Scottish National Adaptation Plan

Annual Progress Report

2024 – 2025

Scottish Government
Riaghaltas na h-Alba

Report laid under section 54 of the Climate Change (Scotland) Act 2009 - SG/2025/108

Executive summary

Tackling the climate emergency is a priority for the First Minister and this Government. The impacts of climate change, in Scotland and globally, are increasingly apparent. The effects of flooding, coastal erosion, drought, and storms are putting pressure on our economy, society, and environment. This means that while it is right Scotland continues to play our part in reducing global emissions, we remain clear-eyed that we must also adapt to the inbound climate impacts already defined by past emissions.

Indeed, with the publication of a refreshed approach through Scottish National Adaptation Plan 2024-29 (SNAP3), it is clear that a thriving Scottish economy, society and environment is increasingly reliant on how effectively we carry out the objectives and policies set out in this Plan. This first annual progress report to the Scottish Parliament outlines delivery progress made since publication in September 2024.

This report updates on progress across the adaptation policy spectrum, including several SNAP3 commitments which have already been successfully delivered since publication. For example, successfully expanding of capacity building support for public sector bodies, with 65 organisations, including 26 local authorities, now receiving training, guidance and advice on adaptation action.

When SNAP3 was published, the Scottish Government also, for the first time, published an adaptation monitoring and evaluation framework to assess progress toward the Plan's objectives and how we are building greater climate resilience in Scotland. This monitoring framework draws on 38 data ready indicators to assess progress across SNAP3's 23 delivery objectives. The framework responds to a key recommendation from the last Climate Change Committee adaptation assessment for Scotland. As a result, in this report you will find the first baseline data set for the objective indicators developed in a way that means adaptation progress can be monitored annually. While some indicators have several years' data collection already, allowing us to build a picture of progress and climate resilience trends, other indicators are baselined in this report for the first time, with trends emerging during SNAP3 implementation. These newer indicators, now established as a climate resilience indicator, will continue to be reported against in future annual progress reports – expanding the evidence base on how effectively Scotland is adapting to climate change at the national level.

Since publication of SNAP3, several key milestones across different sectors have already been met. Scotland's first Flood Resilience Strategy was published in December 2024 and sets out what is needed to make our communities more flood resilient in the face of a changing climate, including the establishment of a Flood Advisory Service for Scotland. The Scottish Government also published the Scottish Biodiversity Strategy Delivery Plan in November 2024, describing joint action across climate change and the resulting loss of biodiversity, recognising the fundamental role a thriving natural environment needs to play to deliver a climate resilient Scotland. In addition, the Biodiversity Investment Plan, published in February 2025, outlined six key actions to further boost investment in nature restoration and climate resilience. Forestry Scotland's *Routemap to Resilience*, launched in March 2025, is now driving actions to help woodlands adapt, respond, and recover from climate-

related threats over the next decade. In May 2025, a new Soil Route Map for Scotland was published, consolidating soils policy into an overarching strategy for improving soil security, meeting another recommendation from the Climate Change Committee to improve coordination in a policy area that is critical for climate resilience. May 2025 also saw the Climate Ready Infrastructure Scotland Forum establishing agreement between more than 20 Scottish infrastructure owners and operators to pool knowledge, align efforts and take collective adaptation action. These headlines make up just a few of the climate resilience building activities being undertaken across Scotland to prepare for the impacts of climate change.

Delivering this step change in adaptation activity is timely since the evidence remains clear: the cost of adaptation inaction will be far greater in the long term than the proactively responding to growing climate impacts now. However, it also remains clear that adaptation action needs to continue to scale up across all sectors. This will not just preserve, but improve, our quality of life through more climate resilient communities, businesses, public services and natural environments.

Contents

Introduction and context

As global greenhouse gas emissions continue to rise substantially, the climate impacts already seen today are projected to continue and intensify. For Scotland this means wetter winters, drier summers, persistent and protracted sea level rise and more variable and unpredictable weather conditions.

A thriving Scottish economy, society and environment is increasingly reliant on how effectively we respond to these inbound trends.

The Climate Change Committee (CCC), our independent statutory climate change advisors, recommend that Scotland should do all it can now to prepare for +2 °C of warming by 2050 and assess relevant activities and investment against the risks of up to +4 °C of warming by the end of the century.

The third Scottish National Adaptation Plan 2024-2029 (SNAP3) is the most comprehensive adaptation policy package to date, setting out an expanded range of activities to ensure Scotland is building resilience to climate change.

Statutory framework for adaptation

The Climate Change (Scotland) Act 2009 sets the statutory framework for Scotland's efforts to adapt to climate change. The legislation requires a five-yearly Adaptation Plan addressing risks from the most recent UK Climate Change Risk Assessment, which in turn is revised by the CCC every five years.

Progress on delivery of each Scottish National Adaptation Plan is to be reported annually to the Scottish Parliament and independently assessed by the CCC twice in each five-year cycle.

This is the first annual progress report on the new Adaptation Plan, SNAP3. Previous annual reports are available on the Scottish Government website.

The next CCC assessment of adaptation progress in Scotland is scheduled for the second half of 2026.

Scotland's current Adaptation Plan

SNAP3 responds to the third UK Climate Change Risk Assessment and the advice of the CCC. The Plan was also informed by the extensive feedback the Scottish Government received through 12-weeks of public engagement and consultation on a draft SNAP3 in 2024. A full analysis of consultation responses identified several key themes which shaped the final Plan.

SNAP3 is structured in five chapters, covering five outcomes to deliver a climate resilient Scotland. Under each outcome are delivery objectives (to a total of 23) where over 200 key policy actions are set out. Each delivery objective has a lead SG Directorate.

The Plan was also accompanied by Scotland's first monitoring and evaluation framework, a comprehensive tool to assess progress toward the Plan's objectives, meeting a key recommendation of the CCC. This framework supports our annual reporting to the Scottish Parliament, features 38 data-ready indicators to track

progress building climate resilience in Scotland, and provides, for the first time, data and evidence to understand and evaluate adaptation delivery at a national scale.

Scottish Ministers' assessment of progress

The overall assessment of Scottish Ministers is that whilst progress towards implementing the objectives, proposals and policies set out in SNAP3 continues to be made in the first nine months since publication, it remains early in implementation of the five-year plan, and more needs to be done to rapidly increase the advancement of adaptation delivery over the next five years.

The arrival of SNAP3 has marked a shift in how we approach adaptation, with a stronger emphasis on system-wide action through a just transition that protects our most vulnerable people and places. The Plan is purposefully structured and signposted to reinforce other Scottish Government delivery priorities - including biodiversity, land reform, the National Planning Framework, transport infrastructure investment and community wellbeing.

We have enhanced the integration of risk evidence from the UK Climate Change Risk Assessment in our policy development approach and are directly addressing the recommendations outlined in the CCC's previous assessment of progress in Scotland, in addition to the CCC's formal consultation response to the draft SNAP3.

Delivery of adaptation action is a collective responsibility. It sits across Ministerial portfolios and Scottish Government Directorates. Recognising this shared ownership, each of SNAP3's 23 delivery objectives has been assigned to a lead Scottish Directorate, which are noted at the start of each objective within the Adaptation Plan.

Since publication in September 2024, a number of significant delivery milestones have already been made over the last 9 months:

- Adaptation.scot hub was launched, acting as the digital home for all support and advice on adaptation.
- New surface water flood maps have been published, providing the most detailed and accurate picture of where flooding could occur from heavy rainfall.
- More than 20 infrastructure owners and operators have formally joined forces to protect Scotland's critical infrastructure from weather and climate related impacts.
- Scotland's innovative Climate Ready regional partnerships have matured, seeing Local Authorities and other public bodies working across boundaries on adaptation. A new collaboration in Tayside has been launched; 1,000 climate and weather stories gathered in South East Scotland; economic climate assessments for growth sectors in the Highlands completed; and Scotland's first national gathering of bodies working at the regional scale has been held.
- The Nature Restoration Fund met its commitment to invest £65 million in nature restoration and local authorities received funding for Coastal Change Adaptation Plans.

- Scotland's first Flood Resilience Strategy was published, setting out the long term approach for creating flood resilient communities and a commitment to a new national Flooding Advisory Service.
- For Businesses, a new SME climate resilience guidance is now available at findbusinesssupport.gov.scot and advisors in Enterprise Agencies have been trained to support climate resilience.
- Transport Scotland's Vulnerable Locations Operational Group is delivering an expanding number of defined schemes, and a new Trunk Road Adaptation Plan will be published in 2025 to improve climate resilience across our national trunk road network.
- £14 million has been committed to the Future Farming Investment Scheme to support capital projects that boost efficiency and climate- or nature-friendly farming.
- Training and technical support for local authorities and public bodies has been increased, 65 member organisations, including 26 local authorities now benefitting from these services.
- The Biodiversity Investment Plan has been finalised outlining six key actions to further boost investment in nature restoration.
- A Soils Route Map for Scotland was published, establishing actions for a coordinated approach to healthy soils.
- Forestry Scotland's Routemap to Resilience was published outlining actions to help woodlands adapt, respond, and recover from climate-related threats over the next decade.
- Expanded Met Office services have launched, including accessible climate projections on areas like predicted rainfall or sunshine hours now available for all Scottish local authorities areas for +2 °C and +4 °C scenarios.

It is noted that development of the adaptation monitoring framework remains an iterative process. This year the focus has been on drawing together existing data gathering processes to establish an evidence baseline on national climate adaptation. This approach has meant the framework currently focuses on delivery across SNAP3's four domestic outcomes, namely on nature connectivity, community resilience, public services & infrastructure and the economy, business and industry. How to best capture and present baseline date on SNAP3's outcome on international action will be considered in future iterations of the framework.

Drawing on the monitoring framework, examples of the baseline of progress already being made on climate resilience here in Scotland include:

- 21 of 32 local authorities are actively involved in adaptation partnerships and collaborations.
- 26 local authorities receiving adaptation and climate resilience guidance and training through the Adaptation Scotland programme.
- 41,556 people are registered for SEPA's flood warning service, including 3,344 new registrations during 2024.
- 99% of householders with a history of flooding are able to obtain 5 or more quotes from insurers.
- 15.2% of businesses have taken action to adapt, up from 13.8% in the 2023 Business Insights and Conditions Survey.

- 32% of public bodies have advanced or comprehensive climate risk assessments based on 2023-24 annual reporting.
- 29% of adults have taken action to reduce the likelihood of wildfires when in the outdoors and 21% intentionally reduce how much water they or their household use according to first Scottish Climate Survey.
- 40% of all historic environment grants include climate as a driver for action.
- 8 coastal change adaptation plans are in development, and one has been finalised since new national guidance was published in 2023.
- 14,860 hectares of peatland were restored in 2024-25, up from 10,360 hectares in 2023-24.
- As measured by the Sustainable Fishing Indicator, our confidence that Scottish fish stocks are being fished sustainably has increased from 60% in 2019 to 73% in 2024.
- 15,000 hectares of woodland were created in 2023-24, representing the highest rate in 34 years.

The following sections of this report provide more detail on delivery to date of actions across the Adaptation Plan's four domestic outcomes:

- **Nature connects** across our land, settlements, coasts and seas.
- **Communities** are creating climate-resilient, healthy and equitable places.
- **Public services** are collaborating in effective, inclusive adaptation action.
- **Economies and industries** are adapting and realising opportunities in Scotland's Just Transition.

Data for all of the 38 objective indicators identified in the SNAP3 Monitoring and Evaluation Framework is also reported. The data included in this annual report uses the most up-to-date data available as of May 2025. As this is the first year of reporting the most recent year of data presented for each indicator represents the baseline measure. For each indicator a target direction of travel over time has been set. Progress against these target directions of travel against the baseline set out in this first annual progress report will be assessed from 2026 onwards.

Significant parts of SNAP3 are delivered through the 'Adaptation Scotland programme'. This is a national service, funded by the Scottish Government, that develops and delivers expert advice and support to Scotland's public sector, businesses and communities. High level progress made through the Adaptation Scotland programme is contained within this report, but further details are available in the latest Adaptation Scotland annual report.

Next steps

The Scottish Government will continue delivering the commitments outlined in SNAP3 and monitoring progress through the indicators set out in the SNAP3 monitoring and evaluation framework.

We expect to reflect this further progress through increasingly substantive updates in succeeding annual progress reports to Parliament. The next report is due in June 2026 and is scheduled to inform the next CCC assessment of adaptation in Scotland, anticipated for the second half of 2026.

Nature Connects (NC)

SNAP3 Outcome: Nature connects across our land, settlements, coasts and seas

This section presents policy delivery progress against the SNAP3 Nature Connects (NC) outcome. We know climate change is the biggest threat to Scotland's wildlife and habitats; and nature is one of the best tools we have to help our communities, places and businesses adapt to the changing climate. The Nature Connects (NC) chapter centres on six delivery objectives that use nature to build climate resilience across Scotland's communities, places and landscapes.

During the reporting period:

- The Biodiversity Investment Plan, released in February 2025, sets out six key actions to enhance investment in nature restoration, complementing the Natural Capital Market Framework. The Nature Restoration Fund, in its final year, has fulfilled its £65 million investment commitment. An evaluation of the first 3 years of the NRF, to be published later this year, will highlight nearly 800 projects benefiting from £35.5 million, unlocking a further £7.1 million in match funding.
- Efforts to restore soils and landscapes are expanding, with NatureScot identifying landscape-scale nature restoration projects and ClimateXChange setting out a Soils Route Map, outlining actions for a coordinated approach to healthy soils. Local Development Plans are evolving, with a full suite expected by 2028. Nature networks are being mapped across Scotland, supported by new tools and resources for local authorities.
- Scotland's Land Use Strategy is undergoing development, with a fourth iteration expected in 2026. Regional Land Use Partnerships are being formalised in four regions following a successful pilot program, providing locally governed approaches to land use that support national sustainability goals. The planned Land Use and Agriculture Just Transition Plan will support rural communities by fostering economic opportunities, improving health and environmental outcomes, and ensuring fair access to benefits like green jobs and skills development.
- The draft National Marine Plan 2, along with three Regional Marine Plans for Shetland, Orkney, and the Clyde, is under development. Following public consultation on the Scottish Seabird Conservation Action Plan, a final version is planned for summer 2025. Scottish Government has supported evidence reviews on climate impacts on aquaculture and ocean acidification in addition to a policy brief on climate impacts on aquaculture. Additionally, the Invasive Non-Native Species Action Plan is scheduled for publication in 2025-26, aiming to reduce the introduction and spread of invasive non-native species and protect ecosystems.
- Scotland is strengthening its natural carbon stores through forestry, peatland restoration, and marine conservation. In 2023-24, 15,000 hectares of woodland were created, including 7,700 hectares of native trees, with resilience planning underway. Peatland restoration is progressing, with 14,860 hectares restored in 2024-25 and £35.5 million committed towards a target of restoring at least 12,000 hectares in 2025-26. The Blue Carbon Action Plan will be published in summer 2025, with funding announcements for new research.

- Details on Forestry Scotland's *Routemap to Resilience,* launched in March 2025 are covered in the Economy, Business and Industry Outcome below.

