



Environment
Agency



Flood and Coastal Erosion Risk Management Strategy Action Plan 2021

Date: 12 May 2021

We are the Environment Agency. We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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Introduction

The Flood and Coastal Erosion Risk Management (FCERM) Strategy Action Plan (the Strategy action plan) focuses on actions from April 2021 to April 2022. It describes what is already being done to achieve the ambitions of the new [National Flood and Coastal Erosion Risk Management Strategy for England](#) (the Strategy).

The Environment Agency published the Strategy on 25 September 2020. It sets out our vision for a nation ready for, and resilient to, flooding and coastal change today, tomorrow and to the year 2100.

The Strategy provides 3 long-term ambitions to help move the country towards the vision:

- climate resilient places
- today's growth and infrastructure resilient in tomorrow's climate
- a nation ready to respond and adapt to flooding and coastal change

This Strategy action plan sets out important practical actions needed to achieve the 3 ambitions. It also supports government policies, including its [FCERM policy statement](#). Risk management authorities (RMAs) cannot achieve the ambitions of the Strategy on their own. We all need to act now so we are ready for what the future will bring. Everyone needs to contribute to planning and adapting to future flooding and coastal change, including:

- communities
- voluntary organisations
- businesses
- farmers
- land managers
- infrastructure providers

We do not yet know the full impact of the coronavirus pandemic, but that does not stop the rain from falling and the sea level rising. The nation's investment in flood and coastal defences has better protected properties and reduced the impacts of flooding on lives and livelihoods. Since 2015, government investment of £2.6 billion has better protected 300,000 homes. Between 1 April 2021 and 31 March 2027 the government will invest a further £5.2 billion. This will protect an additional 336,000 properties as well as avoid £32 billion of wider economic damages.

Alongside better protection, we must adapt to our changing climate and we must do so now. Even if we reach the government's target of net zero by 2050, it is likely that we will experience:

- 59% more winter rainfall
- once-a-century sea level events becoming annual events by 2100

As the Prime Minister said at the launch of the [Adaptation Action Coalition](#) in January 2021: "We need to work together to adapt, to become more resilient, and to save lives and livelihoods".

The Strategy recognises that in the face of a changing climate, we also need a broader range of resilience actions. When flooding happens, this will ensure:

- it causes less harm to people
- it does less damage
- life can get back to normal more quickly

Investing in flood defences and flood and coastal resilience will be vital to our country being an economic power in the decades to come. By making the right investment decisions at the right time, we can protect millions of people. We can also support sustainable development that is more resilient to rising sea levels and other climate shocks.

National FCERM Strategy Implementation Steering Group

In 2020 the Environment Agency established the National FCERM Strategy Implementation Steering Group. This group worked together to agree how to put the Strategy's ambitions into practice. The steering group consists of:

- Julia Beeden and Max Tant, Association of Directors of Environment, Economy Planning and Transport (ADEPT)
- Innes Thomson, Association of Drainage Authorities (ADA)
- Julie Foley, Environment Agency (steering group chair)
- Dermot Kehoe, Flood Re (and on behalf of the Property Flood Resilience (PFR) Roundtable)
- Mike Whitehead, Highways England
- Hilary Tanner, Local Government Association (LGA)
- Diane Mitchell, National Farmers Union (NFU)
- Paul Cobbing, National Flood Forum
- Jonathan Burney, Natural England
- Lyall Cairns, representing the Coastal Group Network
- Rob Wesley, Water UK
- Hannah Freeman, Wildfowl and Wetlands Trust (WWT), on behalf of Blueprint for Water

The steering group is also joined by an observer from the Department for Environment, Food and Rural Affairs (Defra).

Reporting against the actions

The Strategy action plan is a national plan intended to help frame local action. It describes what partners are already doing to achieve the ambitions of the Strategy. In light of the impacts of the coronavirus pandemic, this first Strategy action plan focuses on actions from April 2021 to April 2022. This is a great first step and we will take many more leaps forward in the coming years.

The actions in the plan are assessed as:

- complete: measure complete, no further action
- on track: we are on track to achieve the Strategy measure, actions are in progress
- off track: progress against the Strategy measure is behind schedule or delayed and in future years actions are needed to get back on track
- cancelled: the action is cancelled and a clear reason is provided

The Environment Agency, working with the National FCERM Strategy Implementation Steering Group, will oversee the monitoring and assurance of the plan. The Environment Agency will also continue to report to ministers on progress against the national FCERM Strategy's objectives and measures. The Environment Agency must publish the [Flood and Coastal Erosion Risk Management Report](#) each year under section 18 of the Flood and Water Management Act 2010.

Developing future actions

The Strategy action plan demonstrates the commitment of a wide range of partners to achieve the long term ambitions of the Strategy. We want to encourage continuous improvement and ongoing collaboration between partners. The Environment Agency will work with the National FCERM Strategy Implementation Steering Group to update the Strategy action plan each year, to add new actions and monitor progress.

Future funding and investment

The 3 long-term ambitions of the Strategy are underpinned by evidence about future risk and investment needs.

Strategic objective A

Between now and 2025 the Environment Agency will have better evidence to inform future risk and investment needs for managing all sources of flood and coastal change.

