Natural England Climate Change Adaptation Plan - update

Climate change adaptation reporting: fourth round

NE790: January 2025

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NATURAL ENGLAND

Contents

Executive summary

This fourth-round Adaptation Reporting Power (ARP4) report provides an update to actions we outlined in our third-round (ARP3) report, published at the end of 2021. We have reviewed our previous adaptation plan and focused on specific actions that we plan to implement over this reporting period up until the end of 2029. We have made good progress on many of the actions from the third round. However, progress is not uniform across all work areas. Many of our adaptation actions focus on building resilience and reducing pressures on the environment, which are exacerbated by climate change. In the future this will not be sufficient to deal with the scale of impacts we expect from a climate changed world. The key priorities summarised below are intended to help drive our work on adaptation to ensure climate change risks are better accounted for and managed across all our work.

Governance Changes

Since our Third Round Report we have launched a 5-year Climate Change Strategic Action Plan (CCSAP) to accelerate action on climate change mitigation and adaptation across the organisation. As part of implementation of the Strategic Plan, two new governance groups have been established: a strategic-level Climate Action Project Board (CAPB) and a delivery-focused Climate Action Project Team (CAPT). These groups are designed to work alongside our wider governance structures to help the organisation achieve our ambitions to embed climate change mitigation and adaptation across all our work.

Interdependencies with wider delivery mechanisms

Most of the climate change risks to our organisational aims are interrelated due to how climate change is and will continue to affect the natural environment. Many of our adaptation actions are linked to wider delivery mechanisms, such as the Environmental Improvement Plan (EIP), the Nature Recovery Network (NRN) and Local Nature Recovery Strategies (LNRS). These mechanisms cannot fulfil their potential for climate change adaptation unless integrated from the outset. We need to play our part in developing these broader delivery mechanisms to realise our ambitions for adaptation alongside nature recovery.

Our key adaptation actions over the next five years

The following key actions are where we will focus our efforts to ensure adaptation is built into wider delivery mechanisms for nature recovery and wider ecosystem health:

- Advocate for the clear inclusion of adaptation principles within the government's Land Use Framework (LUF), to ensure adaptation is prioritised in land use choices and changes. Part of this is providing advice and evidence to ensure that net zero is pursued in ways that also enable adaptation and nature recovery.

- Build adaptation assessment and planning into all local strategic plans, including LNRS and catchment plans – taking a system health perspective about what is needed to ensure long term resilience.
- Contribute to the refinement and deployment of Environmental Land Management (ELM) schemes – to operate at scale and address issues of connectivity as well as designing options to cater for adaptation needs, such as by providing climate change refugia.
- Refine our Sites of Special Scientific Interest (SSSI) objectives to reflect system health and function rather than remain static against a changing backdrop – to be core components of the nature recovery network, not merely isolated examples of what we once had.
- Develop future habitat targets to reflect system health and adaptation principles at national and local levels. For example, avoiding tree monocultures and instead building system resilience through species and structural diversity (including taking an evidenced-based approach to non-native elements as part of that mix).

The following actions are key actions that are within our power to implement over the next five years:

- Complete climate change vulnerability assessments on the National Nature Reserves (NNRs) we manage.
- Continue climate change risk assessments and evidence building for SSSIs alongside the development of indicators as part of the SSSI Future Reforms Project.
- Deliver practitioner level climate change training for our Sustainable Development and Farm Advisors.
- Develop an overarching Key Performance Indicator (KPI) for our work on adaptation and bespoke climate change risk assessments for our corporate portfolios.
- Use our Nature Returns Programme to develop learning on best practice approaches to Nature-based Solutions.

We have also outlined three case studies demonstrating good practice in our work on adaptation and provided indicators of success for the actions within the plan. The CAPT and CAPB groups will be responsible for monitoring overall progress on implementing the actions within this plan.

Introduction - Developing our approach

Adapting to climate change is essential if we are to succeed in recovering nature. In our third round ARP report we set our how we are developing our approach to protecting nature under a changing climate noting that Natural England's work will not be sustainable either now or in the future if climate change is not at the heart of our work.

Our ARP3 report also set out the reality of a changing climate and the resultant risks to our organisational aims. This is also set out internally within the Strategic Plan for Climate Change published in 2023 (see **Governance, management and strategy**). We are seeing the impacts of climate change on our landscapes and protected sites. Changes in the composition of some protected communities have resulted in a shifting or loss of features that affects the ability of management activities to achieve or maintain favourable condition and meet protected site conservation objectives. This has implications for meeting commitments within the Environment Improvement Plan and our aims for nature recovery. We will not always be able to prevent change. For example, sea level rise and coastal change are happening now and further changes are inevitable, even with effective control of global emissions. With appropriate management, new habitats and species may be established, but we will have to embrace change to a much greater extent than in the past.

We must also acknowledge the existing pressure facing the natural world and understand the way these interact with climate change. Many of our ecosystems are experiencing chronic degradation and stress, which makes them more vulnerable and less able to adapt to a changing climate. Addressing the totality of these multiple pressures is beyond the remit and scope of Natural England alone, but we have a crucial role to play.

Our role in climate change adaptation includes developing our organisational processes and assessments, including for the land we manage within our National Nature Reserves as well as how we tailor our guidance in our regulatory and advisory roles alongside our leadership role as both a statutory nature conservation body and a leader in climate change adaptation and mitigation evidence.

The following themes provide a framework for our action over the reporting period for the next five years:

- Plan climate change adaptation for the natural environment, with the aim of restoring ecological processes at a landscape scale to enable nature recovery, enhance resilience and accommodate inevitable change.
- Deliver multiple benefits through our work on climate change adaptation for the natural environment, including integrating climate change mitigation, biodiversity and enhancing the quality of life for people.
- Recognising the benefits of local level adaptation, which we have a key position to showcase and develop through the work of our Area Teams.
- Using a natural capital approach to account for the multiple benefits that nature provides to society.

- Developing adaptive management that takes account of change in the natural world both in the policy advice and delivery space.
- Ensuring we have joined-up working between our different specialists and work programmes.
- Developing the monitoring and evaluation of adaptation, including Nature-based Solutions, to provide the strongest possible evidence base for good decision-making.
- Develop a joined-up approach to Nature-based Solutions which delivers mitigation and adaptation with measurable benefits for nature and people.

ARP4

Natural England's Third Round Adaptation Reporting Power (ARP3) report was published at the end of 2021. We have followed the guidance provided by Defra for organisations who reported in the third round. In this Fourth-Round report (ARP4) we have therefore focused on providing a progress update to the actions in our ARP3 report. We have focused on specific actions that are being or will be developed during the current reporting period up until the end of 2029. We have linked our adaptation actions with the risks outlined in the Climate Change Risk Assessment (CCRA3) and our own overarching risk assessment.

Organisational profile

We are the government's advisor for the natural environment. Natural England's role in climate change is shaped by our purpose 'to help conserve, enhance and manage the natural environment for the benefit of present and future generations, thereby contributing to sustainable development.'

Accelerating Nature Recovery - 2024/25 Priorities

Our Priorities for 2024/25 are focused on accelerating nature recovery as first detailed in our Action Plan for 2021/2022 and outlined in our ARP3 report. This vision and mission are underpinned by six five-year aims, which also contribute to the Defra group's priority outcomes and align with the Government's 25 YEP.

Our key goals for this as outlined in our current Action Plan are to:

- Improve the condition of the core Nature Recovery Network – our protected sites on land and sea.
- Deliver local nature recovery strategies (LNRS) and work with partners to develop plans and projects to deliver LNRS ambitions for people and nature.
- Target use of regulation and advice on land and sea to create new habitat and improve protected sites condition.
- Green development and infrastructure.

- Enable more people to connect with nature.
- Develop and target delivery of farm advice.
- Target monitoring to underpin delivery.
- Develop our capability in NE and focus on people's development and wellbeing.

The current and future impacts of climate change present significant risks to these goals as outlined in the **Understanding Risks and Challenges** section.

Governance, management and strategy

Since our Third Round Report we have launched a 5-year Climate Change Strategic Action Plan (CCSAP) to accelerate action on climate change mitigation and adaptation across the organisation. The overall aim of the Strategic Plan is to re-position Natural England to lead both the delivery of nature recovery and the national response to climate change within the natural environment. This includes implementing the actions in our ARP3 report and helping nature adapt to climate change by factoring it into all our work on nature recovery and conservation. We are also undertaking a phased introduction in reporting under the Task Force on Climate-related Financial Disclosure (TCFD). We have been asked to begin reporting as TCFD principles are being adopted more broadly across different sectors and by international standard setters.

Governance of Climate Change

As part of implementation of the Strategic Plan two new governance groups have been established: a strategic-level Climate Action Project Board (CAPB) and a delivery-focused Climate Action Project Team (CAPT). The roles and responsibilities of these groups and how they fit into the wider governance of climate change within Natural England are outlined below.

NE Board: Our Board is responsible for agreeing climate change aspects of NE's High Nature, Low Carbon approach as part of setting the organisation's strategy overall. The Board is currently considering how to reflect the growing importance of climate change adaptation and mitigation in the development of Natural England's new strategy.

Natural England Executive Committee (NExCo): NExCo is responsible for the overall leadership of climate change within the organisation. This includes confirming the level of ambition and priority given to our climate change work, reviewing progress and providing overall decision making on resourcing.

Portfolio Committee (PortCo): PortCo is accountable for tracking progress on how climate action is implemented and ensuring the required resource allocations to embed climate action across the organisation, including via the portfolios.

Individual Portfolios: In 2020 we developed the following four strategic programmes – now termed portfolios - to deliver our five-year aims up until 2025 (see Appendix 1):

- Resilient Landscapes and Seas (RLS)
- Sustainable Development (SD)
- Greener Farming and Fisheries (GFF)
- Connecting People with Nature (CPwN)

They are underpinned by two supporting portfolios:

- Science and Evidence (S&E)
- Managing the Organisation (MtO)

Our portfolios are designed to ensure join up on cross cutting issues by linking strategy, policy, evidence and delivery. Every delivery portfolio is responsible for implementing the CCSAP and ARP4 through their various project workstreams and are accountable or responsible for component tasks and actions to be delivered through the appropriate teams within our different directorates.

Climate Action Project Board (CAPB): The CAPB acts as an oversight group to manage the direction of the project. The CAPB will report regularly to Portfolio Committee (PortCo) and evaluate the outcomes of the project to ensure that the desired results are being achieved.

Climate Action Project Team (CAPT): The CAPT is the main delivery group through which the organisation will achieve its ambitions to embed climate change mitigation and adaptation across all its work, including the objectives set out in the CCSAP. A representative from all six corporate portfolios is included within the Team.

Understanding risks and challenges

In our ARP3 report we used an overarching assessment to frame the risks of climate change to the organisations aims and objectives (see Appendix 2). These overarching risks remain the same and are interconnected throughout our various aims and objectives, particularly in relation to nature recovery. One of the actions within this updated plan is to develop the understanding and ownership of climate change risk across our corporate portfolios.

As many of the risks to Natural England's' work are intrinsically linked to environmental risks we have also referenced the natural environment risks outlined in the Independent Assessment of UK Climate Risk (CCRA3) within our updated action plan.

Our NNRs and protected sites

Protected sites are core components of the Nature Recovery Network (NRN). We have a well-established methodology for assessing climate vulnerability on our National Nature Reserves (NNRs). This methodology covers our NNR estate, which comprises the sites that we manage for people and nature. Completing these vulnerability assessments

across our NNRs is an action within our adaptation plan update. This method has been adapted for Sites of Special Scientific Interest (SSSIs) as part of the SSSI Future Reforms project (see case studies). The approach to the climate change vulnerability assessments for SSSIs is outlined in the Amberley Wild Brooks SSSI climate change vulnerability assessment and adaptation planning report (NECR504). These methodologies outline our approaches to climate risk and vulnerability for species and habitats across our protected sites, which will be assessed at the site level – see the SSSI Future Reform update within the adaptation plan for more information.

Our climate change risk assessment

The overall scoring of the current risks and opportunities to our overall aims and objectives is provided in table 1 below. This includes the Impact (I) and Likelihood (L) ratings. We have updated our risk to provide an assessment of present-day medium term and long-term risk. Medium and long-term risks use two horizons of 2050 and 2080. To follow Climate Change Committee advice of assessing risks to 4°C and planning adaptation to 2°C; we have used UKCP18 projections considering Representative Concentration Pathway (RCP) 2.6 as a low emissions scenario and RCP8.5 as a high emissions scenario. Our full risk assessment methodology is provided in Appendix 2.

Table 1 Climate Change Risk Assessment

Risks	Present Day	Medium term risk	Medium term risk	Long term risk	Long term risk	Narrative
		RCP 2.6	RCP 8.5	RCP 2.6	RCP8.5	
Risks to the viability of the Nature Recovery Network and the recovery of threatened species and habitats	**10 Major** L - almost certain. I – minor	**15 Major** L - almost certain. I – moderate	**15 Major** L - almost certain. I - moderate	**20 Severe** L - almost certain. I - major	**25 Severe** L - almost certain. I – severe	Climate change impacts are already being observed on ecosystems. Disruption to the NRN and threatened species, particularly those vulnerable to climate change is therefore expected as well as risks to wider landscape resilience. This includes changes in species distributions, community structure and function and climate driven declines and loses of species as well as the direct impact of extreme weather events, drought, wildfire and flooding on ecosystems and habitats. Impacts will be greater in the long term and at higher emissions scenarios.
Risks to the status of protected sites for biodiversity and geodiversity	**10 Major** L - almost certain. I- minor	**15 Major** L - almost certain. I - moderate	**15 Major** L - almost certain. I - moderate	**20 Severe** L - almost certain. I - major	**25 Severe** L - almost certain. I – severe	Climate change impacts are already being observed on protected sites, particularly those vulnerable to climate change. This includes changes in species distributions, community structure and function and climate driven declines and loses of species as well as the direct impact of extreme weather events, drought, wildfire and flooding. Impacts will be greater in the long term and at higher emissions scenarios.

Risks	Present Day	Medium term risk	Medium term risk	Long term risk	Long term risk	Narrative
Risks to the ability of the SSSI network, MPAs, NNRs and protected landscapes to adapt to climate change	**10 Major** L - almost certain. I - minor	**15 Major** L - almost certain. I - moderate	**15 Major** L - almost certain. I - moderate	**20 Severe** L - almost certain. I - major	**25 Severe** L - almost certain. I – severe	Climate change impacts are already being observed on the network of protected sites, particularly sites vulnerable to climate change. This includes changes in species distributions as well the direct impact of extreme weather events, drought, wildfire and flooding. Sites with designated features such as species or habitats that are likely to experience range shifts are particularly vulnerable. Impacts will be greater in the long term and at higher emissions scenarios.
Risks to natural capital and its contribution to agriculture, fisheries and sustainable development including farm advice and net gain	**10 Major** L - almost certain. I – minor	**15 Major** L - almost certain. I - moderate	**15 Major** L - almost certain. I - moderate	**20 Severe** L - almost certain. I - major	**25 Severe** L - almost certain. I - severe	Climate change impacts already observed on natural capital. This includes extreme weather events, drought, wildfire and flooding. Impacts will be greater in the long term and at higher emissions scenarios.
Risks to the viability of natural areas for people to access and connect with nature	**3 Minor** L – possible. I – minor	**9 Moderate** L – possible. I - moderate	**9 Moderate** L – possible. I - moderate	**16 Major** L – likely. I - major	**20 Severe** L – almost certain. I – major	Accessible areas for people to access and connect with nature are still expected. However, disruption to access and viability of areas is already observed for example from flooding and wildfire. More disruption is expected in the long term and at higher emissions scenarios. This may exacerbate existing inequalities in relation to people's access to nature.

