

# Flood Risk Management (Scotland) Act 2009:

## Interim Report:

## Local Flood Risk Management Plan

## Tay Local Plan District



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## Foreword

This Interim Report on the Tay Local Flood Risk Management Plan shows the progress made in delivering the actions to avoid and reduce the risk of flooding, and prepare and protect ourselves and our communities across the local plan district.

*“The impacts of flooding experienced by individuals, communities and businesses can be devastating and long lasting. It is vital that we continue to reduce the risk of any such future events and improve Scotland’s ability to manage and recover from any events which do occur.”*

(Tay Local Flood Risk Management Plan, June 2016)

The publication of this Interim Report shows that the coordinated and collaborative efforts of public bodies can be brought together to deliver sustainable outcomes.

This Interim Report is published by Perth & Kinross Council on behalf of a partnership comprising Angus Council, Fife Council, Stirling Council, SEPA, Scottish Water, Loch Lomond and the Trossachs National Park Authority; Cairngorms National Park Authority and Forestry Commission Scotland.

Individuals are the first line of defence against flooding and have responsibilities to protect themselves from flooding. Through self-help and property level protection, awareness raising and signing up to Floodline, individuals, businesses and communities can, and have, made key contributions to the delivery of the actions in the Plan, which are detailed in this Interim Report.

Since the publication of the Plan in June 2016, public sector finances in Scotland have continued to be under considerable pressure. This places an even greater responsibility on SEPA, local authorities, Scottish Water and other responsible authorities to deliver their flood risk management responsibilities and, in particular the actions in the Plan, to manage flooding in a sustainable way.

SEPA, local authorities, Scottish Water and other responsible authorities will continue to work collaboratively to implement the actions in the Plan to its conclusion in June 2022.

We would like to thank all those who contributed to the development of this Plan which will help shape the way in which floods and their impacts are managed across the Tay local plan district.

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## Chapter 1 - Background

This Interim Report is a legal requirement of the Flood Risk Management (Scotland) Act 2009 (Section 37) and is required to be published between July 2018 and June 2019. The Interim Report includes the conclusions of a review of the Tay Local Flood Risk Management Plan (the 'Plan'), published in June 2016 and includes information on the progress that has been made towards implementing the actions identified in the Plan.

Further details on flood risk management responsibilities in Scotland and the legal requirement for the publication of this Interim Report can be found in Appendix 1.

A copy of the published Tay Local Flood Risk Management Plan can be found at the following link:

[http://www.pkc.gov.uk/media/36487/Tay-Local-Flood-Risk-Management-Plan/pdf/Tay\\_LFRM\\_Plan\\_FINAL\\_with\\_links.pdf?m=636094599123000000](http://www.pkc.gov.uk/media/36487/Tay-Local-Flood-Risk-Management-Plan/pdf/Tay_LFRM_Plan_FINAL_with_links.pdf?m=636094599123000000)

## Chapter 2 - Review of the Plan

This section sets out the conclusions of the review of the Plan and a summary of the progress of actions as detailed in published Tay Local Flood Risk Management Plan. It draws upon the assessment of progress of actions presented in the subsequent sections.

### 2.1 Key Progress in Reducing the Impacts of Flooding since Publication

The following key progress has been made on the actions set out in the published Tay Local Flood Risk Management Plan:-

- Improved Partnership Working – the introduction of the Flood Act has resulted in a more modern, coordinated and sustainable approach to flood risk management. SEPA and responsible authorities are working more closely together than ever before.
- Overall Progress – following a slow start, good progress is now being made on the identified actions across the Tay Local Plan District. Out of the 182 selected actions, 154 have a green status, 24 amber and 4 actions have a red status. While the majority of actions have a green status, a number of these have yet to commence and this will happen over the remainder of the Plan as set out in Chapter 3 of this report.
- Almondbank Flood Protection Scheme - substantially completed in September 2018 benefitting 31 homes and 48 businesses.
- Comrie Flood Protection Scheme – proposals are being developed.
- Pitlochry Flood Study - flood risk in Pitlochry is a priority; the flood study has identified flood risk management measures within the town.
- Aberfeldy, Perth, Kirriemuir and Forfar - flood risk in these areas is a priority and flood protection studies are underway.
- Perth Integrated Catchment Study - Scottish Water and Perth & Kinross Council have been working in partnership to develop a city-wide model.
- Flood Mapping and Modelling Improvements - a number are underway in the Tay Local Plan District by SEPA and other organisations. This will improve the understanding of flood risk across this area.
- Flood Forecasting - SEPA has continued to operate the Scottish Flood Forecasting Service Partnership with the Met Office. Daily, national flood guidance statements are issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding. SEPA has also continued to provide a flood warning service to a number of locations within the Tay Local Plan District.

- Self Help - Perth & Kinross Council has rolled out property level protection (PLP) measures for Council housing in Aberfeldy and Alyth, with further communities (Comrie and Bankfoot) targeted for 2019.
- Awareness Raising - Community engagement and awareness raising activities have been carried out across the Tay Local Plan District, specifically in PVA's where significant actions are underway or have been undertaken (i.e. flood studies and schemes).
- Maintenance - local authorities have continued to assess watercourses and carry out clearance and repair works where such works would substantially reduce flood risk. They have also continued to maintain existing flood protection schemes and defences. Scottish Water has continued to undertake risk based inspection, maintenance and repair on the public sewer network.
- Emergency Plans/Response - Perth & Kinross Council further developed its Flooding Emergency Response Plan to take more account of the areas at highest risk of flooding.
- Planning Policies - Planning authorities have continued to apply existing planning policies and SEPA and Scottish Water have provided flood risk advice with a view to avoiding flood risk.

## 2.2 How Current is the Plan?

The Tay Local FRM Plan was published in June 2016 to supplement the Flood Risk Management Strategy published by SEPA in December 2015. The Plan details how the actions identified in the Strategy were to be implemented over the period from 2016 to 2022. The Strategy and Plan were based on the National Flood Risk Assessment and the designated Potentially Vulnerable Areas at that time.

Since the identification of the actions in the Plan, there have and continue to be advancements in our knowledge and methods of assessment. These include the publication by SEPA of an updated National Flood Risk Assessment and Potentially Vulnerable Areas in December 2018. These advancements may inform the delivery of the actions in this Plan and will be used in the development of future Strategies and Plans.

It is therefore considered that this is the Interim Report for the current Tay Local FRM Plan, albeit the planned delivery and actual delivery dates have changed for some actions. This is further detailed in Chapter 3 of this report.

## 2.3 Significant Challenges

Based on a review of the progress of actions detailed in this Interim Report, the following key challenges and issues have had, or may have, an impact on the delivery of actions to manage flood risk. Arrangements planned to deliver the remaining actions are described



below. Where these challenges have had an impact on the delivery of specific actions or actions across an LPD, this is detailed in Chapter 3.

However, the overall delivery of actions in the Plan has not been impacted by funding, although resource issues have been noted.

## **Significant weather events**

The Tay LPD was adversely affected by significant weather events in late 2015 and early 2016 (Storms Desmond and Frank), which had knock on impacts on the delivery of actions in the Plan from June 2016 onwards. For example, Perth & Kinross Council and Angus Council resources were deployed to deal with the emergency events at that time as well as the follow up activities and necessary works, which are still being delivered into the current financial year (2018/19). This has caused consequential delays in the planned delivery of some actions as staff resources that would have been delivering planned actions have been delivering emergency actions.

A further significant weather event affecting the Tay LPD was the 'Beast from the East' which resulted in extremely low temperatures and high levels of snow fall across much of the Plan area in March 2018. Fortunately there was not much significant flooding associated with this event, as a gradual thaw limited the impacts of snowmelt.

Arrangements planned to deliver the remaining actions affected by significant weather events are described below and in Chapter 3.

## **Funding**

*"The lists of prioritised actions to meet agreed goals and objectives in the first six-year cycle considered what would be achievable assuming a similar level of funding for flood risk management activities from The Scottish Government. However, given the timing of spending reviews and annualised financial settlements for local government, the actual ability to deliver all the actions set in the Strategies in December 2015 and detailed in this Plan will be dependent on the availability of the necessary funding in each year of the six year Plan."*

(Tay Local Flood Risk Management Plan, June 2016).

The level of funding from Scottish Government for flood risk activities for the first years of the six year Plan has been at the levels anticipated.

Stirling Council has reported some funding issues which have affected the delivery of clearance and repair actions.

## **Allocation of Resources**

The availability and retention of skilled staff to deliver flood risk actions has been a limiting factor in some areas. The increased workload created by the weather events noted above

has put more pressure on existing staff resources. This has caused consequential delays in the planned delivery of actions.

Arrangements planned to deliver the remaining actions affected by allocation of resource issues are described below and are detailed in Chapter 3.

### **Procurement and Use of Contractors and Consultants**

The availability of consultants has been a limiting factor in some areas. In the period following publication of the Plan, Perth & Kinross Council were initially unable to engage consultants to carry out some of the other actions noted below and underwent repeated procurement exercises. The market response to tender opportunities has since improved. The Council also encountered some initial issues in engaging site supervision staff for the Almondbank Flood Protection Scheme. These resource issues have caused consequential delays in the planned delivery of actions and have led to increased costs.

Arrangements planned to deliver the remaining actions affected by the use of consultants issues are described below and are detailed in Chapter 3.

### **Other Actions**

Perth & Kinross Council has carried out additional actions, out with the actions identified within the Tay Local Flood Risk Management Plan. These actions include:

- Delivering on previous commitments to complete investigations into flood schemes (at Comrie, Bankfoot and Coupar Angus) and carrying out the associated public consultation events in late 2016.
- River bank erosion protection works, as well as repairs to a surface water outfall, have been carried out on the River Almond at Inveralmond, Perth.
- Works to address surface water flooding have been carried out at Perth Harbour.
- The completion of previous flood study work for the small burns to the south east of Pitlochry in the vicinity of Middlehaugh of Dalshian, Easthaugh of Ballyoukan and the Altrory Burn.
- Investigation works have been carried out on the North Muirton Flood embankment. The Council now plans to install a sheet piled cut off wall to prevent ground water seepage during future flood events.

Further details on these actions are provided within Section 3.3 of this document.

## **2.4 Prioritisation of Actions for Next Plan Cycle**

Any actions that are not put forward for inclusion in the next Local FRM plan by December 2019 will be deferred for consideration until 2028-34. The background to this is explained below.

Many actions contained in the current Local FRM Plan involve undertaking investigations (e.g. flood studies) to assess the need for further action to manage flood risk. If further action is found to be required, then it may be implemented in a future Local FRM Plan. For example, a flood protection study may recommend that a community flood action group is set up to increase resilience to flooding, or that flood defences are constructed. The community flood action group or flood defences may be implemented as part of the next Local FRM Plan covering the period between 2022-28.

However for any new actions to be considered and included in the next Local FRM Plan (from 2022-28), the responsible authorities need to fully detail and submit them for consideration as actions. The deadline date for the submission of such actions to SEPA has been set as December 2019. Any actions submitted will then be assessed and prioritised against the FRM objectives, and consulted upon ahead of the publication of the next cycle of FRM Strategies in December 2021 and Local FRM Plans in June 2022. Any actions that miss the December 2019 deadline may therefore be deferred for consideration until the third cycle of Plans covering the period from 2028-34.

## 2.5 Arrangements Planned to Deliver Remaining Actions

The actions in the Plan will continue to be delivered over the remainder of the 2016 to 2022 period. This will be as per the published Plan, subject to revisions in delivery dates as detailed in Chapter 3 of this Interim Report.

In general, most of the actions in the Plan will be delivered by June 2022. Where specific measures are required to address a delay and ensure an action is completed then this is described against the relevant action. In addition where there is a risk that remaining actions will not be delivered by the end of the Plan, planned contingencies have been considered, which are described against the relevant action.

## 2.6 Next Steps

A Final Report on the plan will be published between July 2021 and June 2022. This will include:

- an updated assessment of the progress made towards implementing the current actions;
- a summary of the current measures which were not implemented, with reasons for their non-implementation, and;
- a description of any other measures implemented since the plan was finalised which the lead authority considers have contributed to the achievement of the flood risk objectives.

In the meantime, to find out more about how flood risk is being managed please refer to your local responsible authority's website:

[Angus Council Website - Flooding](#)

[Fife Council - Flooding](#)

[Perth & Kinross Council - Flooding](#)

[Stirling Council - Flooding](#)

[Scottish Environment Protection Agency \(SEPA\)](#)

[Scottish Water](#)

[Forestry Commission Scotland](#)

[Cairngorms National Park Authority](#)

[Loch Lomond & The Trossachs National Park Authority](#)

[Transport Scotland](#)

[Scottish Flood Forum](#)

## 2.7 Conclusions

This report sets out the conclusions of the interim review of the Tay Local Flood Risk Management Plan as well as information on the progress made towards implementing the measures set out therein.

The introduction of the Flood Act has led to improved partnership working and data sharing between SEPA and the responsible authorities.

The published Tay Local FRM plan remains current and relevant. Since publication in June 2016, in general good progress has been made over the initial three years of the first cycle, despite a relatively slow start. Progress on the initial actions was delayed by the response required to Storms Frank and Desmond which required additional actions to be implemented. Staff resources were required to complete investigations into flood schemes (in Comrie, Bankfoot and Coupar Angus) and to carry out public consultation. The procurement of sufficient consultancy services initially also proved problematic. However with relatively few flood events since early 2016, more steady progress has been made in delivering the selected actions. Flood studies have generally progressed as programmed, while progress on the larger and more complex flood protection schemes has been slightly delayed. A large flood protection scheme in Almondbank has been completed in 2018 and progress has also been made on the development of a further major scheme for Comrie.

It should be noted that the responsible authorities involved in delivering the actions for the Tay LPD are also involved in delivering actions in other local plan districts and their resources have to be split accordingly.

There are actions that apply across the whole of the Tay LPD and actions that are specific to each of the 17 Potentially Vulnerable Areas (as defined under Section 13 of the Act) in the Tay LPD, which are shown below in Figure 1.



The summary of the assessment of progress is shown using the traffic light system, where each item is marked as Red, Amber or Green (RAG) and where:

- **GREEN** – Action has been delivered and/or is on programme and within budget;
- **AMBER** – Action is behind programme and/or over budget, but the key dates are still anticipated to be met;
- **RED** – Action is behind programme and/or over budget, with key dates unlikely to be met and/or outputs unlikely to achieve what was anticipated by the LFRMP.

### 3.1 Progress with General Actions to Manage Flood Risk Across the Tay LPD

This section sets out an assessment of the progress towards implementing actions that apply across the whole of the Tay Local Plan District over the six-year Plan, which is presented in Table 1 below.

**Table 1: Summary of Progress for General Actions to Manage Flood Risk that Apply Across the Tay Local Plan District**

Action	RAG Status
Flood Forecasting	<b>G</b>
Self Help	<b>G</b>
Awareness Raising	<b>G</b>
Maintenance	<b>G</b>
Emergency Plans / Response	<b>G</b>
Planning Policies	<b>G</b>

These general actions are also set out in more detail in Table 2 below which provides further information including the RAG Status; who is responsible for the delivery and implementation of the actions; any interim progress and the work to be undertaken to complete the action.