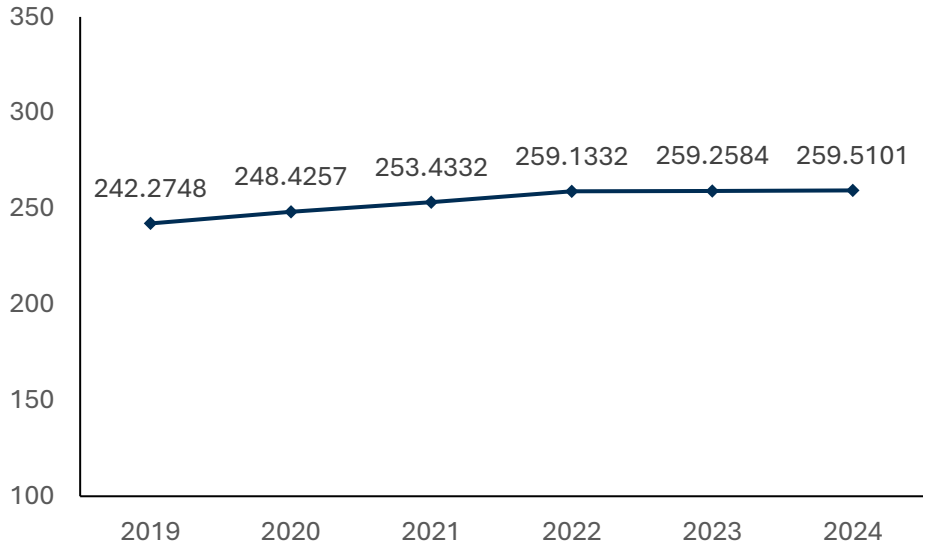
NC1.1 – Extent of green-blue land cover in urban areas

Description: This indicator shows the total accessible and non-accessible greenspaces[1] (woodland, open semi-natural, inland water, beach or foreshore) in urban areas in Scotland[2].

Data source: Ordnance Survey

Ambition: Maintaining or increasing over time

Figure 1: Total greenspace in urban areas in Scotland (km²)



In 2024 there were 259.5101 (km²) of greenspace in urban areas in Scotland, similar to levels in 2023. This represents an increase over time since 2019, when there was 242.2748 (km²) of urban greenspace.

Green-blue land cover in urban areas reflects the extent of natural spaces in cities that provide crucial ecosystem services. It is relevant for climate adaptation as it captures how well cities are prepared to adapt to the challenges posed by climate change, making urban environments more sustainable and liveable. Urban greenspace contributes to temperature regulation during hot weather, biodiversity and wellbeing and flood resilience through water flow and run-off regulation.

[1] Accessible green and blue spaces are natural environments such as parks, woodlands, rivers, and lakes that are open and easy for the public to access. These spaces typically have paths, signage, and public entry points. Inaccessible green and blue spaces refer to similar natural areas that are not open for public use due to physical barriers, private ownership, or lack of paths or entrances. These spaces may be visible but cannot be readily entered by the public.

[2] Urban areas are defined using NRS Settlement Area 2022 with population greater than or equal to 3,000.

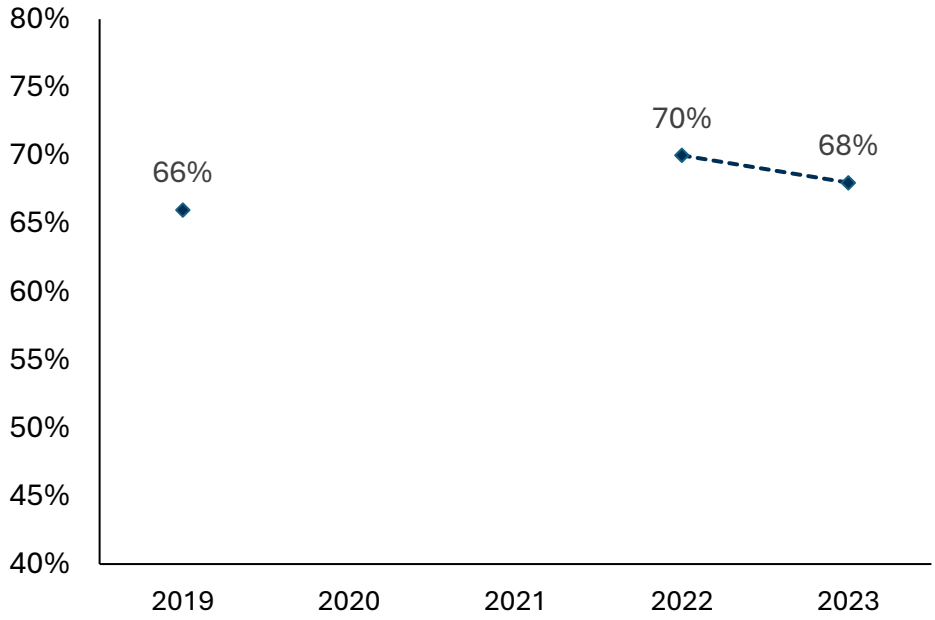
NC1.2 – Proportion of adults who live within a five-minute walk of their nearest green or blue space

Description: This indicator shows the proportion of adults in Scotland living within a five-minute walking distance of their nearest green or blue space

Data source: Scottish Household Survey

Ambition: Increasing over time

Figure 2: Proportion of adults living within a 5 minute walk of their nearest green or blue space (%)[3]



This figure was broadly the same between 2022 and 2023 (from 70% to 68%; not statistically significant). Tests of statistical significance have been performed for differences between years.

This data is an estimate, based on self-reported survey data. The survey question is framed in terms of how long the respondent thinks it would take the interviewer (not interviewee) to walk to the nearest green or blue space to avoid variation due to differences in the ability to walk of interviewee.

As well as providing emotional and wellbeing benefits for people accessing them, local green space can contribute to temperature regulation during hot weather, brings biodiversity benefits and can improve flood resilience through water flow and run-off regulation.

[3] Changes to data collection in the SHS and SHCS during the pandemic mean that time series data is interrupted from 2020 – 2021. More detail is available here.

NC2.1 – Newly protected land and marine features

Description: This indicator shows the number of hectares of newly protected land and marine features across Scotland

Data source: NatureScot

Ambition: Annual increase, maintained over time

Figure 3: Net change in Area (ha) of protected areas in Scotland

Year	2019	2020	2021	2022	2023	2024
Terrestrial	-11.37	-348.05	0	2,445.80	5.4	-30.54
Marine	12,180.15	12,968,301.94	1,184.36	52,993.05	0.00	12,507.47

In 2024 there was a reduction in the area of terrestrial features protected of 30.54 hectares in 2024. There was no net change in the hectares of protected marine or mixes features across Scotland. This is relative to 5,230,055 hectares of terrestrial protected areas and 17,636,743 hectares of marine protected areas.

Terrestrial and Marine areas which are protected are likely to be in better ecological condition and therefore contributing more to Scotland's resilience to climate impacts.

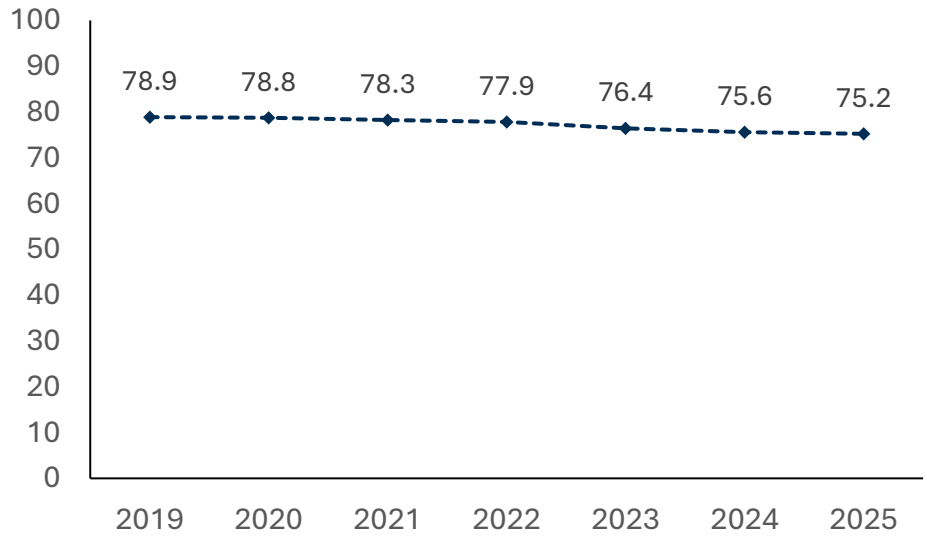
NC2.2 – Hectares of Scotland's protected features in favourable condition

Description: This indicator shows the number of hectares of protected features in favourable condition across Scotland as assessed by NatureScot's Site Condition Monitoring (SCM) programme. This indicator shows the efforts to improve the condition of natural features in protected sites as they will ensure terrestrial habitats are in good ecological health in Scotland. This indicator relates to the quality of natural habitats

Data source: NatureScot

Ambition: Increasing over time

Figure 4: Proportion of Scotland's protected features in favourable condition(%)



At March 31st 2025 75.2% of Scotland's protected features were in favourable condition.

This data included demonstrates the reported condition of natural features (species, habitats and earth science) in protected sites across Scotland. This includes features assessed as favourable, unfavourable recovering and unfavourable recovering due to management. These efforts will help to ensure terrestrial habitats are in good ecological health in Scotland.

NC3.1 – Number of Local Development Plans adopted by local authorities since National Planning Framework 4 publication

Description: This indicator measures the number of Local Development Plans adopted by local authorities in Scotland since National Planning Framework 4 publication in 2023

Data source: Scottish Government

Ambition: Increasing over time

National Planning Framework 4 (NPF4) sets out the Scottish Government's long-term planning strategy for working towards a net-zero, climate resilient Scotland by 2045. The framework sets out how we plan for the future of our places and communities, placing the twin crises of climate change and nature loss at the front of our thinking.

NPF4 forms part of the statutory development plan, along with the Local Delivery Plan (LDP) applicable to the area at that time. LDPs are prepared by planning authorities and they support place-based adaptation measures and associated development planning. In the preparation of LDPs, planning authorities must take into account the National Planning Framework 4.

Scottish Government is working with a number of planning authorities progressing with preparation of their new LDPs. As of October 2024, **six Local Development Plan Evidence Reports** have been submitted by planning authorities to Gate Check (the conclusion of the evidence gathering stage), and decisions have been issued on the sufficiency of four of these. Two Evidence Reports were judged sufficient, and two insufficient. LDP preparation includes three key stages Evidence Gathering, Plan Preparation and Delivery.

Details of the monitoring of LDP delivery can be found in the NPF4 Delivery Programme.

NC4.1 – Number of nature networks across Scotland

Description: This indicator measures the number of local authorities reporting having spatially identified nature network(s) in their local authority area

Data source: Scottish Government

Ambition: Increasing over time

As of 2024, **4 (or 12.5%) of 32 Local Authorities** reported having spatially identified nature network(s) across their local authority area, with an additional one in progress.

A Nature Network connects together nature-rich sites including restoration areas and other environmental projects. This will include nationally important sites contributing towards Scotland's 30x30 target (the commitment to protect 30% of our land and seas for nature by 2030) alongside areas that are of local importance for biodiversity and people.

Nature networks are an important mechanism for restoring and protecting nature by ensuring ecological connectivity, providing benefits to wildlife and local people. Habitats that are better connected provide more climate resilience for Scotland.

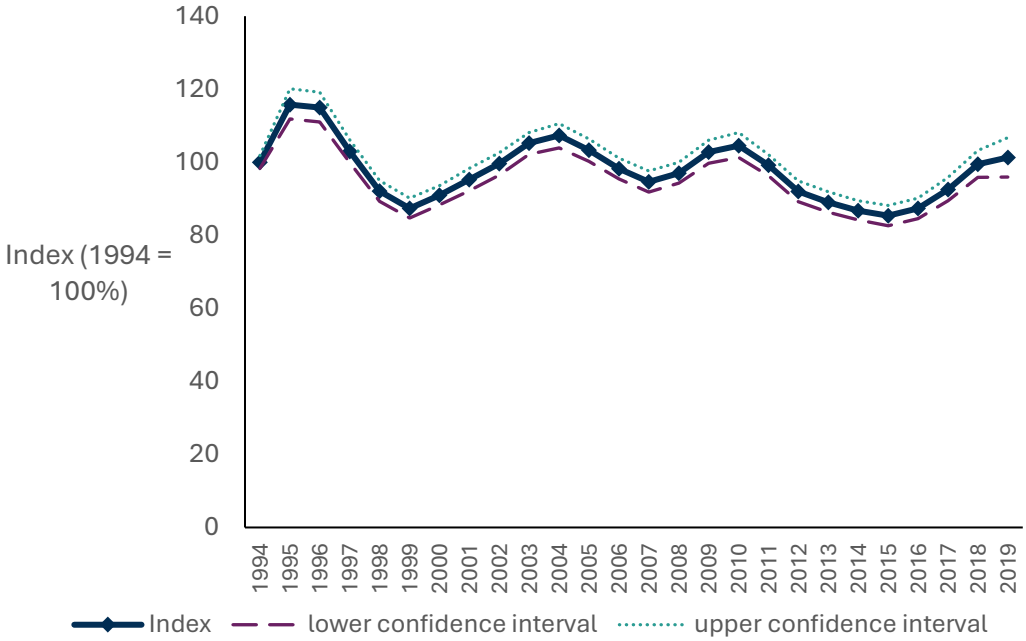
NC4.2 – Abundance of terrestrial species

Description: This indicator shows the percentage change in terrestrial species abundance across Scotland since 1994

Data source: NatureScot

Ambition: Maintaining or increasing over time

Figure 5: Percentage change in terrestrial species abundance since 1994



From 1994 to 2019[4], the average abundance of 337 species of bird, mammals, butterflies and moths was stable. Average abundance shows peaks in 1995, 2004, 2010 and 2019. Between 2016 and 2019 the indicator increased by 14%.

Climate change is a significant and growing threat to biodiversity globally (IPBES 2019), and its impact is being increasingly detected in Scotland and its seas. The effects are many, and varied, with a mixed impact in biodiversity; presently, at least, many species are benefiting. For example, species are shifting ranges northwards, through Scotland, with consequent increases in abundance and range for birds such as nuthatches (Gillings *et al.* 2015)[5] and butterflies including ringlets (Fox *et al.* 2015)[6]. **The species occupancy and abundance indicators in the SNAP3 framework provide an assessment of changes in biodiversity over time**. A trend towards milder winters may have resulted in improved survival for bird species such

[4] To note that the data presented represents the most recently available data published by NatureScot. Updated data is in development and future adaptation progress reports will include this once it is available.

[5] Gillings, S. *et al.* (2015) Directionality of recent bird distribution shifts and climate change in Great Britain. *Global Change Biology*, 21: 2155-2168

[6] Fox, R. *et al*. (2015). *The state of the UK's Butterflies*. Butterfly Conservation and the Centre for Ecology and Hydrology, Wareham, Dorset.

as goldfinches. For many species, the influence of climate change may be serving to soften the impact of land-use changes and other adverse environmental changes. However, species with their southern range limits in Scotland, and those associated with cold montane habitats where, for example, duration of snow-lie is decreasing, are likely to undergo range contraction and possibly even extinction from Scotland (ASC 2016). Further threats arise from increased frequency and severity of storms and other extreme weather events, and the impact of sea-level rise on vulnerable coastal habitats.

