

Potentially Vulnerable Areas for Flood Risk Management in Scotland 2024

Consultation summary report



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Overview

What are Potentially Vulnerable Areas (PVAs)?

Potentially Vulnerable Areas (PVAs) are areas where the highest flood risk exists now or is likely to occur in the future. They help Scotland understand and prioritise where actions to manage flooding would be of most benefit. We identify these areas using information from the National Flood Risk Assessment (NFRA) and through consultations with stakeholders.

Why did we review PVAs in 2024?

SEPA is responsible under the Flood Risk Management (Scotland) Act 2009 for reviewing and where necessary updating the NFRA and PVAs every six years. The first PVAs were published in 2011, and then updated in 2018. Thereafter they must be reviewed and updated every 6 years.

How did we review PVAs in 2024?

Based on feedback from our partners and the public, the main change for the 2024 PVA review was a move to community scale PVAs. The PVAs were then reviewed using the NFRA.

The 2024 review of the NFRA focused on new data acquired since 2018. This included new records of where flooding had happened, public and partners feedback from other recent consultations, and information from local authority flood studies submitted to us. For more information you can visit SEPA's flood risk management planning section on the [flooding page](#).

We proposed **450 communities** as PVAs for public consultation after discussions with our partners, including local authorities.

How did we consult the public on the reviewed PVAs?

A full public consultation on the proposed PVAs was held between the 25th of March and the 25th of June 2024. We invited anyone interested in flood risk management to take part in the consultation. We ran a communication campaign using social media, newspaper notices, and press releases, to encourage anyone with an interest in flooding to have their say on the proposed PVAs across Scotland. In total we received 410 responses, with the majority of those responses (331) coming from members of the public.

Consultation Summary

The 2024 consultation on Potentially Vulnerable Areas (PVAs) for flood risk management received 410 responses, showing a 68% increase in public engagement compared to 2018. Of these responses, 331 came from members of the public, with additional input from community councils and other stakeholders.

We asked:

As part of our review of Potentially Vulnerable Areas (PVAs) for flood risk management in Scotland, we asked for your views on:

- Moving to community-scale PVAs.
- Designating specific communities as PVAs.
- Improving SEPA's flood preparedness tools and resources.

You said:

- 64% of you agreed with our approach, describing it as sensible and fair. However, 10% of you disagreed, raising concerns about gaps in addressing surface water flooding and the accuracy of our flood data.
- 71% of you supported the move to community-scale PVAs, saying it made the designations clearer and more relevant locally. Some of you, however, expressed concerns about how this change might shift responsibilities for flood management.
- 52% of you agreed with the proposed designations for your local areas, but 33% disagreed, citing concerns about flood data accuracy, potential impacts on property sales, and insurance premiums.
- You told us that our flood preparedness resources need to be more user-friendly and accessible.

We did:

We discussed your feedback with local authorities and made several changes to community designations. We added Finavon and Kinbuck as new PVAs based on evidence received from the consultation. We expanded the boundaries for Bannockburn and Oban to better match their community boundaries. For Golspie, we updated the PVA description to clarify the flood risks. Additionally, we will use your feedback to improve SEPA's flood tools, making them easier to understand and use. These changes will help us refine our flood risk management plans to meet community needs.

Summary of PVA consultation responses

Who responded

In total we received 410 responses. These included 390 online responses submitted via a consultation platform on citizen space, and 20 e-mail responses received via our flood risk management planning mailbox. The previous PVA consultation held in 2018 received a total of 263 responses, with 197 coming from individual members of the public or community groups. The increase in the number of responses received from the public, from 197 to 331, is welcomed. This reflects an increase in awareness of flooding, climate issues and flood risk management. Figure 1 shows the number of responses received by respondent category. Within the 'other' category, 24 responses were from community councils. We worked closely with local authorities to agree on the areas to put forward as PVAs before launching the public consultation. This explains why not all local authorities subsequently submitted a formal consultation response, given their close involvement in the review process. More information on the geographical distribution of consultation responses is available in Annex 3.

