

Securing the future... • *Improving services*  
• *Enhancing quality of life* • *Making the best use of public resources*

Council Building  
2 High Street  
Perth  
PH1 5PH

13/12/2022

A hybrid special meeting of the **Climate Change and Sustainability Committee** will be held in **the Council Chamber** on **Monday, 19 December 2022** at **10:00**.

If you have any queries please contact Committee Services on (01738) 475000 or email [Committee@pkc.gov.uk](mailto:Committee@pkc.gov.uk).

**THOMAS GLEN**  
Chief Executive

***Those attending the meeting are requested to ensure that all notifications are silent on their device and other devices are in silent mode.***

***Please note that the meeting will be broadcast online and recorded. The recording will be publicly available on the Council's website following the meeting.***

**Members:**

Councillor Richard Watters (Convener)  
Councillor Liz Barrett (Vice-Convener)  
Councillor Hugh Anderson  
Councillor Dave Cuthbert  
Councillor David Illingworth  
Councillor Noah Khogali  
Councillor Grant Laing  
Councillor Tom McEwan  
Councillor Crawford Reid  
Councillor Grant Stewart  
Councillor Jack Welch



**Climate Change and Sustainability Committee**

**Monday, 19 December 2022**

**AGENDA**

***MEMBERS ARE REMINDED OF THEIR OBLIGATION TO DECLARE ANY FINANCIAL OR NON-FINANCIAL INTEREST WHICH THEY MAY HAVE IN ANY ITEM ON THIS AGENDA IN ACCORDANCE WITH THE COUNCILLORS' CODE OF CONDUCT.***

- 1 WELCOME AND APOLOGIES/SUBSTITUTES**
- 2 DECLARATIONS OF INTEREST**
- 3 THE FLOOD RISK MANAGEMENT (SCOTLAND) ACT 2009: PUBLICATION OF FINAL REPORTS (CYCLE 1) AND LOCAL FLOOD RISK MANAGEMENT PLANS (CYCLE 2) **5 - 354**  
Report by Head of Environmental and Consumer Services (copy herewith 22/307)**

<p>If you or someone you know would like a copy of this document in another language or format, (on occasion, only a summary of the document will be provided in translation), this can be arranged by contacting the Customer Service Centre on 01738 475000.</p>
--

<p>You can also send us a text message on 07824 498145.</p>
---

<p>All Council Services can offer a telephone translation facility.</p>
---



## PERTH AND KINROSS COUNCIL

### Climate Change & Sustainability Committee

19 December 2022

#### **THE FLOOD RISK MANAGEMENT (SCOTLAND) ACT 2009: PUBLICATION OF FINAL REPORTS (CYCLE 1) & LOCAL FLOOD RISK MANAGEMENT PLANS (CYCLE 2)**

**Report by Head of Environmental & Consumer Services  
(Report No. 22/307)**

### **1. PURPOSE**

- 1.1 The Council's duties with regard to flooding are set out within the Flood Risk Management (Scotland) Act 2009. The report provides an update on the recent national public consultation on flood risk management, the publication of SEPA's Flood Risk Management Plans. It also seeks the Committee's approval of the content of the Final Reports and Local Flood Risk Management Plans. These are required to be published by 31 December 2022.

### **2. RECOMMENDATIONS**

- 2.1 It is recommended that the Committee:
- (i) endorses the progress made on delivering the Local Flood Risk Management Plans published in June 2016 as set out in the Cycle 1 Final Reports.
  - (ii) approves the content of the Cycle 1 Final Report on the Local Flood Risk Management Plan for the Tay District and the Council's input to the Cycle 1 Final Reports for the Forth, the Forth Estuary and the Tay Estuary & Montrose Basin Districts.
  - (iii) approves the content of the Cycle 2 Local Flood Risk Management Plan for the Tay District and the Council's input to the Cycle 2 Local Flood Risk Management Plans for the Forth, the Forth Estuary and the Tay Estuary & Montrose Basin Districts.
  - (iv) authorises the Executive Director (Communities) to carry out final minor amendments to the presentation of the above Cycle 1 Final Reports and Cycle 2 Local Flood Risk Management Plans prior to final publication on 21 December 2022, if required.
  - (v) approves the proposed arrangements for publication of the Cycle 1 Final Reports and Cycle 2 Local Flood Risk Management Plans.

### **3. STRUCTURE OF REPORT**

- 3.1 This report is structured over the following sections:
- Section 4: Background/Main Issues

- Section 5: Proposals
- Section 6: Conclusion
- Appendices

#### **4. BACKGROUND / MAIN ISSUES**

- 4.1 The approach to tackling flooding in Scotland has changed in recent years. The Flood Risk Management (Scotland) Act (the 2009 Act) has introduced a more modern, coordinated and sustainable approach to flood risk management at both national and local levels.
- 4.2 Although public authorities are expected to take a proactive role in managing and, where achievable, lowering flood risk, the primary responsibility for avoiding or managing flood risk still remains with land and property owners. The 2009 Act does not alter this. Individuals, businesses and communities must, therefore, play a critical role in making themselves more resilient and helping to reduce the impact of flooding.
- 4.3 The 2009 Act sets out a framework designed to reduce flood risk across Scotland over time. Local authorities, SEPA and Scottish Water have duties to work together to produce a national flood risk assessment, flood risk and hazard maps, Flood Risk Management (FRM) Plans and Local FRM Plans. This process of risk assessment, mapping and planning is required to be repeated every six years, with the initial cycles extending over the following dates:
- Cycle 1: 2016 – 2022
  - Cycle 2: 2022 – 2028
- 4.4 SEPA published the first cycle of FRM Plans (or Strategies) in December 2015. The Council published its first cycle of Local FRM Plans in June 2016 and subsequently published an interim report on the progress made on implementing those plans in March 2019. The published documents can be viewed on the Council's website at [www.pkc.gov.uk/frmplans](http://www.pkc.gov.uk/frmplans).
- 4.5 Most recently, the progress made on the FRM process was reported to the Environment & Infrastructure Committee on 19 May 2021 (Report No. 21/60 refers). The selected actions to manage flood risk were approved by the Committee and were subsequently put to public consultation from July to October 2021.

#### **Update on Public Consultation**

- 4.6 It is essential that any action taken on flooding is informed by the best available data. The 2009 Act, therefore, requires that the draft FRM Plans and the corresponding supplementary parts of Local FRM Plans be put to public consultation. SEPA and the lead local authorities were required to coordinate their consultation arrangements during the production of these documents.

- 4.7 The previous report to the Environment & Infrastructure Committee on 19 May 2021 (Report No. 21/60 refers) set out the public consultation arrangements.
- 4.8 The public consultation on the second cycle of FRM Plans was delivered through a phased approach. Phase 1 commenced on 21 December 2020 with further information being added during Phase 2, which progressed from 30 July to 31 October 2021.
- 4.9 The consultation was a national web-based exercise carried out jointly with SEPA and the other responsible authorities using the Citizen Space platform.
- 4.10 35 responses relevant to Perth & Kinross were received by the closing date (25 from members of the public, 1 from a local business, 2 from community bodies, 3 from other organisations and 4 from the local authority). A summary of the responses received, and the Council's comments on them is provided in Appendix A.
- 4.11 As required by the 2009 Act, the responses were used by SEPA to inform the second cycle of FRM Plans published in December 2021. They have also informed the Council's proposed Cycle 2 Local FRM Plans due for publication in December 2022.

#### **Publication of SEPA's Cycle 2 Flood Risk Management Plans**

- 4.12 Following approval by the Scottish Ministers, SEPA published the second cycle of FRM Plans on 22 December 2021. These documents cover the 14 local plan districts across the whole of Scotland. They describe the objectives and actions that will be implemented by SEPA and responsible authorities over the second six-year cycle from 2022-2028.
- 4.13 Perth & Kinross is located within four of these local plan districts, i.e. the Tay district (which covers the majority of Perth & Kinross) as well as parts of the Tay Estuary & Montrose Basin, the Forth and the Forth Estuary.
- 4.14 The Council's actions, as set out in the published FRM Plans, are consistent with those approved by the Environment & Infrastructure Committee on 19 May 2021 (Report No. 21/60 refers).
- 4.15 The published documents can be viewed on the following page of SEPA's website - <https://www2.sepa.org.uk/frmplans/>

#### **Final Reports (Cycle 1: 2016 - 2022)**

- 4.16 Since the publication of the first cycle of FRM Plans (or Strategies) in 2015, and Local FRM Plans in 2016, the Council and other responsible authorities have continued to implement the actions set out therein. As noted at 4.4, the Council published an Interim Report on progress at the mid-point of the 6-year cycle in March 2019.

- 4.17 Section 38 of the 2009 Act requires lead authorities to publish a Final Report on the Local FRM Plan around the end point of the 6-year cycle, i.e. within 5 to 6 years of publication (between June 2021 and June 2022). The Scottish Ministers have since directed that the publication of these reports be deferred until no later than 31 December 2022.
- 4.18 The Final Report is required to set out the progress made in implementing the measures set out in the Local FRM Plan, along with a summary of any that were not implemented, and a description of any other measures taken.
- 4.19 As the lead authority for the Tay district, Perth and Kinross Council is required to publish this Final Report. The Council is also required to contribute to the Final Reports for the three Local FRM Plans covering the other districts noted at 4.13.
- 4.20 The 2009 Act also requires the Final Reports be made available for public inspection.

#### **Local Flood Risk Management Plans (Cycle 2: 2022 - 2028)**

- 4.21 The 2009 Act requires lead local authorities to publish Cycle 2 Local FRM Plans by 22 June 2022. The Scottish Ministers have since directed that the publication of these plans be deferred until no later than 31 December 2022.
- 4.22 As the lead authority for the Tay district, Perth & Kinross Council is responsible for publishing this plan. The Council also has an involvement in the three Local FRM Plans for the other districts noted at 4.13.
- 4.23 The 2009 Act also requires the Local FRM Plans to be consistent with, and supplement, the published FRM Plans. The FRM Plans have characterised the existing flood risk, set objectives for managing that risk and put forward the selected actions to achieve those objectives. The Local FRM Plans have, therefore, been drafted to be consistent with this information and have been developed based on a national template.
- 4.24 The Council's actions, as set out in the proposed Local FRM Plans, are consistent with those approved by the Environment & Infrastructure Committee on 19 May 2021 (Report No. 21/60 refers).
- 4.25 The Local FRM Plans are also required to provide more detail on the proposed implementation arrangements for the selected actions over Cycle 2 between 2022 and 2028. Where possible, a description of how the actions will be implemented has, therefore, been developed including the proposed timetable, responsibilities and funding arrangements. A description of how the functions of the responsible parties will be coordinated to achieve this has also been included.
- 4.26 The funding arrangements for flood schemes are currently under review by the Scottish Government and CoSLA, due to the current projected costs of Cycle 1 flood schemes across the country and the available funding. It has,

therefore, not been possible to set out a programme, or to confirm the funding arrangements, for the new Cycle 2 flood schemes. Further details are set out in Section 2.1-2.11 of the Annex to this report.

- 4.27 The responses to the public consultation undertaken between July and October 2021 have been taken into account in producing both the published FRM Plans and the proposed Local FRM Plans.
- 4.28 In order to finalise any Local FRM Plan, the 2009 Act requires the lead authority, every other responsible authority and SEPA to agree to its content. The other partners in each district are, therefore, arranging formal agreement in accordance with their respective governance arrangements.
- 4.29 The process of developing the final Local FRM Plans has been delayed by various issues including the Covid-19 pandemic, the SEPA cyber-attack, an on-going national review of capital funding for flood risk management, staffing shortages and flood events. However, the four Local FRM Plans are currently at a final draft stage and only require minor amendments prior to publication on 21 December 2022 – see point 5.9.

## **5. PROPOSALS**

### **Final Reports (Cycle 1)**

- 5.1 Public awareness, participation and community support are essential components of sustainable flood risk management. Public participation can not only raise awareness of flood risk, but it can also inform decisions and contribute to the successful implementation of actions. The publication of a final progress report near to the end-point of the 6 year FRM cycle is, therefore, intended to assist with this.
- 5.2 The draft Final Reports have been developed in partnership with SEPA and the relevant responsible authorities. For the Tay district, this includes local authorities, Scottish Water, Scottish Forestry, the Loch Lomond & the Trossachs National Park Authority and the Cairngorms National Park Authority. The Scottish Flood Forum have also provided information.
- 5.3 The published FRM Plans and Local FRM Plans contain both general actions, which apply across the local plan district as well as actions that are specific to Potentially Vulnerable Areas (PVAs). The published Local FRM Plans also provided delivery timescales for the selected actions. The Final Reports, therefore, set out the progress made to date on delivering those actions as well as the measures planned to complete them.
- 5.4 Each action has been allocated a red, amber or green (RAG) status to provide an indication of its progress to date. The RAG status definitions are set out in Chapter 3 of the Tay Final Report.

- 5.5 The introduction of the Flood Act has initially led to improved partnership working and data sharing between SEPA and the responsible authorities. However, this has been affected by the Covid-19 pandemic and the cyber-attack on SEPA. The published Tay Local FRM plan has remained current and relevant. Since its publication in June 2016, in general good progress had been made over the first 4 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, the staff resources required to complete investigations into flood schemes (in Comrie, Bankfoot and Coupar Angus) and the procurement of sufficient consultancy services initially also proved problematic. However, with relatively few flood events between early 2016 and 2019, more steady progress was made in delivering the selected actions. However, this changed in March 2020 with the start of the national Covid-19 lockdowns, and the severe flooding of August 2020 further exacerbated this situation. All of the identified flood studies are complete or are currently on-going, with only two to be commenced. The progress on the larger and more complex flood protection schemes has been further delayed. However, a large flood protection scheme in Almondbank was substantially completed in 2018 and the construction of a major flood scheme in Comrie has commenced. The delivery of the actions set out in the Cycle 1 Plan has reduced flood risk and informed future actions that will reduce flood risk in subsequent cycles. It should be noted that the responsible authorities involved in delivering the actions for the Tay Local Plan District ( ) are also involved in delivering actions in other local plan districts and their resources have been split accordingly.
- 5.6 In order to finalise the Final Reports, the other partners in each district are therefore arranging formal agreement in accordance with their respective governance arrangements, as noted above.
- 5.7 The four Final Reports are currently at a final draft stage and only require minor amendments prior to publication – see point 5.9
- 5.8 The final drafts of the Tay Final Report and the Council's input to the other Final Reports can be viewed in Appendices B to E:
- Appendix B - Tay
  - Appendix C - Tay Estuary & Montrose Basin (Extract)
  - Appendix D - Forth (Extract)
  - Appendix E - Forth Estuary (Extract)

### **Final Reports - Next Steps**

- 5.9 As noted at 5.7, the final reports are at a final draft stage and may still require further minor amendments prior to final publication on 21 December 2022. The amendments will mainly relate to the presentation of the final documents and will include any further progress updates prior to final publication. As such, the content (as presented in this report) will not materially change prior to publication.

- 5.10 Publication is currently programmed for 21 December 2022, in order to meet the deferred deadline of 31 December 2022 directed by the Scottish Ministers.
- 5.11 The Final Report for the Tay District will, therefore, be published on the Council's website at this time. The proposed publicity surrounding this will be as follows:
- (i) the Council's website will be updated to include the Final Report for the Tay District and to provide links to the other relevant published Final Reports.
  - (ii) a copy of the Final Report for the Tay District will be provided to SEPA and the Scottish Ministers.
  - (iii) notices will be placed in *the Scotsman*, *the Courier*, *the Stirling Observer* and *the Edinburgh Gazette*.
  - (iv) an e-mail with a link to the Final Reports will be sent to all Councillors within Perth and Kinross.
  - (v) letters will be issued to each community council that falls within a PVA to notify them of the publication of the Final Reports and how to access them.
  - (vi) hard copies of the documents will also be made available in the Council's Perth and area offices.
  - (vii) announcements will be posted on social media (the Perth & Kinross Council Facebook and Twitter pages).
  - (viii) information will be added to the Perth and Kinross Community Watch website.
  - (ix) information will be sent to local community resilience groups within a PVA
  - (x) information will be included in any other publications which are considered appropriate.

### **Local Flood Risk Management Plans (Cycle 2)**

- 5.12 The final draft Local FRM Plans have been developed in partnership with SEPA and the relevant responsible authorities (for the Tay district this includes local authorities, Scottish Water, Scottish Forestry, the Loch Lomond & the Trossachs National Park Authority and the Cairngorms National Park Authority).
- 5.13 The published FRM Plans and final draft Local FRM Plans contain both general actions, which are common to all areas, and actions that are specific to PVAs that are required to tackle a particular source of potential flooding. Existing and on-going actions to manage flood risk are also included.
- 5.14 The general actions common to all areas include awareness raising, the provision of data to support climate resilience, links with emergency planning, flood forecasting and warning, developing guidance, flood mapping, land use planning, maintenance (of drainage networks, and watercourse clearance and repair works) and self-help (including individual property flood measures). Links with communities and emergency planning already exist through the

Council's internal civil contingencies steering group and involvement in the multi-agency community resilience group.