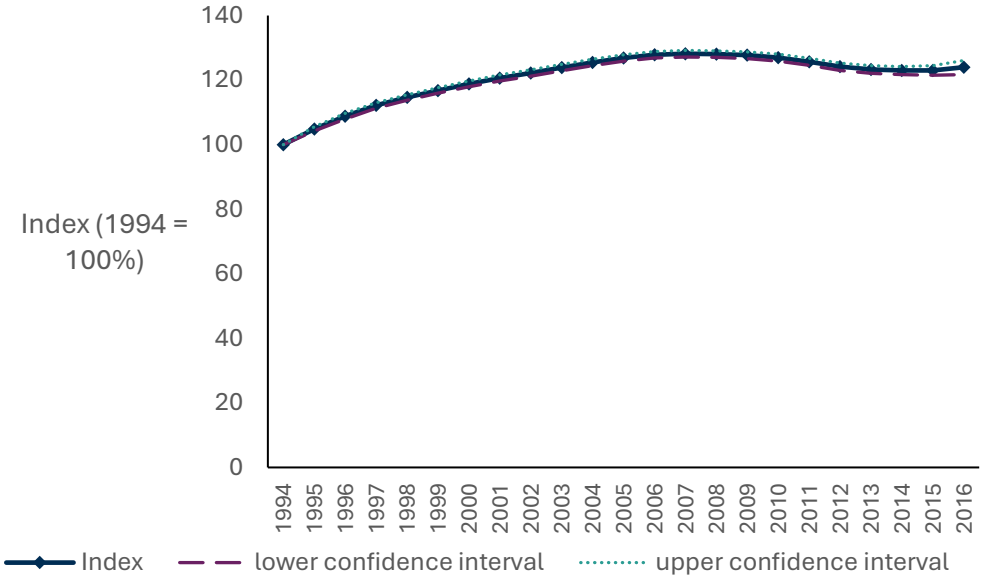
NC4.3 – Occupancy of terrestrial species

Description: This indicator shows the percentage change in species occupancy across Scotland since 1994

Data source: NatureScot

Ambition: Increasing over time

Figure 6: Percentage change in terrestrial species occupancy since 1994



Species occupancy represents the number of sites where a species is present. From 1994 to 2016[7], the average occupancy of 2,466 species of invertebrate, lichen and bryophyte increased by 24%. Between 2015 and 2016 the indicator was stable.

As with the species abundance indicators, this indicator provides an indicator of changes to biodiversity in Scotland over time.

More detailed information on the species abundance and occupancy indicators can be found in NatureScot's 2022 publication.

[7] To note that the data presented represents the most recently available data published by NatureScot. Updated data is in development and future adaptation progress reports will include this once it is available.

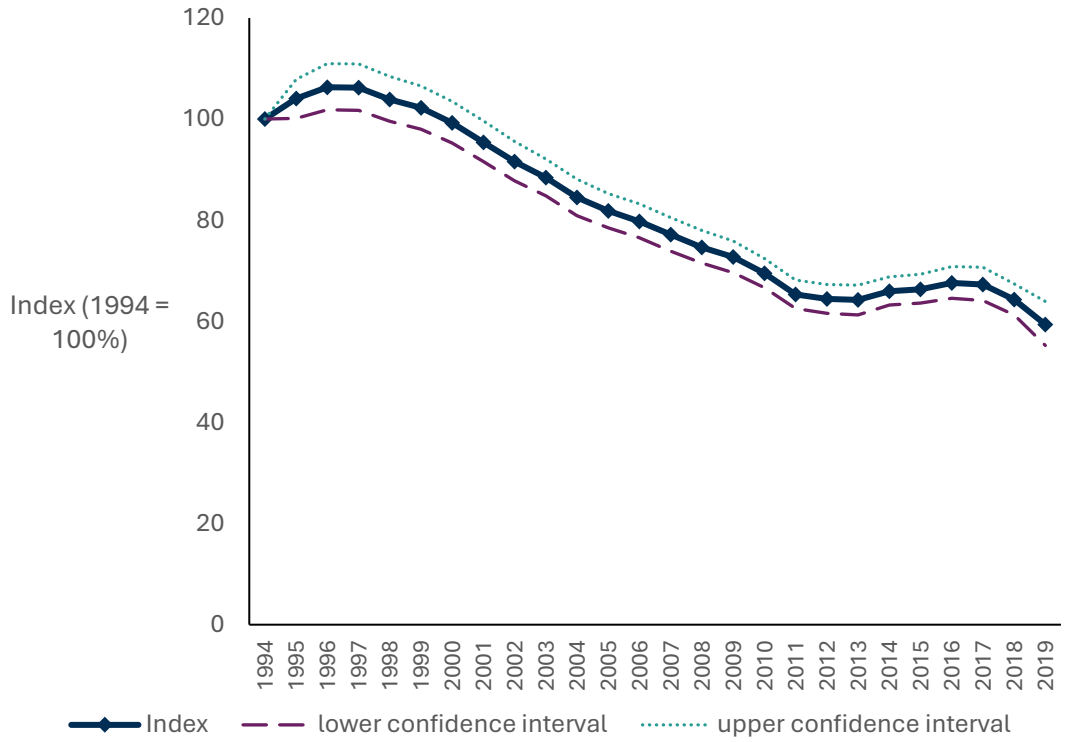
NC5.1 – Abundance of marine species

Description: This indicator shows the percentage change in marine species abundance in Scotland since 1994

Data source: NatureScot

Ambition: Increasing over time

Figure 7: Percentage change in marine species abundance since 1994



From 1994 to 2019[8], the average abundance of 14 species of breeding seabird fell by 41%, with most of the decline occurring between 2000 and 2010. Between 2016 and 2019 the indicator declined by 8%.

In marine ecosystems climate change is having rapid and widespread effects through warming waters, salinity changes, acidification and seasonal stratification (MCCIP 2020). The impact of climate change is being felt through marine food webs, with changes in phytoplankton, feeding through to zooplankton (in which rapid northward shifts in range have been detected) to fish and top predators including large fish, seabirds and marine mammals. Declines in seabirds such as Kittiwakeshave been linked to climate change impacts upon food webs including key prey species such as Sandeels (Carrol *et al.* 2017)[9].

[8] To note that the data presented represents the most recently available data published by NatureScot. Updated data is in development and future adaptation progress reports will include this once it is available.

[9] Carrol, M. *et al.* (2017) Kittiwake breeding success in the southern North Sea correlates with prior sandeel fishing mortality. *Aquatic Conservation*, 27: 1164-1175.

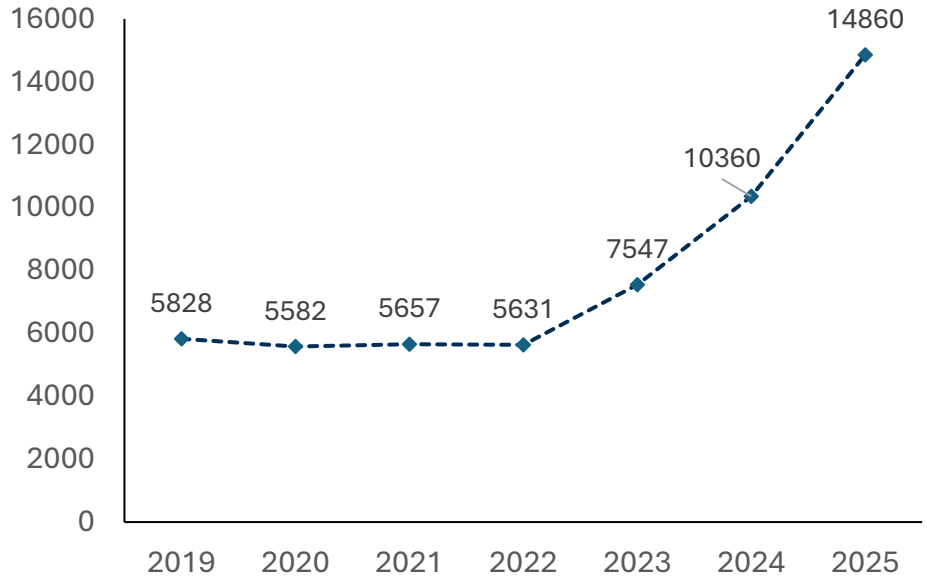
NC6.1 – Hectares of restored peatland

Description: This indicator shows the hectares of restored peatland in Scotland in each financial year

Data source: NatureScot Peatland Action

Ambition: Increasing or maintained over time

Figure 8: Area of peatland restored (hectares per year)



The area of peatland restored in each year has increased since 2022. **5,631 hectares** of peatland were restored in 2022, with this rising to **14,860** in 2024.

The Scottish Government has committed £250 million over 10 years to restore 250,000 hectares of degraded peatlands by 2030. To date, an estimated 90,000 hectares have been restored, with 14,860 hectares restored in 2024-25. The Scottish Budget 2025-26 commits £35.5 million towards peatland restoration. With this funding the Scottish Government has a target to restore at least 12,000 hectares in 2025-26.

Peatland restoration is crucial for climate resilience, providing ecosystem services such as capturing and storing water and carbon. There are numerous other co-benefits to society, including increasing biodiversity, improving water quality, and reducing risks of flooding and wildfires. Note that it can take several years before the benefits of peatland restoration are realised following restoration work. Some inferred adaptation benefits of healthy, resilient peatlands include:

- Healthy, rewetted peatlands are more resilient to climate impacts like droughts and can continue acting as carbon sinks rather than sources.
- Peatlands filter and improve water quality in their catchments. Restoring them helps maintain clean drinking water supplies in the face of climate impacts like droughts or contamination.

- Healthy and restored peatland help regulate water flow. Healthy peatlands with intact vegetation help prevent soil erosion, increasing resilience against climate change effects like intense rainfall.
- Peatlands are naturally wetter areas because of the higher water table. The wetter ground can help stop the spread of fires during droughts and dryer periods.
- Restoring peatlands protects their cultural significance and enables continued recreational opportunities like hiking, supporting community resilience.

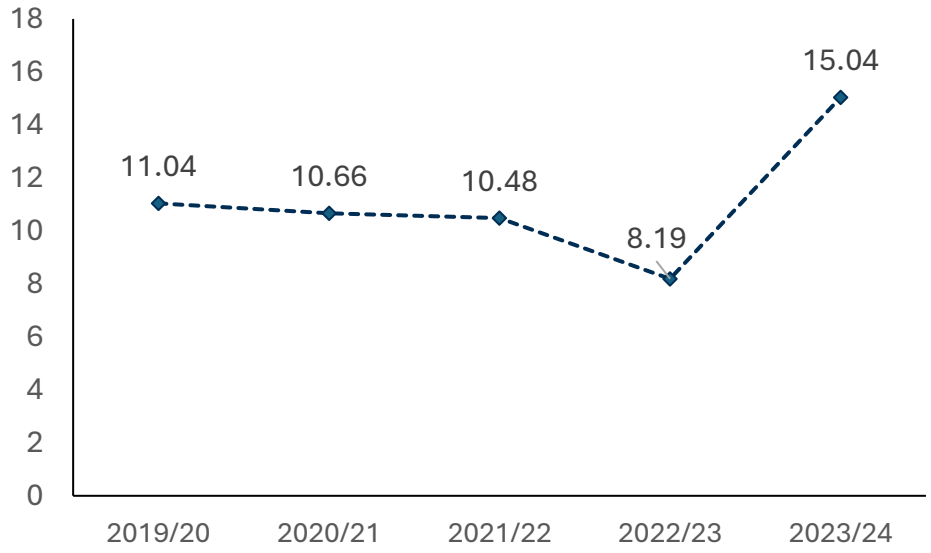
NC6.2 – Woodland creation

Description: This indicator shows the hectares of all woodland in Scotland created each year

Data source: Woodland Statistics (via Forest Research)

Ambition: Increasing over time

Figure 9: Hectares of all woodland created in Scotland per year (hectares)



In 2023-24 15,000 ha of woodland was created in Scotland, which was the highest level in 34 years. Native woodland planting was at 7,700 ha, the highest since 2001.

Over 33,700 hectares of new woodland (67.4 million trees) has been planted in Scotland over the last 3 years – around 71% of all new planting in the UK. 99% of this planting was supported by the Forestry Grant Scheme or delivered directly by Forest and Land Scotland.

Increasing the number of trees in Scotland can support climate adaptation in a number of ways. These include increasing resilience to flooding, cooling the air and increasing biodiversity.

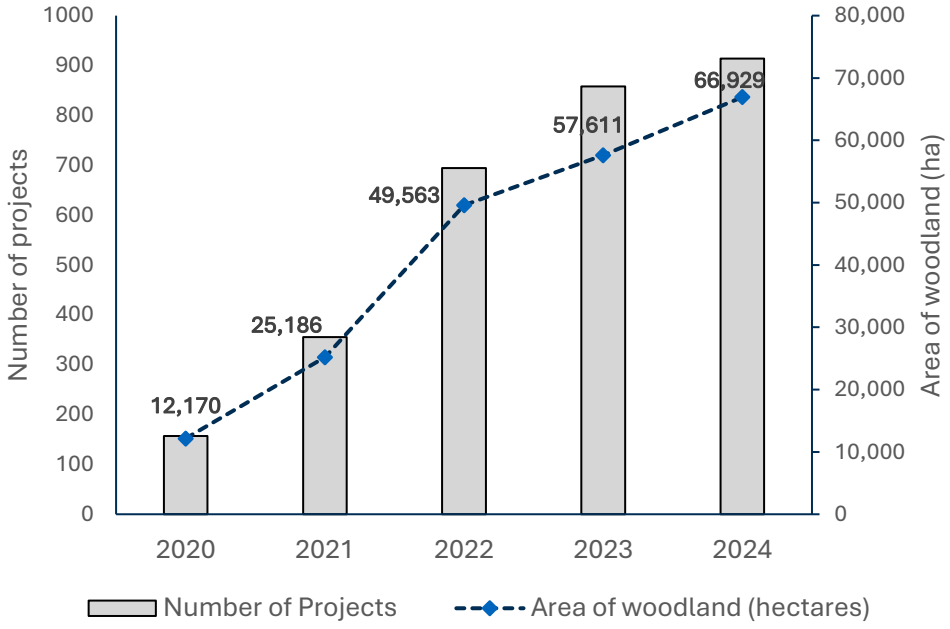
NC6.3 – Area of forest and woodland registered under the Woodland Carbon Code

Description: This indicator shows the area of forest and woodland registered in Scotland under the Woodland Carbon Code (WCC) in Hectares over time

Data source: Woodland Statistics (via Forest Research)

Ambition: Increasing over time

Figure 10: Area of forest and woodland registered under the Woodland Carbon Code (hectares) and number of projects[10]



The area of forest and woodland registered under the Woodland Carbon Code has increased year on year since 2020. There was a steep rise between 2021 and 2022 from 25,186 hectares to 49,563 hectares. As of 2024, 66,929 hectares of forest and woodland has been registered under the code.

The number of projects delivering woodland projects covered by the Woodland Carbon code has similarly increased since 2020. In 2020 157 projects were recorded, with this increasing to 914 by 2024.

The Woodland Carbon Code is the quality assurance standard for UK woodland creation projects which address climate change by removing carbon dioxide from the atmosphere. It encourages increased creation and supporting of woodland projects across the UK.

[10] Figures are cumulative over time

Communities (C)

SNAP3 Outcome: Communities are creating climate-resilient, healthy and equitable places

The climate emergency will change Scotland's places. This outcome focuses on building places and communities resilience to flooding, coastal change, wildfire and other extreme events. The aim is to ensure all parts of Scotland have regional adaptation partnerships and locally-led action, with a focus on vulnerability and using the power of Scotland's culture, heritage and creativity.