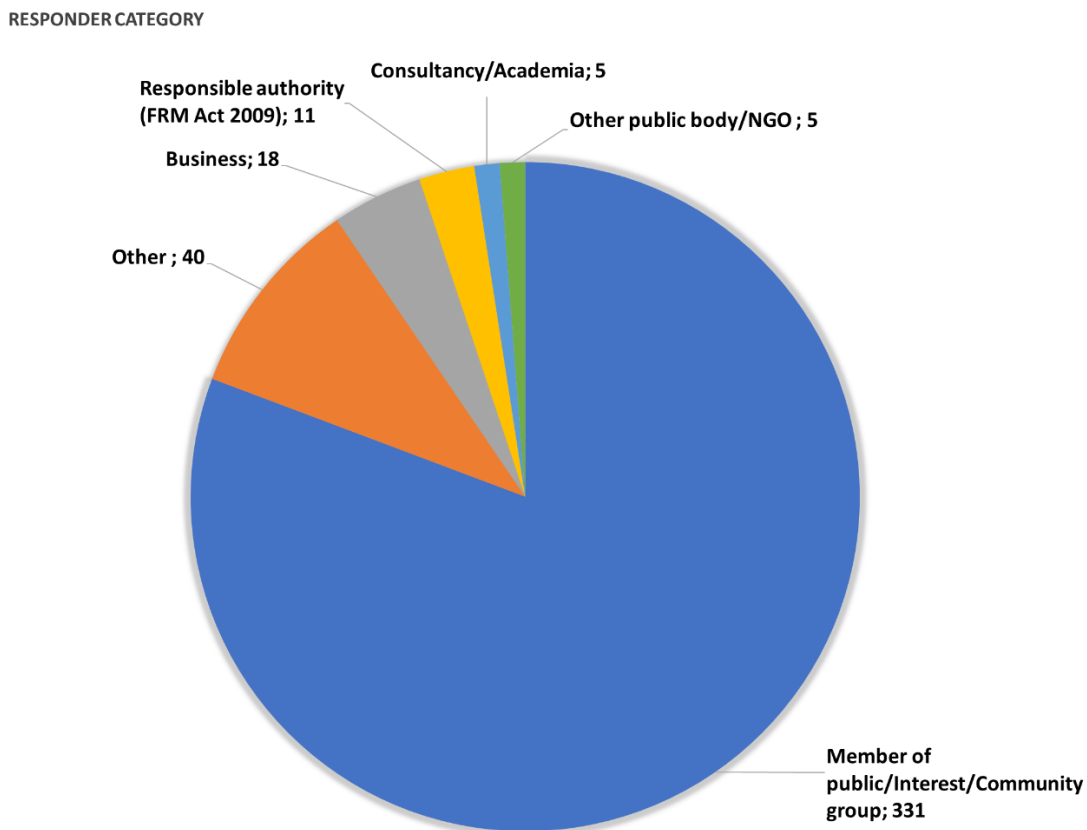


Figure 1. PVA consultation 2024 respondent category type

PVA 2024 review methodology

We asked: Do you agree or disagree with the approach taken to review the PVAs?

In this question we asked you for your views on how we reviewed the PVAs. We used flood risk information readily available to us, local flooding information provided by our partner organisations, and flooding evidence provided by the public in previous consultations.

You said: There was broad agreement with the approach taken to review the PVAs (261 out of 410 respondents). Figure 2 shows the distribution of responses. Many of you told us that our approach seemed fair, and that the frequency of the review was about right. The main issues raised were lack of trust in SEPA data, including perceived inaccuracies in SEPA flood maps, missing flood event records, and lack of inclusion of relevant planning and development decisions. You also shared concerns that our approach focused too much on river and coastal flooding, overlooking surface water issues, and was not effective in the face of a changing climate. Some of you said we didn't provide enough detailed information to help you make informed decisions.

