

North Yorkshire and York Local Nature Recovery Strategy (LNRS)

Document 4: Statement of Biodiversity Priorities, Part II –
Priorities and Measures

CONSULTATION DRAFT

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LNRS Document Navigation

The North Yorkshire and York Local Nature Recovery Strategy (LNRS) is split into 5 separate parts to help users of the strategy easily find the information that is most relevant to them. The 5 parts are set out in the table below, with a brief description of each one. Please click on one of the other parts in the table to access it. *(N.B. document links will be created in the final version)*

This document is: **4: Statement of Biodiversity Priorities Part II – Priorities and Measures**

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2	Thriving Nature in North Yorkshire and York – Our Local Nature Recovery Strategy Provides a detailed overview of the North Yorkshire and York Local Nature Recovery Strategy
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Document overview

This document provides the priorities and measures (actions), along with the focus species, for the North Yorkshire and York Local Nature Recovery Strategy (LNRS). The document is separated into three sections, as set out below:

Section A provides an overview of the strategy's priorities and measures (actions), including how they relate to the other LNRS documents and the Local Habitat Map, how they contribute to wider benefits from nature and National Environmental Objectives (NEOs), how the list of priorities and measures was made, and how the document can be used by different audiences.

Section B provides the tables of priorities and measures (actions) for the LNRS, beginning with the overarching priorities, which are relevant across all habitat types, followed by the individual habitat priorities. The habitat priorities are separated into seven habitat themes of farmland, upland, grassland, woodland, water and wetlands, urban, and coastal. Each priority has a number of associated measures (actions), which are detailed in the tables, along with the wider benefits from nature and focus species that are relevant to the priority.

Section C provides an overview of the way in which species have been considered and factored into the strategy, including LNRS priority species and LNRS focus species and how these relate to the strategy's priorities and measures.

Section A – Overview of Priorities and Measures

1. Introduction

This section of the Statement of Biodiversity Priorities sets out the priorities and measures (actions) for the Local Nature Recovery Strategy (LNRS) for North Yorkshire and York. The priorities and measures form the core of the strategy and have been developed in collaboration with a wide range of regional experts, organisations, community groups, landowners and other stakeholders.

2. What are priorities and measures?

This strategy identifies a range of objectives that, if implemented, would result in positive benefits for nature and biodiversity, as well as making a positive contribution to other wider benefits from nature. The strategy's objectives are divided into 'priorities' and 'measures' and these are presented in the tables in section B of this document.

The priorities are the end results that the strategy is seeking to achieve. They can be considered as the 'what' and the 'why' of nature recovery; what we are seeking to do, and why we are seeking to do it. Working with regional stakeholders, we have identified a total of 44 nature recovery priorities. These are separated into 5 overarching priorities, which are considered relevant to all nature recovery activity, followed by 39 habitat priorities, which are separated into the following habitat categories:

- Farmland
- Upland
- Grassland
- Woodland
- Water and wetlands
- Urban
- Coast

Each priority has a number of associated measures. These are the practical 'on the ground' actions that, if taken, would help to deliver the aims of the priority. They can be considered as the 'how' and the 'where' of nature recovery; how we could do it, and where we could do it.

3. How do priorities and measures relate to other LNRS documents and maps?

How do priorities and measures relate to the Description of the Strategy Area?

Enhancing, restoring and creating the habitats listed in the priorities and measures will strengthen the networks of key habitats listed in the sub areas of the description of the Strategy Area. Delivery of the priorities and measures will therefore help achieve the Statements of Environmental Opportunity within each sub area.

The statistics within the introduction of the Description of the Strategy Area show that currently many of the habitats that are important for nature recovery in North Yorkshire and York are low in quantity. For example, only 1% of our area contains wetland habitats such as fen, and our species-rich grasslands cover less than 10% of our area. Much of our existing semi-natural habitats are also in poor condition, limiting the range of species able to live within them. Achieving the priorities and measures will lead to more habitat across North Yorkshire and York that is in better condition to support the hundreds of species that are in decline or at risk of extinction.

How do priorities and measures relate to the Local Habitat Map?

Our priorities and measures are directly linked to the Local Habitat Map. The map layer titled 'Mapped Measures' identifies the most beneficial places for habitat enhancements to be undertaken across North Yorkshire and York. The 'Mapped Measures' layer is configured as a series of hexagonal 'planning units' with several measures associated with each hexagon which are considered to be the most appropriate and beneficial measures that could be implemented in that location. Clicking into a hexagonal 'planning unit' will show the relevant measures that could be implemented, along with the priorities that those measures are associated with.

Potential to deliver a specific measure may only apply to a smaller area within the hexagon and would not necessarily be deliverable throughout the entire hexagon. This will depend upon the actual conditions on the ground.

Priorities and measures identified within the Local Habitat Map are the same as those listed in the tables in Section B of this document. All priorities and measures have a unique identification code, which can be used to easily identify them in both the Local Habitat Map and the tables in Section B.

Each measure has been assigned a priority level, with level 1 having the highest priority, level 2 having a moderate priority, and level 3 having a lower priority. It is not the intention to say that some measures are 'low priority', but to provide a relative level of priority across the mapped measures. The general principle is that where a measure has more 'niche' requirements (and therefore can only be done in a small number of places) it has been assigned a higher priority

level (e.g. Level 1). For measures that have fewer constraints (and therefore can be done in a much wider number of places), these have been assigned a lower priority level (e.g. Level 3).

The priority levels should be used as a general guide as to which measures should be prioritised in a particular location. Generally, a Level 1 measure should be prioritised over a Level 2 or Level 3 measure, and a Level 2 measure should be prioritised over a Level 3 measure, subject to the site conditions being suitable to deliver the higher priority measure.

Are all measures mapped onto the Local Habitat Map?

No. Only those measures identified as 'Mapped' in the tables are mapped to specific locations in the Local Habitat Map. These measures have the potential to be particularly beneficial for nature recovery if they are undertaken in particular locations. In addition to the mapped measures, there are a large number of unmapped measures (identified in the tables as 'Unmapped') which do not appear on the Local Habitat Map. These measures may be equally beneficial for nature recovery, but they are not location-specific and could be undertaken more widely across the whole of North Yorkshire and York. All 'enabling activity' measures are unmapped, as they do not result in direct action for habitat enhancement, but would help to enable this by supporting the 'direct action' measures. They may be undertaken in locations where 'direct action' measures are being implemented, but this would be driven by the direct action measure itself.

When identifying appropriate measures that could be undertaken in a particular location, where no mapped measures have been identified for a given location on the Local Habitat Map, carrying out one or more of the unmapped measures would still result in positive enhancements to nature and biodiversity.

The Local Habitat Map and Biodiversity Net Gain (BNG)

The LNRS Local Habitat Map has a direct linkage with Biodiversity Net Gain (BNG) in supporting a strategic approach to off-site BNG delivery. BNG is designed to ensure that development has a measurably positive impact (or 'net gain') on biodiversity, when compared to what was on a site before the development took place. It has been mandatory since February 2024 under the Town and Country Planning Act 1990, with developments being required to deliver a minimum 10% net gain in biodiversity when compared with the pre-development level.

The LNRS Local Habitat Map plays a role in BNG by determining the 'strategic significance' multiplier within the biodiversity metric. Sites identified as falling within the 'Mapped Measures' layer in the Local Habitat Map carry a 15% strategic significance uplift in post-development BNG calculations. For the 15% uplift to apply, the habitat intervention being proposed under BNG must be consistent with the measure that is proposed for that location in the Local Habitat Map.

4. How do priorities and measures relate to the LNRS public survey?

As part of the development of the LNRS, an online public survey was undertaken between November 2023 and February 2024. The objective of the survey was to raise awareness about nature recovery, understand the views of individuals throughout North Yorkshire and York regarding nature and its enhancement, and signpost respondents towards local volunteering opportunities in nature. Responses to the online survey have helped to inform the development of the strategy and its outputs. The online survey covered the following topics:

- Why people care about nature;
- Which habitats and landscapes people feel are most important for nature recovery;
- Which groups of wildlife species people feel are most important when it comes to nature recovery;
- What examples people have seen of people working together to restore and protect nature or the natural environment in North Yorkshire and York;
- How concerned people are about nature in North Yorkshire and York;
- Which factors (e.g. climate change, water quality) are giving people the greatest concerns about nature decline.

From the survey responses, the three habitat types considered by respondents to be of greatest importance for nature recovery across North Yorkshire and York were rivers, lakes and streams; woodlands and forests; and wetlands. These relate closely to the habitat categories used in the LNRS, as detailed below, and the strategy has several priorities and measures directly linked to the enhancement of each of these habitat types.

Additionally, other specific habitats were mentioned by respondents in ‘free text’ responses. These were ranked in terms of the number of times each was mentioned, with the most mentioned being (in descending order):

- Hedgerows
- Farmland and agricultural land
- Roadside verges
- Parks and gardens
- Brownfield sites
- Peatlands

The strategy contains priorities and associated measures that relate to each of the above habitats, for example priority **FRM_P05** ‘Expand the hedgerow network’ relating to hedgerows and priority **GRA_P07** ‘Enhance road verges’ relating to roadside verges. There are a number of priorities and associated measures linked to the enhancement of farmland and agricultural land, which are listed under habitat category ‘Farmland (FRM)’.

The responses to the public survey around species were evenly spread between which groups of species were felt to be important in relation to nature recovery, with no group standing out strongly. Written responses had a strong skew (28%) towards messages that all species were important and local nature recovery should be holistic and value the interconnectedness of habitats and the species reliant upon them. Plants and fungi were strongly felt to be important as underpinning a wide range of other species (mentioned by 34% of respondents). The LNRS has worked to incorporate these aspirations into the priorities and measures, so that rare habitats and interconnecting farmland and urban spaces are included to maximise the potential spaces available for as many species as possible across our landscapes.

Many respondents highlighted the importance of soil organisms, such as earthworms, and soil health. A number of measures within our farmland, grassland and water and wetland priorities directly work to support this; where not specified within a measure, soil health is also highlighted as an additional benefit that delivery of the priority will achieve.

Very few species were mentioned by name, and in almost all cases these are recognised as LNRS focus species, (e.g. Curlew, Hen Harrier, Tansy Beetle, Hedgehog, bat species) while others such as Pine Marten and Beaver are recognised as priority species.

For further information about the LNRS online public survey and responses received, please see Appendix 6.

5. Do priorities and measures contribute to wider benefits from nature?

Although the focus of the strategy's priorities and measures is on enhancing nature and biodiversity through habitat improvement, they would also make positive contributions to wider benefits from nature such as pollination, flood protection and climate regulation. Each of the 39 habitat priorities (and its associated measures) can positively contribute to particular benefits from nature. These are identified under 'benefits' for each priority in the tables of priorities and measures below.

When referring to wider benefits from nature, the strategy aims where possible to use the terminology from the State of Natural Capital (SONC) Report for England 2024, produced by Natural England. It is hoped that this will provide the clearest linkages between the strategy's priorities and the wider benefits they can help to deliver, as well as connections into other areas of policy. As the strategy is biodiversity-led, the benefit of 'thriving plants and wildlife' is considered to be an inherent benefit of all of the priorities, so this has not been identified separately.

The full range of benefits from nature that the strategy's priorities and measures can contribute to are listed below. Some of the listed benefits are in addition to those identified in the State of Natural Capital report. These additional benefits are considered by regional stakeholders to be important to include in the strategy, alongside the benefits from nature identified in the State of Natural Capital Report.

Benefits from nature that LNRS priorities, and associated measures, can contribute towards:

- | | |
|---|--|
| 1. Access to nature* ¹ | 15. Animal welfare* ¹ |
| 2. Health and wellbeing* ¹ | 16. Timber and other wood products |
| 3. Educational resource* ¹ | 17. Produce from the sea* ² |
| 4. Sense of place* ¹ | 18. Plant based energy |
| 5. Carbon storage* ¹ | 19. Aquaculture* ² |
| 6. Climate regulation | 20. Cultivated crops |
| 7. Reduced chemical use* ¹ | 21. Reared animals and outputs |
| 8. Pollination | 22. Clean air |
| 9. Soil health* ¹ | 23. Noise regulation |
| 10. Reduced fire risk* ¹ | 24. Urban cooling |
| 11. Plentiful water | 25. Erosion control |
| 12. Water quality* ¹ | 26. Pest and disease control |
| 13. Water cooling/shading* ¹ | 27. Cultural benefits* ³ |
| 14. Flood protection | |

**1 additional LNRS benefit from nature, not from the Natural England State of Natural Capital report*

**2 the benefits from nature of ‘produce from the sea’ and ‘aquaculture’ are not identified as benefits for any of the shortlisted LNRS priorities. It is not considered that any LNRS priorities would make a significant contribution to these particular benefits*

**3 ‘cultural benefits’ incorporates aspects of access to nature, health and wellbeing, educational resource, and sense of place. As these benefits have been identified separately for the LNRS priorities, the term ‘cultural benefits’ is not used*

6. Contribution to National Environmental Objectives (NEOs)

In 2018, the government's 25 Year Environment Plan (25YEP) established a series of goals and targets for improving the environment within a generation (by the end of 2042) and leaving it in a better state than we found it. These goals and targets are separated into the categories below:

- Clean air
- Clean and plentiful water
- Thriving plants and wildlife
- Reducing the risks of harm from environmental hazards
- Using resources from nature more sustainably and efficiently
- Enhancing beauty, heritage and engagement with the natural environment
- Mitigating and adapting to climate change
- Minimising waste
- Managing exposure to chemicals
- Enhancing biosecurity

Under the Environment Act 2021, Government is committed to reviewing the 25YEP every five years. The Environmental Improvement Plan (EIP) 2023 is the first revision of the 25YEP, which sets out the specific targets and commitments made under each of the above categories. The apex goal of the EIP is improving nature, resulting in thriving plants and wildlife, with all its other goals helping to achieve this. Whilst improving nature is the primary objective of the LNRS, and so is the focus of the priorities and measures, many of them will also contribute to the other, wider targets of the EIP.

Some of the long-term targets of the EIP that are most relevant to the LNRS include:

- Halt the decline in species abundance by 2030, and then increase abundance by at least 10% to exceed 2022 levels by 2042.
- By the end of 2042, restore or create in excess of 500,000 hectares of a range of wildlife-rich habitats outside protected sites, compared to 2022 levels.
- Increase tree canopy and woodland cover to 16.5% of total land area by 2050.
- Reduce nitrogen, phosphorus and sediment pollution from agriculture into the water environment by 40% by 31 December 2038, compared to a 2018 baseline.

The EIP targets are referred to collectively as the National Environmental Objectives (NEOs). Implementation of the priorities and measures of the LNRS will help achieve these targets.

The potential contribution that an individual priority could make to one or more of the NEOs was considered as one of the scoring criteria in the LNRS prioritisation process, with priorities that stakeholders felt would make a positive contribution to NEOs being given higher scores against this criterion. See Appendix 1 for further detail on the prioritisation process and selection of the shortlisted priorities.

7. Who is the document for?

This document is for everyone across North Yorkshire and York. Everyone can take action for nature and play a part in local nature recovery, working collaboratively towards our vision:

To work together to enhance, expand, restore and connect our region's habitats for thriving nature across North Yorkshire and York.