During the reporting period:

- The Adaptation Scotland programme has continued supporting regional partnerships to grow. Climate Ready Tayside was launched in March 2024, with grant funding to develop its business case, branding, and engagement. Highland Adapts has focused on ensuring long-term sustainability and diversifying funding opportunities, while Climate Ready South East Scotland finalised its risk and opportunity assessment, collecting nearly 1,000 climate impact stories.
- Scotland's national network of community climate action hubs helps communities understand and take locally-led adaptation action and provides seed funding. Many hubs will prioritise climate adaptation in 2025-26, working with vulnerable communities and facilitating community-led interventions.
- Responding to amber and red weather warnings, Ready Scotland provides advice for emergencies. The campaign reached over 538,000 people via radio and appearing 7.5 million times on digital screens. Scottish Government continues to build community resilience though cross-sector collaboration, partnership with the voluntary sector and an annual Resilient Communities conference.
- Scotland's First Flood Resilience Strategy, published in December 2024, takes a flood resilient places approach, recognising that reducing the impacts of flooding is as much about the design of our places as it is about specific flood actions. Local Authorities have also received funding for Coastal Change Adaptation Plans, with one published and eight others in progress. An additional £15 million has been set aside in 2025-26 to support the delivery of the strategy, wider flooding resilience and coastal adaptation work.
- SEPA's latest Potentially Vulnerable Areas and new surface water flood maps enhance Scotland's ability to manage flooding, including risks from small watercourses. This new level of detail provides Scotland with the most detailed and accurate picture of where flooding could occur from heavy rainfall. SEPA is also rolling out coastal flood maps, currently focusing on the Southeast region, and more coastal change data will be available through planned LiDAR surveys.
- The majority of Scottish Government's energy efficiency retrofit investments meet PAS 2035 standards, which include improved ventilation to reduce overheating risk. Revised Building Standards guidance on flooding and groundwater risks is in development, and some Local Authorities now offer renewables and battery storage to vulnerable, storm-prone households.
- Historic Environment Scotland (HES) continues to support climate adaptation across the heritage sector, with funding for energy-efficient retrofits in traditional

buildings, coastal zone surveys with national volunteer participation, training initiatives, and by continuing roll-out of the Climate Vulnerability Index.

C1.1 – Geographical coverage of regional adaptation collaboration

Description: This indicator measures the geographical coverage of active collaborations across Scotland on adaptation based on the percentage of local authorities covered by Regional Adaptation Partnerships. These collaborations do not have a set structure, but must actively address climate risks across organisational and/or local authority boundaries.

Data source: Adaptation Scotland

Ambition: Increasing over time

As of April 2025, **21 of 32 local authorities are covered by active adaptation partnerships or collaborations**. Regional Adaptation Partnerships are a key driver of place-based adaptation. There are currently 7 active partnerships:

- Highland Adapts
- Climate Ready Aberdeen
- Climate Ready Aberdeenshire
- Climate Hebrides
- Climate Ready Clyde
- Climate Ready South East Scotland
- Climate Ready Tayside

Since the publication of SNAP3, Adaptation Scotland has continued to support the establishment of a new adaptation partnership in Tayside. This culminated in the launch of the new partnership at an event in Dundee in March 2025. The partnership has been further supported by grant funding from the Scottish Government to develop a business case for the future of the partnership, develop a website and branding, and to engage with senior local leaders.

Highland Adapts has benefited from grant funding from the Scottish Government to undertake a detailed review of governance systems and future funding and growth opportunities for it to continue to develop into a mature partnership.

The Climate Ready South East Scotland partnership has moved into a more established partnership, and completed its risk and opportunity assessment, in collaboration with local climate action hubs, and gathered almost 1,000 climate impact stories on its story map.

The Adaptation Scotland programme has provided support to the Argyll and Bute Climate Action initiative to further develop its approach to regional partnership working for climate action, and the local Climate Action Hub is now well placed to further collaborate with local partners to develop a more substantive regional adaptation partnership in the year ahead.

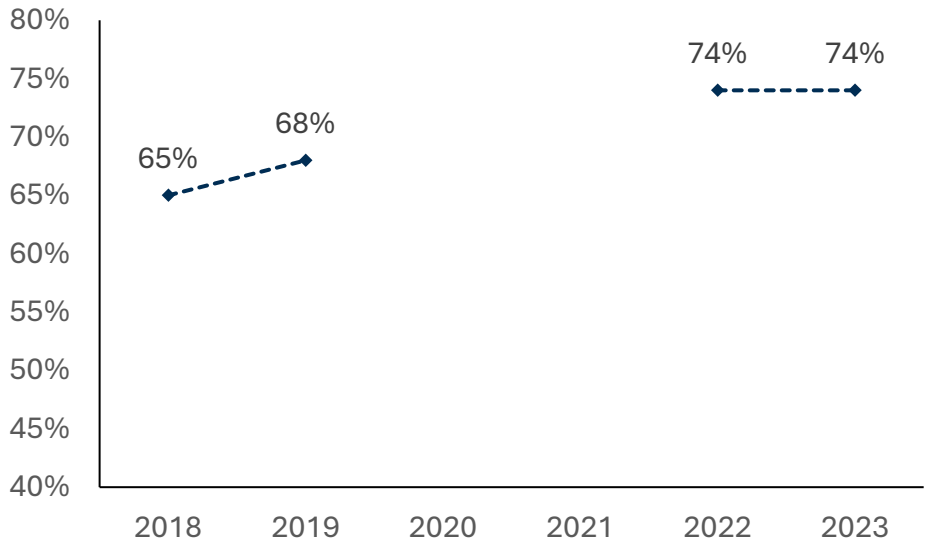
C2.1 – Proportion of adults viewing climate change as an immediate and urgent problem

Description: This indicator shows the percentage of adults in Scotland viewing climate change as an immediate and urgent problem

Data source: Scottish Household Survey

Ambition: Increasing over time

Figure 11: Adults in Scotland who view climate change as an immediate and urgent problem (%)[11]



In 2023, 74% of adults agreed that 'climate change is an immediate and urgent problem'. There was no change in this figure between 2022 and 2023. However, the figure maintaining at 74% represents a marked increase from 2013 (46%), the first data point in this time series.

While not a direct measure of awareness of climate impacts and risks, this indicator provides a general measure of public awareness of climate change.

[11] Changes to data collection in the SHS and SHCS during the pandemic mean that time series data is interrupted from 2020 – 2021. More detail is available here.

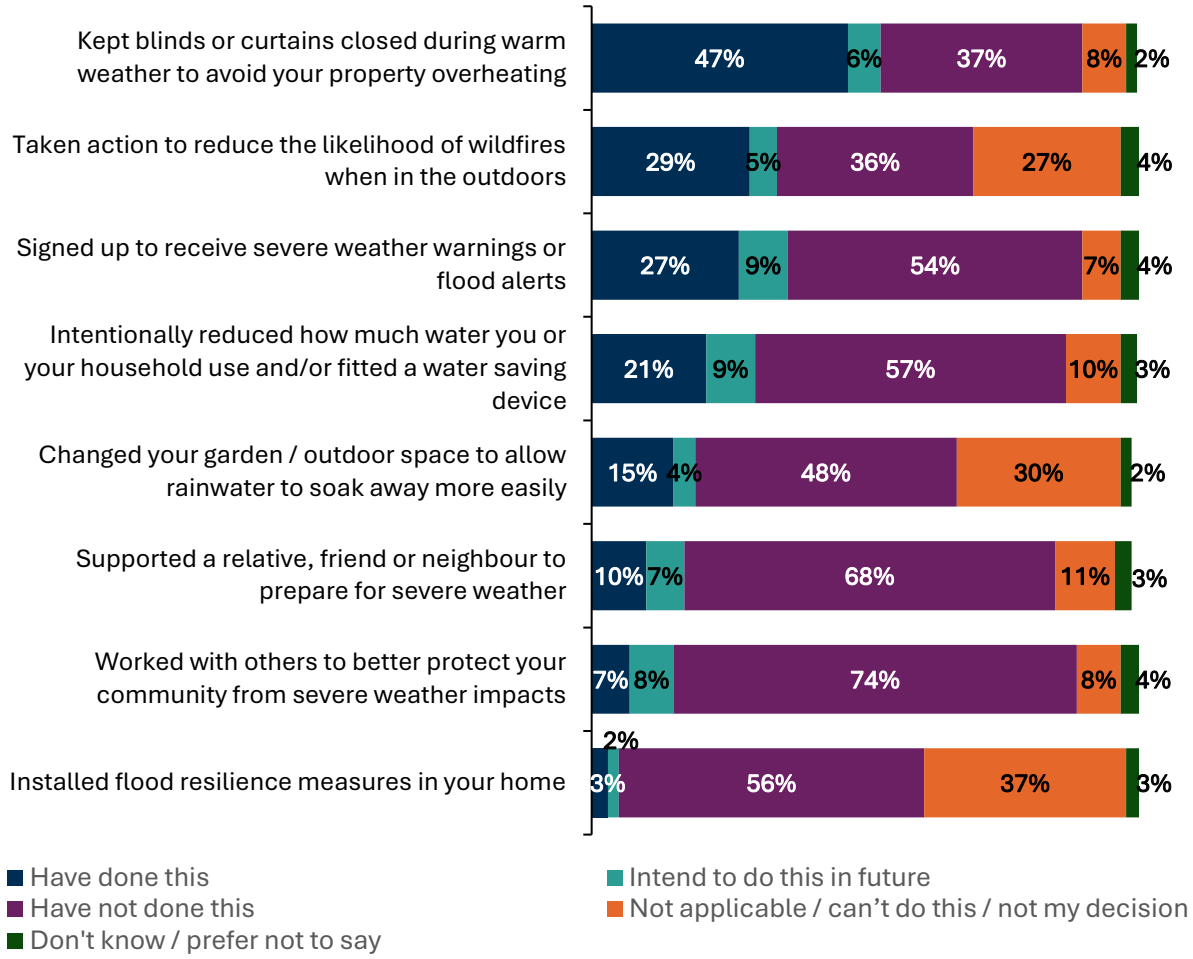
C2.2 – Level of adaptation action being taken by people in Scotland

Description: This indicator highlights the proportion of adults in Scotland taking various types of actions to adapt to the impacts of climate change

Data source: Scottish Climate Survey

Ambition: Increasing over time

Figure 12: Proportion of adults in Scotland in 2024 reporting taking actions to adapt to the impacts of climate change (%)



Data from the 2024 Scottish Climate Survey highlights that more than seven in ten (72%) of adults in Scotland reported taking at least one of the actions highlighted. These actions have been selected as key actions people in Scotland can take to adapt to climate change related impacts, such as those arising from severe weather events.

The most common action was keeping blinds or curtains closed during warm weather, with almost half of respondents (47%) reporting they had done this. The next most common adaptation actions were action to reduce the likelihood of wildfires when in the outdoors (29%), signing up to receive severe weather warnings or flood alerts (27%), and intentionally reducing how much water they or their

household use and/or fitting a water saving device (21%). Fewer reported that they had changed their garden or outdoor space to allow rainwater to soak away more easily (15%), supported a relative, friend or neighbour to prepare for severe weather (10%) or worked with others to better protect their community from severe weather impacts (7%). Just three per cent of households said they had installed flood resilience measures in their home.

The 2024 survey was the first wave of the Scottish Climate Survey. This indicator will be updated using time series data when future waves of the survey report on this question. The survey also provides a range of other data around people's experiences of, and behaviours around, severe weather and adaptation actions.

The full report from the Scottish Climate Survey and data tables are available here.

C3.1 – Number of people using flood forecasting and warning services

Description: This indicator measures the number of users in Scotland accessing flood forecasting and warning services. This is measured by:

- Number of people using website services
- Number of people registered for Floodline

Data source: SEPA

Ambition: Increasing over time

Figure 13: Total Views to SEPA Flood Webpages in 2024 (number of views)

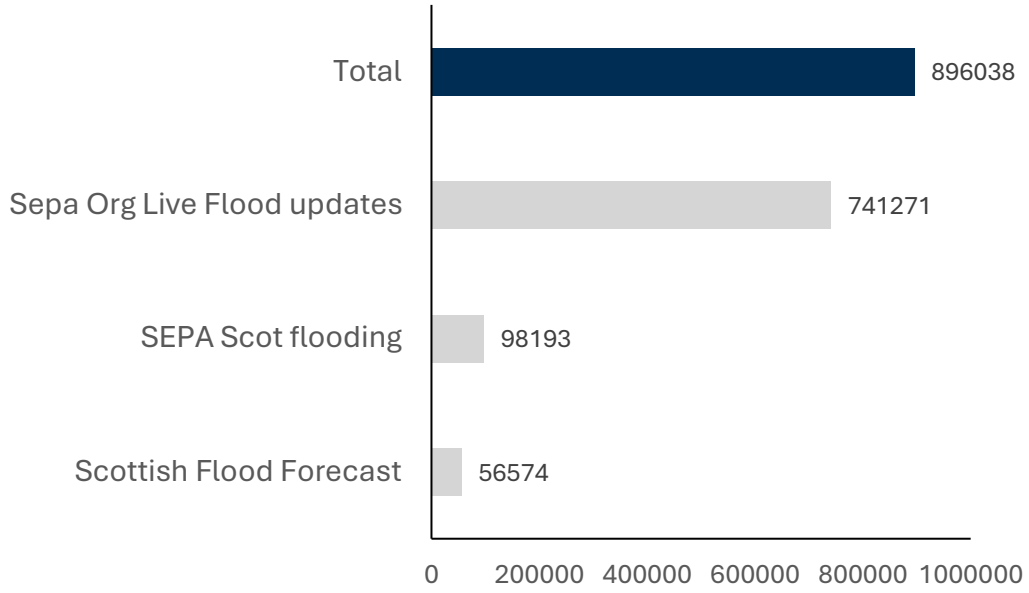


Figure 14: Table showing total number of people registered for Floodline and net annual increase in registrations in 2024

Total annual new registrations for SEPA flood warning service during 2024	Total number of people signed up to SEPA flood warning service at the end of 2024
3,344	**41,556**

In 2024, SEPA had 896,038 views to their flood related SEPA websites[12]. At the end of 2024, 41,556 people had registered for their Floodline service. This includes 3,344 new registrations during 2024. Registration and visits to flood related SEPA websites can be related to targeted media campaigns and following the occurrence of

[12] These include the Scottish Flood Forecast, which highlights any likely flood areas; Live flood information for flood alerts and warnings and the Flooding website which includes flood forecasting, maps, information and advice.

flooding events or in advance of expected flooding. Increases in website views during severe weather events are typical.

Signing up to receive flood forecasting and warning services is a key action people can take to increase their preparedness for flooding events.

Data on both of these metrics will be collected and monitored on annually going forward to allow a longer term trend to begin to be tracked over the SNAP3 period and beyond.

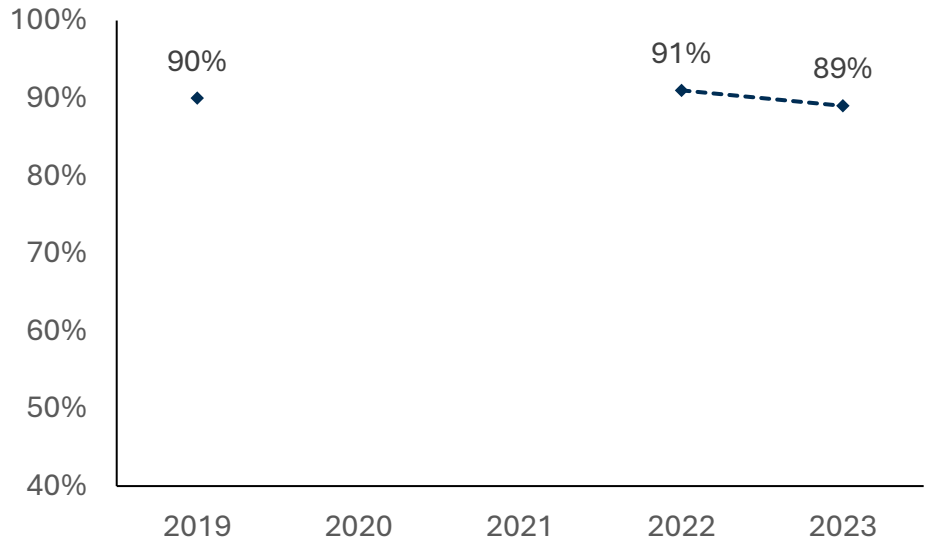
C3.2 – Proportion of adults who would offer support to people in their community during an emergency, such as a flood, who may not cope well

Description: This indicator shows the percentage of adults in Scotland who agree that in an emergency, such as a flood, they would offer to help people in their neighbourhood who might not be able to cope well

Data source: Scottish Household Survey

Ambition: Increasing over time

Figure 15: Adults who agree that in an emergency, such as a flood, they would offer to help people in their neighbourhood who might not be able to cope well (%)[13]



This indicator has remained broadly stable over time since 2019. In 2023, 89% of adults in Scotland reported that they would offer support to people in their community during an emergency, such as a flood, who may not cope well.