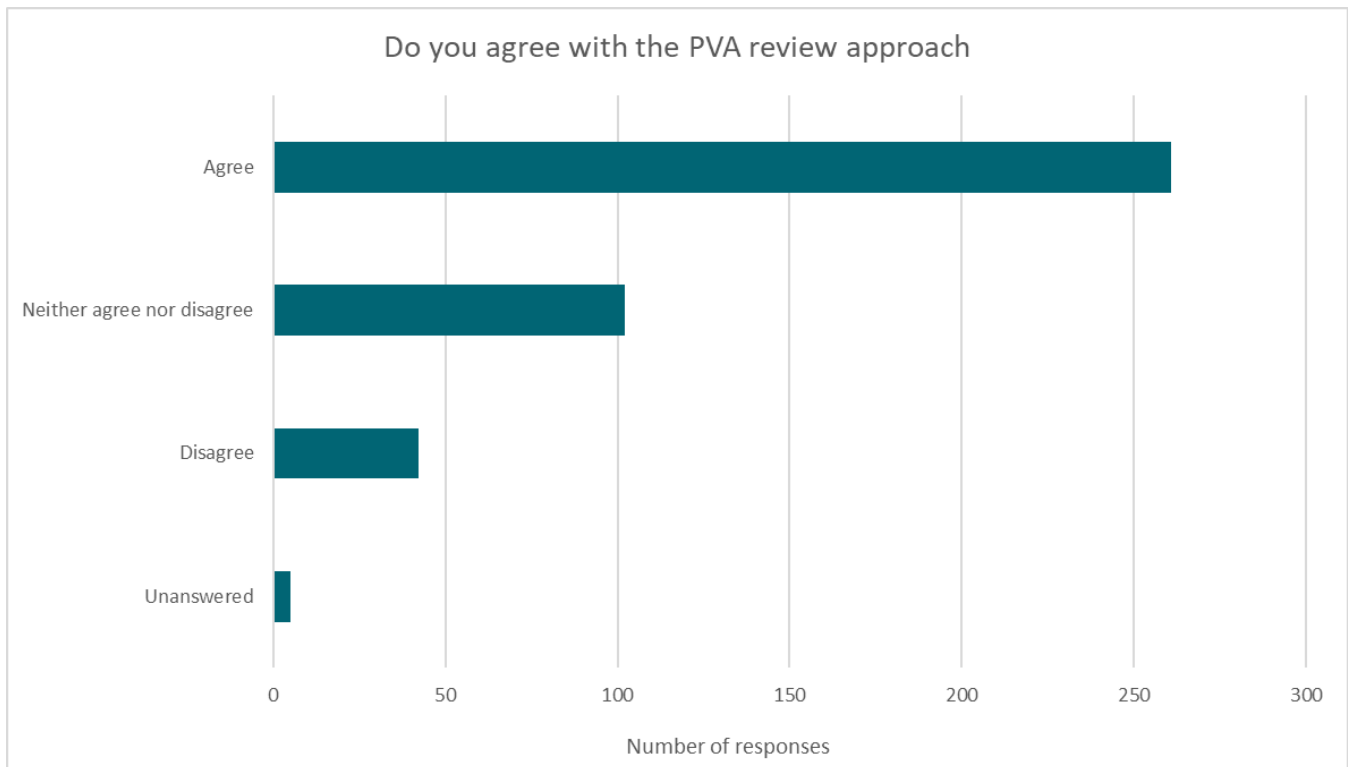


Figure 2. Distribution of responses to the question on PVA review approach.

We did: You raised concerns over the accuracy of SEPA data. The national flood risk assessments carried out by SEPA use data and methods that are applied at a national scale, ensuring a consistent approach across the country. We always aim to use the best national data available to us, supplemented where possible with local information. However, this means that some details have to be simplified (which is done in standard ways), and that the data can only be updated periodically. We are in the process of completing projects to improve our understanding of flood risk to communities in Scotland. We will use this information in the next flood risk management plans review in 2027 and the PVA review in 2030.

Some respondents raised concerns over the exclusion of surface water flooding from the PVA review process. The assessments did include surface water flooding, and there are 57 PVAs designated specifically due to the risk of surface water flooding, and 282 PVAs that have surface water flooding as a contributing factor. We will use the feedback received to inform how we provide information in future consultations and publications.

PVA scale

We asked: Do you agree with the move to community scale PVAs?

In this question we asked you for your views about changing the scale of the PVAs from large catchment-based areas to community based PVAs.

You said: There was a strong agreement with the proposed change in scale of the PVAs (293 out of 410 respondents). Figure 3 shows the distribution of responses. The main reasons for supporting community based PVAs were increased clarity, greater use of local knowledge to inform local decisions, and the provision of solutions that are relevant to the communities and their unique challenges. The main issues raised were lack of clarity over what community scale means in practice and lack of information as to why some communities are no longer within a catchment PVA and are not proposed as a community PVA. Concerns were also raised as to whether this meant a shift in roles and responsibilities for flood risk management from responsible authorities to communities. Some of you highlighted that PVAs should be catchment based to effectively address root causes of flooding, challenges of climate change, and to include critical infrastructure.

