

**Guidance for planning authorities on Strategic Flood Risk Assessment**

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**Version 2**

# Guidance for planning authorities on Strategic Flood Risk Assessment

## What is a Strategic Flood Risk Assessment (SFRA)

A Strategic Flood Risk Assessment (SFRA) is a high-level, primarily map-based overview of the scope and nature of all sources of existing and future flood risk within the local development plan area. Scottish Government’s [Local Development Planning Guidance](https://www.gov.scot/publications/local-development-planning-guidance/documents/) states that SFRAs are designed to inform the development planning process, primarily to avoid increasing overall flood risk by avoiding areas of flood hazard. The SFRA can be used during local development plan (LDP) preparation to inform choices about appropriate locations for development. SFRAs are prepared by the planning authority in consultation with SEPA.

## Why prepare an SFRA

An SFRA will primarily support your LDP in responding to the spatial implications of [National Planning Framework 4 (NPF4) Policy 22](https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf), strengthening resilience to flood risk by promoting avoidance as a first principle and reducing the vulnerability of existing and future development to flooding. In doing so the SFRA will also provide evidence for the implementation of other NPF4 policies where they address the climate and nature crises and the delivery of infrastructure, including blue green infrastructure.

The SFRA will specifically help you to:

* Identify where flood (pluvial, fluvial and coastal) and coastal erosion risk exists in the plan area at the Evidence Report stage, and therefore areas where new development should be located or avoided at the Proposed Plan stage in accordance with Policy 22. The SFRA can act as a screening tool to help identify whether flood risk is fully understood, and therefore whether further and more detailed analysis of flood risk will be needed beyond the Evidence Report stage in the form of site-specific flood risk assessment (FRA). More information on this is provided below.
* Identify areas where climate change is resulting in unmanageable flood exposure, and so where alternative land use is needed, in accordance with NPF4.
* Identify where and how actions contained in the local flood risk management plan (including future flood protection schemes) and Coastal Change Adaptation Plans affect the location of new development.
* Inform blue and green infrastructure audits and/or strategies in support of NPF4 Policy 20.
* Inform the Strategic Environmental Assessment (SEA) of the LDP.

SFRA outputs will help support a place-based approach to development and service delivery, ensuring Scotland becomes more flood resilient. The SFRA could be used:

* by developers, communities (including for their Local Place Plans), individual applicants and neighbouring planning authorities to better understand flood risk in the area.
* to support wider infrastructure planning and delivery
* to support local authority corporate services such as emergency planning and resilience.

## When to carry out an SFRA

Scottish Government’s [Local Development Planning Guidance](https://www.gov.scot/publications/local-development-planning-guidance/documents/) states that the Evidence Report can reference an SFRA. The guidance also states that the Evidence Report can have regard to the flood maps prepared by SEPA and must consider relevant finalised and approved flood risk management plans and river basin management plans. SEPA therefore recommends incorporating this information in an SFRA. The SFRA can also be used to inform decision-making beyond the Evidence Report stage.

**Issues to consider before preparing an SFRA:**

* An SFRA should be straightforward to prepare in most cases. External support may only be needed where more detailed studies are required as part of the gap analysis or where in-house GIS technical support is not available.
* Where a catchment or coastal reach includes more than one planning authority, or where a catchment-wide flood management approach exists, you may find it useful to prepare a catchment-wide SFRA rather than a planning authority-specific SFRA; existing local flood risk management partnerships can support this. However, there may be logistical challenges in coordinating where planning authorities progress their local development plans at separate times. In such instances, relevant information should be shared with neighbouring authorities.
* Input from colleagues with expertise in flooding, planning, emergency planning, mapping, coastal change, building standards and from other organisations such as Scottish Water and Scottish Canals may be needed. You may also wish these bodies to review the SFRA when finalised.

## Keeping your SFRA up to date

Your SFRA may become out of date in time because of significant improvements in flooding data, or large flood events may alter our understanding of the hazard. The SFRA has uses beyond the Evidence Report stage of the LDP, as well as more widely outwith the LDP process, so it should be useful to keep it under review and up to date. As a minimum, SEPA advise updating at least every development plan cycle.

