms, please use the "Quick Guide to Terms Used in This Document" and "List of Abbreviations" sections which can be found towards the end of this document.

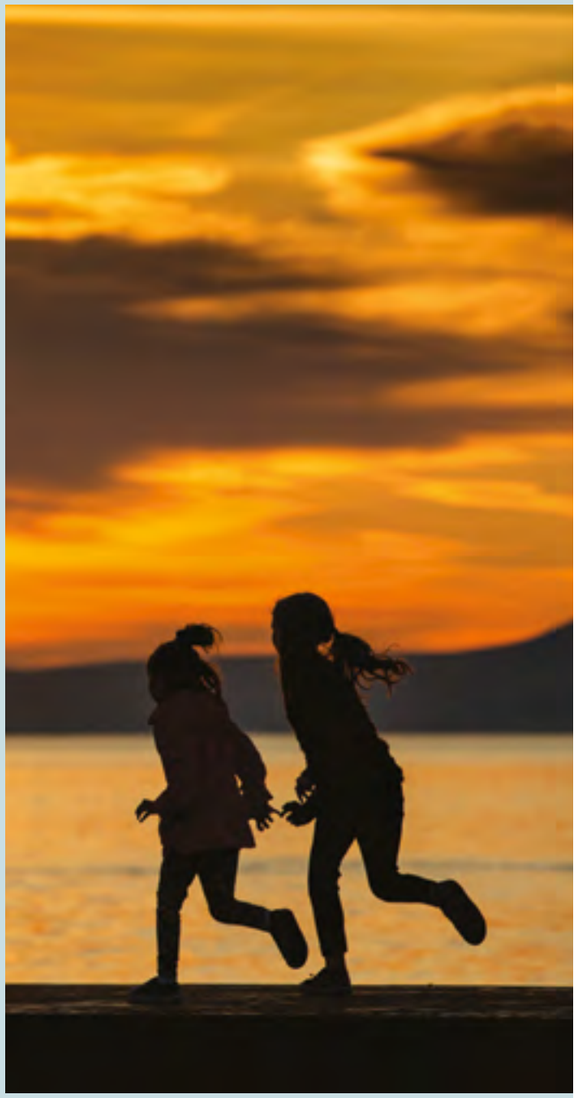
If you would like to find out more about biodiversity or get involved in work within this plan, please visit:

https://www.north-ayrshire.gov.uk/planning-and-building-standards/conservation-natural-environment/biodiversity-and-conservation-information.aspx

Email: biodiversity@north-ayrshire.gov.uk

Telephone: 01294 310000

Please ask to speak to the relevant member of staff about the North Ayrshire Local Biodiversity Action Plan 2019-2031.



Biodiversity

What is Biodiversity?

Biodiversity is a shortened term for 'biological diversity', meaning the richness and variety of all life on Earth.

It includes the fascinating **diversity of species** inhabiting in any given area. Globally over 1.75 million species are known to science, but this does not give the true total as more are discovered or described each year. Scientists estimate that the total number of species on Earth may range from 3 million to 100 million. Even a busy urban greenspace which may seem too disturbed by people for secretive wildlife may support many species – both native and introduced.

It also includes the **variety of habitats** in a given area such as a section of our coastline which may contain seagrass beds, intertidal mudflats, coastal salt marsh, sand dune, rocky estuary and river, as well as farmland habitat features such as arable field margins and hedgerows.

Lastly, biodiversity includes the **complexity of ecosystems (or natural living systems),** formed by the different ways that living things interact with each other and with the living and non-living aspects of their habitats.

Why is Biodiversity Important?

Biodiversity has intrinsic worth, which is separate from any benefits humans may gain from it. The biodiversity we see today is a fascinating aspect of our planet which has evolved over 3.5 billion years – much longer than humans have existed as a species.

It is important to stress that humans are part of biodiversity and live within ecosystems – we are just one species of many, and we are entirely reliant on our natural environment for every aspect of our life. The rich variety of life is essential for sustaining the ecosystems that provide us with food, fuel, health, wealth and other vital services – it is as simple as the air you breathe, the water you drink and the food you eat.

> **"Humans are part of biodiversity and live within ecosystems – we are just one species of many."**

In order to protect the well-being of present and future generations we must give special consideration to what might be irreversible changes to our environment.

The term used to describe the benefits that we receive, many times unknowingly, from the environment we live in is "**ecosystem services**". All life on earth, including our economy, is linked to ecosystem services in numerous ways but it is difficult to place an economic value on them (known as "**natural capital**") and they largely go unnoticed. For example, healthy ecosystems provide free "services" to human communities:

Supporting Services are the services necessary for the production of all other ecosystem services and include soil formation, nutrient and water cycling and photosynthesis.

Provisioning Services are the products we obtain from the environment such as fresh water, food, fuel, timber, fibre, and pharmaceuticals.

Regulating Services are the benefits obtained from natural processes such as flood management, pollination, carbon sequestration, erosion reduction, regulation of regional and local climate, air purification, water filtration and pest control.

Cultural Services include the non-material benefits we obtain from the environment such as recreation, tourism and improved health and well-being through the fulfilment that nature experiences can bring.

Some of the ways in which the health of our ecosystems affects our quality of life and the way North Ayrshire functions can be ably demonstrated by the following:

- **Habitat and Landscape Resource** – glens provide freshwater; peatlands provide carbon storage; floodplains dissipate flood water, hills provide places for recreation, tourism and mental and spiritual well-being; farmland provides food production; trees and woodland provide building materials, shelter, carbon storage, air purification, protection against river erosion and wood fuel.
- **Pollination** – most flowering plants including many crops (including fruit, beans and peas) need help from insect pollinators such as bees, beetles, moths, wasps, flies and butterflies to reproduce.
- **Water Purification** – streams, wetlands, lochs, estuaries and forests all play an important role in purifying water, providing clean water for drinking, industrial uses, recreation and wildlife habitat.

Maintaining the processes and inter-relationships within ecosystems is vital for ensuring that we have healthy species and habitats and is also important for ensuring the on-going availability and benefits of "ecosystem services" to human life. Whilst our understanding of the complex, dynamic functioning of ecosystems will always be limited, our challenge is to find an ecologically sustainable way of living in the world, particularly with an ever-increasing human world population sharing the Earth's natural resources.

In order to protect the well-being of present and future generations we must give special consideration to what might be irreversible changes to our environment. In short we need to carefully evaluate the decisions we take every day and take a precautionary approach to avoid loss and damage.

What Are the Key Pressures Impacting Biodiversity?

Whilst we rely on biodiversity, human actions have a wide range of impacts on the natural world. Key pressures on biodiversity include:

Pollution from industry, agriculture and road traffic has impacts on waterways, uplands, air quality and sensitive habitats.

Land use intensification and modification leads to a reduction of diversity, quality and connectivity of landscapes and habitats. Causes include increased grazing pressure and forestry across the uplands, and agricultural intensification and housing development in the lowlands.

Spread of invasive species and wildlife disease which has arisen from a growing global trade of plants and animals, with marine and terrestrial recreation also playing a role.

Lack of recognition for the value of nature as the vital benefits (i.e. the ecosystem services) that healthy stocks of nature (natural capital) provide to society are not fully recognised or appreciated and therefore are not sufficiently considered in decision making.

Disconnection with nature as nature may seem remote from the everyday lives of many people in society, leading people to undervalue its contribution to their well-being and prosperity, and to wider society.

Climate change is causing a shift in weather patterns which are affecting nature across Scotland. In the seas warming, acidification and sea level rise are becoming evident, and wetter conditions on land, especially in the west are predicted.

Marine and coastal exploitation with a range of sectors operating in the marine environment having profoundly changed the abundance and resilience of some species and altered marine habitats.

What Effect Are These Pressures Having on Biodiversity as a Whole?

The cumulative impacts of these key pressures are having a profound effect on biodiversity. Losses of local populations of species can lead to extinction of species locally, nationally and globally. Whilst extinction was occurring long before humans began putting pressure on biodiversity, the rate at which it is happening due to human activity is now causing concern, with global species extinctions occurring at 50-100 times the natural rate and predicted to rise dramatically. The national situation also calls for action. In a 2016 study of 218 countries assessed for the intactness of their biodiversity, the UK ranked 189th, indicating that nature is faring worse in the UK than in most other countries.

We recognise that we too are at risk if we allow this to continue. As human development has rapidly increased over the past 200 years, we have exploited natural resources and fragile ecosystems, damaging the ability of ecosystems to self-sustain.

Recognising that the natural environment faces many threats, the UK Government in 1992 signed the Convention on Biological Diversity at the Earth Summit in Rio. As a result, we are committed to developing national strategies, plans and programmes for the conservation and sustainable use of biological diversity. Despite the international target to halt loss of biodiversity by 2010, declines continue. To tackle this, we must plan for the protection and rehabilitation of our ecosystems. To do so, we need to take an "ecosystems approach". Such an approach is a "strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way" (UN Convention on Biological Diversity 2000)."

Successful management of ecosystems relies on the conservation of their living and non-living components. This is recognised in the Scottish Biodiversity List which lists the animals, plants and habitats considered by Scottish Ministers to be of highest priority for biodiversity conservation in Scotland. North Ayrshire's variety of rocks, fossils, landforms and soils (known as geodiversity) are also a finite resource which form a vital component of our ecosystems. In North Ayrshire we are equally concerned with the local loss of species, reduction in populations of species and loss of quality or functionality of habitats. Such changes are not only of concern in terms of wildlife itself but because of the disadvantages to North Ayrshire of its natural heritage becoming impoverished, with resulting loss of ecosystem services and quality of environment for its residents. The protection of biodiversity and ecosystems is therefore very high on our list of priorities and this LBAP is our key strategy for conserving and enhancing North Ayrshire's biodiversity locally, with the potential to benefit biodiversity further afield.