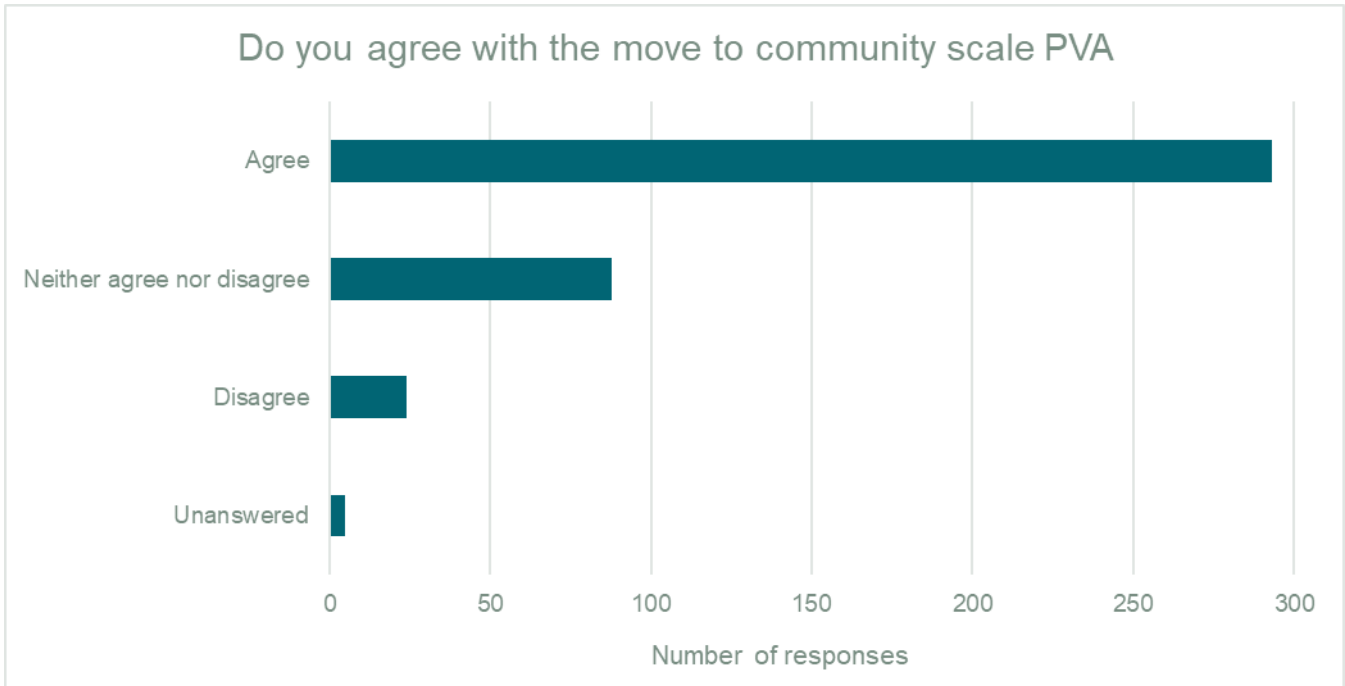


Figure 3. Distribution of responses to question on PVA scale change.

We did: We welcome the level of support for community based PVAs. We will use the feedback received from the consultation to inform how we show information in future consultations and publications to improve clarity and understanding of our proposals. This includes what community scale means and what does it look like in practice for flood risk management purposes.

Not every community in Scotland with flood risk can be designated as a PVA. PVAs are areas of highest flood risk that require a coordinated response to flooding involving multiple agencies. Community based actions to manage flood risk can be as effective as those taken by responsible authorities. In addition to actions by responsible authorities, community-based actions will be critical for improving long term resilience to flooding in Scotland. A catchment-based approach is key to delivering coordinated and sustainable actions to manage flood risk. This approach is embedded throughout the flood risk management planning process.

PVA status

We asked: Do you agree with the PVA status of your community?

In this question asked you for your views on the proposed PVA status of your community. Some of you answered to the PVA status question for more than one community. We received feedback on PVA status for 233 communities from 443 respondents.

You said: Out of the 443 respondents, 230 agreed with the PVA status of the community they identified and 146 disagreed with the status. Figure 4 shows the distribution of responses.

Those who agreed with their community being identified as a PVA had experienced flooding during their time living in the community. Other respondents agreed with their community not being identified as a PVA as they don't believe they are at risk.

The main issues raised for those who did not agree with their community PVA status were lack of trust in SEPA data including flooding records, flood risk data, sources of flooding, and the impacts of other factors such as hydropower management on flood risk.

Other concerns raised were:

- The impacts of being in a PVA on property sales and insurance.
- What responsibilities local authorities would have to communities that flood but are not identified as a PVA?
- Whether SEPA had considered sea level rise and increased future flood risk to coastal communities currently not identified as a PVA.
- Some respondents highlighted the difficulties in using the consultation platform to find data and information.