**Table 2: Progress with General Actions to Manage Flood Risk that Apply Across the Tay Local Plan District**

Action (ID)	RAG Status	Description	Delivery Lead	Interim Progress	Planned actions to complete
<b>FLOOD FORECASTING</b> (80410009)	<b>G</b>	The Scottish Flood Forecasting Service is a joint initiative between SEPA and the Met Office that produces daily, national flood guidance statements which are issued to Category 1 and 2 Responders. The flood guidance statements provide an assessment of the risk of flooding for a five day period allowing responders time to put preparations in place to reduce the impact of flooding. The service also provides information which allows SEPA to issue flood warnings, giving people a better chance of reducing the impact of flooding on their home or business. For more information please visit SEPA's website.	SEPA	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue to improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>SELF HELP</b> (80410011)	<b>G</b>	Everyone is responsible for protecting themselves and their property from flooding. Self-help actions can be undertaken by any individuals, businesses, organisations or communities at risk of flooding. They are applicable to all sources, frequency and scales of flooding. They focus on awareness raising and understanding of flood risk. Property and business owners can take simple steps to reduce damage and disruption to their homes and businesses should flooding happen. This includes preparing a flood plan and flood kit, installing property level protection, signing up to Floodline and Resilient Communities Initiative, and ensuring that properties and businesses are insured against flood damage.	-	Local authorities have engaged and supported their local communities to become more resilient to emergency situations, including flood events. Advice has been given on how to prepare for flooding, install property level protection and the Resilient Communities Initiative. In Perth & Kinross, communities have been engaged through the multi-agency Local Resilience Partnership Community and Business Resilience Group, led by the Council. Perth & Kinross Council also trialled a pilot scheme offering Property Level Protection (PLP) measures to residents within selected communities. This scheme offered PLP products to residents at a reduced rate, benefitting from the Council's ability to buy products in bulk. However the uptake of PLP through this scheme was very low across the pilot communities and the scheme did not progress beyond the pilot stage. However as part of the pilot scheme, the Council has taken action to protect Council housing within some of the selected communities. Further details are provided within the relevant areas of Section 3.2 of this report. Angus Council's Roads supervisors have been advised of the corporate message on flooding and the Council's Flood Team seek feedback from them following flood incidents to assess the impact of Council's message and actions. Where communities work with the Stirling Council's resilience and risk team to develop community resilience plans, the Council will also provide flood pods that can be distributed in a time of need. The Scottish Flood Forum provided support and advice to 5 communities (Bankfoot, Aberfeldy, Alyth, Blairgowrie and Comrie) to help people protect themselves and their property. This includes advice to	Local authorities will continue to support communities to become more resilient to flooding and to develop community resilience groups and emergency plans. PLP products are to be fitted to Council housing within the remainder of the selected communities in Perth & Kinross by 2019. Further details are provided within the relevant areas of Section 3.2 of this report.



				residents on PLP assessments and advice on insurance and developing community resilience to prepare for flooding.	
<b>AWARENESS RAISING</b> (80410013)	<b>G</b>	<p>Public awareness, participation and community support are essential components of sustainable flood risk management. SEPA and the responsible authorities have a duty to raise public awareness of flood risk. This is undertaken both individually and collaboratively by a range of organisations. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact. From 2016 SEPA will undertake flood risk education and awareness raising activities. In addition, SEPA will engage with community resilience groups and participate in property level protection events delivered by the Scottish Flood Forum where possible.</p> <p>Across Scotland, SEPA will create and share communication and education resources with other responsible authorities. These resources will include awareness campaigns, media and marketing activity and promotion of SEPA's flood forecasting and warning services (Floodline). Where they exist, SEPA will engage with community resilience groups and community safety partnerships.</p> <p>Local authorities will be undertaking additional awareness raising activities when developing any specific project proposals and will engage with community resilience groups and local communities. As a responsible authority, Scottish Water will support SEPA and responsible authorities with awareness raising activities as required and provide targeted flooding communications for Scottish Water specific activities. Scottish Water will raise awareness by producing and supplying targeted information to the public on large capital projects and detailed local studies. More general information and flooding guidance will be available on the website at <a href="https://www.scottishwater.co.uk/you-and-your-home/your-home/flooding-information">https://www.scottishwater.co.uk/you-and-your-home/your-home/flooding-information</a>.</p>	Responsible authorities	<p>SEPA has delivered a range of awareness raising activities through campaigning, education activities and partnership delivery. SEPA have run national and local digital and direct engagement campaigns to raise awareness of flood risk and SEPA's flood warning service, Floodline. SEPA publish and publicise an electronic newsletter (Flooding Gateway) four times a year which is distributed to a wide audience. SEPA are working with Education Scotland and the Scottish Government's Resilience team to embed flooding awareness within the Curriculum for Excellence, and resilience partners in Safer Communities programmes. SEPA have also developed an online tool that helps everyone share information on current flooding issues (Report-a-Flood). SEPA have worked in partnership with local authorities, emergency services and community organisations (e.g. Neighbourhood Watch Scotland, Citizens Advice Scotland and others) to share their resources and help to promote preparedness and understanding of how they manage flood risk in Scotland. SEPA have actively supported the Scottish Flood Forum and worked closely with UK agencies to develop joint flooding information.</p> <p>Local Authorities have undertaken awareness raising activities around specific project proposals and have engaged with community resilience groups and local communities. Local authorities have also developed their websites and social media to provide more advice and information on flood risk management.</p> <p>Stirling Council use SEPA's flood alerts to deliver targeted flood awareness information. The Council are developing an annual programme of attending local highland games to deliver awareness raising objectives. The Council also works with the Scottish Fire and Rescue Service to deliver joint flooding messages at annual fire station open days.</p> <p>Scottish Water support SEPA and responsible authorities with their awareness raising activities as required and provide targeted communications for Scottish Water sewer flooding programme activities. Scottish Water raise awareness by producing and supplying targeted information to the public on large capital projects and detailed local studies.</p> <p>Forestry Commission Scotland (FCS) continues to engage with responsible authorities to make sure that the contribution of woodlands and forestry is recognised when natural flood management measures are promoted. Interactions with the public are sought at public National events (for example the Royal Highland</p>	<p>SEPA will continue to raise awareness of flood risk through campaigning, developing education and engagement tools, creating new partnerships and improving the flood warning and forecasting service. Many of SEPA's awareness raising activities that are currently underway will continue. SEPA's focus will be on promoting the flood warning and forecasting service, innovation, education and engagement with partners, customers and the public.</p> <p>Local Authorities will continue with awareness raising activities when developing proposals for the remaining actions in the Tay Local Flood Risk Management Plan.</p> <p>Scottish Water are continuing to support SEPA and Local Authorities in their awareness raising activities. General awareness raising is carried out through the Scottish Water website and national advertising campaigns to increase public awareness of the implications of their actions on sewer flooding. For site specific capital projects and local studies, targeted public engagement is being carried out at a local level.</p> <p>Forestry Commission Scotland will continue to:</p> <ul style="list-style-type: none"> <li>i) improve FCS's regional knowledge on flood risk and the potentially vulnerable areas;</li> <li>ii) identify opportunities for forestry projects across the country;</li> <li>iii) engage with local communities through the revision of Land Management Plans</li> </ul>

				<p>Show) and regional/local events (for example the Turiff Show) to highlight the role that trees and woodland have in contributing to managing flood risk. This includes working with facilitators (from the charitable sectors and businesses) to help partnership initiatives that aim to improve public resilience to flood risk and to make sure that the communities have access to information and help/support. FCS continue to work on partnership initiatives to spatially identify where woodland can be planted and managed - these include the local communities. Forest Enterprise Scotland (the agency of Forestry Commission Scotland) engages with communities, NGOs and statutory stakeholders on the revision of Land Management Plans. Flooding is part of these catchment-focused discussions where FCS's planners raise awareness of the benefits that trees and forestry can bring to flooding and the associated reduction of peak flows through:-</p> <ol style="list-style-type: none"> <li>1) Evaporation of rainfall from canopy and;</li> <li>2) Transpiration of heavy rain into the forest soils and geology.</li> </ol> <p>The Scottish Flood Forum has raised awareness with five flood risk communities (Bankfoot, Aberfeldy, Alyth, Comrie and Blairgowrie) through a range of community engagement actions that have helped them to prepare for flooding. The SFF provided input to community meetings and events to support engagement with responsible authorities. The SFF produced three flood risk community focussed newsletters which were sent to group and individuals across Scotland. The SFF also promoted and delivered three peer to peer flood risk community networking events</p>	
<b>MAINTENANCE</b> (80410007)	<b>G</b>	<p>Local authorities have a duty to assess watercourses and carry out clearance and repair works where such works would substantially reduce flood risk. They produce schedules of clearance and repair works and make these available for public inspection. Scottish Water will undertake risk based inspection, maintenance and repair on the public sewer network. Asset owners and riparian landowners are responsible for the maintenance and management of their own assets including those which help to reduce flood risk. Section 18 and 59 of the Flood Risk Management (Scotland) Act 2009 place duties of watercourse assessment, clearance and repair on local authorities. In addition, local authorities may also be responsible for maintenance of existing flood protection schemes or defences.</p>	<p>Local Authority, asset / land managers</p>	<p>Local authorities have continued to inspect and assess watercourses and carry out clearance and repair works where such works would substantially reduce flood risk. This has included producing schedules of clearance and repair works and making these available for public inspection.</p> <p>In Perth &amp; Kinross, the Council's routine watercourse inspections are carried out either annually, six monthly or quarterly, depending on the flood risk associated with each watercourse. Further reactive inspections have been carried out when issues have been highlighted or during times of flooding. Where a flood risk is identified, and clearance and repair works would substantially reduce that flood risk, then those works are included on the Council's clearance and repair schedule and carried out.</p> <p>Significant examples of clearance and repair works are noted within various PVAs in this report. Culvert replacement works were also carried out at Westhaugh of Dalshian, Pitlochry in 2016.</p>	<p>Local authorities will continue to inspect and assess watercourses and carry out clearance and repair works where this would substantially reduce flood risk. Reactive maintenance will also continue to be undertaken where issues are identified.</p> <p>Perth &amp; Kinross Council will also continue to maintain the formal flood schemes within its area, as per the existing inspection and maintenance regime. Road gullies will continue to be monitored and cleared as per the gulley monitoring programme.</p> <p>Stirling council will continue to inspect watercourses to identify flood risks and to carry out the fortnightly inspection and clearance regime which has resulted in a reduction in localised and repeat flooding incidents. Budgets have however been reduced therefore the volume of clearance and repair works have reduced. Maintenance will continue to be carried out on a</p>

				<p>The Council has also continued to inspect and maintain existing flood protection schemes.</p> <p>Perth &amp; Kinross Council also operates a monitoring programme for the inspection and maintenance of road gullies. Each gully is inspected, and cleared if required, once per year. The monitoring programme identifies gullies that are more at risk from blockage so that they can be checked more frequently. It also enables the Council to reduce the frequency of inspections where gullies are found to require less frequent maintenance. Through this monitoring, the Council is developing a more strategic and sustainable approach to gully maintenance. The public can also contact the Council to highlight issues with any road gullies.</p> <p>In Angus, the Council's maintenance contract is let and managed on yearly basis. Reactive maintenance is also undertaken where issues are identified.</p> <p>Stirling Council has a successful watercourse inspection regime in place which identifies risks. Where the problems reside in private property the Council notifies landowners of their riparian responsibilities. The council also has a fortnightly maintenance regime in place where key hot spot locations have been identified. This work is carried out by contractors and managed by the Council's flooding team. Any additional works identified are added to a schedule of works and prioritised based on risk and the available budget.</p> <p>Scottish Water have carried out risk based inspection, maintenance and repair on the public sewer network</p>	<p>risk based priority. The council will continue to seek methods of continuing a sustainable level of maintenance activities through volunteers and criminal justice support. There are plans to expand this to involve criminal justice colleagues to arrange clearance works where they are not the Council's responsibility or within council ownership and where landowners agree to this work.</p> <p>Scottish Water will continue to carry out risk based inspection, maintenance and repair on the public sewer network</p>
<b>EMERGENCY PLANS / RESPONSE</b> (80410014)	<b>G</b>	<p>Providing an emergency response to flooding is the responsibility of many organisations, including local authorities, the emergency services and SEPA. Effective management of an emergency response relies on emergency plans that are prepared under the Civil Contingencies Act 2004 by Category 1 and 2 Responders. The emergency response by these organisations is coordinated through regional and local resilience partnerships. This response may be supported by the work of voluntary organisations. Emergency response plans are applicable for all types of flooding. They set out the steps to be taken during flooding in order to maximise safety and minimise impacts where possible. Under the Civil Contingencies Act, Category 1 Responders have a duty to maintain emergency plans. Emergency plans may also be prepared by individuals, businesses, organisations or communities.</p> <p>Scottish Water is a Category 2 responder under the Civil Contingencies Act 2004 and will support regional and local resilience partnerships as</p>	Category 1 and 2 Responders	<p>Local authorities have developed emergency plans. Perth &amp; Kinross Council further developed its Flooding Emergency Response Plan in October 2017. The Plan is designed to ensure that contingency measures are in place for a coordinated and flexible response to flooding incidents to mitigate the effects of flooding emergencies on people, property and infrastructure.</p> <p>Angus Council has developed emergency plans that take account of new information received and the plans are constantly under review. Angus Council continue to support resilience partnerships whenever requested to do so.</p> <p>Over and above civil contingencies planning, in June 2017 Stirling Council established a formal Flood Partnership Group between the Scottish Fire &amp; Rescue Service, the Scottish Flood Forum, SEPA, Emergency Planning Officers and the flooding teams from each Local Authority and Scottish Water. There is potential to expand the working group to include other agencies or the voluntary sector. Ongoing dialogue and quarterly meetings take place between these parties to better plan joint emergency responses to community risks.</p>	<p>Local authorities will continue to review, develop and implement their emergency plans. Where no incidents have occurred in Perth &amp; Kinross within a 12 month period a table top exercise will be conducted to test the response plan. This exercise may include consideration of flooding incidents, severe weather, widespread flooding, storm events, etc.</p> <p>Angus Council will continue to review emergency plans to ensure that they are relevant and fit for purpose. Continue to provide support to resilience partnerships.</p> <p>Stirling Council will continue to develop a partnership working model and embed communications links between key group stakeholders and also to expand group membership to other potential partners (e.g. volunteer sector)</p> <p>Fife Council's Flood Emergency Plan is due to be updated in November 2018.</p> <p>As a Category 2 Responder, Scottish Water will continue to support regional and local resilience</p>



		required.		Fife Council's updated Flood Emergency Plan was published in November 2016. As a Category 2 Responder, Scottish Water has continued to support regional and local resilience partnerships as required.	partnerships as required.
<b>PLANNING POLICIES</b> (80010001)	<b>G</b>	<p>The Scottish Planning Policy (SPP) and accompanying Planning Advice Notes set out Scottish Ministers' priorities for the operation of the planning system and for the development and use of land. In terms of flood risk management, the SPP supports a catchment scale approach to sustainable flood risk management and aims to build the resilience of our cities and towns; encourage sustainable land management in our rural areas; and to address the long term vulnerability of parts of our coasts and islands. Under this approach, new development in areas with medium to high likelihood of flooding should generally be avoided.</p> <p>SEPA has a statutory role in relation to the provision of flood risk advice to planning authorities. This role is expressed in Section 72 of the Flood Risk Management (Scotland) Act 2009. SEPA also has a duty to co-operate with planning authorities in the preparation of development plans. When consulted in relation to planning applications for development or site allocations in development plans, and where the planning authority considers there may be a risk of flooding, SEPA will provide advice. The advice provided by SEPA will be with respect to the risk of flooding and on the basis of the relevant information it holds which is suitable for planning purposes. It will also be in line with the principles and duties set out in the FRM Act. Further information about how SEPA engage in the planning system, including guidance on flood risk and planning is available on SEPA website <a href="http://www.sepa.org.uk/environment/land/planning/">http://www.sepa.org.uk/environment/land/planning/</a>.</p> <p>Current national planning policies, the Scottish Planning Policy and accompanying Planning Advice notes restrict development within the floodplain and limit exposure of new receptors to flood risk. Planning authorities are responsible for implementing this policy guidance when preparing Local Development Plans and when considering individual planning applications. In addition to national policies, local planning policies may place further requirements within their area of operation to restrict inappropriate development and prevent unacceptable risk. Scottish Water is a statutory consultee within the planning legislation. They provide advice to planning authorities during the</p>	Planning authority	<p>SEPA exercises its planning functions with a view to reducing overall flood risk. SEPA effectively contribute to the delivery of sustainable flood risk management and support the delivery of FRM Strategies and Local FRM Plans. In line with the management actions that accord with national planning policies SEPA will object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. SEPA will also continue to engage at the offset of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. The current Perth &amp; Kinross Local Development Plan (LDP1) contains planning policy and development allocations which ensure that new development at medium to high risk of flooding is avoided (unless flood protection measures to the appropriate standard (1:200 years) already exist and are maintained, are under construction, or are a planned measure in a current flood risk management plan). SEPA and Perth &amp; Kinross Council's flooding team input to the planning application process as necessary to implement flood risk policy and ensure there is an appropriate assessment and mitigation of flood risk as detailed development proposals come forward. The Council's flooding team has reviewed 1053 planning applications since the start of the 2016/17 financial year as a consultee in the planning process. The Council's flooding team has also provided additional advice on flood risk management to the Planning Authority out with these formal consultations.</p> <p>Perth &amp; Kinross Council is reviewing LDP1, which was adopted in February 2014 to produce LDP2. LDP1 includes the policies and development allocations against which the planning applications for development are considered. Key milestones in its review have included publication and consultation on the Main Issues Report (consulting on key issues and changes from the adopted LDP1) in December 2015 and the publication and consultation on the LDP2 Proposed Plan (the settled view of the Council) in December 2017. To inform this process, the Council has undertaken a Strategic Environmental Assessment (SEA) and prepared an Environmental Report to identify, describe and evaluate the likely significant effects on the environment. The SEA includes the consideration of flood risk in site assessment and policy</p>	<p>Perth &amp; Kinross Council will publish LDP2 and revised Supplementary Guidance on Flooding and Drainage.</p> <p>Following consultation on the Perth &amp; Kinross proposed LDP2, the Council considered the representations made to the Proposed Plan and approved responses to these representations at a special Council meeting in August 2018. The Proposed Plan was then submitted to Scottish Ministers for examination on 14 September 2018. The Reporter is currently examining the unresolved issues. Following amendment of the LDP2 in line with the Reporter's recommendations (unless there are reasonable and justifiable grounds for not accepting some of the recommendations), the Council will adopt LDP2. This is anticipated to be in July 2019.</p> <p>Perth &amp; Kinross Council's existing Supplementary Guidance (SG) on Flood Risk and Flood Risk Assessments (Developers Guidance note on Flooding and Drainage) has also been reviewed and revised and is currently being consulted on with a view to adoption alongside LDP2. The main aspects that are being updated are the guidance on climate change; the requirements for sustainable urban drainage systems (SuDS) and the ongoing maintenance responsibilities, including information on potential maintenance agreements with Scottish Water under Section 7 of the Sewerage (Scotland) Act.</p> <p>Angus Council has developed an Internal guidance document for use by Developers and Planning Officers to assist in explaining the requirements. The Council's Flood Team will continue to provide the current level of support to Planning colleagues.</p> <p>Stirling Council will continue work closely with both planning authorities in the development and implementation of local development plans to incorporate flood risk management objectives into the process from the outset.</p>

		<p>preparation of Local Development Plans and are required to comment on all outline or full planning applications which are referred by a planning authority.</p>	<p>work, and involved engagement with SEPA and the Council's flooding team.</p> <p>Angus Council's Flood Team provide responses to all Planning Applications where there is potential for flood risk or surface water management systems to ensure that Scottish Planning Policy and suitable design criteria are met.</p> <p>Within Stirling Council, flood risk information, including the local flood risk management plan, have fed into the newly completed local development plan. Planning authorities are kept informed of new developments internally through flooding teams and through attendance of regular local advisory group meetings.</p> <p>Loch Lomond &amp; Trossachs National Park have a number of flooding policies in their local development plan which are used by development management during the assessment of planning applications. Their usage is being monitored as part of the monitoring of the Local Development Plan.</p> <p>Fife Council's Planning Policy has been amended in the Strategic Plan to ensure that flooding is considered at the outset in line with current SPP. A Planning Policy is in place to ensure a flood risk assessment, SuDs details and any other relevant information is provided with the submission of a Planning Application; otherwise the application is returned as incomplete.</p>	
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### 3.2 Progress with Specific Actions to Manage Flood Risk Within PVAs

This section sets out an assessment of the progress towards implementing actions that are specific to each of the 17 PVAs shown in Table 3. Assessments of the progress of actions within each PVA are presented.