International to Local

Key Policy and Statutory Drivers for Biodiversity Action

This edition of North Ayrshire's LBAP aims to align local biodiversity policies and action with both national and international strategic policy and legislation. The timeline below shows the key biodiversity strategy documents which connect local biodiversity conservation to coordinated national and international efforts.

1992

United Nations Rio Summit and Convention on Biological Diversity.

1994

Biodiversity – the UK Action Plan (UKBAP)

1998

European Community Biodiversity Strategy

2004

Scotland's Biodiversity: It's in your hands. A Strategy for the Conservation and Enhancement of Biodiversity in Scotland

Nature Conservation (Scotland) Act 2004

2010

Convention on Biological Diversity Strategic Plan for Biodiversity 2011-2020

2011

Our Life Insurance, Our Natural Capital: An EU Biodiversity Strategy to 2020

Wildlife and Natural Environment (Scotland) Act 2011

2012

UK Post-2010 Biodiversity Framework

2013

2020 Challenge for Scotland's Biodiversity

2015

Scotland's Biodiversity: A route map to 2020

The Convention on Biological Diversity (CBD) is an international legally binding treaty with three main goals: conservation of biodiversity, sustainable use of biodiversity and fair and equitable sharing of the benefits arising from the use of genetic resources.

It was signed by 150 world leaders at the 1992 Conference on Environment and Development, Rio de Janeiro (informally known as the 'Earth Summit') and has since formed the basis for national strategies to address biodiversity loss. The CBD's governing body is the Conference of the Parties (COP) which meets every 2 years to review progress, set priorities and commit to work plans.

In 1994 the UK became the first country to produce a national biodiversity action plan. The European Biodiversity Strategy followed in 1998, with the aim of addressing biodiversity losses which were identified as a threat to sustainable livelihoods across the European Union.

Part 1 of the Scottish Biodiversity Strategy was adopted in 2004, with the publication of 'Scotland's Biodiversity: It's in Your Hands'. It set out Scotland's approach to biodiversity conservation, providing a vision for 2030: "Scotland is recognised as a world leader in biodiversity conservation. Everyone is involved: everyone benefits. The nation is enriched".

The United Nations Convention on Biological Diversity 'Strategic Plan for Biodiversity 2011 – 2020' adopted an ecosystems approach to the sustainable management of biodiversity. This was reflected in 'Our Life Insurance, Our Natural Capital: An EU Biodiversity Strategy to 2020'. This document sets out how the EU will meet its obligations under the International Strategic Plan. It contains a target of "halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss".

The UK Post-2010 Biodiversity Framework forms part of a national and international programme designed to maintain and enhance biodiversity globally. It includes several specific plans for species and habitats afforded priority conservation action. Local Biodiversity Action Plans are the means by which the national strategy can be delivered through local actions.

The Scottish Biodiversity Strategy was supplemented by the '2020 Challenge for Scotland's Biodiversity' in 2013, which sets out the major steps needed to improve the state of nature in Scotland and reflects the wider shift towards the ecosystem approach. It focusses on desired outcomes for 2020 and is a response to the targets set by the UN Convention on Biological Diversity 2010 and the EU's Biodiversity Strategy for 2020 (2011). These call for a step change in efforts to halt the loss of biodiversity and to restore the essential services that a healthy natural environment provides.

In addition, investment in the natural assets of Scotland will contribute to sustainable economic growth and support well-being and wealth creation. The 2020 Challenge aims to:

- Protect and restore biodiversity on land and seas, and to support healthier ecosystems
- Connect people with the natural world, for their health and well-being and to involve them more in decisions about their environment
- Maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Seven outcomes are identified within the 2020 Challenge:

- Scotland's ecosystems are restored to good ecological growth so that they provide robust ecosystem services and build natural capital
- Natural resources contribute to stronger sustainable economic growth in Scotland and we increase our natural capital to pass on to the next generation
- Improve health and quality of life for the people of Scotland through investment in the care of greenspace, nature and landscapes
- The special value and the international importance of Scotland's nature and geodiversity is assured, wildlife is faring well, and we have a highly effective network of protected places
- Nature is faring well, and ecosystems are resilient as a result of sustainable land and water management
- Scotland's marine and coastal environments are clean, healthy, safe, productive and biologically diverse, meeting the long-term needs of people and nature
- A framework of indicators that we can use to track progress.

Through the implementation of NALBAP 2019-2031, North Ayrshire Biodiversity Partnership will work towards the following vision for North Ayrshire's biodiversity, based on the Six Big Steps for Nature set out in 'Scotland's Biodiversity: A Route Map to 2020 (2015)':

01 Ecosystem restoration

Historical losses of habitats and ecosystems have been reversed, to meet the Aichi target of restoring 15% of degraded ecosystems.

02 Investment in natural capital

The benefits which nature provides are better understood and appreciated, leading to better management of our renewable and nonrenewable natural assets.

03 Quality greenspace for health and education benefits

The majority of people derive increased benefits from contact with nature where they live and work.

04 Conserving wildlife in Scotland

The future of priority habitats and species has been secured.

05 Sustainable management of land and freshwater

Environmental, social and economic elements are well balanced.

06 Sustainable management of marine and coastal ecosystems

A healthy balance has been achieved between environmental, social and economic elements.

A key statutory driver of biodiversity action in Scotland has been the biodiversity duty. The Nature Conservation (Scotland) Act 2004 places a statutory duty on all public bodies to further the conservation of biodiversity and have regard to the Scottish Biodiversity Strategy and the Convention on Biological Diversity. Section 1 of the Act states:

"It is the duty of every public body and office-holder, in exercising any functions, to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions."

'Public body or office-holder' refers to "a statutory undertaker and any person exercising functions of a public nature". Additionally, the Wildlife and Natural Environment (Scotland) Act 2011 requires all public bodies to make a report publicly available on their compliance with biodiversity duty every three years. The creation and implementation of NALBAP 2019-2031 contributes to North Ayrshire Council's fulfilment of its biodiversity duty and reporting on the biodiversity duty will be based on the progress reports produced at the end of each 3 year LBAP quarter as part of the LBAP monitoring system, enabling both functions to be satisfied by a single document.

A Timeline of Action for North Ayrshire's Biodiversity

NALBAP 2019-2031 is the fourth LBAP document covering North Ayrshire. A brief timeline of the previous documents highlights the changing focus of LBAPs over the years:

Ayrshire LBAP 2001-2005 Ayrshire's first LBAP provided a major assessment of Ayrshire's biodiversity and was a valuable tool for prioritising conservation efforts, focusing on 26 habitat action plans and 11 species action plans. Actions were aspirational, identifying what could be done for each habitat or species rather than detailing a committed work programme. At this time LBAP planning and delivery across Ayrshire was a partnership between the local authorities of North Ayrshire, South Ayrshire and East Ayrshire, led by Ayrshire Joint Planning Unit (AJPU). Ayrshire Biodiversity Group (ABG) implemented the Ayrshire LBAP and evaluated the process.

The Scottish Executive and SNH commissioned a study 'Strategic Review of Local Biodiversity Action Partnerships in Scotland 2003- 2008' to assess the progress with LBAPs.

Ayrshire LBAP 2007-2010 Revision This was a revision of the Ayrshire LBAP 2001-2005 document following various changes that had taken place at a national level, including publication of the Scottish Biodiversity Strategy 'Scotland's Biodiversity, It's in Your Hands' (2004) and its 6 Implementation Plans (2005). The Nature Conservation (Scotland) Act 2004 had also been issued, which required production of the Scottish Biodiversity List (2005). This revision also incorporated conclusions from an assessment of the Ayrshire LBAP commissioned by the Ayrshire Biodiversity Group 'Evaluation of the Effectiveness of Ayrshire LBAP 2001-2005' (c.2006) to clarify how effective the process had been to date.

Ayrshire LBAP 2007-2012 Update This update of the Ayrshire LBAP 2007-2010 incorporated lessons learned from experience by the Ayrshire Biodiversity Group through implementing the plan together, and approaches taken by other LBAP partnerships. The Scottish Executive and SNH commissioned a study 'Strategic Review of Local Biodiversity Action Partnerships in Scotland 2003- 2008' to assess the progress with LBAPs. This identified a series of similar shortcomings of the original LBAPs in failing to identify achievable actions, maintain momentum and refocus organisations' own priorities.

As a result, the 2007-12 LBAP considered changes in the wider biodiversity context, focusing more on priorities and including SMART actions (an acronym for 'specific, measurable, achievable, relevant and time-based'). Its content included work on priority species and habitats which were not already being acted on by the conservation-orientated organisations operating in Ayrshire. The LBAP became a working document allowing it to be updated regularly and to enable it to adjust to the progress towards the Plan's targets. Specifically, the revised Action Plan was more flexible and had a reduced number of actions (two habitat action plans for lowland raised bogs and coastal habitats and two species action plans for water vole and farmland birds) to ensure that it only covered priorities and local actions.

Ayrshire LBAP 2012-2017 Revision This revision was prepared in 2012. This used a similar methodology to the 2007 LBAP with a slight adaptation to refocus the LBAP around an "ecosystem approach" and set out 2 new priority actions (record centre development; co-ordination and development) in addition to the 4 Ayrshire LBAP 2007-2012 actions of coastal habitats, lowland raised bogs, water voles and farmland birds.

North Ayrshire LBAP 2015-2018 Revision
Preparation of a specific LBAP for North Ayrshire, as opposed to the pan Ayrshire approach taken to date, aimed to address both the Council's statutory Biodiversity Duty and the Scottish Government's Scottish Biodiversity Strategy document '2020 Challenge for Scotland's Biodiversity' (2013) in order to conserve and enhance biodiversity in North Ayrshire. This revision was based on the methodology and data underpinning the previous LBAPs, but with a North Ayrshire focus. Actions were specifically habitats-based rather than species-based, in recognition that habitat protection and enhancement can in turn conserve and benefit species. As well as specific actions to improve coordination and monitoring, the LBAP provided scope for practical delivery on habitat projects targeted at coastal, river, farmland, forests and woodland, urban post-industrial sites, urban and rural path networks and urban greenspace.