While capturing intention, rather than action taken, this suggests a high level of community support for vulnerable people during severe weather events such as flooding.

[13] Changes to data collection in the SHS and SHCS during the pandemic mean that time series data is interrupted from 2020 – 2021. More detail is available here.

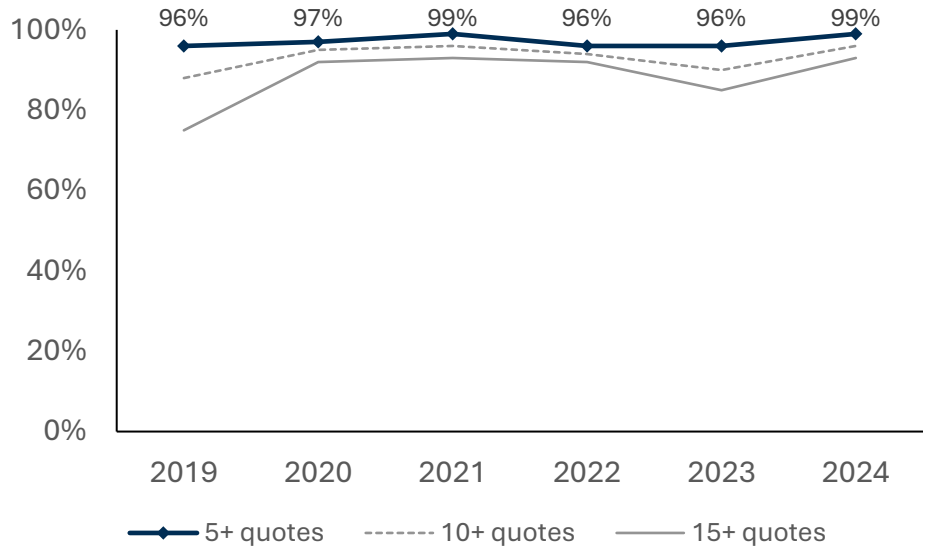
C3.3 – Availability of flood insurance

Description: This indicator provides a measure of the proportion of householders with prior flood claims who can receive quotes from 5 or more insurers through Price Comparison websites (figures provided by FloodRe scheme)[14]

Data source: Flood Re

Ambition: Maintaining over time

Figure 16: Proportion of householders with prior flood claims able to receive quotes from 5 or more insurers through price comparison websites (%)



Flood Re is a re-insurance scheme that aims to make flood cover more widely available and affordable as part of home insurance. It supports people at the highest risk of flooding, including those with past flooding related claims. Availability of insurance is important in increasing a household's resilience to flooding.

99% of high-risk households with claims were able to obtain 5 or more quotes from insurers through the Flood Re scheme in 2024. In addition, high proportions of high-risk households with flood claims were able to obtain quotes from 10 or more insurers (96%) and 15 or more insurers (93%).

This represents an increase from 2019, when 75% of high-risk households with flood claims were able to obtain 15 or more quotes. In the same year 88% of high-risk households with flood claims could obtain 10 or more quotes and 96% could obtain 5 or more quotes.

In January 2016, prior to Flood Re's existence, a baseline measurement showed that 38% of those with recent flood claims in could not obtain any insurance quotes, and for the 62% who could get a quote from 1 or more insurers, the average premium quote price was about £4,400. Only 9% could obtain quotes from 2 or more insurers, and no households could obtain 5 or more quotes.

[14] *Flood Re is an initiative between the UK Government and insurers which works to ensure the availability and affordability of home insurance including flood cover. The Build Back Better initiative was introduced in 2022, and provides additional funding for eligible properties to rebuild following a flood using flood resilience and resistance measures for their property.*

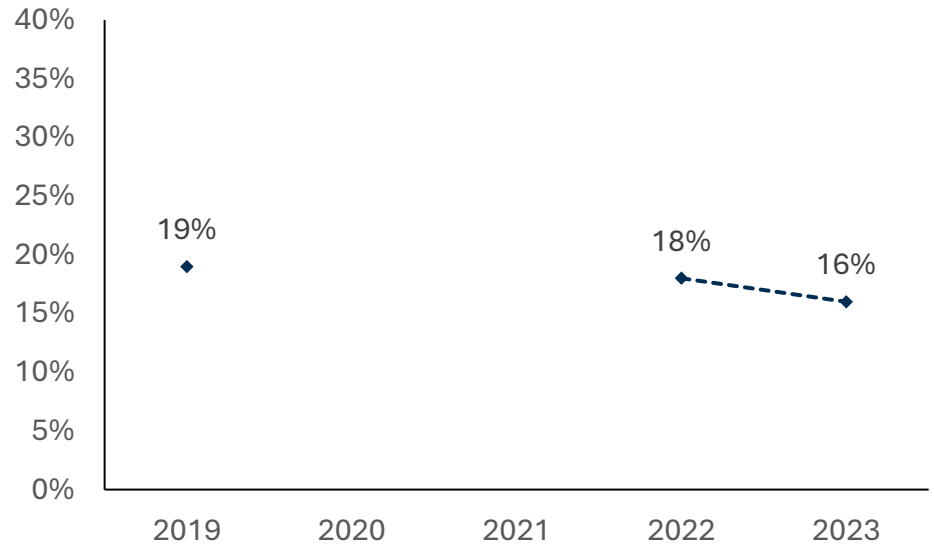
C4.1 – Proportion of dwellings with urgent disrepair to critical elements

Description: This indicator shows the percentage of dwellings in Scotland with urgent disrepair to critical elements

Data source: Scottish House Condition Survey

Ambition: Decreasing over time

Figure 17: Dwellings with urgent disrepair to critical elements (%)[15]



There has been a slight decrease over time in the proportion of dwellings with urgent disrepair to critical elements. In 2019, an estimated 19% of dwellings had urgent disrepair to critical elements. This figure has been reduced to around 16% in 2023.

New buildings which are better designed or existing buildings which are better maintained should be less vulnerable to extreme weather events.

[15] Changes to data collection in the SHS and SHCS during the pandemic mean that time series data is interrupted from 2020 – 2021. More detail is available here.

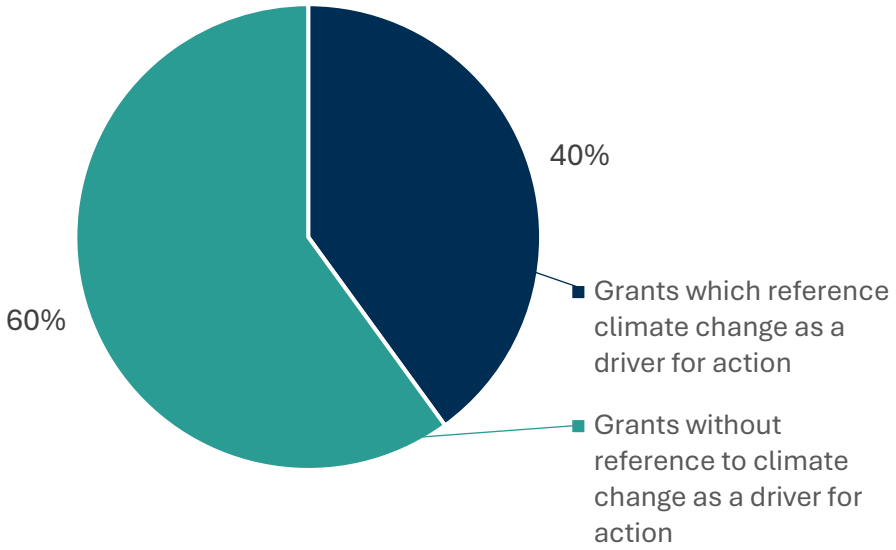
C5.1 – Historic Environment Scotland grant applications including adaptation measures

Description: This indicator shows the proportion of Historic Environment Scotland grant applications funded that include adaptation measures[16]

Data source: Historic Environment Scotland

Ambition: Increasing over time

Figure 18: Proportion of historic environment grants referencing climate change as a driver for action over 2024/25 period (%)



25 of 62 grants (40%) offered in 2024-25 referenced climate change as a driver for action. Historic Environment Scotland Grants are one of the key funding sources for Scotland's historic environment and assets.

Time series data is not currently available for this indicator. From the 2025/26 period onwards data will be available to track climate adaptation specifically as a driver for action.

[16] Data on the number of funded grant applications that include adaptation measures will be available from 2026 onwards. The data presented in the 2024-25 progress report captures climate change references generally.

C6.1 – Number of local authority Coastal Change Adaptation Plans published

Description: This indicator describes the number of local authority Coastal Change Adaptation Plans (CCAP) published

Data source: Scottish Government

Ambition: Increasing over time

Figure 19: Table displaying the number of local authority Coastal Change Adaptation Plans published and in development

Coastal Change Adaptation Plans published	Work underway to develop a Coastal Change Adaptation Plan
1	8

Coastal Change Adaptation Plan guidance was published in February 2023. Since then, one local authority (Moray Council) has published a CCAP. Eight local authorities are currently working on a CCAP.

24 local authorities have an erodible shoreline and have received funding for a Coastal Change Adaptation Plan. Coastal Change Adaptation Plans are a key mechanism for coastal resilience and adaptation actions across Scotland.

Public Services and Infrastructure (PS)

SNAP3 Outcome: Public services are collaborating in effective, inclusive adaptation action

The climate emergency requires us to collaborate. This outcome focuses on building the capacity of all Scotland's public services and infrastructure networks to understand climate risks, adapt and act collaboratively with others in a place.

During the reporting period:

- Network Rail, Scottish Water and SP Energy Networks co-founded the Climate Ready Infrastructure Scotland Forum, following support from the Adaptation Scotland programme. More than 20 organisations have now formally agreed to work collaboratively to protect Scotland's critical infrastructure from cascading weather and climate-related impacts.
- Scotland's NHS is strengthening climate resilience through comprehensive risk assessments and adaptation planning. Health Boards are evaluating flood risks, overheating, and water scarcity, and ensuring alignment with property, risk and continuity strategies. Boards are developing climate adaptation plans and will monitor overheating risks in inpatient facilities, prioritise passive cooling and expansion of green infrastructure such as rain gardens and green roofs. NHS National Services Scotland is supporting Boards with data, tools, and emergency planning for climate risks, including flooding and disease outbreaks, and maintaining a GIS-based Climate Mapping Tool to assess service and infrastructure vulnerabilities.
- Scottish Water is progressing with its 2024 Adaptation Plan, preparing for 2°C warming by 2050 and 4°C by 2080. Efforts include updating water resource projections, developing tools to assess climate-related water quality risks, and producing rainfall projections to manage sewer flood risk. A 10-year Land Management Plan with Forestry and Land Scotland is restoring peatland and creating over 4,000 hectares of native woodland at Loch Katrine. So far, 303 hectares of woodland and 555 hectares of peatland have been restored to boost carbon capture, biodiversity, and resilience.
- Transport Scotland uses its Approach to Climate Change Adaptation and Resilience to inform how all Scotland's transport networks prepare for climate impacts. For trunk roads, the Vulnerable Locations Operational Group continues to make improvements though delivery of and expanding number of defined schemes. A new Trunk Road Adaptation Plan will be published in 2025, with 45 recommendations to be actioned over the next five years. The Public Sector Climate Adaptation Network, facilitated by Adaptation Scotland, has expanded to a membership of 65 organisations, including 26 local authorities. It has empowered the growing network of leaders to drive adaptation action across their sectors and places using the newly updated Adaptation Capability Framework and Benchmarking tool.

- Scotland's public bodies have a legal duty to help deliver SNAP3 and report on progress annually. Draft guidance on meeting this duty was published in February, making it clear that all public bodies must identify the objectives in SNAP3 relevant to their functions and act in a way that supports delivery. This includes understanding their climate risks and taking action to adapt. A summary analysis of all annual reports submitted by public bodies in November will be published by the Scotland Sustainable Network soon.

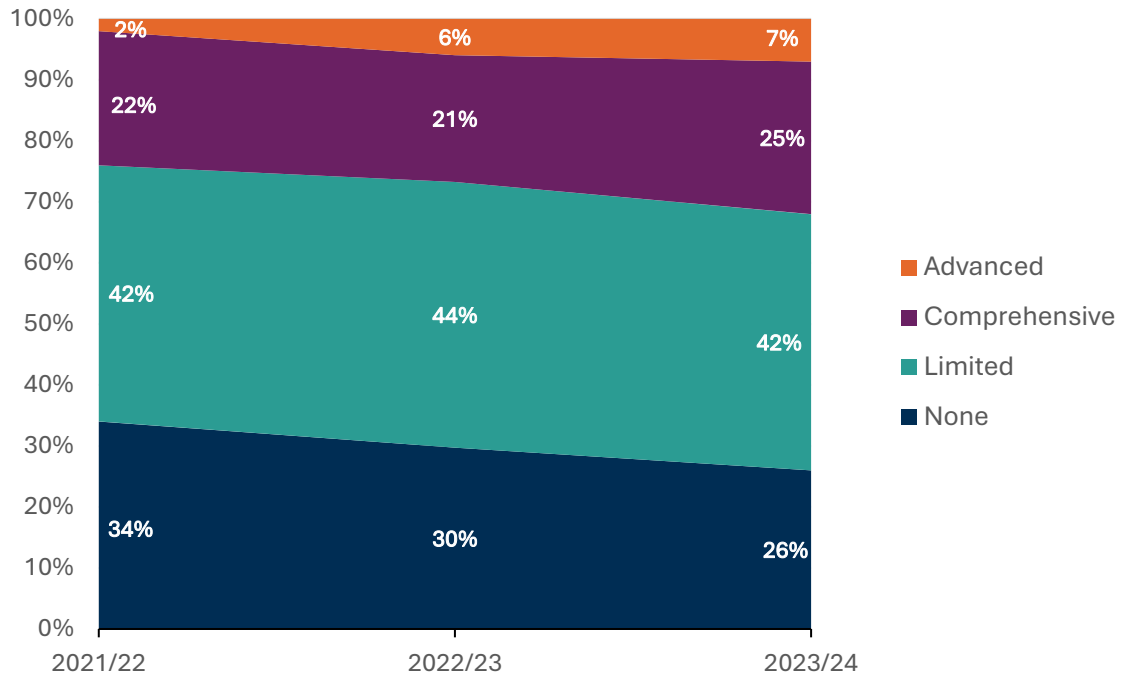
PS1.1 – Level of risk assessment reported across the public sector

Description: This indicator denotes the maturity of risk assessment undertaken by public bodies (local authorities, NHS boards, educational institutions, IJBs, transport partnerships, and other national and regional bodies). Responses are assessed as 'None', 'Limited', 'Comprehensive' or 'Advanced'[17]

Data source: Public Bodies Climate Change Duties annual compliance reports/Sustainable Scotland Network

Ambition: Risk assessments are maturing over time

Figure 20: Progress on assessing climate risks (%)



Risk assessment is a critical first step for organisations planning and taking action on climate adaptation.

This indicator assesses progress on climate risk assessment for the 186 public bodies who returned Public Bodies Climate Change Duties annual compliance reports for 2023-24.