From policymakers and decision-takers to conservation and nature organisations, farmers, landowners, community groups and the general public, the strategy is intended to provide a collaborative focus that we can collectively work towards to enhance our region's nature, and the wider benefits from nature, that we all enjoy.

Whilst the strategy is nature-focused and biodiversity-led, this document can also be used by wider stakeholders working in other related sectors, such as flood protection, climate regulation, and public health and wellbeing. As outlined in Section 5 above, each priority lists the wider benefits from nature that it would positively contribute to. This information can be used by wider stakeholders to identify relevant priorities, and their associated measures, relevant to their areas of work.

When considering the strategy's priorities and associated measures (actions), users should refer to this document alongside the Local Habitat Map. Measures are noted in the tables in Section B as being either 'mapped' or 'unmapped'. Mapped measures also appear on the Local Habitat Map, as undertaking these measures in particular locations would be especially beneficial. Unmapped measures are those that would have a similar benefit if undertaken in a wider range of locations and are therefore not location specific. When considering which measures could be undertaken in a particular area or location, users of the strategy should refer to both the mapped and unmapped measures.

Landowners, land managers and farmers

Landowners, land manager and farmers can use this document to:

- inform the measures (actions) they could carry out on their land
- inform and support applications for funding and delivery of projects

The sections relating to Farmland (FRM) and Grassland (GRA) priorities in Section B will be of particular relevance, but there will also be priorities and measures from other habitat sections that could be delivered within some areas of our farmed landscape.

NGOs and partnerships

Non-governmental organisations (NGOs) and partnerships can use this document to:

- inform the measures (actions) they could carry out on their land, or land owned by project partners

- inform and support applications for funding and delivery of projects

Developers and planners

Developers and planners can use this document to:

- support the integration of nature into the planning and development process
- inform the measures (actions) being undertaken as part of on-site and off-site habitat creation through Biodiversity Net Gain (BNG)

Business

Businesses can use this document to:

- help identify opportunities for investment into natural capital in North Yorkshire and York
- inform the measures (actions) they could carry out on their land and buildings

Town and Parish Councils and Community groups

Town and parish councils and community groups can use this document to:

- inform the measures (actions) they could carry out in their local community
- inform and support applications for funding and delivery of projects

Schools

Schools can use this document to:

- help identify opportunities for learning and education related to nature recovery and enhancement of biodiversity
- inform the measures (actions) they could carry out on their land and buildings

‘Educational resource’ is identified as one of the wider benefits from nature that the strategy’s priorities can contribute to (see Section 5 above). Priorities that have ‘educational resource’ identified as a benefit may be particularly relevant to nature-related learning.

Residents

Residents of North Yorkshire and York can use this document to:

- inform the measures (actions) they could carry out in and around their homes and private gardens

The section relating to Urban (URB) priorities in Section B will be of particular relevance, but there may also be measures from other habitat sections that could be delivered within some privately-owned properties and gardens.

8. How was the list made?

The final list of priorities and associated measures is the outcome of collaboration with a wide range of stakeholders from across our region, including organisations involved in nature recovery, organisations representing farmers and landowners, regional experts, local community and ‘friends of’ groups, representatives from our National Parks and National Landscapes, utility companies, rivers trusts, and many others.

Stakeholders were asked to put forward their suggestions for potential opportunities for nature recovery (which would later become priorities) at a series of habitat-themed workshops during early summer 2024. Attendees were asked to suggest both opportunities and the potential measures that could help to deliver those opportunities, so that the measures would be closely linked to a given opportunity. Wider stakeholders and other interested parties not in attendance at the workshops could submit opportunities and associated measures via email. This process produced a longlist of over 100 nature recovery opportunities for our region. See Appendix 4 for the longlisted opportunities that were not included on the final shortlist.

A prioritisation panel was convened during May 2024, made up of representatives from 12 key stakeholder organisations, including the four LNRS Supporting Authorities (Natural England, City of York Council, North York Moors National Park Authority, and Yorkshire Dales National Park Authority). Panel members scored each of the 107 longlisted nature recovery opportunities against 12 scoring criteria (7 ecological criteria and 5 criteria relating to wider benefits from nature). The longlist of opportunities was then ranked according to the scores given by the panel members, and the top 25 highest-scoring opportunities were selected as the foundation of the shortlisted priorities. The project team, in consultation with key stakeholders, then selected a further 15 opportunities from the longlist to provide broader representation of the themes and habitats that had been identified during the longlisting process, and these were added to the shortlisted priorities, giving a total of 40 habitat priorities.

The resulting shortlist of nature recovery priorities was presented to regional stakeholders at a further workshop in June 2024, with stakeholder representatives being asked to provide their comments and feedback on the initial shortlist. One of the outcomes of this workshop was the suggested addition of the 5 overarching priorities, which were seen by stakeholders to be key, cross-cutting themes with a range of objectives that should be considered in all nature recovery activity.

Following this workshop, the shortlist of priorities and measures went through several further rounds of refinement with regional stakeholders, resulting in the 44 priorities presented in the tables below (5 overarching priorities and 39 habitat priorities). See Appendix 1 for further detail on the prioritisation process and selection of the shortlisted priorities.

9. How do I navigate the document?

The priorities and measures are divided into 8 sections, with a table of the relevant priorities and measures in each section. The sections are set out in the following order. Each section has a three-letter code, which also prefixes the priorities and measures in that section (noted in brackets below):

1. Overarching priorities (OVR)
2. Farmland priorities (FRM)
3. Upland priorities (UPL)
4. Grassland priorities (GRA)
5. Woodland priorities (WLD)
6. Water and wetlands priorities (WET)
7. Urban priorities (URB)
8. Coastal priorities (CST)

Each priority has a unique priority code (e.g. FRM_P01), a summary name (e.g. Enhance and expand arable field margins), and a priority statement. Each measure has a unique measure code (e.g. FRM_M01.1) and a measure statement. It is intended that the priority and measure codes will make it easier for strategy users to refer to a particular priority or measure.

Each measure is also identified in the tables in Section B as either being a 'direct action' measure, or an 'enabling activity' measure, as well as being either a 'mapped' or 'unmapped' measure.

Direct action and enabling activity measures:

Most of the identified measures are direct actions to benefit nature through enhancing existing habitats or creating new habitats. These are identified in the tables as 'direct action' measures. There are a smaller number of measures that would help more broadly to enable and support these direct actions to take place, for example through providing case studies or identifying and mapping areas of existing habitat, but would not in themselves result in habitat enhancements. These are identified in the tables as 'enabling activity' measures.

Mapped and unmapped measures:

Some of the identified measures could be carried out widely across the geography of North Yorkshire and York and are not location-specific, or we do not have sufficient data to be able to link them to a specific location. These are identified as 'unmapped' measures. Other measures are considered to have the potential greatest benefits for nature if they were to be carried out in more specific locations across our region. These are identified as 'mapped' measures and appear on the Local Habitat Map mapping platform, which can be accessed [via this link](#).

Links between priorities and measures:

All measures are directly linked to a priority and the codes are designed to reflect this. For example, measure UPL_M06.2 relates to priority UPL_P06 ('UPL' denotes this is an upland priority and measure, 'P' denotes a priority, and 'M' denotes a measure). Measure URB_M04.4 relates to priority URB_P04 ('URB' denotes that this is an urban priority and measure).

There are several measures that are closely linked to another priority or measure. Where a measure is also relevant to be considered alongside another priority or measure, these linkages have been identified in the tables with the wording 'Also see related priority/measure XX'.

Section B – Priorities and Measures for the North Yorkshire and York LNRS

Overarching Priorities (OVR)

Through discussion with stakeholders, it was decided that the strategy needed to include several high level ‘overarching’ priorities, which are relevant for consideration across all habitat types. The overarching priorities were developed from key themes that emerged during stakeholder workshops, such as enhancing habitat connectivity and controlling invasive non-native species (INNS) across our geography.

The overarching priorities differ from the habitat priorities in that they do not include associated measures, as they do not relate to specific habitat interventions. Instead, each overarching priority contains wider objectives that would help to support nature recovery across our region and would therefore contribute to achieving the priority.

Priorities:

- Enhance the connectivity between areas of good-quality existing habitat across North Yorkshire and York through the creation of appropriate new habitat between existing sites, to improve connectivity for key species.
- Undertake actions to benefit key species within North Yorkshire and York, particularly those requiring specific interventions.
- Control and seek to eradicate invasive non-native species (INNS) throughout North Yorkshire and York.
- Work collaboratively with all sectors across North Yorkshire and York to enhance coordinated regional action to benefit nature and seek to increase public knowledge, awareness and understanding of nature and its wider benefits.
- Enhance the ecological data and evidence base across North Yorkshire and York and share knowledge between all organisations and individuals undertaking actions to benefit nature.

Priority:

OVR_P01 Enhance habitat connectivity

Enhance the connectivity for key species between areas of good-quality existing habitat across North Yorkshire and York through the creation of appropriate new habitat.

Objectives:

1	Identify areas of good-quality existing habitat that would benefit from being connected.
2	Enhance the connecting sites between areas of existing good-quality habitat to provide greater connectivity between them.
3	Create new areas of habitat to act as stepping stones between areas of existing good-quality habitat to provide greater connectivity between them.
4	Use existing road, rail, river and footpath corridors (including national trails) as opportunities to increase habitat connectivity and better connect urban and rural areas.

Priority:

OVR_P02 Undertake actions to benefit key species

Undertake actions to benefit key species within North Yorkshire and York, particularly those requiring specific interventions.

Objectives:

1	Introduce species into areas of suitable habitat, where appropriate, and implement bespoke management for them to establish.
2	Support the propagation of relevant plant species, particularly those that are rare or have poor dispersal capabilities, through growing seeds and plug plants.
3	Undertake actions to support migratory species such as fish.

Priority:

OVR_P03 Control invasive non-native species

Control and seek to eradicate invasive non-native species (INNS) throughout North Yorkshire and York.

Objectives:

1	Implement a coordinated approach to the control of INNS across North Yorkshire and York, including the development of a regional biosecurity plan.
2	Work with regional partners, organisations, and projects to improve INNS monitoring and reporting across North Yorkshire and York.
3	Implement measures to mitigate the spread of INNS when undertaking any works (e.g. the removal of barriers from watercourses).



Priority:

OVR_P04 Enhance nature-related engagement, outreach and collaboration

Work collaboratively with all sectors across North Yorkshire and York to enhance coordinated regional action to benefit nature and seek to increase public knowledge, awareness and understanding of nature and its wider benefits.

Objectives:

1	Promote collaborative partnership working between regional partners, organisations and other stakeholders to enhance coordinated, strategic action for nature.
2	Work with statutory bodies (e.g. Internal Drainage Boards), local authorities, including the Mayoral Combined Authority, and other agencies to increase collaborative action that will benefit nature, and seek to incorporate nature into other regional plans and policies.
3	Work with the land management and farming sector through engagement and outreach to increase collaborative action that will benefit nature.
4	Engage and collaborate with communities and local groups, including through Parish Councils, to encourage local initiatives and other local actions that will benefit nature.
5	Increase public knowledge, awareness and understanding of nature and its wider benefits and suggest actions that individuals can take to benefit nature, including volunteering or becoming a member of (or donating to) a nature conservation organisation.

Priority:

OVR_P05 Enhance the data and evidence base and share knowledge

Enhance the ecological data and evidence base across North Yorkshire and York and share knowledge between all organisations and individuals undertaking actions to benefit nature.

Objectives:

1	Identify and map important areas of existing habitat to understand its current distribution and help target efforts to enhance, expand, restore and connect it.
2	Use historic mapping, records and traditional knowledge to inform evidence gaps and identify former areas of habitat that could be recreated or restored.
3	Share knowledge and case studies of existing good practice and projects that have achieved successful nature enhancement outcomes.
4	Ensure that actions intended to benefit nature are evidence-based and scientifically proven (e.g. based on the Oxford Conservation Evidence database).
5	Undertake monitoring, maintain records and provide reporting where actions to benefit nature have been implemented, to understand their outcomes and effectiveness and help build a regional evidence base.

Habitat Priorities

Farmland (FRM)

Farmland makes up over 70% of North Yorkshire and Yorks's land area. To achieve our ambition to better connect our important habitats and allow species to migrate, we must maximise opportunities to create spaces for nature across our farmed landscapes. Habitats such as hedgerows and trees, flower-rich field margins and ditches already make farmland important places for nature. However, there are many opportunities to make small and big changes to the way our farms are managed, that can make the farm businesses more resilient to pests, diseases, drought and flood events, whilst also creating more space for nature to thrive in these working landscapes.

Priorities:

- Enhance and expand the floristic value of arable field margins to increase total biodiversity, reduce the need for inputs and support pollinator and farmland bird populations.
- Expand the use of trees outside woodlands (e.g. agroforestry), to increase connectivity in the farmed environment and support farm productivity.
- Promote farming practices that create greater business resilience and improvements for biodiversity.
- Promote changes in land use practices, including increasing the diversity of grass sward and improving soil health, to increase the resilience of farmland for livestock and wildlife.
- Enhance existing hedgerow structure and diversity through encouragement of traditional management practices and hedgerow tree establishment. Expand the network of hedgerows as wildlife corridors and connecting other habitats.

Priority:

FRM_P01 Enhance and expand arable field margins

Enhance and expand the floristic value of arable field margins to increase total biodiversity, reduce the need for inputs and support pollinator and farmland bird populations.

Benefits:

- Carbon storage
- Climate regulation
- Reduced chemical use
- Pollination
- Soil health
- Water quality
- Cultivated crops
- Pest and disease control

Focus species:

- Arable Flowers
- Harvest Mouse
- Turtle Dove
- Tree Sparrow
- Necklace Ground Beetle
- Latticed Heath

Measures (Actions):

FRM_M01.1	Expand field margins, including promoting the rationalising of field margins ('squaring-up') of existing arable fields.	Direct action	Unmapped	
FRM_M01.2	Increase the floristic value of field margins through promotion of relevant options under current Environmental Land Management schemes (ELMs) e.g. Sustainable Farming Incentive (SFI).	Direct action	Unmapped	
FRM_M01.3	Identify the species associated with specific land-management types (e.g. Bryophytes associated with winter stubble).	Enabling activity	Unmapped	

Priority:

FRM_P02 Expand trees outside woodlands

Expand the use of trees outside woodlands (e.g. agroforestry), to increase connectivity in the farmed environment and support farm productivity.

Benefits:

- Sense of place
- Carbon storage
- Climate regulation
- Pollination
- Soil health
- Animal welfare
- Cultivated crops
- Erosion control

Focus species:

- Tree Sparrow
- Bats
- Grey Partridge
- Turtle Dove

Measures (Actions):

FRM_M02.1	Increase tree and scrub cover by identifying existing less sensitive pasture that would be suitable for infield agroforestry. Farm conservation advisors to promote the associated Environmental Land Management schemes (ELMs) / Sustainable Farming Incentive (SFI) options that would benefit connectivity in the farmed environment, and create food sources for beneficial species (e.g. foraging bats, pollinators, farmland birds).	Direct action	Unmapped	
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FRM_M02.2	Promote the benefit of Trees Outside Woodlands, including futureproofing for loss of mature trees e.g. through Ash dieback. Raise awareness with land managers through workshops and site visits of the opportunities and benefits of agroforestry where closed canopy woodland tree-planting is not required or desired.	Enabling activity	Unmapped	Also see related priority WLD_P01
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Priority:

FRM_P03 Promote high nature value farming practices

Promote farming practices that create greater business resilience and improvements for biodiversity.