Risks	Present Day	Medium term risk	Medium term risk	Long term risk	Long term risk	Narrative
Risks and opportunities for Natural England's role as a leader in nature recovery and climate change.	**3 Minor** L – possible. I – minor	**9 Moderate** L – possible. I - moderate	**9 Moderate** L – possible. I - moderate	**16 Major** L – likely. I - major	**20 severe** L – almost certain. I – major	As climate change impacts continue to develop, we expect increased scrutiny of our plans and response to climate change impacts. In the long term and at higher emissions scenarios societal responses are likely to develop with increased scrutiny expected.
Risks and opportunities for different species and habitats under changing climatic conditions.	**10 Major** L - almost certain. I – minor	**15 Major** L - almost certain. I - moderate	**15 Major** L - almost certain. I – moderate	**20 Severe** L - almost certain. I - major	**25 Severe** L - almost certain. I - severe	Climate change impacts are already observed on species and habitats, particularly those vulnerable to climate change. This includes changes in species distributions, community structure and function and climate driven declines and loses of species as well as the impact of extreme weather events, drought, wildfire and flooding on ecosystems and habitats. Impacts will be greater in the long term and at higher emissions scenarios.

Risk assessment results

Our overarching risk assessment demonstrates how climate change impacts are already affecting our organisational aims and objectives, which is only going to increase in the medium to long term. Compared to the ARP3 assessment it reinforces the magnitude and immediacy of climate risks. For example, this was highlighted by the record-breaking heatwave in the summer of 2022 and subsequent widespread drought.

Up to 2050 we expect similar impacts under both high and low emission scenarios although this will diverge more over the longer term reinforcing the need for climate change mitigation to avert the most severe or catastrophic potential impacts.

Interdependent and cascading risks

Most of the climate change risks facing our organisational aims are interrelated due to how climate change is and will continue to affect the natural environment. Addressing climate risks and opportunities in an integrated way is also reflected in our adaptation actions. Interdependencies with other organisations are noted throughout our Adaptation Plan as working with others, either through partnerships, our regulatory role or through providing advice and guidance, is essential to deliver much of our work. A key part of our organisational action plan is to strengthen our current partnerships and build new ones for nature recovery and delivering the goals of the Environmental Improvement Plan (EIP). For example, through the establishment of the Nature Recovery Network, led by 'responsible authorities' to deliver Local Nature Recovery Strategies (LNRS).

We need to play our part in developing broader delivery mechanisms to realise our ambitions for adaptation alongside nature recovery. These mechanisms cannot fulfil their potential for climate change adaptation unless integrated from the outset with clear and measurable objectives. For example, the following delivery mechanisms are key to ensure the risks of climate change to our work on people and nature are reduced:

- Environmental Improvement Plan
- The Nature Recovery Network
- Local Nature Recovery Strategies
- Biodiversity Net Gain
- Environmental Land Management Schemes
- Land Use Framework

As such we have included specific actions to help build adaptation into wider delivery mechanisms for nature recovery in our Key Adaptation Actions outlined below.

Adaptation action plan and implementation

Review of Adaptation Plan

We have reviewed our third-round report and the actions across different work areas to provide a progress update (see tables 2-7 in the Adaptation Plan Update below). We have linked the actions to the risks in our risk assessment and CCRA3 as well as providing information on monitoring and the NE portfolio responsible for implementing the action.

As with our ARP3 report the actions outlined below are organised by the six corporate portfolios as described in the Governance, management and strategy section above. We have focused on specific, current and planned actions that contribute to climate change adaptation and reducing the risks of climate change to our work. We have made good progress on many of the actions outlined in our ARP3 report. However, progress is not uniform across all work areas. Many of our adaptation actions focus on building resilience and reducing pressures on the environment, which are exacerbated by climate change. In the future this will not be sufficient to deal with the scale of impacts we expect from a climate changed world. This is challenging, requiring alternative solutions e.g. Resist, Accept, Direct (RAD) change; and is a 180-degree shift in conservation thinking for many of our staff, from restoration to a state when the world was a degree cooler, to thinking how a landscape may look in future and allow for dynamic change.

A key action within our ARP4 plan is to develop an overarching Key Performance Indicator (KPI) to help drive and track progress on our work on adaptation We also plan to develop climate change risk assessments for our corporate portfolios to ensure climate change risks are better accounted for and managed across all of our work (see the Managing the Organisation section for details).

Our key adaptation actions up to 2029

The following key actions are where we will focus our efforts to ensure adaptation is built into wider delivery mechanisms for nature recovery and wider ecosystem health:

- Advocate for the clear inclusion of adaptation principles within the government's Land Use Framework (LUF), to ensure adaptation is prioritised in land use choices and changes. Part of this is providing advice and evidence to ensure that net zero is pursued in ways that also enable adaptation and nature recovery.
- Build adaptation assessment and planning into all local strategic plans, including LNRS (action 2) and catchment plans – taking a system health perspective about what is needed to ensure long term resilience.
- Contribute to the refinement and deployment of ELMS – to operate at scale and address issues of connectivity as well as designing options to cater for adaptation needs (e.g. actions 65 and 66), such as by providing climate change refugia.

- Refine our SSSI objectives to reflect system health and function rather than remain static against a changing backdrop – to be core components of the nature recovery network, not merely isolated examples of what we once had (actions 7, 8, 9 and 10).
- Develop future habitat targets to reflect system health and adaptation principles at national and local levels. For example, avoiding tree monocultures and instead building system resilience through species and structural diversity (including taking an evidenced-based approach to non-native elements as part of that mix).

The following key actions focus on areas that are within our power to implement within Natural England over the next five years:

- Complete climate change vulnerability assessments on the NNRs we manage (action 3).
- Continue climate change risk assessments and evidence building for SSSIs alongside the development of indicators as part of the SSSI Future Reforms Project (actions 7, 9 and 10).
- Deliver practitioner level climate change training for our Sustainable Development and Farm Advisors (actions 53 and 57).
- Develop an overarching KPI for our work on adaptation and bespoke climate change risk assessments for our corporate portfolios (actions 85 and 86).
- Use our Nature Returns Programme to develop learning on best practice approaches to Nature-based Solutions (action 89).

Approach to Monitoring and Evaluation

Most of the actions listed across the adaptation plan cover discrete projects within different work areas across the organisation. These projects have their own monitoring and evaluation approaches that we have not included within this update.

We have provided indicators of success for all adaptation actions within the plan. We have also described whether the indicators are an input, activity, output, outcome or impact of the intervention as outlined by Pearce-Higgins et al. 2022. Our overall progress on embedding climate change action is monitored through the CAPT and CAPB groups outlined in the **Governance, management and strategy** section.

Case Studies

These three case studies demonstrate how we are developing our approach to adaptation. They comprise examples of how we are tailoring our advice and processes in our regulatory role for protected sites. How we are developing our internal processes in response to drought events and how we are building the capacity of our staff on climate change adaptation and mitigation through baseline and practitioner training.

Case study 1: Responding to climate change impacts on protected sites

Since April 2023 climate change is assessed as part of condition monitoring on SSSIs by undertaking a Climate Change Risk Assessment (CCRA). A CCRA reviews the current and future climatic impact on site features and how climate impacts interact with other pressures on a site. A level of risk is assigned to features (0-5) and comments are provided on the impact for each climate pressure i.e. temperature; rainfall; sea level rise; extreme events. When climate change is assessed as being a significant pressure (scoring 4-5), this triggers the need for an Adaptive Delivery Plan (ADP). So far, 10-15% of SSSIs for which a condition assessment has been completed since April 2023 have recorded climate change as a significant pressure and thus will require an ADP.

ADPs build on the work that started on the National Nature Reserve (NNR) network 10 years ago to develop and refine ways we assess climate change impacts and how adaptation responses are integrated into NNR management plans. This work found that habitats most vulnerable to climate change include those which are freshwater, wetlands, coastal and upland. Work has also been undertaken to consider the responses that go beyond building resilience and considering transformative change using the Resist Accept Direct framework to steer thinking (see Figure 1 below). ADPs will take this learning and understanding in responding to climate change and apply it in a protected site context. Four case studies are currently being developed on SSSIs that represent a range of different ecological contexts that will look to understand how ADPs can be practically applied.

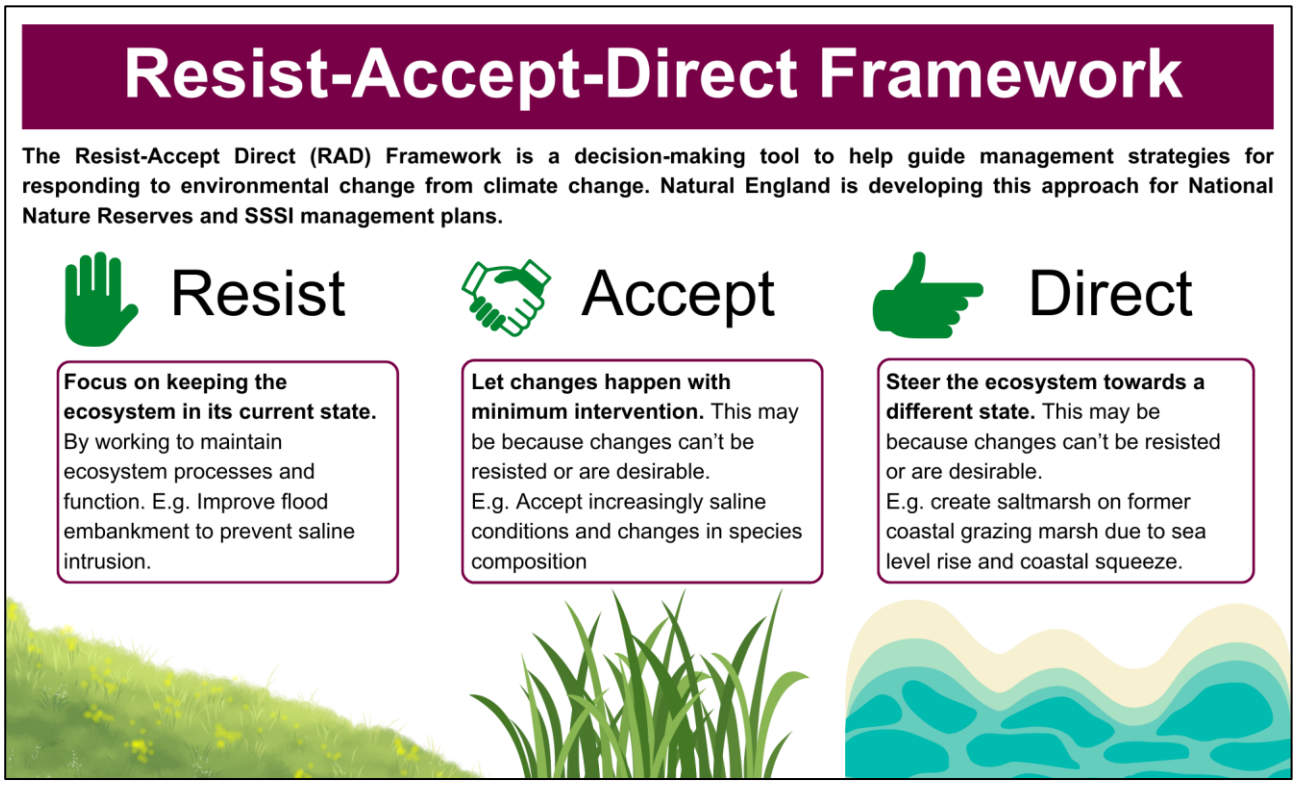

Figure 1 The Resist-Accept-Direct Framework

Case study 2: Our response to drought

Dry weather or drought can cause damage to habitats and species. The record-breaking heatwave in 2022, and subsequent widespread drought demonstrated that we need to update how we respond the drought. The Wildlife Trusts have also recently reported that drought is now considered the biggest risk to the nature reserves they manage.

We are therefore developing a protocol to manage our response to drought alongside monitoring of a number of NNRs to guide our organisational response to water scarcity. The protocol includes a framework for actions in relation to various drought stages from normal conditions, prolonged dry weather, drought, severe drought and post-drought conditions. The protocol is initiated following EA notifications of drought, which is actioned through our Area Teams. Responses may include:

- Assessing risks to protected sites and NNRs and taking preventative or remedial action.
- Assessing impacts on programmes such as tree planting.
- Managing recreational pressure. For example, by restricting access to land as a preventative measure due to increasing wildfire risk.
- Understanding risks to agri-environment schemes and tailoring our advice through our farm advisors.

We are also producing a list of protected sites vulnerable to drought. There are nearly 800 SSSIS that are dependent on freshwater and many of these have implicit vulnerability to drought.

Case study 3: Internal capacity building

Upskilling our staff is essential for realising our ambitions on climate change adaptation. Our plans for adaptation also require cultural change across Natural England, so that climate becomes an integral part of our thinking, planning and delivery. This is one of the key objectives of our CCSAP. We are currently a piloting a climate change baseline learning module and practitioner training for specific works areas.

The baseline training will be part of the induction for all new starters to organisation and has already been delivered to over 500 staff. The module has the following four objectives to enable all staff to do their work with specific reference to, and delivery of, action on the climate and ecology crisis:

- Understand overall climate change threats to nature and the urgency of action for people and nature.
- Understand overall impacts of climate change, focusing on nature, and identify adaptation interventions.
- Identify Nature-based Solutions (NbS), that can help nature and people adapt to and mitigate climate change.

- Begin to understand the importance of climate responses being at the core of NEs business planning, that all work areas are vital in delivering climate action.

Specific work areas also require bespoke training to build on the baseline training to enable their advice and delivery to address the climate crisis. We are currently developing this practitioner level training for our advisers working on protected sites, farm advice and sustainable development. The practitioner training will be co-created with the different work areas to ensure they are fit for purpose with initial modules rolled out in 2025.