Table 1: Progress against measures for strategic objective A

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure A.1: By 2023 the Environment Agency will work with coast protection authorities to improve the National Coastal Erosion Maps to strengthen the evidence base for coastal adaptation investments and decisions.</p>	<p>The Environment Agency has started work to improve the National Coastal Erosion Maps. The improvements will make them easier to use and accessible to more people.</p>	<p>By April 2022, the Environment Agency will review the erosion mapping model and methodology. To do this we will work with the:</p> <ul style="list-style-type: none"> • Coastal Group network • Regional Coastal Monitoring Programmes • LGA Coastal Special Interest Group <p>This review will take account of new evidence and begin the systematic update of erosion data.</p>	On track
<p>Measure A.2: By 2024 the Environment Agency will produce a new national assessment of flood risk that will help places better plan and adapt to future risks from flooding from rivers, the sea and surface water.</p>	<p>The Environment Agency has worked with a team of contractors to test new national modelling for rivers, the sea and surface water. This includes the development of a new system to store and use national and local modelling data across England.</p>	<p>By December 2021, the Environment Agency and their contractors will complete the design of the new national assessment of flood risk tool.</p>	On track

Measure	Progress against this measure	Planned action against this measure	Status
Measure A.3: By 2025 the Environment Agency will produce a new set of long-term investment scenarios to inform future policy and investment choices for achieving flood and coastal resilience.	The Environment Agency has worked with flood risk experts and academics to develop a world leading approach to the new long-term investment scenarios.	By December 2021, the Environment Agency will complete the project implementation plan for the new Long-Term Investment Scenarios . The Environment Agency will do this using expert advice.	On track

Strategic objective B

Between now and 2030 risk management authorities will make greater use of funding and financing from non-public sector sources to contribute to the investment needs of flood and coastal resilience.

Table 2: Progress against measures for strategic objective B

Measure	Progress against this measure	Planned action against this measure	Status
Measure B.1: From 2021 the Environment Agency will work with other risk management authorities and private sector partners to trial new and innovative financing to improve flood and coastal resilience.	<p>The Environment Agency has worked with a range of partners to trial different finance options to help close funding gaps for flood and coastal projects. Partners include:</p> <ul style="list-style-type: none"> • Flood Re • ADEPT • Triodos Bank • Rivers Trust • Coastal Partnership East <p>This work has sought to reduce coastal erosion, improve surface water management and develop nature based solutions.</p>	<p>By December 2022, the Environment Agency will report on lessons from these trials:</p> <ul style="list-style-type: none"> • Coastal Loss Innovative Funding and Finance (Coastal Partnership East) • IGNITION (Greater Manchester) • Wyre NFM Investment Readiness Project (Lancashire) 	On track

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure B.2: By 2025 risk management authorities will encourage the development of the skills and capabilities they need to help secure new and innovative funding and financing for flood and coastal resilience.</p>	<p>In March 2021, Water UK established a Green Finance Taskforce. It was set up as part of the water industry Net Zero 2030 Routemap.</p>	<p>By April 2022, the LGA and ADEPT will work with the Environment Agency to run workshops for local authorities. The workshops will share learning on green finance mechanisms.</p> <p>By April 2022, the Environment Agency will work with Water UK and other stakeholders to identify synergies with the Green Finance Taskforce and the Strategy.</p>	<p>On track</p>



Ambition: climate resilient places

Working with partners to bolster resilience to flooding and coastal change across the nation, both now and in the face of climate change.

Strategic objective 1.1

Between now and 2050 the nation will bolster its resilience to flooding and coastal change.

Table 3: Progress against measures for strategic objective 1.1

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 1.1.1: By 2021 the Environment Agency will enhance the appraisal guidance for flooding and coastal change projects, so that investment decisions can better reflect a wider range of resilience actions and climate change scenarios.</p>	<p>In July 2020, the Environment Agency updated its national climate change allowances guidance. This will ensure all new flood and coastal defences are designed to cope with a range of future climate change impacts. These impacts include sea level rise from a 4°C increase in global temperatures by 2100.</p>	<p>By July 2021, the Environment Agency will publish further updates on climate change allowances. These updates will be for river flows and rainfall.</p> <p>By September 2021, the Environment Agency will publish new appraisal guidance. This will enable practitioners to better reflect a wider range of benefits such as environmental net gain, net zero and climate adaptation.</p>	<p>On track</p>

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 1.1.2: From 2020 the Environment Agency will work with the government to lead the delivery of the resilience programme supporting 25 local places to take forward innovative actions that help to bolster resilience to flooding and coastal change.</p>	<p>In November 2020 Defra and the Environment Agency announced expressions of interest guidance for the new Flood and Coastal Resilience Innovation Programme. The programme totals £150 million and seeks to demonstrate how practical innovative actions can work to improve resilience to flooding and coastal erosion.</p> <p>On 29 March 2021, ministers announced the successful 25 projects for the Flood and Coastal Resilience Innovation Programme.</p>	<p>From April 2021, the 25 selected projects will enter a development phase to ensure we maximise the benefits, innovation and learning across the programme.</p> <p>The 25 projects will run from April 2021 to March 2027.</p>	<p>On track</p>
<p>Measure 1.1.3: By 2025 the Environment Agency will work with government to use the evaluation and learning from the resilience programme to better understand the benefits and costs of different resilience actions.</p>	<p>The Environment Agency and Defra manage the Flood and Coast Research Programme. They have commissioned work to explore better ways of measuring flood and coastal resilience.</p>	<p>By December 2021, the Environment Agency will work with Defra to evaluate and learn from the Flood and Coastal Resilience Programme.</p> <p>By December 2022, the Environment Agency will complete the research into better ways of measuring flood and coastal resilience.</p>	<p>On track</p>

Strategic objective 1.2

Between now and 2050 risk management authorities will help places plan and adapt to flooding and coastal change for a range of climate scenarios.