Actions were specifically habitats-based rather than species-based, in recognition that habitat protection and enhancement can in turn conserve and benefit species

It is important to recognise that biodiversity conservation began as a grass-roots movement, with amateur naturalists taking action to make a difference themselves. This continues to play a significant role in much of the work carried out to benefit biodiversity.

A project-based approach aimed to optimise the impact of limited resources, for example through landscape scale conservation partnerships such as the 'Garnock Valley Futurescape' led by the Royal Society for the Protection of Birds. The consultation on the draft LBAP identified the opportunity to involve a wider range of stakeholders in the LBAP Partnership and to widen the focus of the Action Plan. Several potential partners were identified through this process to maximise opportunities which could benefit North Ayrshire's biodiversity, with corresponding actions added to support this. It was envisaged that any future LBAP and Action Plan would be more aspirational as a result.

North Ayrshire LBAP 2019-2031 Revision

In response to the Scottish Biodiversity Strategy document 'Scotland's Biodiversity a Route Map to 2020' (2015), a 'Workstreams' approach has been taken, themed around the document's six 'Big Steps for Nature' (Ecosystem restoration; Investment in natural capital; Quality greenspace for health and education benefits; Conserving wildlife in Scotland; Sustainable management of land and freshwater; Sustainable management of marine and coastal ecosystems). Within these, Ecosystem Groupings from the Scottish Biodiversity List (Coastal, Freshwater & Wetland, Lowland, Woodland, Upland and Marine) have been nested to enable relevant tasks for priority species and habitats to be incorporated easily into the relevant Workstream.

As the Workstreams align with the Scottish Biodiversity Strategy, and therefore also with the Biodiversity Duty Reporting template produced by Scottish Natural Heritage, NALBAP 2019-20131 is structured in a way that provides focused, easily demonstrated success. A range of other policy and strategy documents have been incorporated including 'Pollinator Strategy for Scotland 2017-2027' (2016). While the national framework provides an appropriate structure for biodiversity action in North Ayrshire, it is important to recognise that biodiversity conservation began as a grass-roots movement, with amateur naturalists taking action to make a difference themselves. This continues to play a significant role in much of the work carried out to benefit biodiversity. As a result, the LBAP requires the ongoing input of local people with an interest in biodiversity.

An increase in the LBAP period to cover a 12-year period enables short-term, mid-term and long-term projects to be planned, fundraising to be carried out and relevant legacy work to be factored within the LBAP period. The 12-year period has been divided into 3-year reporting quarters to ensure that progress towards milestones is monitored and work programmes adjusted as required to ensure tasks are achieved within the life of the plan. NALBAP 2019-2031 will be a rolling document maintained as an online resource which will be shaped by input from local stakeholders during its implementation period.

The establishment of a Local Environmental Records Centre covering North Ayrshire (provided by South and West Scotland Information Centre) was a key success of the previous LBAP.

As recommended by the original LBAP guidance 'Local Biodiversity Action Plans – A Manual' (1997), a 'twin-tracking approach' has been adopted in which a biodiversity audit has been recommended, with interim actions adopted in the meantime. A biodiversity audit is the only means of objectively prioritising which aspects of North Ayrshire's biodiversity are in most urgent need of conservation action, and of monitoring progress towards relevant tasks within the LBAP. The biodiversity audit aims to produce baseline data for monitoring LBAP progress as well as local priority species and habitats lists. While implementing individual action plans for all species and habitats on these lists would not be feasible, the lists will be invaluable in giving clear, objective advice to internal and external partners and the public on species and habitats of conservation significance at both national and local scales. Provided that publicity of the LBAP has wide and sustained reach, these lists can therefore have wide-reaching impacts through stakeholder decision-making, development planning, public awareness, education and community projects.

The establishment of a Local Environmental Records Centre covering North Ayrshire (provided by South and West Scotland Information Centre) was a key success of the previous LBAP. This is an essential resource underpinning all aspects of NALBAP 2019-2031 for prioritising LBAP work, monitoring its impact, and assessing whether priorities need to change over time. Sustaining our LERC in the long term is therefore central to the success of NALBAP 2019-2031.

2030 Vision and Central Aims

2030 Vision for North Ayrshire's Biodiversity

Through the implementation of NALBAP 2019-2031, North Ayrshire Biodiversity Partnership will work towards the following vision for North Ayrshire's biodiversity by 2030:

- **Ecosystem restoration** Historical losses of habitats and ecosystems have been reversed, to meet the Aichi target of restoring 15% of degraded ecosystems
- **Investment in natural capital** The benefits which nature provides are better understood and appreciated, leading to better management of our renewable and non-renewable natural assets;
- **Quality greenspace for health and education benefits** The majority of people derive increased benefits from contact with nature where they live and work
- **Conserving wildlife** The future of priority habitats and species has been secured
- **Sustainable management of land and freshwater** Environmental, social and economic elements are well balanced
- **Sustainable management of marine and coastal ecosystems** A healthy balance has been achieved between environmental, social and economic elements.

It is proposed that the above vision, which is based on the Scottish Biodiversity Strategy's 'Six Big Steps for Nature', will be developed by North Ayrshire Biodiversity Partnership to ensure that:

- the direction established by the work programmes section within this document is represented
- the aims and objectives of all three Scottish Biodiversity Strategy documents are incorporated
- issues applicable to the North Ayrshire context are incorporated, including relevant central aims of previous Ayrshire LBAPs, the Community Planning Partnerships and North Ayrshire Council documents including North Ayrshire Council Plan
- all points within the vision are sufficiently specific to be achievable.

Central Aims

The essence of NALBAP 2019-2031 can be expressed as three central aims, based on those of the Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" (2013):

1. Protect and restore biodiversity on land and seas, and to support healthier ecosystems
2. Connect people with the natural world, for their health and well-being and to involve them more in decisions about their environment
3. Maximise the benefits for North Ayrshire of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Achieving our 2030 Vision and Central aims

Our Work Programme for 2019-2031

The Work Programme

This section outlines the Work Programme of prioritised biodiversity action which will be implemented through NALBAP 2019-2031 to address the key pressures affecting North Ayrshire's ecosystems, including habitats and species prioritised within the Scottish Biodiversity List. The structure of the Work Programme is explained below.

Workstreams

The Work Programme has been divided into six broad Workstreams corresponding to the 'Six Big Steps for Biodiversity' outlined in the 2015 Scottish Biodiversity Strategy document "Scotland's Biodiversity – Route Map to 2020".

These Workstreams ensure that all NALBAP 2019-31 work aligns with the Scottish Natural Heritage template for biodiversity duty reporting, facilitating fulfilment of North Ayrshire Council's biodiversity duty.

Themes

Within the Workstreams, Theme subsections address key biodiversity topics, and ensure that stakeholders can navigate easily to biodiversity work which relates to their field. A Theme has also been created for each Ecosystem Grouping within the Scottish Biodiversity List, facilitating inclusion of new work relating to Scottish Biodiversity List species and habitats.

Tasks

Action for biodiversity identified within the Workstreams and Themes has been divided into defined Tasks. To align with the North Ayrshire Environmental Sustainability & Climate Change Strategy 2017-2020 (within which NALBAP 2019-2031 is nested), the following are defined for each Task:

- Reference number
- "What will we do?" (action)
- "Who will do it?" (active partners)
- "When will we do it by?" (timescale)
- "Why will we do it?" (justification of how the action contributes to strategic aims).

The 12-year period of this LBAP takes a long-term view to allow meaningful baseline data collection ahead of project work as required, longer term project work to be implemented and if necessary, collection of monitoring data following project work. To facilitate monitoring of LBAP progress and to enable adaptive management, the 12-year period will be divided into Quarters, each lasting three years.

LBAP Priority Habitats and Species

The following interim LBAP priority habitats and species for NALBAP 2019-31 have been based upon the Ayrshire LBAP 2007-2010 list. Whilst Grey Partridge and Corn Bunting are no longer thought to be breeding species in North Ayrshire, management practices to conserve farmland birds may enable future recolonisation.

Freshwater and Wetland	Lowland	Marine Habitats	Coastal Habitats
Lowland raised bog	**6 farmland bird species:**	Saline lagoons	Coastal sand dunes
Coastal and flood plain grazing marsh	Skylark *(Alauda arvensis)*	Intertidal mudflats	Coastal vegetated shingle
Water Vole *(Arvicola amphibius)*	Corn Bunting *(Emberiza calandra)*		Coastal salt marsh
	Eurasian Tree Sparrow *(Passer montanus)*		Maritime cliffs and slopes
	Grey Partridge *(Perdix perdix)*		
	Reed Bunting *(Emberiza schoeniclus)*		
	Common Linnet *(Linaria cannabina)*		

Each quarter will act as a phase of the LBAP, enabling longer term objectives to be realised, and allowing for changing priorities as LBAP actions are achieved or as new conservation priorities come to the fore.