## Using the SFRA beyond the Evidence Report

### For flood risk:

After the Gate Check concludes, work should begin to prepare the Proposed Plan. This will include the development of a spatial strategy and an assessment of potential sites. The Evidence Report is to be used to help develop the Proposed Plan. Having informed the Evidence Report, the SFRA can then be used to:

* Identify where flood risk exists in the plan area, and therefore areas where new development should be located or avoided at the Proposed Plan stage in accordance with Policy 22. [The SFRA should act as a screening tool to help identify sites that could be at flood risk. If progressed, these sites would require a more detailed analysis of flood risk beyond the Evidence Report stage in the form of site-specific flood risk assessment (FRA).](#Siteassess)[[[1]](#footnote-2)](#Siteassess)
* Identify areas where climate change is resulting in unmanageable flood exposure, and so where alternative land use is needed, in accordance with NPF4.
* Identify where and how actions contained in the local flood risk management plan (including future flood protection schemes and other measures, and the outputs of Surface Water Management Plans and similar studies) and Coastal Change Adaptation Plans affect the location of new development.
* Inform blue and green infrastructure audits and/or strategies in line with NPF4 Policy 20.
* Inform the SEA of the LDP.

**Using SFRA for flood risk site assessment**

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| --- | --- |
| **Stage** | **Approach** |
| **After Gate Check/prior to Proposed Plan consultation** | The SFRA is an important source of evidence for planning authorities and should be used purposefully to carry out the majority of site sifting before any engagement with SEPA is necessary on the issue of flood risk - the SFRA provides the majority of information required at this stage, which should benefit both planning authorities and SEPA. The new evidence-led development plan preparation process should require SEPA to provide flood risk advice on only a limited number of sites prior to the formal Proposed Plan consultation.  Where the SFRA clearly shows a site to be at fluvial or coastal risk, planning authorities should assume it is not supported by NPF4 Policy 22 unless a site-specific FRA can confirm it is not at risk; identifies a smaller developable extent within which the proposed development can be accommodated, or demonstrates that the development can meet with one of the NPF4 Policy 22 exceptions and mitigation criteria. If a site does not appear to be at risk in the SFRA, an FRA can be used to confirm this, if deemed necessary. As with planning applications, the type of FRA required will depend upon the nature of the site. SEPA does not require to review all FRAs prepared to support potential site allocations at this stage. Review by SEPA on flood risk should be limited to sites that have made it through the planning authority’s initial sifting and assessment where there is some uncertainty as to the risk, for example where an FRA has been prepared and a second opinion is required due to the complexity of the issues it raises. In many cases your own in-house flood risk management colleagues will be able to assist with this judgement.  This will help SEPA focus our input where it can add most value and will ensure the SFRA is used purposefully as an effective evidence source. |
| **At the Proposed Plan consultation** | When consulted at the formal Proposed Plan stage SEPA will provide a response on the basis that allocated sites should not be at flood risk unless they meet with one of the NPF4 Policy 22 exceptions and any mitigation required is clearly identified. SEPA’s objective is to ensure that flood risk and its impact on the developable extent and capacity of sites is fully understood prior to their allocation. This is aligned with the evidence-led, frontloading objectives of the new development planning process. Scottish Government guidance notes that proposed allocated sites should be free of constraints as far as possible. Where constraints exist, sites can still be regarded as deliverable providing that the Delivery Programme sets out how constraints will be removed and the timeframe expected for this. |

**For blue and green infrastructure, including audits and/or strategies:**

NPF4 introduces a step-change in the urgency to address the climate emergency (including adaptation) and the nature crisis, and a need to take a place-based, whole-system approach to shaping new places. Strategic planning for essential infrastructure that helps to manage water in a way that reduces the vulnerability of communities to existing and future flooding includes identifying land needed for flood management, a setback zone (or buffer zone)[[2]](#footnote-3) at the coast, water management and blue and green infrastructure, and recognises the links between them. [NPF4 Policy 20](https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf) requires that LDPs should be informed by relevant, up-to-date audits and/or strategies, covering the multiple functions and benefits of blue and green infrastructure. This should be undertaken as part of an infrastructure-first approach to land use planning, which puts infrastructure considerations at the heart of placemaking ([NPF4 Policy 18](https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf)). Local Development Planning Guidance advises that a blue and green infrastructure audit can reflect other relevant assessments such as SFRA to identify areas with an important role in flood water storage or conveyance, thus helping to deliver the requirements of Policy 20. For example, the combined information should be used to:

* Safeguard green/ blue areas identified as important for coastal protection, flood, and storm water management, and to inform the shaping of future development.
* Identify opportunities for stormwater flow separation to relieve pressures on the existing drainage infrastructure.
* Support requirements for optimum natural flood management and sustainable drainage in new developments with the aim of 0% increase in water entering the sewer system and to help control discharge rates.
* Identify and safeguard ‘buffer zones’ around natural waterbodies to allow for flood management and to retain and enhance their function as riparian corridors and nature networks.

Drainage should be given specific consideration in the LDP, taking account of the local issues, any surface water management plans for the area and existing infrastructure. Partnership working between authorities, Scottish Water and others will be required to address complex issues, and the recommendations from the [[Scottish Government’s water resilient places policy framework](https://www.gov.scot/publications/water-resilient-places-policy-framework-surface-water-management-blue-green-infrastructure/)](https://www.gov.scot/publications/water-resilient-places-policy-framework-surface-water-management-blue-green-infrastructure/) should be followed. SEPA’s surface water and small watercourses flood map can help. Areas with critical drainage capacity issues should be identified, where development may be constrained as a result or where there is opportunity for the LDP to address problems, both for new development and existing communities. The multi-disciplinary approach is especially beneficial for addressing surface water problems in built up areas with opportunity to benefit local communities and contribute to the quality of a place. The LDP process may be a chance to progress opportunity mapping for blue green infrastructure, or to embed work already done using the LDP to deliver implementation.

**Using SFRA to prepare Edinburgh for a changing climate**

In recent years the City of Edinburgh Council has worked in close collaboration with SEPA, Scottish Water and Nature Scot to explore the potential for blue green infrastructure within the city, with a focus on identifying projects that can showcase effective and efficient use of collective public sector resource, and in doing so, tackle the climate and nature crises.

In preparing its [City Plan 2030](https://www.edinburgh.gov.uk/cityplan2030), the Council commissioned consultants to produce a Strategic Flood Risk Assessment, which as well as informing choices about sites at potential flood risk for the local development plan, was used alongside other GIS data sets such as active travel routes and vacant and derelict sites to identify opportunities for new blue green infrastructure, helping to reduce risks from flooding, as well as pollution, high temperatures and loss of nature and wildlife, all of which are challenges associated with our future changing climate.

The outputs of this opportunity mapping were used to directly inform the City Plan and continue to have wider application outwith land use planning, such as for ongoing corporate infrastructure planning and investment.

### For other aspects of NPF4:

The climate emergency and nature crisis require us to recognise the interconnected nature of issues, including flood risk, in a way that aligns with other policy priorities in NPF4. The SFRA can be used as evidence to support the delivery of other policy areas of NPF4, for example:

* Policy 1 Tackling the climate and nature crisis and Policy 2 Climate mitigation and adaptation: avoiding development in areas of flood risk is a key aspect of climate change adaptation.
* Policy 3 Biodiversity, Policy 4 Natural places, Policy 6 Forestry, woodland and trees, Policy 8 Green belts, Policy 10 Coastal development: floodplains can be key aspects of existing nature networks and provide opportunities for enhancement of these networks too.
* Policy 13 Sustainable transport and Policy 21 Play, recreation, and sport: floodplains are valuable assets that provide opportunities for the sustainable movement and activity of people.
* Policy 18 Infrastructure first: NPF4 defines flood risk management infrastructure as part of infrastructure covered by that policy. The SFRA can therefore inform consideration of existing infrastructure provision and new requirements.