Table 4: Progress against measures for strategic objective 1.2

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 1.2.1: From 2020 the Environment Agency will update the technical guidance for shoreline management plans to support coastal groups to generate the best evidence, actions and policies to plan and adapt for coastal change.</p>	<p>In October 2020, the Environment Agency produced new technical guidance for shoreline management plans (SMPs). We shared it with the LGA Coastal Special Interest Group and Coastal Groups in November 2020.</p>	<p>By autumn 2021, coastal groups will clarify coastal management policies in SMPs with reference to the Environment Agency's technical guidance.</p>	On track
<p>Measure 1.2.2: From 2020 the Environment Agency will work with other risk management authorities and local partners to develop adaptive pathways that enable local places to better plan for future flood and coastal change and adapt to future climate hazards.</p>	<p>The Environment Agency has secured £8 million of government funding to develop and implement adaptive pathways in:</p> <ul style="list-style-type: none"> • The Thames Estuary • The Humber Estuary • Severn Valley • Yorkshire <p>These 4 projects will run from April 2021 to March 2027.</p>	<p>By April 2022, local Environment Agency teams will collaborate with local partners in the 4 adaptive pathway areas to develop detailed project proposals.</p>	On track

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 1.2.3: By 2025 the Environment Agency will use the learning from adaptive pathways to develop a package of guidance, resources and tools to better integrate adaptation to future flooding and coastal change into projects, investments and strategic plans.</p>	<p>During 2020 and 2021, the Environment Agency trialled local tools to integrate adaptive approaches in pilot locations across the country. These focussed on improving community engagement, developing new approaches to coastal modelling, and assessing a range of future climate scenarios.</p> <p>In April 2021, the Environment Agency also published an Adaptation Pathways literature review which shares learning and best practice approaches.</p>	<p>By April 2022, the Environment Agency will establish a suite of online tools to help RMAs embed adaptive approaches into their projects and plans.</p>	<p>On track</p>
<p>Measure 1.2.4: By 2025 coastal groups will review their shoreline management plans, update action plans and where appropriate change shoreline management policies to better reflect adaptive approaches to managing coastal change.</p>	<p>The Environment Agency, in consultation with coastal groups, has produced SMP ‘health checks’. These have identified areas where management policies require specific action to progress or may need to change altogether.</p>	<p>By April 2022, coastal groups will use the technical guidance and the SMP health checks to prioritise and/or update actions to implement SMPs.</p>	<p>On track</p>

Strategic objective 1.3

Between now and 2050 risk management authorities will help coastal communities transition and adapt to a changing climate.

Table 5: Progress against measures for strategic objective 1.3

Measure	Progress against this measure	Planned action against this measure	Status
Measure 1.3.1: From 2020 risk management authorities will support coastal communities to transition and adapt to a changing climate, where the scale and pace of future flood and coastal change is very significant.	In autumn 2020, the LGA Coastal Special Interest Group set up an adaptation sub group to support coastal authorities and coastal communities.	By April 2022, the Environment Agency will work with the Coastal Group Network and LGA Coastal Special Interest Group to update the Coastal Handbook . The updates will include a statement on adaptation to coastal change.	On track

Strategic objective 1.4

Between now and 2030 risk management authorities will use nature based solutions and improve the environment through their investments in flood and coastal resilience.

Table 6: Progress against measures for strategic objective 1.4

Measure	Progress against this measure	Planned action against this measure	Status
Measure 1.4.1: From 2020 risk management authorities and Natural England will jointly develop new approaches for the conservation of protected sites, species and natural landscapes that enable adaptation to sea level rise and a changing climate.	The Environment Agency has identified the Humber Estuary to test adaptation approaches for protected sites that may be impacted by future climate change. This is linked to measure 1.2.2.	By April 2022, the Environment Agency will work with Natural England to develop proposals to manage protected habitats on the Humber Estuary. This will include how to respond to climate change pressures, build future resilience, and maximise opportunities to undertake projects with multiple benefits.	On track

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 1.4.2: From 2021 risk management authorities will work with catchment partnerships, coastal groups, land managers and communities to mainstream the use of nature based solutions.</p>	<p>The Environment Agency has managed the government funded Natural Flood Management (NFM) Programme. The programme involves working with partners on 58 nature based solution projects across England. The NFM pilots will be completed in 2021.</p>	<p>By autumn 2021, the Environment Agency will publish a final evaluation report from the Natural Flood Management Programme. It will also develop a new digital platform on nature based solutions.</p>	On track
<p>Measure 1.4.3: From 2021 risk management authorities will contribute to improving the natural, built and historic environment by investing in projects that manage flood and coastal risks where this is appropriate.</p>	<p>In April 2020, Defra amended the partnership funding rules. These rules determine how government funding for FCERM projects is allocated.</p> <p>The Environment Agency worked with Defra to advise on changes. The changes will improve the payment rates for projects with wider environmental benefits including nature based solutions.</p>	<p>By April 2022, the Environment Agency will work with Blueprint for Water to publish new RMA guidance. The guidance will maximise environmental outcomes from FCERM projects.</p> <p>We need more progress on the historical environment aspects of this measure.</p>	Off track
<p>Measure 1.4.4: From 2021 investments in flood and coastal projects by risk management authorities will help to achieve objectives in river basin management plans and contribute to the government's aim for 75% of waters to be close to their natural state as soon as practicable.</p>	<p>As part of the 2021 to 2027 FCERM investment programme, the Environment Agency has allocated specific funding to achieve river basin objectives. This will improve an estimated 4,500 hectares of habitat and 830 kilometres of rivers.</p>	<p>From March 2022, the Environment Agency will report annually to the regional flood and coastal committees (RFCCs) on progress against this measure. The report will explain how the FCERM investment programme contributes to water quality objectives.</p>	On track

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 1.4.5: From 2021 risk management authorities will work with Natural England and other partners as they develop Local Nature Recovery Strategies that enable new and restored habitats to contribute to flood and coastal resilience.</p>	<p>Natural England has worked with Defra and the Environment Agency to improve flood resilience through the Local Nature Recovery Strategies (LNRS) pilots. The pilots have been in:</p> <ul style="list-style-type: none"> • Cornwall • Buckinghamshire • Greater Manchester • Northumberland • Cumbria <p>The LNRS pilots are due to be completed in spring 2021.</p>	<p>By April 2022, Natural England will work with the Environment Agency, ADEPT, LGA and others to use the learning from the pilots. This will inform the roll out of LNRS across England. The roll out will start after the Environment Bill receives royal assent.</p>	<p>On track</p>

Strategic objective 1.5

By 2030 risk management authorities will work with farmers and landowners to help them adapt their businesses and practices to be resilient to flooding and coastal change.