Benefits:

- Educational resource
- Reduced chemical use
- Pollination
- Soil health
- Water quality
- Pest and disease control

Focus species:

- Swift
- Bats
- Grey Partridge
- Harvest Mouse
- Necklace Ground Beetle
- Latticed Heath

Measures (Actions):

FRM_M03.1	Promote established and innovative farming techniques, (e.g. precision farming, drones) to farmers, non-governmental organisations (NGOs) and non-governmental advisors, along with machinery-sharing schemes to enable smaller farmers to be able to adopt some innovative farming techniques.	Enabling activity	Unmapped	
FRM_M03.2	Reduce or remove the use of artificial fertilisers and chemical application through alternative farming techniques. Promote farming practices that create greater resilience and improvements for biodiversity, including natural pest predators, such as bats, owls, swallows.	Direct action	Unmapped	
FRM_M03.3	Support land management collaboration with appropriate guidance to facilitate the targeting of interventions to the most appropriate locations. Work with farm advisory services to support existing and encourage new farmer cluster groups. Respond to Environmental Land Management schemes (ELMs) options for species-rich grassland through training/advice/support.	Enabling activity	Unmapped	
FRM_M03.4	Provide case studies of existing good-practice and complementary options (e.g. Environmental Land Management schemes (ELMs)) such as ditch management for wildlife and water quality.	Enabling activity	Unmapped	
FRM_M03.5	Raise awareness of the Natural Capital benefits of these measures e.g. business resilience, including farm visits & access to nature; sustainable tourism.	Enabling activity	Unmapped	
FRM_M03.6	Improve soil health through sharing knowledge and best practice. Promote baseline soil health measurements (e.g. earthworm monitoring) and regular monitoring to measure change. Encourage take-up of relevant funding option(s).	Direct action	Unmapped	

Priority:

FRM_P04 Promote changes in grassland management

Promote changes in land use practices, including increasing the diversity of grass sward and improving soil health, to increase the resilience of farmland for livestock and wildlife.

Benefits:	- Carbon storage - Climate regulation - Reduced chemical use - Pollination	- Soil health - Plentiful water - Water quality - Flood protection	- Animal welfare - Reared animals and outputs
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Focus species:	- Short-eared Owl - Yellow Wagtail	Harvest Mouse	Necklace Ground Beetle
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Measures (Actions):

FRM_M04.1	Raise awareness of alternative land management approaches with land managers that will lead to improvements in biodiversity, livestock health and efficiencies (quicker throughputs), reduction in chemical reliance, improve water-retention properties of land to store carbon. Make use of case studies and good communication between stakeholders and advisors.	Enabling activity	Unmapped	
FRM_M04.2	Encourage uptake of more diverse and sympathetic grazing practices e.g. rotation of stock, new technologies, different livestock breeds (smaller, native, hardy).	Direct action	Unmapped	
FRM_M04.3	Improve soil health through sharing knowledge and best practice. Promote baseline soil health measurements (e.g. earthworm monitoring) and regular monitoring to measure change. Encourage take-up of relevant funding option(s).	Direct action	Unmapped	
FRM_M04.4	Increase sward diversity which will give a range of rooting depths and will then require different stock at different times of the year.	Direct action	Unmapped	
FRM_M04.5	Reduce soil compaction to improve soil structure and increase water infiltration by ensuring the right machinery types are chosen and used appropriately, and by ensuring appropriate stocking rates.	Direct action	Unmapped	

Priority:

FRM_P05 Expand the hedgerow network

Enhance existing hedgerow structure and diversity through encouragement of traditional management practices and hedgerow tree establishment. Expand the network of hedgerows as wildlife corridors and connecting other habitats.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Sense of place
- Carbon storage
- Climate regulation
- Pollination
- Animal welfare
- Erosion control

Focus species:

- Hedgehog
- Harvest Mouse
- Short-eared Owl
- Tree Sparrow
- Necklace Ground Beetle
- Bats

Measures (Actions):

FRM_M05.1	Identify and map fragmented patches of woodland that would benefit from being connected with hedgerows to ensure diversity and ease movement of species, e.g. birds, mammals, pollinators.	Enabling activity	Unmapped	Also see related measure WLD_M02.1
FRM_M05.2	Enhance and restore existing hedgerows by planting up gaps with a diversity of native species, carrying out hedge laying and responsible coppicing where required, and tree establishment within hedgerows.	Direct action	Unmapped	
FRM_M05.3	Promote the variety of age and height structures of hedgerow networks by transitioning from annual to sequential hedgerow cutting (e.g. every 2-3 years).	Direct action	Unmapped	
FRM_M05.4	Manage tree-health issues in hedgerows (e.g. Ash), including managing at-risk trees to retain wildlife benefits e.g. monolith and ecopole creation.	Direct action	Unmapped	
FRM_M05.5	Create buffers alongside hedgerows that exceed 2m width, where possible. Maximise diversity of these by including woodland flora and ancient woodland indicator species (via seeding and/or plug plants of local provenance).	Direct action	Unmapped	
FRM_M05.6	Plant new hedgerows with a mix of native shrub and tree species. Increase awareness and uptake of existing hedgerow creation schemes.	Direct action	Unmapped	

Upland (UPL)

Our farmed upland landscapes are a stronghold for nationally and internationally important habitats, such as limestone pavement, upland heathland, blanket bog, upland hay meadows, calcareous grasslands, mires, flushes and other wetland features. These are home to a vast number of specialist species reliant upon these unique habitats. Our uplands provide the source of multiple rivers in our area, thereby linked to opportunities to reduce water pollution, and reduce the impacts of flood events by storing more water upstream. Many of the habitats excel at storing carbon, essential to our ambitions to reduce carbon emissions, and adapt to climate change.

Priorities:

- Identify ideal management for different types of Limestone Pavement and associated habitats, to promote a diversity of the habitat and management approaches. Expand species-rich connecting habitat (species-rich upland calcareous grassland or scrub) between isolated parcels of Limestone Pavement to connect this fragmented habitat.
- Enhance the species richness of existing upland calcareous grassland sites and adjacent land. Increase the quality of calcareous grassland sites between these species-rich sites, to provide connectivity for upland specialist species.
- Enhance the species richness of existing upland hay meadow sites and adjacent land. Restore and create species-rich grasslands between these fragmented sites to provide connectivity for specialist species.
- Enhance the wetness and diversity of sward structure of upland acid grassland sites to increase connectivity for wading birds.
- Enhance the diversity, height and structure of existing upland dry heathland sites. Restore and create new upland dry heathland using existing poor acid grassland and increased scrub to provide greater connectivity for specialist species.
- Enhance and expand wet heath adjacent to existing blanket bog to prevent drying out. Where appropriate rewet dry heath sites to reverse the decline of this increasingly rare habitat.
- Enhance the wetness and diversity of existing blanket bog sites and adjacent land to prevent drying out. Identify areas of deep peat and historic bog habitat and work with landowners to restore these to functioning peatland habitats.
- Expand the range of habitats present along the moorland fringe, including woodland, scrub and rough grassland, to reduce fire risk and increase numbers of key species.

Priority:

UPL_P01 Management and connection of limestone pavement habitats

Identify ideal management for different types of Limestone Pavement and associated habitats, to promote a diversity of the habitat and management approaches. Expand species-rich connecting habitat (species-rich upland calcareous grassland or scrub) between isolated parcels of Limestone Pavement to connect this fragmented habitat.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Sense of place
- Pollination
- Soil health

Focus species:

- Geyer's Whorl Snail
- Burnet Companion
- Juniper
- Necklace Ground Beetle
- Dropwort

Measures (Actions):

UPL_M01.1	Identify and map Limestone Pavement coverage (and associated scree and scar rocky habitats where relevant) to understand its current state and potential location for calcareous grassland to be restored as a buffer, building on Lancaster University's re-survey of the UK's limestone pavement resource.	Enabling activity	Unmapped	
UPL_M01.2	Reduce grazing to create a diversity of Limestone Pavement habitats, including limestone grassland, limestone outcrops, base-rich flushes, and scrub.	Direct action	Mapped	
UPL_M01.3	Modify the management of the connecting sites (e.g. limestone grassland, limestone outcrops, base-rich flushes, scrub), introduce locally collected seeds appropriate to Limestone Pavement habitats.	Direct action	Mapped	

Priority:

UPL_P02 Enhance and restore upland calcareous grassland

Enhance the species richness of existing upland calcareous grassland sites and adjacent land. Increase the quality of calcareous grassland sites between these species-rich sites, to provide connectivity for upland specialist species.

Benefits:

- Carbon storage
- Climate regulation
- Pollination
- Soil health
- Reared animals and outputs

Focus species:

- Burnet Companion
- Dropwort
- Birds-eye Primrose
- Northern Brown Argus
- Field Gentian
- Waxcap fungi

Measures (Actions):

UPL_M02.1	Identify appropriate shallow soil grassland sites where an increase in plant species diversity can be achieved through changing grazing regimes. This will lead to an increase in pollinators. Undertake surveys to identify the extent of carbon stored by grassland fungi and the area they cover. Research if and how this soil ecosystem can be restored.	Enabling activity	Unmapped	
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Upland Priorities (UPL)

UPL_M02.2	Develop and support the propagation of calcareous plant species, particularly those that are rare or with poor dispersal capabilities, to augment creation and restoration sites (growing of seeds and planting out plugs).	Enabling	Unmapped	
UPL_M02.3	Enhance upland calcareous grassland through optimal grazing management (reduce stock numbers, alter stock type to include more cattle), and manage scrub to an appropriate percentage.	Direct action	Mapped	
UPL_M02.4	Revert improved calcareous grassland sites back to semi-improved calcareous grassland to increase the connectivity between sites of unimproved calcareous grassland. Undertake soil surveys to establish the local requirements. Modify inputs to try and return the soil to the calcareous state.	Direct action	Mapped	

Priority:

UPL_P03 Enhance upland hay meadows

Enhance the species richness of existing upland hay meadow sites and adjacent land. Restore and create species-rich grasslands between these fragmented sites to provide connectivity for specialist species.

Benefits:

- Access to nature
- Health and wellbeing
- Sense of place
- Pollination
- Plentiful water

Focus species:

- Devil's-bit Scabious
- Petty Whin
- Necklace Ground Beetle

Measures (Actions):

UPL_M03.1	Enhance and maintain existing upland hay meadows through traditional management e.g. cut and collect with aftermath grazing. Increase the wetness of sites, where appropriate, by improving the management and blocking drains, to improve their condition and provide more appropriate conditions for specialist species.	Direct action	Mapped	
UPL_M03.2	Increase grassland diversity in neighbouring fields to buffer known upland hay meadow sites, including conversion of pasture and the use of green hay from local donor sites, leading to an increase in invertebrates and birds, specifically Twite.	Direct action	Mapped	Also see related measures UPL_M03.4 WET_M06.3
UPL_M03.3	Increase the diversity of nearby neutral grasslands (including former hay meadows) to expand this habitat and act as stepping stones between upland hay meadow sites, via green hay spreading and introducing plug plants. Use appropriate seed mix where green hay is limited. Implement appropriate management.	Direct action	Mapped	Also see related measures UPL_M03.4 WET_M06.3
UPL_M03.4	Undertake mapping of green hay donor and receptor sites and locations identified where material is to be grown on to produce plug plants and seed at scale.	Enabling activity	Unmapped	Also see related measure WET_M06.3

Priority:

UPL_P04 Enhance acid grassland

Enhance the wetness and diversity of sward structure of upland acid grassland sites to increase connectivity for wading birds.

Benefits:

- Pollination
- Soil health
- Plentiful water
- Reared animals and outputs

Focus species:

- Tormantil Mining Bee
- Black Grouse
- Waxcap fungi

Measures (Actions):

UPL_M04.1	Carry out surveys to identify upland acid grassland locations and understand where this habitat is more appropriate than upland dry heath creation/restoration.	Enabling activity	Unmapped	Also see related priority UPL_P05
UPL_M04.2	Enhance existing upland acid grassland through appropriate grazing, no mechanical operations in breeding season, and re-wetting or adding scrapes where required.	Direct action	Mapped	

Priority:

UPL_P05 Enhance upland dry heath

Enhance the diversity, height and structure of existing upland dry heathland sites. Restore and create new upland dry heathland using existing poor acid grassland and increased scrub to provide greater connectivity for specialist species.

Benefits:

- Access to nature
- Health and wellbeing
- Climate regulation
- Pollination
- Soil health
- Reduced fire risk
- Erosion control

Focus species:

- Petty Whin
- Merlin
- Ring Ouzel
- Hen Harrier
- Adder
- Small Yellow Underwing
- Round-leaved Sundew

Measures (Actions):

UPL_M05.1	Engage with local landowners, farmers, Yorkshire Peat Partnership and Protected Landscape teams to identify best possible actions to improve the health of our heather/peat moorlands, increasing native moorland species, supporting climate change adaptation, and increasing opportunities for people to engage with moorlands.	Enabling activity	Unmapped	
UPL_M05.2	Enhance and restore existing upland dry heathland by amending grassland grazing regimes and grazing species to encourage the development of heath, where this will not impact negatively on the upland acid grassland network. Introduce species where necessary.	Direct action	Mapped	Also see related priority UPL_P04

Upland Priorities (UPL)

UPL_M05.3	Undertake appropriate burning or cutting regimes once heath develops, with predator control where appropriate to support the success of ground-nesting birds. Implement wildfire management plans once heath is suitably developed, including the creation of firebreaks.	Direct action	Mapped	
UPL_M05.4	Carry out scrub management as heath develops to maintain a level of scrub that provides connectivity between patches of heath to benefit key bird species e.g. Merlin, Ring Ouzel, Black Grouse.	Direct action	Mapped	
UPL_M05.5	Collect seeds/cuttings of Petty Whin from plants on the North York Moors and grow on to support the recovery of this species.	Direct action	Mapped	
UPL_M05.6	Create upland dry heathland on species-poor acid grassland where appropriate, by reducing grazing pressure and reseedling to increase heather component.	Direct action	Mapped	Also see related priority UPL_P04

Priority:

UPL_P06 Enhance wet heath

Enhance and expand wet heath adjacent to existing blanket bog to prevent drying out. Where appropriate rewet dry heath sites to reverse the decline of this increasingly rare habitat.

Benefits:

- Carbon storage
- Climate regulation
- Reduced fire risk
- Plentiful water
- Water quality
- Flood protection

Focus species:

- Adder
- Black Grouse
- Bilberry Bumblebee
- Small Yellow Underwing

Measures (Actions):

UPL_M06.1	Identify opportunities for buffering along recreation routes through blanket bog.	Enabling activity	Unmapped	
UPL_M06.2	Explore with historic environment teams opportunities to restore former and current peat cutting sites.	Enabling activity	Unmapped	Also see related measure UPL_M07.2
UPL_M06.3	Enhance existing wet heath by amending grazing regime and type where required (e.g. reduction in sheep, increase in cattle) and introduce species (e.g. sphagnum and cottongrass) where required.	Direct action	Mapped	
UPL_M06.4	Carry out grip and gully blocking to increase wetness where this will not impact negatively on the maintenance of important dry heath sites, this will also help to reduce fire risk. Amend the grazing regime and grazing species, and introduce species (e.g. sphagnum and cotton grass plug plants) better suited to wet habitat. Avoid burning as this increases the drying out of sites.	Direct action	Mapped	Also see related priority UPL_P05

Priority:

UPL_P07 Enhance blanket bog

Enhance the wetness and diversity of existing blanket bog sites and adjacent land to prevent drying out. Identify areas of deep peat and historic bog habitat and work with landowners to restore these to functioning peatland habitats.