2024 Adaptation Plan Update

Table 2 Adaptation actions for Resilient Lands and Seas Portfolio

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
1. Adaptation built into the Nature Recovery Network (NRN) including development of Nature Recovery Projects	1, 2, 5, 6, 7	N1, N3, N11, N13, N17, N18	12 Nature Recovery Projects (NRP) are in place and delivering nature recovery. Six projects were launched in 2022 covering 103,200ha (hectares), comprising the Somerset Coast, Levels and Moors, Somerset – 41,000ha, Purple Horizons, West Midlands – 12,000ha, Cambridge Nature Network, Cambridge – 9,200ha, Wye Valley, Derbyshire, 10,000ha, Wendling Beck, Norfolk, 10,000ha, G7 Legacy Project, Cornwall – 21,00ha. A further six projects were launched in July 2023 covering 182,363ha These projects are - East of Eden, Cumbria - 102,000ha, Bollin to Mersey, Cheshire to Lancashire - 5184ha, Seaford to Eastbourne, Sussex and Kent - 12000ha, Tees Estuary, Northumbria – 17,179ha, Heathlands Connections,	1, 2, 3 & 4	Contribution to 500,000ha of wildlife rich habitats by 2042 (activity measure).		The NRN is a national ecological network delivered by different partnerships supported by NE and Defra alongside wider government organisations. The NRN is a commitment within the Environmental Improvement Plan (EIP) and Nature Recovery Projects are also reported within the National Adaptation

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			Surrey - 16000ha, Bradford & South Pennines, Yorkshire and North Lincolnshire - 30,000ha. Each NRP is developing a strategic masterplan for the area, giving a long-term vision and objectives for the area. From 2025/26 the masterplans will include sections on the need for climate adaptation and on how we can deliver carbon capture and adaptation through nature-based solutions. We have also been commissioned by Defra to lead a project developing a comprehensive reporting approach for the 500,000ha target. This will require the collection of spatial data describing the location, type and area of habitats being created.				Programme (NAP3).
2. Adaptation built into Local Nature Recovery Strategies (LNRS)	1, 5, 6	N1, N3, N11, N13, N17, N18	We have included advice on adaptation within guidance for Responsible Authorities (RAs). For example, see the updates below on guidance provided on species recovery and water resources.	2, 3, 4	Review of published LNRS and assessment of adaptation actions incorporated (activity measure).	Our role is to provide advice to RAs on the development and implementation of LNRS. The	NE has a role in providing guidance for LNRS. 48 responsible authorities have been appointed to

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			We will periodically review LNRS as they are produced to assess the extent that climate change impacts are considered and adaptation measures are incorporated.			capacity of different RAs will determine the final LNRS produced.	lead on preparing a LNRS for their area. Providing guidance for LNRS is also included within NAP3.
3. Climate change vulnerability assessments completed for National Nature Reserves (NNR) management plans	1, 2, 3, 6, 7	N1, N2, N3, N5, N11, N12, N13, N17, N18	We have a well-established assessment methodology for assessing the vulnerability of features on NE-managed NNRs to climate change. Management actions for features identified as vulnerable to climate change are identified using the R(esist)-A(ccept)-D(irect) approach. Of our 134 NNRs, vulnerability assessments have been completed on 108. We plan to have completed the remaining assessment by the end of 2026. Carbon will also be included as a feature in NE's NNR management plans from 2025. Initially this will mean exploring carbon stocks for certain NNRs before being rolled out on a wider scale.	1, 3.	All vulnerability assessments completed by 2030 (activity measure).	Capacity of our reserve staff to complete the final assessments is the main barrier to completion.	NNRs are a core component of the Nature Recovery Network.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			The NNR Management Standards, applying to all of England's NNRs, also includes the need to consider the potential impacts on features due to climate change alongside any adaptive measures required (see NE report NESTND029 2023).				
4. *Expansion of the NNR estate contributing to nature recovery	1, 2, 3, 6, 7	N1, N2, N3, N11, N12, N13, N17, N18	We have declared an additional 11,325ha of National Nature Reserve since our ARP3 report was published. A programme of five major declarations a year until 2027 has been agreed and is part of our delivery of the Government's Environmental Improvement Plan. Over 5,500ha of the declared area is peatland, 2,500ha is coastal habitats and 800ha is wetland. Natural England has purchased 1,459ha of land since January 2022, which will be declared as NNR in the future. 376ha of this purchased land comprises peatland habitats.	3	Further expansion of the NNR estate (activity measure)	NNR expansion is an ongoing process and is dependent on the availability of suitable land and available budget to take advantage of opportunities to expand the NNR estate and link or expand existing sites.	

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5. Wildfire Resilience Plans for NNRs	1, 2, 3, 6, 7	N1, N5	We have incorporated actions to manage the risk of wildfire into our existing NNR management plans for the 23 NE-managed NNRs at greatest risk from wildfire. Lantra accredited training on wildfire has been rolled out to all NNR staff. At least 45 staff have attended one or more modules since 2021 and we continue to ensure that new staff on high-risk sites are aware of the training requirement. We have also published a report on Three Wildfires in England (NECR484), focusing on developing best practice and lessons learnt. We have also commissioned a review into fire adaptability of UK flora, which we expect to publish in the first part of 2025.	1, 2 & 3	All NE staff on high-risk sites have received Lantra training (activity measure). Fire adaptability of UK Flora report published (activity).	The incorporation of wildfire management planning requires changes to the management of sites that often goes against historical 'best practice' It is therefore taking time for these changes to be accepted and implemented.	Our wildfire response is developed in coordination with other organisations such as Forestry Commission and Defra. Our actions on wildfire are also included within NAP3.
6. *Wildfire response plans	1, 2, 4, 5, 6	N1, N5, N18	Wildfire is a crosscutting issue for NE. For example, it affects our work on peat, our NNR estate and our role in the management of SSSIs. We are supporting the Home Office - the lead government department for wildfire - in	1 & 2	Input into the Wildfire Strategy Action Plan (activity measure).		Our actions on wildfire are also included within NAP3. Our work on wildfire is developed in

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			scoping out the Wildfire Strategy and Action Plan by mid-2024. We have been working with Defra on options for wildfire management planning in ELM. (Also see the update on Wildfire and Access within the CPwN section).				coordination with other organisations such as the Forestry Commission and Defra.
7. SSSI condition – CC risk evidence building and delivering adaptive management (case study 1)	1, 2, 3, 6, 7	N1, N2, N3, N11, N12, N13, N17, N18	A Climate Change Risk Assessment is part of our new approach to Whole Feature Assessment on SSSIs. From April 2023 climate change can be recorded as a pressure on all SSSIs. Assessments have been completed on over 300 sites. Sites identified as the highest risk from climate change impacts will trigger to development of an Adaptive Delivery Plan (ADP) from 2025/26 onwards. We are currently developing the process for implementing ADPs. Nine case studies of SSSIs highly vulnerable to climate change have been examined alongside appropriate interventions using the RAD (Resist-Accept-Direct) approach as a	1 & 2	50% of SSSI features to have a climate change risk assessment completed by 2030 (activity measure). Publication of report on SSSI case studies to develop Adaptive Delivery Plans (activity measure).	Capacity of Area Teams to complete the risk assessment is a potentially significant barrier to completing the risk assessment. We have completed practitioner level training in 2024 for advisers working on protected sites to help them complete the risk assessments, further training will be provided as we	Any changes to management advice for SSSIs will be developed in consultation with stakeholders. We are in contact with stakeholders as part of evidence building for what is required to develop ADPs.

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			framework. They also examined the feasibility of using Agri-environment schemes to delivery adaptation. A report outlining the outcome of these case studies will be published in 2025. Three of the original eight case studies, including a new additional site (four in total), are now developing this learning to start to understand the process of creating Adaptive Delivery Plans (ADPs). This work is being funded through protected site strategies for 24/25.			continue to roll out the Whole Feature Assessment on SSSIs.	
8. Protected Sites - investigating obstacles to adaptation within the regulatory framework (case study 1)	1, 2, 3, 6, 7	N1, N2, N3, N11, N12, N13, N17, N18	Work is ongoing to understand how to operationalise flexibility in the existing legal framework in relation to adaptation. The case studies developed as part of the ADP project will contribute to the evidence as to what may be required in relation to legal reform.	1 & 2	Publication of report on Adaptive Delivery Plans for SSSIs (activity measure).	The legal framework for Protected Sites and potential flexibility within the system to facilitate adaptation is a complex issue. Any changes to the management of SSSIs will also take time due to the complexity and the	Any changes to legal or regulatory framework will be developed in consultation with stakeholders. Any significant legislative changes would also go beyond the remit of NE and Defra.

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						need to upskill front line staff.	
9. SSSI Future Reforms Project Develop and apply indicators to assess role of SSSIs in making landscapes more resilient (case study 1)	1, 2, 3, 6, 7	N1, N2, N3, N11, N12, N13, N17, N18	We are currently developing a SSSI Systematic Conservation Planning (SCP) tool, through a commission to the University of York. This modelling approach will use climate change species sensitivity data, national habitat mapping, climate and weather data to inform prioritisation of new SSSI designations and their contribution to the NRN. Natural Ecosystem Function (NEF) Indicators are also being developed to monitor natural function and compliment Whole Feature Assessment (WFA), assessing whole site naturalness rather than specific features. A whole site approach to condition assessment was recommended in NEs Green paper consultation response, NEF indicators could form part of an alternative or integrated method of assessing condition based on	4	New NEF indicators developed by 2028 (activity measure).		SCP commissioned to the University of York.

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			naturalness and reduction of pressures.				
10. SSSI Future Reform Project Trials of monitoring technologies to support monitoring and evaluation of SSSI Reform Programme (case study 1)	2, 3, 6, 7	N1, N2, N3, N11, N12, N13, N17, N18	New monitoring technologies such as Earth Observation i.e. Living England, eDNA/DNA and Eco-Acoustics for monitoring soundscapes in particular birds are being investigated for integration with alternative indicator development and support feature level condition assessment with the use of remote sensing technologies. We are also developing an ecosystem health approach to Common Standards Monitoring (CSM) that will incorporate climate change adaptation. This will be developed by 2028.	4	Development of ecosystem health indicators and use of new technologies by 2028 (activity measure)	These new approaches are a major change in the way we monitor SSSIs and will take time to implement. We also need to update our processes and reporting systems and upskill our staff to be able to deliver these changes. We will be updating our Designated Sites Viewer as part of these changes.	Any changes will need to be agreed with JNCC and other partners.
11. *Protected Landscapes Partnership **(National Parks**	1, 3, 5, 6	N18	The partnership has initial priorities around inclusivity of access, involvement and participation, and for Nature recovery and climate leadership. This coordination should enable to a common approach to	3	Communication and engagement plan for National Park contribution to net zero and undertake best		This action is a collaboration with the other organisations listed. National Parks are also

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England, National Landscapes Association, National Trails UK and Natural England)			monitoring and reporting on Net Zero targets for protected landscapes.		practice sharing (activity measure). Summary report produced for carbon baseline assessment (activity measure).		reporting under ARP4.
12. Update existing (2014) guidance on the Landscape Character Assessment (LCA) approach	1, 3	N18	The updated LCA guidance is intended to enable future local-scale Landscape Character Assessments to embed an assessment of existing and potential climate change impacts and associated guidance into their assessments. The first stage of this work, including initial stakeholder engagement, was completed successfully in 2023/24 Financial Year. We will begin updating the guidance in 2025.	1	Completed LCA guidance (activity measure).	Plans to produce the new guidance have been put on hold due reduction in funding for the project, which would have been used to commission the next stage.	To be completed by an external contractor. This work is also referenced within NAP3.
13. Evidence of climate change impacts on	1, 3	N18	We have commissioned LUC to develop evidence to further understand the impacts of climate change on landscape character. This	1, 2	Completion of ten illustrated landscape profiles	The second project on stakeholder reactions is in planning stages	To be completed by an external contractor.

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landscape character			is due for completion by the end of 2024. Subject to future funding and resource, we are looking to commission evidence to understand stakeholders' reactions to potential and actual climate-induced changes to landscape character by 2026.		(activity measure) and project report.	and dependant on resources over the next financial year.	
14. Climate Change Adaptation Plans for National Parks and National Landscapes (AONBs) in England	1, 3	N18	Adaptation plans will be embedded in or linked with management plans by 2028 and in all future plans to support adaptive management of Protected Landscapes (PLs) in the face of a changing climate. This requirement was introduced in the Protected Landscapes Target and Outcomes Framework (published January 2024) and introduced in the Management Plan guidance update published in spring 2024. Draft Management Plan Guidance for Protected Landscapes in England and an additional guidance note to support Protected Landscapes in developing Management Plans (2024/25) was issued at the end of April 2024.	1, 2	Review of management plans produced by National Parks in relation to adaptation measures (input measure).		This action is a collaboration with the other organisations listed

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15. All England Strategic Landscape Mapping tool	1, 3	N18	The all England Strategic Landscape Mapping tool was launched on in October 2022. The tool seeks to help identify areas which may have potential to be new or extended National Parks and/or AONBs; and identify places where alternative forms of landscape action or approaches may be more appropriate.	2, 3	n/a	Now complete.	
16. Update National Character Area (NCA) profiles and Landscape Evidence Hub	1, 3	N18	The new interactive NCA profiles have now been launched on a new website. We have also launched the Landscape Change Evidence Hub to provide access to information on England's changing landscapes, as part of monitoring the 25YEP indicator G1: Changes to Landscape and Waterscape Character. Further updates to the evidence on the Landscape Change Hub are planned, subject to Spending Review funding.	2, 3	n/a	Now complete but with plans to update the G1 landscape change evidence when future funding is secured.	

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17. NNR Heritage at risk project	1, 2, 3, 6	N18, H11	This project is currently ongoing. Historic Environment features are considered within NE NNR management plans as part of climate change vulnerability assessments.	2, 3	All vulnerability assessments completed by 2030 (activity measure).	Many of the sites and features assessed are complex meaning likely completion of this work will go beyond the original deadline of 2025.	The NNR Heritage at Risk project only covers NE managed NNRs, and is concerned with Scheduled Monuments which are on the Historic England Heritage at Risk Register
18. *Case Studies of adaptive release in coastal environments	1, 2, 3, 6	N17, N18	The Protected Site Strategies team are developing a project on adaptive release at protected sites in coastal environments. The project will use two case studies to explore loss or damage to features at two protected sites due to pressures from climate change. Outputs will include a multi-media resource that will allow stakeholders to explore the potential for accepting loss or transformation of protected features. Outputs are expected to be completed in the first quarter of 2025.	2, 3	Completion of resource outputs (activity measure).		In partnership with Exeter University. Other key organisations include the Isles of Scilly Wildlife Trust and the Jurassic Coast Trust.

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19. Species Recovery Programme to consider climate vulnerability	1, 2, 3, 7	N1, N3, N11, N13, N14, N15	The Threatened Species Recovery Actions (TSRA) project is evaluating over 2,000 key species (GB statuses: Threatened, Near Threatened, Extinct or Section 41) and drawing up targeted actions for their recovery or conservation, including for climate change adaptation. Although Natural England led, the work has a strong partnership focus (see final column). The project also assesses species 'Recovery Potential', aiming to flag species with low recovery expectations (where actions should focus on conservation rather than recovery). A range of drivers of low recovery are identified, including climate change, extinction debt, pathogens/INNS, pressures acting outside England, amongst others. Thus far, nearly 1,300 taxa have been assessed. A second tranche of action planning is underway, with the aim of	1, 2	Publication of TSRA dataset (activity measure).	This is an ambitious project with challenging timescales. Implementation of the plan (once published) will heavily depend on NE Species Recovery Programme funding, along with external capacity to act.	The programme is a cross-sector partnership, involving eNGOs such as the RSPB, Plantlife, Buglife, Butterfly Conservation, Bat Conservation Trust, Amphibian and Reptile Conservation, The Mammal Society, and many other organisations, including the Environment Agency.