5.15 The specific actions include:-

- (i) Flood Protection Schemes or Works
- (ii) Flood studies
- (iii) Surface Water Management Plans (SWMP)
- (iv) Maintenance of Existing Flood Schemes
- (v) Community Engagement
- (vi) Community Resilience Groups
- (vii) Flood Warning Maintenance
- (viii) Adaptation Planning
- (ix) Sewer Flood Risk Assessment

5.16 The selected actions, which are specific to the PVAs within the four local plan districts are shown (with a green box and tick) in the table in Appendix F.

5.17 The detailed implementation arrangements for these actions are set out within the final drafts of the Local FRM Plans. Where possible, the timescale for the implementation of any existing and new actions has been set out, taking account of the on-going review of capital funding for new flood schemes, and the available resources at the current time. The prioritisation and timetable for flood studies has been based on the level of flood risk in each area. The actions will be delivered by SEPA, the relevant local authorities, Scottish Water, other responsible authorities or Transport Scotland as appropriate. The Local FRM Plans describe how the functions of these parties will be coordinated to implement the actions. The arrangements for funding the actions have been based around available or potential sources of funding at the current time.

5.18 The final drafts of the Local FRM Plans can be viewed in Appendices G to J:

- Appendix G - Tay
- Appendix H - Tay Estuary & Montrose Basin (Extract)
- Appendix I – Forth (Extract)
- Appendix J - Forth Estuary (Extract)

### **Local FRM Plans - Next Steps**

5.19 As noted at 4.29, the Local FRM Plans are at a final draft stage and may still require minor amendments prior to final publication on 21 December 2022. The amendments will relate to the presentation of the final documents. As such, the content (as presented in this report) will not change prior to publication.

5.20 The 2009 Act requires the Council as lead authority for the Tay district to publish the final Tay Local FRM Plan. The final Tay Local FRM Plan will therefore be published on the Council's website on 21 December 2022. The proposed publicity surrounding this will be similar to that set out at 5.11.

- 5.21 It should be noted that it will not be possible to carry out all of the selected actions to manage flood risk within the resources available to the Council at this time. Although the Cycle 1 Final Reports and Cycle 2 local FRM plans will be published on 21 December 2022, the implementation of the actions, thereafter, will continue to be based on several factors, including priority; availability of funding; capacity within delivery bodies and third parties to develop the actions; coordination and agreements between partners; statutory processes and permissions; design or other preparatory time required.
- 5.22 As per Cycle 1, it is likely that in December 2025, SEPA will be assessing and prioritising the actions to be funded in the third cycle of FRM Plans (2028-2036). Any studies and investigations that have not arrived at an identified solution by this time will not attract funding in the third cycle. This may result in certain communities remaining at risk of flooding for longer.
- 5.23 The 2009 Act sets out a 6-year cycle between subsequent FRM Plans and Local FRM Plans. SEPA and the responsible authorities are required to implement the actions set out in the current FRM Plans and Local FRM Plans. In addition, the process of reviewing and updating the national flood risk assessment and flood maps, as well as producing the next generation of FRM Plans and Local FRM Plans, will also re-commence.
- 5.24 Within 3 years of finalising the Local FRM Plan, the Council is also required to publish an Interim Report on the progress made in implementing the selected actions. A Final Report on progress must also be published no later than 6 years after the Local FRM Plan is finalised.

## **6. CONCLUSION**

- 6.1 This report provides an update on the publication of
- (i) SEPA's Cycle 2 Flood Risk Management Plans in December 2021.
  - (ii) The Council's Cycle 1 Final Reports on the Local Flood Risk Management Plans published in June 2016.
  - (iii) The Council's proposed Cycle 2 Local Flood Risk Management Plans for 2022-2028.
- 6.2 The report seeks the Committee's approval of the content of
- (i) The Cycle 1 Final Reports on the Local Flood Risk Management Plans for the Tay, Forth, Forth Estuary and Tay Estuary & Montrose Basin districts.
  - (ii) The Council's proposed Cycle 2 Local Flood Risk Management Plans for 2022-2028 for the Tay, Forth, Forth Estuary and Tay Estuary & Montrose Basin districts.
- 6.3 The report also seeks the Committee's approval to authorise the Executive Director (Communities) with officers to carry out final minor amendments to the presentation of the Cycle 1 Final Reports and Cycle 2 Local Flood Risk Management Plans, prior to publication on 21 December 2022.

## Author

Name	Designation	Contact Details
Peter Dickson	Interim Flooding Manager	01738 475000 ComCommitteeReports@pkc.gov.uk

## Approved

Name	Designation	Date
Barbara Renton	Executive Director (Communities)	12 December 2022

## APPENDICES

- Appendix A - Summary of Responses to Public Consultation
- Appendix B – Final Report (Tay)
- Appendix C – Final Report (Tay Estuary & Montrose Basin) (Extract)
- Appendix D – Final Report (Forth) (Extract)
- Appendix E – Final Report (Forth Estuary) (Extract)
- Appendix F - Summary of Selected Actions Specific to Potentially Vulnerable Areas
- Appendix G – Local Flood Risk Management Plan (Tay)
- Appendix H - Local Flood Risk Management Plan (Tay Estuary & Montrose Basin) (Extract)
- Appendix I - Local Flood Risk Management Plan (Forth) (Extract)
- Appendix J - Local Flood Risk Management Plan (Forth Estuary) (Extract)

If you or someone you know would like a copy of this document in another language or format, (on occasion, only a summary of the document will be provided in translation), this can be arranged by contacting the Customer Service Centre on 01738 475000.

You can also send us a text message on 07824 498145.

All Council Services can offer a telephone translation facility.

## 1. IMPLICATIONS, ASSESSMENTS, CONSULTATION AND COMMUNICATION

<b>Strategic Implications</b>	<b>Yes / None</b>
Community Plan / Single Outcome Agreement	<b>Yes</b>
Corporate Plan	<b>Yes</b>
<b>Resource Implications</b>	
Financial	<b>Yes</b>
Workforce	<b>None</b>
Asset Management (land, property, IST)	<b>None</b>
<b>Assessments</b>	
Equality Impact Assessment	<b>Yes</b>
Strategic Environmental Assessment	<b>Yes</b>
Sustainability (community, economic, environmental)	<b>Yes</b>
Legal and Governance	<b>Yes</b>
Risk	<b>Yes</b>
<b>Consultation</b>	
Internal	<b>Yes</b>
External	<b>Yes</b>
<b>Communication</b>	
Communications Plan	<b>Yes</b>

### 1. Strategic Implications

#### Community Plan/Single Outcome Agreement

1.1 The proposals relate to the delivery of the Perth and Kinross Community Plan/Single Outcome Agreement in terms of the following priorities:

- (ii) Developing educated, responsible and informed citizens
- (iii) Promoting a prosperous, inclusive and sustainable economy
- (iv) Supporting people to lead independent, healthy and active lives
- (v) Creating a safe and sustainable place for future generations

#### Corporate Plan

1.2 The proposals relate to the achievement of the following Priorities in the Council's Corporate Plan:

- (ii) Developing educated, responsible and informed citizens;
- (iii) Promoting a prosperous, inclusive and sustainable economy;
- (iv) Supporting people to lead independent, healthy and active lives; and
- (v) Creating a safe and sustainable place for future generations.

## 2. Resource Implications

### Financial

- 2.1 It should be noted that not all of the actions identified in the second cycle of FRM Plans and Local FRM Plans will be implemented at this time. The implementation arrangements have been set out in the final drafts of the Local FRM plans and are scheduled to take place over the course of Cycle 2 from 2022-2028. The final reports provide an update on the progress of any on-going actions. Any new potential actions will be subject to further development through the progression of flood studies or flood scheme proposals. As a result, there are no immediate resource implications arising directly from the recommendations in this report.
- 2.2 The flood risk management planning process will, however, have future financial implications. The second cycle of Local FRM Plans contain the implementation arrangements, including the timetable for on-going and new actions to manage flood risk, who will be responsible for implementing them, how they will be funded (if known) and coordinated by SEPA and the responsible authorities over the second six-year cycle.
- 2.3 The 2009 Act requires the Scottish Government to have regard to the FRM Plans and Local FRM Plans when allocating funds to SEPA and responsible authorities. The Scottish Government, CoSLA and SEPA agreed the distribution of capital funding to the actions identified nationally in the current FRM Plans and Local FRM Plans. The following arrangements apply:
- (i) Only works and schemes that are prioritised in the FRM Plans and Local FRM Plans are eligible for capital funding.
  - (ii) Flood protection schemes attract capital grant assistance currently of up to 80% of their estimated project cost at tender stage from the Scottish Government. Local authorities are required to fund the remainder of the cost of flood schemes. The Scottish Government allocates capital funding to local authorities engaged in flood risk management across Scotland. 80% of this capital funding will continue to be allocated to flood protection schemes with the remaining 20% to other actions within the FRM Plans, as detailed in the Local FRM Plans. This 20% is distributed to the 32 Scottish local authorities based on the number of properties at risk of flooding and the estimated annual average flood damages.
- 2.4 These arrangements are currently under review by the Scottish Government and CoSLA, due to the current projected costs of Cycle 1 flood schemes across the country and the available funding.
- 2.5 The Council currently has four flood protection schemes that had been included in the national priority list for the first cycle from 2016-2022. Both the Scottish Government and the Council have made capital allocations for these schemes. The allocated capital grant is adjusted as flood scheme proposals are developed.

- 2.6 At present funding is available for the Council's proposed flood schemes in Comrie, Milnathort and South Kinross and work on them continues. However, as a result of the above review, the 4<sup>th</sup> priority flood scheme, on the Annaty Burn in Scone, has been paused. While this scheme will still progress in the future, it is likely to take longer to implement due to these funding limitations.
- 2.7 The national review of capital funding is on-going and to date, no capital funding has been allocated to any new Cycle 2 flood schemes in Scotland. The Council has not made any allocations for its 20% contribution to the capital cost of the new Cycle 2 flood schemes at this time. The funding arrangements for the Council's new flood schemes proposed in Pitlochry, Aberfeldy and Blackford – and the flood protection works proposed for Bridgend in Perth - therefore remain unclear for the time being.
- 2.8 The conclusion of the national review into capital funding for flood risk management is awaited. However, COSLA leaders have recently confirmed that it is expected that the Local Government General Capital Grant will continue to include resources allocated for flooding projects, and decisions on quantum and distribution will be taken by Scottish Ministers and COSLA Leaders nearer the time.
- 2.9 Revenue funding will continue to be distributed in line with current arrangements. There are no funding issues associated with the non-flood scheme actions in the proposed Cycle 2 Local FRM Plans (flood studies, clearance & repair works, etc).
- 2.10 The Council has a legal duty to have regard to the published FRM Plans and local FRM plans and as such, the actions set out therein are statutory obligations. As noted above, there is some uncertainty around the funding arrangements for some flood schemes. However, the other actions included in the current Plans and Local Plans have been set out assuming that funding remains at current levels. However, if funding should prove not to be available throughout the remainder of the first 6-year cycle or the subsequent cycle of the plans, the implementation of those actions is likely to be delayed.
- 2.11 Clearly, the issue of funding support from central government will continue to have a significant bearing on when the Council will be able to deliver its actions to manage flood risk in the future. Where possible, the actions set out in the Council's current local FRM plans have been prioritised but will only be implemented as available resources allow.

#### Workforce

- 2.12 There are no workforce implications arising directly from the recommendations in this report.

#### Asset Management (land, property, IT)

- 2.13 The proposals in this report have no IT implications.

- 2.14 The individual actions set out within the draft local FRM plans may have land and property implications however these will be dealt with on an individual project basis.

### 3. Assessments

#### Equality Impact Assessment

- 3.1 Under the Equality Act 2010, the Council is required to eliminate discrimination, advance equality of opportunity, and foster good relations between equality groups. Carrying out Equality Impact Assessments for plans and policies allows the Council to demonstrate that it is meeting these duties. The Equality Impact Assessment undertaken in relation to this report can be viewed clicking [here](#).

- 6.2 The function, policy, procedure or strategy presented in this report was previously considered under the Corporate Equalities Impact Assessment process (EqIA) with the following outcome.

- 3.3 Following an assessment using the Integrated Appraisal Toolkit, it was determined that the proposal be assessed as relevant, and the following positive outcomes expected following implementation:

- (i) Assessed as **relevant** and actions taken to reduce or remove the following negative impacts:

The effects and aftermath of flooding could have a greater impact on mobility impaired, sight impaired, blind people or disabled people, on children and the elderly and infirm, and on pregnant women or nursing mothers, in relation to adverse psychological, physical and health impacts. The selected actions to reduce flood risk described in this report will reduce or remove these impacts.

- (ii) Assessed as **relevant** and the following positive outcomes expected following implementation:

The selected actions will have the same positive impact for all equality groups as the reduction in flood risk to communities will provide benefits for all (improved safety, health & wellbeing through avoidance of flood impacts and damages) in the long-term.

The effects and aftermath of flooding could have a greater impact on mobility impaired, sight impaired or blind people, learning disabled people, children, the elderly and infirm, pregnant women or nursing mothers in relation to adverse psychological, physical and health impacts. The selected actions to reduce flood risk described in the report will reduce or remove these impacts.

### Strategic Environmental Assessment

- 3.4 The Environmental Assessment (Scotland) Act 2005 places a duty on the Council to identify and assess the environmental consequences of its proposals.
- 3.5 There are likely to be significant environmental effects associated with the Tay local FRM plan and the other three local FRM plans that the Council will contribute to. Consequently, an environmental assessment is necessary. SEPA have completed an environmental assessment for their FRM Plans and their environmental report has been published. Following a review of this assessment, it has been confirmed that this will cover the local FRM plans and that no further assessment is required. Screening reports submitted to the SEA Gateway have confirmed this.

### Habitats Regulations Appraisal

- 3.6 As the lead authority for the Tay district and a competent authority, the Council also undertook a Habitats Regulations Appraisal to ensure that the Tay Local FRM Plan will not adversely affect the integrity of Special Areas of Conservation and Special Protection Areas. Scottish Natural Heritage was consulted on the appraisal and their views have been taken into account. Mitigation has been applied where required to ensure that the Tay Local FRM Plan will not adversely affect the integrity of Special Areas of Conservation and Special Protection Areas.

### Sustainability

- 3.7 Under the provisions of the Local Government in Scotland Act 2003 the Council has to discharge its duties in a way which contributes to the achievement of sustainable development. Under the Climate Change (Scotland) Act 2009 the Council also has a duty relating to climate change and, in exercising its functions must act:
- in the way best calculated to delivery of the Act's emissions reduction targets;
  - in the way best calculated to deliver any statutory adaptation programmes; and
  - in a way that it considers most sustainable.
- 3.8 Following an assessment using the Integrated Appraisal Toolkit, it has been determined that the proposal is likely to contribute positively to the following corporate sustainable development principles:
- (i) Climate Change  
Efficient use of resources now and in the future in the built environment and service provision (e.g., energy efficiency, land, water resources, flood defence, waste minimisation) (*Principle 2*)  
Mitigation and adaptation to manage the impact of climate change & reduce the production of greenhouse gases (*Principle 3*)

**Justification:**

The implementation of the actions is aimed at mitigating the effects of increased flood risk brought about by climate change.

(ii) Fair and Sustainable Communities

Creating a sense of place (e.g., a place with a positive ‘feeling’ for people, and local distinctiveness) (*Principle 22*)

**Justification:**

The proposed actions are intended to reduce the flood risk to communities and will be subject to public consultation.

(iii) Equality and Human Rights

Refer to Item 3.3 (above).

- 3.9 Following an assessment using the Integrated Appraisal Toolkit, it has been determined that the proposal is likely to contribute negatively to the following corporate sustainable development principles:

(iv) Consumption and Production

Efficient use of resources now and in the future in the built environment and service provision (e.g., energy efficiency, land, water resources, flood defence, waste minimisation) (*Principle 2*)

Mitigation and adaptation to manage the impact of climate change & reduce the production of greenhouse gases (*Principle 3*)

**Justification:**

The implementation of actions, e.g., new flood defences, may require a short-term increase in energy consumption during construction, but a future reduction due to reduced flood risk.

**Mitigation:**

The efficient use of resources is to be considered on an individual project basis.

- 3.10 However, under the 2009 Act, the Council has a duty to manage flood risk in a sustainable way and to act in the best way calculated to contribute to the achievement of sustainable development. The measures that will be identified in the Council’s future Local FRM Plans will comply with this requirement.

Legal and Governance

- 3.11 The Head of Legal and Governance has been consulted on this report.
- 3.12 The legal basis for the proposals set out in this report is the Flood Risk Management (Scotland) Act 2009.

