

Respondent Information Form

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Are you responding as an individual or an organisation?

- ☐ Individual
- ☒ Organisation

Full name or organisation's name

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The Scottish Government would like your permission to publish your consultation response. Please indicate your publishing preference:

- ☒ Publish response with name
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- ☐ Do not publish response

Information for organisations:

The option 'Publish response only (without name)' is available for individual respondents only. If this option is selected, the organisation name will still be published.

If you choose the option 'Do not publish response', your organisation name may still be listed as having responded to the consultation in, for example, the analysis report.

We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

- ☒ Yes

☐ No

Questionnaire

Question 1

Do you support the change from fixing flooding problems to creating flood resilient places?

☒ Yes

☐ No

Please give reasons for your answer.

In principle YES. A wider view of flood resilience is helpful but it is likely that considerable hard engineering will still be required to protect people and property and must be included as part of resilience. Involving communities in discussion about flood resilience and protection is beneficial.

The evidence for natural flood management to provide sufficient protection from flooding in all cases is not available. BGS have been involved in several research projects examining natural flood management and the evidence of their efficacy particularly for the more severe storms is lacking (<https://doi.org/10.1016/j.ejrh.2023.101398>; <https://doi.org/10.1016/j.ejrh.2021.100834>). Such projects can inform future flood reliance approaches, based on robust scientific evidence.

Question 2

How can decision makers ensure that actions taken to improve flood resilience align with the aims of a Just Transition to achieve a fairer, greener future?

It is important that decision makers take the entire catchment area of a river into account, since it is the cumulative water catchment during storm events that can cause flooding downstream. This is potentially problematic, as Local Authority boundaries rarely coincide with catchment boundaries. In addition, natural flood management schemes may involve taking agricultural land out of productive use and this needs to be accounted for.

Question 3

Who do you think has a role in Scotland to help us become more flood resilient and to help us adapt to the impacts of climate change?

Please rank from 1-12, where 1 is the most important.

- ☐ 9. Individuals
- ☐ 8. Homeowners
- ☐ 8. Businesses
- 1. ☐ Scottish Government.
- ☐ 4. Scottish Water
- ☐ 3. Local Authorities
- ☐ 2. Scottish Environment Protection Agency (SEPA)
- ☐ 6. Land owners/land managers
- ☐ 7. Farmers and crofters
- ☐ 7. Housebuilders/developers
- ☐ 5. Community groups (*but rises to 3 if it concerns a catchment-wide community group*)
- ☐ Others (please specify)

If you selected 'Other', please specify your answer.

Question 4

What support do communities need to become involved/engaged in climate adaptation and flood resilience planning?

Local communities and other stakeholders need access to reliable data and information to better judge the spatial distribution of flood prone areas.

Question 5

What should local authorities be doing to ensure meaningful community participation when taking decisions about improving flood resilience?

NA for BGS

Question 6

What would help communities understand their current and future flood exposure and the range of options available to them to help them become more flood resilient?

Please rank from 1-6, where 1 is the most important.

- ☐ 2. Access to flood maps showing current and future flood exposure
- ☐ 3. Access to local flood history
- ☐ Access to information on community “self-help” options.
- ☐ 4. Access to flood resilience advice/support
- ☐ 5. Access to information on the range of flood resilience options available for their community
- ☒ 1. Others (please specify)

If you selected ‘Other’, please specify your answer.

- 1. Access to information explaining what a floodplain is and where they are found as this information is not necessarily covered by existing flood risk maps, as available through SEPA.
- 2. Additional resources on the nature of the catchments and what conditions can lead to flooding – for example, geology, slope, landcover

Question 7

What actions could **communities** take to improve their flood resilience?

Please rank from 1-5, where 1 is the most important.

- ☐ . Set up a local community flood resilience group. ONLY if it's a catchment-wide group.
- ☐ Develop a local community flood response plan

- ☐ Share local knowledge of what happens during floods with organisations like SEPA and local authorities
- ☐ Link up with their local climate action group
- ☐ Others (please specify)

If you selected 'Other', please specify your answer.

NA for BGS

Question 8

What actions could **householders/businesses** take to improve their flood resilience?

Please rank from 1-7, where 1 is the most important.

- ☐ Learn about flood exposure in their area
- ☐ Invest in property resilience measures, such as installing flood gates, raising electrical wall sockets and using flood resilient building materials.
- ☐ Join a community flood action group
- ☐ Sign up to Floodline for flood alerts and warnings
- ☐ Seek advice on flood resilience
- ☐ Make sure they have flood insurance
- ☐ Other (please specify)

If you selected 'Other', please specify your answer.

NA for BGS

Question 9

What would **you** do to improve your personal flood resilience? (Please rank by importance)

Please rank from 1-7, where 1 is the most important.

- ☐ Find out how exposed you are to floods
- ☐ Sign up to Floodline for flood alerts and warnings
- ☐ Have a personal flood plan ready to put into action when flooding is expected
- ☐ Ensure you know what to do if your property was to get flooded

- ☐ Check your flood exposure before buying or renting a property
- ☐ Make sure you have flood insurance
- ☐ Other (please specify)

If you selected 'Other', please specify your answer.

NA for BGS

Question 10

How can we ensure that our places are designed to be flood resilient in future?