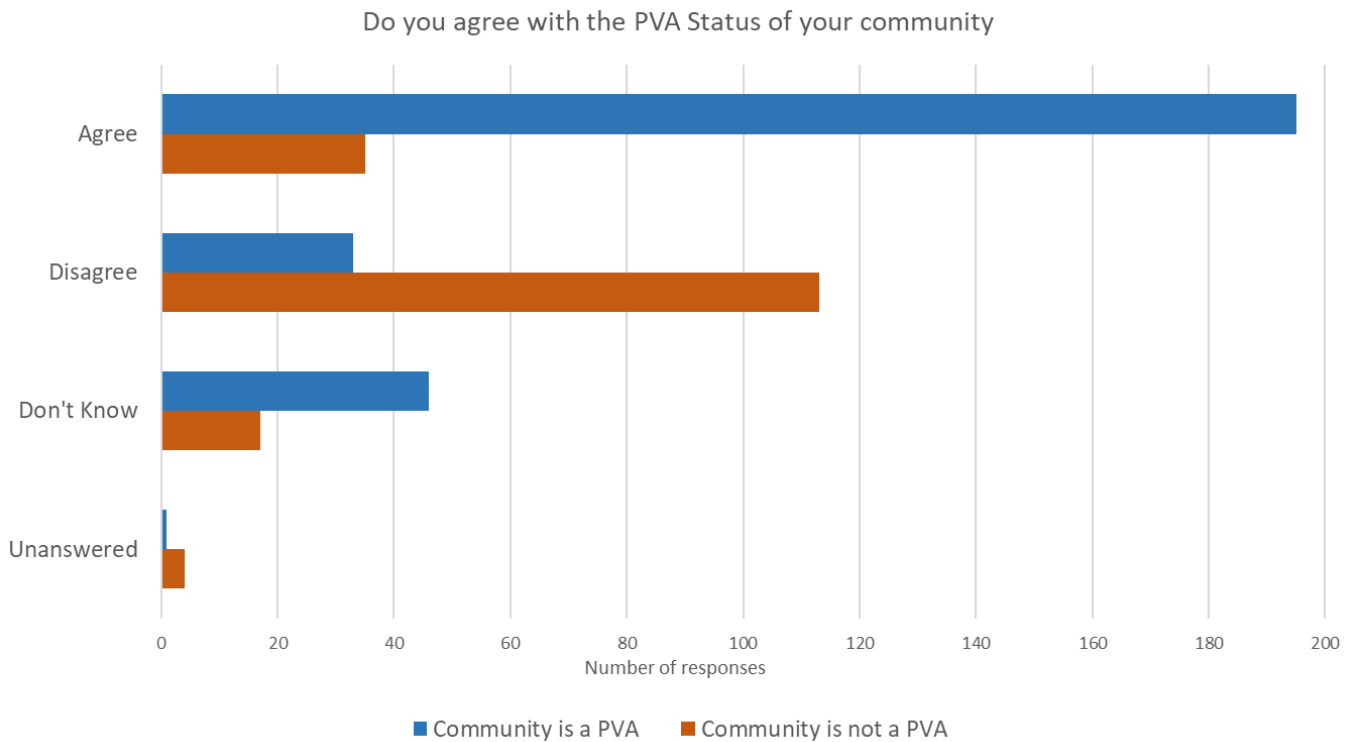


Figure 4. Distribution of responses to question on community PVA status.

We did: We reviewed all the responses and evidence provided to us via the consultation platform. Following this review and discussions with the relevant local authorities, we changed the PVA status of two communities: Finavon and Kinbuck. We also made other adjustments that are described in Annex 1.

SEPA's national flood risk assessment, used to identify PVAs, does consider the flooding impacts associated with climate change using scenarios based on the UK Climate Projections 2009 (UKCP09) analysis. This information, along with records of past flooding and local data from flood studies, was deemed the most effective method for reviewing the PVAs and assessing the related impacts of climate change.

Not every community in Scotland with flood risk can be designated as a PVA. PVAs are areas of nationally significant flood risk that require a coordinated response to flooding involving multiple agencies. Other flood risk management actions that apply to all areas at risk of flooding, not just those designated as PVAs, will still apply. They are outlined in the existing local [flood risk management plans](#).

As previously stated, PVAs are to be established at the community level, meaning they are not designed to pinpoint individual properties at risk. Instead, they serve to identify communities that would benefit from coordinated flood risk management actions. Not every property within a PVA is at risk of flooding, and similarly, some properties outside of these areas are at flood risk. Therefore, simply being designated as a PVA should not influence property sales or insurance premiums.

We engage with the Association of British Insurers and UK Finance about the appropriate use of our flood hazard maps. They have not been explicitly designed for property level flood risk assessments. They instead represent the risk of flooding to an area, rather than to individual property. Insurance companies have their own processes for assessing flood risk when setting premiums. These may include indicators such as distance from a watercourse and history of previous flooding claims in an area. They review these processes periodically. These decisions are not publicly available and SEPA has no input into them.

Summary of other consultation responses

We asked: Would you like to provide evidence to support your comment on PVA designation? For example, a photograph?

In this question we sought more flooding information on the respondent's community.

You said: Out of a total of 443 responses, we received additional evidence for 129 of them. All the evidence received related to previous flood events.

We did: We used the flooding evidence you provided to review the PVA status of your community. It will also be used to inform the next review of the flood risk management plans in 2027. Additionally, some of this evidence will also be added to SEPA's flood event database and be used to inform the review of our flood maps.

We asked: Do you use any of the following SEPA flood products?

We asked you for your views to understand which flood related SEPA products people were using and whether they accessed information on flooding from other sources.

You said: Nearly all of the respondents use some SEPA service. The most used products were Floodline (for flood warnings), Live flood updates, and Check your flood risk. Some of you also mentioned using other products for flood resilience related information not provided by SEPA, such as, weather forecasts, property flood resilience measures, Rivertrack, and flood resilience groups.

We did: We will use the responses to inform future work on the accessibility of our products. Our goal is to ensure that our information is relevant, user-friendly, and enhances people's understanding of flood risk and the actions they can take to increase their resilience.

Summary of other issues you have raised to us

Several respondents expressed flooding concerns that were not directly related to the consultation questions, yet they are still important issues that need to be addressed. In this section, we will summarise those concerns and our responses to them.

You said: Lack of visible progress on actions in the current cycle of flood risk management plans

Our response: We are nearly half-way through the current flood risk management planning cycle (2022 – 2028). Under the Flood Risk Management (Scotland) Act 2009, SEPA and responsible authorities with actions in the local flood risk management plans are required to review progress towards implementing these actions. It is the responsibility of the lead local authorities to publish the outcomes of the review within interim and final reports. The next review is due by the end of 2025.

You said: Lack of community involvement in designating PVAs.

Our response: We value the input of local knowledge into the process to identify areas of significant flood risk. As well as the formal public consultation, we incorporated local insights gathered from public and partners feedback from previous consultations, and workshops conducted with local authorities and advisory groups across Scotland. These workshops allowed local authorities, flood officers and others to share their expertise, informing our decision-making process. The consultation also offered other organisations and members of the public the chance to suggest improvements to our proposals. As a result, we believe we have struck the right balance between conducting a strategic national assessment and consideration of local issues.