## Risk

- 3.13 The risks associated with any actions to manage flooding will be identified and managed through individual projects.

## **4. Consultation**

### Internal

- 4.1 The Head of Legal and Governance and the Head of Finance have been consulted in the preparation of this report.

### External

- 4.2 The key outputs from the Flood Risk Management process were subject to a national public consultation between July and October 2021. This was a joint web-based consultation carried out by SEPA and local authorities. The responses to the public consultation are included in this report (refer to 4.6 - 4.11 in the main report and Appendix A) and have been used to inform the published FRM Plans and proposed Local FRM Plans.
- 4.3 The local flood risk management plans have been developed through Local Plan District Partnerships by SEPA and the relevant responsible authorities (local authorities, Scottish Water, Scottish Forestry, Forestry & Land Scotland, the Loch Lomond & the Trossachs National Park Authority and the Cairngorms National Park Authority).
- 4.4 Further consultation will be carried out with relevant external stakeholders on any individual proposals in future.

## **5. Communication**

- 5.1 The communications arrangements for the publication of the local flood risk management plans have been set out at 5.11 and 5.21 in the main report.
- 5.2 Communication with relevant external stakeholders will take place on any individual actions proposed to manage flood risk in the future.

## **2. BACKGROUND PAPERS**

- 2.1 The following background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (and not containing confidential or exempt information) were relied on to a material extent in the preparation of the above report;

- PKC – Environment Committee – 27 January 2010, Flood Risk Management (Scotland) Act 2009 (Report No. 10/51)
- PKC – Environment Committee – 20 November 2013, Progress Report Flood Risk Management (Scotland) Act 2009 (Report No 13/544)

- PKC – Environment Committee – 12 November 2014, The Flood Risk Management (Scotland) Act 2009, Short List of Potential Measures to Manage Flood Risk (Report No 14/483)
- PKC – Environment Committee – 21 January 2015, The Flood Risk Management (Scotland) Act 2009, Public Consultation Arrangements (Report No. 15/16)
- PKC – Environment Committee – 9 September 2015, The Flood Risk Management (Scotland) Act 2009, Selected Actions and Prioritisation (Report No 15/359)
- PKC – Environment Committee – 1 June 2016, The Flood Risk Management (Scotland) Act 2009, Publication of Local Flood Risk Management Plans (Report No 16/241)
- PKC – Environment and Infrastructure Committee – 23 January 2019, The Flood Risk Management (Scotland) Act 2009 Publication of Interim Report (Report No 19/16)
- PKC – Environment and Infrastructure Committee – 19 May 2021, The Flood Risk Management (Scotland) Act 2009: Second Cycle of Flood Risk Management Plans (Report No 21/60)
- PKC – Environment and Infrastructure Committee – 18 August 2021, Flooding in Perth & Kinross of 11/12 August 2020 (Report No 21/122)

## Appendix A

## Summary of Responses to Public Consultation

Tay Local Plan District

No	Respondent	Brief Summary of Issues Raised	Lead Authority Comments
1	Member of the public	Noted flooding in some areas of Perth City and Bridge of Earn; that package of proposed objectives was too vague; wanted to hear more about maintenance, river dredging, use of beavers, flooding of set aside agricultural land, etc; work should begin immediately.	The Tay Local FRM Plan includes various actions for both Perth and Bridge of Earn, including flood studies and a surface water management plan. More detail on the objectives and actions – including timescales - has been provided in the final published Plan. The Plan will also include maintenance actions.
2	Member of the public	A member of the public in Perth is concerned that their property has flooded multiple times because of heavy rain and blocked drains. They are concerned that this will happen again.	The Tay Local FRM Plan includes various actions to manage the risk of flooding including various flood studies, a surface water management plan and maintenance works. Perth & Kinross Council's Roads Maintenance Partnership carry out maintenance of road drainage systems. Road defects (including blocked gullies) can be reported to the Council via their website.
3	Member of the public	A resident of Wallace Crescent and Fairfield, Perth expressed concern that this area is not mentioned, despite previous repeated flooding of their property. They are looking for reassurance that this will be considered. They expressed concern about development in the area, the lack of upgrades or improvements to the existing drainage system and the time required for improvements.	This area is located within the Perth PVA (02/08/12) and Objective Target Area (OTA) 253. The proposed Tay Local FRM Plan includes specific actions for the area that are intended to bring about a reduction in flood risk. These actions include the on-going Perth SWMP. Perth & Kinross Council also invested in road drainage improvements on Wallace Crescent in 2021 to reduce the risk of flooding.

4	Member of the public	<p>A resident in Aberfeldy is concerned about the visual impact and access issues associated with the proposal to build a flood wall as part of the Aberfeldy Flood Scheme.</p> <p>The respondent noted involvement in the local community resilience plan and in reporting blocked street drains to the local authority.</p>	<p>The Tay Local FRM Plan includes an action for a new flood protection scheme in Aberfeldy. Any issues associated with visual impact and access will be addressed during the outline design of the flood scheme via further public consultation and the Environmental Impact Assessment.</p> <p>In the meantime, the Council welcomes local efforts to improve flood resilience in Aberfeldy.</p>
5	Member of the public	<p>A local resident who lives next to the Craigie Burn in Perth flooded last year and expressed concern that flooding has become more frequent. They requested quick action be taken by pumping water away, noting issues with surface water, sewer flooding, issues with flood gates, property insurance costs, SUDS and storage ponds. They have taken steps to protect their home and liaise with local councillors.</p>	<p>The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253), including the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study and the Perth SWMP. The Plan also includes self-help and awareness raising actions.</p> <p>It is individual property owners' responsibility to protect themselves and their assets from flooding.</p>
6	Member of the public	<p>A resident in Craigie, Perth noted concern that development has increased flood risk and that the objective should include infrastructure upgrades. They noted that some maintenance work has helped matters but more requires to be done. The resident noted that they have previously raised issues, but they have not been acted on, and suggested a community meeting. They also note that they monitor flooding in the Craigie area and have reported this to the Council.</p>	<p>The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253), including the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study, and the Perth SWMP. The Council has already undertaken public consultation in connection with these issues.</p> <p>The proposed Plan also includes other actions including:</p> <ul style="list-style-type: none"> <li>• Land Use Planning - all new development is required to comply with national and</li> </ul>

			<p>local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.</p> <ul style="list-style-type: none"> <li>• Maintenance - of watercourses, road drainage and existing flood defences.</li> </ul> <p>The Council welcomes local efforts to improve flood resilience in Perth.</p>
7	Member of the public	<p>A local resident in Blairgowrie &amp; Rattray noted that localised flooding in rural Perthshire could be mitigated in a cost-effective way by improved ditch and verge maintenance. The resident noted the proposed actions and timescales are 'non-committal' and won't be adhered to. They have carried out their own verge maintenance works.</p>	<p>The Tay Local FRM Plan includes maintenance of watercourses. Perth &amp; Kinross Council's Flooding team inspect and assess bodies of water and carry out clearance and repair works, where this will substantially reduce flood risk. The primary responsibility for avoiding or managing flood risk remains with landowners. Actions and timescales will be set out in the published Plan and interim and final reports will also be published setting out the progress made. The Council welcomes local efforts to improve flood resilience in Blairgowrie &amp; Rattray.</p>
8	Member of the public	<p>A local resident in Alyth noted two floods in 6 years and expressed concern about waiting until 2028 for a plan to be made. They noted the action taken by the local community to protect properties but noted that the Council should do more. They also noted the need for more radical action to prevent flooding by creating an artificial flood plain to the north of the town.</p>	<p>The Tay Local FRM Plan includes a number of on-going actions to manage flood risk in Alyth. In particular, Perth &amp; Kinross Council are currently undertaking a Natural Flood Management (NFM) Study in Alyth. The study will explore the potential options for flood risk management measures in this area, including NFM and flood storage.</p>
9	Member of the public	<p>A local resident in Blairgowrie and Rattray noted that the timescales for</p>	<p>The Tay Local FRM Plan will set out the current timescales for actions in Blairgowrie and</p>

		actions are not quick enough.	Ratray. This area is currently the focus of an on-going surface water management plan which will consider the potential means of managing and, where achievable, reducing flood risk in this area.
10	Member of the public	A member of the public in Pitlochry agreed that the main communities and infrastructure had been identified and with the proposed objectives for this area.	No response required.
11	Member of the public	A member of the public noted that Dunning was not listed in the consultation.	Dunning was included within PVA 08/16 in the Cycle 1 FRM Plans, however, following the 2 <sup>nd</sup> national flood risk assessment in 2018, this area has been re-assessed as having a lower level of flood risk. Dunning is therefore no longer designated as a PVA. However, the area is covered by the proposed LPD-wide actions set out in the Tay Local FRM Plan.
12	Member of the public	A member of the public in Coupar Angus noted that: <ul style="list-style-type: none"> <li>• flood risk is preventing development and that development elsewhere has increased flood risk;</li> <li>• watercourses are flowing slower due to overgrown vegetation and silt.</li> <li>• the A93 road should be raised to prevent road closures and delayed emergency access due to flooding.</li> <li>• flood defences would prevent flooding in Coupar Angus but this would move the problem elsewhere.</li> </ul>	The Tay Local FRM Plan includes actions to manage flood risk in this area, including the land use planning action. All new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water. Perth & Kinross Council's Flooding team inspect and assess bodies of water and carry out clearance and repair works where this will substantially reduce flood risk. The primary responsibility for avoiding or managing flood risk remains with landowners. The Council's previous flood study considered the potential options for reducing flood risk

			in Coupar Angus but unfortunately did not identify an economically viable flood scheme. Flood risk will therefore continue to be managed as set out in the Tay Local FRM Plan.
13	Member of the public	<p>A member of the public in Perth noted:</p> <ul style="list-style-type: none"> <li>• 8 flood events on the Craigie Burn since 1981;</li> <li>• concern about increased flood risk due to development and global warming;</li> <li>• the lack of scope for improving existing flood defences, e.g. bottlenecks and culverts in the Craigie Burn, and the limited benefit of maintenance works;</li> <li>• that the pace of FRM is too slow to keep pace with the increased frequency of flooding;</li> <li>• that local residents need to be kept informed of any local works;</li> <li>• the on-going risk to property and people and the associated costs; and</li> <li>• it is the public authorities job to manage flood risk.</li> </ul>	<p>The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253) and in particular the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study and the Perth SWMP. The Council has already undertaken public consultation in connection with these issues and the associated timescales. The Plan also includes other actions including:</p> <ul style="list-style-type: none"> <li>• Land Use Planning - all new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.</li> <li>• Maintenance - of watercourses, road drainage and existing flood defences.</li> </ul> <p>While certain public authorities have a duty to manage and, where achievable, reduce flood risk overall, the primary responsibility for avoiding or managing flood risk remains with land and property owners.</p>
14	Member of the public	<p>A member of the public in Perth noted the increasing frequency of flooding; the increase in flood risk due to development; the need to improve drainage and not rely on existing drainage or</p>	<p>The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253) and, in particular, the on-going maintenance of the existing Perth Flood Scheme,</p>

		<p>watercourses such as the Craigie Burn; the need for improved communication on actions being taken; that the scale of the flooding over the last 20 years has been understated; that the timescales for action are too slow and that interim changes are also required.</p>	<p>the on-going Craigie Burn Flood Study and the Perth SWMP. The Council has already undertaken public consultation in connection with these issues and the associated timescales. The Plan also includes other actions including:</p> <ul style="list-style-type: none"> <li>• Land Use Planning - all new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.</li> <li>• Maintenance - of watercourses, road drainage and existing flood defences.</li> </ul>
15	Member of the public	<p>A local resident in Perth noted:</p> <ul style="list-style-type: none"> <li>• that flooding wasn't happening 'once every 200 years' – there had been 8 flood events on the Craigie Burn since 1981;</li> <li>• concern about increased flood risk due to development;</li> <li>• concern about how SUDS operate and if they deal with older development;</li> <li>• concern about flooding on the Craigie Burn due to small culverts and blockages and the impact on flooding of adjacent properties;</li> <li>• concern that dredging of the Craigie Burn increases flood risk downstream;</li> <li>• disappointment that Perth &amp; Kinross Council appear to be blaming</li> </ul>	<p>The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253) and in particular the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study and the Perth SWMP. The Council has already undertaken public consultation in connection with these issues and the associated timescales. The Plan also includes other actions including:</p> <ul style="list-style-type: none"> <li>• Land Use Planning - all new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.</li> <li>• Maintenance - of watercourses, road</li> </ul>

		<p>householders for the flooding, while allowing development further upstream;</p> <ul style="list-style-type: none"> <li>• the damage done due to surface water flooding; and;</li> <li>• that action to manage flood risk is too slow – flooding is more frequent; and</li> <li>• that more communication is required from the Council.</li> </ul>	<p>drainage and existing flood defences.</p> <p>While certain public authorities have a duty to manage and, where achievable, reduce flood risk overall, the primary responsibility for avoiding or managing flood risk remains with land and property owners.</p>
16	Member of the public	<p>A local resident on the Cavendish Avenue area of Perth noted concern about increasing flooding and health impacts due to the limited capacity of the sewer system outside their property and development elsewhere in the catchment. This has been an issue for 15-16 years, and they feel that the sewer requires to be upgraded. The resident doesn't feel able to act as this may increase flood risk to adjacent properties.</p>	<p>The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253). In particular, there is an on-going IFOS (Internal Flooding due to Overloaded Sewers) study being carried out jointly between Scottish Water and Perth and Kinross Council to consider the potential means of managing and, where achievable, reducing flood risk to properties in the vicinity of Cavendish Avenue. Community drop-in sessions will be held early in 2023 to disseminate the findings of this study.</p>
17	Member of the public	<p>A member of the public in the Tomcroy Terrace area of Pitlochry noted concern that the flood map omits to show the flood risk to their neighbours property, which has been affected twice by an adjacent small burn and surface water run off from fields. They noted they may be able to help the local community resilience group.</p>	<p>SEPA's indicative flood maps do not always show flooding on small watercourses (due to their limited catchment size). Tomcroy Terrace is affected by flooding from the Wester Kinnaird Burn which was fully considered by the more detailed modelling work carried out under the Pitlochry Flood Study. The study recommended a new watercourse diversion channel on the Wester Kinnaird Burn at</p>

			Tomcroy Terrace, as part of the wider proposals for a flood scheme in this area. The proposed scheme is included as one of the actions for this area (the Pitlochry PVA 02/08/02 and OTA 254) in the Tay Local FRM Plan. The Council welcomes local efforts to improve flood resilience in Pitlochry.
18	Member of the public	A member of the public noted concern about an increase in flood risk due to development.	The Tay Local FRM Plan includes actions to manage flood risk, including the land use planning action. All new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.
19	Member of the public	A member of the public in Comrie agreed that the main communities and infrastructure had been identified and agreed with the proposed objectives for this area.	No response required.
20	Member of the public	A member of the public in Bridge of Earn is concerned that the Oudenarde and Brickhall industrial sites are not included within the objective target area (OTA). They noted concern about the proposed objectives don't include tributaries to the River Earn, and need to address the flat topography which limits surface water drainage. They also noted concern that the timescales for actions were too long.	The Tay Local FRM Plan includes actions to manage flood risk in Bridge of Earn (PVA 02/08/14 and OTA 205). The development site at Oudenarde and the Brickhall Industrial site both fall outwith OTA 205, although they are within PVA 02/08/14. The flood risk on these sites is being managed through the land use planning action which applies across the whole of the local plan district. The proposed objectives do not mention any watercourses but instead refer to the management of flood risk. Flood risk from any bodies of water and their tributaries will therefore be considered. The Deich and Yellow Burns have