Benefits:

- Carbon storage
- Climate regulation
- Reduced fire risk
- Plentiful water
- Water quality
- Flood protection

Focus species:

- Bilberry Bumblebee
- Adder
- Round-leaved Sundew

Measures (Actions):

UPL_M07.1	Identify areas of shallow peat that can be expanded, or peat formation re-started.	Enabling activity	Unmapped	
UPL_M07.2	Use peat maps to identify former extent of peat resource and understand ability to restore active hydrological processes to identify areas where blanket bog has been lost, and where peat formation could be re-started. Explore with historic environment teams opportunities to restore former and current peat cutting sites through re-wetting and sphagnum inoculation.	Enabling activity	Unmapped	Also see related measure UPL_M06.2
UPL_M07.3	Buffer, improve, and better connect all blanket bog and prioritise restoration of peat on open habitats in North Yorkshire and York. Use hydrological mapping systems to better understand how blanket bogs are connected and interact, and implement measures to rewet and enhance degraded blanket bogs, e.g. grip and gully blocking. This will also help to reduce fire risk.	Direct action	Mapped	
UPL_M07.4	Amend the grazing regime and grazing species as required, and introduce species (e.g. sphagnum and cottongrass plug plants) better suited to wet habitat. Avoid burning as this increases the drying out of sites.	Direct action	Mapped	
UPL_M07.5	Explore creation of a North Yorkshire based plant nursery specialising in growing of sphagnum plug plants and other specialist upland plant species (current stock comes from Loughborough).	Enabling activity	Unmapped	
UPL_M07.6	Enlarge areas of blanket bog by removal of trees on peat in carefully targeted and highly restorable locations supported by the: "Decision Support Framework for Peatland Protection". Identify areas with landowners that are suitable and feasible for peatland restoration or wooded peatland mosaics. These areas will be functionally connected to existing peatland bodies that haven't been heavily modified by land use operations. The characteristics of these areas can be seen on the Forest to Bog tool.	Direct action	Unmapped	

Priority:

UPL_P08 Expand moorland fringe habitats

Expand the range of habitats present along the moorland fringe, including woodland, scrub and rough grassland, to reduce fire risk and increase numbers of key species.

Benefits:

- Carbon storage
- Reduced fire risk
- Climate regulation

Focus species:

- Black Grouse
- Hawfinch
- Curlew
- Ring Ouzel
- Latticed Heath
- Bilberry Bumblebee
- Red Squirrel

Measures (Actions):

UPL_M08.1	Use aerial imagery to identify areas where existing sites could be connected.	Enabling activity	Unmapped	
UPL_M08.2	Create a suitable mix of habitats adjacent to existing sites via different mechanisms, e.g. natural regeneration, deer control, livestock exclusion, vegetation management to mitigate against wildfires.	Direct action	Mapped	
UPL_M08.3	Increase habitat for breeding waders, including rough pasture, by promoting suitable agri-environment options, working with local communities, continued monitoring, "right tree, right place" approach (replace coniferous plantation with native species rich), and predator control where appropriate.	Direct action	Unmapped	
UPL_M08.4	Increase tree and woodland cover in areas of moorland edge that will not compromise the presence of existing priority species (e.g. Black Grouse, Ring Ouzel, breeding waders, Hazel Dormouse, Red Squirrel, Butterflies).	Direct action	Unmapped	Also see related priority WLD_P04
UPL_M08.5	Create new, buffer and connect existing woodland with appropriate species specifications, encouraging natural regeneration where possible.	Direct action	Mapped	Also see related priority WLD_P04

Grassland (GRA)

Grasslands are important habitats for wildlife, in their own right and also as connecting and buffering land for other habitat types. Some of our grasslands are fantastically rich in wildflowers that make them vital homes and stepping stones for pollinators, whilst others are important feeding and nesting sites for species such as farmland birds and wading birds. Good populations of fungi such as waxcaps can highlight unimproved, low-nutrient grasslands, a rare and threatened habitat in England. Road verges can also often be remnant unimproved grasslands and act as important corridors for species to move across our landscapes.

Lowland calcareous grasslands are found spread across our area and can often be very species-rich. Our acid grasslands tend to support a lower number of specialist species, but can also help buffer and connect our remnant lowland heathland sites.

Species-poor grasslands have often been lost in place of creating other habitat types, such as woodland, or for other land uses such as housing, renewable energy or more productive farmland. It is important we recognise their inherent value to support and connect nature in decision making. We can protect, enhance and expand the semi-natural grassland resource by linking their management to human interests, such as providing feedstocks for local green energy, supporting pollinators, or supporting regenerative farming practices.

Priorities:

- Expand or buffer existing species-rich grassland sites through changes to management regimes.
- Enhance and connect strategically important grasslands, to provide benefits for a range of bird species and pollinators.
- Enhance the species richness of existing lowland calcareous grassland sites and adjacent land. Increase the quality of calcareous grassland sites between these species-rich sites, to provide connectivity for specialist species.
- Enhance the species richness of existing magnesian limestone grassland sites and adjacent land. Increase the quality of magnesian limestone grassland sites between these species-rich sites, to provide connectivity for specialist species.
- Expand acid grassland to buffer existing lowland heath sites.
- Restore degraded lowland heathland sites and re-create this habitat at suitable locations.
- Enhance species-richness of road verges through better management to increase their biodiversity.

Priority:

GRA_P01 Enhance species-rich grassland

Expand or buffer existing species-rich grassland sites through changes to management regimes.

Benefits:

- Carbon storage
- Pollination
- Soil health
- Flood protection

Focus species:

- Waxcap fungi
- Adder's-tongue Fern
- Short-eared owl
- Devil's-bit Scabious

Measures (Actions):

GRA_M01.1	Use historic mapping (e.g. tithe maps) and species records (e.g. waxcaps) to identify historic species-rich grasslands and focus specific versus general habitat management/development efforts. Identify sites where species-rich grassland could be created and ways to achieve this (e.g. purchase via local councils, Biodiversity Net Gain (BNG) offsetting process, York and North Yorkshire Local Investment in Natural Capital (LINC) programme).	Enabling activity	Unmapped	
GRA_M01.2	Implement alternative management practices to maximise biodiversity e.g. work with land managers and local authority teams to explore cutting regimes, pesticide and herbicide use, and mapping of 'no mow' areas.	Direct action	Unmapped	Also see related priorities GRA_P07 URB_P03

Priority:

GRA_P02 Enhance and connect strategically important grasslands

Enhance and connect strategically important grasslands, to provide benefits for a range of bird species and pollinators.

Benefits:

- Carbon storage
- Pollination
- Soil health
- Flood protection

Focus species:

- Water Shrew
- Burnet Companion
- Curlew
- Lapwing
- Tormentil Mining Bee
- Devil's-bit Scabious

Measures (Actions):

GRA_M02.1	Identify sites that provide opportunities to enhance and connect strategically important grasslands, particularly where species have connectivity challenges e.g. curlew & other waders & pollinators.	Enabling activity	Unmapped	
GRA_M02.2	Make use of the Strategically Significant Networks mapping produced by the North and East Yorkshire Ecological Data Centre (NEYEDC) to help inform the connection of existing habitats.	Enabling activity	Unmapped	
GRA_M02.3	Enhance strategically important grassland sites by utilising existing funding schemes, thus increasing the diversity of structure and species.	Direct action	Mapped	

GRA_M02.4	Create new and expand existing rush pasture on upland fringes and lowland floodplains to increase abundances of wading birds and specialist plant species. Re-wet adjacent areas by removal/blocking of drains and addition of scrapes.	Direct action	Unmapped	
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Priority:

GRA_P03 Enhance lowland calcareous grassland

Enhance the species richness of existing lowland calcareous grassland sites and adjacent land. Increase the quality of calcareous grassland sites between these species-rich sites, to provide connectivity for specialist species.

Benefits:

- Carbon storage
- Soil health
- Pollination

Focus species:

- Geyer's Whorl Snail
- Burnet Companion
- Thistle Broomrape
- Northern Brown Argus
- Burnt Orchid
- Frog Orchid

Measures (Actions):

GRA_M03.1	Identify the location of existing lowland calcareous grassland sites, and opportunities to expand and restore neighbouring sites, to support pollinator populations.	Enabling activity	Unmapped	
GRA_M03.2	Enhance existing lowland calcareous grassland sites through appropriate grazing / mowing regimes and scrub management as required e.g. where it can be shown this would benefit key species (such as Duke of Burgundy and Northern Brown Argus butterflies).	Direct action	Mapped	
GRA_M03.3	Create lowland calcareous grassland at suitable sites through green hay spreading / reseedling and suitable ongoing management.	Direct action	Mapped	Also see related measures UPL_M03.4 WET_M06.3
GRA_M03.4	Develop and support the propagation of calcareous plant species, particularly those that are rare or with poor dispersal capabilities, to augment creation and restoration sites (growing of seeds and planting out plugs).	Direct action	Unmapped	

Priority:

GRA_P04 Enhance and expand magnesian limestone grassland

Enhance the species richness of existing magnesian limestone grassland sites and adjacent land. Increase the quality of magnesian limestone grassland sites between these species-rich sites, to provide connectivity for specialist species.

Benefits:

- Carbon storage
- Soil health
- Pollination

Focus species:

- Harvest Mouse
- Waxcap fungi
- Thistle Broomrape
- Adder
- Burnt Orchid
- Frog Orchid

Measures (Actions):

GRA_M04.1	Identify key connecting road verges on Magnesian Limestone and modify the management to increase floristic diversity (e.g. remove arisings).	Direct action	Unmapped	Also see related priority GRA_P07
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Grassland Priorities (GRA)

GRA_M04.2	Manage the existing species-rich Magnesian Limestone grassland resource through sympathetic management. Increase grassland diversity on adjacent land with green hay from local donor sites, supporting pollinator populations.	Direct action	Mapped	Also see related measures UPL_M03.4 WET_M06.3
GRA_M04.3	Create species-rich grassland at suitable sites across the Magnesian Limestone. Use arable reversion methods, seeding/green hay spreading, plug planting of specific key species e.g. pasque flower.	Direct action	Mapped	Also see related measures UPL_M03.4 WET_M06.3
Priority:				
GRA_P05 Expand acid grassland				
Expand acid grassland to buffer existing lowland heath sites.				
Benefits:	• Carbon storage • Soil health • Pollination			
Focus species:	• Waxcap fungi • Heath Rivulet • Field Gentian • Heath Dog-violet • Tormentil Mining Bee			
Measures (Actions):				
GRA_M05.1	Buffer lowland heath by managing adjacent grassland sites, using appropriate grazing and other management measures.	Direct action	Mapped	
GRA_M05.2	Create acid grassland at suitable sites. Use arable reversion methods, seeding/green hay spreading, plug planting of specific key species.	Direct action	Mapped	Also see related measures UPL_M03.4 WET_M06.3
Priority:				
GRA_P06 Restore and re-create lowland heath				
Restore degraded lowland heathland sites and re-create this habitat at suitable locations.				
Benefits:	• Pollination • Soil health			
Focus species:	• Adder • Latticed Heath • Heath Rivulet • Tormentil Mining Bee			
Measures (Actions):				
GRA_M06.1	Identify historic and potential lowland heath sites to enable the targeting of restoration/creation. Identify existing fragments of lowland heath to identify opportunities to reconnect existing sites.	Enabling activity	Unmapped	
GRA_M06.2	Undertake creation/restoration of lowland heath utilising seed-rich brash, green hay and other material from appropriate local donor sites, and ongoing sensitive management.	Direct action	Mapped	Also see related measures UPL_M03.4 WET_M06.3

GRA_M06.3	Create and keep open sandy areas and banks on lowland heath (through disturbance by cattle and large herbivores) to provide habitat for their associated unique flora and fauna, which have been lost. Remove topsoil on pre-existing banks or create ponds and use the spoil to create sandy banks. Regular removal of vegetation is needed to keep these areas open.	Direct action	Mapped	Also see related priority WET_P03
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Priority:

GRA_P07 Enhance road verges

Enhance species-richness of road verges through better management to increase their biodiversity.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Carbon storage
- Reduced chemical use
- Pollination
- Soil health
- Flood protection

Focus species:

- Harvest Mouse
- Waxcap fungi
- Field Gentian
- Devil's-bit Scabious

Measures (Actions):

GRA_M07.1	Review North Yorkshire Council and City of York Council policies around verge management (including within settlements) to improve management for biodiversity, including purchase of necessary equipment where required e.g. cut and collect machinery.	Enabling activity	Unmapped	
GRA_M07.2	Expand the cut and collect of verge arisings, learning from the 2024 North Yorkshire Highways pilot, including anaerobic digestion where appropriate.	Direct action	Unmapped	
GRA_M07.3	Encourage Parish Councils and local land managers to adopt nature-friendly cutting regimes.	Enabling activity	Unmapped	
GRA_M07.4	Encourage local groups to monitor local verges.	Enabling activity	Unmapped	
GRA_M07.5	Establish a strategic approach with co-operation between local authorities, drainage authorities and adjoining landowners to prevent drainage ditches being cleared onto common land or roadside verges (this creates problems of nettles and rank grasses, undoing the benefits of cut vegetation removal).	Enabling activity	Unmapped	

Woodland (WLD)

Our area contains a variety of wooded habitats of different ages and types. Our ancient woodlands have persisted since before the 1600s and long-established woodlands prior to 1893. These woodlands may have had their tree cover and woodland structure changed from the original tree species to a range of woodland types, including conifer, mixed, and broadleaf woodlands (often after the Second World War). However, these woodlands still retain important woodland flora, contribute significantly to biodiversity and ecological resilience, and support a wide range of woodland species. These historic woodlands may require sympathetic management practices to diversify their tree species, age structure, and create additional habitats within them such as flower-rich woodland rides, glades, ponds and scrub.

It is important that such diversity is brought to younger woodlands and designed into new woodlands being planted to maximise their biodiversity. New woodland sites should as much as possible buffer and connect existing woodlands, to allow for movement of woodland species. These connecting habitats can include wood pastures, wood meadows, scrub and hedgerows, allowing them to be part of the agricultural and urban landscapes they sit within. Old and new woodlands support other priorities such as carbon sequestration, flood alleviation and recreation. Productive woodland, including new conifer plantations, can be designed to maximise opportunities for nature recovery as well as sustainable domestic timber production.

Parkland is an important habitat for our area as it is not only important historically and culturally, but hosts important populations of veteran and ancient trees. Each of these trees act as ecosystems, with some species such as oak supporting as many as 2300 species (<https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/oak-tree-wildlife/>), including bats, birds, fungi, and invertebrates that can only survive on dead or dying wood. These important trees are often hundreds of years old, so it is important we protect and conserve them, but also start planting our “future” veteran trees.

Priorities:

- Protect individual veteran trees and plant trees to become future veterans to provide habitat and facilitate the movement of specialist species.
- Enhance and expand species-rich wood pasture, wood meadows and open mosaic habitats as an appropriate buffer and connecting habitat between woodland and grassland sites.
- Buffer, enhance, restore and better connect fragmented patches of Ancient Woodland (including Plantations on Ancient Woodland Sites) by creating linkages with, and improving the management of, long-established woodland to increase the resilience of these sites and allow for species movement, including more specialist woodland species.