Since 2021-22, the number of public bodies having undertaken some form of risk assessment has increased. In 2021-22 more than a third (34%) had not undertaken any risk assessment. By 2023-24 fewer bodies (26%) reported not having undertaken any risk assessment and a majority (42%) reported undertaking a limited risk assessment. Nearly a third of bodies (32%) have now completed advanced or comprehensive assessments, increasing from 27% in 2022-23.

[17] Qualitative analysis of public bodies reporting is undertaken based on the following categories: none = no response or stated not applicable; limited = assessment focused on a single issue (e.g. flooding); comprehensive = addressing a range of climate risks' advanced = approach combining comprehensive risk assessment with stakeholder engagement

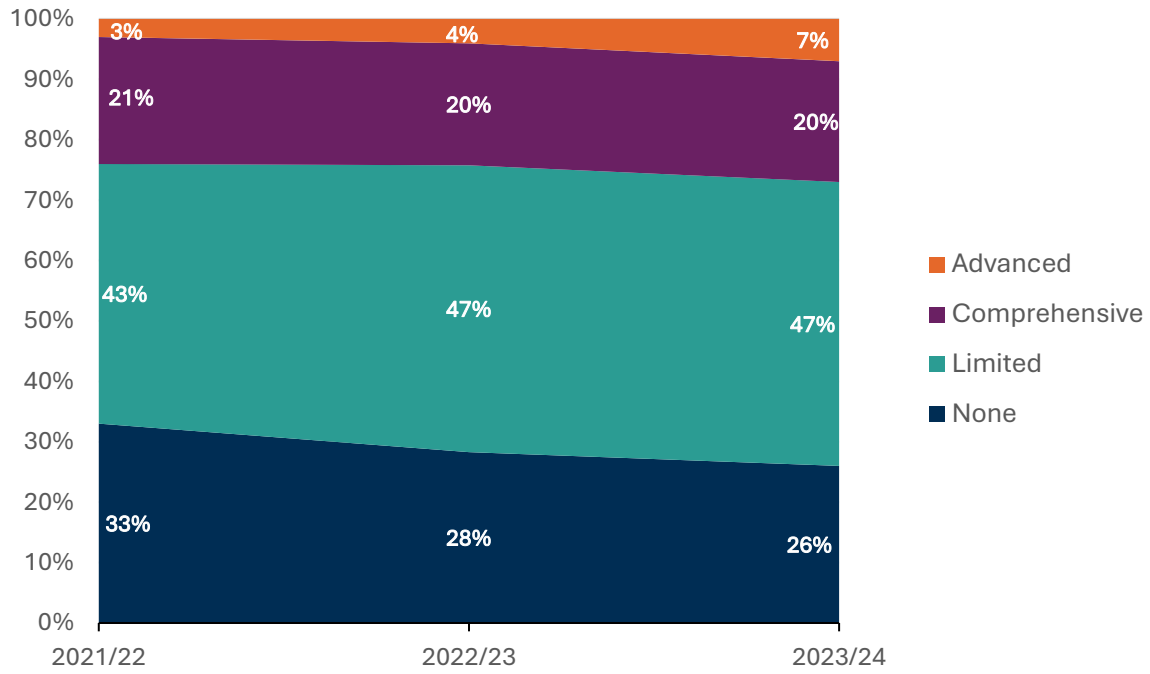
PS1.2 – Level of adaptation action taken across the public sector

Description: This indicator denotes the maturity of adaptation action being undertaken by public bodies (local authorities, NHS boards, educational institutions, IJBs, transport partnerships, and other national and regional bodies). Responses are assessed as 'None', 'Limited', 'Comprehensive' or 'Advanced'[18]

Data source: Public Bodies Climate Change Duties annual compliance reports/Sustainable Scotland Network

Ambition: Increasing over time

Figure 21: Progress on adaptation action (%)



Adaptation action taken by the public sector has increased slightly since 2021/22. A third (33%) had not taken any action in 2021/22, decreasing to just over a quarter (26%) by 2023/24.

In 2023/24 almost half (47%) of the sector had taken at least limited action, with a further 20% taking comprehensive action, and a smaller proportion (7%) taking advanced adaptation action.

[18] Qualitative analysis of public bodies reporting is based on the following categories: none = no action reported or no response; limited = limited action or policy measures with no evidence of how risks are being assessed; comprehensive = action to address a suite of risks; advanced = strategy or adaptation pathway with targets to assess progress on risk management and actions to address shortfalls.

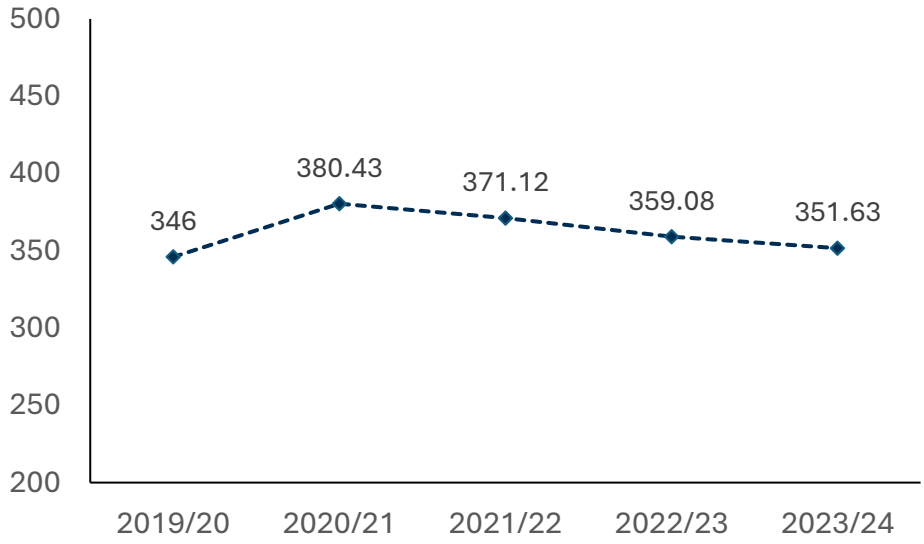
PS3.1 – Average per household water consumption

Description: This indicator shows the average per household water consumption in Scotland for unmetered households

Data source: Scottish Water

Ambition: Decreasing over time

Figure 22: Average per household water consumption (litres/property/day)



In 2023-24 the per household value of average water consumption for unmetered properties, excluding underground pipe leakage, is 351 l/prop/day (down by 2.07% from 359.08 l/prop/day in 2022-3). The 2023-24 figure is 1.6% above the pre COVID-19 value of 346.00 l/prop/day in 2019-20.

Reductions in water usage will increase the resilience of the water system to drought and increased demand from other wider pressures.

Changes in societal norms (such as working from home and spending more time in domestic gardens) as a result of the COVID-19 pandemic drove the increase in domestic water consumption in 2020/21. There are 134 zones in the Per Household Consumption Monitor which contains 9,422 properties. Each of these properties are representative of one of six socio-economic categories which enables extrapolation of data to the whole of Scotland. There was no substantial change in the proportion of properties across each of the categories.

The re-establishment of societal norms in place before COVID-19 (such as workplaces re-opening), alongside cooler summer temperatures, contributed to the fall in per household consumption in the last year.

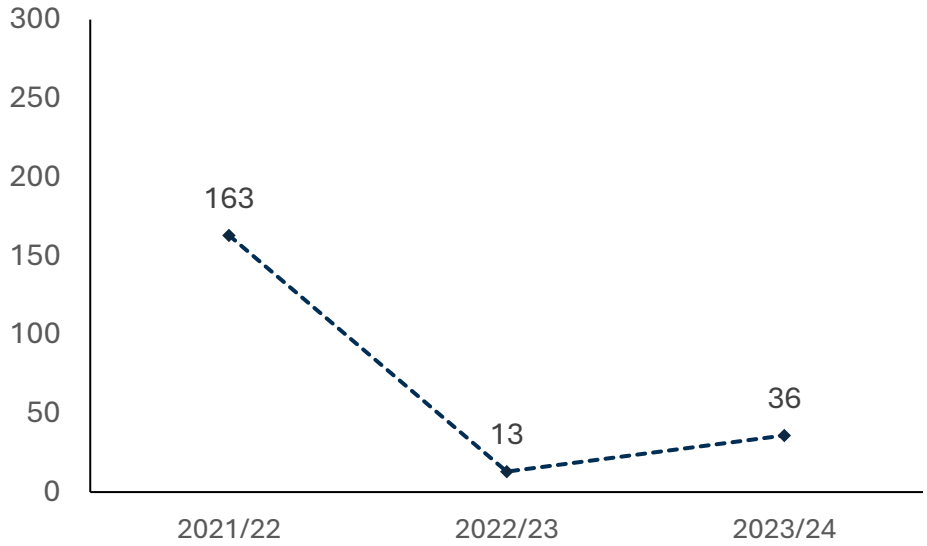
PS3.2 – Number of properties sewer flooded during the year due to severe weather

Description: This indicator provides a measure of the number of properties sewer flooded (internally) during the year due to severe weather in Scotland

Data source: Scottish Water

Ambition: Broadly maintained over time (not worsening with climate change impacts)

Figure 23: Number of properties (sewer) flooded during the year due to severe weather



In 2023-24 , there were a number of high intensity, short duration storms, mostly in June-August 2023, with a widespread high intensity storm also occurring in early October 2023. There were 15 instances of internal sewer flooding, affecting 36 properties.

Climate change may increase the number of incidents of sewer flooding, due to the increased frequency and intensity of rainfall events. Sewer flooding can also be exacerbated by other factors such as urban growth and development, network changes and incidents unrelated to climate change.

The average return period[19] was 238 years, with one incident recording a return period of greater than 800 years and a further two incidents recording return periods of greater than 1,000 years. This compares to an average return period of approximately 51 years over the 10 incidents in 2022-23, with the highest return period incident being 198 years.

[19] A return period is defined by SEPA as 'A term used to express flood probability. It refers to the estimated average time gap between floods of a given magnitude' ss-nfr-p-002-technical-flood-risk-guidance-for-stakeholders.pdf

Whilst this represents a large in-year increase, the intensity and impact of events will vary depending on the location and frequency of severe weather. At this stage this it is not yet indicative of a trend.

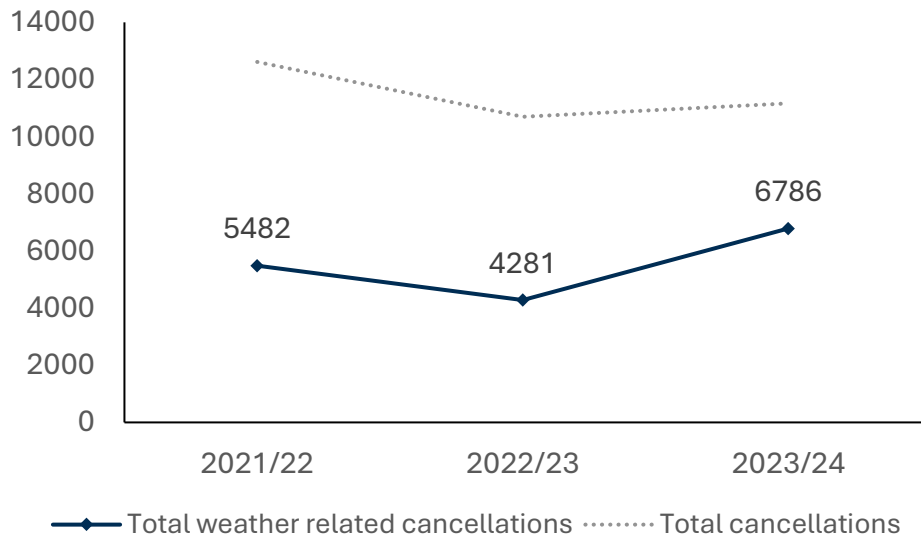
PS4.1 – Number of ferry service cancellations

Description: This indicator shows the number of ferry service cancellations in Scotland as a result of weather conditions

Data source: Transport Scotland

Ambition: Decreasing over time

Figure 24: Number of ferry service cancellations in Scotland as a result of weather conditions



In 2023-24 there were 6786 weather related ferry service cancellations. This was an increase from the previous year (2022-23) when 4281 ferry services were cancelled in relation to weather conditions.

A more resilient ferry service should experience fewer weather related cancellations.

Data around weather related ferry service cancellations are sensitive to frequency of severe weather events such as storms in a given year. A longer time series will be required to report on trends in ferry service resilience.

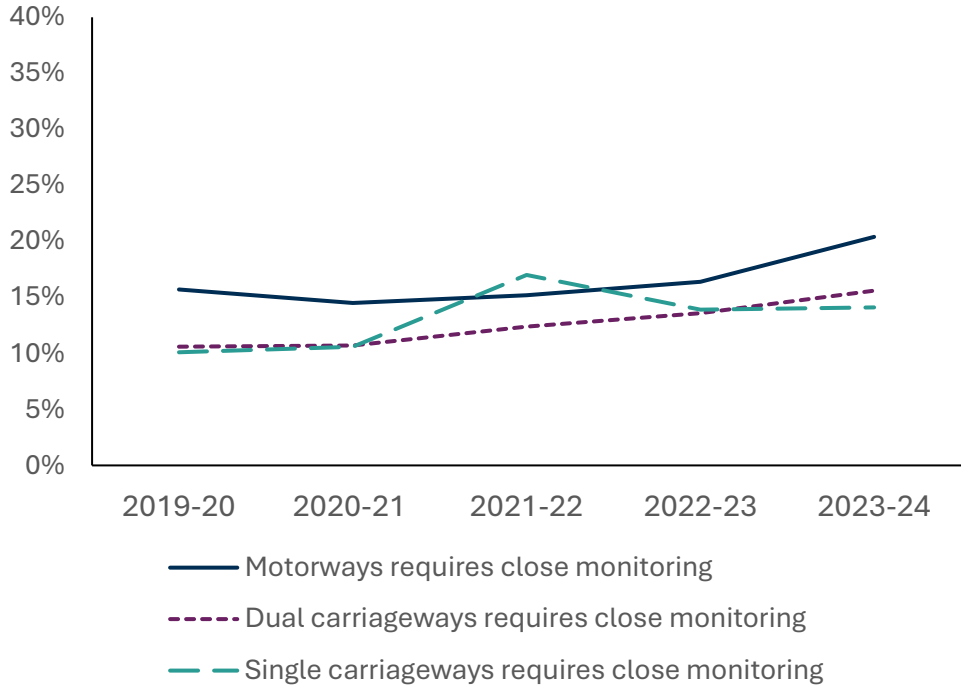
PS4.2 – Proportion of trunk roads which require close monitoring

Description: This indicator shows the proportion of trunk roads in Scotland which require close monitoring of the state of the road surface.

Data source: Transport Scotland (Scottish Road Maintenance Condition Survey)

Ambition: Decreasing over time

Figure 25: Proportion of trunk roads in Scotland which require close monitoring (%)



In 2023-24 the proportion of trunk roads which require close monitoring of the state of the road surface in Scotland were as follows:

- 20.4% of motorways
- 15.6% of dual carriageway
- 14.1% of single carriageways

There has been an increase in the proportion of trunk roads requiring close monitoring across each road type since 2019-20. In 2019-20, 15.7% of motorways required close monitoring, while 10.6% and 10.1% of dual carriageways and single carriageways respectively required close monitoring.

Trunk roads which are in good condition and don't require close monitoring will be more resilient to impacts of climate change such as severe weather events.