			<p>been noted against the 'Maintain flood protection scheme' action.</p> <p>The Plan also includes a Flood study to better understand the integrated flooding mechanisms in Bridge of Earn (including surface water) and the potential works required to reduce flood risk in the future. The timescales for all of these actions have been set out in the published Plan.</p>
21	Member of the public	<p>A member of the public noted that all vulnerable areas should be identified, and this should not be limited to affected houses, but should also include infrastructure. They note that Forgandenny isn't included, despite previous flooding, and that the flood risk maps do not show previous flooding. They noted that support is required from both Perth and Kinross Council and SEPA and noted concern that current legislation does not force rural landowners to cooperate on natural flood measures within their land.</p>	<p>The potentially vulnerable areas (PVA's) were set out in the second national flood risk assessment, published in December 2018. This assessment considered homes, businesses and infrastructure.</p> <p>Forgandenny is not within one of the areas designated as a PVA in 2018. Even though there has been previous flooding, the level of flood risk is not significant enough for this area to be included within a PVA.</p> <p>SEPA's indicative flood maps do not always show flooding on small watercourses (due to their limited catchment size). Notwithstanding the above, actions have been set out in the Tay Local FRM Plan to manage flood risk across the local plan district and these apply to Forgandenny.</p> <p>While current legislation does not force rural landowners to undertake flood measures on their land, landowners remain responsible for managing or avoiding flood risk.</p>
22	Member of the public	<p>A member of the public in Coupar Angus agreed that the main communities and infrastructure had been identified and agreed with</p>	<p>No response required.</p>

		the proposed package of objectives.	
23	Local business	A local business owner in Aberfeldy noted that the underlying causes of flooding (the mismanagement of the moorlands in Highland Perthshire) have not been fully addressed. Work and legislation should be introduced immediately. They noted that banning grouse shooting, stopping muir burning and moorland ditchwork, and tree planting would help.	The Tay Local FRM Plan includes actions to manage flood risk in Aberfeldy (PVA 02/08/03 and OTA 183). This area was fully considered by the Aberfeldy Flood Study which was completed in 2019. The study considered a long list of options (including land management techniques) and recommended a flood scheme involving new flood defences in the town. The study findings were disseminated to the local community via drop-in sessions on 20 and 25 June 2019.
24	Community body	Earn Community Council agreed that the main communities and infrastructure had been identified and agreed with the proposed objectives, actions and timescales for the Bridge of Earn area. The community council noted that the local community can help to limit surface water runoff due to monoblocking/ surfacing of private land and by implementing natural flood management.	Perth and Kinross Council welcomes local efforts to improve flood resilience in Bridge of Earn.
25	Other organisation	A group of 72 healthcare professionals in Tayside and North Fife issued an open letter to Tayside and Fife Councillors, in support of climate mitigation for public health. The group are concerned that the worsening climate crisis is a public health emergency, due to several factors including worsening extreme weather, such as heavy rain and flooding. Creating green and blue	The publication of the second Tay Local FRM Plan is one of the key actions to help us adapt to climate change. As a society, we need to take action to manage the risk of flooding and its impacts on our lives, recognising that the risk can't ever be removed entirely. This plan takes our knowledge and understanding of flooding and the impacts of climate change and turns it into a set of actions that are planned, prioritised and co-ordinated to

		spaces can provide health benefits; adaptation is required to cope with increased rainfall, and the risk of flooding as climate change worsens.	tackle flooding in the communities where it affects us the most. Flooding needs to be managed sustainably so that flood risk is reduced without moving the problem elsewhere. It must be done in a way that contributes to the health and wellbeing of communities, supports the protection and regeneration of the environment, improves resilience to climate change and enables a sustainable economy. Actions are needed on all sources of flooding – including from rivers, the sea, surface water and groundwater – to meet the needs of present and future generations while also protecting and enhancing the environment.
26	Other organisation	NatureScot noted that they had previously contributed to the 2018 NFRA consultation and were in general agreement with this consultation. They provided various detailed comments on the proposed actions in various OTA's and the need for an HRA to cover some of these, due to on-going and proposed actions within Special Areas of Conservation (SAC). NatureScot also reiterated that Natural Flood Management (NFM) should be used where possible to reduce flood risk.	NatureScot's comments will inform the various future actions to be taken on flood risk. The Council has undertaken a Habitats Regulations Assessment as part of development of the Tay Local FRM Plan and has consulted with NatureScot on this. NFM is considered in the development of the Tay Local FRM Plan and in the long list of actions considered as part of any individual flood studies.
27	Elected members	Two of the Ward 10 elected members) in Perth & Kinross Council noted concern about various flooding issues in Perth including:	The Tay Local FRM Plan on-going includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253); in particular, the maintenance of the existing Perth Flood Scheme, the

		<ul style="list-style-type: none"> <li>• Surface water flooding from the M90 motorway and the Broxden Park &amp; Ride facility;</li> <li>• Operation of the flood storage ponds at Broxden;</li> <li>• Maintenance of the Scouring and Craigie Burns;</li> <li>• Arrangements for developers completing works and handing them to the Council for adoption;</li> <li>• Flood gate closures on the Perth Flood Scheme;</li> <li>• River and surface water flooding at various locations.</li> </ul>	<p>Craigie Burn Flood Study, the Perth SWMP and the Perth IFOS Project.</p> <p>Perth &amp; Kinross Council's Flooding team inspect and assess bodies of water and carry out clearance and repair works where this will substantially reduce flood risk. The Council also works with developers to ensure that any issues are fully addressed prior to adoption.</p> <p>The primary responsibility for avoiding or managing flood risk remains with landowners. A separate detailed response was sent to the elected members by e-mail on 25 January 2022.</p>
28	Local Authorities	<p>Perth &amp; Kinross Council's flooding team made comments specific to various OTA's; provided updates for the prioritisation of proposed Cycle 2 flood schemes and flood protection works; noted concern over the lack of any Scottish Water actions; and suggested that Scottish Forestry/Forestry &amp; Land Scotland should be including objectives and actions within the published FRM Plans. No comment was made by other services within the Council.</p>	N/A

Tay Estuary & Montrose Basin Local Plan District

No consultation responses were received.

Forth Local Plan District

<b>No</b>	<b>Respondent</b>	<b>Brief Summary of Issues Raised</b>	<b>Lead Authority Comments</b>
1	Member of the public	A member of the public in Blackford raised concern that their property has been designated as being at risk of flooding from the Danny Burn, despite it not having flooded. They are concerned that this is increasing their buildings insurance.	It is acknowledged that not all properties within the boundary of a PVA or OTA are at risk of flooding. Even though a property may not have flooded, there may still be a risk that flooding could occur in the future in a higher magnitude event. We would need to know which property you are referring to, in order to comment further.
2	Local Authority	Perth and Kinross Council's flooding team provided an update for the prioritisation of the proposed Cycle 2 Blackford Flood Protection Scheme.	No response required.
3	Other Organisation	NatureScot noted the opportunities for joint working on a priority basis.	Perth and Kinross Council will continue to liaise with NatureScot in relation to any flood risk management actions.

Forth Estuary Local Plan District

<b>No</b>	<b>Respondent</b>	<b>Brief Summary of Issues Raised</b>	<b>Lead Authority Comments</b>
1	Member of the public	A resident in Drum queried why the area wasn't included within a PVA, despite having a large catchment area, limited size of culverts under the A977, a high water table and previous incidences of property flooding. They also raised concern about the impact of development of flood risk	The potentially vulnerable areas (PVAs) were set out in the second national flood risk assessment, published in December 2018. The village of Drum is not within one of the areas designated as a PVA at that time. Even though there has been previous flooding, the level of flood risk is not significant enough for this area

		and noted that action should be taken quickly.	to be included within a designated PVA. Notwithstanding the above, actions have been set out in the proposed Forth Estuary Local FRM Plan to manage flood risk across the local plan district and these apply to Drum. The proposed Forth Estuary Local FRM Plan includes actions to manage flood risk in this area, including the land use planning action. All new development is required to comply with national and local planning policies, Perth & Kinross Council's Supplementary Guidance and to include SUDS to manage surface water.
2	Member of the public	A resident in Milnathort noted concern about a lack of integrated thinking and communication in relation to development and planning enforcement and flood risk. They noted concern about the Athron Hill development having no water or sewage provision, and water draining to the back Burn which floods Milnathort. They noted that prevention in the past would have been better than reacting to crises in the future.	The proposed Forth Estuary Local FRM Plan includes actions to manage flood risk in this area, including the land use planning action. All new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.
3	Community Body	The Kinross Flood Resilience Group submitted 21 questions relating to FRM work in Kinross including timescales, barriers to commencement, publication of the Local FRM Plan, funding, cost/benefit analysis, which authorities are responsible, SEPA's on-going involvement, communications, notice	The responsibilities for delivery, timescales, coordination, and funding arrangements for FRM actions in Kinross will be set out in the Forth Estuary Local FRM Plan which is due for publication in December 2022. The published Plan will include an action for the South Kinross Flood Protection Scheme and further details will be provided to the local community via

		<p>periods, access to private property, and the proposed details for the South Kinross Flood Scheme including consultation on the flood scheme, property insurance, contact details and temporary flood risk during construction.</p> <p>They agreed with the proposed actions but noted that expansion of the waterways (both natural and piped) would also benefit the area.</p> <p>The group noted that they can respond during a flood and could do so more effectively with support from PKC and the Community Council. They are considering use of the 'Rivertrack' water level monitoring system and they noted monitoring drains in the area, with a view to getting them cleared more effectively.</p>	<p>public consultation in due course.</p> <p>Perth &amp; Kinross Council's Flooding team inspect and assess bodies of water and carry out clearance and repair works where this will substantially reduce flood risk. The primary responsibility for avoiding or managing flood risk remains with landowners. The proposed Forth Estuary Local FRM Plan includes a Community resilience group action and the Council will continue to liaise with the group on this. The Plan also includes an emergency plans action, which enables the provision of an emergency response during flood events. Perth and Kinross Council welcomes local efforts to improve flood resilience in Kinross.</p>
4	Elected member	<p>A Ward 8 elected member from Perth &amp; Kinross Council noted concern that the village of Drum had not been included within a PVA despite a high water table and previous flooding in the area. They also noted concern about development and flood risk, the WWTW capacity, and suggested a ditch management scheme for the area.</p>	<p>The potentially vulnerable areas (PVA's) were set out in the second national flood risk assessment, published in December 2018. The village of Drum is not within one of the areas designated as a PVA at that time. Even though there has been previous flooding, the level of flood risk is not significant enough for this area to be included within a designated PVA.</p> <p>The proposed Forth Estuary Local FRM Plan includes actions to manage flood risk in this area, including the land use planning action. All new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and</p>

			<p>to include SUDS to manage surface water. Perth &amp; Kinross Council's Flooding team inspect and assess bodies of water and carry out clearance and repair works where this will substantially reduce flood risk. The primary responsibility for avoiding or managing flood risk remains with landowners.</p>
--	--	--	--

# Flood Risk Management (Scotland) Act 2009:

## Final Report:

## Local Flood Risk Management Plan

## Tay Local Plan District



**Published by: Perth & Kinross Council**

**21 December 2022**



Scottish Forestry / Coilltearachd na h-Alba



## Foreword

This Final 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 us and our communities across the Local Plan District. The report also marks the completion of Cycle 1 (2016 - 2022) as we now transition into Cycle 2 (2022 - 2028).

*“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 Final Report shows that the coordinated and collaborative efforts of public bodies can be brought together to deliver sustainable outcomes.

This Final 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 Scottish Forestry.

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 Tay Local Flood Risk Management Plan, which are detailed in this Final Report.

Since the publication of the Tay Local Flood Risk Management 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. During Cycle 1, we have also had to respond to the challenges of the Covid-19 pandemic as well as significant flood events and staffing shortages.

SEPA, local authorities, Scottish Water and other responsible authorities will continue to work collaboratively to implement the actions set out in the Cycle 2 Local Flood Risk Management Plans to its conclusion in June 2028.

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

## Contributors

Perth & Kinross Council  
Angus Council  
Fife Council  
Stirling Council  
SEPA  
Scottish Water  
Loch Lomond and the Trossachs National Park Authority  
Cairngorms National Park Authority  
Scottish Forestry  
Forestry and Land Scotland  
Transport Scotland  
Scottish Flood Forum

## Contents

Chapter 1 - Background.....	1
Chapter 2 - Summary of the plan.....	2
2.1 Key Progress in Reducing the Impacts of Flooding since Publication.....	2
2.2 How Current is the Plan? .....	4
2.3 Significant Challenges.....	4
2.4 Summary of Actions Not Implemented .....	8
2.5 Arrangements Planned to Deliver Remaining Actions.....	9
2.6 Prioritisation of Actions for Next Plan Cycle .....	9
2.7 Next Steps.....	10
2.8 Conclusions.....	11
Chapter 3 - Assessment of Progress of Actions .....	12
3.1 Progress with General Actions to Manage Flood Risk Across the Tay LPD.....	13
3.2 Progress with Specific Actions to Manage Flood Risk Within PVAs .....	21
3.2.1 Blair Atholl PVA 08/01 .....	23
3.2.2 Kinloch Rannoch PVA 08/02 .....	26
3.2.3 Aberfeldy and Pitlochry PVA 08/03.....	28
3.2.4 Alyth PVA 08/04.....	32
3.2.5 Kirriemuir & Forfar PVA 08/05 .....	36
3.2.6 Blairgowrie PVA 08/06.....	39
3.2.7 Coupar Angus PVA 08/07.....	42
3.2.8 Luncarty, Stanley, Bankfoot, Dunkeld & Birnam PVA 08/08.....	45
3.2.9 Tyndrum and Crianlarich PVA 08/09 .....	49
3.2.10 Almondbank PVA 08/10.....	51
3.2.11 Scone PVA 08/11 .....	55
3.2.12 Perth to Kinfauns (north of A90) PVA 08/12 .....	58
3.2.13 Perth Centre PVA 08/13 .....	62
3.2.14 Comrie PVA 08/014 .....	68
3.2.15 Forteviot PVA 08/15.....	73
3.2.16 Dunning PVA 08/16 .....	76
3.2.17 Bridge of Earn PVA 08/17.....	79
3.3 Other Actions .....	83
List of Acronyms and Abbreviations.....	85
Annex 1: FRM Responsibilities & Legal Requirement for this Interim Report .....	86

## Chapter 1 - Background

This Final Report is a legal requirement of the Flood Risk Management (Scotland) Act 2009 (Section 38) and, following recent Ministerial Direction, is required to be published no later than 31 December 2022. The Final Report includes:

- An assessment of the progress made towards implementing the Tay Local Flood Risk Management Plan published in 2016 (the 'Plan').
- a summary of the planned actions which were not implemented, with reasons for their non-implementation; and
- a description of any other actions implemented since the plan was finalised which the lead authority considers have contributed to the achievement of the objectives.

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

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

[www.pkc.gov.uk/frmplans](http://www.pkc.gov.uk/frmplans)

## Chapter 2 – Summary of the Progress of Actions in the Plan

This section sets out a summary of the progress of actions as detailed in the published Tay Local Flood Risk Management Plan. It draws upon the assessment of progress of actions presented in the subsequent Chapter 3.

A summary of the planned actions which were not implemented, with reasons for their non-implementation is provided in Section 2.4.

A description of the other actions implemented since the Plan was finalised which have contributed to the achievement of the objectives is provided in Sections 2.2 and 3.3.

### 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: -

- Partnership Working - the introduction of the Flood Act had resulted in a more modern and coordinated approach to flood risk management and SEPA and responsible authorities were working more closely together than ever before. However, the Covid-19 pandemic, remote working and the SEPA cyber-attack of December 2020 have had an impact on the FRM planning process as well as various on-going projects. While the vast majority of these issues have now been resolved, the delays to Cycle 1 work will have an impact on the delivery of actions in Cycle 2.
- Overall Progress – following a slow start, good progress was made on the identified actions across the Tay Local Plan District (LPD). However, progress has been significantly affected by the Covid-19 pandemic, staffing shortages and the severe flooding experienced in many areas of the Tay LPD in August 2020 and September 2022. Out of the 182 selected actions, 156 have a green status, 22 amber and 4 actions have a red status. This is very similar to the overall status at the time of the Interim Report in March 2019. The majority of actions have a green status, and the majority of the remaining actions will continue into and be delivered within Cycle 2, 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 – confirmed in August 2021; construction works commenced in late August 2022.
- Perth Integrated Catchment Study - Scottish Water and Perth & Kinross Council worked in partnership to complete a city-wide model. Further investigations have been concluded in high priority areas.
- Flood Studies –

- Studies in Pitlochry, Aberfeldy, Dunkeld, Kirriemuir and Forfar have been completed and have identified flood risk management measures within these towns.
  - Work to develop the Perth Surface Water Management Plan is underway.
  - In Perth, the Craigie Burn Flood Study is also underway.
  - The Alyth Natural Flood Management Study is underway.
  - Work to develop the Blairgowrie & Rattray Surface Water Management Plan is underway.
  - Work to design flood protection works at Bridgend, Perth is on-going.
  - The Scone Flood Protection Study and Surface Water Management Plan will commence early 2023.
- Flood Mapping and Modelling Improvements - a number are on-going in the Tay Local Plan District by SEPA and other organisations. This will continue to improve the understanding of flood risk across this area.
  - Flood Forecasting - SEPA has continued to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties) to reduce the impacts of flooding. SEPA, in partnership with the Met Office, has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for 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's Housing Service has rolled out property flood protection measures for 90 Council properties in Aberfeldy, Alyth, Comrie, Kinross and Perth.
  - Awareness Raising - Community engagement and awareness raising activities have been carried out across the Tay Local Plan District, specifically in Potentially Vulnerable Areas (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 and the severe flooding of August 2020. This included a review of out of hours emergency arrangements and flood gate closures.
  - 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 Flood Risk Management Plan was published in June 2016 to supplement the Tay Flood Risk Management Strategy published by SEPA in December 2015. The Plan detailed 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 PVAs 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 PVAs in December 2018 and the subsequent introduction of Objective Target Areas. These advancements may continue to inform the delivery of the actions in the Plan and will be used in the development of future Strategies and Plans.