Table 7: Progress against measures for strategic objective 1.5

Measure	Progress against this measure	Planned action against this measure	Status
Measure 1.5.1: From 2020 risk management authorities and Natural England will work with farmers and land managers to encourage land use and land management practices that help contribute to greater resilience to both floods and droughts.	In January 2021, the NFU published an Integrated Water Management Strategy. This strategy will help farmers and growers adapt to future flood risk and raise the resilience of farm businesses.	The NFU's Integrated Water Management Strategy will contribute to the delivery of the FCERM Strategy by helping farmers and growers adapt to future flood risk. By March 2022, the NFU will work with the Environment Agency to establish a rural resilience partnership focused on helping farmers and growers adapt to a changing climate.	On track
Measure 1.5.2: From 2020 the Environment Agency will continue to work with the government and other partners to develop the Environmental Land Management scheme and pilot ways of reducing flood and coastal risks.	The Environment Agency has provided advice and information to Defra on a wide range of flood risk outcomes. This includes an approach to prioritising locations across England where different land management could help to achieve flood and coastal risk management benefits.	By autumn 2021, the Environment Agency will support the piloting of the new Sustainable Farming Incentives Schemes.	On track
Measure 1.5.3: From 2024 risk management authorities will work with farmers and land managers to maximise the opportunities for the Environmental Land Management (ELM) scheme to help reduce flood and coastal risks as a public benefit.	There will be no specific action until ELM scheme is established. We expect this to be from 2024.	There will be no specific action until ELM scheme is established. We expect this to be from 2024.	On track

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 1.5.4: By 2025 the Environment Agency will work with farmers, land managers, water companies, internal drainage boards and other partners to develop a long-term plan for managing future flood risk in the Fens.</p>	<p>The Environment Agency has developed an assessment of the costs and benefits of maintaining existing flood defences in the Great Ouse Fens over the next 100 years. We did this work in partnership with local drainage boards and councils in the Fens. The final assessment will be published in May 2021.</p>	<p>In October 2021, the Anglian Flood Risk Management Plan, which includes a focus on the Fens, will undergo public consultation. This plan will set out future flood risk investment priorities.</p>	<p>On track</p>



Ambition: today's growth and infrastructure – resilient in tomorrow's climate

Making the right investment and planning decisions to secure sustainable growth and environmental improvements, as well as infrastructure resilient to flooding and coastal change.

Strategic objective 2.1

Between now and 2030 all new development will contribute to making places resilient to flooding and coastal change.

Table 8: Progress against measures for strategic objective 2.1

Measure	Progress against this measure	Planned action against this measure	Status
Measure 2.1.1: By 2020 the Environment Agency will update its guidance to planners and developers on flood risk assessments to account for the 2018 UK Climate Projections.	In July 2020, the Environment Agency updated its national climate change allowance guidance . This will ensure all new development proposals plan for a range of future climate change impacts. These impacts include the sea level rise associated with 4°C increase in global temperatures by 2100.	By July 2021, the Environment Agency will publish further updates to its climate change allowances. These will be for river flows for spatial planning.	On track

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 2.1.2: From 2020 the Environment Agency will continue to provide quality and timely planning advice to help avoid inappropriate development in areas at risk of flooding and coastal change.</p>	<p>Between 1 April 2019 and 31 March 2020, the Environment Agency responded to approximately 11,000 planning applications. We also provided detailed flood risk advice on around 7,000 planning applications. As a statutory consultee we responded to 92.5% of all planning consultations in 21 days or within agreed extensions (the government response target).</p> <p>Over 95% of all planning decisions made by local planning authorities were in line with Environment Agency advice on flood risk. This advice prevented around 40,000 properties being built in an unsafe way or unsafe location.</p>	<p>By September 2021 the Environment Agency will publish information where planning permission is granted against flood and coastal advice (when notified of planning decisions).</p> <p>By April 2022, the Environment Agency will continue to provide quality and timely planning advice to local planning authorities (subject to appropriate resource).</p> <p>The Environment Agency will continue to advise government ensuring planning reforms address flood, coastal resilience and climate change adaptation.</p>	Off track
<p>Measure 2.1.3: From 2020 the Environment Agency and coast protection authorities will advise planning authorities on how shoreline management plans can better inform planning policies for the coast, including designation of coastal change management areas</p>	<p>In October 2020, the Environment Agency produced new technical guidance for SMPs. This includes sections on land use planning and marine planning.</p>	<p>By April 2022, the Environment Agency and coastal groups will work together to develop an improved SMP interface for local planners. This will subsequently be part of a new online portal for SMPs.</p>	On track
<p>Measure 2.1.4: From 2021 risk management authorities will support the development of planning skills and capabilities they need to ensure new development and spatial plans are resilient to flooding and coastal change.</p>	<p>No specific progress.</p>	<p>By autumn 2021, the Environment Agency will work with the Town and Country Planning Association (TCPA) to develop online learning. This will help planners better account for flood risk and climate change.</p>	On track

Measure	Progress against this measure	Planned action against this measure	Status
Measure 2.1.5: By 2025 risk management authorities will provide advice to planning authorities on how to integrate long-term adaptive approaches into their spatial plans and growth strategies.	No specific progress.	By March 2022, the Environment Agency will update its strategic flood risk assessment (SFRA) guidance. This will enable planning authorities to better account for the latest climate change scenarios and adaptive approaches.	On track

Strategic objective 2.2

Between now and 2030 risk management authorities will encourage environmental net gain in all new development to support resilience to flooding and coastal change.