You said: Lack of communities' and community councils' access to funding to take action that reduces their level of flood risk.

Our response: The responsibility for allocating central capital funding for flood mitigation projects lies with the Scottish Government and COSLA. They are currently reviewing how future FRM funds will be distributed. We will provide a summary of the feedback received from this consultation to help inform the funding review. In addition to this, the Scottish Government have recently consulted on their flood resilience strategy, which look to have a greater role for

communities to help create flood resilient places. This strategy is due to be published in December 2024.

You said: Lack of inclusion of coastal and riverbank erosion as a factor that increases flood risk.

Our response: The Flood Risk Management (Scotland) Act 2009 does not give SEPA responsibilities regarding coastal and river erosion. However, we are aware that erosion and flooding are heavily linked and, as a consequence, we used coastal erosion information from the Dynamic Coast project and river erosion potential in the development of objectives and actions for the FRMP 2022. We will use updated information to consider how erosion increases the impact of flooding when developing the next FRMP for 2028.

You said: Drainage/sewage systems not able to cope with increased rainfall levels and number of properties connected to them.

Our response: Surface water flooding is a big issue in Scotland. It happens during high intensity rainfall, when surface water run-off flows and ponds on the ground, and when sewers and other artificial drainage systems become inundated with rainwater. Scottish Water is responsible for managing sewer systems that are designed to manage 'everyday' rainfall. Scottish Water also helps to protect homes from flooding caused by sewers either overflowing or becoming blocked. Further information on Scottish Water's responsibilities can be found here [Flooding and Scottish Waters Responsibilities - Scottish Water](#).

It is not possible to build underground urban drainage systems that are large enough to accommodate the most extreme rainfall. Instead, extreme rainfall and resultant surface water run-off should be managed safely above ground avoiding harm to people, homes, businesses, and other adverse impacts of flooding. In areas of significant risk from surface water, local authorities produce and implement surface water management plans. These are produced in partnership with Scottish Water. Further information on where surface water management plans are being produced can be found in the [flood risk management plans](#).

You said: Lack of maintenance of flood defences/banks and rivers/gullies

Our response: The Flood Risk Management (Scotland) Act 2009 includes responsibilities for local authorities to assess the condition of watercourses for their potential to cause flooding.

Where appropriate, they can carry out clearance and repairs where it would significantly reduce flood risk. In areas where land is privately owned, there are responsibilities on landowners to manage their land using guidance from SEPA on protecting the natural environment. Local authorities are also responsible for maintaining the flood protection schemes they own. Any privately owned defences will be the responsibility of the owner.

You said: Lack of consideration of vital infrastructure outside communities or between communities that has a significant impact when flooded.

Our response: Communities and infrastructure at risk were identified using information from the NFRA and in consultation with various partners. The NFRA used a combination of scientific data, historical flood information, and local knowledge. We considered the risk to people, properties (including homes, businesses, community facilities and utilities), infrastructure, and protected sites. Other influencing factors such as the unique vulnerabilities of different communities to flooding, the impact of erosion, and climate change were also included.

Some communities have been designated as PVAs specifically due to risk to vital infrastructure. For example, Kerrysdale in the Highlands has been identified as a PVA due to flooding of the A832 and B8056 roads. This is because of the impact that flooding has in cutting off the communities of Badachro, Port Henderson, Opinan, South Erradale and Redpoint from essential services.

It is important to note that the absence of a community or infrastructure from the PVA list does not imply that flood risk management actions will not be undertaken. Responsible authorities are aware that flood risk management is not limited to PVAs.

Annex 1: Adjustments to the PVAs based on the consultation

1. Communities where adjustments were made:

- **Bannockburn:** We expanded the Bannockburn PVA boundary to match the community boundary after discussions with the local authority.
- **Finavon:** We added Finavon as a new PVA based on your feedback. Nearly 75% of consultees who responded about this community requested its inclusion as a PVA. A review of the flooding impacts identified them as being worse than previously thought. A coordinated plan is required to manage flooding. The local authority is now assessing the flood risk.
- **Golspie:** We updated the PVA designation description to clarify the flood risk sources.
- **Kinbuck:** The community of Kinbuck has been added as a new PVA. Local studies have shown that the flood risk in this area was previously underestimated. The local authority has provided new evidence to support the designation as a PVA.
- **Oban:** The local authority requested that the Oban PVA boundary be expanded to better represent the community boundary.
- **Plantation:** The Plantation PVA has had its name changed to *Ibrox and Kingston*. The official neighbourhood's name for this area is Ibrox and Kingston. The PVA name has been updated to match.
- **Stirling:** The local authority requested that the Stirling PVA be expanded to better represent the community boundary.