It is therefore considered that this is the Final Report for the current Tay Local Flood Risk Management 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 Final Report, the following key challenges and issues have had 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 the Local Plan District, this is detailed in Chapter 3.

The overall delivery of actions in the Plan has not been impacted by funding, although significant 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 were still being delivered into the 2020/21 financial year. 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.

Significant flooding occurred during the storm of 11/12 August 2020 and a number of smaller flood events in the months that followed. This has had a considerable impact on the delivery of planned actions, as Councils had to divert significant resources to deal with the aftermath of the flooding. This was the most severe flood event in Perth & Kinross in almost 30 years and occurred during the Covid-19 pandemic (see below). The response made up a significant proportion of Perth & Kinross Council flooding team’s workload for a year following the initial flood event. The Scottish Flood Forum provided support to responsible authorities and local communities who sadly flooded during this extreme weather event. Despite covid lockdown restrictions, the Scottish Flood Forum were still able to provide individual and group support, both face to face and online, by delivering recovery consultations, household property flood resilience assessments, community resilience group start-up advice and support for local authorities and key stakeholders with online community information events. Key topics covered included insurance, reinstatement, and future property flood resilience.

Further significant flooding occurred in Perth and some surrounding areas on 8 September 2022. This led to further delays to the delivery of planned actions as well as the development of this Final Report and the Cycle 2 Tay Local Flood Risk Management Plan.

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

## **Covid-19 Pandemic**

The Covid-19 pandemic has impacted the delivery of Cycle 1 actions including a requirement to suspend flood risk management construction works as part of the national effort to minimise the spread of the virus during the first national lockdown. The pandemic also disrupted flood risk management studies, schemes and flood modelling work due to the transition to home working and the challenges of effectively consulting and engaging with flood affected communities. The pandemic resulted in flooding staff being redeployed elsewhere to assist with Covid response efforts. These impacts have resulted in higher implementation costs and programme delays.

## **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 generally been at the levels anticipated.

However, the Scottish Government and CoSLA are undertaking a review of capital funding for flood risk management. At present funding is available for the Council's proposed flood scheme in Comrie and work on this continues. However, as a result of the funding review, the proposed flood scheme, on the Annaty Burn in Scone, has been paused. While this scheme will still progress in the future, it may take longer to implement due to these funding limitations. The conclusion of the national review into capital funding for flood risk management is awaited. A statement on funding is awaited from the Scottish Ministers.

### **Allocation of Resources**

The availability and retention of skilled and experienced staff to deliver flood risk actions has been a very limiting factor. Much of this human resource pressure has arisen from the increased level of investment in flood risk management across the country, leading to pressure on the limited pool of those with the required specialist technical skills. This pressure has not only been observed within the authorities responsible for progressing individual actions, but also within the consulting engineers engaged to support the development of solutions.

The increased workload created by the Covid-19 pandemic and the significant weather events noted above has put more pressure on those limited 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 Consulting Engineers and Contractors**

The availability of consulting engineers has been a limiting factor in some areas. In the period following publication of the Plan, Perth & Kinross Council were initially unable to engage consulting engineers and underwent repeated procurement exercises. The market response to tender opportunities has since improved.

The Council has also encountered some initial issues in engaging site supervision staff for the Almondbank Flood Protection Scheme and, more recently, project management staff for the Comrie 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 consulting engineers are described below and are detailed in Chapter 3.

## SEPA Cyber-Attack

On 24 December 2020, SEPA was subject to a serious and complex cyber-attack, which significantly impacted the organisation, staff, public and private partners, and the communities who rely on SEPA's services. Since the attack, SEPA has worked with the Scottish Government, Police Scotland, the National Cyber Security Centre (NCSC) and the Scottish Business Resilience Centre (SBRC) to a clear recovery strategy. The incident has, however, temporarily impacted progress on a number of actions such as new flood warnings, mapping and modelling projects and some engagement activities. Many of these projects are still going ahead but the timescales for them have been adjusted.

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

## Other Actions

Perth & Kinross Council has carried out additional actions, outwith 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.
- Riverbank 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 southeast of Pitlochry in the vicinity of Middlehaugh of Dalshian, Easthaugh of Ballyoukan and the Altrory Burn.
- Works to install a sheet piled cut off wall to prevent ground water seepage during future flood events have been completed on the North Muirton Flood embankment.
- In response to the severe flooding of 11 & 12 August 2020:
  - A coordinated response from various Council services and partner organisations involving investigations, advice and support.
  - Continued work with public agencies and local resilience groups to investigate and respond to the impact of the flooding, focusing on homes and businesses most affected.
  - Responses to over 650 enquiries received via the Council's dedicated web page and generic e-mail address.
  - Nine online community meetings were held.
  - On the ground works in the most affected areas to respond to, and support, emergency works.

- Emergency clearance works on the Craigie Burn, the Alyth Burn and the Dunning Burn.
- CCTV camera surveys of drainage systems and culverts.
- Works to make safe a collapsed retaining wall on the Deich Burn in Bridge of Earn.
- A report to the Council's Environment and Infrastructure Committee on 18 August 2021, including a summary of identified short, medium, and long-term actions. These actions were consistent with the Tay Local Flood Risk Management Plan.
- A review of the Council's Out of Hours Emergency Service and flood gate closure procedure.
- In November 2020, Scottish Water and the Council carried out the replacement of all 8 pumps (4 foul & 4 surface water) in the South Inch Pumping Station, as part of planned maintenance work. The remaining pumps and telemetry systems on the Perth Flood scheme between Inveralmond and South Inch, were replaced over the last year.

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

## 2.4 Summary of Actions Not Implemented

The significant challenges set out in Section 2.3 have resulted in delays to some planned actions and as a result, some actions have not yet been implemented, or may not be implemented at all.

The following four actions were not implemented during Cycle 1 (2016 - 2022):

Tyndrum & Crianlarich PVA 08/09			
Action ID	Delivery Lead	Planned Dates	Reasons Why Action Not Implemented
Strategic Mapping and Modelling (80410016)	SEPA	2018-2019	A detailed screening exercise has been undertaken to identify those outstanding modelling and mapping actions with potential multi benefits for Flooding, River Basin Management Planning 2027 priorities and development pressures. The outcome of this review has indicated that this catchment is not within a 2021 Objective Target Area and doesn't provide any multiple benefits. A decision has therefore been made not to progress this action any further.

<b>Scone PVA 08/11</b>			
<b>Action ID</b>	<b>Delivery Lead</b>	<b>Planned Dates</b>	<b>Reasons Why Action Not Implemented</b>
Flood Protection Scheme/ Works (80230006)	Perth & Kinross Council	2018-2021	The Council's programme of flood protection schemes has been delayed due to the reasons listed in Section 2.3 of this Final Report. The flood protection scheme was programmed for completion in 2024/25, but that is now subject to capital grant funding.
Flood Protection Study (80230005)	Perth & Kinross Council	2020-2022	The Council's programme of flood studies has been delayed due to the reasons listed in Section 2.3 of this Final Report. However, the Scone Flood Protection Study is programmed for completion in the 2023/24 financial year.
Surface Water Plan/ Study (80210018)	Perth & Kinross Council	2020-2022	The Council's programme of flood studies has been delayed due to the reasons listed in Section 2.3 of this Final Report. However, the Scone surface water management plan is programmed for completion in the 2023/24 financial year.

As these four actions have not been completed in Cycle 1, they have been allocated a red RAG status in Chapter 3. However, three out of the four actions listed (in the Scone PVA 08/09) will be delivered in Cycle 2. Further information on these actions can be found in Chapter 3.

## 2.5 Arrangements Planned to Deliver Remaining Actions

The actions in the Plan will continue to be delivered over the remainder of the Cycle 2 period from 2022 to 2028. This will be as per the published Plan, subject to revisions in delivery dates as detailed in Chapter 3 of this Final Report.

In general, most of the remaining actions in the Plan will be delivered in Cycle 2, subject to funding. 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 remaining actions have not been delivered, planned contingencies have been considered, which are described against the relevant action.

## 2.6 Prioritisation of Actions for Next Plan Cycle

Any actions that were not put forward for inclusion in the next Tay Local Flood Risk Management Plan by December 2019 have been deferred for consideration until Cycle 3 (2028-2034). The background to this is explained below.

Many actions contained in the current 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 Flood Risk Management 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 Flood Risk Management Plan covering the period between 2022-2028.

However, for any new actions to be considered and included in the next Local Flood Risk Management Plan (from 2022-2028), the responsible authorities had to fully detail and submit them for consideration as actions. The deadline date for the submission of such actions to SEPA was set as December 2019. Any actions submitted have been assessed and prioritised against the FRM objectives and were consulted upon ahead of the publication of the second cycle of Flood Risk Management Plans in December 2021 and Local Flood Risk Management Plans in December 2022. Any actions that missed the December 2019 deadline have been deferred for consideration until the third cycle of Plans covering the period from 2028-2034.

## 2.7 Next Steps

This Final Report on the Plan will be published by 31 December 2022 and marks the completion of Cycle 1 (2016-2022) and the commencement of Cycle 2 (2022-2028) of the on-going flood risk management planning process.

The Tay Flood Risk Management Plan has been updated for Cycle 2 and was published by SEPA in December 2021 and can be accessed at:

[www2.sepa.org.uk/frmplans/documents/lpd8-tay-frmp-2021.pdf](http://www2.sepa.org.uk/frmplans/documents/lpd8-tay-frmp-2021.pdf)

The Cycle 2 Tay Local Flood Risk Management Plan is scheduled to be published by 31 December 2022.

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](#)

[Scottish Forestry](#)

[Cairngorms National Park Authority](#)

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

[Transport Scotland](#)

[Scottish Flood Forum](#)

## 2.8 Conclusions

This report sets out an assessment of progress made towards implementing the actions set out in the published Tay Local Flood Risk Management Plan. The report also sets out a summary of any actions that have not been implemented, with reasons for their non-implementation, and a description of other actions implemented since the Plan was published.

The introduction of the Flood Act has initially led to improved partnership working and data sharing between SEPA and the responsible authorities. However, this has been affected by the Covid-19 pandemic and the cyber-attack on SEPA.

The published Tay Local FRM plan has remained current and relevant. Since its publication in June 2016, in general good progress had been made over the first 4 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, the staff resources required to complete investigations into flood schemes (in Comrie, Bankfoot and Coupar Angus) and the procurement of sufficient consultancy services initially also proved problematic. However, with relatively few flood events between early 2016 and 2019, more steady progress was made in delivering the selected actions. However, this changed in March 2020 with the start of the national Covid-19 lockdowns, and the severe flooding of August 2020 further exacerbated this situation.

All of the identified flood studies are complete or are currently on-going, with only two to be commenced. The progress on the larger and more complex flood protection schemes has been further delayed. However, a large flood protection scheme in Almondbank was substantially completed in 2018 and the construction of a major flood scheme in Comrie has commenced.

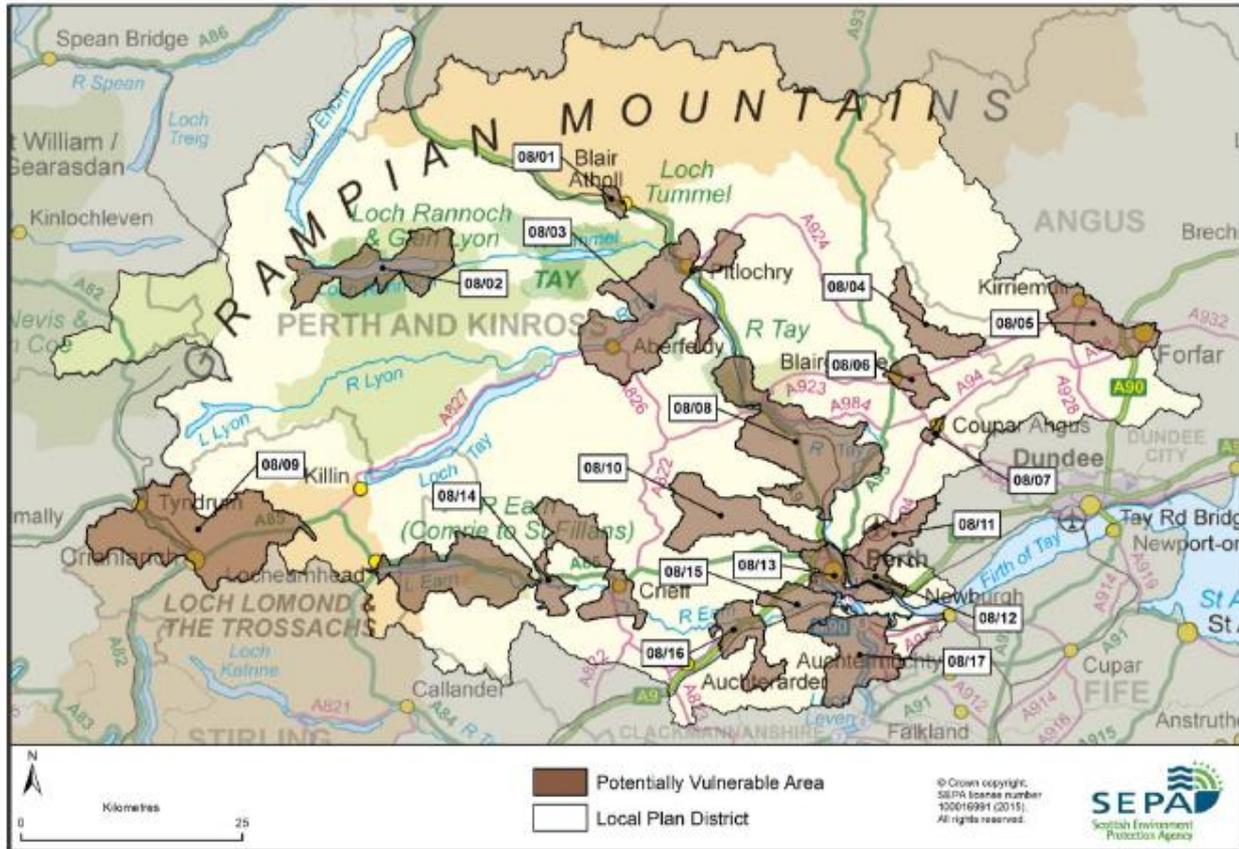
The delivery of the actions set out in the Cycle 1 Plan has reduced flood risk and informed future actions that will reduce flood risk in subsequent cycles.

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 been split accordingly.

## Chapter 3 - Assessment of Progress of Actions

This section sets out an assessment of the progress made towards implementing the actions set out in the Plan.

There are actions that apply across the whole of the Tay Local Plan District and actions that are specific to each of the 17 PVA's (as defined under Section 13 of the Act) within the Tay Local Plan District, which are shown below in Figure 1.



**Figure 1: The Tay Local Plan District with Potentially Vulnerable Areas**  
(Reproduced from Tay Flood Risk Management Strategy, SEPA, December 2015)

The actions that apply across the Tay LPD are shown in Tables 1 and 2 while the actions that apply to individual PVAs are summarised in Table 3.

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 completed.
- **AMBER** – Action has commenced but has not progressed as quickly as the planned delivery period in the Plan.
- **RED** – Action has not commenced.

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

This section sets out an assessment of the progress made towards implementing the actions that apply across the whole of the Tay Local Plan District over the six-year Plan. This assessment 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	G
Self Help	G
Awareness Raising	G
Maintenance	G
Emergency Plans / Response	G
Planning Policies	G

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; the progress made 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	Progress Made	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 continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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. The Council's Housing Service has taken action to protect 90 Council properties within Aberfeldy, Alyth, Kinross, Comrie and Perth. Further details are provided within the relevant areas of Section 3.2 of this report. The Council also provided a considerable amount of advice and assistance following the severe flood events of 11/12 August 2020 and 8 September 2022. 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. Stirling Council's Resilience team are able to work with communities to develop community resilience plans. If a resilience group exists, Stirling Council have committed to providing a flood pod as part of flood risk management, where materials can be stored and distributed. Stirling Council's flood team, in conjunction with the resilience team, host annual online information sessions on resilience groups. 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. Perth and Kinross Council's Housing Service will undertake a review of properties and areas that have experienced recent flooding to consider the installation of further property flood protection products. This will be supported by communications via the Council's social media platforms to raise awareness and let tenants know where they can find information. The Housing Service will support and encourage tenants to be prepared in advance of flooding.