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			publishing the full dataset in May 2025.				
20. *Species recovery guidance with LNRS	1,7,	N1, N3, N11, N13, N14, N15	We have provided guidance to responsible authorities (RAs) to identify opportunities, priorities, and potential measures for species recovery. The guidance states that RAs should consider climate change impacts and potential adaptation actions. For example, identifying species that would benefit from better-connected habitat to track climate change or climate-specific action such as the identification, enhancement, or protection of climate change refugia.	2, 3	Review of published LNRS and assessment of adaptation actions incorporated (activity measure).	Responsible Authorities (RA) capacity to implement species recovery guidance is a potential barrier. NE will continue to provide technical support to RAs as they consider species recovery needs.	This work feeds into guidance provided for LNRS. Implementation is for RAs and their partners.
21. Climate vulnerability considered as part of Favourable Conservation Status (FCS)	1, 2, 3, 7	N1, N2, N3, N11, N12, N13, N17, N18	The impact of Climate Change is considered within NE's approach to Defining Favourable Conservation Status for species and habitats in England (see NE Evidence Information Note EIN062, second edition published July 2023). This includes increase, contraction, shift and change (for habitats) in the range and distribution of species and	1, 3	Review of how climate change is considered with published FCS definitions (activity measure).		We rely on external species expertise to produce the FCS definitions.

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			habitats. Climate change is included within the FCS definitions. For example, the climate is expected to become more suitable for Barbastelle bat in England with potential range expansion (see NE RP2974 published March 2024).				
22. Developing advice on Assisted Colonisation	1, 2, 3, 7	N1, N2, N3, N11, N12, N13	We provide the secretariat to the England Species Reintroductions Taskforce (ESRT), which is developing an assisted colonisation decision framework to guide practitioners undertaking feasibility assessments for releases or plantings of species in new habitats. The framework may also include a risk analysis and an opportunity assessment for potential assisted colonisations. The guidance on species recovery for LNRS also states that in exceptional circumstances RAs might consider translocations to assist colonisation of new sites.	1	Framework developed by summer of 2025 (activity measure).		We are one member of the ESRT alongside experts from a range of disciplines. Any advice on reintroductions including assisted colonisation will be developed in consultation with stakeholders.

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23. Climate change within Green Paper	1, 2, 3, 7	N1, N2, N3, N11, N12, N13, N14, N15, N16	The Nature Recovery Green Paper was published in March 2022. The paper includes how the Government will consider changing designated sites, species protections, nature recovery and the target to protect 30% of land and sea by 2030. Climate change adaptation was covered within the document stating the intention for a designated sites network that accommodates climate change. Our response to the Defra consultation recognised the need for protected areas and the NRN to be ecologically coherent and adaptive to climate change (see the SSSI Future Reforms update above).	2	n/a	Now complete	Consultation held by Defra
24. Assessment of climate vulnerability for reptiles and amphibians	1, 7	N1, N2, N3, N11, N12, N13	Two reports have been commissioned to Amphibian and Reptile Conservation (ARC) - 1) Overview of the Potential Impacts and Responses of England's Amphibians and Reptiles to Climate Change and 2) Scoping report for research to model the climate vulnerability of England's	1	Completion of reports (activity measure).		To be completed by an external contractor

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			amphibians and reptiles. In addition, a report Assessing the value of assisted colonisation for the natterjack toad in England is also in final draft stages. All three reports are expected to be published in the first part of 2025.				
25. Invasive species work including input into the GB Non-Native Species (NNS) Strategy	1, 3, 7,	N2, N12, N16	We continue to work in our advisory and regulatory role to ensure a joined-up response to newly established invasive species that may enter the UK partly because of climate change. This includes working with the newly established GB Non-Native Species (NNSS) Inspectorate led by the Animal and Plant Health Agency (APHA). For example, NE is leading the ongoing contingency responses to the introduction of Chinese mystery snail (Sussex/Hampshire); Levant/Anatolian water frog (Kent); and supporting the Greater white-toothed shrew response. We also continue to emphasise the importance of good biosecurity and pathway management to try and prevent the establishment of INNS (e.g. through the promotion of	1, 2, 3	Contribution to the delivery of the objectives in the GB NNS Strategy (activity measure). Completion of marine biosecurity plans for priority locations. (activity measure). Implementation of contingency responses for new incursions (activity measure).		Our work on invasive species is undertaken in partnership with other agencies. For example, the GB NNS strategy Inspectorate is led by APHA.

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			Check Clean Dry campaign and boating and angling pathway action plans).				
26. Contribution to steering research for alternative control methods for Invasive Non-native Species (INNS)	1, 3, 7,	N2, N12, N16	We commission research / reviews into ecological impacts and threats of INNS; alternative control techniques (e.g. biocontrol for *Elodea* spp. and *Carpobrotus edulis*); and the application of environmental DNA in the monitoring of invasive non-native species (e.g. crayfish/plague monitoring). We sit on the Defra DNA Centre for Excellence and UK DNA Working Group overseeing the development of DNA techniques.	1, 2, 3	Completion of research projects and publication of results (activity measure).		Research is commissioned to external contractors. Contribution to the working groups is in collaboration with the organisations listed.
27. Monitoring impact of INNS on protected sites	1, 3, 7,	N2, N12, N16	We also undertake specific monitoring and data gathering which includes INNS data to assess the ecological impacts on protected sites (SSSIs) and inshore MPAs in to inform targets under UK Marine Strategy and The Environmental Targets (Marine Protected Areas) Regulations 2022.	3	Continued sharing of data on the National Biodiversity Network (NBN) (activity measure).	There is a lack of dedicated funding or statutory monitoring for INNS, which is generally collected ad-hoc as part of other marine surveys. There can also be long delays	Data is often collected in collaboration with citizen science projects collecting INNS data on surveys e.g. Shoresearch led by the Wildlife Trusts. We also collaborate

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						between INNS records being detected and shared on the NBN.	with Marine Biological Association (MBA) and Cefas.
28. Designation of Highly Protected Marine Area (HPMA) pilots	1, 3, 4, 7	N5, N14, N15, N16	Alongside CEFAS and JNCC we worked on the initial stages of the pilot HPMA selection process, which involved applying ecological criteria to identify the best locations to enable marine nature recovery. The three pilot HPMAs were designated under the Marine and Coastal Access Act 2009 (MCAA) as Marine Conservation Zones (MCZs) on 5th July 2023. Natural England is responsible for the monitoring and assessment of the inshore HPMA (Allonby Bay) based on a natural capital approach, and since designation has undertaken extensive monitoring programme to gather baseline data on the condition of the HPMA and its ecosystem services. This includes bathymetric surveys, grab and drop-down video sampling, eDNA monitoring and carbon coring, as well as fish and water quality	3, 4	Pilot HPMAs demonstrate marine recovery, leading to the designation of additional HPMAs to enhance marine biodiversity and climate change resilience.	The three-year evaluation programme is very short for the detection of marine nature recovery. Allonby Bay HPMA is difficult to monitor, due to its shallow and highly turbid nature. Establishing baseline condition is therefore challenging. As Allonby Bay has historically had low level of anthropogenic impact (other than	In partnership with the organisations listed.

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			surveys. Baseline monitoring was largely completed by the end of 23/24 FY. The Marine Management Organisation (MMO) and Inshore Fisheries and Conservation Authorities (IFCAs) are responsible for management of the HPMAs. Extractive, destructive and depositional activities will be prohibited within each site.			water quality impacts), the HPMA designation may not have a marked impact on the marine environment.	
29. ReMEDIES	1, 3, 4, 7	N5, N14, N15,	ReMEDIES is a partnership project funded by EU LIFE. The project is due to end in October 2024. Objectives: 1) Protect from, and reduce, recreational pressures to 1,285ha of England's most important and at-risk seagrass beds, moving 24,205ha of relevant four Annex 1 intertidal/subtidal mud and sand habitats across 5 SACs towards Favourable condition. 2) Trial of 8ha of subtidal seagrass restoration with three types of restoration techniques. 3) Promote awareness and inspire better care of the Annex 1 habitats by recreational users and use networks of relevant stakeholders and	1, 2, 3 4	ReMeDIES is the first large-scale project trialling various techniques to reduce anthropogenic impact on English seagrass beds. The project outputs will help shape the future of the UK seagrass conservation and restoration programmes. The community	Seagrass restoration success remains low, although ReMEDIES has trialled new techniques and have managed to improve success rates. ReMEDIES focuses on removal of recreational impacts, e.g. anchoring and	NE led partnership project.

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			public at a local, national and trans-national level to maximise the longevity and sustainability of the project actions. ReMEDIES is at the final stages of reporting. Overall, the project has achieved its objectives. Over twenty Advanced Mooring Systems have been installed within the target SACs alongside ongoing monitoring to trial their impact on underlying seagrass beds. Restoration success has been mixed, with the lessons learnt to be shared with other emerging seagrass restoration initiatives but N.B seagrass restoration success is still low (<10%), and we have no evidence of long-term success. The total area of seagrass restored under ReMEDIES is approximately 8ha. The outreach programme of ReMEDIES has been successful in terms of reaching to a wide range of stakeholders and improving the understanding of the importance of seagrass habitats.		engagement and outreach side of the project will also provide valuable insights for future restoration initiatives.	mooring. However arguably the biggest anthropogenic pressure preventing seagrass health, extent and distribution in the UK waters in poor water quality, which is not addressed under ReMEDIES. Restoration initiatives should address this pressure to secure long-term increase in seagrass health and extent. Evidence suggests that seagrass beds could benefit from warming sea temperatures and increased	

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						acidification, through increased rates of photosynthesis and thus productivity. However increasingly turbid waters due to poor water quality and increased storminess could reverse this.	
30. Marine Restoration Potential - MaRePo	1, 3, 4, 7	N5, N14	The MaRePo pilot project report has been published (JP054). The report includes detailed maps of modelled restoration potential of some key OSPAR rare and declining habitats alongside literature reviews outlining the habitat-specific information relevant for restoration considerations, such as available restoration ecology and environmental requirements, possible restoration techniques, and climate change impacts. The marine habitats included in the MaRePo pilot project were kelp, native oysters,	1, 2	Completion of project resources (activity measure). The outputs of MaRePo and MaRePo+ will inform marine spatial planning and MNG. Restoration of key subtidal habitats will enhance	Incorporating climate change into the habitat potential modelling is difficult due to the lack of data on species/ habitat adaptative responses. The resulting models are preliminary and will need to be treated with caution as will require	NE led project in partnership with EA, JNCC, Cefas and OWEC.

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			horse mussel beds, maerl and seapens & burrowing megafauna. The MaRePo+, (enhancement) project is currently ongoing. This is a multi-year project funded by Defra and The Offshore Wind Evidence and Change Programme (OWEC), which involves refining the MaRePo pilot project models through incorporation of new data, hard- and soft constraints and climate projections into the spatial models. MaRePO+ will also include separate investigation on marine species recovery potential and production of restoration guidance notes for the MaRePo habitats. MaRePo+ will help identify "future proofed" marine areas suitable for habitat restoration, which can be used for Marine net gain, habitat compensation and marine spatial prioritisation.		marine biodiversity and resilience to climate change.	further development.	

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31. Restoring Meadow, Marsh and Reef - ReMeMaRe	1, 3, 4, 7	N5, N14	This EA-led partnership initiative aims to restore at least 15% of the three priority habitats - seagrass meadows, saltmarsh and native oysters by 2043. This target is included in the 25-year EIP. We have been working in partnership with EA on building tools and guidance for the restoration projects. These include the overarching marine and coastal habitat restoration principles, and estuarine and coastal habitat restoration potential maps to which we have incorporated additional coastal habitats e.g. vegetated shingle ridges and sand dunes. We are leading on the development of habitat-specific guidance for coastal and marine habitat restoration and working with EA, MMO and Defra on the "Streamlining restoration through regulation" group under ReMeMaRe. The ReMeMaRe initiative has now moved to delivery phase, and EA has set up a Programme Office with focus on delivery of locally led restoration	2 & 3	Completion of project resources (input measure). Fifteen percent of priority coastal and estuarine habitats restored by 2043, leading to multiple stacked benefits for nature, climate and people.	ReMeMaRe has a work theme around monitoring and evaluation. Tools to help standardise approaches are also being created, including a comprehensive restoration project database. The initiative relies on continued funding. NE not properly resourced for this work area through BP. As our coastlines are heavily designated, restoration proposals are frequently for areas inside designated sites. NE can be	Led by the EA and in partnership with a wide range of partners from Statutory Nature Conservation Bodies (SNCBs), Defra, NGOs, academia and the private sector.

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			projects from across the country. The focus of the Programme Office is on building a pipeline of restoration projects for 24/25 and beyond, creating a restoration fund, and establishing Coastal Champions Network to enable restoration in action. Our involvement in this initiative is building up as the locally led restoration projects under the ReMeMaRe initiative are gaining pace.			perceived as a "blocker for restoration" where the restoration proposals are not in line with the site objectives.	
32. Continued funding of MarClim	1, 3, 4, 7	N5, N14, N15, N16	We continue to contribute to the Marine Biological Association (MBA) Marclim project, which investigates climate change impacts and INNS on UK's intertidal rock habitats. The Marclim data is the only long-term marine monitoring dataset on climate change impacts. The annual report from Marclim outlines the results with a focus on inshore MPAs. Marclim data would benefit from further analyses on the time series data to start exploring climate change driven changes alongside anthropogenic impacts within rocky shores. We are		The Marclim data and outputs feed directly into MCCIP reviews and the National Adaptation Programme (activity measure).	This project relies on ongoing funding.	The MBA is the lead organisation.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			exploring post-doctoral opportunities with MBA to do this alongside additional, targeted data collection.				
33. Marine monitoring programme to consider vulnerability to climate change	1, 3, 4, 7	N5, N14	Scoping for the potential to add climate change into the Natural England Spatial Seabed Sensitivity Tool (NESSST) is ongoing.	1		This project relies ongoing staff resource.	Work is at a planning stage, led by the NE Analytics team in the Chiefs Scientists Directorate.
34. Climate change impacts on MPAs	1, 2, 3, 4, 7	N5, N14	This project aims to develop a methodological approach that delivers science-based quantitative assessments of the impact of climate change on MPA features. Critical thresholds are set for various climate pressures (e.g. sea warming, salinity changes, sea-level rise) that mark the tolerance levels of the feature. Climate data for the region of interest are then collected for recent years which provide the present-day distribution of each relevant climatic variable. Data resampling (bootstrapping) will be applied to account for the effect of sampling uncertainty. Finally, the	1	Testing of proof-of-concept approach for assessing climate change impacts on designated seagrass beds (activity measure). Once the approach has been tested, we hope to use it to investigate climate change impacts on designated	The project relies of allocation of staff resource.	This project is carried out in-house by the NE Analytics team in the Chief Scientists Directorate

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			present-day distributions are adjusted to future projections using climate model experiments with different emission scenarios. The likelihood of exceeding critical thresholds is then computed from the adjusted distributions. Our Marine Evidence team is delivering the outputs of this project in-house, with the aim of building an approach on a proof-of-concept study which focuses on the impact of climate change on seagrass in Mounts Bay Marine Conservation Zone (MCZ). The analyses will be summarised in a factsheet that offers users a scientific basis for decision-making. The long-term aim is to standardise the seagrass analysis so that the methodology can easily be applied to other MPAs, compare results in separate locations and, if data becomes available, account for the effect of additional climate induced pressures such as wave exposure and turbidity. While different climate pressures have so far been assessed independently, a joint probability		seagrass feature across the MPA network, and on other designated features. The ultimate aim is to develop an empirical approach that allows us to assess the resilience of the MPA network to climate change, and to inform climate-smart designation of future MPAs/ HPMAs.		