- Increase tree and woodland cover by enhancing all types of existing woodland and creating new species-diverse woodlands, which promotes good woodland structure, increases resilience, and produces sustainable woodland products and timber.

Priority:

WLD_P01 Protect and expand veteran tree resource

Protect individual veteran trees and plant trees to become future veterans to provide habitat and facilitate the movement of specialist species.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Sense of place
- Carbon storage
- Climate regulation

Focus species:

- Waxcap fungi
- Six-spotted Longhorn Beetle
- Lesser Spotted Woodpecker
- Latticed Heath

Measures (Actions):

WLD_M01.1	Promote the Woodland Trust Ancient Tree Inventory to locate and record ancient, veteran and notable trees.	Enabling activity	Unmapped	
WLD_M01.2	Plant new resilient trees to be veterans of the future using mapping of high-value veteran trees (e.g. Veteran Tree Inventory) to identify planting areas for future veterans and areas to trial 'veteranisation' to increase their value to key species.	Direct action	Unmapped	
WLD_M01.3	Protect existing veteran trees and newly-planted future veterans with suitable fenced enclosures to protect from livestock and other herbivores. Create and promote a best practice standard for fencing /enclosures around veteran trees to address impacts of grazing & intensive arable practices. Implement best practice management of no cultivation and no inputs.	Direct action	Mapped	
WLD_M01.4	Expand veteran tree work into existing woodland, parkland and farmland to ensure veteran trees of the future are developed within existing landscapes, increasing biodiverse planting without losing historic significance.	Direct action	Mapped	Also see related priority FRM_P02
WLD_M01.5	Sustainably manage parkland pasture associated with veteran trees, including use of herbal ley mixes, planting of replacement parkland trees and retaining dead wood on site to benefit insects and other wildlife.	Direct action	Mapped	Also see related measure WLD_M02.4

Priority:

WLD_P02 Enhance and expand wood pasture, wood meadows and open mosaic habitats

Enhance and expand species-rich wood pasture, wood meadows and open mosaic habitats as an appropriate buffer and connecting habitat between woodland and grassland sites.

Benefits:

- Sense of place
- Carbon storage
- Climate regulation
- Pollination
- Clean air

Focus species:

- Turtle Dove
- Red Squirrel
- Six-spotted Longhorn Beetle
- Juniper
- Northern Hairy Wood Ant

Measures (Actions):

WLD_M02.1	Identify fragmented patches of woodland that would benefit from being connected.	Enabling activity	Unmapped	Also see related priorities FRM_P02 FRM_P05
WLD_M02.2	Promote the benefits of trees in landscapes to farmers and encourage those habitats where close-canopy woodland is not viable. Identify funding mechanisms (e.g. Sustainable Farming Incentive (SFI), private green finance) to facilitate the diversification of the grassland element of woodland/grassland mosaic habitats.	Enabling activity	Unmapped	
WLD_M02.3	Create and expand wood pasture habitat as an appropriate buffer and connecting habitat between woodland and grassland sites. Undertake appropriate tree planting or natural colonisation to create this habitat, use Sustainable Farming Incentive (SFI) / England Woodland Creation Offer (EWCO) options to support. Implement sustainable grazing management of this habitat, including stock rotation and reseed to improve grassland where required.	Direct action	Mapped	
WLD_M02.4	Retain standing dead wood and fallen trees to be left on site as habitat for specialist species.	Direct action	Unmapped	Also see related measures WLD_M01.5 WLD_M04.6
WLD_M02.5	Increase the size of transitional habitat between grassland, wood pasture and isolated veteran trees to include more scrub, and therefore removing hard lines. Recognise the value of scrub in advice to landowners, e.g. through One Team, including amending grazing regimes, specific planting, and natural regeneration.	Direct action	Unmapped	Also see related measures WLD_M01.3 WLD_M01.4

Woodland Priorities (WLD)

WLD_M02.6	Improve the management of wood pasture, potentially through reduced grazing intensity where required, to allow natural regeneration to take place. Explore 'veteranisation' techniques to promote future veteran trees and associated habitat.	Direct action	Mapped	Also see related priority WLD_P01
WLD_M02.7	Replant cleared wood pasture with appropriate resilient tree and scrub species.	Direct action	Unmapped	
WLD_M02.8	Introduce key grassland indicator species, where appropriate, and promote the creation of wood meadows to land managers.	Direct action	Unmapped	

Priority:

WLD_P03 Enhance and connect ancient woodland

Buffer, enhance, restore and better connect fragmented patches of Ancient Woodland (including Plantations on Ancient Woodland Sites) by creating linkages with, and improving the management of, long-established woodland to increase the resilience of these sites and allow for species movement, including more specialist woodland species.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Sense of place
- Carbon storage
- Climate regulation
- Clean air

Focus species:

- Red Squirrel
- Marsh Tit
- Juniper
- Hawfinch
- Six-spotted Longhorn Beetle
- Northern Hairy Wood Ant

Measures (Actions):

WLD_M03.1	Use the mapping of ancient semi-natural woodland (ASNW), long-established woodland (LEW) sites, and the revised ancient woodland inventory to identify priority corridors and prioritise woodland creation and natural colonisation in these areas. Share information with appropriate partners e.g. One Team and Defra arms-length bodies (Forestry Commission and Natural England). Co-ordinate advisors with land managers to ensure the best advice is available to those managing ASNW sites.	Enabling activity	Unmapped	
WLD_M03.2	Map and identify sites dominated by bracken to explore opportunities for woodland or heathland creation, with consideration of other priorities (e.g. breeding waders).	Enabling activity	Unmapped	Also see related priorities WLD_P04 UPL_P05 UPL_P06
WLD_M03.3	Identify Ghost Woodlands through existing ground flora that could be an appropriate site for re-establishment of woodland (but not at the expense of species-rich grassland).	Enabling activity	Unmapped	Also see related priority WLD_P04
WLD_M03.4	Increase the variety of woodland structure and species diversity within existing ancient woodlands in accordance with the UK Forestry Standard, e.g. mix of tree and shrub species, coppice management, glade and woodland ride management, retention of deadwood.	Direct action	Mapped	
WLD_M03.5	Restructure existing conifer plantations to buffer and connect patches of ancient woodland to maximise biodiversity, in accordance with the UK Forestry Standard and landowner aspirations.	Direct action	Mapped	
WLD_M03.6	Restore Plantation on Ancient Woodland sites (PAWS) from conifer to ancient semi-natural woodland over appropriate timescales. Restock where appropriate in accordance with Government's Keepers of Time: ancient and native woodland and trees policy in England - GOV.UK (www.gov.uk).	Direct action	Mapped	

WLD_M03.7	Buffer ancient woodland sites using agroforestry options, e.g. silvopasture to increase the size of small woodland sites (in particular ancient semi-natural woodland (ASNW) sites).	Direct action	Unmapped	Also see related priority FRM_P02
WLD_M03.8	Re-visit previously agreed agri-environment schemes to see if additional cover (scrub, natural colonisation or tree planting) could be an option.	Enabling activity	Unmapped	Also see related priorities FRM_P02 WLD_P04
WLD_M03.9	Coordinate a deer and grey squirrel control strategy across North Yorkshire and York to allow natural colonisation of wooded corridors between existing woodland sites.	Direct action	Unmapped	Also see related measures WLD_M04.1 WLD_M04.7
WLD_M03.10	Remove and prevent the spread of invasive non-native species (INNS) (e.g. Rhododendron) from woodlands, where identified. Work with existing projects to improve INNS monitoring and reporting, coordinating action at a landscape scale, and leading to the development of a regional biosecurity plan to reduce and monitor spread in the long-term.	Direct action	Unmapped	

Priority:

WLD_P04 Enhance, expand and connect new and existing woodland

Increase tree and woodland cover by enhancing all types of existing woodland and creating new species-diverse woodlands, which promotes good woodland structure, increases resilience, and produces sustainable woodland products and timber.

Benefits:	- Access to nature - Health and wellbeing - Carbon storage - Climate regulation	- Soil health - Water quality - Timber and other wood products - Plant based energy	- Clean air - Noise regulation - Urban cooling
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Focus species:	- Burnet Companion - Tormentil Mining Bee	- Hawfinch - Red Squirrel	- Northern Hairy Wood Ant - Hedgehog
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Measures (Actions):

WLD_M04.1	Create new species-diverse woodlands. Ensure all woodland creation through planting or natural colonisation is planted and managed according to the UK Forestry Standard to ensure ongoing sustainable browsing levels, in particular for deer.	Direct action	Mapped	Also see related measure WLD_M03.9
WLD_M04.2	Ensure a diverse range of species are included in planting mixes, including species that are likely to still be viable to enhance resilience and seek to mitigate the risks from climate change and also consider pests and diseases by selecting species appropriate to the site using Ecological Site Classification or a similar tool.	Direct action	Mapped	

Woodland Priorities (WLD)

WLD_M04.3	Include native ground flora in woodland creation funded by local and national funding schemes, including incorporating appropriate structures, such as creating woodland clearings and canopy gaps, as per UK Forestry Standard. Raise awareness and encourage the provision of advice on introducing ground flora and shrub layer into new tree-planting schemes in rural and urban environments.	Direct action	Mapped	
WLD_M04.4	Enhance, restore, and/or reintroduce soil fungi communities to improve woodland biodiversity, function, and resilience as per UK Forestry Standard. Promote suitable practices to landowners as part of woodland management and creation advice.	Direct action	Mapped	
WLD_M04.5	Restructure existing conifer plantations and broadleaf/mixed woodlands to maximise biodiversity, in accordance with the UK Forestry Standard and landowner aspirations. Targeted removal of dominant species (where appropriate). Reduce proportion of single species to allow other species to respond and develop within canopy so that no more than 65% of the forest management unit is allocated to a single species.	Direct action	Mapped	
WLD_M04.6	Retain standing and fallen deadwood in all types of woodland and forest to increase structural diversity and encourage specialist species, e.g. planting sacrificial trees, retaining deadwood and felling debris.	Direct action	Mapped	
WLD_M04.7	Buffer, improve and protect existing woodland and create new woodland with resilient tree species in areas where red squirrels are expanding. Monitor red squirrel population in partnership with groups such as the Red Squirrel North England and UK Squirrel Accord, working collaboratively with land managers and controlling grey squirrel population.	Direct action	Mapped	Also see related measure WLD_M03.9
WLD_M04.8	Create woodland in areas that would benefit flood alleviation, using Natural Flood Management (NFM) opportunities mapping to identify suitable sites.	Direct action	Mapped	

Also see related Water and Wetlands priorities:

WET_P07: Expand Riparian Woodland

WET_P08: Restore, enhance and expand wet woodland

Water and wetlands (WET)

A series of major rivers have shaped North Yorkshire and York's landscape, many starting in the uplands of the Yorkshire Dales and North York Moors and flowing to the Humber Estuary or to the coast. Much of our lowlands was historically covered by fens, marshes, bogs, ponds, and wet grasslands. Millennia of human activity has altered the shape and flow of all our rivers, and in many cases disconnected them from their floodplains, created wildlife barriers such as weirs, and drained huge areas of wetland. All of this has impacted negatively on our wildlife.

Reinstating natural processes in our river catchments to make more space for water will not only dramatically increase the diversity of species and size of their populations, but it will also reduce the impacts of flood events in our settlements. Many wetland habitats are also excellent carbon sinks, helping reduce our carbon emissions. Nature-based solutions in our rivers and adjacent land can also reduce water pollution, creating healthier rivers for both humans and wildlife.

Priorities:

- Enhance and expand river and in-channel habitats to improve their quality and connectivity.
- Restore natural river processes to reconnect rivers and floodplains, and create space for nature, water and people.
- Restore, enhance, and expand pond networks at different successional stages in rural and urban landscapes, to increase resilience and support the population dynamics of wetland species.
- Enhance, expand and connect areas of fragmentary fen by improving management of existing sites and using species-rich ditches to connect sites.
- Restore and enhance existing flushes to support the needs of specialist plant species and make sites more resilient. Expand flush habitat and wet grassland areas to better accommodate wintering and breeding wetland bird populations.
- Buffer and restore poor-quality existing floodplain meadow sites to help protect and expand specialist species. Expand floodplain meadow habitat to increase resilience whilst remaining as a productive agricultural land use.
- Expand the amount of riparian woodland along all watercourses and at all elevations, including filling in gaps and increasing age structure, to increase the resilience of the natural habitats (both terrestrial and water).
- Restore and enhance existing wet woodland, and where possible expand the resource to increase resilience and support specialist species.

Priority:

WET_P01 Enhance and expand river habitats

Enhance and expand river and in-channel habitats to improve their quality and connectivity.

- Benefits:
- Access to nature
 - Health and wellbeing
 - Educational resource
 - Plentiful water
 - Water quality
 - Flood protection

- Focus species:
- White-clawed Crayfish
 - Water Vole
 - Tansy Beetle
 - Bats
 - Golden-ringed Dragonfly
 - Freshwater Fish

Measures (Actions):

WET_M01.1	Implement in-channel mitigation measures for heavily-modified water bodies and improve in-channel habitat diversity (e.g. de-culverting, removal of barriers to fish migration, flow deflectors, soft engineering). Include mitigation measures for potential migration of invasive non-native species (INNS) upstream following removal of barriers.	Direct action	Unmapped	
WET_M01.2	Implement softening of hard infrastructure along watercourses where it must be retained, including retrofitting habitat features such as ledges, rough surfaces or floating islands. Where appropriate, incorporate artificial wildlife nesting or breeding spaces, such as nest boxes, artificial holts and burrows, and sand martin banks.	Direct action	Unmapped	Also see related measure CST_M01.4
WET_M01.3	Expand and maintain species-rich buffer strips along watercourses to improve connectivity and alter management of streams to reduce pollution and improve riparian habitat diversity, e.g. introduce tansy to support tansy beetle expansion, exclude or limit livestock access into rivers.	Direct action	Unmapped	
WET_M01.4	Expand suitable riparian habitat for water vole, alongside mink control where required, and implement ongoing management practices.	Direct action	Mapped	
WET_M01.5	Develop an invasive non-native species (INNS) management plan, in particular for Himalayan Balsam, to prevent domination of watercourse banksides.	Enabling activity	Unmapped	
WET_M01.6	Collate and analyse all available data on coastal migratory fish species, including pressures, migration pathways and known / potential barriers, and identify gaps in knowledge.	Enabling activity	Unmapped	Also see related measure WET_M02.7

Priority:

WET_P02 Restore natural river processes

Restore natural river processes to reconnect rivers and floodplains, and create space for nature, water and people.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Plentiful water
- Water quality
- Flood protection

Focus species:

- Southern Iron Blue
- Greater Water-parsnip
- Water Shrew
- Redshank
- Freshwater Pearl Mussel
- Depressed River Mussel

Measures (Actions):

WET_M02.1	Remove or realign artificial and engineered barriers and modifications where feasible to allow re-establishment of natural river processes e.g. levees, flood banks (include mitigation measures for potential migration of invasive non-native species (INNS) following removal of barriers). Where Flood embankments can be breached or set back, deliver connectivity to restore natural hydrology and hydro-geomorphological processes, including sediment and nutrient deposition, to help slow the flow.	Direct action	Mapped	
WET_M02.2	Reinstate meanders, oxbows, and natural in-channel features where possible to support migratory fish, freshwater pearl mussels and migrating birds, and help slow the flow.	Direct action	Unmapped	
WET_M02.3	Undertake wetland habitat and floodplain restoration works (including buffer strips and water storage) to connect wildlife-rich habitat and support key species.	Direct action	Unmapped	
WET_M02.4	Implement natural flood management (NFM) methods that support river restoration e.g. installing woody material and leaky dams, by working with land owners, farmers and partner organisations.	Direct action	Mapped	Also see related measure WET_M08.3
WET_M02.5	Explore opportunities for beaver re-introduction to create natural barriers and create natural flood management (NFM) opportunities.	Enabling activity	Unmapped	
WET_M02.6	Enhance chalk streams and associated floodplain habitats to increase biodiversity and help slow the flow, e.g. re-meandering.	Direct action	Mapped	
WET_M02.7	Improve coastal habitats for migratory fish and connect with in-land habitat restoration activities. Work with partners to fill gaps in knowledge, focussing on the impacts of climate change and how existing migration routes of key species may be affected by the predicted changes.	Direct action	Unmapped	Also see related measure WET_M01.6

WET_M02.8	Work with the Esk and Coastal Streams, Yorkshire Derwent, and the Hull and East Riding Catchment Partnerships to connect in-land and coastal communities, enabling people to share traditional knowledge and oral histories, and providing opportunities for active citizen science to record habitat condition.	Enabling activity	Unmapped	Also see related priority CST_P01
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Priority:

WET_P03 Expand and restore pond networks

Restore, enhance, and expand pond networks at different successional stages in rural and urban landscapes, to increase resilience and support the population dynamics of wetland species.