				<p>residents on PLP assessments and advice on insurance and developing community resilience to prepare for flooding. The Forum continues to:</p> <ul style="list-style-type: none"> <li>• Promote FloodRE affordable insurance and the Build Back Better insurance initiative.</li> <li>• Support the Property Flood Resilience (PFR) Delivery Group that aims to mainstream PFR and help property owners take action to make their properties more resilient against the impacts of flooding.</li> <li>• Offer independent impartial advice on the Property Flood Resilience and promote the CIRA standards and code of practice on PFR. This includes the Forum's PFR assessments to individuals, communities and agencies who request support.</li> </ul>	
<p><b>AWARENESS RAISING</b> (80410013)</p>	<p><b>G</b></p>	<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</p>	<p>Responsible authorities</p>	<p>SEPA continued 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 will continue. The 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 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. Those local authorities affected by the flooding of August 2020 and September 2022 also provided a considerable amount of advice to raise awareness of flood risk in affected communities.</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 events 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>Scottish Forestry (SF) 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</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>Stirling Council will continue its efforts to increase the number of active local flood groups in the Stirling Council area, as well as ensuring existing groups are adequately supported to remain viable and active.</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>Scottish Forestry will continue to:</p> <ol style="list-style-type: none"> <li>improve their regional knowledge on flood risk and the PVAs.</li> <li>identify opportunities for forestry projects across the country.</li> <li>engage with local communities through the revision of Land Management Plans.</li> </ol>

		<p>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>		<p>public National events (for example the Royal Highland 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. SF 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 and Land Scotland Scotland) engages with communities, NGOs and statutory stakeholders on the revision of Land Management Plans. Flooding is part of these catchment-focused discussions where SF'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>Following the August 2020 flooding, the Scottish Flood Forum has raised awareness within four affected communities (Perth, Dunning, Kinross and Alyth) by answering 86 individual queries and arranging 5 mobile surgeries. The Forum continues to support awareness raising activities to increase understanding of flood risk and flood risk management actions with communities and agencies. The Forum continues to engage flood risk communities and partners through their community newsletter and peer to peer networking events to build links and share experience on key flood risk management issues.</p>	
<p><b>MAINTENANCE</b> (80410007)</p>	<p><b>G</b></p>	<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 a 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</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 regular inspection and clearance regime of identified sensitive assets which has resulted in a reduction in localised and repeat flooding incidents. Budgets have however been reduced</p>

				<p>replacement works were also carried out at Westthaugh of Dalshian, Pitlochry in 2016. A significant amount of emergency clearance works (on the Craigie Burn, Alyth Burn and the Dunning Burn) were carried out following the August 2020 flood. Emergency works were also carried out to make safe a collapsed retaining wall on the Deich Burn in Bridge of Earn.</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. A letter will be sent to landowners to inform them of the need to undertake works, as well as the grading and risk of identified obstructions within the watercourse. If the flood risk will affect any roads, an enforcement letter can be issued under the Roads (Scotland) Act 1984.</p> <p>The Council also has a maintenance regime in place where key hot spot locations of assets such as grilles/inlets have been identified and are inspected at a regular frequency. 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>therefore the volume of clearance and repair works have reduced. Maintenance will continue to be carried out on a risk-based approach and cyclic maintenance scheduled on assets at time intervals based on risk posed/known sites of interest or known issues. There is an annual consideration and refinement in maintenance schedules. The Council will continue to seek methods of continuing a sustainable level of maintenance activities through resilience groups and a risk-based approach to asset management. Scottish Water will continue to carry out risk-based inspection, maintenance and repair on the public sewer network</p>
<p><b>EMERGENCY PLANS / RESPONSE</b> (80410014)</p>	<p><b>G</b></p>	<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</p>	<p>Category 1 and 2 Responders</p>	<p>Local authorities have developed emergency plans. Perth &amp; Kinross Council further developed its Flooding Emergency Response Plan to take more account of the areas at highest risk of flooding and the severe flooding of August 2020. 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</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 tabletop 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>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 required.</p>		<p>and infrastructure. During recent flood events, the Council's Housing service has worked with Tayside Contracts to provide sandbags to tenants and residents within housing localities and provided wellbeing checks and support for tenants who have been at risk or affected by flooding. The Council's Housing Repairs Centre set up flooding FAQ's and is able to advise and support tenants calling at the time of flood events. 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. The group continued to operate until March 2021 but ceased during the covid pandemic.</p> <p>Fife Council's updated Flood Emergency Plan was published in November 2016 and will be updated again in 2023-24.</p> <p>As a Category 2 Responder, Scottish Water has continued to support regional and local resilience partnerships as required.</p> <p>The SFF continue to offer bespoke flood recovery services to agencies and communities impacted by flooding.</p>	<p>Angus Council will continue to review emergency plans to ensure that they are relevant and fit for purpose. They will also continue to provide support to resilience partnerships.</p> <p>Stirling Council will re-engage with 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, TCV, etc)</p> <p>Fife Council's Flood Emergency Plan is due to be updated in the 2023/34 financial year.</p> <p>As a Category 2 Responder, Scottish Water will continue to support regional and local resilience partnerships as required.</p>
<p><b>PLANNING POLICIES</b> (80010001)</p>	<p><b>G</b></p>	<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.</p>	<p>Planning authority</p> <p>SEPA continues to exercise its planning functions with a view to reducing overall flood risk. We effectively contribute to the delivery of sustainable flood risk management, and we support the delivery of FRM Plans and Local FRM Plans. In line with the management actions that accord with national planning policies, we have and will continue to object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.</p> <p>The current Perth &amp; Kinross Local Development Plan (LDP2) contains planning policy and development</p>	<p>For Perth &amp; Kinross Council, key milestones in the LDP3 review will be the policy and place discussions which will take place during 2023/24, culminating in the preparation of an Evidence Report in 2024, whilst preparation of the Proposed Plan is programmed for 2024/25. To inform this process, the Council is undertaking a Strategic Environmental Assessment (SEA) and will prepare 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 work and will involve engagement with SEPA and the Council's flooding team.</p> <p>Angus Council's Flood Team will continue to provide the current level of support to Planning colleagues.</p> <p>Stirling Council will continue to work closely with both planning authorities in the development and implementation of local development plans, to</p>	

	<p>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>. 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 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>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 approximately 1,300 planning applications since the start of the 2019/20 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 outwith these formal consultations. Perth &amp; Kinross Council has started a review of LDP2 (which was adopted in November 2019) to produce LDP3. The initial work on the LDP3 review has been centred on data gathering and settlement audit work. However, the work carried out since the adoption of LDP2 has largely been focussed on preparing, consulting on, revising and adopting the Flood Risk and Flood Risk Assessment Supplementary Guidance, which was adopted in March 2021, and responding to Scottish Government consultations on the draft National Planning Framework 4 (NPF4), and Local Development Planning regulations. The main updates to the Flood Risk and Flood Risk Assessment Supplementary Guidance related to climate change; and 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'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, feed into the local development plan. Planning authorities are kept informed of new developments internally through flooding teams and through attendance of 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</p>	<p>incorporate the latest flood risk management objectives into the process from the outset. Once approved, any policies from the Fourth National Planning Framework (NPF4) will be incorporated also. The next planned publication date for LDP is currently estimated to be mid-2025 at the earliest.</p>
--	---	---	---

			<p>the Local Development Plan. 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. Fife's Flooding Team are providing direct input to the creation of LDP2, focussing on the avoidance principle first, before allocation of land is undertaken.</p>	
--	--	--	--	--

### 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			G		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			AG		G	G	G	G	G			G		G	G
08/04	Alyth			N/A	A		AG		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		A	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		A	N/A			AG		G	G		G	G			G		G	G
08/09	Tyndrum & Crianlarich			N/A			R		N/A	G		G	G			G		G	G
08/10	Almondbank	G		G			AG		G	G		G	G			G		G	G
08/11	Scone	R	R	N/A			G		N/A	G		G	G		R	G		G	G
08/12	Perth to Kinfauns (north of A90)	A		G			G		G	G		G	G		AG	G		G	G
08/13	Perth Centre		A	G			AG		G	G	G	G	G		AG	G		G	G
08/14	Comrie	A		G			AG		G	G	G	G	G			G		G	G
08/15	Forteviot			N/A			AA		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			AG		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**



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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. There have been no significant flooding events since.

Key progress has been made through engagement with the community council which has established a community resilience group, developed a resilience plan and installed a RiverTrack Community Flood Alerting System.

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 08/01**

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						<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 Blair Atholl (PVA 08/01)**

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Progress Made	Planned Actions to Complete
<b>Strategic Mapping and Modelling (80410016)</b>	<b>G</b>	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	This action is complete. Updated river flood hazard mapping was published on the SEPA web site in 2020.	This action is complete.
<b>Flood Forecasting (80410009)</b>	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being

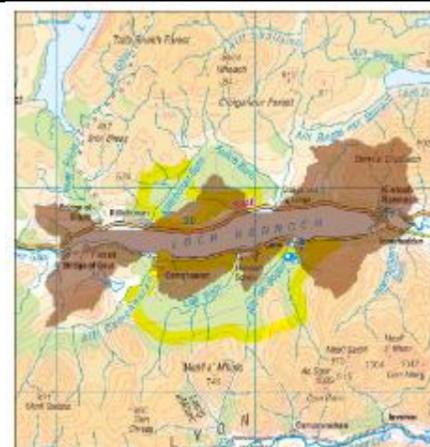
					Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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. The Scottish Flood Forum, with support from SSEN, Perth & Kinross Council and SEPA, supported the Community Resilience Group and Blair Atholl Estates to install a RiverTrack Community Flood Alerting System.	Perth & Kinross Council will continue to coordinate with Blair Atholl and Struan Community Council on a priority needs basis where resources allow. The Scottish Flood Forum will carry out further engagement as required.
<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. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 08/02																		
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	Progress Made	Planned Actions to Complete
Flood forecasting (80410009)	G	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.

					flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for 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 Kinloch Rannoch PVA. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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 (SFF) 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**



(© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA, December 2015).

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. Surface Water flooding was experienced at various locations in Aberfeldy in January 2018, August 2019 and February 2020 (Storm Dennis).

Key progress has been made with the two identified Flood Protection Studies within this PVA. The Pitlochry flood study was completed in October 2018. The Aberfeldy Flood Study was completed in October 2019. The Aberfeldy Flood Study also informed 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.

SEPA have also made progress on strategic mapping and modelling to improve the existing flood maps for the Pitlochry area. Scottish Water have completed sewer flooding assessments in Pitlochry and Aberfeldy.

**Selected Actions in the Aberfeldy and Pitlochry PVA 08/03**

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		<b>G</b>	<b>G</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>		<b>G</b>	<b>G</b>

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

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Progress Made	Planned Actions to Complete
<b>Flood Protection Study (80040005)</b>	<b>G</b>	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	Perth & Kinross Council	2016 – 2018	The Pitlochry flood study was completed in October 2018 and recommended a flood scheme involving a collection of actions to reduce flood risk in the area. The proposed scheme would protect a total of 104 properties, providing a 1 in 200-year standard of flood protection, including a further allowance for future climate change. The study findings were disseminated via local community drop-in sessions held on 20 & 27 February 2019.	This action is complete. The delivery of the recommended flood scheme is subject to prioritisation and inclusion in the next Tay Local FRM Plan and funding being made available. The scheme may then proceed to outline design, the statutory process required by the Flood Act, detailed design, procurement and construction.

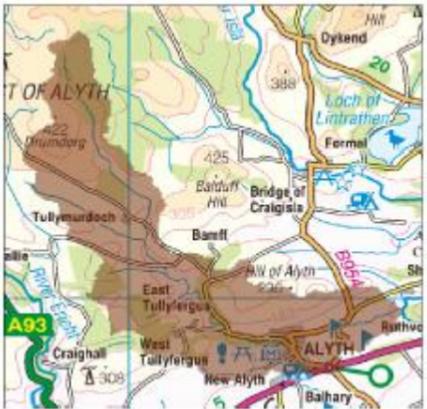
		well as the main river. The study should take a catchment approach and consider the potential benefits and dis-benefits and interaction between actions upstream and downstream.			The Scottish Flood Forum supported the Council's consultation events for the flood study.	
<b>Flood Protection Study</b> (80050005)	<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 was completed in October 2019 and recommended a flood scheme involving new flood defences on the River Tay, the Moness Burn and culvert improvements on the Tomchulan Burn. The proposed scheme would protect a total of 164 properties, providing a 1 in 200 year standard of flood protection. The study findings were disseminated to the local community via drop-in sessions on 20 and 25 June 2019.	This action is complete. The delivery of the recommended flood scheme is subject to prioritisation and inclusion in the next Tay Local FRM Plan and funding being made available. The scheme may then proceed to outline design, the statutory process required by the Flood Act, detailed design, procurement and construction.
<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 was also re-assessed as part of the Aberfeldy Flood Study (Action ID 80050005). This included 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. The maintenance works recommended by the Aberfeldy flood study will be carried out, subject to funding.
<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	Action partially complete. Updated river flood hazard mapping for Pitlochry was published on the SEPA web site in November 2020.	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time. A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
<b>Strategic Mapping and Modelling</b> (80410019)	<b>G</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 was delivered in January 2020  The Scottish Water assessment of flood risk within the Pitlochry sewer catchment was delivered in August 2018.	This action is complete.
<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. 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</b>	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood	The Scottish Flood Forecast will be refined

Forecasting (80410009)					Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
Community Flood Action Groups (80040012)	G	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. The Scottish Flood Forum has supported the establishment of the Pitlochry Flood Group. At present the Group is currently inactive.	Perth & Kinross Council will continue to coordinate with Pitlochry and Moulin Community Resilience Group on a priority needs basis where resources allow. The Scottish Flood Forum will engage further with the Pitlochry Flood Group to re-start the Group and help develop a community flood plan.
Community Flood Action Groups (80050012)	G	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 continue to support the Tayside Waders Flood Action Group who have a local community flood plan and resources to respond to flooding.	Perth & Kinross Council will continue to coordinate with the Aberfeldy Resilience Group and the Tayside Waders on a priority needs basis where resources allow. The Scottish Flood Forum will follow up on engagement with Hillcrest Housing Association, Perth & Kinross Council and Tayside Waders on property flood resilience. The Forum will engage further with the Tayside Waders to assess any further support required.
Awareness Raising (80410013)	G	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 2016, Perth & Kinross Council held de-briefing sessions with the Aberfeldy Resilience Group, Tayside Waders and Pitlochry Resilience Group. The findings from the Pitlochry flood study (Action	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 remaining actions in its local flood risk management plans.

					ID 80040005) were disseminated to the local community in February 2019. The findings from the Aberfeldy flood study (Action ID 80050005) were disseminated to the community in June 2019. Working alongside other responsible authorities, SEPA carried out awareness raising activities in this location at the community drop-in sessions for the Pitlochry Flood Study in 2019. Some planned activities were impacted by the Covid-19 pandemic.	
<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. The Council's Housing Service has fitted flood protection products to 28 Council properties within Aberfeldy (no Council properties are affected by flooding in Pitlochry). The Scottish Flood Forum carried out 10 property flood resilience assessments in Pitlochry; further engagement is required to evaluate the action taken.	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	
 <p>(© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA, December 2015).</p>	<p>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 <a href="#">Tay Local FRM Plan</a> under PVA 08/04.</p> <p>This PVA has been exposed to several recent significant weather events including <del>including</del> Storms Desmond and Frank in December 2015 and January 2016. Although this did not <del>result in</del> any significant flooding of properties, <del>several roads and</del> low-lying <del>agricultural land</del> were affected. <del>Although this did not result in any significant flooding of properties, several roads were affected in the Alyth area.</del> This followed on from an extreme flood event in July 2015 which affected approximately 59 properties in Alyth.</p> <p>Following the 2015 flood event, emergency works were carried out by Perth &amp; Kinross Council to remove debris from the burn and replace collapsed structures. Perth &amp; 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 residents.</p> <p><u>In August 2020 a slow-moving storm impacted eastern Scotland, resulting in flooding from the Alyth and Johnshill Burns. Approximately 18 properties were affected by flooding. The Council carried out works on the Alyth Burn (to remove sediment and other debris deposited following the flood event) and repaired two collapsed sections of culvert on the Johnshill Burn. The Doctors Burn also flooded in August 2020 and twice in October 2020 as a result of high-water levels breaching a damaged length of agricultural embankment; this was subsequently repaired by the landowner.</u></p> <p>There have been no significant changes within the catchment during the first LPD cycle, and a natural flood management (NFM) study commenced in January 2022 and is on-going.</p>

Selected Actions in the Alyth PVA 08/04																		
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
08/04					A	A	G		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	Progress Made	Planned Actions to Complete
Natural Flood Management	A	A natural flood management study has been recommended for Alyth to assess whether river/floodplain restoration and sediment	Perth & Kinross Council	2020-2021	The Alyth natural flood management study commenced in January 2022 and is on-going. The contract was awarded to consulting engineers,	Once available, the draft study findings will be disseminated via local community drop-in sessions. The NFM study is programmed for

<b>Study</b> (80070003)		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			AECOM Ltd.	completion in 2023.
<b>Strategic Mapping and Modelling</b> (80410016)	<b>A</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	SEPA's current Surface water hazard maps use design rainfall estimates based on FEH99 methodology; this has now been superseded by FEH22 methodology. The FEH22 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 consider appropriate to deliver this action as originally intended. This action will not be taken forwards as described. A major national update of the surface water maps is underway which will deliver updated surface water flooding maps for Scotland representing the latest scientific understanding.	The national surface water flooding modelling project will be completed in 2023. The outputs from this will be used to update SEPA maps early in cycle 2 and will inform SEPA's flood risk assessments for the next flood risk management cycle.
<b>Strategic Mapping and Modelling</b> (80410019)	<b>G</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 was completed in January 2020.	This action is complete.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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. Following further flooding in August 2020, the Council issued flood bulletins, responded to	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 for completion in 2023.