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			representing the combined detrimental effect of multiple climate change factors will also be quantified. Finally, the seagrass assessment will serve as a blueprint for the extension of the methodology to other features.				
35. Work on marine INNS	1, 3, 4, 7	N5, N14, N16	We are project managing the extensive rapid assessment surveys by MBA and Cefas from 2023/24 to 2024/25 for the detection of priority marine non-native species in sites around the coasts of England. Focused on marinas and selected ports, the objectives are to re-survey priority sites after around eight years to reveal temporal and spatial changes in INNS distribution. We have been working with local stakeholders to develop marine biosecurity plans on an estuary wide level to address the risks posed by invasive non-native species e.g. Solent, Severn Estuary. In 2022/23, we commissioned APEM Ltd to conduct an audit of existing marine biosecurity plans in England,	2, 3	Development of effective and up to date biosecurity plans at priority locations cross England. (activity measure).		In partnership with the organisations listed.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			review their effectiveness and identify a priority list for future work. Our long-term goal is to work with key partners to enable effective and up to date biosecurity plans at priority locations across England.				
36. England Woodland Creation Offer (EWCO)	1, 2, 3, 4, 7	N5, N6	We have a network of 23 woodland creation officers to deliver our role in the England Trees Action Plan. In our role supporting the delivery of the tree target NE follows six ecological principles to encourage the establishment of new woodland and trees in the right place. This also enables wider benefits including climate adaptation for example through water resource resilience or reducing flood risk. We have also contributed to a decision support framework to provide guidance for landowners on where to establish trees and where to restore peat.	3	Use of the decision support framework (activity measure).		In partnership with Forestry Commission. The decision support framework was produced alongside FC and Forest Research.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
37. Contribution to the Tree Health and Woodland Resilience Strategy	1, 2, 3, 4, 7	N5, N6	The Tree Health Resilience Strategy was published in 2018. Formerly the Woodland Resilience Implementation Plan. We are also contributing to the development of Tree and Woodland Resilience Strategy, which will have a wider remit to include woodland management and establishment.	3	Input into the Tree and Woodland Resilience Strategy (activity measure).		Defra led strategy
38. Review of UK Forestry Standard (UKFS)	1, 2, 3, 4, 7	N5, N6	We contributed to the review of the UKFS, which includes a chapter on Forests and Climate Change. We are panel members for the UK Woodland Assurance Standard (UKWAS) and as such will influence requirements of that standard. We also have a wider influencing role in the policy and scheme delivery arena through which we seek to encourage the take-up of more sustainable commercial forestry practice.	3	Continued input into UKWAS (activity measure).	There are limitations in the review of UKFS. For example, lack of protection for peat. This should be addressed in the next review, due in 2028, to make sure it considers the nature and climate emergencies.	In partnership with Defra and FC
39. England Deer Strategy	1, 2, 3, 4, 7	N5, N6	We are working closely with Defra and FC to develop the England Deer Strategy. Better management of deer		Input and publication of the England Deer		Defra led strategy

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			will improve woodland resilience by allowing natural regeneration and establishment of new woodlands.		Strategy (activity measure).		
40. Delivery of England Peat Action Plan including Peat implementation Plan (PIP)	1, 2, 3, 4, 7	N4, N5	We continue to play a lead role in the delivery of the England Peat Action Plan. We continue to lead the delivery of the Peatland Restoration Roadmap (previously PIP), which is due to be completed in 2025. This will provide a pipeline of work towards the ambition of 280,000ha of restoration by 2050 and detailed trajectory for peat recovery with 5-year stretch targets set out in the EIP/25 YEP and Net Zero strategy. We continue to lead development of the England Peat Map, with delivery of the final product due in 2025.	3	Delivery of the Peatland Restoration Roadmap and England Peat Map (activity measure).		The England Peat Action Plan is delivered in partnership with a number of organisations.
41. Nature for Climate Peatland Grant Scheme (NCPGS)	1, 2, 3, 4, 7	N5	The NCPGS will restore up to 23,500ha of peat through 23 NCPGS restoration projects and another 4100ha through direct award projects, providing 3.3Mtons of Carbon benefits by 2050. NCPGS Discovery projects will investigate the restoration potential	3	Environmental monitoring information provided by project as part of the	Rewetting for peat restoration is a significant land use and change andlack of appetite among landowners for rewetting for	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			of over 50,000ha and have identified 17,000ha ready to restore once the resources become available.		scheme (activity measure).	peat restoration is a significant barrier. Recent agri-environment scheme payment rate increases will help but do not address the cultural upheaval that rewetting can require, nor the lack of understanding currently on the business opportunities that rewetted peat can offer. An additional limitation is the lack of contractors and other specialists in peat restoration; this is unlikely to change until an increased appetite is demonstrated by	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
						owners and managers.	
42. Land management options for lowland peat restoration and management. E.g. working with Lowland Agricultural Peat Task Force (LAPTF)	1, 2, 3, 4, 7	N5	The publication of the Chairs report of the LAPTF marked the conclusion of the LAPTF and the development of several new groups/mechanisms to implement the actions identified in the report. We are leading the delivery of the Paludiculture Exploration Fund (PEF), which aims to explore new crops and ways of wetter farming on peat, to mitigate further peat and carbon loss. We are also inputting to lowland peat investment from the NCF which includes The Water Discovery Pilot (EA) and The Small infrastructure Pilot (ADA/Defra) as well as research and development through LowPeat3.	2, 3	Delivery of PEF (activity measure).		Delivered in partnership with other organisations.
43. Guidance on 'peat and trees' a commitment in both the England Tree	1, 2, 3, 4, 7	N5	Guidance on 'peat and trees' was published in 2021 meeting a commitment in both the England Tree and Peat Action Plans. The guidance was updated in July 2023.	2, 3	n/a	Now complete. There remain issues about how peatland restoration can be encouraged in preference to	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
and Peat Action Plans.						restocking when plantations on deep peat are felled because there are limited regulatory levers (e.g. felling licences cannot be conditioned to require peat restoration) and economic considerations tend to favour restocking.	
44. *Strengthening planning policy to increase the protection of peat from development	1, 2, 3, 4, 7	N5	Using the opportunity of the planning policy reform. We are working with Defra and Ministry of Housing, Communities and Local Government (MHCLG) to improve the treatment of peat in the planning system. We are working to establish the principle that peatland is 'irreplaceable habitat' in planning terms and for the carbon storage potential of the resource to be accounted for so that there is a high bar to approval of development on	2, 3	Principle of peat as 'irreplaceable habitat' included as part of planning policy reform (input measure)		Led by Defra and MHCLG

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			peat. This is an action identified in the England Peat Action Plan.				
45. Dynamic Dunescapes	1, 2, 4, 6	N17	Dynamic Dunescapes is a partnership project restoring sand dunes across England and Wales for the benefit of wildlife, people and communities. It is delivering conservation work at scale and has undertaken engagement work that has both supported the conservation work as well as made a wider contribution to tackling inequalities. The project budget of £10 million includes funding contributions from two major funders, the National Lottery Heritage Fund and the EU LIFE Programme, alongside partner and in-kind contributions.	2, 3	To March 2024, the conservation work includes: Over 325ha of sand dune rejuvenation through activities such as scrub clearance, scraping and the creation of notches to expose sand and allow natural sand movement through the dune system. Over 120ha of invasive plant species removal. Over 600ha of new grazing regimes to keep vegetation low.	The project is coming to a close with the majority of the project finishing at the end of 2024. The remaining work will be led by the National Trust as it relates to dune restoration at NT Formby. There have been recent staff departures from the national project team which make the completion of the final Summary and Evaluation reports difficult. In addition, funding and staff capacity for undertaking	The project partners are Plantlife, National Trust, Natural Resources Wales, Cornwall Wildlife Trust, Lincolnshire Wildlife Trust and Cumbria Wildlife Trust. While much of the work on the ground has been finished there is still the reporting and monitoring element of the project which requires working closely with our partners to deliver.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
					Installing over 18,500m of fencing to enable new grazing and trialling innovative No Fence grazing systems.	future monitoring is still being agreed. External funding is currently being explored. Ongoing monitoring is required for up to 10 years to monitor the success (or potential failure) of the actions.	
46. Designation of the Flamborough and Filey Coast SSSI	1, 2, 3	N17	We are in the process of redesignating and expanding 3 SSSI along the Yorkshire coast into a single site. The Flamborough and Filey Coast SSSI contains three existing SSSIs: Gristhorpe Bay and Red Cliff SSSI, Filey Brigg SSSI and Flamborough Head SSSI. The proposed enlargement of the SSSI will connect the three sites forming a continuous designated coastal strip. Part of this coastline is subject to accelerated levels of erosion, a 50-year cliff recession rate has been calculated and used in determining the landward	2, 3	Enlarged designation of the SSSI (activity measure).	Recent designations have been subject to increased scrutiny and public interest. Area Team (and specialist support) capacity to undertake designations is also an issue.	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			extent of the boundary. We believe that a boundary that includes space for predicted coastal change over longer timescales provides a suitable balance between a short-term boundary requiring frequent re-notifications and a boundary that would include land of less demonstrable scientific interest. It is important to include areas of semi-natural habitats within the proposed boundary as this helps builds resilience to climate change; can provide a buffer to more intensive agricultural land-uses, protecting rarer cliff habitats from the effects of fertilisers, herbicides and pesticides; can improve the quality of water in flushes and springs; can provide an important source of seed (through seed rain) and propagules which can help maintain species-richness on the cliff slope, providing a source of native species to recolonise the cliff slope following cliff erosion or slumping episodes.				

1. **Category of Action**: 1- scoping, monitoring and identifying impacts / risks. 2- consideration of impacts, risks and likely actions with stakeholders. 3 - implementation of actions to address impacts / risks and maintain delivery of the organisation's functions. 4 - monitoring actions, evaluation against original plans, reassessment of risks, management system audit (against adaptation best practice).

Table 3 Adaptation Actions for Sustainable Development Portfolio

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
47. Integration of principles of Green Infrastructure GI within training programme for parks and greenspace managers	1, 5	N1, N3, N11, N13, I2, H1, H3, B1,	We launched the Green Infrastructure Framework of Principles and Standards for England in January 2023. It includes a principle to use green Infrastructure (GI) to help to create resilient and climate positive places; and 5 Headline GI Standards, including an Urban Nature Recovery Standard that promotes an increase in the proportion of GI that is designed and managed for nature recovery, (measured against a local baseline). This includes the creation and restoration of wildlife rich habitats, which can contribute to the delivery of local nature recovery objectives; and a target for increasing the number and quality of Local Nature Reserves and	3	Since the launch of the Framework, we have provided training and support to 25 local authorities to embed the Green Infrastructure Framework into local plans, strategies and design codes and we will follow this up with further bespoke support to 10 local authorities. We have a target of working with 100	We are dependent on internal resources to provide proactive advice in priority places. Updated evidence, training and advice is also needed to support stakeholders.	In partnership with local authorities.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			Local Wildlife Sites. (There are 0.76ha of LNR per 1,000 population across England). The Framework also includes an urban greening factor standard, which aims to ensure that new developments meet a minimum level for GI, with scoring weighted for sustainable drainage, and other factors to promote climate change adaptation. It also includes a GI Planning and Design Guide and an award-winning GI Mapping Database (captures a national baseline) for use by local authorities and others.		local authorities by 2030 (activity measure).		
48. Update to the accessible natural greenspace standards	1, 5	N1, N3, N11, N13 I2, H1, H3, B1	A revised process guide will be launched in September 2025. It sets out a 6-step process to develop GI strategies and policies to integrate into local planning and achieve these benefits. It reflects the current best practice across England and includes advice on forming partnerships and engaging communities; developing a GI Vision for a local area; gathering		Process guide completed and available by September 2025 (activity measure).		

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			and analysing evidence about GI existing assets; identifying the GI needs of people and of nature; exploring new funding approaches for long-term management; and evaluation; with checklists, example GI policies and case studies. The process guide can be used alongside the other components of the GI Framework – the Principles, Standards, Planning and Design Guide, GI Mapping Database and case studies available through the GI Framework website.				
49. Environmental Benefits from Nature Tool	1, 4, 5	N1, N3, N11, N13 I2, H1, H3, B1	We have been developing the Environmental Benefits from Nature Tool that helps developers, planners and local authorities achieve wider multi-functional benefits for people and nature from their biodiversity net gain requirements and green infrastructure work. The tool highlights the benefits to people that new areas of green space can bring, such as improved flood management, carbon storage	3	Publication of tool (activity measure)	Now complete	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			and access to green space and helps users maximise co-benefits through better more multi-functional designs. The tool has been downloaded over 5000 times and is already helping improve service delivery for local people & contributions to the Government's EIP.				
50. Climate change adaptation principles within Biodiversity Net Gain (BNG). For example, adaptive management considered within investment criteria or BNG habitat management plan	1, 4, 7	N1, N3, N11, N13	BNG for major developments became mandatory from February 2024. Small sites are required to create 10% net gain when compared to the predevelopment value from April 2024. BNG for Nationally Significant Infrastructure Projects is set to become mandatory from November 2025. This will support targeted nature restoration and improvements - because where specific habitats identified by the metric are lost, they will need to be replaced and enhanced. The NE Habitat Management and Monitoring Plan (HMMP) encourage the use of adaptive management techniques. The legal agreements to secure all offsite and most onsite delivery are also expected	2 & 3	tbc		We are working closely with Defra and other ALBs in the development of BNG.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
templates and guidance developed by Defra			to include clauses relating to 'acceptable failures'. These could be linked to climate change impacts such as sea level rise.				
51. Explore whether BNG can deliver intertidal habitat for coastal adaptation	1, 4, 7	N14, N15, N17	BNG applies to all intertidal habitats. Trading rules in relation to BNG mean projects can only create or restore inter-tidal habitat if the project area contained inter-tidal habitat. Low distinctiveness terrestrial habitat can also be turned into intertidal but not vice versa.	2 & 3	tbc	Resourcing and capacity constraints is a significant challenge for this action.	We are working with Defra, marine industries, the Crown Estate and EA to support the establishment of a market in intertidal habitats.
52. *Climate change and position statement on planning and infrastructure	1, 4, 7	N1, N3, N11, N13, N18	Four position statements have been finalised: Going High Nature, Low Carbon in our Planning Work (overarching statement); renewable and low carbon energy; non-renewable energy; and solar energy development on agricultural land.	2 & 3	Publication of position statements (activity measure)	These are now complete for internal use. Further positions may be required covering other sectors.	
53. Update of guidance for planning advisors on	1, 4, 7	N1, N3, N11,	Our climate change and planning internal guidance has been updated and published along with the planning position statements. A checklist for	2 & 3	Development of climate change training for planning	Positions, guidance and training may need to be routinely updated to reflect	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
climate change		N13, N18	embedding climate change into planning guidance/resources has also been published. The position statements and guidance will be incorporated into planned practitioner level training for SD staff next year (see case study 3).		advisors (input measure).	latest government policy and strategy (planning and infrastructure) and in response to evolving energy infrastructure.	
54. Species Conservation Strategies (SCS)	1, 6, 7	N1, N3, N11, N13, N14, N15	We are continuing to develop Species Conservation Strategies (SCS), which will contribute to adaptation for certain species and habitats by providing a framework for targeted habitat compensation and enhancement. The concept of strategic licensing was developed through District Level Licensing for great crested newts. For example, the SCS developed for dormice, is likely to include the creation of hedgerow, scrub and woodland. For water vole the initial focus will be on mink control but will later move to habitat restoration. The SCS for common reptiles will also consider how habitat enhancement can improve resilience for reptile	1, 2, 3	Adaptation incorporated within final strategies (input measure)	Development and roll-out of new strategic licenses is complex and takes time and investment before the approach will bear fruit. Evaluation is essential as the work progresses, particularly because it will only be possible to fully evaluate ecological outcomes after several years of monitoring. As this	If successful, SCS strategic licensing will contribute to wider nature recovery and climate adaptation. NE will explore how SCS can contribute to protected sites work, including applying a landscape approach to species regulation to address habitat fragmentation including for