**Table 3: Summary of Progress of Specific Actions to Manage Flood Risk Within PVA's During 2016-2022**

PVA	Location	Flood protection scheme/ works	Flood protection study	Maintain flood protection scheme*	Natural flood management study	Natural flood management works	Strategic mapping and modelling	New flood warning	Maintain flood warning*	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/ response	Planning policies
08/01	Blair Atholl			N/A			A		N/A	G	G	G	G			G		G	G
08/02	Kinloch Rannoch			N/A					N/A	G		G	G			G		G	G
08/03	Aberfeldy & Pitlochry		G	G			A		G	G	G	G	G			G		G	G
08/04	Alyth			N/A	G		RA		N/A	G		G	G			G		G	G
08/05	Kirriemuir & Forfar		G	G			AG		N/A	G		G	G		G	G		G	G
08/06	Blairgowrie			N/A			G		G	G		G	G		G	G		G	G
08/07	Coupar Angus			N/A			G		N/A	G		G	G			G		G	G
08/08	Luncarty, Stanley, Bankfoot, Dunkeld & Birnam		G	N/A			AG		G	G		G	G			G		G	G
08/09	Tyndrum & Crianlarich			N/A			A		N/A	G		G	G			A		G	G
08/10	Almondbank	A		G			AR		G	G		G	G			G		G	G
08/11	Scone	G	G	N/A			A		N/A	G		G	G		G	G		G	G
08/12	Perth to Kinfauns (north of A90)	G		G			A		G	G		G	G		G	G		G	G
08/13	Perth Centre		A	G			A		G	G	G	G	G		G	G		G	G
08/14	Comrie	A		G			A		G	G	G	G	G			G		G	G
08/15	Forteviot			N/A			RA		G	G		G	G			G		G	G
08/16	Dunning			N/A			AG		G	G		G	G			G		G	G
08/17	Bridge of Earn			G			AR		G	G	G	G	G			G		G	G

\* Note: N/A is used where there is no formal Flood Protection Scheme or flood warning scheme present.

There are no specific actions identified for 'property level protection scheme' and 'site protection plans' actions. Consideration of property level protection schemes will be included in the 'flood protection study', 'surface water plan/study' and/or 'emergency

plans/response' actions. Site protection plans will be identified through these same 'study' actions and also 'planning policies' action.

## 3.2.1 Blair Atholl PVA 08/01

Local Plan District	Local Authority	Main Catchment
Tay	Perth & Kinross Council	River Garry (River Tay)

## Summary of Progress Within PVA



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There are fewer than 10 residential properties and non-residential properties at risk of flooding in the Blair Atholl PVA. The Annual Average Damages are approximately £14,000. Further information can be found in the [Tay Local FRM Plan](#) under PVA 08/01.

This PVA has been exposed to recent significant weather events including Storms Desmond and Frank in December 2015 and January 2016, which resulted in flooding in the Tay and Garry catchments.

Key progress has been made through engagement with the community council which has established a community resilience group and developed a resilience plan. SEPA have also made progress on strategic mapping and modelling in order to improve the existing flood maps for the area.

Whilst there is no specific action within this PVA for a flood protection study, the Blair Atholl Estate commissioned a consultant to investigate the potential for any flood works to reduce risk to properties on its land at Garryside, however no cost-effective options were identified.

## Selected Actions in the Blair Atholl PVA

PVA	Flood protection scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management study	Natural flood management works	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/01						A			G	G	G	G			G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Blair Atholl (PVA 08/01)

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Strategic Mapping and Modelling</b> (80410016)	A	SEPA will seek to develop flood mapping in the River Garry area to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.	SEPA	2016-2017	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken. A modelling project is currently underway which will enable a revision of the river flood hazard mapping within this catchment.	It is planned to complete this action by the end of 2018.
<b>Flood Forecasting</b> (80410009)	G	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of

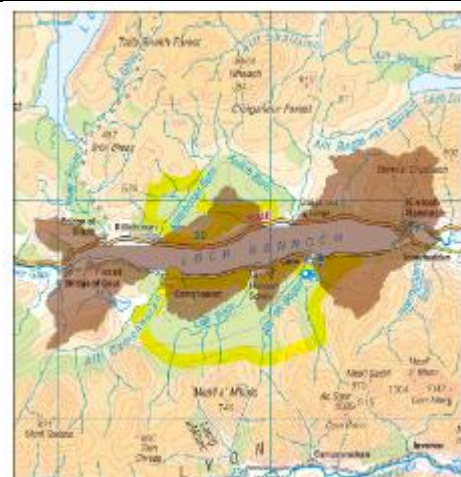


					duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	flooding.
<b>Community Flood Action Groups</b> (80020012)	<b>G</b>	Community flood action groups are community based resilience groups which, on behalf of local residents and business, help to prepare for and minimise the effects of flooding. They reflect the interests of their local communities and may differ in composition and remit. There are over 60 groups already established in Scotland. The Scottish Flood Forum provides support for both new and existing groups. Blair Atholl Community Council operates in this area. The community council is currently in the process of developing a community resilience plan which includes plans to mitigate the impact of flooding.	Community	Ongoing	Blair Atholl and Struan Community Resilience Group is established in this area and their resilience plan has been tested. This group forms part of the A9 Resilience Plan.	Perth & Kinross Council will continue to coordinate with Blair Atholl and Struan Community Council on a priority needs basis where resources allow.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible Authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made in the Blair Atholl PVA. Perth & Kinross Council held a de-briefing with the Blair Atholl Community Resilience Group following the flooding experienced in December 2015. The local landowner (Blair Atholl Estate) has explored potential ways of managing flood risk to their properties. They undertook a high level flood options study and were advised by Perth & Kinross Council during this process.	Further to the planned awareness raising activities described in Table 2 of this report, the responsible authorities will continue with awareness raising activities when developing any proposals for the remaining actions set out in the Tay Local Flood Risk Management Plan.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	-	Ongoing	No additional self-help activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans / Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a>	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.2 Kinloch Rannoch PVA 08/02

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	Loch Rannoch (River Tay)

## Summary of Progress Within PVA



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There are approximately 30 residential properties and 20 non-residential properties at risk of flooding in the Kinloch Rannoch PVA. The Annual Average Damages are approximately £94,000. Further information can be found in the [Tay Local FRM Plan](#) under PVA 08/02. There have been no significant weather events in this PVA since the publication of the Tay Local FRM Plan. The Scottish Flood Forum has been involved in supporting the community to become more resilient to the effects of flooding. The responsible authorities will continue with awareness raising activities when developing any proposals for the remaining actions set out in the Tay Local FRM Plan.

## Selected Actions in the Kinloch Rannoch PVA

PVA	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/02									G		G	G			G		G	G

## Summary of Progress of Actions to Manage Flood Risk in the Kinloch Rannoch PVA

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
Flood forecasting (80410009)	G	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.

					prepared to reduce the impacts of flooding.	
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	No additional awareness raising activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Further to the planned awareness raising activities described in Table 2 of this report, the responsible authorities will continue with awareness raising activities when developing any proposals for the remaining actions set out in the Tay Local Flood Risk Management Plan.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	-	Ongoing	Further to the Self Help actions described in Table 2 of this report, some additional progress has been made in the Kinloch Rannoch PVA. The Scottish Flood Forum's community engagement within this PVA has included PLP exhibitions, selection, surveys and providing appropriate and relevant information to enable clients to make the right decisions. The SFF has also provided ongoing community PLP training, training for Flood Wardens and resilience group promotion.	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans / Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.3 Aberfeldy and Pitlochry PVA 08/03

Local Plan District	Local Authority	Main Catchment
Tay	Perth & Kinross Council	River Tay

## Summary of Progress Within PVA



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There are approximately 240 residential properties and 130 non-residential properties at risk of flooding in the Aberfeldy and Pitlochry PVA. The Annual Average Damages are approximately £1.2 million. Further information can be found in the [Tay Local FRM Plan](#) under PVA 08/03.

This PVA has been exposed to recent significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016, which resulted in flooding in the Tay and Tummel catchments.

Key progress has been made with the two identified Flood Protection Studies within this PVA. The Pitlochry flood study commenced in March 2017 and was completed in October 2018. The Aberfeldy Flood Study commenced in January 2018 and is programmed for completion in May 2019. The Aberfeldy Flood Study will also inform a related action - maintenance of the existing Weem Flood Protection Scheme (ID 80060017) - by reviewing the condition and standard of flood protection offered by the scheme.

There have been no significant changes affecting progress but it is worth noting that there may be future catchment changes due to the A9 Dualling project.

## Selected Actions in the Aberfeldy and Pitlochry PVA

PVA	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/ response	Planning policies
08/03		G	G			A		G	G	G	G	G			G		G	G

## Summary of Progress of Actions to Manage Flood Risk in the Aberfeldy and Pitlochry PVA

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Flood Protection Study</b> (80040005)	G	A flood protection study has been recommended for Pitlochry to assess whether flood storage, sediment management, modification of conveyance and installation/ modification of fluvial control structures could reduce flood risk. The study should also consider property relocation. The study should build on the previous study carried out by Perth & Kinross Council in 2007 and consider flooding from small watercourses as well as the main river. The study should take a catchment approach and consider the potential	Perth & Kinross Council	2016 – 2018	The Pitlochry flood study commenced in March 2017. The contract was awarded to consultants, AECOM Ltd. The flood study report was completed in October 2018 and issued to Perth & Kinross Council.	Perth & Kinross Council will liaise with AECOM to finalise the flood study report. The study findings have been disseminated to the local community via drop in sessions on 20 & 27 February 2019.



		benefits and dis-benefits and interaction between actions upstream and downstream.				
<b>Flood Protection Study</b> (80050005)	<b>G</b>	A flood protection study has been recommended for Aberfeldy to assess whether installation/modification of fluvial control structures, direct flood defences and sediment management could reduce flood risk. The study should take a catchment approach and consider the potential benefits and dis-benefits and interaction between actions upstream and downstream.	Perth & Kinross Council	2017 – 2019	The Aberfeldy flood study commenced in January 2018. The contract was awarded to RPS Consulting Engineers Ltd. The initial (data gathering) flood study reports were completed in July 2018. The flood study is currently on programme for completion in May 2019.	Perth & Kinross Council will liaise with RPS to finalise the flood study. The study findings will be disseminated to the local community via drop in sessions later in 2019.
<b>Maintain Flood Protection Scheme</b> (80060017)	<b>G</b>	Continue to maintain the existing Weem Flood Protection Scheme. The scheme was completed in 2006 and includes a flood embankment and pumping station. The scheme has a design standard of protection of 1 in 100 years.	Perth & Kinross Council	Ongoing	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the existing Weem Flood Protection Scheme. Maintenance works are carried out as required. Recent works include maintenance and repairs to the pumping station, clearance of the non-return valve and vegetation management. The Weem Flood Protection Scheme is also being re-assessed as part of the Aberfeldy Flood Study (Action ID 80050005). This includes a condition assessment and a review of the standard of protection provided by the existing flood scheme.	Routine inspections will continue to be carried out as part of the Council's statutory duties. Inspections will be undertaken on an annual basis and following flood events.
<b>Strategic Mapping and Modelling</b> (80410016)	<b>A</b>	SEPA will seek to develop flood mapping in the River Tummel and River Tay areas to improve understanding of flood risk. The extent and timing of improvements will depend on details scoping and data availability. Where this work coincides with local authority studies, SEPA will work collaboratively to ensure consistent modelling approaches are applied.	SEPA	2016 – 2017	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken. Several projects are currently underway at this location: <ul style="list-style-type: none"> <li>Local Authority flood studies for Pitlochry and Aberfeldy;</li> <li>Transport Scotland's A9 Dualling (Tay Crossing to Ballinluig) study.</li> </ul> These projects will collectively enable the revision of flood mapping for the River Tummel from Loch Faskally to the Tay Confluence and for the River Tay from Loch Tay to Dunkeld.	SEPA will await the conclusion of these studies and review their suitability to inform updates to existing flood mapping before progressing further with this action. Whilst anticipated timescales for conclusion of local authority studies are known, clarification is being sought from Transport Scotland over the likely timescales for the availability of their study.
<b>Strategic Mapping and Modelling</b> (80410019)	<b>A</b>	Scottish Water will undertake further investigation and modelling in the Aberfeldy and Pitlochry sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	Aberfeldy 2016 – 2017  Pitlochry 2016 – 2019	The Scottish Water assessment of flood risk within the Aberfeldy sewer catchment has not yet started. The assessment will improve knowledge and understanding of surface water flood risk in this area.  The Scottish Water assessment of flood risk within the Pitlochry sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.	The Aberfeldy assessment will not be delivered within the planned timescale but is still on track to be delivered within FRM Cycle 1, i.e. prior to 2022.
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Aberfeldy, Ballinluig to Logierait, Logierait to Victoria Bridge, Pitlochry to Ballinluig, River Tummel in Pitlochry and the Upper Tay (from Taymouth Castle to Logierait) flood warning areas which are part of the Tay river flood warning scheme.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.

		When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.				
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Community Flood Action Groups</b> (80040012)	<b>G</b>	Community flood action groups are community based resilience groups which, on behalf of local residents and business, help to prepare for and minimise the effects of flooding. They reflect the interests of their local communities and may differ in composition and remit. There are over 60 groups already established in Scotland. The Scottish Flood Forum provides support for both new and existing groups. Pitlochry Resilience Group operates in this area. The group is in the process of developing a community resilience plan which includes mitigating the impact of flooding.	Community	Ongoing	The Pitlochry and Moulin Community Resilience Group is established in this area. This group forms part of the A9 Resilience Plan. The Community Council is in the process of developing a community resilience plan which includes mitigating the impact of flooding.	Perth & Kinross Council will continue to coordinate with Pitlochry and Moulin Community Resilience Group on a priority needs basis where resources allow. Their existing resilience plan is under review as it is required to cover the Westhaugh of Dalshian area.
<b>Community Flood Action Groups</b> (80050012)	<b>G</b>	Community flood action groups are community based resilience groups which, on behalf of local residents and business, help to prepare for and minimise the effects of flooding. They reflect the interests of their local communities and may differ in composition and remit. There are over 60 groups already established in Scotland. The Scottish Flood Forum provides support for both new and existing groups. Aberfeldy Resilience Group operates in this area. Membership of the group includes Perth & Kinross Council, SEPA, Tayside Fire and Rescue and the Scottish Flood Forum. The group aims to help reduce flooding to businesses and communities within the Aberfeldy area, improve joint working before, during and after flooding and increase community resilience.	Community	Ongoing	The Aberfeldy Resilience Group is established in this area. The Tayside Waders Group also operate within the Aberfeldy area, focussing on flood risk in the Tayside Place/Crescent areas. They have set up a store of flood resilience equipment (pumps, sandbags, etc) with support from the Scottish Flood Forum. Sandbags were donated to the group from the local distillery. The Scottish Flood Forum have supported the Tayside Waders group to develop a community flood plan and test their plan with key agencies and access funding from the SSEN resilient communities fund.	Perth & Kinross Council will continue to coordinate with the Aberfeldy Resilience Group and the Tayside Waders on a priority needs basis where resources allow.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made in the Aberfeldy and Pitlochry PVA. Following flooding in December 2015/January	Further to the planned actions described in Table 2 of this report, Perth & Kinross Council will continue with awareness raising activities when developing proposals for the

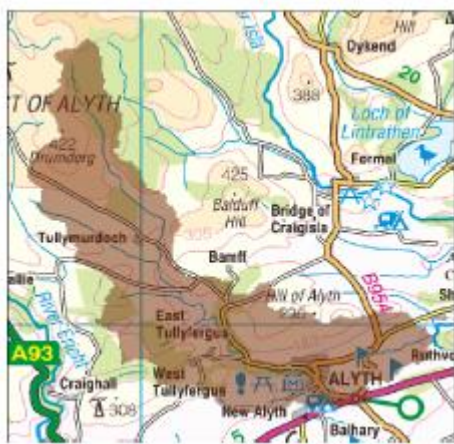
					2016, Perth & Kinross Council held de-briefing sessions with the Aberfeldy Resilience Group, Tayside Waders and Pitlochry Resilience Group. The Pitlochry and Aberfeldy communities have also been engaged during the initial stages of the respective flood studies. Questionnaires were issued to both communities to record local knowledge of flooding issues. A SEPA-sponsored community flooding play, 'Rapid Departure', was toured in Pitlochry in 2015.	remaining actions in its local flood risk management plans. The findings from the Pitlochry flood study (Action ID 80040005) have been disseminated to the local community in February 2019. The findings from the Aberfeldy flood study (Action ID 80050005) will also be disseminated to the community when available.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	Further to the self-help activities described in Table 2 of this report, some additional activity has been carried out in this PVA. Perth & Kinross Council trialled a pilot scheme offering Property Level Protection (PLP) measures to residents within selected communities (including Aberfeldy and Pitlochry). This scheme offered PLP products to residents at a reduced rate, benefitting from the Council's ability to buy products in bulk. The uptake of PLP through this scheme was very low across the pilot communities and the scheme did not progress beyond the pilot stage. However as part of the pilot scheme, the Council has taken action to protect Council housing within the selected communities. PLP measures have been fitted at council housing properties within Aberfeldy (no Council properties are affected by flooding in Pitlochry).	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset/ land managers	Ongoing	Further to the maintenance actions described in Table 2 of this report, some additional activity has been carried out in this PVA. Maintenance work has been carried out to the Weem Flood Protection Scheme as described above (Action ID 80060017).	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.