1. Inclusion of geological data, which has been shown by several studies
<https://www.bgs.ac.uk/news/natural-flood-management-is-geology-more-important-than-trees/to-be-the-primary-landscape-control>, will support the identification and mapping of floodplains and flood susceptibility on hillslopes.
2. Provision of a sound evidence base for the efficacy of natural flood management and blue green infrastructure
3. Inclusion of information of the recent geological record, e.g. widespread evidence of past flooding events, in prehistory

Question 11

To what extent do you agree that there is a need to make space for water to improve the flood resilience of our villages, towns and cities?

- ☒ Strongly agree
- ☐ Mostly agree
- ☐ Mostly disagree
- ☐ Strongly disagree

Question 12

In urban areas, we should make more use of our greenspace and urban watercourses to help manage increased rainfall and reduce the impacts of surface water flooding.

Which of the following do you think would be helpful?

Please rank from 1-5, where 1 is the most important.

- ☐ Increasing the use of sustainable drainage systems
- ☐ Creating blue and green drainage networks to enhance existing drainage systems
- ☐ Using available greenspace such parks and sports pitches to help soak up and store water in the heaviest rainfall events to prevent drainage systems becoming overwhelmed
- ☐ Creating raingardens in public parks and streets
- ☒ Other (please specify)

If you selected 'Other', please specify your answer.

All of the above are important. Provision of a sound evidence base for the efficacy of different types of interventions will assist in the identification and prioritisation of which interventions are appropriate in different geographical areas, land use types and environments. For example, where sustainable drainage systems involve increasing water drainage to groundwater there is an increase the risk of groundwater flooding elsewhere in the same catchment.

Question 13

If we are to make more use of our river catchments and coastal areas to increase our flood resilience,

Which of the following do you think would be helpful?

Please rank from 1-7, where 1 is the most important.

- ☐ Using soil, and land management techniques to slow down the flow of water and increase infiltration and water retention.
- ☐ Using river and floodplain management techniques such as re-introducing meanders to rivers to slow flow and enhancing floodplains and wetlands to increase storage.
- ☐ Increasing woodland to help intercept, slow and store water throughout a catchment.
- ☐ Restoring peatlands to absorb, store and release water slowly.
- ☐ Enhancing natural dune systems to maintain a natural barrier that reduces the risk of tidal inundation
- ☐ Managing saltmarsh and mudflats in estuaries to store water and dissipate wave energy.
- ☒ Other (please specify)

If you selected 'Other', please specify your answer.

Previous research (<https://doi.org/10.1111/jfr3.12717>) has shown that the different approaches are dependent both the site location and the local conditions. Generally, techniques to increase floodplain storage are the most effective in the shortest time frame (flow deflectors, leaky dams etc). However, this should be done in tandem with longer terms solutions to increase soil permeability, through remediation and changes in land use.

Question 14

Should moving communities away from areas with the highest flood exposure be considered as an option?

- ☐ Yes
- ☐ No

Please give reasons for your answer.

NA for BGS

Question 15

How might information, guidance, direction and technical support be provided for communities and flood management organisations?

Signposting communities to accessible and authoritative guidance, data and organisations. For example the British Geological Survey (www.bgs.ac.uk) is a knowledge and data-rich organisation with over 400 datasets in its care, providing multiple routes to access and view information.

Question 16

How can we improve efficiency, consistency and value in delivering flood actions?

NA for BGS

Question 17

Other than large flood protection schemes, what other flood resilience actions should we focus on supporting/spending available funding on?

Please rank from 1-9, where 1 is the most important.

- ☐ Maintaining existing flood protection
- ☐ Small flood protection schemes
- ☐ Natural flood management
- ☐ Blue and green infrastructure (e.g. multi-purpose green space, such as floodable sports pitches)

- ☐ Flood forecasting and warning
- ☐ Property level flood resilience measures
- ☐ Supporting local community flood resilience groups
- ☐ None – all funding should be spent on large flood protection schemes
- ☐ Other (please specify)

If you selected 'Other', please specify your answer.

NA for BGS

Question 18

Do you think there is enough evidence and information to support the delivery of a broader range of flood resilience actions?

- ☐ Yes
- ☒ No

If No, please let us know what you think our evidence and information gaps are.

Floodplains and long-term flood risks have historically been poorly defined in Scotland, or not acted upon by planners, resulting in too many properties built in vulnerable locations. Better information and data need to be gathered and analysed, and then passed on to stakeholders.

The efficacy of Natural Flood Management and Blue-Green infrastructure are, as yet, poorly evidenced. More research is needed in this aspect.

Question 19

What other funding sources or mechanisms could be used to support flood resilience?

Please rank from 1-4, where 1 is the most important.

- ☐ Financial contributions from those who directly benefit from improved flood resilience (e.g. private sector/business)
- ☐ All new development makes a contribution to improving flood resilience.
- ☐ Support natural flood management through payments to farmers, crofters and land managers (for example, Forestry Grant Scheme, the future agricultural support framework or PeatlandACTION payments)
- ☐ Other (please specify)

If you selected 'Other', please specify your answer.

NA for BGS

And finally,

Question 20

What is your main concern about flooding?

There is poor public understanding about flooding, flood risk and catchments in Scotland in general, as such there is little information for local communities to make informed decisions about effective actions.

Question 21

What one thing would do the most to improve Scotland's flood resilience?

Geology has an important role to play in flood resilience inclusion of geological information can help support decision making for improving flood resilience <https://www.bgs.ac.uk/news/natural-flood-management-is-geology-more-important-than-trees/>.