## Methodology

### Step 1: Gather available information:

Gather all available information relating to flood risk for the development plan or catchment area. The level of detail and information requirements should be proportionate to the flood risk issues in the area in question, and some sources of data and evidence will be more useful than others. You should review the sources in Table 1, which will be updated and improved over time. More information on these sources of information can be found in Appendix One.

Additional or improved sources of information in future years are likely to be:

* Surface water and small watercourse flood hazard maps for all of Scotland.
* Updates to coastal flood hazard maps for the southeast, and southwest of Scotland – coastal hazard maps for the northeast of Scotland and the Outer Hebrides were updated in 2023.
* New information on features that help manage flood risk, including natural features.
* New flood studies, adaption plans and surface water management plans being produced at the local level as part of local flood risk management plans.
* Coastal Change Adaptation Plans, which set out the policy for coastal management as well as detailing the erosion risk.

Minimal SEPA input will be required at this stage, provided that this guidance is followed.

### Step 2: Gap analysis:

Once all available information is collated, gaps in the evidence can be identified. Gaps may arise where:

* existing information is thought to be incorrect or lacking.
* there is known to be significant development pressure or the need for adaptation of an existing community at flood risk, and where site-level flood risk assessments have not successfully established the problem or reduced uncertainty.
* the flood mechanism is distant or complex.
* there are existing flood defences, and their current standard, residual uncertainty associated with them, or their design life, is unknown.

As part of our engagement with planning authorities on SFRA, SEPA can help identify gaps. Planning authorities may consider that more detailed larger-scale studies or assessments are needed to fill any evidence gaps, such as additional flood modelling and mapping. Scottish Government’s [Local Development Planning Guidance](https://www.gov.scot/publications/local-development-planning-guidance/documents/) states that where required, reasonable steps should be taken to address any gaps in evidence identified, and that the preparation and content of the Evidence Report should be proportionate. However, the regulations do not include minimum evidence requirements, and it is for planning authorities to determine which gaps it would be reasonable and proportionate for them to fill at this stage. Where new flood modelling studies are considered necessary, please follow the [SEPA flood modelling guidance for responsible authorities](https://www.sepa.org.uk/media/219653/flood_model_guidance_v2.pdf).

### Step 3: Prepare the outputs:

All collated information should be presented in a primarily map-based form that is readily accessible to the public and all other external stakeholders in the plan-making process, ideally hosted on a GIS (Geographic Information System) platform that is compatible with your other mapping tools. A GIS map base for the SFRA has the benefit of being updateable throughout the course of your plan preparation as new and better information becomes available.

A brief accompanying summary report should be prepared, setting out the approach taken, the findings of any additional information prepared as part of the gap analysis, identifying any remaining gaps that need to be addressed at a later stage, and acknowledging any limitations of the analysis.

SEPA’s key expectation of the SFRA is that it brings together all available flood risk information that is particular to the area in question in one single place, spatially represented, easily updateable, and easily accessible to all stakeholders in the plan making process.

One limitation that will be common to all SFRAs is that flood risk information is ever evolving, and therefore a snapshot in time used for an SFRA will in time become out of date. SEPA recommends that this limitation should be highlighted in the summary report, and then referenced in the Evidence Report, to make this clear for all stakeholders in the plan process. However, as noted above, providing all spatial information in a dynamic GIS map will ensure the SFRA is able to be updated as new information emerges. This is much preferable to, for example, using static PDF maps for every settlement in the plan area, which can also be very resource intensive to produce.

### Step 4: Discuss with SEPA:

SEPA will be happy to review the summary report and mapped information at this stage and advise whether we consider the SFRA to be sufficient or not. It is likely that we will be content with the SFRA being a high-level overview of the scope and nature of all sources of existing and future flood risk within the local development plan area at that point in time, and therefore used to inform/be referenced in the Evidence Report provided that:

* this guidance has been followed
* the SFRA includes the most relevant and up to date sources of flood risk information as outlined in Table 1 of this guidance, importantly including the Future Flood maps.
* all information that can be is presented in mapped form, as outlined in Appendix 1
* any evidence gaps we have highlighted in Step 2 have been identified in the summary report

Where this is demonstrated we will be happy to provide a statement of agreement on this aspect of the Evidence Report.