## 3.2.4 Alyth PVA 08/04

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	Alyth Burn (River Tay)

## Summary of Progress within PVA



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There are approximately 50 residential properties and 20 non-residential properties at risk of flooding in the Alyth PVA. The Annual Average Damages are approximately £160,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/04.

This PVA has been exposed to recent significant weather events including Storms Desmond and Frank in December 2015 and January 2016. Although this did not result in any significant flooding of properties, several roads were affected in the Alyth area. This followed on from an extreme flood event in July 2015 which affected approximately 59 properties in Alyth.

Following this flood event, emergency works were carried out by Perth & Kinross Council to remove debris from the burn and replace collapsed structures. Perth & Kinross Council, SEPA and SNH produced a joint investigation report, which was disseminated to the public, as well as holding various public events to improve awareness and promote resilience within the community. The Scottish Flood Forum also attended these events and has continued to support the community through advice to the community council and local residents.

There have been no significant changes within the catchment during the first LPD cycle, and a Natural Flood Management (NFM) study is programmed to begin within the 2020/21 financial year.

## Selected Actions in the Alyth PVA

PVA	Flood protection scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/04					G	R A			G		G	G			G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Alyth (PVA 08/04)

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
Natural Flood Management Study (80070003)	G	A natural flood management study has been recommended for Alyth to assess whether river/floodplain restoration and sediment management could help reduce flood risk. The study should take a catchment approach and consider the potential benefits and disbenefits and interaction between actions upstream and downstream	Perth & Kinross Council	2020-2021	The Alyth natural flood management study is programmed to commence in the 2020/21 financial year.	The study is programmed for completion in 2021.
Strategic Mapping and Modelling (80410016)	R	SEPA will seek to incorporate additional surface water data into the flood maps to improve understanding of flood risk. Approximately 900km <sup>2</sup> of improved surface water data is	SEPA	2016-2017	SEPA's current Surface water hazard maps use design rainfall estimates based on FEH99 methodology, this has now been superseded by FEH13 methodology. The FEH13 dataset contains	This action will not be taken forwards as described. SEPA will develop new surface water flood hazard maps over the remainder of Cycle 1. It is anticipated that updated



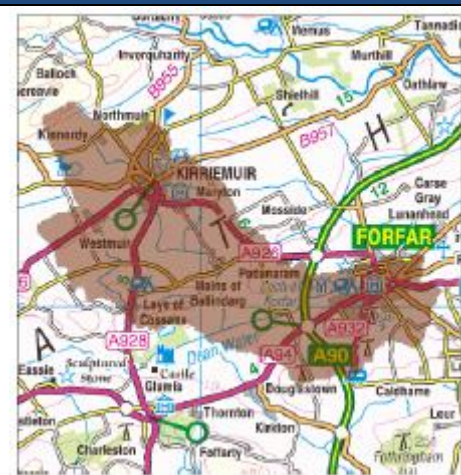
		currently available within this Local Plan District.			the latest science and understanding of rainfall across Scotland and represents a significant change in rainfall amounts compared to FEH99 dataset, as such it is no longer consider appropriate to deliver this action as originally intended.	flood mapping from this revised action will be available early in Cycle 2. Alongside this, SEPA will investigate the feasibility of developing an interim approach to assess the change in surface water hazard (and risk) associated with FEH13, such that we could consider it in the development of the 2021 FRM Strategies.
<b>Strategic Mapping and Modelling</b> (80410019)	<b>A</b>	Scottish Water will undertake further investigation and modelling in the Alyth sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	2016-2018	The Scottish Water assessment of flood risk within the Alyth sewer catchment has not yet started. The assessment will improve knowledge and understanding of surface water flood risk in this area.	The assessment will not be delivered within the planned dates but is still on track to deliver within FRM Cycle 1.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made in the Alyth PVA. Following a severe flooding event in Alyth in July 2015, Perth & Kinross Council, SEPA and SNH produced a joint investigation report into the mechanisms of the event. This was made publicly available and disseminated to the local community. Newsletters were also produced providing updates to residents regarding emergency works being carried out, as well as available support and advice about improving resilience for future flooding events. Alyth was also included in Perth & Kinross Council's PLP pilot project following the flood event. The Scottish Flood Forum also engaged with the local community following the previous flood incident. This included initial community engagement with both the Community Council and the wider community, exploring possible options regarding future SEPA and Local Authority engagement. The SFF provided a presentation and appropriate advice to support the short term strategic development of the community to deal with flooding. The Alyth (Town Hall) Community Resilience Group has developed a community emergency plan which	Further to the planned awareness raising activities described in Table 2 of this report, Perth & Kinross Council will undertake further awareness raising in conjunction with the Alyth Natural Flood Management Study (Action ID 80070003) which is programmed to commence in the 2020/21 financial year.

					is generic in nature and available to support other affected communities.	
<b>Self-Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	-	Ongoing	Further to the self-help actions described in Table 2 of this report, some additional progress has been made in the Alyth PVA. Perth & Kinross Council trialed a pilot scheme offering Property Level Protection (PLP) measures to residents within selected communities, including Alyth. This scheme offered PLP products to residents at a reduced rate, benefitting from the Council's ability to buy products in bulk. However the uptake of PLP through this scheme was very low across the pilot communities and the scheme did not progress beyond the pilot stage. However as part of the pilot scheme, the Council has taken action to protect Council housing within the selected communities. PLP measures have been fitted at council housing properties within Alyth. The Scottish Flood Forum's (SFF) community engagement within this PVA has included property level protection (PLP) exhibitions, selection, surveys and the provision of appropriate and relevant information to enable clients to make the right decisions. The SFF has provided ongoing community PLP training and Flood Warden and resilience group promotion. The SFF are also supporting community volunteers in Alyth to take part in a community flood alerting trial using the RiverTrack system.	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency plans/response actions have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning authority	Ongoing	No additional planning policies activities have been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.5 Kirriemuir &amp; Forfar PVA 08/05

Local Plan District	Local authority	Main catchment
Tay	Angus Council	River Tay

## Summary of Progress within PVA



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There are approximately 150 residential properties and 80 non-residential properties at risk of flooding in the Kirriemuir and Forfar PVA. The Annual Average Damages are approximately £950,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/05. The PVA has been experienced significant weather events including Storms Desmond and Frank in December 2015 and January 2016, which resulted in flooding in the upper Tay catchment. Key progress has been made with the letting of a contract for a flood protection study to identify the main flood sources in Kirriemuir and Forfar. SEPA have also made progress on strategic mapping and modelling undertaking a screening exercise to characterise the catchments of the Dean Water and Gairie Burn.

## Selected Actions in Kirriemuir &amp; Forfar PVA

	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/ response	Planning policies
PVA																		
08/05		G	G			A G			G		G	G		G	G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Kirriemuir and Forfar (PVA 08/05)

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Flood Protection Study</b> (80110005)	G	Angus Council will undertake a flood protection study for Forfar to be delivered by financial year 2019/20. This will assess whether flood storage, modification of conveyance, direct flood defences, sediment management and natural flood management could reduce flood risk. The study will also consider the viability of property level protection and will include surface water investigations in partnership with Scottish Water. The study will take a catchment approach considering the interactions between both upstream and downstream. Angus Council will coordinate the study with	Angus Council	2016 - 2020	The fluvial/NFM studies for Forfar were incorporated within the scope of Angus Council's Kirriemuir and Forfar Flood Protection Study which commenced in April 2018.	Work still to be completed by Angus Council includes:- <ul style="list-style-type: none"> <li>Undertaking resident and community Surveys</li> <li>Completing fluvial modelling and mapping</li> <li>Identifying a long list/short list of options</li> <li>Seeking to prioritise any NFM opportunities with associated water quality benefits</li> <li>An economic assessment of preferred options</li> <li>Preparation of a final report</li> </ul>



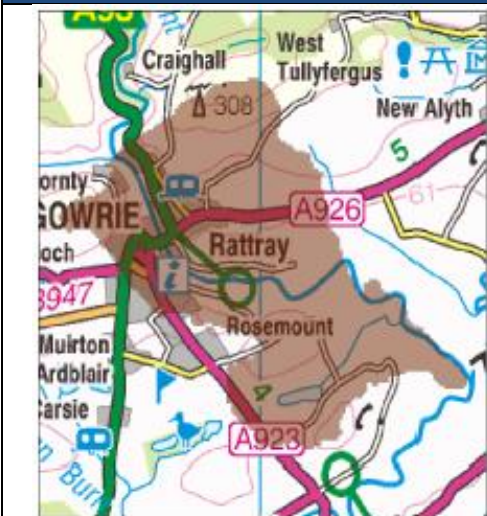
		Scottish Water, SEPA and Landowners, etc.				
<b>Flood Protection Study</b> (80100005)	<b>G</b>	A flood protection study has been recommended for Kirriemuir to assess whether flood storage, sediment management, modification of conveyance, direct flood defences and natural flood management could reduce flood risk. Natural flood management options that should be considered include floodplain restoration and sediment management. The study should also consider the viability of property level protection and property relocation. The study will take a catchment approach considering the interactions between both upstream and downstream. Angus Council will coordinate the study with Scottish Water, SEPA and Landowners, etc.	Angus Council	2016 - 2020	The fluvial/NFM studies for Kirriemuir were incorporated within the scope of Angus Council's Kirriemuir and Forfar Flood Protection Study.	Work still to be completed by Angus Council includes:- <ul style="list-style-type: none"> <li>• Undertaking resident and community Surveys</li> <li>• Complete fluvial modelling and mapping</li> <li>• Identifying a long list/short list of options</li> <li>• Seeking to prioritise any NFM opportunities with associated water quality benefits</li> <li>• An economic assessment of preferred options</li> <li>• Preparation of a final report</li> </ul>
<b>Maintain Flood Protection Scheme</b> (80100017)	<b>G</b>	The existing Kirriemuir Flood Prevention Scheme provides protection from the Gairie Burn. Angus Council will maintain the existing Flood Protection Scheme ensuring works are coordinated and infrastructure is fully assessed. This will be done by undertaking routine, reactive, programmed, regulatory and emergency response inspections. This work will be carried out by Angus Council engineers on a priority needs basis as resource allows. The general maintenance standard target is to conduct watercourse inspections annually and structural inspections biennially.	Angus Council	2016 - 2022	The existing Kirriemuir - Gairie Burn flood prevention scheme is inspected within Angus Council's watercourse inspection programme. Remedial work is identified and programmed with other identified priorities. Recent improvements have included the repair and reinstatement of a flood wall following inspection.	Angus Council will continue to inspect the Kirriemuir - Gairie Burn Flood Protection Scheme and prioritise its maintenance to ensure the maximum possible level of protection is maintained. Angus Council will continue to engage with J and D Wilkies on a regular basis as the main receptor of flooding to seek their views on the efficiency of the scheme.
<b>Strategic Mapping and Modelling</b> (80410016)	<b>A</b>	SEPA will seek to develop flood mapping in the Dean Water and Gairie Burn areas to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability. Where this work coincides with local authority studies, SEPA will work collaboratively to ensure consistent modelling approaches are applied.	SEPA	2017-2018	A screening exercise to characterise the catchment and identify the data necessary to support mapping improvements has been undertaken. Local authority flood studies are currently underway for Kirriemuir and Forfar.	SEPA will await the conclusion of these studies and review their suitability to inform updates to existing flood mapping before progressing further with this action.
<b>Strategic Mapping and Modelling</b> (80410019)	<b>G</b>	Scottish Water will review the assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling within the Kirriemuir & Forfar sewer catchments to improve knowledge and understanding of surface water flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	Forfar 2016-2019  Kirriemuir 2016-2019	The Scottish Water assessment of flood risk within the Forfar sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.  The Scottish Water assessment of flood risk within the Kirriemuir sewer catchment has not yet started. The assessment will improve knowledge and understanding of surface water flood risk in this area	The Kirriemuir assessment will be delivered within the planned timescale.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	2016 - 2022	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of

					duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	2016 - 2022	No additional awareness raising activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report. Angus Council will continue with awareness raising activities as part of the Kirriemuir and Forfar Flood Protection Study.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	-	2016 - 2022	No additional self-help activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Surface Water Plan/Study</b> (80080018)	<b>G</b>	Angus Council will prepare Surface Water Management Plans (SWMPs) to cover Forfar. This will identify the most sustainable measures to manage urban drainage and the risk of surface water flooding, as well as sources of flooding such as the sewer network, watercourses and sea. This will establish a long-term action plan for each area to manage surface water and influence future capital investment, drainage maintenance, land-use planning, emergency planning etc. Angus Council will co-ordinate this work with Scottish Water and SEPA through the local plan district (LPD) partnership with delivery of the SWMP by 2019/2020.	Angus Council	Forfar 2016 - 2020  Kirriemuir 2016 - 2020	The Kirriemuir and Forfar Flood Protection Study commenced in April 2018 The Stage 1 SWMP for Forfar is complete; Stage 2 is identifying opportunities to attenuate surface water within the study area. The SWMP for Kirriemuir has been incorporated within the scope of the Flood Protection Study.	Angus Council will continue to lead the SWMP Partnership and identify joint and/or separate solutions to surface water flooding within the Forfar and Kirriemuir study area. The Council will seek support from the SWMP Partners to prioritise solutions and seek funding.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Angus Council, asset / land managers	2016 - 2022	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 responders	2016 - 2022	No additional emergency plans/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning authority	2016 - 2022	No additional planning policy activities have been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.6 Blairgowrie PVA 08/06

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	River Ericht (River Tay)

## Summary of Progress within PVA



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There are approximately 30 residential properties and 60 non-residential properties at risk of flooding in the Blairgowrie PVA. The Annual Average Damages are approximately £120,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/06.

This PVA has been exposed to recent significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016, although this did not result in any significant flooding of properties. Scottish Water have delivered an assessment of flood risk within the Blairgowrie sewer catchment. SEPA has continued to operate a flood warning and flood forecasting service in this PVA. Perth & Kinross Council has supported the Blairgowrie Community Resilience Group to develop its community emergency plan.

There have been no significant changes within the catchment during the first LPD cycle, and a Surface Water Management Plan (SWMP) is programmed to begin within the 2020/21 financial year.

## Selected Actions in the Blairgowrie PVA

	Flood protection scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
PVA 08/06						<b>G</b>		<b>G</b>	<b>G</b>		<b>G</b>	<b>G</b>		<b>G</b>	<b>G</b>		<b>G</b>	<b>G</b>

## Summary of Progress of Actions to Manage Flood Risk in Blairgowrie (PVA 08/06)

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Strategic Mapping and Modelling</b> (80410019)	<b>G</b>	Scottish Water will undertake further investigation and modelling in the Blairgowrie sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	2016-2018	The Scottish Water assessment of flood risk within the Blairgowrie sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.	Not Applicable.
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Blairgowrie to the River Isla flood warning area which is part of the Ericht river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.