Benefits:	- Access to nature - Health and wellbeing - Educational resource	- Climate regulation - Plentiful water - Water quality	Flood protection
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Focus species:	- Common Toad - Common Frog	- Emerald Damselfly	- White-clawed Crayfish - Greater Water-parsnip
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Measures (Actions):

WET_M03.1	Identify and map important pond areas where the number of nearby ponds can be increased to create clusters of successional ponds. Map existing or defunct Dew Ponds, to lead to their restoration, or identification of suitable new pond sites.	Enabling activity	Unmapped	
WET_M03.2	Identify and map ponds that are at risk of being lost and re-introduce positive management, e.g. remove excessive tree shading, removal of invasive non-native species (INNS), introduction of native aquatic plants where appropriate.	Direct action	Unmapped	
WET_M03.3	Develop a Pond Creation Strategy for urban and rural landscapes that will create new or restore existing ponds to form clusters and/or networks at different successional stages. Target areas of good semi-natural habitat for pond creation or plan terrestrial habitat restoration and pond restoration together, considering 'right pond, right place' approach.	Enabling activity	Unmapped	
WET_M03.4	Buffer existing ponds by increasing and improving the quality of marginal habitat and encourage creation/restoration of surrounding terrestrial habitat to provide better feeding habitat for amphibians and improved pond water quality, e.g. Great Crested Newt meta populations, considering 'right pond, right place' approach.	Direct action	Mapped	

Water and Wetlands Priorities (WET)

WET_M03.5	Create a programme connecting amenable landowners and nature volunteer groups for the creation and ongoing management of buffered ponds, with template agreements for the set aside of marginal areas for pond creation, and guidelines for site selection, pond creation, and any maintenance considerations.	Enabling activity	Unmapped	
WET_M03.6	Create successional networks of ponds to improve species diversity, and re-introduce species (e.g. Freshwater Habitats Trust introducing Medicinal Leech in Bedale and their work in re-establishing Pillwort). Raise awareness of the importance of having multiple ponds at different successional stages to land managers and advisors.	Direct action	Mapped	
WET_M03.7	Create new ponds for native crayfish ark sites.	Direct action	Unmapped	
WET_M03.8	Influence local planning policy (e.g. Supplementary Planning Guidance in Local Plans, Flood Risk Management Plans) to promote creation of nature-rich sustainable drainage systems (SuDS) as part of development.	Enabling activity	Unmapped	Also see related measures URB_M01.5 URB_M01.6
WET_M03.9	Create sustainable drainage systems (SuDS) and other constructed wetlands to 'slow the flow', create new habitats (ponds, wetlands, reedbeds), increase greenspace and improve mental health. Promote nature-based solutions for urban households in water company business plans to capture and treat sewage discharges to reduce nutrient losses to water courses.	Direct action	Unmapped	Also see related measures URB_M01.5 URB_M01.6 URB_M04.1

Priority:

WET_P04 Enhance, expand and connect fen habitats

Enhance, expand and connect areas of fragmentary fen by improving management of existing sites and using species-rich ditches to connect sites.

Benefits:

- Carbon storage
- Climate regulation
- Pollination
- Plentiful water
- Water quality
- Flood protection

Focus species:

- Geyer's Whorl Snail
- Marsh Pug
- Necklace Ground Beetle
- Garden Tiger
- Strawberry Clover
- Greater Water-parsnip

Measures (Actions):

WET_M04.1	Use maps to create a Lowland Fen Inventory, identify former extent of resource (e.g. relic fen sites), and understand ability to restore active hydrological processes to identify areas to recreate fen where it has been lost. Map lowland fen and carr woodland habitat, identifying suitable water courses and ditches as connecting habitat. Improve understanding of the hydrology and water chemistry of existing fens to enable their restoration and expansion.	Enabling activity	Unmapped	
WET_M04.2	Manage lowland fen sustainably, including advising land managers on grazing stock levels to maximise biodiversity.	Direct action	Mapped	
WET_M04.3	Re-introduce suitable plant species into fen habitat where necessary to increase diversity. Propagate plant species from local sources for re-introduction.	Direct action	Mapped	Also see related measure WET_M05.2
WET_M04.4	Create fen habitat where feasible, e.g. by expanding fen species into neighbouring ditches, working with the Internal Drainage Boards (IDBs) and other land managers.	Direct action	Mapped	

Priority:

WET_P05 Restore, enhance and expand existing flushes

Restore and enhance existing flushes to support the needs of specialist plant species and make sites more resilient. Expand flush habitat and wet grassland areas to better accommodate wintering and breeding wetland bird populations.

Benefits:

- Pollination
- Water quality
- Plentiful water
- Flood protection

Focus species:

- Lapwing
- Curlew
- Round-leaved Sundew
- Water Vole

Measures (Actions):

WET_M05.1	Manage flushes sustainably, including advising land managers on stock levels to maximise biodiversity.	Direct action	Mapped	
WET_M05.2	Propagate plant species from local sources for re-introduction into flushes and wet grassland where appropriate. Raise awareness of the importance of local provenance seed to support the recovery of rare and declining wetland plant species.	Direct action	Unmapped	Also see related measure WET_M04.3
WET_M05.3	Revert degraded flush by removing drainage and artificial constraints (may include water abstraction).	Direct action	Unmapped	
WET_M05.4	Enlarge wetlands at known key areas for breeding and wintering bird populations (e.g. curlew, snipe), including floodplain meadows, wet grassland, moorland edge, and mineral extraction sites.	Direct action	Mapped	

Priority:

WET_P06 Restore floodplain meadows

Buffer and restore poor-quality existing floodplain meadow sites to help protect and expand specialist species. Expand floodplain meadow habitat to increase resilience whilst remaining as a productive agricultural land use.

Benefits:

- Access to nature
- Climate regulation
- Plentiful water
- Health and wellbeing
- Pollination
- Water quality
- Carbon storage
- Soil health
- Flood protection

Focus species:

- Yellow Wagtail
- Redshank
- Lapwing
- Tansy Beetle
- Garden Tiger
- Marsh Pug

Measures (Actions):

WET_M06.1	Identify the location of existing floodplain meadows and opportunities to expand into neighbouring sites. This will also lead to an increase in pollinators. Work with key agencies such as Internal Drainage Boards (IDBs) to understand where and how this is feasible.	Enabling activity	Unmapped	
WET_M06.2	Identify historic floodplain meadow sites to enable the targeting of restoration/creation, using historic floodplain maps and existing species records. Identify sites for creation that have the right underlying conditions (hydrological, soil fertility, soil type) for being a floodplain meadow.	Enabling activity	Unmapped	

WET_M06.3	Identify a network of sites as sources of green hay and plug plants and help to facilitate the cutting and grazing of meadows e.g. shared grazing flocks.	Enabling activity	Unmapped	Also see related measure UPL_M03.4
WET_M06.4	Restore floodplain meadows by implementing restoration management (no inputs and annual cut with arisings removed) and re-seed where required to maximise the species diversity.	Direct action	Unmapped	
WET_M06.5	Promote the consistent annual management of existing, restoration and recreated floodplain meadows including annual hay cut in June / very early July with either an aftermath grazing or another hay cut in the autumn. No inputs required.	Enabling activity	Unmapped	
WET_M06.6	Increase floodplain meadow habitat, where appropriate, by allowing flooding to take place on appropriate grassland sites through reengineering flood protection embankments and water control structures. This will allow the river to reconnect with its floodplain and flood the land seasonally.	Direct action	Unmapped	
WET_M06.7	Create new floodplain meadows from poor quality grassland sites to improve the connectivity of this very rare and fragmented habitat. Use techniques such as green hay spreading and plug planting.	Direct action	Unmapped	Also see related measures UPL_M03.4 WET_M06.3

Priority:

WET_P07 Expand riparian woodland

Expand the amount of riparian woodland along all watercourses and at all elevations, including filling in gaps and increasing age structure, to increase the resilience of the natural habitats (both terrestrial and water).

Benefits:

- Access to nature
- Health and wellbeing
- Carbon storage
- Climate regulation
- Water quality
- Water cooling/shading
- Flood protection

Focus species:

- Water Vole
- Bats
- Water Shrew
- Garden Tiger
- Northern Hairy Wood Ant
- Southern Iron Blue

Measures (Actions):

WET_M07.1	Increase the age structure of riparian woodland through tree planting (subject to consideration of tree planting in areas used by ground nesting birds) and coppicing, so that trees are not all lost at once, and provide future in-channel habitat.	Direct action	Mapped	
WET_M07.2	Implement sensitive bank management (e.g. wooded buffer strips) and alternatives to tree removal, working with risk management authorities, land managers and river users to provide advice and sources of available funding, to create diverse vegetation in riparian zones, help improve water quality, natural flood management (NFM) (roughening water pathways) and water cooling/shading.	Direct action	Mapped	
WET_M07.3	Increase the amount of riparian tree and hedgerow species along watercourses, implemented through schemes such as catchment sensitive farming, as informed by river catchment management plans, to help improve water quality, natural flood management (NFM) and water cooling/shading.	Direct action	Unmapped	
WET_M07.4	Create new riparian woodland (within a minimum of 15-20m of planting both sides of watercourse), including wet woodland and join up wooded habitats where they would benefit flood alleviation, using natural flood management (NFM) opportunity maps to identify suitable locations (subject to consideration of tree planting in areas used by ground nesting birds).	Direct action	Mapped	Also see related priority WET_P08
WET_M07.5	Increase riparian woodland, scrub and mosaic habitats in suitable gills of upper catchments (steep enough, not on peatland, no breeding waders) in accordance with current Natural England / Forestry Commission guidance for peat and wading birds, to increase biodiversity, natural flood management (NFM) and water cooling/shading and quality. Agencies to work together to form a method of working with large-scale land managers to facilitate the planting of woody species in designated upland edge habitats.	Direct action	Mapped	

Priority:

WET_P08 Restore, enhance and expand wet woodland

Restore and enhance existing wet woodland, and where possible expand the resource to increase resilience and support specialist species.

Benefits:

- Carbon storage
- Climate regulation
- Plentiful water
- Water quality
- Flood protection

Focus species:

- Common Toad
- Common Frog
- Willow Tit
- Water Vole
- Emerald Damselfly
- Water Shrew

Measures (Actions):

WET_M08.1	Identify wet areas of land around existing wet woodland that has scope to become new habitat, and create wet woodland using appropriate resilient species in relation to climate change (not at the expense of existing fen habitat).	Direct action	Mapped	Also see related priority WET_P04
WET_M08.2	Enhance the diversity of wet woodland and create new wet woodland where it will support the presence of key species e.g. succession of standing deadwood for willow tit.	Direct action	Mapped	
WET_M08.3	Create wet woodland as a flood alleviation option through blocking up of ditches to retain water on site.	Direct action	Unmapped	Also see related measure WET_M02.4

Urban (URB)

Wildlife can be found in a variety of places in our settlements, within the remnants of semi-natural habitats such as woodlands, meadows and ponds, as well as human created spaces such as parks, gardens, schools and business parks. Much of this space can be low in biodiversity due to intensive management and a limited number of tree, shrub and flower species, many non-native and less suitable for pollinators. There is great opportunity to revisit how we use and manage our public and private spaces, and how we can introduce more native plant species and areas for wildlife, whilst keeping them places for people to use.

Our built environment is also very important for species as nesting habitat, and there is scope to introduce more capacity for birds, bats and invertebrates to make homes alongside humans. Introducing these changes, and creating more green spaces will support people's needs, as it can help improve air and water quality, cool down environments and help store water to reduce the impacts of flood events.

Priorities:

- Incorporate green infrastructure into the built environment, to provide more habitat for nature.
- Buffer and enhance existing urban nature-rich spaces (e.g. Local Nature Reserves and churchyards) to maximise opportunities for nature, whilst reducing the impact of recreational pressure.
- Modify the management of semi-natural urban grassland to improve biodiversity and connectivity.
- Encourage and promote action from the public to create habitats for wildlife in public and private gardens, schools and other urban areas, to make more spaces for nature and enhance connectivity.

Priority:

URB_P01 Incorporate nature into the built environment

Incorporate green infrastructure into the built environment, to provide more habitat for nature.

Benefits:	- Access to nature - Health and wellbeing - Educational resource - Sense of place - Carbon storage	- Climate regulation - Pollination - Plentiful water - Water quality - Flood protection	- Clean air - Noise regulation - Urban cooling
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Focus species:	- Hedgehog - Devil's-bit Scabious	- Swift - Arable Flowers	Bats
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Measures (Actions):

URB_M01.1	Develop demonstrative projects on public and private sites that are scientifically proven to support nature e.g. green roofs/green walls and bat/bird boxes that are successfully used (see Natural England Green Infrastructure Framework).	Direct action	Unmapped	
URB_M01.2	Work with local planning authorities developing Green and Blue Infrastructure Strategies to maximise natural features within new developments, using Natural England Green Infrastructure Framework and learning from best practice in other urban authorities. These should promote scientifically proven options (e.g. bird boxes, bat boxes, insect hotels that are successfully used). Define best design for better nature and health.	Enabling activity	Unmapped	
URB_M01.3	Deliver nature enhancement initiatives within the building stock and land holdings of public and private sector partners (e.g. infrastructure providers, businesses, town and parish councils) e.g. green roofs on bus stops, rain gardens, green bridges.	Direct action	Unmapped	
URB_M01.4	Work with local planning authorities developing Green and Blue Infrastructure Strategies to map urban heat island effect and air quality, to identify areas where natural interventions could help urban cooling and air pollution e.g. appropriate tree and shrub planting.	Enabling activity	Unmapped	
URB_M01.5	Work with the sustainable drainage systems (SuDS) approval boards to improve the promotion and uptake of wildlife sensitive SuDS. Refer to a 'gold standard', that can be developed as part of local Green and Blue Infrastructure Strategies.	Enabling activity	Unmapped	Also see related measure WET_M03.8
URB_M01.6	Create a sustainable drainage systems (SuDS) manual for councils that covers the benefits and how to install on properties (within local council regulations), e.g. as a nature-based solution to urban waste-water management.	Enabling activity	Unmapped	Also see related measure WET_M03.9

Urban Priorities (URB)

URB_M01.7	Incorporate suitable 'crevices' into new build developments e.g. swift bricks, bat bricks (North Yorkshire Council and City of York Council to lead through adoption of appropriate planning control measures).	Direct action	Unmapped	Also see related measure URB_M04.4
URB_M01.8	Provide and protect substitute nesting and roosting sites when property developments threaten existing sites (North Yorkshire Council and City of York Council to lead through adoption of appropriate planning control measures)	Direct action	Unmapped	Also see related measure URB_M04.4

Priority:

URB_P02 Enhance urban nature-rich spaces

Buffer and enhance existing urban nature-rich spaces (e.g. Local Nature Reserves and churchyards) to maximise opportunities for nature, whilst reducing the impact of recreational pressure.