As outlined above, ideally the mapped information should be presented in a dynamic GIS web map that is accessible to the public as opposed to a static map - this would not however be a matter of dispute. We will raise a statement of dispute where we consider the SFRA is insufficient. You may also wish to discuss the SFRA with Scottish Water. Note that we will not review any sites for flood risk as part of the Evidence Report.

**Table 1 Key sources of flood risk information**

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| --- | --- | --- | --- |
| **Dataset[[3]](#footnote-4)** | **Description** | **Accessing the data** | **How to use it in the SFRA** |
| [**SEPA Flood Hazard Maps**](#FHM) | GIS layers, comprising:   * SEPA River Flood Maps   + Present Day 1 in 10 year return period (high probability)   + Present Day 1 in 200 year return period (medium probability)   + Present Day 1 in 1000 year return period (low probability)   + Future Flood Map 1 in 200 year return period (medium probability plus climate climate) * SEPA Coastal Flood Maps   + Present Day 1 in 10 year return period (high probability)   + Present Day 1 in 200 year return period (medium probability)   + Present Day 1 in 1000 year return period (low probability)   + Future Flood Map 1 in 200 year return period (medium probability plus climate change) * SEPA Surface Water & Small Watercourses Flood Maps   + Present Day 1 in 10 year return period (high probability)   + Present Day 1 in 200 year return period (medium probability)   + Future Flood Map 1 in 200 year return period plus climate uplift (low)   These maps display the land affected by river, coastal and surface water flooding for three annual exceedance probabilities plus a climate change scenario (the Future Flood Map).  Please note this dataset includes information on depth and velocity (where appropriate), but we do not recommend including this in your SFRA as it is not useful for the strategic nature of the assessment.  The glossary of National Planning Framework 4 states that, ‘For planning purposes, at risk of flooding or in a flood risk area means land or built form with an annual probability of being flooded of greater than 0.5% which must include an appropriate allowance for future climate change. This risk of flooding is indicated on SEPA’s future flood maps or may need to be assessed in a flood risk assessment.  For the SFRA we recommend using all of the layers available, not just the Future Flood Maps, given that it is a strategic level assessment for development planning purposes. For example, the Present Day 1 in 10 year maps can be used to help plan for land uses where lower magnitude but higher frequency flooding may also wish to be avoided, such as water compatible uses.  The river flood map shows flooding from watercourses with a catchment area of greater than 3km2. Smaller watercourses are also a frequent cause of local flooding and are covered by the surface water and small watercourse flood maps (more below). In some areas, the fluvial flood maps include flood protection schemes but this is not an appropriate assessment of risk for planning purposes. The low probability flood extents do not include schemes and can be used to help identify areas where more detailed consideration of flood risk taking a scheme into account would be required, if any new development is planned in those areas.  In most areas covered by the coastal flood maps, the flood extents are based on still water levels only and do not account for the effect of waves. Since 2023 there is some allowance for waves included in the maps for the north east of Scotland from Montrose to Scrabster covering all of the Aberdeenshire and Moray coasts, and part of the Angus and Highland coasts. The maps for Orkney and the Outer Hebrides also include some wave effects. Although more detailed modelling has been used in those areas, the maps continue to be a strategic level assessment of areas that may have a risk of flooding. As with the river maps, the low probability coastal extent is useful to ensure areas that may have flood defences are identified for more detailed assessment.  The surface water & small watercourses flood map (referred to as the surface water flood map hereafter) shows areas of flood risk from direct rainfall and from small watercourses with a catchment area smaller than 10km2. The mapping does not show flood hazard associated with sewer flooding.  Although in principle surface water flood risk can be managed through drainage systems, it is not always feasible to do that without increasing the risk of surface water flooding to others as is required by Policy 22 of NPF4. If allocating areas at significant surface water/pluvial flood risk for development, there should be confidence that any issues highlighted by the flood hazard maps can be appropriately addressed, and that these areas would not be more suitable for implementing blue green infrastructure as part of the wider place approach.  Users should note that watercourses with catchment areas between 3 - 10km2 are represented in both the river and surface water flood maps. Different modelling approaches and input datasets were used to develop each flood map which means there may be differences in the outputs. Consequently, it is recommended that users consult both the river and surface water flood maps to understand flood risk from small watercourses. | The latest version of our flood hazard map data can always be viewed on the [SEPA website](https://www.sepa.org.uk/environment/water/flooding/flood-maps/) ([https://beta.sepa.scot/flooding/flood-maps/)](https://beta.sepa.scot/flooding/flood-maps/), or downloaded and incorporated directly into your GIS systems from the following link, where all future updates to our flood map data will also be published: <https://www.sepa.org.uk/environment/environmental-data/>  For support in accessing our hazard map data, please email [fram@sepa.org.uk](mailto:fram@sepa.org.uk). | This data is licenced under Open Government Licence 3.0, meaning it can be published in your SFRA mapping subject to use of the appropriate data attribution statements that accompany the data. |