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			species. For example, through developing mosaics of suitable habitat. The water vole and dormouse strategic licenses are expected to be at operational testing stage in 2025/26. Widespread reptiles will follow a year later. The SCS Future Direction project is currently considering SCS species selection criteria and is analysing a series of case studies to inform recommendations to Defra about future SCS applications. The SCS Future Direction project will consider how climate change will be incorporated as part of the selection of future SCS. The project is currently considering SCS species selection criteria and is analysing a series of case studies to inform recommendations to Defra about future SCS applications. Recommendations will be provided to Defra at the end of 2025.			first stage of piloting SCS focusses on strategic licensing, it restricts the scope for species and areas that can be targeted for habitat measures. Going forward, we plan to develop a more holistic approach to SCS, which may incorporate a wider range of delivery mechanisms and target species which are not subject to wildlife licensing. SCS strategies are dependent on funding.	species vulnerable to climate change. There is potential to link with Adaptive Delivery Plans as part of SSSI Future Reforms project.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
55. *Regulatory reform	1, 7	N1, N3, N11, N13, N14, N15	Climate modelling and the predicted impacts on species distribution is being explored as part of the development of methodology for strategic regulation. The methods for undertaking a strategic scale impact assessment for multiple species and impacts on protected sites is under development. It is likely that the impacts of climate change will be included in the planning of appropriate mitigation and compensation for species. We will also explore the feasibility of including in planning for compensation for impacts on protected sites.	1, 2	Evaluation criteria will be developed in 2025.	Climate modelling is likely to predict species movement in particular directions. The practicalities of providing compensation in appropriate locations to enable movement and the likely local pressure to keep compensation relatively close to impact may limit what can be delivered on the ground.	There is potential to link with Adaptive Delivery Plans as part of SSSI Future Reforms project. Also, potential links with protected sites strategies, LNRS and nature recovery networks. Externally there is potential to link with Network Rail and the Highways Agency plans to use landholdings as networks for nature.
56. * Adaptation within District Level	1, 4, 6, 7	N11, N13	District Level Licensing (DLL) is a strategic licence that promotes the conservation of great crested newts (GCN) by focussing conservation effort where it will create the maximum	1, 2	Impact evaluation criteria will be scoped in 25/26 along with updated climate models to	The future proofing DLL project has uncovered other high priority drivers likely to impact DLL	Climate modelling likely to be linked to the 'Regulatory reform' project' as

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Licensing (DLL)			benefit for the species. DLL can increase the density of GCN populations and extend their range by improving connectivity across the landscape, improving their resilience to climate change, at a landscape scale. DLL is considered one of the largest pond creation and restoration projects in the world. Since rollout in 2019 DLL has created nearly 4000 ponds. These ponds and the GCN populations within them are at risk from climate change. This includes an increased occurrence of long dry periods causing ponds to dry out, increased sediment flow into ponds through intense summer storms, increased maximum air temperatures, increased frequency of invasive species and general species migration. The GCN Licensing expert panel have identified climate change as a risk to		show potential changes to GCN distribution under various scenarios. Adaptations incorporated into DLL fundamentals within the next 5 years (activity measure).	and GCN conservation in the very near future. There is a risk that resource will need to be moved onto these other priorities threatening the delivery of climate change solutions. Therefore, DLL is dependent on ring fenced internal resourcing to deliver on climate change.	the same modelling is needed for both. DLL will need to align with other schemes like BNG and LNRS to ensure the data driven from the FPDLL is used in the right ways. Adaptation plans will need to be supported by Amphibian and Reptile groups and delivered through habitat delivery bodies (e.g. Farming and Wildlife Advisory Groups (FWAGS) and Wildlife Trusts)

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			the future delivery of DLL and GCN conservation. The Future Proofing DLL (FPDLL) projects aims to try and understand how the changing landscape will impact GCN in the near future including scoping the potential response to the risks from climate change. This will include updated climate modelling of GCN populations to assess the impact of climate change on GCN populations at a regional and intercontinental level. The project is likely to outline the need for adaptive management of ponds and terrestrial GCN habitats, i.e. changing how we create and deliver these habitats (e.g. increased clustering of ponds and increased variation in pond design to suit model predictions). Given the scale of pond creation DLL may need to consider other benefits to ponds such as adapting ponds to include a wider range of biodiversity,				

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			managing landscapes against flooding, carbon sequestration etc.				

1. **Category of Action**: 1- scoping, monitoring and identifying impacts / risks. 2- consideration of impacts, risks and likely actions with stakeholders. 3 - implementation of actions to address impacts / risks and maintain delivery of the organisation's functions. 4 - monitoring actions, evaluation against original plans, reassessment of risks, management system audit (against adaptation best practice).

Table 4 Adaptation actions for Greener Farming and Fisheries Portfolio

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
57. Expansion of farm advice programme and development of climate change expertise including	1, 3, 4, 6	N4, N5, N6, N7, N8, N9	We have rolled out baseline training to Advisors working on farm advice. By the end of 2024 we expect over 300 of our farm advisers to have undertaken baseline climate change training. The practitioner level training is in development, the specification for this will be developed in 2025.	3	All advisers to have completed baseline training by end of 2024 (input measure) Practitioner level training specification		

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
upskilling of advisors on climate change (case study 3)					developed by summer of 2025 (activity measure).		
58. Catchment Sensitive Farming (CSF) Advice	1, 3, 4, 6	N4, N5, N6, N7, N8, N9	Following consultation with the CSF Advisory Group, (which includes national industry stakeholders) CSF has confirmed its' outline position on Climate Change advice to farmers and will be entering into a formal development phase in 2024/25. The focus of CSF advice will be on climate change adaptation and practical measures to reduce greenhouse gas emissions from farming, particularly where these mitigations overlap with CSFs existing advice.	2, 3	Development of long-term objectives on adaptation within CSF work (activity measure).		Developed in consultation with stakeholder group.
59. Advisory role on the Heather and Grass Management Code	1, 2, 3, 4, 7	N5	Our current work is focused on advice to Defra on the implementation of the Heather and Grass etc. Burning (England) Regulations 2021 including advice about applications for licences. An update of The Heather and Grass Management Code (formerly Heather	2, 3	Submission of draft Heather and Grass Management Code (activity measure)		Requires suitable stakeholder engagement.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			and Grass Burning Code) to include wildfire mitigation and risk management and to be renamed the Heather and Grass Management Code will be prepared for Defra in 24/25. We will also support Defra in the review of Heather and Grass Burning (England) Regs 2021 by 2025.				
60. Support to fluvial and coastal flood protection schemes including consideration of scheme design.	1, 2, 4, 6	N17	We continue to support high priority casework for coast and flood protection through our Discretionary Advice Service (DAS).	2, 3	Number of DAS cases returned (activity measure)	Our Area Team (and specialist support) capacity to handle all casework is a barrier to inputting into all these schemes. Improved coordination with the EA is also needed to streamline consultations.	In partnership with other organisations including the EA and the Coastal Authorities.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
61. *Habitat compensation and restoration programme (HCRP)		N17	We are engaged in the relevant parts of the HCRP, which is currently being reviewed by the EA. The work is focuses on delivery of compensatory habitat in line with flood schemes and Habitat Regulations requirements, this will involve setting back defences in some locations (managed realignment) to a more sustainable location in the face of sea level rise and climate change. We are exploring the potential to fund some restoration in the next floods investment programme.	1, 2, 3, 4	tbc	The compensatory habitat required around the coast frequently includes both primary and secondary compensation. Schemes are delayed by both the lack of available land and the price.	EA led
62. Input into Shoreline Management Plans (SMPs)	1, 2, 4, 6	N17	SMPs are still in the process of being updated and have recently been made available on an online platform. We are working with the EA at a national level to contribute to the development of SMPs. Our focus will be on delivering managed realignment policies which provide the best opportunities for nature recovery and climate change adaptation at the coast. We are also working to ensure	2	Flood and coastal erosion guidance provided to the development of LNRS (input measure).	Our input into individual SMPs is dependent on Area Team (and specialist support) capacity for each of the 20 SMPs.	Work on SMPs is led by the EA and the Coastal Authorities. SMPs also need to link with LNRS.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			SMPS are linked with LNRS and BNG to help enable delivery (see BNG update below).				
63. Flood and Coastal Resilience Innovation Programme (FCRIP)	1, 2, 3, 4, 6	N1, N3, N11, N13, N17	The Flood and Coastal Resilience Innovation Programme (FCRIP) is part of the Government's Flood and Coastal Innovation Programmes fund which has been allocated to 25 local areas. Projects will demonstrate how practical innovative actions can work to improve resilience to flooding and coastal erosion. These 'resilience actions' can be individual or a combination of actions and might include NbS sustainable drainage systems, approaches for making existing properties more flood resilient, encouraging local businesses to improve their flood resilience and building community and voluntary sector capacity to respond and recover. In our statutory role we work with local authorities to ensure potential impacts on protected sites associated with the	2, 3	The projects included in the programme must meet five key principles including achieving practical changes, which increase resilience within the project area by reducing the likelihood or consequences of flooding or coastal erosion, provide public benefits, be consistent with existing flood and coastal erosion plans, demonstrate added value and innovation (input measure).	Our input into the project is dependent on Area Team capacity (and specialist support) for each of the 25 local areas included in the project. Our input is limited to work through CSF and specific DAS agreements set up for FCRIP projects.	Led by the EA

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			FCRIP coastal projects are considered both within, adjacent and within the wider sediment cell. In addition, we are working with certain local authorities where we have either a DAS contract or capacity to ensure Natural Flood Management and NbS are appropriately delivered.				
64. Engagement with the Coastal Transition Accelerator Programme (CTAP)	1, 2, 3, 4, 6	N1, N3, N11, N13, N17	CTAP is part of the Flood and Coastal Innovation Programmes fund. The project was initially focused on East Riding of Yorkshire and North Norfolk but has recently expanded to include Charmouth and Swanage on Dorset's Jurassic Coast and Bude in northeast Cornwall. These Local Authorities have received funding to help communities that cannot sustainably be defended from coastal erosion and flooding. This project has 2 main aims to – 1) accelerate strategic planning (and associated action planning) to set out how the coastal local authorities, partners and communities will address	2, 3	Number of protected sites where protection or adaptation actions are secured (input measure).	Our input into the project is dependent on Area Team capacity (and specialist support).	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			the long-term transition of communities, businesses and assets away from the coastline at risk; 2) support the trialling of early on the ground innovative actions in support of medium and long term plans, that enable those coastal areas at significant risk to address the challenges posed by a changing climate. NE are engaging with CTAP Local Authorities – particularly focusing on environment issues and regulatory requirements – i.e. reducing potential impacts on designated sites and their internationally and nationally important habitats and species. We will look for opportunities which the CTAP may present to conserve and enhance these sites considering both ecological and geomorphological processes, whether through BNG, green finance and ensuring vacated transitional areas maximise ecological benefits.				

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
65. New and updated coastal options incorporated within ELM schemes	1, 2, 3, 4, 6	N1, N3, N11, N13, N17	Two new coastal options have been developed as part of the ELM scheme, with the other existing coastal options reviewed. The Making Space at the Coast (CCT2) option is designed to provide opportunities to allow the roll-back of coastal habitat and extend the area of priority habitat, while making additional space for coastal processes to function and coastal species to colonise. This will increase the resilience of coastal habitats responding to climate change and sea level rise. The manage and restore maritime cliff and slope (CCT10) option is also designed to restore and improve the condition of this habitat through appropriate management and by allowing natural processes to function. The option is designed to create space for habitats and to maintain sediment supply for the rest of the coast. In addition, the existing coastal options for sand dunes, shingle and saltmarsh have been reviewed with	2, 3	ELMS options described and guidance developed (activity measure).	Final scheme details are to be confirmed. The making space at the coast option is already being considered by the CTAP and Resilient Coasts projects as a way of facilitating adaptation on eroding coasts.	Delivered in partnership with RPA, and Risk Management Authorities. Our coastal specialists have worked with the other ALBs and Defra to develop external and internal guidance.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			greater emphasis on allowing natural processes and coastal change. All coastal actions will create, restore and enhance coastal habitats and will improve their connectivity and resilience to climate change impacts.				
66. Ecohydrology and NFM incorporated within ELMs	1, 2, 3, 4, 6	N1, N3, N11, N13	More water options to cover fluvial processes, drought and flood risk management have been included within ELMs.	2, 3	ELMs options designed and guidance developed (activity measure).	Final scheme design is still to be determined. Our role is still unclear but is potentially significant. Delivering these options and the technical capacity and capability to support implementation is a major risk to delivery.	Delivered in partnership with Rural Payments Agency (RPA) and EA
67. Adaptation within national	1, 2, 3, 4, 6	N1, N3,	We are engaged with the development of the next National Framework for Water Resources alongside national	2, 3	Continued engagement with water companies through our Area	Our input at a regional level is	Led by the EA and in partnership with water companies.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
framework for water resources and within Regional Water Resource Plans		N11, N13	meetings with the regional planning groups. We also work with water companies at local level as part of our statutory role in the water resource management planning process. Climate change resilience is implicit within this process.		Teams (activity measure).	dependent on Area Team capacity.	
68. Consideration of ecohydrology within LNRS and other work areas	1, 2, 3, 4, 6	N1, N3, N11, N13	Our advisers working on LNRS have specific guidance on incorporating catchment-wide ecohydrology within the strategies. This includes guidance on adaptation. For example, through NFM, NbS and catchment resilience. The advice stems from well-established NE principles for natural function (restoring natural processes) and developing principles around wider catchment (landscape level) re-establishment of hydrological processes for wider ecosystem resilience.	2	Review of published LNRS and assessment of adaptation actions incorporated (activity measure).	There is potential for inconsistent application across LNRS depending on the capacity of different RAs. Difficult to measure success of implementation within LNRS areas, though could be identified by how narrative around catchments, natural processes and	This guidance was co-developed with input from the EA. Potential to support with EA programmes considering natural processes (e.g. working with natural processes).