Benefits:	• Access to nature • Health and wellbeing • Educational resource • Sense of place	• Reduced chemical use • Pollination • Flood protection	• Clean air • Noise regulation • Urban cooling
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Focus species:	• Common Toad • Common Frog	• Waxcap fungi • Hedgehog	• Emerald Damselfly • Garden Tiger
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Measures (Actions):

URB_M02.1	Buffer and connect urban nature-rich spaces by identifying neighbouring land with partners to restore or create suitable habitat, e.g. hedgerow connectivity from urban areas into surrounding rural landscapes.	Direct action	Unmapped	Also see related priority FRM_P05
URB_M02.2	Work with planning authorities developing Green and Blue Infrastructure Strategies to introduce recreational zoning within existing sites and adjacent to existing sites (e.g. designated dog zones).	Enabling activity	Unmapped	
URB_M02.3	Enhance habitat in churchyards and cemeteries by working with local authorities, churches and associated community groups to establish and maintain management plans.	Direct action	Mapped	

Priority:

URB_P03 Modify the management of urban grassland

Modify the management of semi-natural urban grassland to improve biodiversity and connectivity.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Sense of place
- Carbon storage
- Reduced chemical use
- Pollination
- Flood protection
- Clean air

Focus species:

- Waxcap fungi
- Arable Flowers
- Devil's-bit Scabious

Measures (Actions):

URB_M03.1	Engage with communities (e.g. parish councils, local community groups) to identify locations for enhancement for nature, co-design, interpretation, publicity and future management.	Enabling activity	Unmapped	
URB_M03.2	Enhance existing urban grasslands (e.g. parks, urban verges, landscaping around offices) where appropriate with introduction of native species, e.g. bulbs, meadow plug plants, seed sowing.	Direct action	Unmapped	Also see related priority GRA_P07
URB_M03.3	Use green hay spreading to increase species diversity.	Direct action	Unmapped	Also see related measures UPL_M03.4 WET_M06.3
URB_M03.4	Plant site suited native tree or shrub species likely to tolerate future predicted climate on urban grassland sites, where appropriate, to create a mosaic of habitats suitable for the location and connecting to other wooded habitats, where beneficial.	Direct action	Unmapped	
URB_M03.5	Reduce the size of amenity grassland through changes to mowing regimes (set aside a percentage for modified management). Where grassy areas are allowed to grow long over the spring and summer, implement appropriate management prescription of annual "hay" cut (from late July to early September) and removal of arisings, with aftermath grazing/cutting as required.	Direct action	Unmapped	Also see related measure GRA_M01.2

Priority:

URB_P04 Promote public action for better nature connectivity

Encourage and promote action from the public to create habitats for wildlife in public and private gardens, schools and other urban areas, to make more spaces for nature and enhance connectivity.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Sense of place
- Carbon storage
- Climate regulation
- Pollination
- Plentiful water
- Flood protection
- Urban cooling

Focus species:

- Common Toad
- Garden Tiger
- Hedgehog
- Arable Flowers
- Emerald Damselfly
- Devil's-bit Scabious

Measures (Actions):

URB_M04.1	Promote nature and climate change adaptive options for residential properties e.g. variety of native plants/flowers grown, water harvesting for sustainable garden irrigation, permeable boundaries (including species-rich native hedgerows) to create hedgehog gaps in garden fencing, appropriate surface water management solutions (permeable surfaces) within private front gardens and driveways.	Enabling activity	Unmapped	
URB_M04.2	Promote initiatives such as 'Place for Nature' at Parish meetings and encourage the development of Parish Green Initiatives.	Enabling activity	Unmapped	
URB_M04.3	Deliver nature projects with children and staff in schools to encourage their use in home gardens.	Direct action	Unmapped	
URB_M04.4	Create suitable crevices (e.g. swift boxes, bat boxes) within existing buildings close to existing colonies to provide additional nest sites as sites are lost to roof renovations.	Direct action	Unmapped	Also see related measure URB_M01.8

Coastal Priorities (CST)

The North Yorkshire coast is an important place for wildlife. Sea birds whose populations are rapidly declining nest on the cliffs and in our coastal towns. Our rocky shores are home to a huge variety of wildlife, and an important way for most people to learn about marine life. Extensive numbers of residents and visitors enjoy the wonders of these coastal habitats, but such disturbance can put pressure on the wildlife reliant on these places. The presence of gulls and other sea birds in our towns has also led to conflict between humans and the bird life of the coast.

It is important we find ways to coexist in these coastal places and work to create more space for nature to reduce their impacts on our settlements. We also need to better understand the benefits that our intertidal habitats have on our lives so we can work to preserve and enhance it for the benefit of people as well as the wildlife that is found there.

North Yorkshire has a very small area of saltmarsh near Whitby, the only location for this habitat on the coast between Middlesbrough and Spurn Point. The uniqueness of this habitat within North Yorkshire must be enhanced to ensure the species reliant upon are not lost.

Priorities:

- Enhance rocky shore habitat to support specialist species, improve its connectivity with other ecosystems and the services it provides to society.
- Enhance habitats for seabirds on the North Yorkshire coast, both on our cliffs and in our urban spaces, to help resolve pressures from human activities and the impacts of climate change.
- Enhance, expand and connect existing saltmarsh to increase resilience of this fragile and fragmented habitat.

Priority:

CST_P01 Enhance rocky shore habitat

Enhance rocky shore habitat to support specialist species, improve its connectivity with other ecosystems and the services it provides to society.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Sense of place
- Carbon storage
- Climate regulation
- Flood protection

Focus species:

- Blue Mussel

Measures (Actions):

CST_M01.1	Actively seek traditional knowledge and oral histories about the rocky shore environment to inform evidence gaps and record how the coastline has changed.	Enabling activity	Unmapped	Also see related measure WET_M02.8
CST_M01.2	Complete a natural capital assessment of the rocky shore to inform decision-makers of the integral 'value' of the habitat and communicate this effectively with the general public.	Enabling activity	Unmapped	
CST_M01.3	Restore habitat to allow recolonisation of blue mussels. Collate and analyse all available rocky shore habitat and species data, to identify evidence gaps around blue mussels. Target resources to fill these gaps and identify new recovery opportunities for this species.	Direct action	Unmapped	
CST_M01.4	Work with the Concrete Coast programme to install ecological enhancements on 'hard' infrastructure, where ecologically and structurally appropriate, to create new habitat.	Direct action	Unmapped	Also see related measure WET_M01.2
CST_M01.5	Prevent the spread and eradicate invasive non-native species (INNS), where identified. Work with existing projects to improve INNS monitoring and reporting, leading to the development of a regional biosecurity plan to reduce and monitor spread in the long-term.	Direct action	Unmapped	

Priority:

CST_P02 Enhance habitats for seabirds

Enhance habitats for seabirds on the North Yorkshire coast, both on our cliffs and in our urban spaces, to help resolve pressures from human activities and the impacts of climate change.

Benefits:

- Access to nature
- Health and wellbeing
- Educational resource
- Sense of place
- Climate regulation
- Animal welfare

Focus species:

- Sea birds
- Adder

Measures (Actions):

CST_M02.1	Conduct regular population and productivity monitoring of seabirds nesting in urban spaces and on non-designated cliffs.	Enabling activity	Unmapped	
CST_M02.2	Broaden recreational disturbance monitoring and management to incorporate key locations and activities outside of designated areas.	Enabling activity	Unmapped	
CST_M02.3	Provide advice and support to communities in coastal urban spaces to encourage connectivity with nesting seabirds, utilise legal deterrents safely, and reduce access to litter and human food products.	Enabling activity	Unmapped	
CST_M02.4	Work with local authorities and businesses to identify suitable nesting locations (or creation of artificial habitat such as towers) and raise awareness of their plight with the local community.	Enabling activity	Unmapped	
CST_M02.5	Create and enhance suitable habitat for seabirds on the North Yorkshire coast, both on our cliffs and in our urban settlements.	Direct action	Unmapped	

Priority:

CST_P03 Enhance and expand existing saltmarsh

Enhance, expand and connect existing saltmarsh to increase resilience of this fragile and fragmented habitat.

Benefits:

- Educational resource
- Carbon storage
- Pollination
- Water quality
- Erosion control

Focus species:

- Strawberry Clover

Measures (Actions):

CST_M03.1	Enhance existing saltmarsh through sympathetic management and identify opportunities to expand this resource.	Direct action	Mapped	
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Section C – Species

1. Introduction

North Yorkshire and York contains a significant number of rare and threatened species that will, to some degree, benefit from habitat improvement measures, however they may also need very specific actions. For example, research and survey work that will help to better understand their distribution, abundance and ecology, as well as more specific measures to provide their unique habitat requirements.

2. What are priority species?

An initial list of over 8,000 species was provided by Defra for consideration as a starting point to help determine which species should be selected as priority species in our LNRS area. Following additional input from local and national experts, the species list was filtered by quality and quantity of local records to determine their presence in the strategy area (species with too few, too old or too geographically coarse records were removed). Species which experts determined to be widespread or vagrants in the LNRS area (as opposed to other areas of the country) were also removed. This led to a final longlist of 634 species, which were matched with LNRS Species guidance categories (see Appendix 2) to determine their relevance to the LNRS.

These 634 species are classed as priority species for our LNRS, because they are in decline, or suffer persecution, and require some form of intervention. These species are included in the LNRS so they can be prioritised for funding and further projects to enable their recovery, both as part of and outside of the LNRS.

An additional 1,682 species were classed as Category E, with insufficient data to determine their status or needs. The large number of species in this category highlights the urgent need to improve our knowledge of these species, to determine their current distribution in our area, and their nature recovery needs for future iterations of the LNRS. This will be an important focus for the LNRS. The full list of priority species and Category E Species can be found in Appendix 5.

From these, a shortlist of focus species has been produced to be prioritised in this first iteration of the LNRS (see below).

3. How do species relate to measures?

All 634 priority species were linked where possible to LNRS measures, to determine whether they would benefit from proposed actions. Where no measures would obviously benefit a species, this has been noted. This is mainly because the habitat they are reliant upon was not prioritised by stakeholders during LNRS development (e.g. calaminarian grassland).

It should be noted that for many of the priority species, being linked to a measure does not guarantee they will recover if that measure is delivered. Many species have specialist needs that habitat interventions alone will not achieve. However, making the link between measures and priority species allows nuanced discussions on how and where best to deliver the LNRS measures to maximise their benefits to the priority species.

Additionally, many of the species on the longlist are found in a single or small number of sites, and their management and protection does not easily fit into the LNRS priorities and measures.

4. Focus Species

The priority species longlist was filtered based on a series of categories, such as where species have been flagged as important in other plans and strategies (e.g. in Protected Landscape's nature recovery plans), local LNRS workshops, and their presence in LNRS measures, and were scored against these categories. In addition, whilst reviewing the longlist, any species that stood out as a potential indicator species to demonstrate the success of LNRS measures were included for consideration.

This information was reviewed and considered in the light of the LNRS priorities and with the goal of providing a list of species that would:

- benefit from the proposed measures within the first iteration of the LNRS;
- enable changes to be tracked via general recording efforts or targeted monitoring effort;
- encourage more people to get involved with monitoring activities and develop their skills;
- help raise awareness and encourage greater involvement with, and support for, the LNRS.

The methodology above resulted in 83 'focus species' that the LNRS will use to gain insight into species recovery as part of the LNRS, and to engage with land managers and the public around how to consider species needs in our area. The full methodology can be found in Appendix 2 and the outputs of this process can be found in tables 1 and 2 at the end of this section of the document.

5. Future migrants and species recovery projects

During the shortlisting process, species were highlighted that may colonise our LNRS area due to natural migration or be possible species for translocation projects in the future. Species were also identified that already had active species recovery projects underway and may not need the support of the LNRS to progress. These have been included for information (see tables 3 and 4 below). Some of these appear as focus species, where they qualified under other shortlisting criteria, e.g. they are listed within an LNRS measure.

6. Bespoke Species Measures

The focus species do not currently have bespoke species measures attached to them. Further analysis is needed to understand where these species are present, how they relate to the mapped measures on the LNRS Local Habitat Map, and what additional measures are needed to allow them to be conserved or to expand their ranges beyond the LNRS priorities and measures. This work will take place during the delivery phase of the LNRS.

Section C – Species

Table 1 – Individual focus species

Species	Common Name	Taxon	Conservation Status (RDB)	Associated Habitat
<i>Bufo bufo</i>	Common Toad	Amphibians and reptiles	NT	Grasslands, woodland, hedgerows, farmland, brownfield sites, parks and gardens, ponds, lakes, ditches and canals.
<i>Rana temporaria</i>	Common Frog	Amphibians and reptiles	LC	Grasslands, woodland, hedgerows, farmland, parks and gardens.
<i>Vipera berus</i>	Adder	Amphibians and reptiles	NT	Wetlands, grassland, heathlands, blanket bog, woodland, maritime cliff and slope, moorlands, hedgerows.
<i>Andrena tarsata</i>	Tormentil Mining Bee	Bees, wasps, ants & sawflies	NA	Heathlands, acid grasslands, rush pastures, glades/rides in conifer plantations.
<i>Bombus monticola</i>	Bilberry Bumblebee	Bees, wasps, ants & sawflies	NA	Upland acid grassland and heathland.
<i>Formica lugubris</i>	Northern Hairy Wood Ant	Bees, wasps, ants & sawflies	NA	Coniferous and mixed woodland
<i>Apus apus [br]</i>	Swift	Birds	LC	Urban areas, grassland, farmland, hedgerows, wetland, rivers, lakes, open woodland
<i>Asio flammeus [br]</i>	Short-eared Owl	Birds	EN	Upland heathland, upland grassland
<i>Circus cyaneus [br]</i>	Hen Harrier	Birds	EN	Lowland heathland, upland heathland, upland grasslands
<i>Coccothraustes coccothraustes [br]</i>	Hawfinch	Birds	EN	Broadleaved woodland; wood pasture and parkland
<i>Dryobates minor [br]</i>	Lesser Spotted Woodpecker	Birds	EN	Broadleaved woodland; parkland; hedgerows with trees
<i>Falco columbarius [br]</i>	Merlin	Birds	EN	Upland heathland
<i>Lyrurus tetrix [br]</i>	Black Grouse	Birds	VU	Moorland fringe with scrub and rough pasture
<i>Motacilla flava [br]</i>	Yellow Wagtail	Birds	NT	Wet grassland, wetlands, hay meadows, arable field margins, arable land
<i>Numenius arquata [br]</i>	Curlew	Birds	EN	Upland grassland, upland heathland, blanket bog, rush pasture, lowland grassland
<i>Passer montanus [br]</i>	Tree Sparrow	Birds	VU	Broadleaved woodland, wood pasture and parkland, hedgerows, grasslands, arable field margins
<i>Perdix perdix [br]</i>	Grey Partridge	Birds	VU	Grassland, arable land
<i>Poecile montanus [br]</i>	Willow Tit	Birds	EN	Wet woodland, riparian woodland and scrubby areas
<i>Poecile palustris [br]</i>	Marsh Tit	Birds	NT	Broadleaved woodland, wet woodland and scrub, farmland with woody areas.