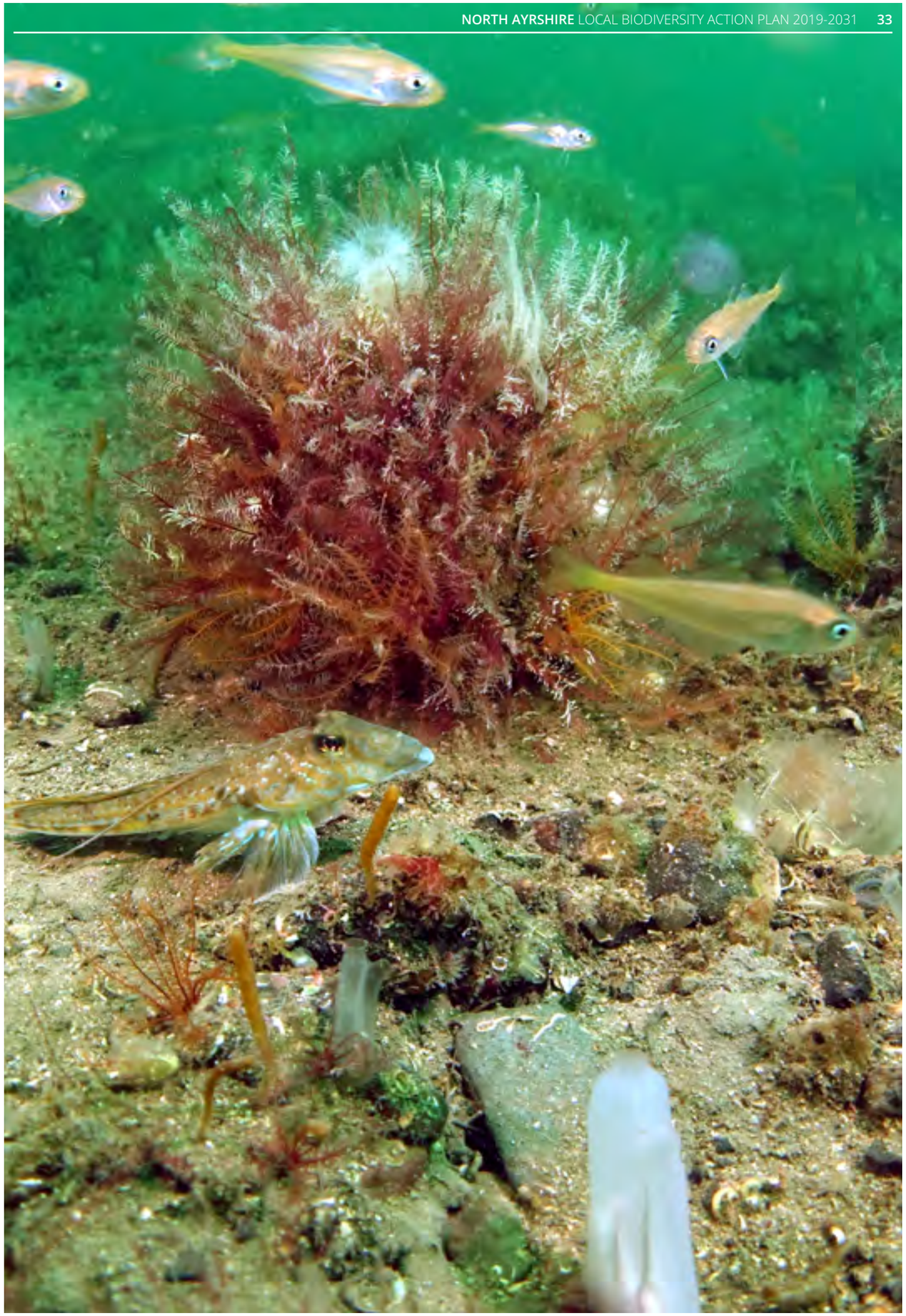
North Ayrshire Council's Biodiversity Duty Reports are also published on a three-year cycle and will therefore serve as a progress report for the NALBAP 2019-2031 process.

A biodiversity audit will be carried out to create an itinerary of North Ayrshire's biodiversity resource and how it is faring. This will allow future biodiversity work to be prioritised based on the local context of ecosystems, habitats and species and to target the key pressures impacting upon these. The information gathered by the biodiversity audit process will be maintained by South and West Scotland Environmental Information Centre and regularly updated as a live resource, allowing progress and impact of NALBAP 2019-31 Tasks to be monitored, and informing changes in priorities over time. The Work Programme is therefore composed of interim Tasks, selected from a long-list by North Ayrshire Biodiversity Partnership, which will be carried out whilst the biodiversity audit is being undertaken. Input from a wider range of stakeholders will be sought following publication of NALBAP 2019-2031 to ensure that key issues affecting locally valued biodiversity are addressed.

Not all of these LBAP priority habitats or species have an associated interim Task due to the selection process described above, but associated tasks will be developed by the North Ayrshire Biodiversity Partnership as appropriate. Whilst individual Action Plans have not been produced for these habitats and species due to the Convention of Biological Diversity's (CBD) recommendation to shift towards an ecosystems approach, lists of habitats and species of local importance will be produced as an output of the biodiversity audit to inform the decisions and actions of a range of stakeholders.

The structure of NALBAP 2019-2031 provides the framework for a rolling work program. Tasks will be developed and progressed by North Ayrshire Biodiversity Partnership, and as tasks are completed, relevant new tasks may be added. Whilst many tasks will be completed within the life of this LBAP, others by their nature will be ongoing.

The combination of a structured set of interim tasks based on national strategy and partner input, followed by reprioritisation of tasks determined by an objective biodiversity audit and local input, will provide the basis for addressing the key issues for North Ayrshire's biodiversity over the next 12 years.



WORKSTREAM 1:

Ecosystem Restoration

An ecosystem is a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

Workstream Summary

Ecosystems are characterised by the connectivity between the atmosphere, the water cycle, the nutrient cycle, geology, soils and the biodiversity they support. The term ecosystem is not limited to any particular spatial unit or scale, so examples of ecosystems could include a grain of soil, a pond, a forest, a biome or the entire biosphere. With a growing understanding that wildlife requires habitat connectivity to move through our landscapes, ecosystem conservation is increasingly being carried out through partnership working at the landscape scale, such as river catchments. The biodiversity and functioning of many ecosystems have been degraded due to a wide range of cumulative human impacts, and biodiversity net gain is required if they are to continue to provide the range of ecosystem services which humans depend on.

The Convention on Biological Diversity encourages sustainable management of biodiversity through the **ecosystem approach**, which it defines as:

'A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. It is based on the application of appropriate scientific methodologies focused on levels of biological organisation which encompass the essential processes, functions and interactions among organisms and their environment. It recognises that humans, with their cultural diversity, are an integral component of ecosystems.'

Central to this approach is the recognition that we are a key part of ecosystems, and not separate from them. This understanding of our dependence on functioning ecosystems is mirrored in the central aim of part 1 of the Scottish Biodiversity Strategy "Scotland's Biodiversity: It's in Your Hands" (2004): 'To conserve biodiversity for the health, enjoyment and well-being of the people of Scotland now and in the future.'

Relevance of this Workstream to the Scottish Biodiversity Strategy

The title of this Workstream refers to the first of 6 Big Steps for Nature set out in **Scotland's Biodiversity: A Route Map to 2020 (2015).**

Ecosystem restoration

To reverse historical losses of habitats and ecosystems, to meet the Aichi target of restoring 15% of degraded ecosystems.

This in turn links to chapter 1 'Healthy ecosystems' within the Scottish Biodiversity Strategy's **2020 Challenge for Scotland's Biodiversity (2013),** outlined below:

Outcome

Scotland's ecosystems are restored to good ecological health so that they provide robust ecosystem services and build our natural capital.

Key messages

- Ensure we benefit from resilient ecosystems that continue to provide robust ecosystem services and natural capital for future generations.
- Use an adaptive, integrated approach at the ecosystem level, which is best managed at the spatial scale of river catchments.
- Coordinate policies and action across Government and public bodies, and involve others including managers of land and sea and non-governmental bodies.
- Devise an effective means of assessing ecosystem health.
- Restore and enhance ecosystems.

Task reference number	What will we do?	Who will do it?	When will we do it by?	Why will we do it?
Task 1.1	Identify habitat networks to provide links between Local Nature Conservation Sites which will inform development and production of Supplementary Guidance on Open Space and Green Networks.	Lead Partners • NAC: Economic Growth Associated Partners • NAC: Physical Environment • North Ayrshire Biodiversity Partnership	Spring 2022	To contribute to Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" chapter 1 "Healthy Ecosystems" and "Scotland's Biodiversity – Route Map to 2020" Big Step for Nature "Ecosystem Restoration". To contribute to Convention on Biological Diversity Strategic Goals A, B and D, including 'Aichi' Targets 2, 14 and 15.
Task 1.2	Develop a landscape scale ecosystem restoration project following Garnock Connections which aims to achieve biodiversity net gain. This should align with the national ecological network and provide a means of targeting habitat restoration, enhancement and creation.	Lead Partners • North Ayrshire Biodiversity Partnership	Spring 2022	To contribute to Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" chapter 1 "Healthy Ecosystems" and "Scotland's Biodiversity – Route Map to 2020" Big Step for Nature "Ecosystem Restoration". To contribute to Convention on Biological Diversity Strategic Goals B and D, including 'Aichi' Targets 14 and 15.
Task 1.3	Investigate priorities for geodiversity within North Ayrshire in order to develop a future NALBAP 2019-2031 task which addresses geodiversity issues. Priorities may include signing Scotland's Geodiversity Charter 2018-2023, awareness raising about the importance of geodiversity and potential protection of key geodiversity sites.	Lead Partners • North Ayrshire Biodiversity Partnership; Strathclyde Geoconservation Group	Spring 2020	To contribute to Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" chapters 1 "Healthy Ecosystems" and 2 "Wildlife, Habitats and Protected Places" and to "Scotland's Biodiversity – Route Map to 2020" Big Step for Nature "Ecosystem Restoration". To contribute to Convention on Biological Diversity Strategic Goals B and D, including 'Aichi' Targets 14 and 15.
Task 1.4	Prepare a delivery plan to promote awareness and encourage behaviour change relating to key global biodiversity issues that can be positively addressed by all who live in, work in or visit North Ayrshire.	Lead Partners • North Ayrshire Biodiversity Partnership	Spring 2021	To contribute to Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" chapter 1 "Healthy Ecosystems" and "Scotland's Biodiversity – Route Map to 2020" Big Step for Nature "Ecosystem Restoration". To contribute to Convention on Biological Diversity Strategic Goals A, B and D, including 'Aichi' Targets 1, 14 and 15.
Task 1.5	Translate the Pollinator Strategy for Scotland 2017–2027 into a local pollinator strategy document which prioritises actionable work to tackle local declines in pollinators and their habitats.	Lead Partners • North Ayrshire Biodiversity Partnership	Spring 2022	To contribute to Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" chapter 1 "Healthy Ecosystems" and "Scotland's Biodiversity – Route Map to 2020" Big Step for Nature "Ecosystem Restoration". To contribute to Convention on Biological Diversity Strategic Goals A, B and D, including 'Aichi' Targets 1, 2, 4, 14 and 15

WORKSTREAM 2:

Investment in Natural Capital

Natural capital describes the social, environmental and economic benefits to humans provided by habitats and ecosystems.