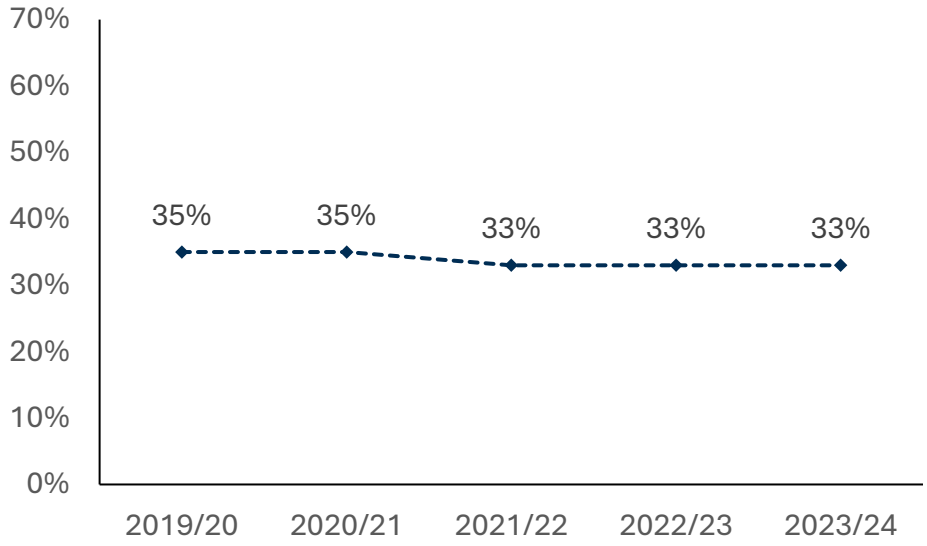
PS4.3 – Proportion of Local Authority roads which may require maintenance

Description: This indicator shows the proportion of Local Authority roads in Scotland which are reported as maybe requiring maintenance

Data source: Transport Scotland (data collected by WDM ltd using SCANNER vehicle for Scottish Road Maintenance Condition Survey)

Ambition: Decreasing over time

Figure 26: Proportion of local authority roads reported in red or amber condition (average % across all local authorities)



Red or Amber condition indicate that a road needs repair. Across local authority level roads, the proportion which may require maintenance has stayed fairly consistent since 2019-20. In 2023-24 33% of local authority roads were rated as red or amber condition in the Scottish Road Maintenance Survey.

Local authority roads which are in good condition will be more resilient to impacts of climate change such as severe weather events.

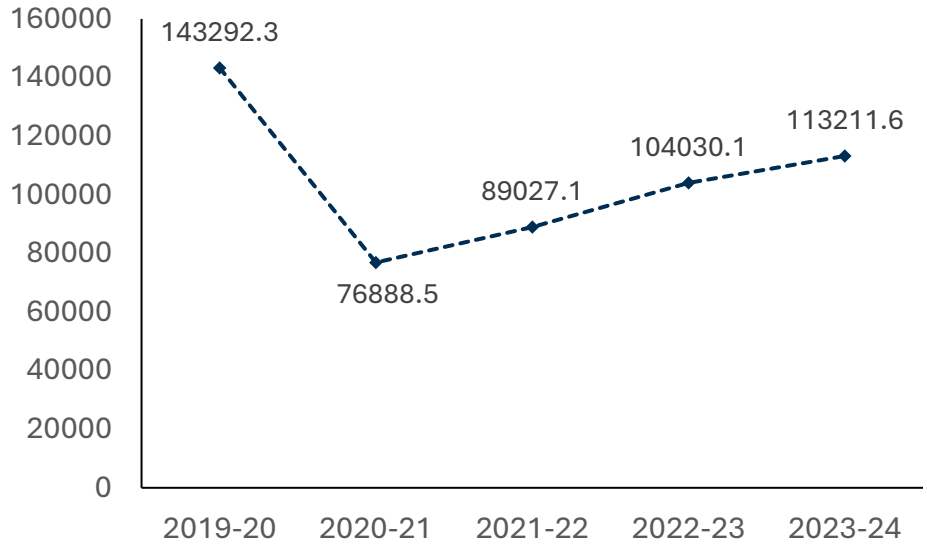
PS4.4 – Number of weather related train delays

Description: This indicator shows the instances of reported weather related train delays in Scotland in minutes per year

Data source: Network Rail

Ambition: Decreasing over time

Figure 27: Weather related train delays in minutes per year in Scotland



In 2023-24 there were 113211.6 minutes of weather related train delays in Scotland. This figure has risen year on year since 2020-21.

A more resilient train network should experience fewer weather related train delays.

Data around weather related train delays sensitive to frequency of severe weather events such as storms in a given year. A longer time series will be required to report on trends in train service resilience.

Economy, Business and Industry (B)

SNAP3 Outcome: Economies and industries are adapting and realising opportunities in Scotland's Just Transition

Climate change poses profound risks to our economy. This chapter sets out four objectives that collectively focus on how Scotland can build resilience to the economic impacts of a changing climate and maximise the innovation opportunities for businesses, people, and communities.

During the reporting period:

- Adaptation Scotland has provided training, support and new resources to over 100 businesses and business advisors, with advice now easily accessible via FindBusinessSupport. The new SME Climate Resilience Checklist, accessed over 900 times, offers practical guidance on preparing for extreme weather. The programme has also worked with industry leaders in wholesale, Scotch whisky, and environmental horticulture to explore climate change impacts, adaptation options, and new market opportunities.
- Scottish Enterprise (SE) launched a refreshed Net Zero Accelerator diagnostic tool in April 2025 to help businesses assess their carbon impact and climate readiness, including dedicated questions on climate adaptation. Adaptation will also be embedded in Scottish Enterprise's Operating Plan 2025–26, reinforcing SE's commitment to supporting sustainable business growth. Additionally, the Net Zero Plan 2025–26 will aim to raise awareness and gather evidence on adaptation-related risks and opportunities among SE-supported businesses.
- The Scottish Government has been reshaping support for farming and food production to deliver our Vision for Agriculture and lead in sustainable, regenerative practices. Through the Agri-Environment Climate Scheme, £7.1 million will be awarded in 2025-26 and the First Minister announced £14 million for the Future Farming Investment Scheme, supporting capital projects that boost efficiency and climate- or nature-friendly farming. From 2025, stricter conditions will apply to agricultural payments, requiring farmers and crofters to adopt more climate- and nature-friendly practices, and recent research has identified on-farm actions for climate adaptation to inform future support.
- Forestry Scotland's Routemap to Resilience, published in March, outlines priority actions to protect Scotland's forests from climate change and create resilient woodlands. In 2024, 1.4 million hectares of forest were surveyed for key pests and diseases, resulting in 203 Statutory Plant Health Notices.
- The Scottish Government published it's Biodiversity Investment Plan in February, outlining its approach to supporting investment in nature for biodiversity and climate adaptation. The Ecosystem Restoration Code is now in development, with stakeholder engagement underway between May and July 2025. This, along with insights from the recent CivTech Challenge 8.6 with CreditNature, will shape a high-integrity code and process for issuing nature credits to help attract responsible private investment into ecosystem restoration.

- Innovation in adaptation is being supported through initiatives like the third round of the Facility for Investment Ready Nature in Scotland (FIRNS), launched in April 2025, with grants to be awarded in June. This round offers grants of up to £240,000 to organisations and partnerships to develop investment-ready projects, including creating viable business cases and financial models, to attract investment in nature restoration.
- Scottish Government is supporting the aquaculture industry through energy and resource efficiency, aligning with the Vision for Sustainable Aquaculture, and will work with the sector to develop Climate Resilience Plans for 2029. In response to the Scottish Parliament's salmon farming inquiry, Scottish Ministers outlined actions to address climate impacts and improve fish health.
- Scottish Government is continuing to promote its Sustainable Procurement Tools to help identify climate risks and opportunities in projects. In addition to tools, guidance and case studies, the tools host a range of free of charge e-learning including Climate Literacy and Circular Economy modules. Over 1,400 individuals have completed Climate Literacy training. The £175 million national mobile device framework tender had a supply chain resilience question covering climate risks and work is underway to assess how these considerations may be routinely included in relevant contracts.

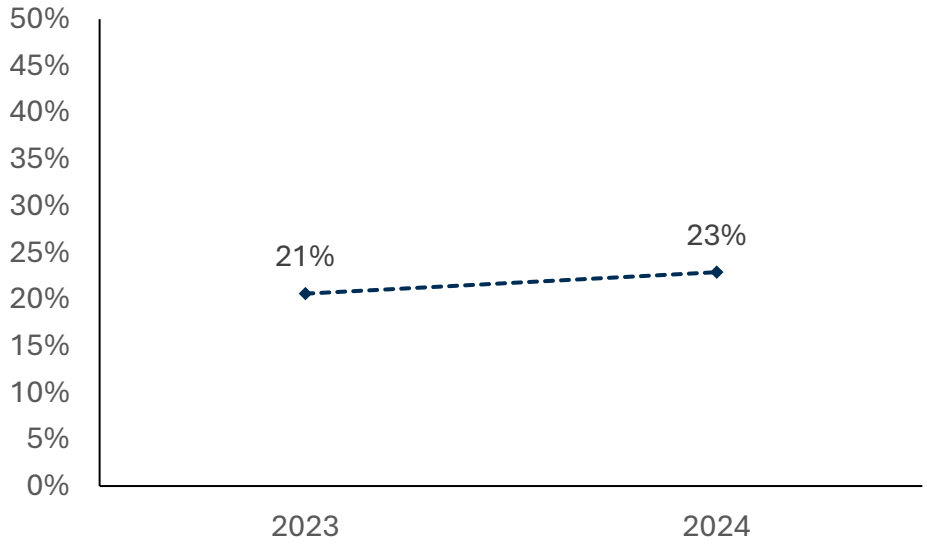
B1.1 – Businesses monitoring climate related risks

Description: This indicator shows the percentage of businesses in Scotland who are reporting assessing climate change related risks[20]

Data source: Business Insights and Conditions Survey

Ambition: Increasing over time

Figure 28: Businesses in Scotland reporting that they have assessed climate related risks (%)



In 2024, 22.9% of businesses reported that they had assessed climate change related risks, broadly in line with 20.6% reporting this in 2023.

Business action in relation to monitoring climate risks can make them more prepared for and able to respond to climate change impacts, such as severe weather events.

In 2024, the most common climate related risk assessed by businesses was risks to supply chain disruption (16.4% of businesses). Almost one in ten (8.5%) businesses had assessed risks from increased flooding, while fewer had considered risks from temperature increases (5.3%), water scarcity (1.6%) and coastal erosion (1.5%).

[20] The survey results for Scotland represent business with 10 or more employees.

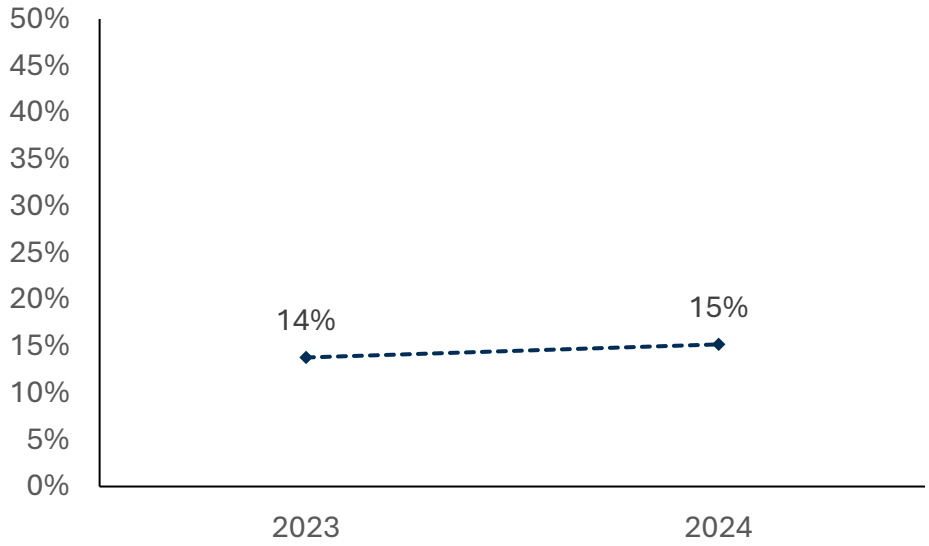
B1.2 – Businesses taking action to adapt to the effects of climate change

Description: This indicator shows the percentage of businesses in Scotland reporting taking action to adapt to effects of climate change[21]

Data source: Business Insights and Conditions Survey

Ambition: Increasing over time

Figure 29: Businesses in Scotland reporting that they have taken action to adapt to climate change (%)



In 2024, 15.2% of businesses reported that they had taken action to adapt to climate change, broadly in line with 13.8% in 2023.

Business action in relation to adaptation can make them more resilient and prepared for climate hazards, thereby reducing vulnerability.

Approaching one in ten (9.8%) of businesses in 2024 reported haven taken action around supply chain disruption and distribution. Slightly fewer reported action around the risk of increased flooding (4.6%) and temperature increases (3.7%), with just 1.1% reporting they had taken action around water scarcity risks.

[21] The survey results for Scotland represent business with 10 or more employees.

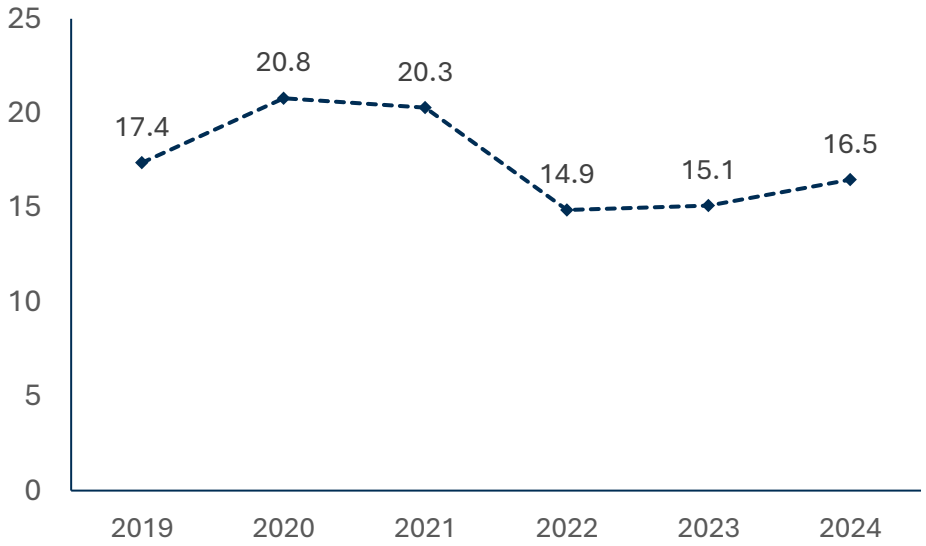
B2.1 – Proportion of agricultural land under management under Agri-Environment Climate Scheme

Description: This indicator shows the proportion of agricultural land under management contracts which include adaptation related measures.[22]

Data source: Scottish Government

Ambition: Increasing over time

Figure 30: Percentage of agricultural land under Agri-environment Climate Scheme (AECS) contracts, including organic options (%)[23]



In 2024, 849,396 hectares of agricultural land were managed under the Agri-Environment Climate Scheme (AECS) contracts for the options included in the indicator (all options measured in hectares through the scheme, including the organic conversion and maintenance options). This was an increase from the previous year when 804,540 hectares were covered.

The Agri-Environment Climate Scheme is the Scottish Government's key mechanism providing support for land managers to undertake actions which protect and enhance Scotland's magnificent natural heritage, improve water quality, manage flood risk, preserve historic sites and mitigate and adapt to climate change. This indicator does not capture actions which take place outside of the scheme, and so may not provide a full picture of agricultural resilience in Scotland.

[22] For full details of the variables related to adaptation included in this indicator please see the SNAP3 monitoring and evaluation framework

[23] As at 01 April 2025. Note - as a contract may have multiple Options the area may well be repeated

B2.2 – Proportion of Forest Plans revised under the new edition of the UKFS

Description: This indicator measures the proportion of Forest Plans (private and public sector) revised under the new edition of the UKFS as a percentage of area under forest plans.