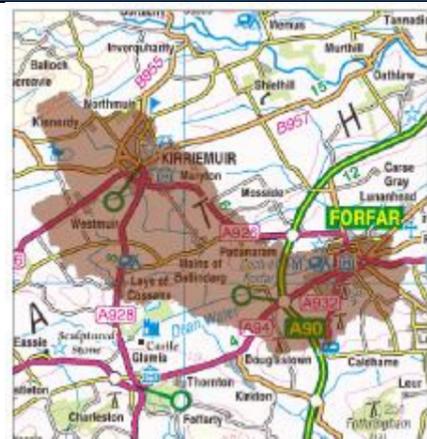
					<p>correspondence and held an online community meeting to raise awareness of flood risk. This included liaison with the Community Council, the Alyth Community Support Group and the Alyth Development Trust.</p> <p>The Scottish Flood Forum also engaged with the local community following the previous flood 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.</p> <p>The Alyth (Town Hall) Community Resilience Group has developed a community emergency plan which is generic in nature and available to support other affected communities.</p> <p>Working alongside other responsible authorities, SEPA carried out awareness raising activities in this location, attending the post-flood online community event in October 2020. Some planned activities were impacted by the Covid-19 pandemic.</p>	
<b>Self-Help</b> (80410011)	<b>G</b>	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 in the Alyth PVA.</p> <p>The Council's Housing Service has fitted flood protection products to 34 Council properties within Alyth.</p> <p>The Scottish Flood Forum (SFF) are supporting the development of Scotland's first Retained Flood Team in Alyth through training and learning opportunities and implementing the community flood plan.</p> <p>The SFF held property flood resilience (PFR) exhibitions and carried out 25 PFR assessments in Alyth to support individual and community responses to flooding.</p> <p>The SFF delivered the Alyth Community Flood Alerting System and are supporting its use with Alyth Retained Flood Team.</p> <p>Alyth Development Trust secured National Lottery funding to develop the Alyth Retained Flood Team. Seven people recruited and SFF supporting the development of a training and induction programme, review of community flood plan and integrating RiverTrack into response plans. A number of properties have PFR and this needs to be mapped better and linked to better community resources.</p>	Refer to planned actions described in Table 2 of this report. The Council's Housing Service are planning to fit flood protection products to a further 10 Council properties within Alyth. The Scottish Flood Forum are planning training sessions on natural flood management and an introduction to FRM in late 2022.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those already	Refer to planned actions described in Table 2 of this report.

			Council, asset / land managers		described in Table 2 of this report. Following the August 2020 flooding, the Council carried out emergency clearance works on the Alyth Burn (to remove sediment and other debris deposited following the flood event) and repaired two collapsed sections of culvert on the Johnshill Burn.	
<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 & Forfar PVA 08/05**

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

**Summary of Progress within PVA**



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 completion of a flood protection study for 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. This will be completed pending a review of how modelling and mapping updates are undertaken to develop a more effective method of regional and national updates.

© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

**Selected Actions in Kirriemuir & Forfar PVA 08/05**

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
08/05		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	Progress Made	Planned Actions to Complete
Flood Protection Study (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	2016 - 2020	The fluvial/NFM studies for Forfar were incorporated within the scope of Angus Council's Kirriemuir and Forfar Flood Protection Study. The study is complete.	This action is complete.

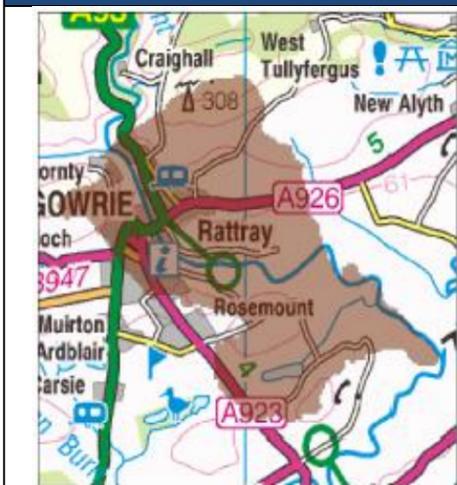
		Angus Council will coordinate the study with Scottish Water, SEPA and Landowners, etc.				
<b>Flood Protection Study</b> (80100005)	<b>G</b>	A flood protection study has been recommended for Kirriemuir to assess whether flood storage, sediment management, modification of conveyance, direct flood defences 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. The study is complete.	This action is complete.
<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	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time.	A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
<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 was completed in January 2017.  The Scottish Water assessment of flood risk within the Kirriemuir sewer catchment was completed in June 2019.	This action is complete.
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	2016 - 2022	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle.

					SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<b>Awareness Raising</b> (80410013)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Responsible authorities	2016 - 2022	Further to the awareness raising actions described in Table 2 of this report, some additional progress has been made in the Kirriemuir and Forfar PVA. Angus Council held public consultations as part of the Kirriemuir and Forfar flood study. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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> .	-	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 partnership with delivery of the SWMP by 2019/2020.	Angus Council	Forfar 2016 - 2020  Kirriemuir 2016 - 2020	The Kirriemuir and Forfar Flood Protection Study – which incorporated this SWMP - is complete.	This action is complete.
<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**



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 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. However, more recent flooding occurred in August 2020 and in October 2021, resulting in flooding to a small number 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. A Surface Water Management Plan (SWMP) commenced in October 2022 and is on-going.

**Selected Actions in the Blairgowrie PVA 08/06**

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
08/06						<b>G</b>		<b>G</b>	<b>G</b>		<b>G</b>	<b>G</b>		<b>A</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	Progress Made	Planned Actions to Complete
<b>Strategic Mapping and Modelling (80410019)</b>	<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 was completed in July 2018.	This action is complete.
<b>Maintain Flood Warning (80410030)</b>	<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	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.

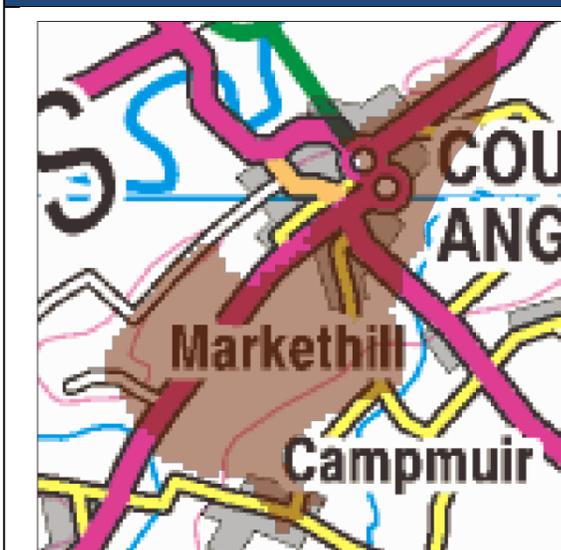
		use feedback and post-event data to ensure that our flood warning service is timely and accurate.				
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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. Perth & Kinross Council issued community bulletins and answers to frequently asked questions following the flooding in August 2020 and October 2021 in order to provide advice and raise awareness of flooding in the local community. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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 commenced in October 2022.
<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>A</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 (SWMP) commenced in October 2022 and is ongoing. The contract was awarded to consulting engineers, RSK Environmental Ltd. Scottish Water have provided Section 16 outputs to support the SWMP.	Once available, the findings from the draft surface water management plan will be disseminated via local community drop-in sessions. The surface water management plan is programmed for completion in 2024.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross	Ongoing	No additional maintenance activities have been carried out in this PVA, beyond those described in	Refer to planned actions described in Table 2 of this report.

			Council, asset / land managers		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



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 was exposed to significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively, with several roads affected in the Coupar Angus area. 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. The Coupar Angus Community Resilience Group had previously developed a community emergency plan, but the Group is currently understood to be inactive.

Selected Actions in the Coupar Angus PVA 08/07

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
08/07						<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	Progress Made	Planned Actions to Complete
Strategic Mapping and Modelling (80410016)	<b>G</b>	SEPA will seek to develop flood mapping in the Burrelton 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.	This action is complete.
Strategic Mapping and Modelling	<b>G</b>	Scottish Water will undertake further investigation and modelling in the Coupar Angus sewer catchments to improve knowledge and	Scottish Water	2016 - 2022	The Scottish Water assessment of flood risk within the Coupar Angus sewer catchment was completed in July 2018.	This action is complete.

(80410019)		understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009				
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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 (SFF) 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. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid 19.	Refer to the 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	Refer to planned actions described in Table 2 of this report. The Scottish Flood Forum has identified

					<p>PVA.</p> <p>The Scottish Flood Forum's (SFF) community engagement within this PVA has previously 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 Coupar Angus Community Resilience Group is currently inactive. The Group had previously developed a community emergency plan which was generic in nature and was available to support other affected communities.</p>	Coupar Angus as a potential site for a community flood alerting system. Further engagement is required with the local community as the Community Resilience Group is currently inactive.
<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 & Birnam PVA 08/08**

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

**Summary of Progress within PVA**



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 significant weather events including Storms Desmond and Frank in December 2015 and January 2016, which resulted in localised surface water flooding in Bankfoot. Further flooding occurred in February 2018, August 2020 and February 2021 in Bankfoot and Dunkeld. However, only a small number of properties were affected by these events.

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 the A9 Dualling project is still ongoing, which may result in some future catchment changes.

The Dunkeld flood study commenced in January 2020 and is on-going, with completion anticipated by the end of 2022.

**Selected Actions in the Luncarty, Stanley, Bankfoot, Dunkeld & Birnam PVA 08/08**

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		<b>A</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>	<b>G</b>

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

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Progress Made	Planned Actions to Complete
Flood Protection Study (80170005)	<b>A</b>	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	Perth & Kinross Council	2019 - 2021	The Dunkeld Flood Protection Study commenced in January 2020 and is nearing completion. The contract was awarded to consulting engineers, AECOM Ltd.	Once available, the draft study findings will be disseminated via local community drop-in sessions. The study is programmed for completion by the end of 2022.

		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 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	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time.	A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
<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 sewer catchment was completed in May 2018.  The Scottish Water assessment of flood risk within the Dunkeld sewer catchment was completed in February 2018.	This action is complete.
<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 continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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	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

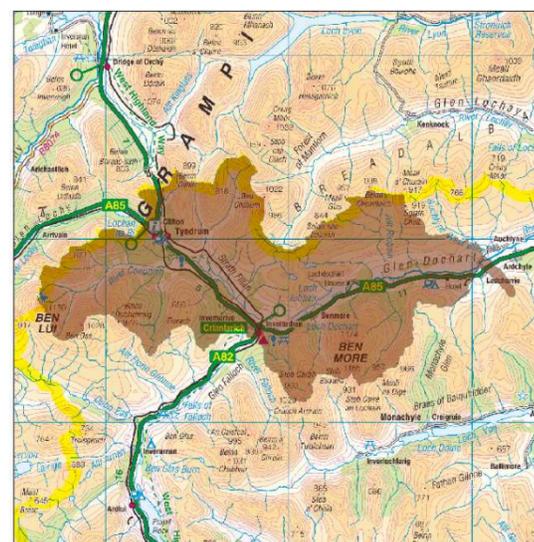
					<p>completion of a flood scheme feasibility study. These events were attended by the Council, SEPA, Scottish Water and the Scottish Flood Forum. These sessions highlighted to the community that a flood scheme was not economically viable and how on-going flood risk would be managed (via the other actions identified in the Tay Local Flood Risk Management Plan).</p> <p>Perth &amp; Kinross Council 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> <p>Working alongside other responsible authorities, SEPA carried out awareness raising activities in this location. Some planned activities were impacted by the Covid-19 pandemic.</p>	Risk Management Plan. This will be extended to the other communities at risk of flooding in this PVA in the Cycle 2 Tay Local FRM Plan.
<b>Self Help</b> (80410011)	<b>G</b>	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>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 supported the Bankfoot Community Resilience Group but understand they are currently inactive.</p> <p>The SFF have provided property flood resilience advice to a few residents in Bankfoot impacted by flooding.</p>	Refer to planned actions described in Table 2 of this report. The Scottish Flood Forum has identified Bankfoot as a potential site for a community flood alert system. Further engagement is required to assess feasibility.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross	Ongoing	Further to the maintenance actions described in Table 2 of this report, some additional progress has	Refer to planned actions described in Table 2 of this report.

			Council, asset / land managers		been made within this PVA. Significant clearance and repair works were 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. Perth & Kinross Council carried out further road drainage improvements at Dunkeld Road, Bankfoot in 2019.	
<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



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. 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.

© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

Selected Actions in the Tyndrum & Crianlarich PVA 08/09

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
08/09						R			G		G	G			G		G	G

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

Action (Action ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Progress Made	Planned Actions to Complete
Strategic Mapping and Modelling (80410016)	R	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	A detailed screening exercise has been undertaken to identify those outstanding modelling and mapping actions with potential multi benefits for Flooding, River Basin Management Planning 2027 priorities and development pressures. The outcome of this review has indicated that this catchment is not within a 2021 Objective Target Area and doesn't provide any multiple benefits. A decision has therefore been made not to progress this action any further.	This action will not progress any further.

<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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> .	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 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



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 significant weather events in this PVA since the publication of the Tay Local FRM Plan. Water levels on the River Almond were high during flood events on 12 August 2020, 31 October 2021 and 8 September 2022 but the flood defences protected properties. Some minor flooding occurred in August 2020 at Lochty Industrial Estate.

Significant progress has been made in the PVA since the publication of the Tay Local FRM Plan. The Almondbank Flood Protection Scheme is 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 were 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 riverbank 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 completed assessments of flood risk within the Almondbank sewer catchment and the Perth City sewer catchment.

Selected Actions in the Almondbank PVA 08/10

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
08/10	G		G			A A G		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	Progress Made	Planned Actions to Complete
Flood Protection Scheme/ Works (80200006)	G	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,	Perth & Kinross Council	2016-2017	The flood scheme was substantially complete in September 2018. All works are complete with the exception of an electrical connection and commissioning of 5 pumping stations.	The flood scheme is substantially complete. The outstanding works to the pumping stations are programmed to be completed by early 2023.

		bridge raising and surface water actions. The scheme will offer a 1 in 200 year standard of protection.				
<b>Maintain Flood Protection Scheme</b> (80200017)	<b>G</b>	Continue to maintain the existing flood protection 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.	Perth & Kinross Council	2016 - 2022	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the existing Perth Flood Protection Scheme and the Almondbank Flood Protection Scheme. Maintenance works are carried out as required. River bank erosion works and outfall repairs were completed at Inveralmond in 2017.	Routine inspections of the Perth Flood Protection Scheme and the Almondbank Flood Protection Scheme will continue to be carried out as part of the Council's statutory duties. Maintenance works will be carried out as required.
<b>Strategic Mapping and Modelling</b> (80410016)	<b>A</b>	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	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time.	A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
<b>Strategic Mapping and Modelling</b> (80410016)	<b>A</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	SEPA's current Surface water hazard maps use design rainfall estimates based on FEH99 methodology; this has now been superseded by FEH22 methodology. The FEH22 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. A major national update of the surface water maps is underway which will deliver updated surface water flooding maps for Scotland representing the latest scientific understanding.	The national surface water flooding modelling project will be completed in 2023. The outputs from this will be used to update SEPA maps early in cycle 2 and will inform SEPA's flood risk assessments for the next flood risk management cycle.
<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 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	Almondbank 2016 - 2018  Perth City 2016 - 2018	The Scottish Water assessment of flood risk within the Almondbank sewer catchment was completed in October 2017.  The Scottish Water assessment of flood risk within the Perth City sewer catchment was completed in April 2019.	This action is complete.
<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. 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 continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the

					and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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 carried out awareness raising activity during the implementation of the Almondbank Flood Protection Scheme. A project specific website was set up and regular newsletters 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. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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	Ongoing	Further to the maintenance actions described in Table 2 of this report, some additional progress has been made within this PVA. Following previous riverbank erosion, Perth &	Refer to planned actions described in Table 2 of this report.

			managers		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.	
<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.