Workstream Summary

Examples of natural capital include water purification, food, carbon storage, flood prevention and the physical and mental benefits of experiencing nature. Many of these benefits are free, hard to measure and cannot be bought or sold. As a result, these benefits are sometimes overlooked during decision-making or when assessing how well off we are as a society. Conversely, many of these benefits would either be economically unviable or even impossible to replace if ecosystems functioning is lost. For North Ayrshire's natural capital to be sustainable in the long term, it must be integrated into decision-making across as many organisations as possible. Improving our understanding of natural capital, raising awareness of its value and investing in aspects of our environment that until now we have taken for granted are key to ensuring that our ecosystems will continue to provide these benefits.

Relevance of this Workstream to the Scottish Biodiversity Strategy

The title of this Workstream refers to the second of 6 Big Steps for Nature set out in **Scotland's Biodiversity: A Route Map to 2020 (2015):**

Investment in natural capital

To ensure the benefits which nature provides are better understood and appreciated, leading to better management of our renewable and non- renewable natural assets.

This in turn links to chapter 2 'Natural capital' within the Scottish Biodiversity Strategy's **2020 Challenge for Scotland's Biodiversity (2013)**, outlined below:

Outcome

Natural resources contribute to stronger sustainable growth in Scotland, and we increase our natural capital to pass on to the next generation.

Key messages:

- Nature supports Scotland's prosperity in ways that are not always visible, but the value is real.
- Scotland should make the most of its natural assets to support sustainable economic growth.
- The economy and wider well-being of Scotland's people will benefit from action that enhances nature and ecosystem services.

Themes Within This Workstream

1. Implementing Action – Resourcing, Management and Monitoring of the LBAP (Tasks 2.1 and 2.2)
2. People and Communications (Tasks 2.3 and 2.4)
3. Integrating the LBAP into best practice (Tasks 2.5 and 2.6)

Task reference number	What will we do?	Who will do it?	When will we do it by?	Why will we do it?
Task 2.1	Ensure ongoing provision of a Local Environmental Records Centre covering the North, South and East Ayrshire local authority areas.	Lead Partners • South and West Scotland Environmental Resources Centre • Southern Uplands Partnership Associated Partners • NAC: Physical Environment, Economic Growth • East Ayrshire Council • South Ayrshire Council)	Ongoing	North Ayrshire's Local Environmental Records Centre (SWSEIC) is the foundation of the NALBAP 2019-31 process, providing essential information on North Ayrshire's species and habitats to enable prioritisation, implementation and monitoring of LBAP work. To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objective 5 "Knowledge", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" chapter 7 "Measuring Progress" and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" section 5 "Measuring and Reporting on Progress".
Task 2.2	Facilitate biodiversity education within the curriculum to ensure all primary and secondary pupils, college students and adult learners participate in meaningful biodiversity learning experiences and that key concepts are communicated effectively to all learners.	Lead Partners • NAC: Economic Growth, Physical Environment	Spring 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objective 2 "People", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aim 2 and chapter 2 "Natural Capital" and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 2 "Investment in Natural Capital" and 3 " Quality Greenspace for Health and Education Benefits".
Task 2.3	Launch a publicity campaign to promote NALBAP 2019-2031 as a focus for increased public awareness of and engagement with biodiversity.	Lead Partners • NAC: Physical Environment, Corporate Communications, Economic Growth	Spring 2020	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objective 2 "People", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aim 2 and chapter 2 "Natural Capital" and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 2 "Investment in Natural Capital".
Task 2.4	Engage with the Council's Sustainability Board to identify and implement training, procedural and resourcing opportunities to ensure best practice for biodiversity is achieved across all Council Directorates, thereby further contributing to fulfilment of NAC's statutory Biodiversity Duty.	Lead Partners • NAC: Physical Environment	Spring 2020	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 2 "People", 4 "Integration and Co- ordination" and 5 "Knowledge", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 2 and 3 and chapter 2 "Natural Capital" and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 2 "Investment in Natural Capital".
Task 2.5	Raise awareness and increase active fulfilment of the statutory Biodiversity Duty throughout all public bodies (and any other relevant organisations to which the statutory Biodiversity Duty applies) in North Ayrshire.	Lead Partners • NAC: Physical Environment	Spring 2021	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 2 "People", 4 "Integration and Co- ordination" and 5 "Knowledge", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 2 and 3 and chapter 2 "Natural Capital" and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 2 "Investment in Natural Capital".

WORKSTREAM 3:

Quality Greenspace for Health and Education Benefits

Greenspace is any vegetated land or water in an urban area, and includes publicly accessible open spaces such as woods, parks, allotments, gardens, playing fields, children's play areas and cemeteries; green corridors such as paths, disused railway lines, rivers and canals; and even vacant, derelict and contaminated land which has the potential to be transformed.

Workstream Summary

Good quality greenspace in this context provides a range of benefits to people and wildlife. For people this includes opportunities for anybody to exercise whilst experiencing nature, to participate in outdoor learning about wildlife and habitats near where they live, and to understand how the natural world changes with the seasons through daily interactions with a range of resident and migratory species. The benefits to human health and well-being from regular interactions with greenspace are well documented. For wildlife this includes provision of a variety of habitats which allow movement through the landscape, sources of food and water, and suitable conditions for reproducing. With the ongoing expansion of urban areas and impact of climate change on the distribution of wildlife across Scotland, the quality of greenspace as steppingstones of habitat for wildlife will become increasingly important.

Key messages:

- Scotland's nature and landscapes are key assets for public health and well-being and more should be done to use the natural world to help improve the quality of our lives.
- There is a strong case for investing more in nature close to where people live, work, or go to school as this can improve public health and reduce pressure on health budgets in the longer term.
- Sustained investment in good-practice demonstration projects is required if we are to realise the longer-term improvements in physical activity and mental health.
- Investment in the availability of good quality greenspace in and around schools and other centres for learning will improve educational outcomes.
- All organisations with responsibility for biodiversity must work towards bringing this into their mainstream policies and practices.

Relevance of This Workstream to the Scottish Biodiversity Strategy

The title of this Workstream refers to the second of 6 Big Steps for Nature set out in **Scotland's Biodiversity: A Route Map to 2020 (2015):**

Quality greenspace for health and education benefits

To ensure that the majority of people derive increased benefits from contact with nature where they live and work.'

This in turn links to chapter 3 'Biodiversity, health and quality of life' within the Scottish Biodiversity Strategy's **2020 Challenge for Scotland's Biodiversity (2013)**, outlined below:

Outcome

Improved health and quality of life for the people of Scotland, through investment in the care of greenspace, nature and landscapes.

Task reference number	What will we do?	Who will do it?	When will we do it by?	Why will we do it?
Task 3.1	Establish ways in which the Council can measurably contribute to the growth of the Irvine to Girvan Nectar Network (IGNN), which aims to improve pollinator habitat management.	Lead Partners • NAC: Physical Environment; Scottish Wildlife Trust Associated Partners • North Ayrshire Biodiversity Partnership	Spring 2020	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-6.
Task 3.2	Consider implementation of planting and management regimes developed through Irvine to Girvan Nectar Network and Garnock's Buzzing projects for vacant land sites and where possible close to coastal habitats such as beach parks.	Lead Partners • NAC: Physical Environment	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-6.
Task 3.3	Promote guidance on biodiversity action for North Ayrshire's private sector such as Biodiversity Benchmark accreditation, and investigation of the potential for a biodiversity toolkit for local businesses which can contribute to their Corporate Social Responsibility obligations.	Lead Partners • NAC: Physical Environment	Spring 2021	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 2, 3, 5 and 6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 2, 3, 5 and 6.
Task 3.4	Develop a programme of habitat and awareness raising enhancements to benefit biodiversity across the Core Path and Active Travel networks.	Lead Partners • NAC: Physical Environment, Economic Growth Associated Partners • NAC: Physical Environment	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-6.
Task 3.5	Implement priority biodiversity actions from current North Ayrshire Open Space Strategy (2016 – 2026).	Lead Partners • NAC: Physical Environment, Commercial Services, Economic Growth Associated Partners • NAC: Physical Environment	Winter 2026	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-6.

WORKSTREAM 4:

Conserving Wildlife in Scotland

Scotland is a stronghold for a range of species, such as the Hen Harrier, which are faring badly in the rest of the UK. Despite this, the populations and ranges of many of our species and habitats, including some which were previously widespread and common, are in decline.