<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made in the Blairgowrie PVA. Blairgowrie Community Resilience Group has developed a community emergency plan which is generic in nature and is available to support other affected communities.	Further to the awareness raising described in Table 2 of this report, Perth & Kinross Council will carry out awareness raising activity as part of the Blairgowrie Surface Water Management Plan (Action ID 80120018) which is currently programmed to commence in the 2020/21 financial year.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	No additional self-help activities have been carried out in this PVA, beyond those described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Surface Water Plan/Study</b> (80120018)	<b>G</b>	The area must be covered by a surface water management plan or plans that set objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives. Scottish Water will provide local knowledge and understanding of the sewer network. This includes Scottish Water corporate data (as applicable) and, where available, outputs of Section 16 or integrated catchment studies, to assist with the surface water management planning process	Perth & Kinross Council	2020 - 2022	The Blairgowrie surface water management plan is programmed to commence in the 2020/21 financial year.	The surface water management plan is programmed for completion in 2022.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning authority	Ongoing	No additional planning policies activities have been carried out in this PVA, beyond those described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.7 Coupar Angus PVA 08/07

Local Plan District	Local Authority	Main River Catchment
Tay	Perth & Kinross Council	Coupar Burn (River Tay)

## Summary of Progress within PVA



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There are approximately 10 residential properties and fewer than 10 non-residential properties at risk of flooding in the Coupar Angus PVA. The Annual Average Damages are approximately £26,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/07.

The PVA has been exposed to recent significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively, with several roads affected in the Coupar Angus area. More recently the 'Beast from the East' (March 2018) brought about significant levels of snow fall across the PVA, although a gradual thaw limited any flooding issues resulting from snowmelt.

Flood hazard mapping improvements have been made in this area by SEPA.

Scottish Water has delivered an assessment of flood risk within the Coupar Angus sewer catchment.

SEPA, Perth & Kinross Council and the Scottish Flood Forum have engaged with the community in this PVA, whilst the Coupar Angus Community Resilience Group has developed a community emergency plan.

## Selected Actions in the Coupar Angus PVA

PVA	Flood protection scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/07						<b>G</b>			<b>G</b>		<b>G</b>	<b>G</b>			<b>G</b>		<b>G</b>	<b>G</b>

## Summary of Progress of Actions to Manage Flood Risk in Coupar Angus (PVA 08/07)

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Strategic Mapping and Modelling (80410016)</b>	<b>G</b>	SEPA will seek to develop flood mapping in the Coupar Burn area to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.	SEPA	2016	Following a screening exercise to characterise the catchment, no changes to the existing flood mapping were deemed necessary for the Burrelton Burn. Within the wider PVA, improvements to the river hazard mapping for the Coupar, Kettins and Kinnochtry Burns were undertaken in 2015 with the inclusion of a local authority study.	Action Complete; no further action required.
<b>Strategic Mapping and Modelling (80410019)</b>	<b>G</b>	Scottish Water will undertake further investigation and modelling in the Coupar Angus sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management	Scottish Water	2016 - 2022	The Scottish Water assessment of flood risk within the Coupar Angus sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.	Not Applicable.



		(Scotland) Act 2009				
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made within the Coupar Angus PVA. Community drop-in sessions were arranged in Coupar Angus in September 2016 following the completion of a flood scheme feasibility study. These events were attended by the Council, SEPA and the Scottish Flood Forum. These sessions highlighted to the community that a flood scheme was not economically viable and how on-going flood risk would be managed (via the other actions identified in the Tay Local Flood Risk Management Plan). This activity was coordinated with the Coupar Angus Community Resilience Group. The Scottish Flood Forum also engaged with the local community following previous flooding. This included initial community engagement with both the Community Council and the wider community, exploring possible options regarding future SEPA and Local Authority engagement. The SFF provided a presentation and appropriate advice to support the short term strategic development of the community to deal with flooding.	Refer to planned actions described in Table 2 of this report.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	Further to the emergency plans/response actions described in Table 2 of this report, some additional progress has been made within the Coupar Angus PVA. The Scottish Flood Forum's (SFF) community engagement within this PVA has included property level protection (PLP) exhibitions, selection, surveys and the provision of appropriate and relevant information to enable clients to make the right decisions. The SFF has provided ongoing community PLP training and Flood Warden and resilience group promotion. The Coupar Angus Community Resilience Group is active and available to support during an emergency. The Group has developed a	Refer to planned actions described in Table 2 of this report.

					community emergency plan which is generic in nature and is available to support other affected communities.	
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency plans/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.8 Luncarty, Stanley, Bankfoot, Dunkeld &amp; Birnam PVA 08/08

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	River Tay

## Summary of Progress within PVA



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There are approximately 360 residential properties and 130 non-residential properties at risk of flooding in this PVA. The Annual Average Damages are approximately £740,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/08.

This PVA has been exposed to recent significant weather events including Storms Desmond and Frank in December 2015 and January 2016, which resulted in localised surface water flooding in Bankfoot.

Following previous investigations into a flood scheme in Bankfoot, community drop-in events were held in 2016 to raise awareness of how flood risk would be managed in future within the PVA. The events were attended by Perth & Kinross Council, SEPA, Scottish Water and Scottish Flood Forum. Perth & Kinross Council carried out clearance and repair works in Bankfoot in 2017, to improve channel conveyance and reduce surface water issues.

Scottish Water has delivered two assessments of flood risk within the Bankfoot and Dunkeld sewer catchments.

A number of Community Resilience Groups within the PVA have developed emergency plans which can be activated during significant flood events. This includes Auchtergaven Community Council and Bankfoot Resilience Group, who communicate with the Council and receive updates regarding any flood risk management activities in the area.

There have been no significant changes affecting progress but it is worth noting that there may be future catchment changes due to the A9 Dualling project.

## Selected Actions in the Luncarty, Stanley, Bankfoot, Dunkeld &amp; Birnam PVA

PVA	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/08		G				A G		G	G		G	G			G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Luncarty, Stanley, Bankfoot, Dunkeld &amp; Birnam (PVA 08/08)

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Flood Protection Study</b> (80170005)	G	A flood protection study has been recommended for Dunkeld to assess whether modification of conveyance, direct flood defences and sediment management could reduce flood risk. The study should build on previous studies and take a staged approach to allow collaboration with SEPA on strategic mapping and modelling for the Tay. The study should take a catchment approach and consider the potential benefits and disbenefits and interaction between actions upstream and	Perth & Kinross Council	2019 - 2021	The Dunkeld Flood Protection Study is programmed to commence in the 2019/20 financial year.	The study is programmed for completion in 2021.

		downstream.				
<b>Strategic Mapping and Modelling</b> (80410016)	<b>A</b>	SEPA will seek to develop flood mapping in the River Tay area to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability. Where this work coincides with local authority studies, SEPA will work collaboratively to ensure consistent modelling approaches are applied.	SEPA	2016 onwards	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken. Several projects are currently underway at this location: <ul style="list-style-type: none"> <li>Transport Scotland A9 Dualling (Pass of Birnam to Tay Crossing) study;</li> <li>SEPA study of Caputh to Ballathie including the lower River Isla.</li> </ul> These projects will collectively enable the revision of flood mapping for the River Tay between Dunkeld and Ballathie.	It is intended to complete this action by the end of Cycle 1; however clarification is being sought over the likely timescales for the availability of the Transport Scotland study.
<b>Strategic Mapping and Modelling</b> (80410019)	<b>G</b>	Scottish Water will review the assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling in the Bankfoot and Dunkeld sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	Bankfoot 2016 - 2018  Dunkeld 2016 - 2017	The Scottish Water assessment of flood risk within the Bankfoot and Dunkeld sewer catchments have been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.	Not Applicable.
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Boat of Murthly, Caputh to Kinclaven, Dalguise, Dunkeld and Burnmouth Road, Logierait to Victoria Bridge and the Stanley Mills flood warning areas which are part of the Tay river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible Authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made within this PVA. Community drop-in sessions were arranged in Bankfoot in September 2016 following the completion of a flood scheme feasibility study.	Further to the awareness raising described in Table 2 of this report, Perth & Kinross Council will continue with awareness raising activities when developing proposals for the remaining actions in the Tay Local Flood Risk Management Plan. This will be



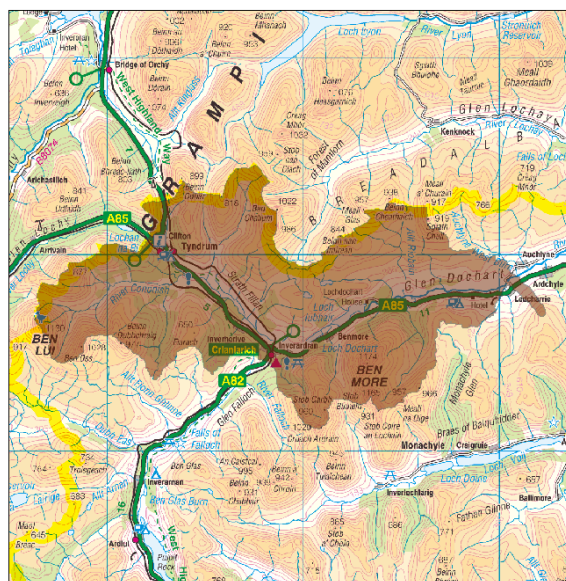
				<p>These events were attended by the Council, SEPA, Scottish Water and the Scottish Flood Forum. These sessions highlighted to the community that a flood scheme was not economically viable and how on-going flood risk would be managed (via the other actions identified in the Tay Local Flood Risk Management Plan).</p> <p>Perth &amp; Kinross Council has engaged in on-going communications with Bankfoot Community Council and the Bankfoot Community Resilience Group. Updates on clearance and repair works carried out in the Bankfoot area have been provided to both of these groups.</p> <p>The Scottish Flood Forum also engaged with the local community in Bankfoot following previous flooding. This included initial community engagement with both the Community Council and the wider community, exploring possible options regarding future SEPA and Local Authority engagement. The SFF provided a presentation and appropriate advice to support the short term strategic development of the community to deal with flooding.</p> <p>Stanley, Bankfoot, Dunkeld &amp; Birnam Community Resilience Groups have developed community emergency plans which are generic in nature and are available to support other affected communities.</p>	extended to the other communities at risk of flooding in this PVA.
Self Help (80410011)	G	Refer to Description in <a href="#">Table 2</a> .	-	Ongoing <p>Further to the self-help actions described in Table 2 of this report, some additional progress has been made within this PVA.</p> <p>Perth &amp; Kinross Council trialled a pilot scheme offering Property Level Protection (PLP) measures to residents within selected communities, including Bankfoot. This scheme offered PLP products to residents at a reduced rate, benefitting from the Council's ability to buy products in bulk. However the uptake of PLP through this scheme was very low across the pilot communities and the scheme did not progress beyond the pilot stage.</p> <p>The Scottish Flood Forum's (SFF) community engagement within this PVA has included property level protection (PLP) exhibitions, selection, surveys and the provision of appropriate and relevant information to enable clients to make the right decisions. The SFF has provided ongoing community PLP training and Flood Warden and resilience group promotion.</p> <p>The Scottish Flood Forum also continues to engage with the Bankfoot Community Resilience Group to network with other groups in Scotland and support them to investigate Natural Flood</p>	Refer to planned actions described in Table 2 of this report.

					Management.	
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	Further to the maintenance actions described in Table 2 of this report, some additional progress has been made within this PVA. Significant clearance and repair works have been carried out in Bankfoot. In 2017, road drainage improvements were made at Tulliebelton Road (to reduce the risk of surface water flooding issues at this location) and sediment management works were carried out at two locations on the Glenshauch Burn.	Further to the maintenance described in Table 2 of this report, Perth & Kinross Council plans to carry out further road drainage improvements on Dunkeld Road, Bankfoot in the 2018/19 financial year.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.9 Tyndrum and Crianlarich PVA 08/09

Local Plan District	Local authority	Main catchment
Tay	Stirling Council	River Tay

## Summary of Progress Within PVA



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There are approximately 20 residential properties and 10 non-residential properties at risk of flooding in the Tyndrum and Crianlarich PVA. The Annual Average Damages are approximately £160,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/09.

This PVA has been exposed to recent significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively. More recently the 'Beast from the East' (March 2018) brought about significant levels of snow fall across the PVA, although a gradual thaw limited any flooding issues resulting from snowmelt. SEPA have commenced flood hazard mapping improvements in this area.

Stirling Council is actively undertaking watercourse inspections to identify areas of high risk of localised flooding. Where problems are identified and are within council land, remedial works are identified. These works are prioritised annually on a clearance and repair schedule based on the level of risk and on the annual maintenance budget. Where problems are identified within private ownership the council will notify the owner of the remedial works required. The council are trialling use of the criminal justice services to undertake some clearance works; if this proves successful it will be extended to all PVAs.

## Selected Actions in the Tyndrum &amp; Crianlarich PVA

PVA	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/09						A			G		G	G			A		G	G

## Summary of Progress of Actions to Manage Flood Risk in Tyndrum &amp; Crianlarich (PVA 08/09)

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
Strategic Mapping and Modelling (80410016)	A	SEPA will seek to develop flood mapping in the River Fillin area to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.	SEPA	2018-2019	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken. A modelling project is currently underway which will enable a revision of the river flood hazard mapping for Crianlarich.	It is intended to complete this action by the end of Cycle 1.
Flood Forecasting (80410009)	G	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as



					(such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	No additional awareness raising activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	No additional self-help activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>A</b>	Refer to Description in <a href="#">Table 2</a> .	Stirling Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report. Stirling Council has reported some funding issues which have affected the delivery of clearance and repair actions.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency plans/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.10 Almondbank PVA 08/10

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	River Almond (River Tay)

## Summary of Progress Within PVA



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There are approximately 50 residential properties and 110 non-residential properties at risk of flooding in the Almondbank PVA. The Annual Average Damages are approximately £1.2 million. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/10.

There have been no significant weather events in this PVA since the publication of the Tay Local FRM Plan.

Significant progress has been made in the PVA since the publication of the Tay Local FRM Plan. The Almondbank Flood Protection Scheme is now substantially complete and operational. The scheme has reduced flood risk to approximately 31 residential and 48 non-residential properties and has delivered additional benefits to the community through improvements to leisure facilities and the national cycle network.

Awareness raising and community engagement has been carried out in conjunction with the construction of the flood scheme and to keep the community updated on progress. The Scottish Flood Forum continues to support the community.

Following previous river bank erosion, Perth & Kinross Council completed emergency erosion protection works and repairs to a drainage outfall on the River Almond at Inveralmond, Perth in 2017. Scottish Water also completed repairs to an adjacent drainage outfall.

SEPA have commenced flood mapping improvements in this area.

Scottish Water has delivered an assessment of flood risk within the Almondbank sewer catchment and commenced a further assessment for the Perth City sewer catchment.

## Selected Actions in the Almondbank PVA

PVA	Flood protection scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/10	A		G			A R A		G	G		G	G			G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Almondbank (PVA 08/10)

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Flood Protection Scheme/ Works</b> (80200006)	<b>A</b>	The Almondbank Flood Protection Scheme is currently under construction and is scheduled to be completed by summer 2017. The scheme will reduce the risk of flooding to Almondbank from the River Almond and East Pow Burn. The scheme includes flood defences, flood storage, bridge raising and surface water actions. The scheme will offer a 1 in 200 year standard of protection.	Perth & Kinross Council	2016-2017	Phase 2 of the Almondbank Flood Protection Scheme has progressed well with some delays due to unexpected ground and weather conditions. The flood scheme was substantially completed in September 2018 with further landscaping works being undertaken between October 2018 and spring 2019 due to seasonal constraints. This is later than the programmed completion of summer 2017.	The flood scheme is substantially complete.
<b>Maintain</b>	<b>G</b>	Continue to maintain the existing flood protection	Perth &	2016 -	Perth & Kinross Council's Roads Maintenance	Routine inspections of the Perth Flood

<b>Flood Protection Scheme</b> (80200017)		schemes that protect Almondbank and Perth against flooding. The schemes include the Perth Flood Protection Scheme that was completed 2002 and Almondbank Flood Protection Scheme which is currently under construction and due to be completed in 2016.	Kinross Council	2022	Partnership carries out routine inspections of the existing Perth Flood Protection Scheme. Maintenance works are carried out as required. These inspections will be extended to the Almondbank Flood Protection Scheme later in 2018. River bank erosion works and outfall repairs were completed at Inveralmond in 2017.	Protection Scheme will continue to be carried out as part of the Council's statutory duties. Routine inspections of the Almondbank Flood Protection Scheme will commence in 2019. Inspections will be carried out on an annual basis and following flood events. Maintenance works will be carried out as required.
<b>Strategic Mapping and Modelling</b> (80410016)	A	SEPA will seek to develop flood mapping in the River Almond area (from Newton to the River Tay confluence) to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.	SEPA	2017	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken. A local authority Flood Protection Scheme is currently under construction for Almondbank.	SEPA will await the conclusion of the Almondbank Flood Protection Scheme and coastal mapping improvements within the wider Firth of Tay area before progressing further with this action. Opportunities will be sought to align the delivery of this project with any required developments to Flood Warning schemes in the area.
<b>Strategic Mapping and Modelling</b> (80410016)	R	SEPA will seek to incorporate additional surface water data into the flood maps to improve understanding of flood risk. Approximately 900km <sup>2</sup> of improved surface water data is currently available within this Local Plan District.	SEPA	2016 - 2017	SEPA's current Surface water hazard maps use design rainfall estimates based on FEH99 methodology, this has now been superseded by FEH13 methodology. The FEH13 dataset contains the latest science and understanding of rainfall across Scotland and represents a significant change in rainfall amounts compared to FEH99 dataset, as such it is no longer considered appropriate to deliver this action as originally intended.	This action will not be taken forwards as described. SEPA will develop new surface water flood hazard maps over the remainder of Cycle 1. It is anticipated that updated flood mapping from this revised action will be available early in Cycle 2. Alongside this SEPA will investigate the feasibility of developing an interim approach to assess the change in surface water hazard (and risk) associated with FEH13, such that we could consider it in the development of the 2021 FRM Strategies.
<b>Strategic Mapping and Modelling</b> (80410019)	A	Scottish Water will review the assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling in the Almondbank and Perth City sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	Almond-bank 2016 - 2018  Perth City 2016 - 2018	The Scottish Water assessment of flood risk within the Almondbank sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.  The Scottish Water assessment of flood risk within the Perth City sewer catchment has started but been delayed. The assessment will improve knowledge and understanding of surface water flood risk in this area.	Assessment will not deliver within LFRMP timescales but is still on track to deliver within FRM Cycle 1
<b>Maintain Flood Warning</b> (80410030)	G	Continue to maintain the Almondbank and the Inveralmond Industrial Estate flood warning areas which are part of the Almond (Perth) river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.
<b>Flood Forecasting</b> (80410009)	G	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as

					(such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible Authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made within this PVA. Perth & Kinross Council has carried out awareness raising activity during the implementation of the Almondbank Flood Protection Scheme. A project specific website has been set up and regular newsletters have been issued to the community throughout the construction phase of the flood scheme. The Scottish Flood Forum (SFF) has also engaged with the local community following previous flooding. This included initial community engagement with both the Community Council and the wider community, exploring possible options regarding future SEPA and Local Authority engagement. The SFF provided a presentation and appropriate advice to support the short term strategic development of the community to deal with flooding.	Refer to planned actions described in Table 2 of this report.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	-	Ongoing	Further to the self-help actions described in Table 2 of this report, some additional progress has been made within this PVA. The Scottish Flood Forum's (SFF) community engagement within this PVA has included property level protection (PLP) exhibitions, selection, surveys and the provision of appropriate and relevant information to enable clients to make the right decisions. The SFF has provided ongoing community PLP training and Flood Warden and resilience group promotion.	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	Further to the maintenance actions described in Table 2 of this report, some additional progress has been made within this PVA. Following previous river bank erosion, Perth & Kinross Council completed erosion protection works and repairs to a drainage outfall on the River Almond at Inveralmond, Perth in 2017. Scottish Water also completed repairs to an adjacent drainage outfall in 2017.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b>	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency plans/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.