Table 9: Progress against measures for strategic objective 2.2

Measure	Progress against this measure	Planned action against this measure	Status
Measure 2.2.1 From 2021 risk management authorities will plan all flood and coastal defence projects and programmes to deliver biodiversity gain, in line with the government's mandate, and seek to encourage other environmental benefits.	<p>The Environment Agency has worked with government to inform how all developers will achieve mandatory biodiversity net gain. This work has specifically focussed on the biodiversity metric.</p> <p>Projects in the 2021 to 2027 FCERM investment programme are planning to achieve mandated biodiversity net gain and additional environmental benefits where feasible.</p>	<p>By April 2022, the Environment Agency will share good practice on how FCERM projects are planning to achieve biodiversity net gain.</p> <p>By April 2022, the Environment Agency will explore how emerging local natural capital approaches could inform the FCERM investment programme.</p>	On track

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 2.2.2 From 2021 risk management authorities will work with developers and planners to maximise the opportunities for flood and coastal resilience as part of contributing to environmental net gain for development proposals.</p>	<p>The Environment Agency has worked with government to advise on the planning reform and guidance that will frame how we will achieve environmental net gain. This includes guidance on natural flood management.</p> <p>The Environment Agency has worked with partners to produce a local natural capital plan for the Oxford to Cambridge Arc (OxCAM Arc) growth area.</p>	<p>The Environment Agency will continue to advise government on planning policy, and guidance to shape future opportunities for environmental net gain.</p>	On track

Strategic objective 2.3

Between now and 2030 risk management authorities will support investments to manage flooding and coastal change that enables growth in a sustainable and climate resilient way.

Table 10: Progress against measures for strategic objective 2.3

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 2.3.1: From 2021 risk management authorities will identify how investments in flooding and coastal resilience can minimise the local economic impacts of flooding and coastal change, improve investor confidence and enable sustainable growth.</p>	<p>The River Severn Partnership and OxCAM Arc have been exploring how investments in flood resilience can contribute to prosperous local economics and enhanced natural environments. This has included working with partners to trial new and innovative funding approaches.</p>	<p>By April 2022, the Environment Agency will develop metrics to assess the local economic benefits from investments in flood and coastal resilience.</p> <p>By April 2022, the Environment Agency will appoint partnership and places advisors to maximise opportunities for sustainable growth and attracting private sector funding.</p>	On track

Strategic objective 2.4

Between now and 2040 risk management authorities will work with the finance sector and other partners to mainstream property flood resilience measures and to 'build back better' after flooding.

Table 11: Progress against measures for strategic objective 2.4

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 2.4.1: From 2021 risk management authorities will work with the finance sector, Flood Re and the property flood resilience industry to increase the uptake of property flood resilience measures in communities at highest risk.</p>	<p>The Property Flood Resilience (PFR) Pathfinders continue to work with communities, the construction sector and insurers to encourage greater use of PFR. The following will conclude in January 2022:</p> <ul style="list-style-type: none"> • Yorkshire property flood resilience pathfinder • Be flood ready Devon and Cornwall property flood resilience pathfinder • Ox-Cam property flood resilience pathfinder project <p>In February 2020, through the Construction Industry Research and Information Association (CIRIA), the PFR Roundtable published a new Code of Practice for the installation of PFR. The guidance for this Code of Practice was published in January 2021.</p>	<p>By November 2021, the Environment Agency will launch a new PFR Framework of suppliers.</p> <p>By December 2021, the Environment Agency and Chartered Institution of Water and Environmental Management (CIWEM) will support the PFR industry to develop a system of independent PFR training and accreditation.</p>	On track
<p>Measure 2.4.2: By 2025 the Environment Agency will work with government and other partners to tackle the policy, financial and behavioural barriers to mainstreaming property flood resilience measures and 'building back better' after flooding.</p>	<p>In September 2020, the Flood and Coast Research Programme published 'Applying behavioural insights to property flood resilience'. This research identified several financial and behavioural barriers along with gaps in understanding.</p>	<p>In July 2021, the Environment Agency will publish additional research to fill PFR knowledge gaps.</p> <p>By April 2022, the Environment Agency will develop a bespoke tool for better valuing the economic benefits of PFR to local communities.</p>	On track

Strategic objective 2.5

Between now and 2030 owners of flood and coastal defences will understand and take responsibility for achieving flood and coastal resilience.

Table 12: Progress against measures for strategic objective 2.5

Measure	Progress against this measure	Planned action against this measure	Status
Measure 2.5.1: By 2021 the Environment Agency will work with government, lead local flood authorities and other expert bodies to develop guidance setting out the best practice for local flood defence management and record keeping (as per the Surface Water Management Action Plan, 2018).	In January 2021, the Environment Agency, ADEPT, LGA, and other RMAs set up an Asset Forum to share best practice.	By December 2021, the Environment Agency will work with ADEPT, LGA and other RMAs to develop guidance and best practice for local flood defence management. This will include information on effective record keeping.	On track
Measure 2.5.2: By 2021 the Environment Agency will raise awareness and communicate the responsibilities of flood and coastal defence owners, best practice actions as well as the action relevant risk management authorities will take to ensure responsibilities are being met.	In January 2021, the Environment Agency, ADEPT and LGA, and other RMAs set up an Asset Forum to share best practice.	By December 2021, the Environment Agency will work through the Asset Forum to agree and communicate important messages to owners of flood and coastal defences.	On track
Measure 2.5.3: By 2024 the Environment Agency will work with government and risk management authorities to develop guidance setting out a common approach for inspecting and managing all flood and coastal defences to improve resilience, information sharing and collaboration.	No specific progress.	Work will start on this measure in 2022. Future actions will align with the Defra flood policy statement and the response to the 2020 independent review ' Surface Water and Drainage – Review of Responsibilities. '	On track

Strategic objective 2.6

Between now and 2030, owners and operators of large raised reservoirs will ensure they are safe in a changing climate.