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
						natural function come across.	
69. *Development of processes in response to drought events (case study 2)	1, 2, 3, 4, 6	N1, N3, N11, N13	We are currently developing our incident response to drought events. This is partly in response to lessons learnt following the 2022 heatwave and subsequent drought. We are developing a Drought Protocol, to guide our organisational response to drought incidents. In addition, we have developed a framework for actions in relation to various drought stages from normal conditions, prolonged dry weather, drought, severe drought and post-drought conditions. The protocol should be operational by the summer of 2025.	1, 3	Adoption of drought protocol in 2025 (activity measure).	Our protocols for dealing with drought are currently insufficient to deal with the increased risk of drought conditions. There may be challenges in ensuring our response is embedded within our operations and to facilitate reporting within our Area Teams.	
70. *Assessment of protected sites vulnerable to	1, 2, 3, 4, 6	N1, N3, N11, N13	We are producing a list of protected sites vulnerable to drought building on previous work on water resources information included on our protected sites databases. We currently estimate	1, 3	Completion of list of sites (activity measure).	The analysis previously completed in 2022 needs updating and does not give a complete picture of	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
drought (case study 2)			over 450 sites are potentially vulnerable to drought.			drought vulnerable sites.	
71. Input into National Drought Group (NDG) convened by EA	1, 2, 3, 4, 6	N1, N3, N11, N13	We have continued to input into this group. The group also met several times during the 2022 heatwave and continues to meet to ensure that lessons learnt from 2022 and 2018 droughts are embedded.	2, 3	Continued input into group (activity measure).		Group convened by the EA
72. Ecosystem-based fisheries management (EBFM)	1, 3, 4, 7	N14, N15	We are leading the development of international approaches to integrate ecosystem information into fisheries evidence and advice, which includes the retrospective and predicted impacts of climate change. This includes supporting Defra with reactive requests for EBFM advice (such as the work that supported the closure of the sand eel fishery) but also work via the International Council for the Exploration of the Sea (ICES) where we have led the integration of ecosystem knowledge (e.g., food web dynamics) and environmental information (e.g., temperature effects) into intergovernmental catch and	2, 3	Continued input into ICES (activity measure).	Inertia in fisheries management makes it difficult to move away from a traditional single-species approach, however we have worked to develop pragmatic approaches which reflect existing regulatory frameworks and principles. Identifying clear mechanistic links between fish	This work is in collaboration with the organisations listed.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			ecosystem management advice. We are also engaged in research related to the impacts of fishing on the biological carbon pump (Ocean ICU Horizon Europe project; Defra carbon policy brief; Celtic Sea Pelagic FMP; ICES WKFISHCARBON). In 2024 we will begin supervising a PhD student with the University of Glasgow and Cefas: CLIME – Climate Change Impacts to Marine Ecosystems in UK Regional Seas.			productivity and climate change effects (e.g., temperature) can be difficult and these relationships can break down over time.	
73. Continued funding of Lyme Bay Fisheries Conservation Reserve	1, 3, 4	N14, N15	We plan to continue contributing to the Lyme Bay Fisheries Conservation Reserve alongside Defra, subject to funding allocation decisions.	3, 4	Continued resource allocation to the reserve (input measure).		This work is in partnership with a number of organisations

1. **Category of Action**: 1- scoping, monitoring and identifying impacts / risks. 2- consideration of impacts, risks and likely actions with stakeholders. 3 - implementation of actions to address impacts / risks and maintain delivery of the organisation's functions. 4 - monitoring actions, evaluation against original plans, reassessment of risks, management system audit (against adaptation best practice).

Table 5 Adaptation Actions for Connecting People with Nature Portfolio

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
74. Managing impact of climate change on public rights of way and access routes	5	H3, H4,	Climate change is considered in the delivery of the King Charles III England Coast Path (KCIIIECP) via adaptive roll-back measures to accommodate coastal erosion. The wider National Trail network and associated structures are constructed and managed to high quality standards which provide resilience, and we are increasingly taking the predicted effects of climate change into account when planning provision and maintenance. We also promote adaptation measures in relation to access and recreation in, The Climate Change Adaptation Manual, to public rights of way and access managers. This includes understanding what recreation and public engagement with nature 'looks like' under a climate changed world. For example, do people go out earlier or later during cooler parts of the day or congregate more around water when days get hotter, and what are the implications	3	The condition of KCIIIECP and wider national trail network is monitored annually via condition monitoring reports and annual reports. This records numbers and severity of environmental events such as flooding, storm damage and erosion and the action taken to repair and mitigate against future events (activity measure).	Adaptation measures are expensive in the short term and securing budget for capital improvements and revenue to maintain infrastructure and surfacing is difficult. Attempts to secure private investment have not been successful on any sustainable level. Realigning paths on more resilient routes is often constrained by legislation and landowner concerns or could result in sub-optimal routes as 'easy' long term	Action is dependent on local authorities and landowners. Also, production and dissemination of good practice guidance.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			for nature on those sites and how do we manage them?			alternatives are sought (e.g. moving the KCIIIECP back onto inland rights of way as easier or cheaper than implementing gradual 'roll back' of a coastal path).	
75. Access and Fire	5	H1	Our Countryside and Rights of Way Act (CRoW) Open Access restrictions work includes provision, informed by the Fire Severity Index (FSI), for the closure of CRoW access land to help manage the threat of wildfires.	3	Use of fire restrictions is monitored by the Open Access Contact Centre. Success is all outline fire restrictions activated when level 5 FSI is reached, and restriction notices published on the Open Access website (activity measure).	The Met Office FSI website being decommissioned and important to ensure continuity to the new solution being tested in January 2025. Old technology of the Open Access website and constraints on NE digital presence is a barrier to an improved customer focussed website. There is also a	Dependant on the Met Office for providing FSI data in a way that can be displayed on Open Access website. We are also dependent on technical support from Digital, Data, Technology and Security (DDTS) to keep the Open Access website functional.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
						challenge in explaining that Open Access restrictions are limited in scope. For example, public rights of way and car parks remain unrestricted. FSI is about the severity of a fire should it start not the likelihood of a fire starting.	
76. Advice to Efra select committee in relation to the future design of urban greenspaces	5, 6	H1, H3,	We have provided evidence to the Environment Food and Rural Affairs (Efra) Select Committee highlighting the impact of climate change on green and blue spaces. We have provided evidence to the Levelling Up Housing and Communities select committee on Children and the Built environment – as with the Efra committee –	2	n/a	Now complete	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			highlighting relevant impacts of climate change.				
77. Nature Towns and Cities Programme	5, 6	I2, H1, H3, B1	We are founding members of the Nature Towns and Cities Programme. One of the long-term outcomes of the programme is to develop climate resilience in urban areas through increasing green and blue cover to soak up rainfall, provide natural cooling and improve air quality. The Programme comprises a grant, an inclusive network and an accreditation scheme. The accreditation will recognise local authorities, their partners and communities who are taking ambitious action for nature and greenspace at scale, helping them to benchmark progress and provide assurance to current and potential funders and investors.	2, 3	Development of the impact assessment in 2025 ahead of grants being awarded and the accreditation scheme (activity measure).		In partnership with National Trust and National Lottery Heritage Fund alongside local authorities and communities.
78. Climate Change within The Adults' People and Nature Survey	6	H1, H3, H4	The Adults' People and Nature Survey for England (A-PaNS) provides information on how adults experience,	1	n/a	Now complete	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
for England (A-PaNS)			think about, and engage with the natural environment. Most people ranked climate change, plastic pollution, and the decline or extinction of animal and plant life as the environmental issues they are most concerned about.				
79. *The Public Engagement Laboratory for Nature & Society	6	H1, H3, H4	The Public Engagement Laboratory aims to improve our understanding of how people engage with nature and act for nature's recovery. It takes a systemic approach, recognising that public-led action for nature is often synonymous with action for climate. By better understanding the ways that citizens convene, talk about and act in response to these interrelations between declines in nature and climate mitigation and adaptation, it becomes possible to identify the role of nature conservation and science-policy organisations in building more diverse, responsive and innovative partnerships for nature and climate recovery and wider societal support for	2	Completion of Public Engagement Laboratory experiments (activity measure).		In building the Public Engagement Laboratory we have built on the pioneering work of the UK Energy Research Centre, including use of its methodology to previously map public participation in energy and climate in developing our mapping of public participation with nature. This work also aligns with the

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			the just and sustainable transitions needed to create a sustainable and just nature-rich and net zero future.				recommendations of the Defra Review of Public Engagement published in November 2022.
80. *Green Community Hub (GCH)	5, 6	H1, H3, H4	We are developing our understanding of how to respond to community concerns and needs around climate change through developing our GCH model and the principles, outcomes and ways of working for engaging with communities. This work is being developed through pilots with Area Teams and through building consensus with external partners.	2	Development of indicators to monitor community contribution to climate adaptation and meet community needs (activity measure).	Requires suitable resources and expertise in the delivery of this workstream within the GCH model to develop and analyse reporting outputs.	In partnership with external partners

1. **Category of Action**: 1- scoping, monitoring and identifying impacts / risks. 2- consideration of impacts, risks and likely actions with stakeholders. 3 - implementation of actions to address impacts / risks and maintain delivery of the organisation's functions. 4 - monitoring actions, evaluation against original plans, reassessment of risks, management system audit (against adaptation best practice).

Table 6 Adaptation Actions for Managing the Organisation Portfolio

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
81. Continued input into Corporate Sustainability Leadership Group	6	N1-N18	We continue to contribute to the Defra Sustainability Leadership Group (SLG) which in turn influences the way that the group operates in pursuit of the Greening Government Commitments (GGCs) under the wider steer of the Defra Group Sustainability Strategy.	1, 2, 3	Continued contribution to SLG (activity measure).		The group works in close partnership with Defra Group Property (the smaller, better, greener agenda), Procurement, Digital, Data, Technology and Security (DDTS) and ISS facilities management.
82. Development of NE Climate change strategy and implementation of adaptation plan	1, 2, 3, 4, 5, 6 ,7	N1 - N18	A 5-year Climate Change Strategic Action Plan to accelerate action on climate change mitigation and adaptation across the organisation was launched in July 2023 (see the Governance, management and strategy section above). This includes a commitment to implement and track actions within our adaptation plan.	1, 2, 3, 4	The implementation of our ARP4 report with 90% of the actions on track or completed by 2030 (activity measure).	The strategic plan contains considerable ambitions to reposition the organisation and embed action on climate change throughout our work. A major challenge is implementing the	Cuts across all NE work areas.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
						aims through the various governance structures of the organisation and building the capacity within our workforce. The development of a new NE Strategy provides an opportunity to give further impetus to our climate change work.	
83. *Adaptation within new NE Strategy	6	N1 – N18	We are in the process of developing a new strategy for Natural England. A series of consultative workshops with staff and with external stakeholders has recently concluded. Action on climate change adaptation will be reflected in the development of Natural England's new strategy	1, 2	Incorporation of adaptation within NE strategy (input measure).	For our ambitions for climate change adaptation to be met, measures to integrate adaptation will need to be reflected as a core component of the work of NE portfolios.	Cuts across all NE work areas.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
84. Capacity building for NE staff including comms and engagement and training. Refresh of the Climate Change Network (case study 3)	6	N1 – N18	Since our ARP3 report was published over 500 of our staff have completed baseline climate change training. This includes advisors working on protected sites, LNRS, NRN, Landscapes, Sustainable Development and Farm Advice. The training focuses on the links between climate and nature and introduces how the natural environmental is integral to overall responses to climate change mitigation and adaptation. We have also developed a pilot module for this training to become part of the induction for all staff joining the organisation. We are planning bespoke practitioner level training for specific work areas such as Farm Advice, Sustainable Development and Protected Sites. In addition, NE has run two Climate Change Coaching Programmes for over 50 staff members. The Climate Change Network has expanded and includes over 10% of staff in the organisation. The network runs regular	1, 2	50% of NE Staff have received baseline training by end of 2025 (input measure). Delivery of practitioner level training for Sustainable Development and Farm Advisors (input measure).		

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			webinars on relevant subjects as well as providing an information sharing forum for staff across the organisation. We have also developed an internal SharePoint site for Climate Change within NE. The site provides details on climate change work across the organisation alongside links to key resources, projects and wider information related to climate change and the natural environment.				
85. *Develop understanding and ownership of climate change risk across corporate portfolios	1, 2, 3,4, 5, 6, 7	N1-N18	We will work to better reflect the understanding and ownership of climate change risks in relation to the aims and objectives of each of the six corporate portfolios to ensure adaptation is embedded within work programme development. This will be developed over the remaining reporting period up until the end of 2029 and will be linked to updated Action Plans the organisation produces over this period.	1, 2	Bespoke risk assessments and updated adaptation actions for corporate portfolios (activity measure).	Embedding of climate risk assessment within business management systems is challenging and ideally needs to be included early within work programme development.	

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
86. Develop KPI for adaptation	1, 2, 3, 4, 5, 6, 7	N1 - N18	We will develop an overarching KPI for our work on climate change adaptation.	1, 2	An overarching KPI linked to monitoring and evaluation of adaptation across NE (activity measure)	Developing measures of success for adaptation is challenging. Particularly to consider more outcome focused indicators as opposed to activity or input indicators.	

1. **Category of Action**: 1- scoping, monitoring and identifying impacts / risks. 2- consideration of impacts, risks and likely actions with stakeholders. 3 - implementation of actions to address impacts / risks and maintain delivery of the organisation's functions. 4 - monitoring actions, evaluation against original plans, reassessment of risks, management system audit (against adaptation best practice).

Table 7 Adaptation Actions for Science and Evidence Portfolio

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
87. Developing evidence on climate change and the natural environment	6	N1 – N18	We have continued to contribute to the evidence base on climate change and adaptation. For example, recent reports included - Re-evaluating the sensitivity of habitats to climate change (NECR478), Agricultural Ponds Review TEP Report (NECR490), The Impact of Conservation Grazing on GHG emissions (NECR489). We also continue support to the Long-Term Monitoring Network (LTMN). We will also publish an update to the Climate Change Adaptation Manual by the end of 2027.	1, 2	Publish update to the Climate Change Adaptation manual (activity measure).		
88. *NE into National Adaptation Programme (NAP3)	6	N1-N18	Our specialists have inputted into specific work areas for NAP3. This includes coastal habitats, landscapes and invasive species. We also manage and chair a Working Group on behalf of Defra to contribute to the development of the NAP. The working group comprises climate change adaptation specialists from a range of	1, 2	Continued management of the NAP Biodiversity and Ecosystem Working Group (activity measure).		NAP monitoring is led by Defra.