(80410014)						
Planning Policies (80010001)	G	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.



## 3.2.11 Scone PVA 08/11

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	Annaty Burn (River Tay)

## Summary of Progress Within PVA



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There are approximately 40 residential properties and 50 non-residential properties at risk of flooding in the Scone PVA. The Annual Average Damages are approximately £320,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/11.

There has been no significant flooding within this PVA since the publication of the Tay Local FRM Plan.

Perth & Kinross Council are currently preparing documents to engage a consultant to take forward the Scone Flood Protection Scheme in the 2018/19 financial year.

The Council has continued to carry out a biennial CCTV survey of the barrel drain. The Council also carried out sediment management works on the Annaty Burn (at the A94 Road Bridge) in 2017. Scottish Water has delivered an assessment of flood risk within the Scone sewer catchment and commenced a further assessment for the Perth City sewer catchment.

There have been no major changes to this catchment, although it should be noted that a housing development and road infrastructure improvement project are planned at the northern extents of Scone.

## Selected Actions in the Scone PVA

PVA	Flood protection scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/11	G	G				A			G		G	G		G	G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Scone (PVA 08/11)

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Flood Protection Scheme/ Works</b> (80230006)	G	A flood protection scheme has been proposed to address the risk of river flooding to the Goshenbank Park and Burnside area in Scone from the Annaty Burn. The preferred option consists of raising existing footbridges and constructing riverside defences. The scheme would provide a 1 in 200 year standard of protection. Outline design development of the scheme is expected to commence in the 2018/19 financial year.	Perth & Kinross Council	2018 - 2021	The outline design of the Annaty Burn Flood Protection Scheme is programmed to commence in the 2018/19 financial year.	The flood protection scheme is programmed for completion in 2020/21.
<b>Flood Protection Study</b> (80230005)	G	A flood protection study has been carried out by Perth & Kinross Council for the Annaty Burn, Scone in 2007. The study identified a viable flood protection scheme that is currently being	Perth & Kinross Council	2020 - 2022	The Scone Flood Protection Study is programmed to commence in the 2020/21 financial year.	The study is programmed for completion in the 2021/22 financial year.

		<p>progressed as a priority in the first flood risk management cycle. Further study has been recommended to supplement the previous investigations, looking at natural flood management and surface water flooding (see also Action ID 80210018). Natural flood management options that should be considered include river/floodplain restoration and sediment management. The study should also investigate the viability of property level protection. The study should take a catchment approach and consider the potential benefits and disbenefits and interaction between actions upstream and downstream.</p> <p>Perth &amp; Kinross Council has also carried out a flood protection study for the barrel drain in Scone in 2007 which did not identify a viable flood protection scheme. However the Perth &amp; Kinross Council intends to re-examine this previous study following recent drain failures and this will be carried out in conjunction with the studies identified above.</p>				
<b>Strategic Mapping and Modelling</b> (80410019)	<b>A</b>	<p>Scottish Water will review the assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling in the Perth City and Scone sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.</p>	Scottish Water	<p>Perth City 2016-2019</p> <p>Scone 2016 - 2019</p>	<p>The Scottish Water assessment of flood risk within the Perth City sewer catchment has started, but been delayed. The assessment will improve knowledge and understanding of surface water flood risk in this area.</p> <p>The Scottish Water assessment of flood risk within the Scone sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.</p>	Assessment will not deliver within LFRMP timescales but is still on track to deliver within FRM Cycle 1.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible Authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made within this PVA. Perth & Kinross Council has engaged with Scone community council. The Council carries out a bi-annual CCTV survey of the barrel drain in Scone and the results of this survey is shared with the Community Council. This helps to raises	Further to the planned awareness raising activities described in Table 2 of this report, Perth & Kinross Council will carry out awareness raising activities in conjunction with the Annaty Burn Flood Protection Scheme, the Scone Flood Protection Study and Surface Water Management Plan (Action IDs 80230005, 80230006 &

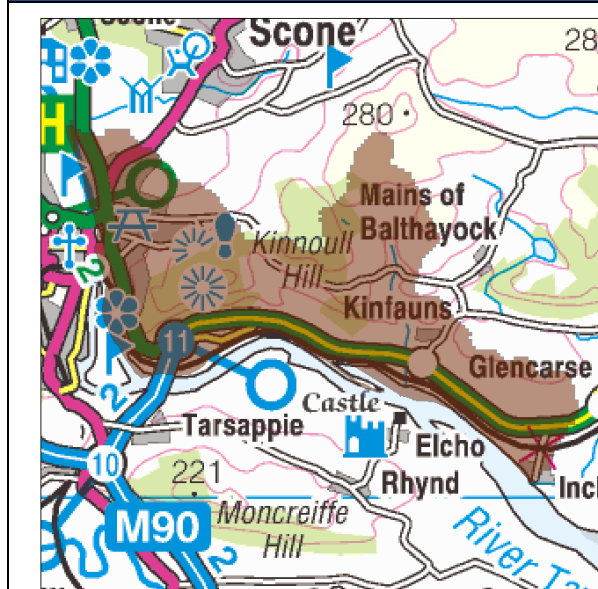
					awareness of the responsibilities of landowners in regard to the drain. Recent discussions have also been held around the flooding and drainage proposals for the new housing development in Scone (north).	80210018) which are programmed to commence in 2018/19 and 2020/21. The Council will continue to engage with the Community Council and local landowners regarding the results of future CCTV surveys of the barrel drain.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	-	Ongoing	No additional self-help activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Surface Water Plan/Study</b> (80210018)	<b>G</b>	The area must be covered by a surface water management plan or plans that set objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives. This surface water management plan will be delivered by Perth & Kinross Council as part of the flood protection study (Action ID 80230005). Scottish Water will provide local knowledge and understanding of the sewer network. This includes Scottish Water corporate data (as applicable) and, where available, outputs of Section 16 or integrated catchment studies, to assist with the surface water management planning process.	Perth & Kinross Council	2020 - 2022	The Scone surface water management plan is programmed to commence in the 2020/21 financial year.	The surface water management plan is programmed for completion in the 2021/22 financial year.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	Further to the maintenance actions described in Table 2 of this report, some additional progress has been made within this PVA. Recent maintenance carried out by Perth & Kinross Council in this area includes sediment management works on the Annaty Burn (at the A94 road bridge) carried out in October 2017. Perth & Kinross Council is also committed to carrying out a bi-annual CCTV inspection of the barrel drain, with any identified defects being referred to the relevant landowners for action.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency plans/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.



## 3.2.12 Perth to Kinfauns (north of A90) PVA 08/12

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	River Tay

## Summary of Progress Within PVA



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There are approximately 80 residential properties and 20 non-residential properties at risk of flooding in this PVA. The Annual Average Damages are approximately £180,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/12. This PVA has been exposed to recent significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively, with several properties and roads affected. More recently the 'Beast from the East' (March 2018) brought about significant levels of snow fall across the PVA, although a gradual thaw limited any flooding issues resulting from snowmelt.

Scottish Water and Perth & Kinross Council are working in partnership on the Perth Integrated Catchment Study (ICS), due for completion in 2019. The optioneering phase (to establish preferred solutions to the identified flooding issues) will progress thereafter.

Scottish Water has commenced an assessment of flood risk within the Perth City sewer catchment.

SEPA have continued to provide a flood forecasting service and operate their existing flood warning system in this PVA.

## Selected Actions in the Perth to Kinfauns (north of A90) PVA

	Flood protection scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
PVA 08/12	G		G			A		G	G		G	G		G	G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Perth to Kinfauns (north of A90) (PVA 08/12)

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Flood Protection Scheme/ Works</b> (80240006)	G	Flood protection works have been proposed at Bridgend in Perth to reduce the risk of surface water flooding. The proposed works include a high capacity drainage channel and outfall to the River Tay. Outline design of the works will commence in 2019/20.	Perth & Kinross Council	2019 - 2021	The outline design of the flood protection works at Bridgend is programmed to commence in the 2019/20 financial year.	The flood protection works are programmed for completion in the 2020/21 financial year.
<b>Maintain Flood Protection Scheme</b> (80260017)	G	Continue to maintain the existing Perth Flood Protection Scheme along the east bank of the River Tay. The scheme was completed in 2002 and includes major flood defence works such as embankments, walls, sluice gates, ponds and pumping stations.	Perth & Kinross Council	Ongoing	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the existing flood defences in Perth. Maintenance works are carried out as required. Recent works have included repairs to flood gates, access improvements and trash screen	Routine inspections will continue to be carried out as part of the Council's statutory duties. Inspections will be carried out on an annual basis and following flood events.

					<p>maintenance.</p> <p>A full pseudo-closure of the flood gates on the Perth Flood Protection Scheme is carried out annually to test the operation of the scheme and ensure operatives are fully trained in the event of a flood. This also serves to highlight any maintenance issues that may require to be addressed.</p>	
<b>Strategic Mapping and Modelling</b> (80410019)	<b>A</b>	Scottish Water will review the assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling in the Perth City and Scone sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	Perth City 2016 - 2018  Scone 2016 - 2019	The Scottish Water assessment of flood risk within the Perth City sewer catchment has started but is delayed. The assessment will improve knowledge and understanding of surface water flood risk in this area.	Assessment will not deliver within the planned timescales in the LFRMP but is still on track to deliver within FRM Cycle 1.
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Basement Properties from North Inch to Friarton Bridge flood warning area which is part of the Tay river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	No additional awareness raising activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Further to the planned awareness raising activities described in Table 2 of this report, Perth & Kinross Council will carry out awareness raising activity in conjunction with the Perth Integrated Catchment Study, Surface Water Management Plan and flood protection works at Bridgend (Action IDs 80240019, 80240018 and 80240006).
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	No additional self-help activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Surface Water</b>	<b>G</b>	The area must be covered by a surface water management plan (SWMP) or plans that set	Perth & Kinross	2018 - 2020	The Perth surface water management plan is programmed to commence in the 2018/19 financial	The surface water management plan is programmed for completion in the 2019/20



<b>Plan/Study</b> (80240018)		objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives. Scottish Water will provide local knowledge and understanding of the sewer network. This includes Scottish Water corporate data (as applicable) and, where available, outputs of Section 16 or integrated catchment studies, to assist with the surface water management planning process.	Council		year.	financial year.
<b>Surface Water Plan/Study</b> (80240019)	<b>G</b>	An integrated catchment study covering the Perth City catchment will be carried out to support the surface water management planning process in the Perth surface water management priority area. The study will improve knowledge and understanding of the interactions between the above ground and below ground drainage network e.g. with the sewer network, watercourses and (where applicable) the sea. This will improve the understanding of local surface water flood risk. The stated timescales and funding arrangements between Scottish Water and Perth & Kinross Council will take the studies through the Scoping and Modelling phases to define the significant flooding issues in the catchment. After this has been completed, it is expected that the integrated catchment study partnerships will remain in place and will progress with the Optioneering phase to establish the preferred solution(s) to the significant flooding issues.	Scottish Water in partnership with Perth & Kinross Council	Perth City 2016 - 2019	The Perth Integrated Catchment Study commenced in November 2016. The contract was awarded to ARC. The following elements of the study are complete:- <ul style="list-style-type: none"> <li>• Scoping</li> <li>• Flow Survey</li> <li>• Manhole and Ancillary Survey</li> <li>• Model Build</li> <li>• Historical Verification</li> </ul> The study is on programme for completion in 2019.	Scottish Water and Perth & Kinross Council will liaise with ARC to complete the catchment flood assessment and finalise the study report in 2019.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policy</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.13 Perth Centre PVA 08/13

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	Perth coastal

## Summary of Progress Within PVA



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There are approximately 320 residential properties and 260 non-residential properties at risk of flooding. The Annual Average Damages are approximately £1.8 million. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/13.

This PVA has been exposed to recent significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively, with several properties and roads affected. More recently the 'Beast from the East' (March 2018) brought about significant levels of snow fall across the PVA, although a gradual thaw limited any flooding issues resulting from snowmelt.

Scottish Water and Perth & Kinross Council are working in partnership on the Perth Integrated Catchment Study (ICS), due for completion in 2019. The optioneering phase (to establish preferred solutions to the identified flooding issues) will progress thereafter.

Progress has been made on the Craigie Burn flood study and a model has been developed as part of the Perth ICS. Perth & Kinross Council are currently preparing contract documents to engage consulting engineers to complete the flood study and to develop the Perth Surface Water Management Plan.

Perth & Kinross Council has carried out significant maintenance, clearance and repair works on the Perth Flood Protection Scheme. Further works will be carried out on the North Muirton Flood Embankment in 2019.

Scottish Water has delivered an assessment of flood risk within the Almondbank sewer catchment and commenced a further assessment for the Perth City sewer catchment.

SEPA have continued to provide a flood forecasting service and operate their existing flood warning system in this PVA.

The Council coordinates the Perth & Kinross Local Resilience Partnership's Community and Business Resilience Group in this PVA. Awareness raising activity has been carried out by the Council and the Scottish Flood Forum, and will continue to be delivered through the projects noted above.

No significant changes have taken place within the PVA over the first FRM cycle so far, however there are a number of developments proposed or taking place around the Perth boundary.