| **Information on past flooding events** | SEPA, local authorities, as well as others, hold records on flooding that has happened in the past, which can help supplement and verify other sources of information on flooding.  SEPA’s point records of past flooding for all sources are called Observed Flood Event data (OFE) and is available to local authorities but is restricted by licence, which means it cannot be published externally in the SFRA mapping. However, it can be used internally for site screening, so it is important that it is available in your internal GIS systems.  SEPA hold polygon records of certain past fluvial flooding prior to 2014 called Historic River Flood Extents (HRFE). These were provided to local authorities in 2014. Please note, we do not hold this information for all local authority areas. SEPA have not updated this dataset since 2014. We are currently undertaking a review of this type of observed data and as such, we are not currently in a position to re-provide this data where it cannot be located within the local authority. Where it is available within your local authority, its use is restricted by licence, which means it cannot be published externally in the SFRA mapping. However, it can be used internally for site screening in your internal GIS systems.  Local authorities and Scottish Water have their own records that may be more detailed than SEPA’s OFE and HRFE data. | Commencing in 2025, SEPA will issue annual updates of OFE data to licence holders. Data is scheduled to be delivered by the end of June each year. We will not provide interim updates.  If you have any queries about the OFE data, obtaining an OFE Data Licence, or have any issues incorporating OFE data into your systems, please contact [fram@sepa.org.uk](mailto:fram@sepa.org.uk).  Local flooding records will likely be held by flood risk management colleagues within your authority. | SEPA’s OFE and HRFE data cannot be published externally in the SFRA mapping, but it can be used internally for site screening.  Other data on past flooding held by local authorities may be permitted to share externally and displayed in the SFRA mapping – check with the data owner for permission.  Unmapped records can be captured in the text of the SFRA report. |
| **Local Authority Flood Study outputs** | Flood studies are undertaken by local authorities in order to help deliver on the actions from flood risk management plans, for example to explore options for a new flood protection scheme. Flood studies (both up to date and older) may contain mapped flood extents that are more detailed/reliable than SEPA Flood Maps, as well as information on any existing defences. | The mapped outputs will likely be held by flood risk management colleagues within the authority. | Mapped outputs can be published in the SFRA mapping if allowed by the associated permissions in place. Additional information can be captured in the text of the SFRA report. |
| [**Information on flood protection schemes**](#SFDAD) **(existing and proposed)** | This data identifies defences that do or will protect existing development from flooding and may be suitable to support new development. This data may also identify land required for new planned defences, or future adaption to existing defences.  Understanding where land should be protected for the ongoing function of defences, for future planned defences or defence adaptations, and what future development if any is appropriate behind defences will be key issues to explore in the SFRA. If new development is to be supported, more detailed assessment of schemes will be required prior to development being planned in these locations. The SFRA is the best place to record the understanding of flood defences where evidence has been established through this further assessment.  Further information can be found in [SEPA’s Position Statement on Development Protected by Formal Flood Protection Schemes](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fnlyfx2v3%2Fdevelopment-behind-defences.docx&wdOrigin=BROWSELINK). | Local authorities hold the most up to date and detailed information on defences in their area (existing and proposed), including condition inspections/assessments. | Mapped outputs can be published in the SFRA mapping if allowed by the associated permissions in place.  Unmapped information can be captured in the text of the SFRA report. |
| **SEPA guidance on** [**climate change allowances**](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Ffxjgfjmf%2Fclimate-change-allowances-guidance.docx&wdOrigin=BROWSELINK) **for flood risk assessment in land use planning** | This guidance provides regional uplift values for Scotland, indicating how much peak rainfall, river flows and sea levels are expected to rise – over the current understanding of flood causes – due to climate change. National Planning Framework 4 states that for planning purposes, at risk of flooding or in a flood risk area means land or built form with an annual probability of being flooded of greater than 0.5% which must include an appropriate allowance for future climate change (…). An appropriate allowance for climate change should be taken from the latest available guidance and evidence available for application in Scotland. SEPA’s guidance represents the latest available guidance and evidence available for application in Scotland.  Users should be aware that the climate change uplifts used in this guidance are based on different projections to those used in some of our Future Flood Maps. These differences exist because both the maps and the guidance are based on UK climate projections, which are updated regularly due to improvements both in our understanding of climate and in how well the climate can be modelled. The task of updating the national flood maps in line with changing data is significant, and so updating the mapping takes longer than updating our guidance.  For coastal flooding and for river flooding for larger catchments the maps generally use uplifts that are smaller than the allowances in the guidance, with some exceptions.  