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			conservation NGOs, industry bodies and other organisations.				
89. *Nature Returns contribution to best practice approaches to Nature-based Solutions (NbS)	1, 4, 5, 6	N1, N3	Six projects received funding through Nature Returns (previously Nature-based Solutions for Climate Change at the Landscape Scale), spread across the country from Northumberland to Plymouth; they will deliver over 1000ha of new habitats in total, as well as approximately 17km of new hedgerows and 3.8km of watercourse improvements. Habitats to be created or restored include floodplain wetland, wood pasture, species-rich grassland, hedgerow, scrub and lowland peat and fen peatland, via a combination of direct interventions and natural regeneration. So far 598ha habitat and 9km hedgerow have been delivered. The sites have also provided a focus for scientific work to better understand carbon sequestration and storage by different potential Nature-based Solutions to improve their design and implementation in future. An interim report for the project setting out	3	Total habitat improvements delivered – over 1000ha + over 20km linear habitat (output measure). Quantified success of NbS efforts would continue to be measured up to contractual period of 10 years.	The habitat restored is guaranteed for at least 10 years following funding. However, the project does not have long-term funding guaranteed to enable ongoing/long term data collection.	Nature Returns is collaboration led by NE with the EA, Royal Botanical Gardens (RBG) Kew, the FC and a range of local partners including councils and environmental NGOs

Action (*New Action in ARP4)	ARP3 Risk	CCRA 3 Risk	Progress update	Category of Action and timeline[1]	Monitoring & Evaluation	Challenges/ barriers to implementation	Interdependencies with other sectors or organisations
			progress of the six projects and the field survey methodology used was published in May 2024 (TIN220 & NERR13).				

1. **Category of Action**: 1- scoping, monitoring and identifying impacts / risks. 2- consideration of impacts, risks and likely actions with stakeholders. 3 - implementation of actions to address impacts / risks and maintain delivery of the organisation's functions. 4 - monitoring actions, evaluation against original plans, reassessment of risks, management system audit (against adaptation best practice).

References

Pearce-Higgins, J.W., L.H. Antão, R.E. Bates, K.M. Bowgen, C.D. Bradshaw, S.J. Duffield, C. Ffoulkes, A.M.A. Franco, J. Geschke, R.D. Gregory, M.J. Harley, J.A. Hodgson, R.L.M. Jenkins, V. Kapos, K.M. Maltby, O. Watts, S.G. Willis, M.D. Morecroft. A framework for climate change adaptation indicators for the natural environment. Ecological Indicators, 136, 108690.

Appendix 1 – Our Portfolios

Natural England organises the delivery of its work through six portfolios. The portfolios are designed to work together and be more than the sum of their parts. They bring together the power of statutory tools, with expert advice and guidance, to deliver results on the ground.

Resilient Landscapes and Seas

Create thriving, resilient, functioning landscapes and seas rich in plants, wildlife and character that provide wide ranging benefits for nature, climate and people.

Connecting People with Nature

Work to tackle the barriers to enjoyment, engagement, and connection with the natural environment, and access to green and blue spaces in a way that supports socio-economic and health benefits for local communities.

Greener Farming and Fisheries

Sustainable farming and fisheries rely on a healthy natural environment. Food production and supply depends on healthy fish stocks, soils, water, air and natural processes. Addressing the causes of climate change and environmental degradation is now paramount; how we manage our land and seas is a major factor.

Sustainable Development

Leverage and add value to the planning and licensing systems to get the greatest possible outcomes for nature, not just mitigating the impacts but actively recovering nature across all our work, playing a part in restoration of our natural environment while delivering the infrastructure that England needs.

Science and Evidence

Realise our ambition for Natural England to be an evidence-led organisation. To be recognised, respected and trusted for our expertise and the provision and use of evidence-based advice on the natural environment locally and nationally.

Managing the Organisation

Ensure Natural England is a values-led organisation, delivering excellent service standards to partners, organisations and communities engaged in achieving nature’s recovery.

Appendix 2 – Risks and Opportunities

1. **Risks to the viability of the Nature Recovery Network and the recovery of threatened species and habitats.**

This risk relates to our aim of a well-managed NRN with landscape and seas that are more resilient to environmental change. Delivery of this aim is through LNRS and is a key work area of the Resilient Landscapes and Seas Programmes. This risk encompasses threats to species and habitats in the marine, terrestrial and freshwater environment, which may impede nature recovery. This includes risks due to changing climatic conditions and extreme weather events including drought, wildfire and flooding. This risk also captures changes to species distributions and interactions caused by range shifts due to changing temperatures as well as risks from the introduction and spread of pest, pathogens and invasive non-native species.

2. **Risks to the status of protected sites for biodiversity and geodiversity.**

A well-managed NRN includes protected sites as core areas for nature. This risk also includes the delivery of the 25 YEP goal of 75% of SSSIs in favourable condition by 2042. The impacts of climate change as outlined under the risks to the viability of the NRN will also affect the status of our protected sites. These sites were established prior to the threats of climate change and designations are not currently designed to account for a changing climate, which may result in the loss of designated features.

3. **Risks to the ability of the SSSI network, Marine Protected Area (MPAs), NNRs and protected landscapes to adapt to climate change.**

We aim to ensure the protected site network can adapt to climate change. Consideration of this risk includes progress in the SSSI reform programme and the new landscape designations programme in addition to our work on the marine environment. This includes that our marine advice and regulation is contributing to providing Good Environmental Status (GES) of the MPA network and wider seas alongside sustainable fishing and environmental improvements from fisheries our advice. The scale and pace of climate change impacts may present risks for the ability of the marine and terrestrial protected site network to be able to adapt to climate change. For example, through tipping points, which may lead to sudden changes in site condition. This includes designated landscapes, which could be subject to significant changes in landscape character and loss of certain landscape features such as from coastal erosion and sea level rise. Marine ecosystems will be affected by temperature changes and acidification from high carbon dioxide concentrations in the atmosphere. These changes will alter the abundance of different species groups, which may also interact with fishery pressures.

4. **Risks to natural capital and its contribution to agriculture, fisheries and sustainable development including farm advice and net gain.**

We aim to facilitate improvements in natural capital, which supports sustainable economic development. This includes net gain contributing to nature recovery, the contribution of

agri-environment schemes and our farm advice reducing the impact of farming on nature alongside delivery of the peat action plan and future land management schemes. Climate change presents considerable risks to agricultural production through extreme weather events including water scarcity, wildfire and flooding. Changing climatic conditions also risks soil health as well as the risk of pest, pathogens and invasive non-native species. There are also risks of maladaptation and lock-in depending on wider policy, market and stakeholder responses in relation to development and agriculture. For example, if increased flooding events lead to an increase in hard flood defences at the expense of biodiversity and the wider environment, or if reductions in agricultural yields leads to a push for greater production and agricultural intensification.

5. **Risks to the viability of natural areas for people to access and connect with nature.**

This risk relates to our aim of people being connected to the natural environment and we are seeking to ensure a positive trend in levels of nature connection. We expect to see the provision of natural green space to increase especially for people within deprived areas. This includes progress in delivery of the King Charles III England Coast Path and for nature to be embedded within the Social Prescribing National Delivery Model. In common with risks outlined above, changing climatic conditions and extreme weather events including water scarcity, wildfire and flooding may adversely impact the provision of natural habitats for people to access nature. In addition, increased erosion and coastal change could lead to loss of access routes. Extreme events such as flooding or increased risk of wildfire on open access land may also reduce access to natural areas.

6. **Risks and opportunities for Natural England's role as a leader in nature recovery and climate change.**

We are a science and evidence led organisation and have a key role in making clear evidence available for effective decision making. Much of our work is also delivered through partnership working such as through local authorities, land managers and collaboration with our partner agencies. For example, partnership working is critical in the establishment of the NRN. This presents opportunities to provide our evidence and expertise in accessible formats and shape the response to the climate crisis. However, there are also risks to our organisational aims if our response does not keep pace with the emerging risks and our partners do not trust us as a reliable leader in our plans to respond to the climate crisis and deliver nature recovery.

7. **Risks and Opportunities for different species and habitats under changing climatic conditions.**

Changing climatic conditions presents risks and opportunities to the NRN and protected sites as species move. This may include rare and threatened species, which may have the opportunity to colonise new locations. Risks and opportunities to species from climate change are species specific and are also influenced by existing threats to conservation status such as habitat fragmentation. There are also risks from altered species interactions, which may change competition, predation-prey dynamics and disease.

Opportunities and co-benefits from adaptation

Responding to climate change has clear synergies with some of our key aims. As acknowledged by CCRA3: ‘Many generic actions for nature recovery, such as creating bigger, better, more and more connected areas of semi-natural habitats (Lawton Review, 2010), contribute to adaptation in that they build the resilience of ecosystems and can enable species to respond better to climate change’.

8. **Opportunities for landscape scale measures to tackle climate change that enhance the natural environment.**
9. **Opportunities for nature recovery and nature-based solutions to help nature and society adapt to climate change.**
10. **Opportunities for nature-based solutions to provide additional space for people to connect with nature and cope with climate change.**

We aim to ensure that NbS are making a significant and measurable contribution to nature recovery and public needs, including climate change. NbS provide significant potential to help both nature and people adapt to the climate crisis, including through providing more nature rich spaces and green infrastructure for people to connect with nature and cope with the impacts of climate change. NbS as part of climate change mitigation also provide the opportunity to improve natural capital to contribute to nature recovery and adaptation. We also have the opportunity to improve our existing management of nature to increase resilience to climate change. These opportunities require positive action to realise the potential benefits as part of adaptation planning. For example, to facilitate landscape scale change and engage with agriculture and the planning sector to influence adaptation for people and nature. There are also opportunities to provide more nature rich areas for people and engage with different communities and stakeholders as part of the response to the climate crisis.

Risk Assessment Methodology

Our assessment of risks to our aims and objectives uses the cross members risk matrix provided by the APR4 template as outlined below. We have provided an assessment of present-day medium term and long-term risk to our aims and objectives. Medium and long-term risks use two horizons of 2050 and 2080. We have referred to UKCP18 to assess the risks at 2°C and 4°C. We have used RCP 2.6 to represent a low emissions scenario and RCP 8.5 to represent a high emissions scenario. These projections are typically considered in line with a global average of 2°C of warming, while the high emissions scenario is considered consistent with 4°C of warming.

Horizons: present day 2050, 2080	**Impact**				
	Minimal	Minor	Moderate	Major	Catastrophic

Likelihood	Almost Certain	5 / moderate	10 / major	15 / major	20 / severe	25 / severe
	Likely	4 / moderate	8 / moderate	12 / major	16 / major	20 / severe
	Possible	3 / minor	6 / moderate	9 / moderate	12 / major	15 / major
	Unlikely	2 / minor	4 / moderate	6 / moderate	8 / moderate	10 / major
	Highly Unlikely	1 / minor	2 / minor	3 / minor	4 / moderate	5 / moderate

We have also used the following impact and likelihood ratings provided by the APR4 template as outlined below to develop our overall assessment of risk.

Impact

Rating	Definition
Catastrophic	It would result in catastrophic events and result in failure of the aim or objective.
Major	It would result in significant disruption to the objective. In the extreme, it may result in failure of the aim or objective.
Moderate	It would result in disruption that would exceed existing contingencies, leading to significant changes to the overall aim or objective.
Minor	It would result in some disruption to the stated objective that could be contained with existing actions.
Minimal	It would result in negligible changes or disruption.

Likelihood

Rating	Definition
Almost certain	The risk in the process of occurring. Adaptation actions are urgent or may already be under active management as an event.
Likely	The risk is likely to occur, and further management is required to account for the risk.
Possible	Possibility of the risk occurring. Management actions have been identified or implemented to account for the risk.
Unlikely	Events are rare, required actions are in place, controls are effective.
Highly unlikely	No known event or if known extremely rare, extreme industry-wide scenarios.

List of abbreviations

ARP – Adaptation Reporting Power
ADP - Adaptive Delivery Plan
A-PaNS - Adults' People and Nature Survey
ALB – Arm's-Length Body
APHA - Animal and Plant Health Agency
AONBs - Area of Outstanding Natural Beauty
BNG - Biodiversity Net Gain
CSF - Catchment Sensitive Farming
Cefas – Centre for Environment, Fisheries and Aquaculture
CAPB - Climate Action Project Board
CAPT - Climate Action Project Team
CCSAP - Climate Change Strategic Action Plan
CCRA - Climate Change Risk Assessment
CSM – Common Standards Monitoring
CTAP - Coastal Transition Accelerator Programme
CPwN - Connecting People with Nature
CRoW - Countryside and Rights of Way Act
Defra - Department for Environment, Food & Rural Affairs
DDTS - Digital, Data, Technology and Security
DAS - Discretionary Advice Service
DLL - District Level Licensing
EBFM - Ecosystem-Based Fisheries Management
ESRT - England Species Reintroductions Taskforce
EWCO - England Woodland Creation Offer
EA - Environment Agency
ELMS - Environmental Land Management Schemes
Efra - Environment Food and Rural Affairs
EIP - Environmental Improvement Plan
FCS - Favourable Conservation Status
FWAG - Farming and Wildlife Advisory Groups
FSI - Fire Severity Index
FCRIP - Flood and Coastal Resilience Innovation Programme
FC - Forestry Commission
FPDLL - Future Proofing District Level Licensing
GCN – Great Crested Newts
GCH - Green Community Hub
GFF - Greener Farming and Fisheries
GGC - Greening Government Commitments
GI - Green Infrastructure
HCRP - Habitat Compensation and Restoration Programme
HPMA - Highly Protected Marine Area
ICES - International Council for the Exploration of the Sea
INNS - Invasive Non-native Species

JNCC – Joint Nature Conservation Committee
KPI - Key Performance Indicator
KCIIIECP - King Charles III England Coast Path
LCA - Landscape Character Assessment
LNRS – Local Nature Recovery Strategies
LTMN - Long-Term Monitoring Network
LPAT - Lowland Agricultural Peat Task Force
LUF – Land Use Framework
MtO - Managing the Organisation
MBA - Marine Biological Association
MCAA - Marine and Coastal Access Act 2009
MaRePo - Marine Restoration Potential
MCZ - Marine Conservation Zone
MMO – Marine Management Organisation
MPA - Marine Protected Area
NAP – National Adaptation Programme
NNR - National Nature Reserves
NRN – Nature Recovery Network
NE - Natural England
NFU – National Farmers Union
NESSST - Natural England Spatial Seabed Sensitivity Tool
NbS - Nature-based Solutions
NBN - National Biodiversity Network
NEF - Natural Ecosystem Function
NGPCS - Nature for Climate Peatland Grant Scheme
NRP - Nature Recovery Project
NExCo - Natural England Executive Committee
NNSS - GB Non-Native Species Inspectorate
OWEC - Offshore Wind Evidence and Change Programme
PES - Paludiculture Exploration Fund
UKWAS - UK Woodland Assurance Standard
RPS - Representative Concentration Pathway
RLS -Resilient Landscapes and Seas
RAs -Responsible Authorities
ReMeMaRe - Restoring Meadow, Marsh and Reef
RAD – Resist, Accept, Direct
RPA - Rural Payments Agency
S&E - Science and Evidence
SLG - Sustainability Leadership Group
SCP – Systematic Conservation Planning
SCS - Species Conservation Strategies
SD - Sustainable Development
SNCB – Statutory Nature Conservation Bodies
SSSI - Sites of Special Scientific Interest
TCFD - Task Force on Climate-related Financial Disclosure
TSRA - Threatened Species Recovery Actions

WFA – Whole Feature Assessment

About Natural England

Natural England is here to secure a healthy natural environment for people to enjoy, where wildlife is protected and England's traditional landscapes are safeguarded for future generations.

Further Information

This report can be downloaded from the Natural England Access to Evidence Catalogue. For information on Natural England publications or if you require an alternative format, please contact the Natural England Enquiry Service on 0300 060 3900 or email enquiries@naturalengland.org.uk.

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