## Selected Actions in the Perth Centre PVA

PVA	Flood protection scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/13		A	G			A		G	G	G	G	G		G	G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Perth Centre (PVA 08/13)

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Flood Protection Study</b> (80290005)	A	A flood protection study has been recommended for Perth and will consider flood risk from the Craigie Burn. The study will assess direct flood defences and sediment management. The study should take a catchment approach and consider	Perth & Kinross Council	2016 - 2018	The Craigie Burn flood study commenced on programme in November 2016 as part of the Perth integrated catchment study (Action ID's 80240018 and 80240019). A hydraulic model has been produced and is currently undergoing verification.	The study is now programmed for completion in the 2019/20 financial year.

		the potential benefits and disbenefits and interaction between actions upstream and downstream. The study area (primarily Queens Avenue, Queen Street and Windsor Terrace) falls within the area of the Perth City integrated catchment study and surface water management plan (Action ID's 80240018 and 80240019). The study will therefore be integrated with the Perth integrated catchment study.			Contract documents are currently being prepared to engage a consulting engineer to take the study forward in the 2018/19 financial year. The completion of the study will therefore be later than programmed.	
<b>Maintain Flood Protection Scheme (80290017)</b>	<b>G</b>	Continue to maintain the flood protection schemes that protect Perth against flooding. The schemes include the Perth Flood Protection Scheme that was completed 2002, including flood defences on the Perth Town Lade and Craigie Burn, and the Almondbank Flood Protection Scheme which is currently under construction and due to be completed in 2016.	Perth & Kinross Council	Ongoing	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the existing flood defences in Perth. Maintenance works are carried out as required. Recent works have included sediment management works on the Craigie Burn and clearance works on the flood storage pond at Broxden in 2017. A full pseudo closure of the flood gates on the Perth Flood Protection Scheme is carried out annually to test the operation of the scheme and ensure operatives are trained in the vent a full closure is required. This also serves to highlight any maintenance that may be required. The programme of routine inspections will be extended to the Almondbank Flood Protection Scheme in 2019.	Routine inspections will continue to be carried out as part of the Council's statutory duties. Inspections will be carried out on an annual basis and following flood events.
<b>Maintain Flood Protection Scheme (80300017)</b>	<b>G</b>	Continue to maintain the Perth Flood Protection Scheme. The scheme was completed in 2002 and includes major flood defence works such as embankments, walls, sluice gates, ponds and pumping stations.	Perth & Kinross Council	Ongoing	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the existing flood defences in Perth. Maintenance works are carried out as required. Recent works have included sediment management works on the Craigie Burn, works to address surface water flooding at Perth Harbour, repairs to the South Inch and Inveralmond pumping stations, repairs to flood gates, access improvements, trash screen maintenance and flood storage reservoir inspections. A full pseudo closure of the Perth Flood Protection Scheme is carried out annually to test the operation of the scheme and ensure operatives are trained in the vent a full closure is required. This also serves to highlight any maintenance that may be required. Investigation works have been carried out on the North Muirton flood embankment.	Routine inspections will continue to be carried out as part of the Council's statutory duties. Inspections will be carried out on an annual basis and following flood events. The Council will install a sheet piled cut off wall at the North Muirton Flood Embankment in 2019 to prevent ground water seepage during future flood events.
<b>Strategic Mapping and Modelling (80410016)</b>	<b>A</b>	SEPA will seek to develop flood mapping in the River Almond area to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability. Where this work coincides with local authority studies, SEPA will work collaboratively to ensure consistent modelling approaches are applied.	SEPA	2017	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken. A local authority Flood Protection Scheme is currently under construction for Almondbank.	SEPA will await the conclusion of the Almondbank Flood Protection Scheme and coastal mapping improvements within the wider Firth of Tay area before progressing further with this action. Opportunities will be sought to align the delivery of this project with any required developments to flood warning schemes in the area.
<b>Strategic</b>	<b>A</b>	Scottish Water will review the assessment of flood	Scottish	Perth City	The Scottish Water assessment of flood risk within	The Perth City assessment will not be



<b>Mapping and Modelling</b> (80410019)		risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling in the Almondbank and Perth City sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Water	2016 - 2018  Almond - bank 2016 - 2018	the Perth City sewer catchment has started but been delayed. The assessment will improve knowledge and understanding of surface water flood risk in this area. The Scottish Water assessment of flood risk within the Almondbank sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.	delivered within the planned LFRMP timescales but is still on track to be delivered within FRM Cycle 1
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Almondbank and the Inveralmond Industrial Estate flood warning areas which are part of the Almond (Perth) river flood warning scheme. Continue to maintain the North Muirton Industrial Estate and the Basement Properties from North Inch to Friarton Bridge flood warning areas which are part of the Tay river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Community Flood Action Groups</b> (80290012)	<b>G</b>	Community flood action groups are community based resilience groups which, on behalf of local residents and business, help to prepare for and minimise the effects of flooding. They reflect the interests of their local communities and may differ in composition and remit. There are over 60 groups already established in Scotland. The Scottish Flood Forum provides support for both new and existing groups. Perth Business Community Resilience Group operates in this area. Membership of the group includes Perth & Kinross Council, SEPA, Tayside Fire and Rescue and the Scottish Flood Forum. The group aims to reduce flooding to businesses and communities within Perth city centre, improve joint working before, during and after flooding and develop ways of increasing community resilience	Community	Ongoing	The Perth & Kinross Local Resilience Partnership's Community and Business Resilience Group operates in this area. Resources have also been offered by various other local groups.	Perth & Kinross Council will continue to coordinate with the Local Resilience Partnership's Community and Business Resilience Group on a priority needs basis where resources allow.

		against flooding.				
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made within this PVA. Awareness raising activity has been carried out as part of the ongoing Perth Integrated Catchment Study (Action ID 80240019). Perth & Kinross Council and Scottish Water currently issue a newsletter to residents on Feus Road, Perth every three months to keep them informed. The Scottish Flood Forum (SFF) has also engaged with the local community following previous flooding. This included initial community engagement with both the Community Council and the wider community, exploring possible options regarding future SEPA and Local Authority engagement. The SFF provided a presentation and appropriate advice to support the short term strategic development of the community to deal with flooding.	Further to the planned awareness raising activities described in Table 2 of this report, Perth & Kinross Council will carry out further awareness raising activity in conjunction with the Perth Integrated Catchment Study, the Craigie Burn Flood Protection Study and the Perth Surface Water Management Plan (Action ID's 80290005, 80240018 & 80240019).
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	Further to the self-help actions described in Table 2 of this report, some additional progress has been made within the Perth Centre PVA. The Scottish Flood Forum's (SFF) community engagement within this PVA has included property level protection (PLP) exhibitions, selection, surveys and the provision of appropriate and relevant information to enable clients to make the right decisions. The SFF has provided ongoing community PLP training and Flood Warden and resilience group promotion.	Refer to planned actions described in Table 2 of this report.
<b>Surface Water Plan/Study</b> (80240018)	<b>G</b>	The area must be covered by a surface water management plan (SWMP) or plans that set objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives. Scottish Water will provide local knowledge and understanding of the sewer network. This includes Scottish Water corporate data (as applicable) and, where available, outputs of Section 16 or integrated catchment studies, to assist with the surface water management planning process.	Perth & Kinross Council	2018 - 2020	The Perth surface water management plan is programmed to commence in the 2018/19 financial year	The surface water management plan is programmed for completion in the 2019/20 financial year.
<b>Surface Water Plan/Study</b> (80240019)	<b>G</b>	An integrated catchment study covering the Perth City catchment will be carried out to support the surface water management planning process in the Perth surface water management priority area. The study will improve knowledge and understanding of the interactions between the above ground and below ground drainage network e.g. with the sewer network, watercourses and (where applicable) the sea. This will improve the understanding of local	Scottish Water in partnership with Perth & Kinross Council	Perth City 2016 - 2019	The Perth Integrated Catchment Study commenced in November 2016. The contract was awarded to ARC. The following elements of the study are complete:- <ul style="list-style-type: none"><li>• Scoping</li><li>• Flow Survey</li><li>• Manhole and Ancillary Survey</li><li>• Model Build</li><li>• Historical Verification</li></ul> The study is on programme for completion in 2019.	Scottish Water and Perth & Kinross Council will liaise with ARC to complete the catchment flood assessment and finalise the study report in 2019.



		surface water flood risk. The stated timescales and funding arrangements between Scottish Water and Perth & Kinross Council will take the studies through the Scoping and Modelling phases to define the significant flooding issues in the catchment. After this has been completed, it is expected that the integrated catchment study partnerships will remain in place and will progress with the Optioneering phase to establish the preferred solution(s) to the significant flooding issues.				
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency plans/ response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.14 Comrie PVA 08/014

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council, Stirling Council	River Earn

## Summary of Progress Within PVA



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There are approximately 510 residential properties and 100 non-residential properties at risk of flooding. The Annual Average Damages are approximately £2.0 million. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/14.

The PVA has also been exposed to recent significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively, and more recently the 'Beast from the East' (March 2018) which brought about significant levels of snow fall across the PVA, although a gradual thaw limited any flooding issues resulting from snowmelt.

The findings from the feasibility work into the Comrie Flood Protection Scheme were shared with the community at public consultation events in late 2016. The outline design of the flood scheme has since been further developed and the scheme will be published in 2019.

SEPA have commenced flood mapping improvements in the Upper Earn area. SEPA have also continued to provide a flood forecasting service and operate their existing flood warning system in this PVA.

Scottish Water has delivered an assessment of flood risk within the Comrie sewer catchment. Awareness raising activity has been carried out by the Council and the Scottish Flood Forum, and has been coordinated with the Comrie Community Resilience Group. This activity will continue to be delivered through the projects noted above.

## Selected Actions in the Comrie PVA

PVA	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/14	A		G			G		G	G	G	G	G			G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Comrie (PVA 08/14)

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Flood Protection Scheme/ Works</b> (80330006)	A	A flood protection scheme has been proposed for Comrie to reduce the combined flood risk from the Water of Ruchill, River Earn and River Lednock. The proposed scheme consists of flood walls and embankments. The scheme would provide a 1 in 100 year standard of protection, although recent work indicates that this may increase to 1 in 200.	Perth & Kinross Council	2016 - 2020	The outline design of the Comrie Flood Protection Scheme commenced in October 2017. The contract was awarded to consulting engineers, Sweco. The outline design is currently programmed for completion early in 2019. The flood scheme will also be published in 2019.	The flood protection scheme is now programmed for completion in the 2021/22 financial year.
<b>Flood Protection Scheme/ Works</b> (8303021)	A	Transport Scotland will carry out civil engineering work which will reduce the risk of flooding on identified sections of the trunk road. Transport Scotland will manage the reduction through the operation of the trunk road via the routine and	Transport Scotland	Ongoing	Opportunities to alleviate flooding have been considered as part of on-going routine and cyclic maintenance. This included the recent essential carriageway resurfacing on two sections of the A85 Trunk Road East of Comrie and East of Dunira	Transport Scotland flooding workshop planned for April 2019. Improvement opportunities will continue to be sought and included in forthcoming routine and cyclic maintenance schemes

		cyclic maintenance programme. Transport Scotland maintains an on-going review of areas of known historic flood locations, and should areas such as Comrie be identified as such an area, Transport Scotland will seek funding in due course based on a prioritised criteria to support the routine and cyclic maintenance programme at these locations.			Estate (October 2016).	and programmes. Research project underway to determine how the CREW surface water flood forecasting system could be applied to linear transport corridors such as the trunk road network of Scotland. The flooding database will be reviewed to assess key locations for improvements. Detailed schemes will be developed as required.
<b>Maintain Flood Protection Scheme (80330017)</b>	<b>G</b>	Continue to maintain existing flood defences and flood protection works in Comrie. These include the Water of Ruchill Flood Protection Scheme (constructed in the 1960s) and the flood protection works carried out in 2013.	Perth & Kinross Council	Ongoing	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the existing flood defences in Comrie. Maintenance works are carried out as required.	Routine inspections will continue to be carried out as part of the Council's statutory duties.
<b>Maintain Flood Protection Scheme (80350017)</b>	<b>G</b>	Continue to maintain the Water of Ruchill Flood Protection Scheme (constructed in the 1960's) and the flood protection works carried out in 2013 that reduce the risk of river flooding to Dalginross.	Perth & Kinross Council	Ongoing	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the existing flood defences in Dalginross. Maintenance works are carried out as required.	Routine inspections will continue to be carried out as part of the Council's statutory duties.
<b>Strategic Mapping and Modelling (80410016)</b>	<b>A</b>	SEPA will seek to develop flood mapping in the Upper Earn area to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.	SEPA	2016-2017	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken. A local authority flood study for Comrie is currently underway.	SEPA will await the conclusion of the local authority study and review its suitability to inform updates to existing flood mapping before progressing further with this action. It is intended that a modelling project for this location will be combined with that for planned for the Middle Earn (PVA 08/16).
<b>Strategic Mapping and Modelling (80410019)</b>	<b>A</b>	Scottish Water will carry out an assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling in the Comrie and Crieff sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	Comrie 2016 - 2018  Crieff 2016 - 2017	The Scottish Water assessment of flood risk within the Comrie sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area. The Scottish Water assessment of flood risk within the Crieff sewer catchment has not yet started. The assessment will improve knowledge and understanding of surface water flood risk in this area.	The Crieff sewer assessment will not be delivered within the planned LFRMP timescales but is still on track to deliver within FRM Cycle 1.
<b>Maintain Flood Warning (80410030)</b>	<b>G</b>	Continue to maintain the Carse of Lennoch to Lochlane and the Crieff to Innerpeffray flood warning areas which are part of the Earn river flood warning scheme. Continue to maintain the Comrie flood warning area which covers properties at risk of flooding from the Water of Ruchill and/or the River Earn as part of the Ruchill river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.
<b>Flood Forecasting</b>	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the

(80410009)					Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Community Flood Action Groups</b> (80330012)	<b>G</b>	Community flood action groups are community based resilience groups which, on behalf of local residents and business, help to prepare for and minimise the effects of flooding. They reflect the interests of their local communities and may differ in composition and remit. There are over 60 groups already established in Scotland. The Scottish Flood Forum provides support for both new and existing groups. Comrie Resilience Group operates in this area. The membership includes Perth & Kinross Council, SEPA, Scottish Fire & Rescue and the Scottish Flood Forum. The group aims to reduce flooding of businesses and communities in Comrie. The resilience group was formed as a response to severe flooding in Comrie in August and November 2012.	Community	Ongoing	The Comrie Community Resilience Group has developed a Community Resilience Plan and Emergency Procedures for activation during flooding events. This will involve supporting vulnerable residents, deploying sandbags/aqua sacs from a community store and liaising with the Emergency Services. The Scottish Flood Forum continues to engage Comrie Community Resilience Group to offer support, network with other groups and raise awareness.	Perth & Kinross Council will continue to coordinate with the Comrie Community Resilience Group on a priority needs basis where resources allow.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made within this PVA. Perth & Kinross Council has carried out awareness raising activity during the development of the proposals for the Comrie Flood Protection Scheme. Community drop-in sessions were arranged in Comrie in September 2016 following the completion of the flood scheme feasibility study. These events were attended by the Council, SEPA and the Scottish Flood Forum. A project specific website has also been set up and regular newsletters have been issued to the community to keep them informed about the progress of the flood scheme. One-to-one meetings with land and property owners continue. This activity has been coordinated with the Comrie Community Resilience Group. The Scottish Flood Forum (SFF) has also engaged with the local community following previous flooding. This included initial community engagement with both the Community Council and the wider community, exploring possible options regarding future SEPA and Local Authority	Further to the awareness raising described in Table 2 of this report, Perth & Kinross Council will continue with awareness raising activities during the development of the Comrie Flood Protection Scheme and any other relevant actions set out in the Tay Local Flood Risk Management Plan.



					engagement. The SFF provided a presentation and appropriate advice to support the short term strategic development of the community to deal with flooding.	
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	-	Ongoing	Further to the self-help actions described in Table 2 of this report, some additional progress has been made within this PVA. Perth & Kinross Council trialled a pilot scheme offering Property Level Protection (PLP) measures to residents within selected communities (Comrie and Crieff). This scheme offered PLP products to residents at a reduced rate, benefitting from the Council's ability to buy products in bulk. However the uptake of PLP through this scheme was very low across the pilot communities and the scheme did not progress beyond the pilot stage. The Scottish Flood Forum's (SFF) community engagement within this PVA has included property level protection (PLP) exhibitions, selection, surveys and the provision of appropriate and relevant information to enable clients to make the right decisions. The SFF has provided ongoing community PLP training and Flood Warden and resilience group promotion.	Refer to planned actions described in Table 2 of this report. As part of the PLP pilot scheme, the Council has taken action to protect Council housing within the selected communities. PLP products are to be fitted to Council housing within Comrie by 2019.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross and Stirling Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.15 Forteviot PVA 08/15

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	River Earn

## Summary of Progress Within PVA



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There are fewer than 10 residential properties and non-residential properties at risk of flooding in the Forteviot PVA. The Annual Average Damages are approximately £15,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/15. There have been no significant weather events in this PVA since the publication of the Tay Local FRM Plan. SEPA have commenced flood mapping improvements in the Lower Earn area. SEPA have also continued to provide a flood forecasting service and operate their existing flood warning system in this PVA.

## Selected Actions in the Forteviot PVA

PVA	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/15						<b>R</b> <b>A</b>		<b>G</b>	<b>G</b>		<b>G</b>	<b>G</b>			<b>G</b>		<b>G</b>	<b>G</b>

## Summary of Progress of Actions to Manage Flood Risk in Forteviot (PVA 08/15)

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Strategic Mapping and Modelling</b> (80410016)	<b>R</b>	SEPA will seek to incorporate additional surface water data into the flood maps to improve understanding of flood risk. Approximately 900km <sup>2</sup> of improved surface water data is currently available within this Local Plan District.	SEPA	2016 - 2017	Surface water hazard maps use design rainfall estimates based on FEH99 methodology, this has now been superseded by FEH13 methodology. The FEH13 dataset contains the latest science and understanding of rainfall across Scotland and represents a significant change in rainfall amounts compared to FEH99 dataset, as such it is no longer considered appropriate to deliver this action as originally intended.	This action will not be taken forwards as described. SEPA will develop new surface water flood hazard maps over the remainder of FRM Cycle 1. It is anticipated that updated flood mapping from this revised action will be available early in FRM Cycle 2. Alongside this, SEPA will investigate the feasibility of developing an interim approach to assess the change in surface water hazard (and risk) associated with FEH13, such that we could consider it in the development of the 2021 FRM Strategies.
<b>Strategic Mapping and Modelling</b>	<b>A</b>	SEPA will seek to develop flood mapping in the Lower Earn area (from Forteviot Bridge to the River Tay confluence) to improve understanding	SEPA	2016 - 2018	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic	It is planned to complete this action by the end of 2019. The requirement for any further hazard map

(80410016)		of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.			survey of the catchment has been undertaken. A modelling project is currently underway which will enable a revision of the river flood hazard mapping in this area.	improvements will be assessed as part of the requirements scoping for coastal hazard mapping improvements within the wider Firth of Tay area. Any further work identified would likely take place in late FRM Cycle 1/early Cycle 2.
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Innerpeffray to Bridge of Earn flood warning area which is part of the Earn river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	No additional awareness raising activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	No additional self-help activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency plans/ response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.16 Dunning PVA 08/16

Local Plan District	Local authority	Main catchment
Tay	Perth & Kinross Council	Dunning Burn (River Earn)

## Summary of Progress Within PVA



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There are approximately 40 residential properties at risk of flooding in the Dunning PVA. The Annual Average Damages are approximately £120,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/16.