Data source: Scottish Forestry

Ambition: Ensure all future approved plans and amendments comply with the new edition of UKFS after the 'go-live' date in October 2024

Forest plans are one of the principal tools used to manage long-term change in the forest resource. The UK Forestry Standard (UKFS), the UK technical standard for sustainable forest management underpins all Forestry Grant Scheme (FGS) and Felling Permission approvals, and all Forestry Environmental Impact Assessment determinations. Scottish Forestry are supporting the implementation of the updated UKFS (version 5), including training. The updated Standard was reviewed and revised with stakeholders to ensure, amongst other things, that compliance with the Standard increases the resilience of the forest resource. Scottish Forestry approvals will require compliance with the updated Standard from 1 October 2024.

As of 2024 **0 hectares** of forest plans had been revised under the new edition of the UKFS. From 2025 onwards all approvals made to forest plans will be under the new addition to UKFS and this indicator will be updated annually to monitor the trend in the proportion of forest plans revised under the new edition.

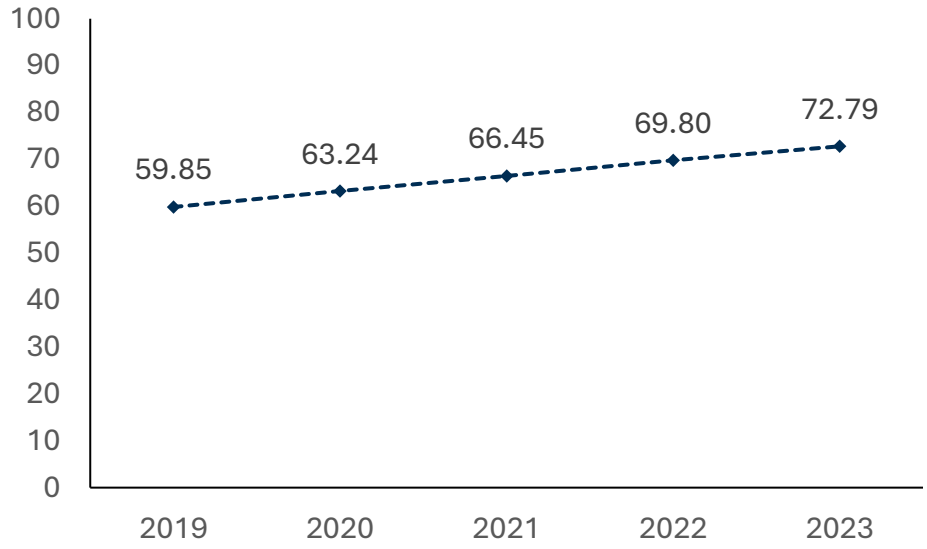
B2.3 – Commercial fish stocks fished at sustainable levels

Description: This index measures our confidence that Scottish fish stocks are being fished sustainably

Data source: ICES[24]

Ambition: Increasing or maintaining over time

Figure 31: Commercial fish stocks fished at sustainable levels in Scotland (%)



The index of sustainable fishing in Scotland stood at 72.79% in 2023. This represents an increase since 2019, when the index was 59.85%.

This indicator is relevant to resilience of Scotland's fishing industry. When combined with indicators 2.4 and 2.5 it represents a measure of whether fishing vessels are able to continue to find a market for their fish, are able to fish sustainably, and able to stay in profit.

[24] The required data for this indicator for each relevant stock are taken from the International Council for the Exploration of the Sea (ICES) assessments of annual fishing mortality F and spawning stock biomass B , and the corresponding ICES estimates for the MSY reference points for fishing mortality and spawning stock biomass, where available.

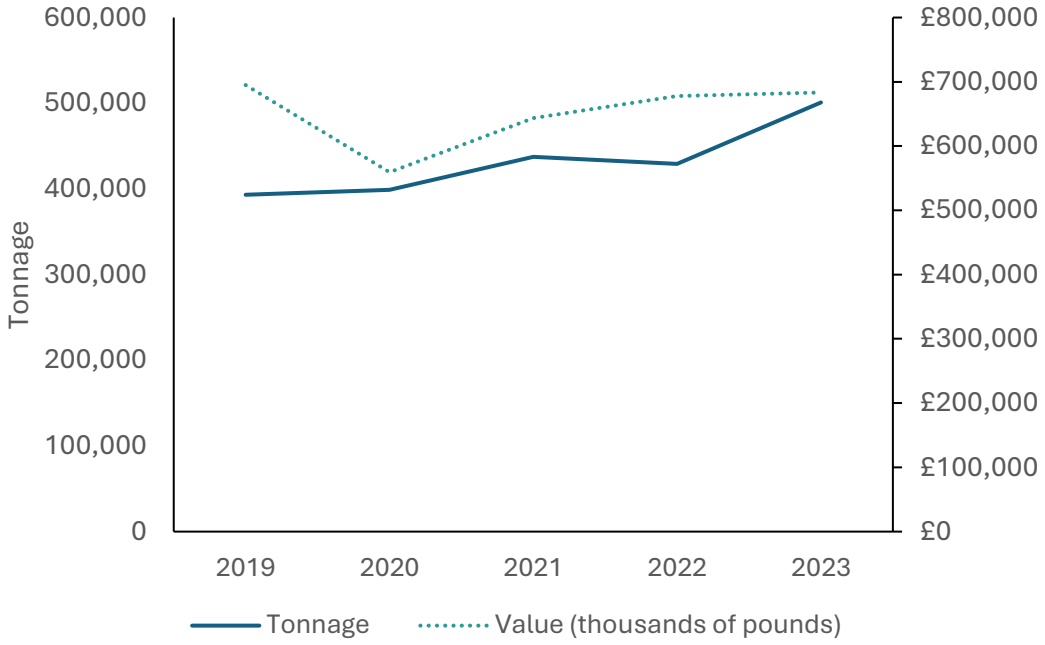
B2.4 – Tonnage and value of fish stocks landed

Description: This indicator shows the tonnage and real value of fish stocks (in £) landed by Scottish vessels

Data source: Scottish Government, Scottish Sea Fisheries Statistics, HMT's GDP deflators at market prices as at March 2024

Ambition: Increasing or maintaining over time

Figure 32: Tonnage and real value (£) of all fish stocks landed by Scottish vessels



In 2023 500,875 tons of fish was landed by Scottish vessels. The value of this was £683,155. Tonnage has increased since 2019. However, real value decreased in 2020, before increasing again, but remains at lower levels, when adjusted for inflation, than in 2019.

The tonnage and value of fish landed is made up of a variety of different species with different trends over time. The value shown here is the real value has been adjusted by inflation. Many key commercial fish species are controlled by quotas, which limits the volume of commercial catch in any year to help preserve fish stocks. This will impact on the tonnage and value caught per species and the overall tonnage and value. The average price per tonne varies considerably by species. In 2023, the average price per tonne of Lobster was £15,103. Whereas, the average price per tonne of Blue whiting was just £249. Typically, pelagic species, like Mackerel, Herring and Blue whiting are caught in large volumes and have a lower price per tonne. Shellfish species are typically caught in smaller volumes and have a higher price per tonne. Hospitality closures due to Covid-19, in 2020 and to a lesser extent in 2021, resulting in a loss of trade and markets particularly affected the shellfish sector.

Relevant to resilience of Scotland’s fishing industry. When combined with indicators 2.3 and 2.5 it represents a measure of whether fishing vessels are able to continue to find a market for their fish, are able to fish sustainably, and able to stay in profit.

B2.5 – Operating profits for fishing fleets

Description: This indicator shows the real annual operating profit (£) for Scottish fishing vessels fleets

Data source: Seafish, Economies of the Fishing Fleet data (nominal operating profit per vessel), Economics of the UK Fishing Fleet 2023 — Seafish (nominal operating profit per fishing fleet segment), and HMT's GDP deflators at market prices as at March 2025 (deflators)

Ambition: Increasing or maintaining over time

Figure 33: Average real operating profit per vessel in Scotland (£'000)

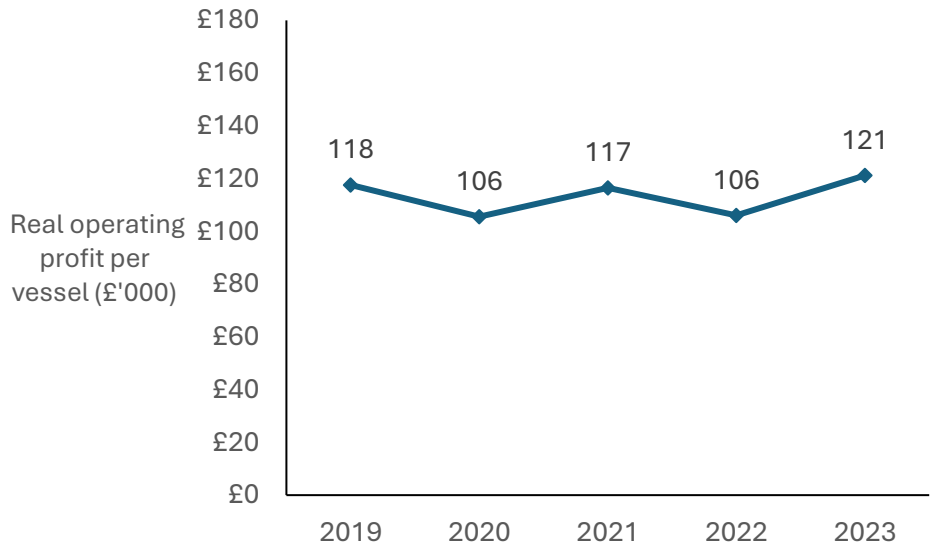
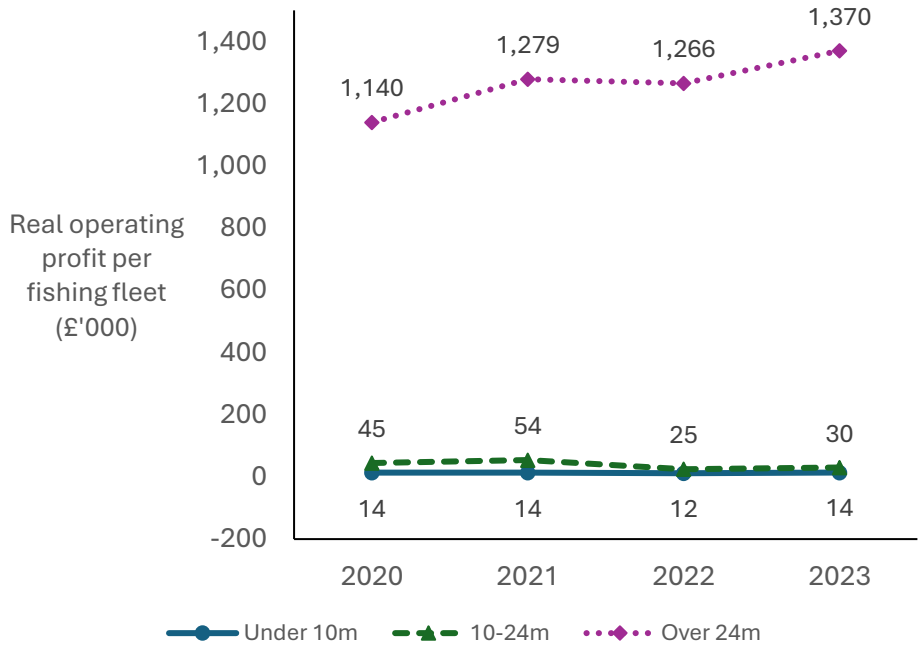


Figure 34: Average real operating profit per fishing fleet in Scotland (£'000)



Average operating profits per vessel increased in Scotland in 2023 compared to previous years, and are in keeping with annual fluctuations seen since 2020. In 2023, the average operating profit per vessel in Scotland was £121,000.

Larger fishing vessels over 24 metres had the highest profit by fishing fleet segment, with average operating profits of £1,370,000 in 2023. This figure has been increasing in real terms since 2020. In comparison, vessels under 10 metres recorded average operating profits of £14,000, in keeping with the trend since 2020. Vessels between 10-24 metres in length recorded average operating profits of £30,000, which represents an increase in real terms in operating profit compared to 2022, but a decline in real terms compared to 2020 and 2021.

This indicator is relevant to the resilience of Scotland’s fishing industry. When combined with indicators 2.3 and 2.4, it represents a measure of whether fishing vessels are able to continue to find a market for their fish, fish sustainably, and stay in profit.

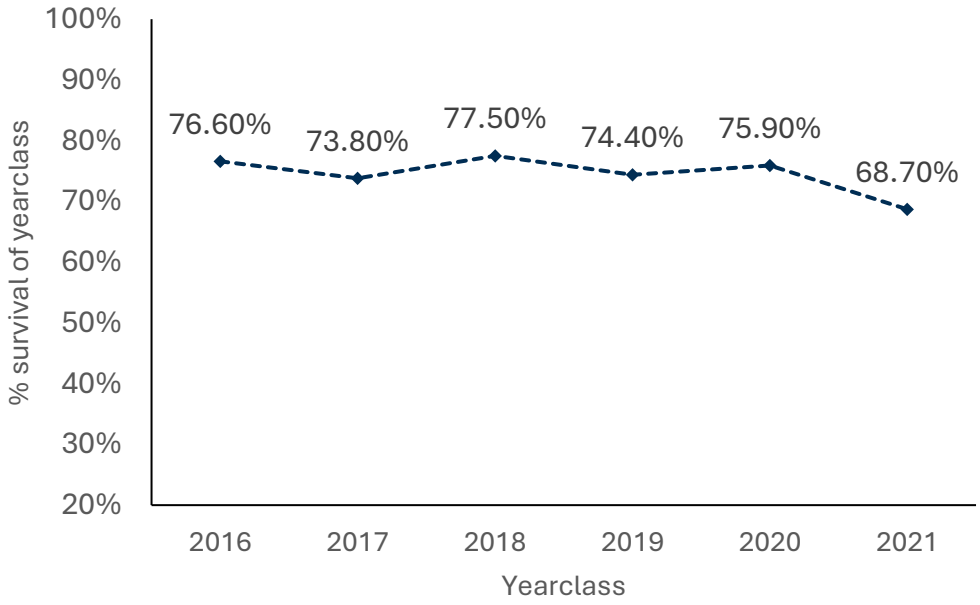
B2.6 – Aquaculture - Fish survival to harvest

Description: This indicator shows the percentage of finfish biomass across the entire aquaculture production cycle that survives to harvest

Data source: Scottish Fish Farm Production Survey

Ambition: No decrease in % over time

Figure 35: Fin fish across aquaculture production cycle survival to harvest across the production cycle (%)



68.7% of the 2021 yearclass of fin fish across the aquaculture production cycle survived to harvest, down from 75.9% of the 2020 yearclass.

This indicator is relevant to resilience of Scotland's aquaculture industry. Survival to harvest can be impacted by climatic factors. No decrease would indicate that the aquaculture sector is adapting to the additional pressures of climate change.

B4.1 – Reported disruption to supply chains as a result of severe weather event

Description: This indicator shows the percentage of businesses in Scotland reporting disruption to supply chains as a result of a severe weather event

Data source: Business Insights and Conditions Survey

Ambition: Decreasing over time

Data for this indicator began being collected in 2024. In 2024 **15.8% of businesses in Scotland reported disruption to local supply chains** as a result of severe weather, with a smaller proportion (6.4%) reporting disruption to global supply chains.

Businesses which are more resilient to climate change should be less vulnerable to supply chain disruption as a result of severe weather events.

This indicator will be updated annually to allow an assessment of trends in supply chain resilience over the SNAP3 period and beyond.

This publication is available at **www.gov.scot**

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The Scottish Government
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