Table 13: Progress against measures for strategic objective 2.6

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 2.6.1: From 2020, the Environment Agency will implement the recommendations of the government's independent review into the Toddbrook Dam incident applicable to its role as the regulator of reservoir safety.</p>	<p>The Environment Agency has been working with Defra and other partners to identify the actions required in response to the review of the Toddbrook reservoir incident.</p>	<p>By December 2021, the Environment Agency will develop a plan and timetable for taking forward the actions required.</p> <p>The Environment Agency will continue to advise Defra on the review of reservoir safety legislation.</p>	On track
<p>Measure 2.6.2: By 2025, the Environment Agency will review the latest climate science to update guidelines for reservoir owners and operators of high risk reservoirs, to ensure they continue to be resilient to extreme flood events and climate change.</p>	<p>No specific progress.</p>	<p>By December 2022, the Environment Agency will work with industry experts to agree how we can apply the latest climate change science to reservoir safety.</p>	On track

Strategic objective 2.7

By 2030 water companies will plan for their infrastructure to be resilient to flooding and coastal change.

Table 14: Progress against measures for strategic objective 2.7

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 2.7.1: From 2020 water companies and other risk management authorities will work together to inform drainage and sewerage management plans to improve resilience to surface water and drainage flood risks.</p>	<p>In 2018 Water UK published guidance and best practice on drainage and wastewater management plans. They produced it with partners including Defra, the Environment Agency, and Ofwat. The drainage and wastewater management plans are called drainage and sewerage management plans in the Environment Bill.</p>	<p>By May 2022, the Environment Agency, Water UK and the Water Services Regulation Authority (Ofwat) will assess how RMAs are contributing to the production of drainage and wastewater management plans.</p>	On track
<p>Measure 2.7.2: From 2020 the Environment Agency and Ofwat will develop a joint approach for how water companies should consider flood and coastal resilience in the context of their statutory roles and duties.</p>	<p>The Environment Agency, Ofwat and other regulators have established a task force with the water sector. This includes considering how the Water Industry National Environment Programme could better enable wider environmental outcomes such as flood resilience.</p>	<p>By April 2022, the Environment Agency and Ofwat will work with water companies to agree a joint approach to clarify roles and responsibilities.</p>	On track
<p>Measure 2.7.3: By 2025 water companies and other risk management authorities will ensure that long-term adaptive planning for flooding and coastal change is better coordinated with the next and subsequent cycles of planning for water and wastewater investments.</p>	<p>No specific progress.</p>	<p>By April 2022, the Environment Agency will work with water companies and regional water resource groups to share good practice on long-term adaptive planning. This will help inform water and wastewater investments and contribute to the on-line tools being developed under measure 1.2.3.</p>	On track

Strategic objective 2.8

Between now and 2050 risk management authorities will work with national infrastructure providers to contribute to more flood and coastal resilient places.

Table 15: Progress against measures for strategic objective 2.8

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 2.8.1: From 2021 the Environment Agency will provide expert advice, evidence and data on flooding and coastal change to help national infrastructure providers ensure their investments are resilient to flooding and coastal erosion.</p>	<p>Environment Agency local teams have worked with local infrastructure providers to share information and advice on future flood and coastal erosion risks.</p>	<p>By April 2022, the Environment Agency will work with national infrastructure owners groups to facilitate sharing of information on current and future flood and coastal risks.</p>	On track
<p>Measure 2.8.2: From 2021 the Environment Agency will work with national infrastructure providers to better share information about long-term investment planning to identify win-win opportunities for improving flooding and coastal resilience in places.</p>	<p>The Environment Agency has worked with Highways England, Network Rail and the Department for Education to develop projects that reduce flooding. We are developing a future pipeline of projects with those partners.</p> <p>The Environment Agency has also engaged with the telecommunications and power distribution sectors on long-term investment planning.</p>	<p>By April 2022, the Environment Agency will develop a pipeline of joint investment programmes with:</p> <ul style="list-style-type: none"> • Highways England • Network Rail • the Department for Education <p>By April 2022, the Environment Agency will share its future investment programme with the telecoms and power distribution sectors to maximise joint opportunities.</p>	On track



Ambition: a nation ready to respond and adapt to flooding and coastal change

Ensuring local people understand their risk to flooding and coastal change, and know their responsibilities and how to take action.

Strategic objective 3.1

Between now and 2050, people will understand the potential impact of flooding and coastal change on their lives and livelihoods and will take action to reduce that impact.