Workstream Summary

Whilst the trend is increasingly towards conservation at the landscape scale based on the ecosystem approach, protected areas such as Local Nature Conservation Sites, Local Nature Reserves, Sites of Special Scientific Interest and Special Protection Areas continue to form a vital network which manages and conserves some of the best examples of our natural and semi-natural habitats, providing the conditions needed by a range of our specialist species. Ensuring that protected areas are under appropriate management and bringing vulnerable sites under protection is key to strengthening this network in the face of increasing cumulative human impacts, for example mitigating against the effects of climate change in coastal habitats. In order to effectively conserve our wildlife, an audit of North Ayrshire's biodiversity is needed as an objective assessment to prioritise which ecosystems are most in need of conservation, to bring multiple benefits to a range of habitats and species, including people.

Key messages:

- Protected areas offer many benefits beyond caring for nature, and provide enhanced ecosystem services, create jobs (especially in rural Scotland) extend recreational opportunities (which benefit health and well-being), and contribute to tourism and our quality of life.
- An integrated, adaptive approach to the management of protected places, involving the range of land-use interests, will enhance these benefits.
- More concentrated work is needed on key species and habitats to target threatened native species, species conflicts, invasive non-native species, and potential reintroductions.

Themes Within This Workstream

1. The Continuing Importance of Designated Sites (Tasks 4.1 and 4.2)
2. Biodiversity audit for North Ayrshire (Tasks 4.3 and 4.4)

Relevance of This Workstream to the Scottish Biodiversity Strategy

The title of this Workstream refers to the fourth of 6 Big Steps for Nature set out in **Scotland's Biodiversity: A Route Map to 2020 (2015):**

Conserving wildlife in Scotland

To secure the future of priority habitats and species.

This in turn links to chapter 4 'Wildlife, habitats and protected places' within the Scottish Biodiversity Strategy's **2020 Challenge for Scotland's Biodiversity (2013)**, outlined below:

Outcome

The special value and international importance of Scotland's nature and geodiversity is assured, wildlife is faring well, and we have a highly effective network of protected places.

Task reference number	What will we do?	Who will do it?	When will we do it by?	Why will we do it?
Task 4.1	Undertake a structured, evidence-based biodiversity audit for North Ayrshire as the foundation of a targeted, successful LBAP process.	Lead Partners • NAC: Physical Environment, South and West Scotland Environmental Resources Centre Associated Partners • North Ayrshire Biodiversity Partnership	Spring 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objective 5 "Knowledge", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" chapters 2, 4 and 7 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 2, 4, 5 and 6.
Task 4.2	Complete current review of mainland Local Nature Conservation Sites within North Ayrshire to inform site management and current Local Development Plan; Investigate the potential for an LNCS Review for Arran to inform site management and current Local Development Plan.	Lead Partners • NAC: Physical Environment Associated Partners • North Ayrshire Biodiversity Partnership	Spring 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.
Task 4.3	Review environmentally designated sites to prioritise those which require new or updated management plans to address any negative impacts.	Lead Partners • NAC: Physical Environment, Scottish Natural Heritage Associated Partners • North Ayrshire Biodiversity Partnership	Spring 2025	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.
Task 4.4	Engage with stakeholders (including members of the public) to gather input on locally valued species, habitats and biodiversity issues which should be incorporated into NALBAP 2019-2031 where possible.	Lead Partners • NAC: Physical Environment Associated Partners • South and West Scotland Environmental Resources Centre	Ongoing	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 2 "People" and 5 "Knowledge", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" aim 2 and chapters 2, 4 and 7 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 2, 4, 5 and 6.

WORKSTREAM 5:

Sustainable Management of Land and Freshwater

Sustainable management of our lowland, upland, woodland and freshwater ecosystems involves balancing human economic and leisure activities, many of which depend on ecosystem services, with the needs of wildlife and species to ensure that ecosystems can continue to function for the benefit of all.

Workstream Summary

From creating mosaics of habitat at the boundaries between managed woodland and moorland to enable Black Grouse to survive and thrive, to re-meandering and naturalising river channels to benefit aquatic communities whilst reducing flood risk, the ecosystem approach can enable a wide range of species to thrive alongside human activity.

Relevance of this Workstream to the Scottish Biodiversity Strategy

The title of this Workstream refers to the fifth of 6 Big Steps for Nature set out in **Scotland's Biodiversity: A Route Map to 2020 (2015):**

Sustainable management of land and freshwater

To ensure that environmental, social and economic elements are well balanced.

This in turn links to chapter 5 'Land and freshwater management' within the Scottish Biodiversity Strategy's **2020 Challenge for Scotland's Biodiversity (2013)**, outlined below:

Outcome

Nature is faring well, and ecosystems are resilient as a result of sustainable land and water management.

Key messages:

- 'Land managers, public bodies and communities need to work together to address the challenges facing biodiversity.
- Support and incentives for managing biodiversity need to be better targeted.
- River basin planning should become the basis of a more integrated approach to land and water management across whole catchments.
- Woodland expansion and habitat restoration will benefit biodiversity while serving important social and economic objectives, such as flood risk management and contributing to a low carbon economy.
- More effort is needed to manage arable land in a way that will benefit soil biodiversity and wildlife.
- Land and water managers need to be more aware of the important role nature plays in their business.

Themes Within This Workstream

1. Freshwater & Wetland (Tasks 5.1 and 5.2)
2. Lowland (Tasks 5.3 and 5.4)
3. Woodland (Tasks 5.5 and 5.6)
4. Upland (Tasks 5.7 and 5.8)

Task reference number	What will we do?	Who will do it?	When will we do it by?	Why will we do it?
Task 5.1	Enhance riparian habitats within the Garnock Connections Landscape Partnership Scheme through integrating habitat creation and management options, beneficial for wildlife, into local diffuse pollution control mechanisms.	Lead Partners • Ayrshire Rivers Trust; Scottish Environmental Protection Agency	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objective 1 "Species and Habitats", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1 and 3 and chapters 1- 5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.
Task 5.2	Enhance and restore natural floodplain habitats for wildlife in the Garnock Connections Landscape Partnership Scheme through management of water control measures as part of the 'Garnock Floods' project at SWT's Garnock Floods reserve, implementing works through the 'Meandering the Dundonald Burn' project at SWT's Shewalton Wood reserve and undertaking green riverbank stabilisation and control of non- native plant species through the 'Saving Shewalton Sandpits' project at SWT's Shewalton Sandpits reserve.	Lead Partners • Scottish Wildlife Trust, Royal Society for the Protection of Birds	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objective 1 "Species and Habitats", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1 and 3 and chapters 1- 5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.
Task 5.3	Develop management regimes for roadside verges and hedgerows to improve habitat quality and connectivity for a range of species including pollinating insects and farmland birds.	Lead Partners • NAC: Physical Environment Associated Partners • North Ayrshire Biodiversity Partnership	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.
Task 5.4	Improve habitat for breeding waders on key sites within the Garnock Catchment.	Lead Partners • Royal Society for the Protection of Birds, NAC: Physical Environment Associated Partners • North Ayrshire Biodiversity Partnership	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-6.

Task reference number	What will we do?	Who will do it?	When will we do it by?	Why will we do it?
Task 5.5	Identify priority actions for implementation from the Ayrshire and Arran Forestry and Woodland Strategy 2014, ensuring that woodland expansion proposals are appropriate, with reference to policy document The Right Tree in the Right Place (Forestry Commission Scotland, 2010).	Lead Partners • NAC: Physical Environment Associated Partners • Scottish Forestry, North Ayrshire Biodiversity Partnership	Summer 2021	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.
Task 5.6	Review management regimes for forest and woodlands against LBAP objectives to ensure that woodlands are managed in a way that supports biodiversity.	Lead Partners • NAC: Physical Environment Associated Partners • Scottish Forestry, North Ayrshire Biodiversity Partnership	Summer 2023	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.
Task 5.7	Develop peatland restoration potential in the Garnock Catchment.	Lead Partners • Royal Society for the Protection of Birds; NAC: Physical Environment Associated Partners • North Ayrshire Biodiversity Partnership	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.
Task 5.8	Develop upland restoration projects on North Ayrshire's mainland and islands.	Lead Partners • National Trust for Scotland Arran Ranger Service; Clyde Muirshiel Regional Park Associated Partners • NAC: Physical Environment	Summer 2025	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-5 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-5.

WORKSTREAM 6:

Sustainable Management of Marine and Coastal Ecosystems

As with terrestrial habitats, coastal and marine ecosystems are subject to a wide range of economic and leisure activities which have the potential to damage ecosystems. Monitoring of these ecosystems can be challenging, although the availability of marine habitat data is improving.

Workstream Summary

The establishment and management of a network of Marine Protected Areas has been an important step in recognising the conservation value of marine habitats, but more work is needed to ensure that developments are subject to planning processes equivalent to those on land to ensure that developments and other activities are carried out appropriately. The Clyde Marine Planning Partnership is addressing such issues through the creation of the Clyde Regional Marine Plan, while organisations such as Community of Arran Seabed Trust and Clyde Porpoise Community Interest Company campaign for and conduct research into our marine biodiversity. Shoreline Management Plans can play a role in the conservation and enhancement of coastal ecosystems, relying on engagement with a range of stakeholders in North Ayrshire's biodiversity, whilst local community groups such as FRIENDS carry out a range of coastal habitat creation and management projects.

Key messages:

- Scotland's seas and coasts provide rich natural harvests and varied ecosystem services, including climate control, coastal protection, nutrient recycling, health benefits and leisure opportunities, as well as supporting a diverse biodiversity that adds value to local tourist economies.
- Sustainable management of the seas to deliver multiple benefits will be assured through implementation of A Strategy for Marine Nature Conservation in Scotland's Seas and Scotland's National Marine Plan.
- Management of the coastal zone will be increasingly challenged by the impacts of climate change.
- Scotland's islands are especially valuable, but vulnerable, havens of biodiversity.

Themes Within This Workstream

1. Marine habitats (Tasks 6.1 and 6.2)
2. Coastal habitats (Tasks 6.3 and 6.4)

Relevance of This Workstream to the Scottish Biodiversity Strategy

The title of this Workstream refers to the second of 6 Big Steps for Nature set out in **Scotland's Biodiversity: A Route Map to 2020 (2015):**

Sustainable management of marine and coastal ecosystems

To secure a healthy balance between environmental, social and economic elements.

