

Perth & Kinross Council – Communities Service

Invergowrie Natural Flood Management Study: Community Consultation - Summary of Questions & Answers

Introduction

Perth & Kinross Council recently carried out a natural flood management (NFM) study for Invergowrie and the surrounding area. In September 2022, the Council published an online public consultation event seeking the views of the local community on the draft study outputs.

A newsletter summarising the study outputs was distributed to the local community and also made available on the Council's consultation hub (at <https://consult.pkc.gov.uk/communities/invergowrienfm>) from 6 - 25 September 2022. This allowed residents to view the draft outputs from the flood study. Residents were encouraged to complete the online form provided to record their comments and views.

The Council would like to thank those that took the time to provide their comments.

This report collates the comments received and provides the Council's response to those questions.

Community Response

A total of 3 responses were received. These were provided as a mixture of e-mails and completed comment forms, with each covering several comments and questions. Appendix A (below) provides a list of all the questions along with the Council's response. Those submitting forms have not been named for confidentiality reasons. This report will be distributed to members of the community.

The Next Steps

The Council will now update and finalise the Invergowrie NFM study and report the conclusions to the next available Climate Change and Sustainability Committee. Thereafter, the Council will implement the recommendations of the report.

If you require any further information on the Invergowrie NFM Study, please contact:

Russell Stewart, Engineer (Flooding)
Flooding Team,
Perth & Kinross Council,
Pullar House,
35 Kinnoull Street,
Perth PH1 5GD
Tel: 01738 475000
Email: RSStewart@pkc.gov.uk

Appendix A – Questions and Answers

Q1. The flood maps show my property is at flood risk – how will this affect me and my home insurance premiums?

Although the Council's flood study is available for the local community, it is not being made available for commercial use. Therefore, it should have no direct impact on house insurance premiums. Insurance companies have their own individual means of determining flood risk for the properties they insure or provide policy quotations for.

If you currently live or work in a property or business that is at risk of flooding, then you can install products to help protect it from flooding. The flood study established that property flood protection measures can be an effective way for homeowners and businesses to increase their resilience to flooding. Flood products, such as flood gates for doors and air brick covers, are widely available and are designed to suit a variety of buildings.

The Council would encourage residents at risk of flooding to have a property survey undertaken by a professional contractor to explore the suitability of these products for your home. Unfortunately, we cannot provide financial assistance to residents for the purchase of these products.

The Scottish Flood Forum (Tel 0131 563 9392) can provide you with free independent advice on the selection of suitable products and on any related flood insurance matters.

Home insurance is a private matter for the property owner or tenant. If you are struggling to obtain affordable flood insurance cover then our general advice would be to speak to your neighbours, shop around in the insurance market to even go to a broker if need be. A national scheme - known as Flood Re - has been set up to ensure the provision of affordable flood insurance. Further information is available at the link below.

In some circumstances an insurance company may base its insurance premiums on postcode areas. This may result in properties that are not at risk of flooding being assigned the same premiums as other nearby properties that are at high risk of flooding. If you think this applies to you then please contact the Council's Flooding Team and we may be able to assist by supplying details of the flood study for your insurer to consider.

Further information on property level flood protection products and flood insurance can also be found at the following:

www.pkc.gov.uk/plp

www.scottishfloodforum.org

www.floodre.co.uk

Q2. In terms of the cost benefit calculation:

a) Is the monetary value of the houses affected greater than the value of the works undertaken?

The economic assessment carried out as part of the flood study found that the estimated costs of all the potential options (including both natural flood management measures and traditional flood defences) far outweighed the benefits (the estimates flood damages avoided/reduced) when calculated over time. The benefit cost ratios were all significantly below the value of 1.0 required for the scheme to be economically viable. As a result, no flood scheme has been recommended.

Please also refer to Question 3.

b) What sort of financial impact do you place on the wellbeing of the people affected by flooding?

The economic appraisal included an assessment of indirect and intangible health impacts based on methods outlined in the relevant guidance. The estimation of intangible health benefits sought to place a value on health problems avoided as a result of the proposed options. This included the effects on wellbeing, mental health, flood evacuation costs and loss of income.

Q3. Obviously budget is important but undertaking a piece of work just to conclude that you should not do anything is quite disappointing. Surely the report illustrates that something needs done?

In managing flood risk, the Council must have regard to the economic impact of its actions. The cost of a flood scheme can't exceed the benefits that it provides. Unfortunately, it is never evident if a flood scheme is technically feasible or economically viable until consulting engineers are engaged to carry out the necessary, and often lengthy, detailed study work and investigations.