There have been no significant weather events in this PVA since the publication of the Tay Local FRM Plan.

Perth & Kinross Council undertook sediment management works to maintain channel conveyance along the Dunning Burn in August 2018.

SEPA have commenced flood mapping improvements in the Middle Earn area. SEPA have also continued to provide a flood forecasting service and operate their existing flood warning system in this PVA.

Scottish Water has delivered an assessment of flood risk within the Auchterarder sewer catchment.

## Selected Actions in the Dunning PVA

	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
PVA 08/16						A G		G	G		G	G			G		G	G

## Summary of Progress of Actions to Manage Flood Risk in Dunning (PVA 08/16)

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Strategic Mapping and Modelling</b> (80410016)	A	SEPA will seek to develop flood mapping in the Middle Earn area to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.	SEPA	2016 - 2017	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken.	SEPA will await the conclusion of local authority modelling for Comrie before progressing further with this action. It is intended that a modelling project for this location will be combined with that for planned for the Upper Earn (PVA 08/14).
<b>Strategic Mapping and Modelling</b> (80410019)	G	Scottish Water will carry out an assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling in the Auchterarder sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood	Scottish Water	2016 - 2018	The Scottish Water assessment of flood risk within the Auchterarder sewer catchment has been delivered. The assessment will improve knowledge and understanding of surface water flood risk in this area.	Not Applicable.

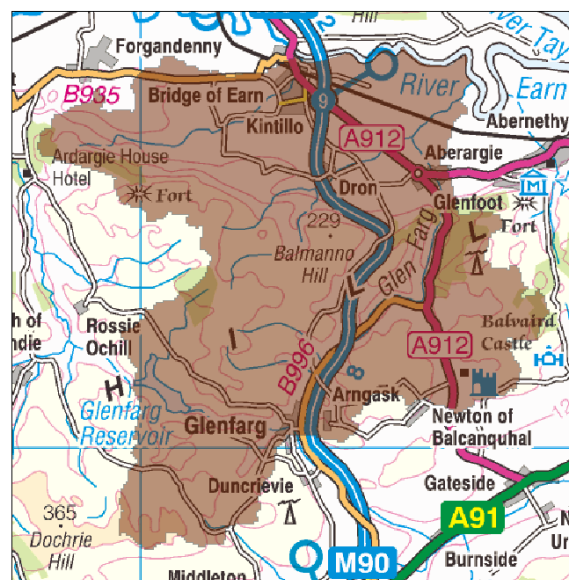


		Risk Management (Scotland) Act 2009.				
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Innerpeffray to Bridge of Earn flood warning area which is part of the Earn river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	No additional awareness raising activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	No additional self-help activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	Further to the maintenance actions described in Table 2 of this report, some additional progress has been made within this PVA. Perth & Kinross Council undertook sediment management works on the Dunning Burn in August 2018.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.

## 3.2.17 Bridge of Earn PVA 08/17

Local Plan District	Local authority	Main catchment
Tay	Fife Council, Perth & Kinross Council	River Earn

## Summary of Progress Within PVA



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There are approximately 50 residential properties and 20 non-residential properties at risk of flooding in the Bridge of Earn PVA. The Annual Average Damages are approximately £410,000. Further information can be found in [Tay Local FRM Plan](#) under PVA 08/17.

The PVA has been exposed to recent significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively, with several properties and roads affected. More recently the 'Beast from the East' (March 2018) brought about significant levels of snow fall across the PVA, although a gradual thaw limited any flooding issues resulting from snowmelt.

Perth & Kinross Council has continued to maintain the existing flood scheme in bridge of Earn and has carried out maintenance as required.

SEPA have commenced flood mapping improvements in the Lower Earn area. SEPA have also continued to provide a flood forecasting service and operate their existing flood warning system in this PVA.

Scottish Water have commenced an assessment of flood risk in the Perth City sewer catchment.

Awareness raising activity has been carried out by the Scottish Flood Forum.

Glenfarg Community Resilience Group are undertaking a review of their emergency plan.

## Selected Actions in the Bridge of Earn PVA

PVA	Flood protections scheme/works	Flood protection study	Maintain flood protection scheme	Natural flood management works	Natural flood management study	Strategic mapping and modelling	New flood warning	Maintain flood warning	Flood forecasting	Community flood action groups	Awareness raising	Self help	Property level protection scheme	Surface water plan/study	Maintenance	Site protection plans	Emergency plans/response	Planning policies
08/17			<b>G</b>			<b>R A A</b>		<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>G</b>			<b>G</b>		<b>G</b>	<b>G</b>

## Summary of Progress of Actions to Manage Flood Risk in Bridge of Earn (PVA 08/17)

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Interim Progress	Planned Actions to Complete
<b>Maintain Flood Protection Scheme</b> (80400017)	<b>G</b>	Continue to maintain the existing Bridge of Earn Flood Protection Scheme on the River Earn, the Deich Burn and the Yellow Burn. The scheme was completed in 2006 and includes flood walls and embankments.	Perth & Kinross Council	Ongoing	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the existing flood defences in Bridge of Earn. Maintenance works are carried out as required.	Routine inspections will continue to be carried out as part of the Council's statutory duties. Inspections will be carried out on an annual basis and following flood events.
<b>Strategic Mapping and Modelling</b> (80410016)	<b>R</b>	SEPA will seek to incorporate additional surface water data into the flood maps to improve understanding of flood risk, to be completed early in the first flood risk management cycle. Approximately 900km <sup>2</sup> of improved surface water	SEPA	2016 - 2017	SEPA's current Surface water hazard maps use design rainfall estimates based on FEH99 methodology, this has now been superseded by FEH13 methodology. The FEH13 dataset contains the latest science and understanding of rainfall	This action will not be taken forwards as described. SEPA will develop new surface water flood hazard maps over the remainder of FRM Cycle 1. It is anticipated that updated flood mapping from this revised

		data is currently available within this Local Plan District.			across Scotland and represents a significant change in rainfall amounts compared to FEH99 dataset, as such it is no longer considered appropriate to deliver this action as originally intended.	action will be available early in FRM Cycle 2. Alongside this SEPA will investigate the feasibility of developing an interim approach to assess the change in surface water hazard (and risk) associated with FEH13, such that we could consider it in the development of the 2021 FRM Strategies.
<b>Strategic Mapping and Modelling</b> (80410016)	<b>A</b>	SEPA will seek to develop flood mapping in the Lower Earn area to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.	SEPA	2016 - 2018	Following a screening exercise to characterise the catchment and identify the data necessary to support mapping improvements, a topographic survey of the catchment has been undertaken. A modelling project is currently underway which will enable a revision of the river flood hazard mapping in this area.	It is planned to complete this action by the end of 2019. The requirement for any further hazard map improvements will be assessed as part of the requirements scoping for coastal hazard mapping improvements within the wider Firth of Tay area. Any further work identified would likely take place in late FRM Cycle 1/early Cycle 2.
<b>Strategic Mapping and Modelling</b> (80410019)	<b>A</b>	Scottish Water will review the assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk. Scottish Water will undertake further investigation and modelling in the Perth City sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	2016 - 2018	The Scottish Water assessment of flood risk within the Perth City sewer catchment has started but has been delayed. The assessment will improve knowledge and understanding of surface water flood risk in this area.	The Perth City sewer assessment will not be delivered within planned LFRMP timescales but is still on track to be delivered within FRM Cycle 1.
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Bridge of Earn and the Bridge of Earn to the River Tay flood warning areas which are part of the Earn river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national flood guidance statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties). Each daily statement gives an assessment of the risk of flooding for the next five days to help enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and helps enable communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements and flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.
<b>Community Flood Action Groups</b> (80400012)	<b>G</b>	Community flood action groups are community based resilience groups which, on behalf of local residents and business, help to prepare for and minimise the effects of flooding. They reflect the interests of their local communities and may differ	Community	Ongoing	Glenfarg Community Resilience Group has been established and a review of their emergency plan is on-going.	Perth & Kinross Council will continue to coordinate with the Glenfarg Community Council on a priority needs basis where resources allow.

		in composition and remit. There are over 60 groups already established in Scotland. The Scottish Flood Forum provides support for both new and existing groups. Glenfarg Community Council operates in this area. The community council have prepared a community resilience plan to help prepare for and respond to emergencies..				
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	Ongoing	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made within this PVA. The Scottish Flood Forum (SFF) has also engaged with the local community following previous flooding. This included initial community engagement with both the Community Council and the wider community, exploring possible options regarding future SEPA and Local Authority engagement. The SFF provided a presentation and appropriate advice to support the short term strategic development of the community to deal with flooding.	Refer to planned actions described in Table 2 of this report.
<b>Self Help</b> (80410011)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	N/A	Ongoing	Further to the self-help actions described in Table 2 of this report, some additional progress has been made within this PVA. The Scottish Flood Forum's (SFF) community engagement within this PVA has included property level protection (PLP) exhibitions, selection, surveys and the provision of appropriate and relevant information to enable clients to make the right decisions. The SFF has provided ongoing community PLP training and Flood Warden and resilience group promotion.	Refer to planned actions described in Table 2 of this report.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross Council, asset / land managers	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Emergency Plans/ Response</b> (80410014)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Category 1 and 2 Responders	Ongoing	No additional emergency planning/response activities have been carried out in this PVA, beyond those already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.
<b>Planning Policies</b> (80010001)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Planning Authority	Ongoing	No additional planning policy activity has been carried out in this PVA, beyond that already described in Table 2 of this report.	Refer to planned actions described in Table 2 of this report.



### 3.3 Other Actions

This section sets out details of additional significant actions undertaken in the Tay Local Plan District by local authorities to contribute to the implementation of the current actions in the plan and the achievement of the objectives in the plan.

Perth & Kinross Council have carried out additional actions, out with the actions identified within the Tay Local Flood Risk Management Plan. These actions include:

- Delivering on previous commitments to complete investigations into flood schemes (at Comrie, Bankfoot and Coupar Angus) and carrying out the associated public consultation events in late 2016. This included community drop-in sessions and presentations to provide these communities with further information on the risk of flooding; the outcome of the Council's investigations into flood schemes; work to raise awareness of flooding and help the community become more resilient to it and other action being taken on flood risk. The events were also attended by SEPA, Scottish Water and the Scottish Flood Forum.
- River bank erosion protection works, as well as repairs to a surface water outfall, have been carried out on the River Almond at Inveralmond, Perth. The works were completed in December 2017 and have helped to manage the risk of surface water flooding in the Inveralmond Industrial Estate as well as protecting the integrity of the existing flood defences in the area. Scottish Water also completed repairs to an adjacent drainage outfall earlier in 2017.
- Works to address surface water flooding have been carried out at Perth Harbour. The works have helped to manage the risk of flooding to properties in the harbour area and were completed in March 2018.
- The completion of flood study work in October 2018 for the small burns to the south east of Pitlochry in the vicinity of Middlehaugh of Dalshian, Easthaugh of Ballyoukan and the Altrory Burn.
- Investigation works have been carried out on the North Muirton flood embankment. The Council now plans to install a sheet piled cut off wall to prevent ground water seepage during future flood events. This measure is programmed for completion in 2019 and will manage the risk of flooding to adjacent properties while protecting the integrity of the flood defences in this area as well.

## List of Acronyms and Abbreviations

FCS	Forestry Commission Scotland
FEH	Flood Estimation Handbook
FEP	Flood Emergency Plan
FRM	Flood Risk Management
ICS	Integrated Catchment Study
LFRMP	Local Flood Risk Management Plan
LPD	Local Plan District
PLP	Property Level Protection
NFM	Natural Flood Management
PVA	Potentially Vulnerable Area
Q&S	Quality & Standards (Scottish Water)
RAG	Red, Amber, Green
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SFFS	Scottish Flood Forecasting Service
SPP	Scottish Planning Policy
SR10/15	Spending Review periods for 2010-2015 and 2016-2021 for Scottish Water capital maintenance expenditure
SUDS	Sustainable Urban Drainage System
SWMP	Surface Water Management Plan
TEAMB	Tay Estuary and Montrose Basin

## Annex 1: FRM Responsibilities & Legal Requirement for this Interim Report

### Flood Risk Management in Scotland

The Scottish Ministers, SEPA and responsible authorities must exercise their flood risk related functions with a view to reducing overall flood risk (refer to Section 1(1) of the Flood Risk Management (Scotland) Act 2009).

Through the preparation of a national flood risk assessment and setting of objectives to reduce the level of flood risk by SEPA, which is published in Flood Risk Management Strategy, and the publication of Local Flood Risk Management Plan's by 'lead' local authorities, which detail how and when the actions agreed to meet these objectives are to be done, SEPA and all responsible authorities must act to manage flood risk in a sustainable way.

[Flood Risk Management Strategy for the Tay Local Plan District](#)

[Local Flood Risk Management Plan for the Tay Local Plan District](#)

### Legal Requirement

This document sets out the conclusions of the review of the Local Flood Risk Management Plan (LFRMP) for the Tay Local Plan District (LPD) as required by Section 37 of the Flood Risk Management (Scotland) Act 2009 (the "Act").

#### 37 Local flood risk management plans: interim report

- (1) Not earlier than 2 years and not later than 3 years after a local flood risk management plan is finalised, the lead authority must —
- (a) review the plan, and
  - (b) publish a report on the conclusions of the review including information on the progress that has been made towards implementing the measures identified in the implementation part of the plan.
- (2) The lead authority must make copies of the report available for public inspection.

The Tay LFRMP, which includes the 'implementation part of the plan', was published in June 2016. The Interim Report is therefore to be published between July 2018 and June 2019. The Interim Report will provide a summary of the LFRMP actions ('measures') and the proposed delivery timescales.

The information on progress will include:

- an assessment of the progress towards implementing each of the actions;
- reasons for any actions where delivery is not as planned; and
- a description of arrangements planned to deliver the remaining actions and to address delayed actions.

The Interim Report is published by the 'lead authority' as defined by Section 34(9) of the Act in partnership with SEPA and the 'responsible authorities', as defined by Section 5 of the Act. The approval of the Interim Report will be in accordance with the agreed governance arrangements for the LPD. The responsible authorities for the Tay LPD are:

- Perth & Kinross Council (lead authority)
- Angus Council
- Fife Council
- Stirling Council
- SEPA
- Scottish Water
- Loch Lomond and the Trossachs National Park
- Cairngorms National Park
- Forestry Commission Scotland

The lead authority must also publish a Final Report on the LFRMP under Section 38 of the Act between July 2021 and June 2022 (not earlier than 5 years and not later than 6 years from the publication of the plan). The Final Report will provide an assessment of current actions and a summary of current actions not implemented, with reasons for their non-implementation. The Final Report will also include a description of any other measures implemented, which the lead authority considers have contributed to the achievement of the objectives summarised in the LFRMP.

## **Publication**

The published Interim Report for the Tay LFRMP will be made available for public inspection, as per Section 37(2) of the Act, via the website of the lead authority, Perth & Kinross Council:

<http://www.pkc.gov.uk/frmplans>

Links to the published Interim Report for the Tay LFRMP will also be provided from Scottish Government, SEPA and other responsible authority websites.

A hard (paper) copy of the published Interim Report for the Tay LFRMP is also available for public inspection at the following location(s):

- (1) Pullar House, 35 Kinnoull Street, Perth PH1 5GD
- (2) Auchterarder Library, Chapel Wynd, Auchterarder PH3 1BL
- (3) Blairgowrie Area Office, 46 Leslie Street, Blairgowrie PH10 6AQ
- (4) Crieff Area Office, 32 James Square, Crieff PH7 3EY
- (5) Pitlochry Area Offices/Library, 26/28 Atholl Road, Pitlochry PH16 5BX
- (6) Breadalbane Community Campus, Crieff Road, Aberfeldy PH15 2DU
- (7) Loch Leven Community Campus & Library, The Muirs KY13 8FQ



during the hours of 8.45 a.m. to 5.00 p.m., Mondays to Fridays inclusive, except 8.45am to 11am on the first Thursday of every month.

Copies of the published Interim Report for the Tay LFRMP may also be available at offices of other responsible authorities. Those persons living in the Angus, Stirling and Fife Council areas of the Tay District should contact their own local authority in the first instance:

Angus Council ACCESSline

03452 777 778

Fife Council General Enquiries

03451 550 000

Stirling Council General Enquiries

01786 404 040

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