This in turn links to chapter 6 'Marine and coastal' within the Scottish Biodiversity Strategy's **2020 Challenge for Scotland's Biodiversity (2013)**, outlined below:

Outcome

Scotland's marine and coastal environments are clean, healthy, safe, productive and biologically diverse, meeting the long-term needs of people and nature.

Task reference number	What will we do?	Who will do it?	When will we do it by?	Why will we do it?
Task 6.1	Engage with organisations involved in the management of North Ayrshire's marine environment to develop implementable conservation measures for marine ecosystems, habitats and species.	Lead Partners • NAC: Physical Environment; Clyde Marine Planning Partnership; Community of Arran Seabed Trust; Clyde Porpoise Community Interest Company Associated Partners • North Ayrshire Biodiversity Partnership	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1- 6.
Task 6.2	Undertake research to monitor the health and biodiversity of the Clyde and the South Arran Marine Protected Area.	Lead Partners • Community of Arran Seabed Trust Associated Partners • NAC: Physical Environment; Scottish Natural Heritage; Clyde Porpoise Community Interest Company	Summer 2031	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats", 2 "People", 3 "Landscapes and Ecosystems" and 4 "Integration and Co- ordination", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1-3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1- 6.
Task 6.3	Prepare a management 'good practice note' for staff on the management of Western Gailes SSSI. By law the SSSI area of Western Gailes must not be cleaned by mechanical means. As such it was agreed between NAC and SNH that a good practice guide for relevant staff will be issued and monitored on a regular basis.	Lead Partners • NAC: Physical Environment; Scottish Natural Heritage	Summer 2020	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and 1- 6.Habitats" and 3 "Landscapes and Ecosystems", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1 and 3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-6.
Task 6.4	To develop effective and implementable control measures for Japanese Rose *(Rosa rugosa)* in dune habitats.	Lead Partners • NAC: Physical Environment; FRIENDS	Summer 2022	To contribute to Scottish Biodiversity Strategy "Scotland's Biodiversity – It's In Your Hands" objectives 1 "Species and Habitats" and 3 "Landscapes and Ecosystems", Scottish Biodiversity Strategy "2020 Challenge for Scotland's Biodiversity" Aims 1 and 3 and chapters 1-6 and Scottish Biodiversity Strategy "Scotland's Biodiversity – Route Map to 2020" Big Steps for Nature 1-6.

Quick Guide to Terms Used in This Document

1. Biodiversity

A shortened form of the term 'biological diversity', defined by the Convention on Biological Diversity as "the variability among living organisms from all sources including [among other things] terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems." This means the richness and variety of all forms of life on Earth and includes

- microscopic life such as the plankton in our oceans, bacteria and single-celled algae;
- plant life such as mosses, ferns, trees, herbs, grasses, sedges and rushes;
- a fascinating diversity of fungi;
- small animals without backbones such as insects, worms and snails;
- as well as animals with backbones including fish, reptiles, amphibians, birds and mammals – a group which includes humans.

2. Biodiversity audit

A review of available information on the biodiversity of a given area to create an itinerary of the local biodiversity resource and how it is faring. This enables the creation of targeted biodiversity guidance and conservation action to address the key pressures impacting upon the ecosystems, habitats and species which are most important in the local and national contexts.

3. Biodiversity Benchmark

The Wildlife Trusts' standard that certifies management of business landholdings for wildlife. It is designed to complement British Standard ISO14001 and tests the design and implementation of a business's management systems to achieve continual biodiversity enhancement and protection on their landholdings.

4. Biodiversity duty

The Nature Conservation (Scotland) Act 2004 places a statutory duty on all public bodies to further the conservation of biodiversity. Section 1 of the Act states: "It is the duty of every public body and office-holder, in exercising any functions, to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions." 'Public body or office-holder' refers to "a statutory undertaker and any person exercising functions of a public nature".

5. Biodiversity duty report

The Wildlife and Natural Environment (Scotland) Act 2011 requires all public bodies to make a report publicly available on their compliance with biodiversity duty every three years.

6. Biodiversity net gain

"Development that leaves biodiversity in a better state than before. It is an approach whereby developers work with local governments, landowners, wildlife organisations, and other stakeholders to minimise impacts and maximise outputs for biodiversity." Also referred to as net gain to biodiversity.

7. Biome

"The largest unit of ecological classification that is convenient to recognize below the entire globe. Terrestrial biomes are typically based on dominant vegetation structure (e.g., forest, grassland). Ecosystems within a biome function in a broadly similar way, although they may have very different species composition. For example, all forests share certain properties regarding nutrient cycling, disturbance, and biomass that are different from the properties of grasslands. Marine biomes are typically based on biogeochemical properties."

8. Biosphere

"The part of the Earth system comprising all ecosystems and living organisms, in the atmosphere, on land (terrestrial biosphere) or in the oceans (marine biosphere), including derived dead organic matter, such as litter, soil organic matter and oceanic detritus."

9. Breeding waders

Long-legged birds such as those of the families Charadriidae (plovers and lapwings) and Scolopacidae (sandpipers and allies) which breed in a given area.

10. Climate change

"A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the United Nations Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: 'a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods'. The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes."

11. Climate control

"Ecosystems influence the local climate and air quality. For example, trees provide shade whilst forests influence rainfall and water availability both locally and regionally. Trees or other plants also play an important role in regulating air quality by removing pollutants from the atmosphere. Ecosystems regulate the global climate by storing greenhouse gases. For example, as trees and plants grow, they remove carbon dioxide from the atmosphere and effectively lock it away in their tissues." Also referred to as climate regulation.

12. Coastal protection

"Coastal habitats such as sand dunes and salt marsh are fundamental in protecting land and infrastructure from flooding"

13. Conservation

"Active management of the biosphere to ensure the survival of the maximum diversity of species and the maintenance of genetic variability within species. It includes the maintenance of biosphere function e.g. nutrient cycling and ecosystem function. The term also includes the concept of sustainable resource use so that the environment may yield the greatest sustainable benefit to current generations while maintaining its potential to meet the needs and aspirations of future generations. Conservation of species and biological processes must be simultaneous with conservation of abiotic resources or it is unlikely to succeed."

14. Convention on Biological Diversity – Strategic Goals and Aichi Targets

The Convention on Biological Diversity Strategic Plan 2011-2020 consists of five strategic goals, including twenty global Aichi Biodiversity Targets.

- Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
- Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use
- Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity
- Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services
- Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

15. Declines in biodiversity

The populations, habitats and ranges of many species across the globe have been reduced by a range of human pressures on ecosystems. These include pollution, land use intensification and modification, spread of invasive species and wildlife disease, climate change and the undervaluing of biodiversity in decision making. Such pressures can lead to the extinction of

species, and Scotland's land and seas are no exception. An estimated 46000 species are found in Scotland, 6000 of which have been assessed using modern Red List criteria. Of these, 520 (9%) are at risk of extinction from Great Britain.

16. Degradation

"An 'ecosystem' is considered to combine the physical characteristics of the environment with the habitats and species it supports. Where the interactions between these elements function well, with natural processes unhindered, a wide variety of species is supported. Degraded ecosystems have lost much of that function due to pressures such as pollution; land use intensification and modification – leading to fragmentation of habitat; spread of invasive species and wildlife disease; climate change – requiring adaptation in habitat management and conservation approach. Degradation has had a significant impact on biodiversity in Scotland, with reduced species diversity and declining species populations." In relation to habitats, degradation is "a decline in species-specific habitat quality that leads to reduced survival and/or reproductive success in a population e.g. related to changes in food availability, cover or climate."

17. Designated sites

Also referred to as protected areas. The presence of natural features of special interest such as species, habitats or geology may call for the designation of sites under international directives and treaties, domestic legislation and policy, or local needs and interests. The designation of sites helps to ensure that their natural features of special interest remain in good health for all to enjoy, now and in the future.

18. Earth Summit

"The United Nations Conference on Environment and Development which was held in 1992 in Rio de Janeiro is referred to as the 'Earth Summit'." Also referred to as the Rio Summit

19. Ecosystem

The Convention on Biological Diversity gives the following definition: "A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit." This means all the living organisms in a given area – including humans – and the ways in which they affect each other and the environment.

20. Ecosystem process

"An intrinsic ecosystem characteristic whereby an ecosystem maintains its integrity. Ecosystem processes include decomposition, production, nutrient cycling, and fluxes of nutrients and energy." Also known as ecosystem functioning and ecosystem interactions.

21. Ecosystem services

"Benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other non-material benefits."

22. Ecosystem restoration

"The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. An ecosystem has recovered when it contains sufficient biotic and abiotic resources to continue its development without further assistance or subsidy. It would sustain itself structurally and functionally, demonstrate resilience to normal ranges of environmental stress and disturbance, and interact with contiguous ecosystems in terms of biotic and abiotic flows and cultural interactions."

23. Ecosystems approach

"A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

24. Evolution

"Evolution is the process of heritable change in populations of organisms over multiple generations. [This] can occur through mechanisms including natural selection, sexual selection and genetic drift."

25. Extinct

"A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form." Species extinctions can occur at the local and national scales without global extinction occurring, for example the Small Blue butterfly *(Cupido minimus)* which in North Ayrshire was thought to have become locally extinct in the early 1980s. Extinction is the process by which species become extinct and can occur due to either natural or human-created causes. Research has shown that whilst there is a natural background rate of extinction, the rate of extinction has risen significantly during five mass extinction events. A sixth mass extinction event, caused by human impacts on biodiversity, is thought to be occurring at present.