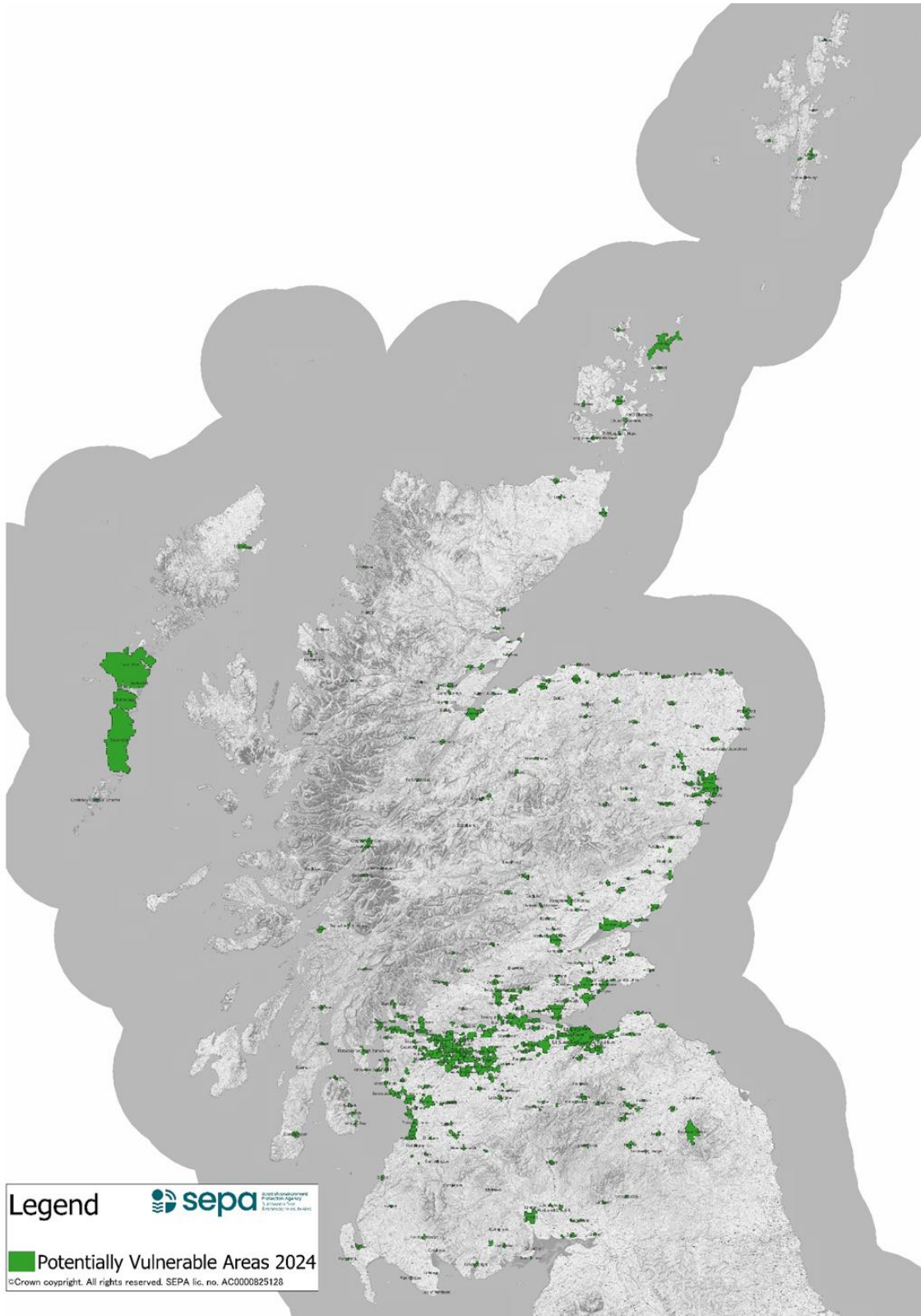
2. Communities where adjustments were not made:

- **Auchleven:** The community of Auchleven was not identified as a PVA. There is a recognised problem with flooding from surface water and a small watercourse affecting several properties in Auchleven. However, the collective risk in Auchleven is thought to be less than in other communities and unlikely to require a coordinated multi-agency response. This area will be kept under review in future flood risk management planning cycles.
- **Challoch:** The community of Challoch was not identified as a PVA. There is flood risk in this community, however, the consultation has not shown that it would require a multi-agency response for the management of the identified flooding issues.
- **Colvend:** The community of Colvend was not identified as a PVA. There is flood risk in this community, however, the consultation has not shown that it would require a multi-agency response for the management of the identified flooding issues.
- **Crocketford:** The community of Crocketford was not identified as a PVA. There is flood risk in this community, however, the consultation has not shown that it would require a multi-agency response for the management of the identified flooding issues.
- **Fortrose:** The community of Fortrose was not identified as a PVA. There is a recognised problem with flooding from surface water and a small watercourse affecting a small number of properties in Fortrose. The local authority and Scottish Water have routine maintenance actions and investigations ongoing, that will continue. This area will be kept under review in future flood risk management planning cycles.
- **Kirkton:** A proposed PVA boundary change was discussed with the local authority. The decision was made to retain the current boundary as it correctly reflects the community.
- **Mainsriddle:** The community of Mainsriddle was not identified as a PVA. Flood risk in this community is not considered nationally significant.
- **Musselburgh:** Six out of ten consultees who responded about this community disagreed with it being a PVA. Both SEPA and the local authority's flood risk assessments indicate a significant risk to the community, which in the case of a flood would require a coordinated

multiple agency response. This is supported by reports of previous flooding in the community. The PVA status is, therefore, justified and unchanged.