Table 16: Progress against measures for strategic objective 3.1

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 3.1.1: From 2020 the Environment Agency will continue to invest in developing and transforming customer-driven digital services to better communicate risk from flooding and coastal change.</p>	<p>In October 2020, the Environment Agency began improving the Flood Map for Planning Service, to provide automated responses to customers requesting flood risk data.</p> <p>The Environment Agency has improved the way it provides information on risks to the public through the Long Term Flood Risk Information service on GOV.UK. This has improved the public's understanding of risks, roles and responsibilities in flood risk management. Over the last year, there has been a 140% increase in the number of users per day to the services.</p>	<p>By December 2021, the Environment Agency Flood Map for Planning Service will be updated to provide quicker response times to data requests for flood risk assessments for new development proposals.</p>	<p>On track</p>

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 3.1.2: From 2021 risk management authorities will encourage the development of the engagement skills and capabilities they need to better support communities to manage and adapt to future flooding and coastal change.</p>	<p>In 2020 the Environment Agency started reviewing the type of engagement skills that flood risk professionals need to achieve the ambitions of the Strategy.</p>	<p>By December 2021, the Environment Agency will work with partners to develop a 5 year plan to create new training materials to support RMAs. The plan will support the development of engagement skills and capabilities.</p> <p>By March 2022, the Environment Agency in partnership with ADEPT will complete a survey of RMAs engagement skills and capabilities. The survey results will be available from March 2022.</p>	<p>On track</p>
<p>Measure 3.1.3: By 2021 the Environment Agency will share learning and best practice with other risk management authorities on working with communities to manage and adapt to future flooding and coastal change.</p>	<p>In August 2019, the Environment Agency published an evidence review on community engagement on climate adaptation to flood risk. It is about how RMAs can better work with communities to plan and adapt to flooding and coastal change.</p> <p>The research project has been working in 2 pilot areas affected by coastal erosion and surface water flooding. The Environment Agency has shared the learning and best practice from these pilots through workshops with practitioners.</p>	<p>Up until June 2021, the Environment Agency will continue working with the pilot areas.</p> <p>By April 2022, the Environment Agency will continue to trial new approaches on how to work with communities in the 2 pilot areas.</p> <p>It will also share learning and best practice with RMAs on how to engage in sensitive places using inclusive approaches.</p>	<p>On track</p>

Strategic objective 3.2

Between now and 2030 people will receive the information and support they need to transform how the nation better prepares and responds to flooding and coastal change.

Table 17: Progress against measures for strategic objective 3.2

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 3.2.1: From 2020 the Environment Agency will continue to work with local resilience forums to develop flood plans that better coordinate preparing and responding to incidents.</p>	<p>In October 2020, the Environment Agency began a review of local resilience forum Multi-Agency Flood Plans. This follows the publication of the developing a multi-agency flood plan guidance by Defra in September 2020.</p>	<p>By December 2021, the Environment Agency will support local resilience forums to update their Multi-Agency Flood Plans.</p>	On track
<p>Measure 3.2.2: By 2022 the Environment Agency will have expanded its flood warning service to all places at a high risk of flooding from rivers and the sea.</p>	<p>The Environment Agency's Expanding Flood Warnings project is working to provide all properties at high risk of flooding with warnings by 2022. By the end of 2022, the project aims to add 62,000 properties in England to the flood warning service. So far we have added about 4,000 properties at high risk and a further 16,000 at medium and low risk.</p>	<p>The coronavirus pandemic has impacted the Expanding Flood Warnings project.</p> <p>By April 2022, the Environment Agency aims to add a further:</p> <ul style="list-style-type: none"> • 5,000 properties at high risk • 15,000 properties at medium and low risk <p>By December 2022, the Environment Agency plan to add a further 22,000 properties (subject to appropriate resource).</p>	Off track

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 3.2.3: By 2025 the Environment Agency will work with partners to transform its warning and informing services to better reach people living, working or travelling through flood risk areas.</p>	<p>The Environment Agency has completed the scoping phase for the Next Generation Warning System. The new system will transform our warning service to be more people focussed.</p> <p>In April 2021, the Environment Agency launched the new Incident Management Forecasting System. This will enhance our warning and informing services to communities and partners.</p>	<p>During 2021, the Environment Agency will continue to develop the Next Generation Flood Warning System. This will ensure we continue to transform our warning and informing services.</p> <p>By April 2022, the Department for Education, with support from the Environment Agency, will promote flood awareness to schools in England with the highest risk. They will also encourage schools to sign up to flood warnings and create a flood plan.</p>	On track
<p>Measure 3.2.4: By 2025 risk management authorities will support people living in places at high risk of flooding and coastal change to setup flood groups, where they are wanted, and to develop and test local flood plans.</p>	<p>In March 2021, the Environment Agency and the National Flood Forum began a review to better understand the information and advice available for at-risk communities and flood groups.</p>	<p>By December 2021, the National Flood Forum and the Environment Agency will develop a network of community-led flood groups and volunteers. This network will facilitate peer-to-peer learning.</p> <p>By April 2022, the National Flood Forum and the Environment Agency will identify how to address gaps in support for at-risk communities and flood groups.</p>	On track

Strategic objective 3.3

Between now and 2030 people and businesses will receive the support they need from all those involved in recovery after flooding so they can get back to normal quicker after flooding.

Table 18: Progress against measures for strategic objective 3.3

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 3.3.1: From 2020 risk management authorities, local responders, the insurance sector and other partners will continue to work together to help people and businesses recover more quickly after flooding.</p>	<p>In 2020 the ABI implemented best practice guidance on offering cash settlements to customers after a flood. They also updated their Responding to Floods guide in collaboration with the National Flood Forum.</p> <p>The National Flood Forum has collected feedback from property owners with property flood resilience measures. This has shown what did and did not work well during and after the winter 2019 and winter 2020 floods.</p>	<p>By summer 2021, the Association of British Insurers (ABI), the British Insurance Brokers Association and Flood Re will publish new specialist directory of brokers and insurers. This will support customers that are unable to get flood insurance cover.</p> <p>By March 2022, the National Flood Forum and the Environment Agency will publish lessons learnt on the measures needed to install property flood resilience. This will ensure people have the most effective support.</p>	On track
<p>Measure 3.3.2: By 2025 the Environment Agency will work with government, other risk management authorities and public health services to ensure the mental health impacts from flooding and coastal change are factored into long-term recovery planning.</p>	<p>During the 2020 coronavirus pandemic, the National Flood Forum developed virtual recovery support for flood victims. They did this by collaborating with the Environment Agency, local authorities and water companies. The work included support for ongoing mental health impacts from flooding.</p>	<p>By December 2022, the Environment Agency will work with local responders and health bodies to establish good practice to manage community wellbeing after a flood.</p>	On track