26. Geodiversity

The variety of the geological and physical elements of nature, such as minerals, rocks, soils, fossils and landforms, and the natural processes which form and alter them. Together with biodiversity, geodiversity constitutes the natural diversity of planet Earth. "Conservation management of geodiversity, our non-living natural world, is crucial to sustaining living species and habitats and environmental quality."

27. Habitat

"The place or type of site where an organism or population naturally occurs."

28. Habitat quality

A measure of the influence of a given area of habitat on a species, in terms of factors such as survival, reproductive success or behaviour in a population. The influences can be related to factors such as changes in food availability, cover or climate.

29. Habitat network

"Habitat fragmentation occurs when larger areas of habitat are split into separate, smaller areas. It's been happening for many years. This splitting of larger areas of habitat into separate, smaller ones adversely affects wildlife in a number of ways. A habitat network is one that's focused on the connectivity of a single habitat or species. A green network focuses on delivering social and economic benefits as well as environmental improvements. An integrated habitat network combines the needs of several habitats and species."

30. Human

The mammal species to which all people belong, known by the scientific name *Homo sapiens sapiens* (Anatomically Modern Human). Humans are therefore part of and dependent on biodiversity and ecosystems. Due to an exponentially increasing human world population, combined with increasing natural resource consumption per person, humans are causing unprecedented impacts on biodiversity.

31. Invasive non-native species (INNS)

"Non-Native Species (NNS) are those species found outside their normal or native range as a direct result of human activity. When a non-native species is established and then becomes a problem to the local ecosystem or economy, it is labelled 'invasive'." Also referred to as alien invasive species.

32. Landscape

"An area of land that contains a mosaic of ecosystems, including human-dominated ecosystems." Landscape scale conservation is therefore the conservation of biodiversity and geodiversity at the scale of entire landscapes. "As the pressures which cause degradation (including pollution, land use intensification and modification, spread of invasive species and wildlife disease and climate change) tend to operate across large areas, landscape/catchment-scale action is needed to address them.

Dealing with these pressures adequately requires well co-ordinated, collaborative action across multiple land holdings, rather than more piecemeal work on smaller scales."

33. Locally important and locally valued

Whilst some species, habitats, ecosystems and their associated conservation issues have been prioritized at a national scale in the Scottish Biodiversity List (SBL), there will be others which are of conservation importance at the local scale. An example would be a species which is not rare across Scotland as a whole, but which is only known to occur at one site in North Ayrshire. Others will be locally valued, meaning that they are of cultural importance to local people.

34. Migratory species

"Any species or lower taxon of wild animals, in which a significant proportion of the members of the entire population or any geographically separate part of the population cyclically and predictably crosses one or more national jurisdictional boundaries." Migration is an evolved behaviour which is defined as "sustained directional movement by an animal that takes it out of one habitat and into another."

35. Mitigation

"Measures which aim to reduce impacts to the point where they have no adverse effects."

36. Native species

A species, subspecies or race that has been observed in the form of a naturally occurring and self-sustaining population in historical times, within its present or past natural range including the area which it can reach and occupy using its natural dispersal systems. For practical purposes in Britain, a British native species is often defined as one which has colonised the British Isles naturally since the last glaciation over 10000 years ago.

37. Natural capital and natural assets

"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. The most obvious ecosystem services include the food we eat, the water we drink and the plant materials we use for fuel, building materials and medicines. There are also many less visible ecosystem services such as the climate regulation and natural flood defences provided by forests, the billions of tonnes of carbon stored by peatlands, or the pollination of crops by insects. Even less visible are cultural ecosystem services such as the inspiration we take from wildlife and the natural environment."

38. National Ecological Network

The Scottish Biodiversity Strategy document "Scotland's Biodiversity – a Route Map to 2020" includes an action to "develop a national ecological network to enable characterisation of the nature of Scotland, and to help with the identification of priority areas for action on habitat restoration, creation and protection." Scottish Natural Heritage is the lead partner for this action.

39. Photosynthesis

"Photosynthesis is the process used by plants, algae and certain bacteria to harness energy from sunlight and turn it into chemical energy." Carbon dioxide and water are converted to organic compunds (mainly carbohydrates), releasing oxygen gas as a by-product.

40. Population

"A group of individuals of the same species, occupying a defined area, and usually isolated to some degree from other similar groups. Populations can be relatively reproductively isolated and adapted to local environments." The total world population of any given species is an estimate based on available data.

41. Pollination

"Pollination is the process by which whole pollen grains are transported to flowers of the same species for the purpose of sexual reproduction in plants." Pollen may be transported by wind or by pollinators such as insects, birds and mammals.

42. Priority species and habitats

Species or habitats which are selected for conservation action by meeting set criteria. Previously the UK Biodiversity Action Plan listed priority species and habitats. In Scotland this has been superseded by the Scottish Biodiversity List – a list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland. Interim local priority species and habitats have been defined pending a biodiversity audit for North Ayrshire (see locally important/locally valued).

43. Protected areas

"A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values." Also referred to as protected places in some Scottish Biodiversity Strategy documents. See also designated sites.

44. Protected species

Species protected by law including plants, animals and fungi.

45. Range

"The environmental conditions, or geographic area, within which a species occurs."

46. Resilient ecosystems

Ecosystems which are functioning well, enabling them to recover from disturbance. Increasing the robustness of our ecosystems is increasingly important if we are to mitigate and adapt to the scientifically predicted ecological impacts of climate change and human population growth.

47. Species

"Groups of actually or potentially interbreeding natural populations, which are reproductively isolated from other such groups." This definition – known as the Biological Species Concept – does not apply to species which reproduce asexually. Other definitions include the Phylogenetic Species Concept and the Evolutionary Species Concept.

48. Species reintroduction

"Restoring a species to parts of its natural range from which it has been lost". Also referred to as conservation translocation.

49. Sustainability

"A characteristic or state whereby the needs of the present and local population can be met without compromising the ability of future generations or populations in other locations to meet their needs." This encompasses the concepts of sustainable development – "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" – and sustainable use – "the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations."

50. Threatened species

"Umbrella term for any species categorised as Critically Endangered, Endangered or Vulnerable by the IUCN Red List of Threatened Species."

List of Abbreviations

For current internet links providing further information on the abbreviated terms listed below, please visit https://www.north-ayrshire.gov.uk/planning-and-building-standards/conservation-natural-environment/biodiversity-and-conservation-information.aspx and open "Abbreviations Glossary to North Ayrshire Local Biodiversity Action Plan 2019-2031".

ABG	Ayrshire Biodiversity Group
AJPU	Ayrshire Joint Planning Unit
ART	Ayrshire Rivers Trust
BAP	Biodiversity Action Plan
CBD	Convention on Biological Diversity
CMMP	Clyde Marine Mammal Project
CMPP	Clyde Marine Planning Partnership
CPCIC	Clyde Porpoise Community Interest Company
COAST	Community of Arran Seabed Trust
CPP	Community Planning Partnerships
FCS	Forestry Commission Scotland
FRIENDS	Ardeer FRIENDS Group (Stevenston Conservation)
GCLPS	Garnock Connections Landscape Partnership Scheme
HAP	Habitat Action Plan
IGNN	Irvine to Girvan Nectar Network
LBAP	Local Biodiversity Action Plan
NALBAP 2019-2031	North Ayrshire Local Biodiversity Action Plan 2019-2031
LERC	Local Environmental Records Centre
LNCS	Local Nature Conservation Site
LNR	Local Nature Reserve
MPA	Marine Protected Area
NABP	North Ayrshire Biodiversity Partnership
NAC	North Ayrshire Council
RSPB	Royal Society for the Protection of Birds Scotland
SBL	Scottish Biodiversity List
SBS	Scottish Biodiversity Strategy
SEPA	Scottish Environmental Protection Agency
SF	Scottish Forestry
SNH	Scottish Natural Heritage
SWT	Scottish Wildlife Trust
SMP	Shoreline Management Plan
SSSI	Site of Special Scientific Interest
SWSEIC	South and West Scotland Environmental Information Centre
SAC	Special Area of Conservation
SPA	Special Protection Area
SAP	Species Action Plan
SGG	Strathclyde Geodiversity Group
UKBAP	UK Biodiversity Action Plan (Biodiversity – the UK Action Plan)

Sources

Text

For a full list of documents mentioned in NALBAP 2019-2031, containing current internet links providing further information please visit https://www.north-ayrshire.gov.uk/planning-and-building-standards/conservation-natural-environment/biodiversity-and-conservation-information.aspx and open "Links to Documents Mentioned in North Ayrshire Local Biodiversity Action Plan 2019-2031".

Images

Thank you to the individuals and organisations who have contributed images to this document to help illustrate the fascinating biodiversity we have here in North Ayrshire. Information for each image used in this document is given below, including the subject matter of the image and the individual or organisation owning the Copyright.

Front Cover

Top right

Comma butterfly (*Polygonia c-album*) on Common Knapweed (*Centaurea nigra*), Scottish Natural Heritage

Middle left

Intertidal saltmarsh, Scottish Natural Heritage

Middle centre

Scottish Bluebells (*Hyacinthoides non-scripta*) in broadleaf woodland, Scottish Natural Heritage

Middle right

Upland moorland, Scottish Natural Heritage

Bottom left

Children holding froglets of the Common Frog (*Rana temporaria*), Lorna Cole (SRUC)

Bottom right

Coastal seabed algae community, Scottish Natural Heritage

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Top right
Coastal sand dunes, Scottish Natural Heritage

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Sundews (*Drosera sp.*) on Sphagnum moss (*Sphagnum sp.*), Scottish Natural Heritage

Middle centre
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Middle right
Elephant Hawk Moth (*Deilephila elpenor*), Gill Smart (SWT)

Bottom
GlaxoSmithKline staff during a volunteering day creating habitat for pollinating insects and native plant species, Gill Smart (SWT)

Data
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