For smaller catchments, there remain differences in the uplifts between the river maps and the guidance. For surface water flooding and for flooding from small watercourses (catchment area less than 10km2) the uplifts used in the surface water flood maps and the allowances in the guidance are based on the same climate projections. More information on this can be found in our [explanatory note on the difference between our guidance and the future flood maps](https://www.sepa.org.uk/media/zu0fbcv3/futurefloodmap_explanatory_note_version_4_november_2023.pdf).  This difference should be considered when interpreting the Future Flood maps, particularly in areas close to the edge of the flood extents where additional climate change increases in flooding could cause inundation in areas not currently shown to be at risk. If any more detailed assessment of flood risk is undertaken, as part of the SFRA or at a later date, to inform more detailed development design or layout, the most recent climate change allowances from the guidance should be used. | The [SEPA guidance on climate change allowances for flood risk assessment in land use planning](https://www.sepa.org.uk/media/594168/climate-change-guidance.pdf) can be accessed on our website.  The guidance contains links to source data and references where more detail can be found if required. | The applicable allowances for your plan area can be captured in the text of the SFRA report. |
| **Local Flood Risk Management Plans and Flood Risk Management Plans** | These plans identify ongoing and future actions that are needed to manage flood risk, and which communities those actions are planned for. They can be used to help identify areas that could be protected in the development plan for flood management purposes. | [Flood Risk Management Plans are available on the SEPA website](https://www2.sepa.org.uk/frmplans/).  Local Flood Risk Management Plans available on local authorities’ websites. | These plans can be linked to in the SFRA report. |
| **Surface Water Management Plans** | These plans set out information on opportunities and actions to reduce surface water flood risk, as well as known drainage capacity issues, some of which could be delivered through the development plan. | These plans are prepared by local authorities. | Mapped outputs can be published in the SFRA mapping if allowed by the associated permissions in place.  Unmapped information can be captured in the text of the SFRA report. |
| **Adaptation Plans and Coastal Change Adaptation (Shoreline Management) Plans (CCAP)** | These plans set out how the management of the coast can be undertaken, taking account of coastal erosion and sea level rise. All coastal Local Authorities have received funding to produce a CCAP. They include information on coastal management policy such as set-back zones, land required for future action, or land use change, which can be identified and protected in the development plan. Scottish Government has published [Coastal Change Adaptation Plan Guidance](https://www.dynamiccoast.com/cca) to assist local authorities in preparing these plans. | These plans are prepared by local authorities. | Mapped outputs can be published in the SFRA mapping if allowed by the associated permissions in place. Unmapped information can be captured in the text of the SFRA report. |
| [**Dynamic Coast**](#DC) | This primarily mapped dataset documents erosion and coastal change in Scotland, highlighting places where erosion alone will be a significant future challenge, and where it may increase the risk of flooding in future. The maps show historical coastal change and projections of past erosion rates into the future. Dynamic Coast shows that coastal erosion and erosion-enhanced flooding is a current threat, with the greatest number of current coastal flood-prone areas expected to be breached within this decade, rather than later in the century. Coastal erosion is expected to contribute to more frequent coastal flooding. It is not possible to separate erosion and coastal flooding where an eroding coast fronts or is adjacent to a low-lying area.  The data in Dynamic Coast is suitable for regional-scale assessment, and should be included as a key dataset in the SFRA for coastal planning authorities. | All of the information on the Dynamic Coast is available on the [project website](https://www.dynamiccoast.com/). | The data is available to download, and the mapped outputs can be published in the SFRA mapping. We recommend the erosion maps be included in the SFRA mapping; any addition datasets can be included at the discretion of the planning authority. |
| **Natural Flood Management Maps** | These maps show areas where there are opportunities for alteration or restoration of natural features to help manage flood risk. They are of a strategic nature and are primarily to support flood risk management planning decisions at the catchment level and along coastlines where the implementation of the specified nature-based techniques could be most effective and merit further investigation. Five natural flood management maps are available: run- off reduction; floodplain storage, sediment management, estuarine surge attenuation and wave energy dissipation. The Natural Flood Management map is available to local authorities but are restricted by licence, which means it cannot be published externally in the SFRA mapping. However, it can be used internally. | These maps were produced by SEPA and are available on [our website.](https://map.sepa.org.uk/floodmap/map.htm) | The SEPA webpage can be linked to in the SFRA report. The mapped outputs may not be published in the SFRA mapping. |
| **Section 16 Assessment of risk from the sewer network maps** | The Section 16 maps should only be used by local authorities for an internal sense check to identify areas of difference between them and the SEPA surface water and small watercourses maps, which could be worthy of further investigation, for example where sewer networks move water across natural catchment boundaries resulting in flooding that would not be expected to occur solely from rainfall. | These maps are held by Local Authorities. | **This data should not be published externally due to the data sharing agreements in place and should not feature in any published SFRA dataset or report.** The purpose of highlighting in this table is to help identify areas of misalignment which could be worthy of further investigation. |