- **Romannobridge:** The community of Romannobridge was not identified as a PVA. There is flood risk in this community, however, the consultation has not shown that it would require a multi-agency response for the management of the identified flooding issues. The local authority has carried out works to manage the risk.

Annex 2: Map of Potentially Vulnerable Areas

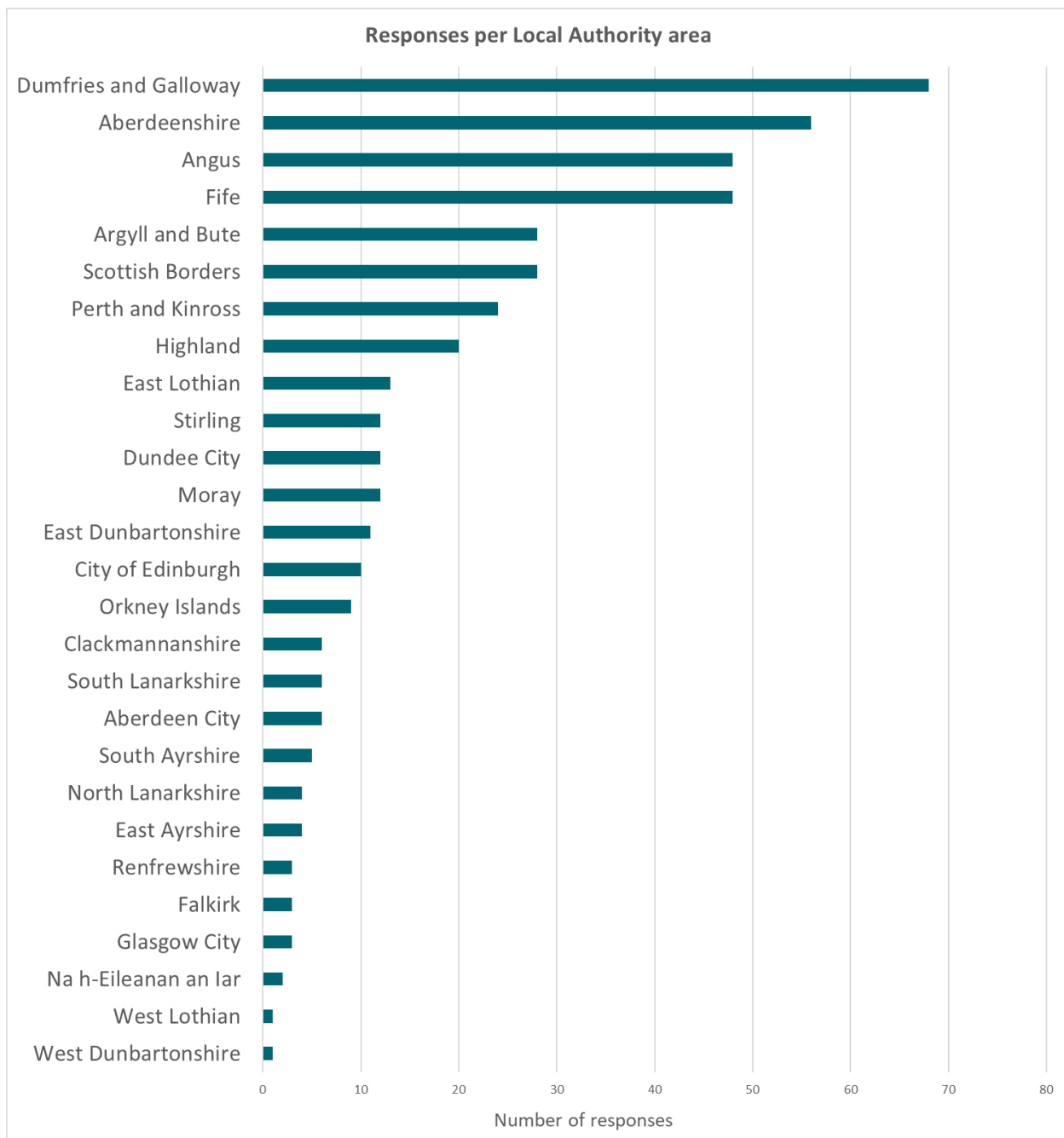


More information and close up view of PVAs can be found here [Potentially Vulnerable Areas \(PVAs\) 2028-2034](#)

Annex 3: Geographical distribution of consultation responses

Responses per Local Authority area

The highest number of responses (68) were received for the Dumfries and Galloway Council area. This was followed by Aberdeenshire Council (56), Fife Council (49), and Angus Council (48). With the exception of responsible authorities, there were no other responses in the local Authority areas of East Renfrewshire, Inverclyde, Midlothian, North Ayrshire, and Shetland.



Distribution of responses across Scotland

Map of communities where we received a response related to PVA status.