Section C – Species

Species	Common Name	Taxon	Conservation Status (RDB)	Associated Habitat
<i>Streptopelia turtur</i> [br]	Turtle dove	Birds	CR	Open woodland; tall, thick hedgerows in farmland, parkland, arable land
<i>Tringa totanus</i> [br]	Redshank	Birds	VU	Upland heathland, upland grassland, wet grassland, freshwater marsh
<i>Turdus torquatus</i> [br]	Ring Ouzel	Birds	NT	Upland heathland with scrub, upland calcareous grassland
<i>Vanellus vanellus</i>	Lapwing	Birds	VU	Grassland, upland hay meadows, arable land, wetlands, floodplain grazing marsh
<i>Aricia artaxerxes</i>	Northern Brown Argus	Butterflies	VU	Upland and lowland calcareous grassland with scrub
<i>Austropotamobius pallipes</i>	White-clawed Crayfish	Crayfish	NA	Rivers, ponds
<i>Cordulegaster boltonii</i>	Golden-ringed Dragonfly	Dragonflies and damselflies	LC	Rivers and streams
<i>Lestes sponsa</i>	Emerald Damselfly	Dragonflies and damselflies	LC	Wetlands
<i>Carabus monilis</i>	Necklace Ground Beetle	Ground beetles	EN	Open habitat including arable margins, sandy heathland, woodland, thick scrub, hay meadows.
<i>Chrysolina graminis</i>	Tansy Beetle	Leaf beetles and allies	EN	Tall sward on riverbanks
<i>Anoplodera sexguttata</i>	Six-spotted Longhorn	Longhorn beetles	NT	decaying wood in open broadleaved woodland
<i>Arvicola amphibius</i>	European Water Vole	Mammals	EN	Rivers, wetlands, ditches, mixed woodland
<i>Erinaceus europaeus</i>	West European Hedgehog	Mammals	VU	Urban spaces and gardens, grassland, mixed woodland, heathland, arable land
<i>Micromys minutus</i>	Harvest Mouse	Mammals	NT	Tussocky grasslands, hedgerows, field margins, road verges, reedbeds, ditches
<i>Neomys fodiens</i>	Water Shrew	Mammals	LC	Banks of streams, rivers, ponds, ditches, mixed woodland,
<i>Sciurus vulgaris</i>	Red Squirrel	Mammals	EN	Upland & moorland, coniferous woodland; broadleaved woodland
<i>Baetis niger</i>	Southern Iron Blue	Mayflies	LC	Rivers and streams
<i>Mytilus edulis</i>	Blue Mussel	Molluscs	NA	Rocky shores
<i>Margaritifera margaritifera</i>	Freshwater Pearl Mussel	Molluscs (non-marine)	CR	Rivers and streams
<i>Pseudanodonta complanata</i>	Depressed River Mussel	Molluscs (non-marine)	NA	Rivers and streams, large ditches and canals
<i>Vertigo geyeri</i>	Geyer's Whorl Snail	Molluscs (non-marine)	NT	Open flushes in calcareous fens and mires
<i>Arctia caja</i>	Garden Tiger	Moths	NA	Gardens, damp meadows, fens, riverbanks, open woodland

Section C – Species

Species	Common Name	Taxon	Conservation Status (RDB)	Associated Habitat
<i>Chiasmia clathrata</i>	Latticed Heath	Moths	NA	Gardens, calcareous grassland, fens, open woodland, heathland and moorland
<i>Euclidia glyphica</i>	Burnet Companion	Moths	NA	Dry or damp grasslands (usually calcareous), flower-rich hay meadows, woodland rides, verges
<i>Eupithecia pygmaeata</i>	Marsh Pug	Moths	NA	Wet meadows, marshes, fens
<i>Panemeria tenebrata</i>	Small Yellow Underwing	Moths	NA	Flower-rich grasslands, sea-cliffs, roadside verges
<i>Perizoma minorata</i>	Heath Rivulet	Moths	NA	Moorland, upland pasture and limestone grassland
<i>Coeloglossum viride</i>	Frog Orchid	Vascular plants	VU	lowland calcareous grassland, limestone pavement
<i>Drosera rotundifolia</i>	Round-leaved Sundew	Vascular plants	LC	blanket bog, lowland raised bog, upland heathland, upland flushes, fens and swamps
<i>Filipendula vulgaris</i>	Dropwort	Vascular plants	LC	Calcareous grassland, limestone pavement, upland heathland
<i>Genista anglica</i>	Petty Whin	Vascular plants	NT	Upland heathland, upland hay meadows, bog, fen, marsh and swamp
<i>Gentianella campestris</i>	Field Gentian	Vascular plants	VU	Upland calcareous grassland, lowland dry acid grassland, lowland meadow
<i>Juniperus communis</i>	Juniper	Vascular plants	LC	Upland heathland, upland broadleaved woodland, calcareous grassland, limestone pavement
<i>Neotinea ustulata</i>	Burnt Orchid	Vascular plants	EN	Lowland calcareous grassland
<i>Ophioglossum vulgatum</i>	Adder's-tongue fern	Vascular plants	LC	Broadleaved woodland, lowland meadows, unimproved grassland, heathland
<i>Orobanche reticulata</i>	Thistle Broomrape	Vascular plants	NT	Lowland calcareous grassland
<i>Primula farinosa</i>	Bird's-eye Primrose	Vascular plants	VU	Upland calcareous grassland
<i>Succisa pratensis</i>	Devil's-bit Scabious	Vascular plants	LC	acid grassland, calcareous grassland, calcareous grassland, lowland meadows, heathland, rush pastures, broadleaved and mixed woodland
<i>Trifolium fragiferum</i>	Strawberry Clover	Vascular plants	LC	Coastal saltmarsh, lowland fen, calcareous grassland, gardens
<i>Sium latifolium</i>	Greater Water-parsnip	Vascular plants	EN	Rivers, lowland fens, upland flushes, fens and swamps, standing open water and canals, reedbeds
<i>Viola canina</i>	Heath Dog-violet	Vascular plants	NT	Lowland dry acid grassland, heathland, rivers and streams

Section C – Species

Table 2 – Focus species assemblages

Species	Common Name	Taxon	Conservation Status (RDB)	Associated Habitat
Bats Species Assemblage				woodland, woodland edge, hedgerows, grassland, wetlands, lakes, rivers, gardens, parkland, buildings and bridges (roosting), tree holes (roosting)
<i>Myotis brandtii</i>	Brandt's Bat	Mammals	NA	
<i>Myotis daubentonii</i>	Daubenton's Bat	Mammals	LC	
<i>Myotis mystacinus</i>	Whiskered Bat	Mammals	NA	
<i>Myotis nattereri</i>	Natterer's Bat	Mammals	LC	
<i>Nyctalus leisleri</i>	Leisler's Bat	Mammals	NT	
<i>Nyctalus noctula</i>	Noctule Bat	Mammals	LC	
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	Mammals	LC	
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	Mammals	LC	
<i>Plecotus auritus</i>	Brown Long-eared Bat	Mammals	LC	
<i>Myotis alcathoe</i>	Alcathoe Bat	Mammals		
Sea Bird Assemblage				Coastal cliffs and rocks, urban areas
<i>Rissa tridactyla</i> [br]	Kittiwake	Birds	CR	
<i>Fulmarus glacialis</i> [br]	Fulmar	Birds	LC	
<i>Larus argentatus</i> [br]	Herring Gull	Birds	EN	
Arable Flowers Assemblage				Arable Field Margins, parks and gardens
<i>Centaurea cyanus</i>	Cornflower	Vascular plants	NA	
<i>Cerastium arvense</i>	Field Mouse-ear	Vascular plants	LC	
<i>Cichorium intybus</i>	Chicory	Vascular plants	NA	
<i>Clinopodium acinos</i>	Basil Thyme	Vascular plants	VU	
<i>Euphorbia exigua</i>	Dwarf Spurge	Vascular plants	NA	
<i>Filago lutescens</i>	Red-tipped Cudweed	Vascular plants	EN	
<i>Filago vulgaris</i>	Common Cudweed	Vascular plants	NT	
<i>Fumaria purpurea</i>	Purple Ramping-fumitory	Vascular plants	LC	
<i>Galeopsis speciosa</i>	Large-flowered Hemp-nettle	Vascular plants	NA	

Section C – Species

Species	Common Name	Taxon	Conservation Status (RDB)	Associated Habitat
<i>Glebionis segetum</i>	Corn Marigold	Vascular plants	NA	
<i>Geranium columbinum</i>	Long-stalked Crane's-bill	Vascular plants	LC	
<i>Hypochaeris glabra</i>	Smooth Cat's-ear	Vascular plants	VU	
<i>Mentha arvensis</i>	Corn Mint	Vascular plants	LC	
<i>Minuartia hybrida</i>	Fine-leaved Sandwort	Vascular plants	EN	
<i>Onobrychis viciifolia</i>	Sainfoin	Vascular plants	NT	
<i>Scandix pecten-veneris</i>	Shepherd's-needle	Vascular plants	NA	
<i>Spergula arvensis</i>	Corn Spurrey	Vascular plants	VU	
<i>Stachys arvensis</i>	Field Woundwort	Vascular plants	NA	
<i>Viola tricolor</i>	Wild Pansy	Vascular plants	NT	
Waxcap fungi Assemblage				Grasslands, verges, churchyards, woodland
<i>Gliophorus psittacinus</i>	Parrot Waxcap	Fungi	NA	
<i>Hygrocybe punicea</i>	Crimson Waxcap	Fungi	NA	
<i>Porpolomopsis calyptriformis</i>	Pink Waxcap	Fungi	NA	
Freshwater Fish Assemblage				Rivers and Streams
<i>Anguilla anguilla</i>	European Eel	Freshwater Fish	CR	
<i>Lampetra fluviatilis</i>	European River Lamprey	Freshwater Fish	LC	
<i>Lampetra planeri</i>	Brook Lamprey	Freshwater Fish	LC	
<i>Petromyzon marinus</i>	Sea Lamprey	Freshwater Fish	LC	
<i>Salmo salar</i>	Atlantic Salmon	Freshwater Fish	EN	
<i>Salmo trutta</i>	Sea/Brown Trout	Freshwater Fish	NA	
<i>Cottus gobio</i>	Bullhead	Freshwater Fish	LC	

7. Species Recovery Projects list

Many priority species have existing or planned species recovery projects associated with them. The LNRS will work with these, where possible, to ensure that delivery of LNRS measures support the ambitions of the species recovery projects. A list of known species currently being focused on by organisations with the LNRS area is provided in Table 3 below (n.b. this is not an exhaustive list).

Table 3 – Species associated with existing or planned species recovery projects

Species	Common Name	Taxon	Conservation Status
<i>Hirudo medicinalis</i>	Medicinal Leech	Annelid	NA
<i>Andrena tarsata</i>	Tormentil Mining Bee	Bees, wasps, ants & sawflies	NA
<i>Crex crex</i>	Corn crake	Birds	LC
<i>Streptopelia turtur</i>	Turtle Dove	Birds	CR
<i>Coenonympha tullia</i>	Large Heath	Butterflies	EN
<i>Austropotamobius pallipes</i>	White-clawed Crayfish	Crayfish	NA
<i>Chrysolina graminis</i>	Tansy beetle	Leaf beetles and allies	EN
<i>Castor fiber</i>	Beaver	Mammals	EN
<i>Martes martes</i>	Pine Marten	Mammals	LC
<i>Muscardinus avellanarius</i>	Hazel Dormouse	Mammals	VU
<i>Electrogena affinis</i>	Scarce Dusky Yellowstreak	Mayfly	DD
<i>Margaritifera margaritifera</i>	Freshwater pearl mussel	Molluscs	CR
<i>Epione vespertaria</i>	Dark Bordered Beauty	Moths	NA
<i>Odontomyia hydroleon</i>	Green Barred Colonel	Soldier flies and allies	CR
<i>Carex ericetorum</i>	Rare Spring-sedge	Vascular plants	VU
<i>Cypripedium calceolus</i>	Lady's Slipper Orchid	Vascular plants	CR
<i>Gentianella campestris</i>	Field Gentian	Vascular plants	VU
<i>Neotinea ustulata</i>	Burnt Orchid	Vascular plants	EN
<i>Juniperus communis</i>	Juniper	Vascular plants	LC
<i>Pilularia globulifera</i>	Pillwort	Vascular plants	NT
<i>Sium latifolium</i>	Greater Water-parsnip	Vascular plants	EN

8. Migrants list

The LNRS Species guidance includes a recommendation to consider species that may move into the LNRS area in the future due to migration related to climate change. Table 4 below provides a list of species that could feasibly become established in the strategy area. The list is based purely on the opinion of local experts, as there are historic records in North Yorkshire and York for almost all the species. Therefore, there is a strong likelihood that they could become established, with suitable levels of required habitat and other environmental factors being favourable.

Table 4 – Potential future migrant species

Species	Common Name	Taxon	Conservation Status
<i>Aquila chrysaetos</i>	Golden Eagle	Birds	NT
<i>Bubulcus ibis</i>	Cattle Egret	Birds	LC
<i>Grus grus</i>	Common Crane	Birds	VU
<i>Haliaeetus albicilla</i>	White-tailed Eagle	Birds	EN
<i>Himantopus himantopus</i>	Black-winged Stilt	Birds	NA
<i>Locustella luscinioides</i>	Savi's Warbler	Birds	CR
<i>Luscinia megarhynchos</i>	Nightingale	Birds	VU
<i>Platalea leucorodia</i>	Spoonbill	Birds	VU
<i>Plegadis falcinellus</i>	Glossy Ibis	Birds	NA
<i>Aeshna isosceles</i>	Norfolk Hawker	Dragonflies and damselflies	EN
<i>Brachytron pratense</i>	Hairy Dragonfly	Dragonflies and damselflies	LC
<i>Erythromma najas</i>	Red-eyed Damselfly	Dragonflies and damselflies	LC
<i>Leucorrhinia dubia</i>	White-faced Darter	Dragonflies and damselflies	EN
<i>Lota lota</i>	Burbot	Freshwater Fish	Data deficient
<i>Acipenser sturio</i>	Common Sturgeon	Freshwater Fish	CR
<i>Euplagia quadripunctaria</i>	Jersey Tiger	Moths	NA