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1. SEPA's primary objective in engaging with LDPs on the issue of flood risk is to minimise the number of sites allocated that are not supported by NPF4 Policy 22, and so in the spirit of helping to front-load the LDP process, as well as reviewing the SFRA we will also request that the planning authority’s Site Appraisal Methodology (which may also form part of the Evidence Report) includes questions/criteria related to flood risk. We will ask that the questions/criteria specify for every site that at the time of its assessment either (i) its flood risk is fully understood (which could be via the SFRA, for example a site is clearly shown to be within or outwith an area of flood risk) or (ii), if not, that a Flood Risk Assessment be undertaken at that stage to ensure that it is. This will provide certainty at as early a stage as possible in the plan preparation process for all stakeholders and will ensure that only sites that are supported by NPF4 Policy 22 are included in the Proposed Plan. [↑](#footnote-ref-2)
2. Setback zones are referenced in [Scottish Government Coastal Change Adaptation Planning Guidance](https://adaptation.scot/take-action/coastal-change-adaptation-plan-guidance/) as ‘adaptation space’ and defined as ‘Intentionally leaving ground available for the natural future migration of coastal features e.g. Dunes as a result of sea level rise or coastal erosion or making space for displaced assets to relocate’. Historically, many of our beaches and dunes have successfully adjusted to past sea level rise by migrating inland where space has been available and therefore it is important that this space is set aside to mimic these natural processes.

   These zones should be identified in local authority Coastal Change Adaptation Plans (CCAP) and have a management plan to allow for movement and therefore are not suitable for development. The CCAP forms part of the evidence for the LDP, which should identify these areas. [↑](#footnote-ref-3)
3. Note that version 1 of this guidance recommended inclusion of SEPA’s Reservoir Inundation Maps as a source of information in the SFRA. This recommendation has been removed from version 2. [↑](#footnote-ref-4)