It can be disappointing when a study isn't able to identify a viable scheme. Part of the outcome in this instance is due to the number of properties at risk of flooding – and the level of flood risk - being less than previously anticipated.

The cost of a flood study is usually small in comparison to the potential cost of constructing a potential flood scheme.

It is important that a detailed investigation is carried out prior to committing to a flood scheme in order to fully understand the flooding mechanisms, and to design an appropriate solution that manages the risk of flooding to existing properties while not increasing flood risk elsewhere. It is with regret that in this case, an economically viable flood scheme hasn't been identified.

Nevertheless, the flood study has recommended a number of actions to help mitigate flood risk in the future and these were set out in Section 4 of the newsletter previously distributed to residents.

The information gathered whilst undertaking the study has increased our understanding of flood risk in Invergowrie. This information will be used to support on-going work to manage flood risk in the area as set out in the updated Tay Estuary & Montrose Basin Flood Risk Management Plan (see <https://www2.sepa.org.uk/frmplans/>) and existing Local Flood Risk Management Plan (see <https://www.pkc.gov.uk/frmplans/>). The actions set out within these plans are summarised below and align with those recommended by the flood study:

- Flood forecasting (Scottish Environment Protection Agency);
- Awareness raising;
- Self-help measures;
- Maintenance (clearance and repair works);
- Emergency plans/response;
- Managing flood risk through the application of development planning policy.

Individuals, businesses and communities must, therefore, play a critical role in supporting these Plans by making themselves more resilient and helping to reduce the impact of flooding.

Q4. During heavy rain, the local drainage system surcharges resulting in my private foul drainage backing up.

The primary focus of the Invergowrie natural flood management study was flooding from the Invergowrie Burn and its tributaries, rather than from the sewer system.

The main drainage system in Invergowrie is a combined sewer. This combined sewer drains foul water (from sinks, toilets, showers, etc), curtilage water (from property roofs and paved areas) and surface water (from roads and other paved areas). Like any drainage system, the sewer has a finite capacity. Once that capacity is exceeded, the drainage system surcharges causing water to spill out into low lying areas of the network from manhole covers, road gullies, or even private property shower trays, toilets, or sinks. Drains and sewers can also become full when something blocks them, and they become choked.

Other areas of Invergowrie may feature a more modern form of construction involving a separate foul and surface water drainage systems. Since 2011, all new developments must manage surface water at source within the development site using sustainable urban drainage systems (SuDS). These systems ensure that the surface water generated on the site is gathered, stored, and attenuated before being released slowly to a receiving drainage system or watercourse. Any release of water from a development must match the pre-development 'greenfield' runoff rate for the site, ensuring that the new development will not increase the existing flood risk elsewhere and will have a neutral impact.

In urban areas, the causes of flooding are complex because of the interactions between rivers, surface water drainage and combined sewer systems and tidal waters. Scottish Water works with SEPA and local authorities to assess these interactions through detailed studies. The Tayside integrated catchment study (ICS) and surface water management plan have been undertaken in the wider Dundee

area, including Invergowrie. However this previous study work demonstrated that there was very little interaction between the Invergowrie Burn and other sources of flooding. Therefore, Perth and Kinross Council did not progress with the ICS which was originally intended to support the surface water management plan process. The main source of flooding – the Invergowrie Burn – has again been studied as part of the recent NFM study with the reported outcome.

It is important that residents report all incidents of sewer flooding directly to Scottish Water so they can fully investigate and help where required. If you experience any internal or external flooding due to the combined sewer system surcharging, you should report this immediately to Scottish Water on 0800 0778 778 or e-mail help@scottishwater.co.uk

See the following link for further information:

<https://www.scottishwater.co.uk/Your-Home/Your-Waste-Water/Sewer-flooding/Report-Sewer-Flooding>

Q5. The report/newsletter states flood depths >1m. What sort of magnitude flood is this and what are the depths >1m?

The newsletter provides flood maps for the estimated 1 in 200-year storm event (with and without an allowance for future climate change). The depth of flood water was illustrated using various shades of blue. However, to limit the complexity of the maps, flood depths greater than 1m were given the same colour band. The estimated flood depths in these areas vary, depending on the magnitude of the flood being considered however flood depths of approximately 1.5m were predicted for the 1 in 200-year event upstream of Invergowrie, and at the junction between Station and Boniface Road.

Q6. What year does the climate change figure of 34% relate?

The estimated precipitation rates were increased by 34% to allow for the impact of future climate change up to 2080.

The 2080 high emission scenario was applied to the Dundee region, and the change in precipitation rate anomaly for the mid-epoch 2050 (2040-2059) time horizon was estimated.