Measure	Progress against this measure	Planned action against this measure	Status
Measure 3.3.3: By 2025 the Environment Agency will have worked with risk management authorities and local responders to develop a plan for better involving the third sector in supporting significant flood incidents.	The coronavirus pandemic has impacted the progress of this measure. Local responders and RMAs have focussed on responding to the pandemic and the 2020 to 2021 winter floods.	By April 2022, local Environment Agency teams will identify opportunities to involve voluntary organisations more in local flood incident response. More progress is needed on this measure by 2025.	Off track

Strategic objective 3.4

Between now and 2030 the Environment Agency will have an oversight of skills and capabilities across the flooding and coastal change sector to identify gaps and future needs.

Table 19: Progress against measures for strategic objective 3.4

Measure	Progress against this measure	Planned action against this measure	Status
Measure 3.4.1: By 2025 risk management authorities and other organisations will work with education providers to encourage opportunities for ongoing learning and career development in engineering and environmental sciences.	The Environment Agency has produced several initiatives including the Higher Education Programme of training in Flood and Coastal Engineering . We have also published eLearning material and online courses for both students and existing practitioners. In addition, the Environment Agency has created a new Water Environment Worker Apprenticeship Standard for RMAs and other organisations.	By July 2021, the Environment Agency will form a roundtable with RMAs and education providers. The roundtable will encourage greater collaboration in providing learning and career development opportunities in flood risk engineering and environmental sciences. By December 2021, ADA working in partnership with the Linking Environment and Farming (LEAF) will publish materials on lowland flood and water level management for Key Stage 4 Geography.	On track

Strategic objective 3.5

Between now and 2030 the nation will be recognised as world leader in researching and managing flooding and coastal change.

Table 20: Progress against measures for strategic objective 3.5

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 3.5.1: From 2020 the Environment Agency will continue to work with research councils and academic institutions on world leading research that promotes innovation and informs future approaches to flooding and coastal change.</p>	<p>The Environment Agency has developed a new FCERM Research and Development Programme website. It includes research outputs dating back to early 2000s and is now accessible to all RMAs and supply chain partners.</p> <p>During 2020 the Environment Agency published a wide range of reports which will improve adaptive decision making. These reports covered topics such as taking account of the impacts of climate change on asset deterioration and the impacts of flooding on mental health.</p> <p>The Environment Agency has also continued to work with the UK research councils on major flood and coastal research programmes.</p>	<p>By December 2022, the Environment Agency will create and share a brochure highlighting how research has improved the management of flooding and coastal change. The brochure will also show how research is helping to successfully implement parts of the Strategy.</p>	<p>On track</p>

Measure	Progress against this measure	Planned action against this measure	Status
<p>Measure 3.5.2: By 2025 the Environment Agency will share learning and best practice from around the world with other risk management authorities to encourage innovation in how we manage flooding and coastal change.</p>	<p>The Environment Agency has continued to forge strong links with several international organisations and agencies, including the:</p> <ul style="list-style-type: none"> • Dutch flood agency, Rijkswaterstaat • United States Army Corps of Engineers • Australian Bureau of Meteorology <p>The Environment Agency has also continued to support I-STORM. This is the international network for storm barriers such as the Thames Barrier and Boston Barrier.</p> <p>By April 2021, the Environment Agency and CIWEM ran a series of virtual Flood and Coast international digital events. These events shared best practice and learning with global partners.</p>	<p>In June and July 2021, CIWEM in partnership with the Environment Agency will run a virtual international Flood and Coast Conference. It will address the themes of the UN Climate Change Conference (UK 2021).</p> <p>By April 2022, the Environment Agency will develop a programme of events to showcase England's experience, learning and innovation in FCERM. This may be impacted by the ongoing coronavirus pandemic.</p>	<p>On track</p>
<p>Measure 3.5.3: By 2030 the Environment Agency will work with its supply chain to develop world leading ways of reducing the carbon and environmental impact from the construction and operation of flood and coastal defences.</p>	<p>During 2020, the Environment Agency and their partners adopted a leading industry sustainability scheme for civil engineering, 'CEEQUAL'. The scheme measures our sustainability performance.</p> <p>In December 2020, the Environment Agency held a virtual Carbon Expo event with its supply chain to showcase latest construction approaches to Net Zero Carbon.</p> <p>In February 2021, the Environment Agency completed a review of which low carbon products and practices to incorporate in the construction of FCERM defences.</p> <p>In March 2021, the Environment Agency completed a survey of how its supply chain aims to use technology to decarbonise their operations. The survey also identified how the supply chain aim to develop their own Net Zero Carbon plans.</p>	<p>By December 2021, ADA will publish a carbon calculator for IDBs routine operational activities, which are managing flood risk and water levels. This will contribute to the UK's ambition of achieving net zero by 2050.</p> <p>By April 2022, the Environment Agency will complete a review of the benefits and costs of adopting the Publically Available Specification (PAS 2080). This is a global standard for managing infrastructure carbon.</p> <p>By April 2022, the Environment Agency will work with its supply chain to pilot lower carbon methods of construction. It will work with its suppliers to identify how technology could be used to decarbonise flood risk operations.</p>	<p>On track</p>

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