3.2.11 Scone PVA 08/11

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

Summary of Progress Within PVA	
 <p>© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015)</p>	<p>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 <a href="#">Tay Local FRM Plan</a> under PVA 08/11.</p> <p>This PVA has been exposed to recent significant weather events. In May 2017, heavy rainfall led to roads in the area being flooded. Heavy rain on 11 and 12 August 2020 led to surface water flood water outside some properties to rise up to the level of airbricks. The most recent flood was recorded February 2021 when multiple areas across Perth and Kinross were affected, including Scone. The commencement of the Scone Flood Protection Scheme has been deferred due to a pause in the capital grant funding. The commencement of the Scone Flood Study has been delayed but will commence in the 2022/23 financial year.</p> <p>The Council has continued to carry out a biennial CCTV survey of the barrel drain. The Council also carried out sediment management and debris clearance works on the Annaty Burn (at the A94 Road Bridge) in 2017, 2020 and 2021.</p> <p>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.</p> <p>There have been no major changes to this catchment, although a housing development and road infrastructure improvement project are to be implemented at the northern extents of Scone.</p>

Selected Actions in the Scone PVA 08/11																		
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
08/11	R	R				G			G		G	G		R	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	Progress Made	Planned Actions to Complete
Flood Protection Scheme/ Works (80230006)	R	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 commencement of the outline design of the Scone (Annaty Burn) Flood Protection Scheme has been deferred due to a pause in capital grant funding.	The flood protection scheme was programmed for completion in 2024/25, but that is now subject to capital grant funding.
Flood	R	A flood protection study has been carried out by	Perth &	2020 -	The Scone Flood Protection Study is programmed	The study is programmed for completion in

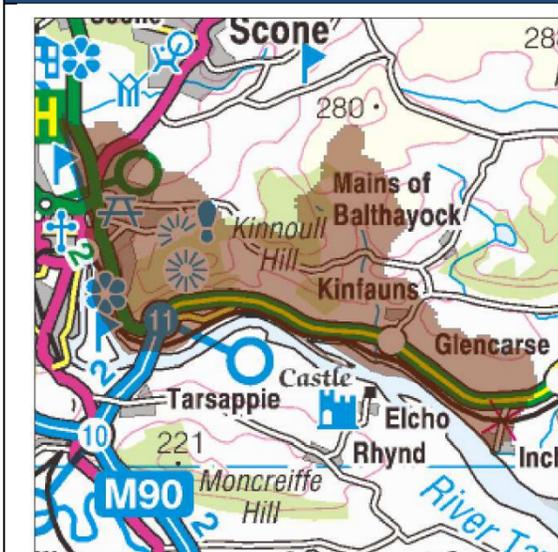
Protection Study (80230005)		Perth & Kinross Council for the Annaty Burn, Scone in 2007. The study identified a viable flood protection scheme that is currently being progressed as a priority in the first flood risk management cycle. Further study has been recommended to supplement the previous investigations, 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. Perth & 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 & 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.	Kinross Council	2022	to commence in the 2022/23 financial year.	the 2024/25 financial year.
Strategic Mapping and Modelling (80410019)	G	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 2016-2019  Scone 2016 - 2019	The Scottish Water assessment of flood risk within the Perth City sewer catchment was completed in April 2019.  The Scottish Water assessment of flood risk within the Scone sewer catchment was completed in September 2017.	This action is complete.
Flood Forecasting (80410009)	G	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
Awareness Raising (80410013)	G	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	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

					community council. The Council carries out a bi-annual CCTV survey of the barrel drain in Scone and the results of this survey are shared with the Community Council. This helps to raise awareness of the responsibilities of landowners regarding the drain. Discussions were also held around the flooding and drainage proposals for the housing development in Scone (north). SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	with the Scone (Annaty Burn) Flood Protection Scheme, the Scone Flood Protection Study and Surface Water Management Plan (Action IDs 80230005, 80230006 & 80210018) which are programmed to commence in 2022/23. 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>R</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 2022/23 financial year.	The surface water management plan is programmed for completion in the 2024/25 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 and Kinross Council included sediment management and debris clearance works on the Annaty Burn (at the A94 Road Bridge) in 2017, 2020 and 2021. 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**



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively, with several properties and roads affected. 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. More recently Perth was affected by surface water flooding in August 2020, September 2022 and November 2022 although relatively few properties were affected in this PVA.

Scottish Water and Perth & Kinross Council worked in partnership on the Perth Integrated Catchment Study (ICS), which was completed in 2019. The optioneering phase (to consider potential solutions to the identified flooding issues in five high priority areas) is nearing completion.

Scottish Water has completed assessments of flood risk within the Perth City and Scone sewer catchments.

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 08/12**

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	
08/12	A		G			G		G	G		G	G		A	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	Progress Made	Planned Actions to Complete
Flood Protection Scheme/ Works (80240006)	A	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	Work to produce an economic appraisal, update the outline design and produce a detailed design for the Bridgend flood protection works commenced in March 2021. The contract was awarded to consulting engineers, RPS Consulting Ltd and the detailed design is anticipated to be completed in the 2022/23 financial year.	The flood protection works are programmed for completion in the 2023/24 financial year, subject to completion of detailed design and funding.
Maintain Flood	G	Continue to maintain the existing Perth Flood Protection Scheme along the east bank of the	Perth & Kinross	Ongoing	Perth & Kinross Council's Roads Maintenance Partnership carries out routine inspections of the	Routine inspections will continue to be carried out as part of the Council's statutory

<b>Protection Scheme</b> (80260017)		River Tay. The scheme was completed in 2002 and includes major flood defence works such as embankments, walls, sluice gates, ponds and pumping stations.	Council		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 maintenance. 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.	duties. Inspections will be carried out on an annual basis and following flood events.
<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 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 was completed in April 2019.  The Scottish Water assessment of flood risk within the Scone sewer catchment was completed in September 2017.	This action is complete.
<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 continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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. Following widespread surface water flooding in Perth in August 2020, the Council issued flood bulletins, responded to correspondence and held a series of online community meetings to raise	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 Surface Water Management Plan and flood protection works at Bridgend (Action IDs 80240018 & 80240006).

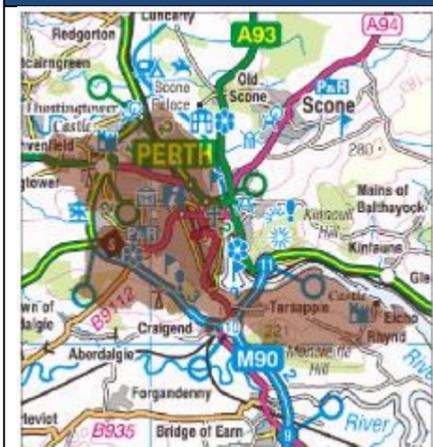
					awareness of flood risk. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school/education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	
<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 Plan/Study</b> (80240018)	<b>A</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	Work on the Perth Surface Water Management Plan commenced in December 2021. The contract was awarded to consulting engineers, Amey Consulting Ltd.	The development of the Perth Surface Water Management Plan is on-going and is programmed for completion in 2023.
<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 consulting engineers, ARC. A catchment flood assessment identified 32 flooding 'hotspots' (areas of higher flood risk) across the Perth sewer catchment area. The study was completed in December 2019. No options appraisal was carried out as part of the study, however further investigations at 5 of the hotspots in PVA 08/13 were taken forward through an IFOS (Internal Flooding due to Overloaded Sewers)(refer to Action ID 80240019 in PVA 08/13).	The Perth Integrated Catchment Study was completed in December 2019. This study provided an improved understanding of the flooding mechanisms in Perth. A further study to consider the other identified flooding hotspots in Perth has been included in the Cycle 2 Tay Local Flood Risk Management Plan.
<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



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 significant weather events including Storms Desmond and Frank in Dec 2015 and Jan 2016 respectively, with several properties and roads affected. 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. More recently, Perth was affected by surface water flooding in August 2020, when approximately 165 properties were affected, and again in September 2022, when approximately 30 properties were affected.

Scottish Water and Perth & Kinross Council worked in partnership on the Perth Integrated Catchment Study (ICS), which was completed in 2019. The optioneering phase (to consider potential solutions to the identified flooding issues in five high priority areas) is nearing completion.

Perth & Kinross Council have engaged consulting engineers to complete the Craigie Burn flood study and to develop the Perth Surface Water Management Plan and this work is on-going.

Perth & Kinross Council has carried out significant maintenance, clearance and repair works on the Perth Flood Protection Scheme, including works on the North Muirton Flood Embankment in 2019 and 2020. Substantial clearance and repair works were carried out along the Scouring and Craigie Burns following flooding in August 2020.

Scottish Water has completed assessments of flood risk within the Almondbank and Perth City sewer catchments.

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 08/13

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
08/13		A	G			A G		G	G	G	G	G		A 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	Progress Made	Planned Actions to Complete
Flood Protection	A	A flood protection study has been recommended for Perth and will consider flood risk from the	Perth & Kinross	2016 - 2018	The Craigie Burn flood study commenced on programme in November 2016 as part of the Perth	Once available, the draft study findings will be disseminated via local community drop-in

<b>Study</b> (80290005)		Craigie Burn. The study will assess direct flood defences and sediment management. The study should take a catchment approach and consider 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.	Council		integrated catchment study (ICS) (Action ID's 80240018 and 80240019). A hydraulic model of the Craigie Burn was produced as part of the wider ICS project. The remainder of the Craigie Burn Flood Study recommenced in November 2021 and is on-going. The contract was awarded to consulting engineers, Amey Consulting Ltd.	sessions. The Craigie Burn Flood Study is programmed for completion in 2023.
<b>Maintain Flood Protection Scheme</b> (80290017)	G	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. 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 fully trained in the event of a flood. This also serves to highlight any maintenance issues that may require to be addressed. 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</b> (80300017)	G	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. 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 fully trained in the event of a flood. This also serves to highlight any maintenance that may be required. The Council installed a sheet piled cut off wall at the North Muirton Flood Embankment in 2019 and 2020 to reduce the risk of ground water seepage during future flood events. The Council arranged to replace the pumps in the South Inch pumping station in 2019, and the remaining pumps on the scheme were replaced	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.

					over the last year.	
<b>Strategic Mapping and Modelling</b> (80410016)	<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	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time	A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
<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 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	Perth City 2016 - 2018  Almond - bank 2016 - 2018	The Scottish Water assessment of flood risk within the Perth City sewer catchment was completed in April 2019.  The Scottish Water assessment of flood risk within the Almondbank sewer catchment was completed in October 2017.	This action is complete.
<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 continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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	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. The Scottish Flood Forum supported, and	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. The Scottish Flood Forum will engage

		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 against flooding.			continues to engage with, the South Inch Flood Group after the flooding of August 2020. The Forum also provided flood recovery services to people impacted by flooding at this time. This included several online events organised by Perth & Kinross Council to support communities.	further with the South Inch Flood Group to build links, consider a community flood plan and assess the Forum's property flood resilience advice.
<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 was carried out as part of the Perth Integrated Catchment Study (Action ID 80240019). Perth & Kinross Council and Scottish Water have issued a newsletter to residents on Feus Road, Perth every three months to keep them informed. Following widespread surface water flooding in Perth in August 2020, the Council issued flood bulletins, responded to correspondence and held a series of online community meetings to raise awareness of flood risk. Similar activity was undertaken following the flooding of September 2022. The Perth IFOS (Internal Flooding due to Overloaded Sewers) study findings for the Feus Road area were disseminated via a local community drop-in session on 1 November 2022. 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. The SFF provided flood recovery services to people impacted by flooding in August 2020. This included several online events organised by PKC to support communities. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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 the Craigie Burn Flood Protection Study and the Perth Surface Water Management Plan (Action ID's 80290005 & 80240018). The Perth IFOS study is on-going and is programmed for completion in 2023 (Action ID 80240019). The study findings for the Cavendish Avenue area will be disseminated via local community drop-in sessions in early 2023.
<b>Self Help</b>	<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	Refer to planned actions described in Table

(80410011)					of this report, some additional progress has been made within the Perth Centre PVA. Following flooding in August 2020, Perth & Kinross Council's Housing Service fitted PLP products to some Council housing in the vicinity of Wallace Crescent, Perth. 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. More recently, the SFF has provided independent property flood resilience advice and carried out 15 PFR assessments to homes impacted by flooding.	2 of this report.
<b>Surface Water Plan/Study</b> (80240018)	<b>A</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	Work on the Perth Surface Water Management Plan commenced in December 2021. The contract was awarded to Amey Consulting Ltd.	The development of the Perth Surface Water Management Plan is on-going and is programmed for completion in 2023.
<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 consulting engineers, ARC. A catchment flood assessment identified 32 flooding 'hotspots' (areas of higher flood risk) across the Perth sewer catchment area. The study was completed in December 2019. No options appraisal was carried out as part of the study, however further investigations at 5 of the hotspots were taken forward through an IFOS (Internal Flooding due to Overloaded Sewers) study. The hotspots were located at Feus Road, Cavendish Avenue, Marshall Place, Bells Sports Centre and South Street. The Feus Road and Cavendish Avenue hotspots were investigated jointly by Scottish Water and Perth & Kinross Council. The study findings for the Feus Road area were disseminated via a local community drop-in session on 1 November 2022. The IFOS study is currently on-going and is programmed for completion in 2023.	The Perth Integrated Catchment Study was completed in December 2019. This study provided an improved understanding of the flooding mechanisms in Perth. The IFOS study (and options appraisal) is on-going and is programmed for completion in 2023. The study findings for the Cavendish Avenue area will be disseminated via local community drop-in sessions in early 2023. Scottish Water will continue with study work on potential sewer improvements until summer 2023. A further study to consider the other identified flooding hotspots in Perth has been included in the Cycle 2 Local Flood Risk Management Plan.
<b>Maintenance</b> (80410007)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	Perth & Kinross	Ongoing	Following extreme flooding in August 2020, Perth & Kinross Council undertook emergency works within	Refer to planned actions described in Table 2 of this report.

			Council, asset / land managers		the Craigie Burn catchment. This included removing debris/blockages, sediment and vegetation management along the Scouring, Buckie and Craigie Burns. Further vegetation and sediment management works were carried out at Queens Avenue in March 2022. Further clearance works were undertaken following the flooding in September 2022.	
<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 08/14

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

Summary of Progress Within PVA



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 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.

Following on from the feasibility work and public consultation events in late 2016, the Comrie Flood Protection Scheme was published on 28 February 2020. Following a local hearing, the Scheme was confirmed on 18 August 2021 and the detailed design is nearing completion. In the meantime, advance works for the Scheme commenced in late August 2022.

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 completed assessments of flood risk within the Comrie and Crieff sewer catchments.

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 08/14

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			A 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	Progress Made	Planned Actions to Complete
Flood Protection Scheme/ Works (80330006)	A	A flood protection scheme is underway 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 will provide a 1 in 200 standard of protection plus freeboard.	Perth & Kinross Council	2016 - 2020	The Comrie Flood Protection Scheme was published on 28 February 2020 and, following a local hearing, was subsequently confirmed without modification by the Council's Environment & Infrastructure Committee on 18 August 2021. Planning permission was granted on 16 December 2021. The detailed design for the main works is nearing completion. The advance works for the	Once the detailed design for the Comrie Flood Protection Scheme is complete, the main works contract will be tendered and awarded. The main works are currently programmed to commence on site in 2023. Substantial completion of the Scheme is currently programmed for late 2024.

					scheme were awarded to contractors, Balfour Beatty, and commenced in late August 2022 and are on-going. The Scottish Flood Forum supported the flood protection scheme consultation events with the Council and key agencies.	
<b>Flood Protection Scheme/ Works</b> (8303021)	<b>A</b>	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 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.	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 Estate (October 2016). December 2022 - no further update provided by Transport Scotland.	Transport Scotland flooding workshop planned for April 2019. Improvement opportunities will continue to be sought and included in forthcoming routine and cyclic maintenance schemes 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. December 2022 - no further update provided by Transport Scotland.
<b>Maintain Flood Protection Scheme</b> (80330017)	<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</b> (80350017)	<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</b> (80410016)	<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	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time.	A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
<b>Strategic Mapping and Modelling</b> (80410019)	<b>G</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 was completed in May 2018.  The Scottish Water assessment of flood risk within the Crieff sewer catchment was completed in December 2019.	This action is complete.
<b>Maintain Flood Warning</b> (80410030)	<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	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service.

		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.				
<b>Flood Forecasting</b> (80410009)	<b>G</b>	Refer to Description in <a href="#">Table 2</a> .	SEPA	Ongoing	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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 supported the Comrie Community Resilience Group with their flood plan but understands they are currently inactive. The Forum is liaising with Perth & Kinross Council on potential property flood resilience advice to properties outwith the Comrie Flood Scheme.	Perth & Kinross Council will continue to coordinate with the Comrie Community Resilience Group on a priority needs basis where resources allow. The Scottish Flood Forum will continue to liaise with the lead community contact for Comrie.
<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 on-going 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. Further community drop-in sessions were held in April and May 2019 following the completion of the scheme outline design. These events were	Further to the awareness raising described in Table 2 of this report, Perth & Kinross Council will continue with awareness raising activities during the continuation of the Comrie Flood Protection Scheme and any other relevant actions set out in the Tay Local Flood Risk Management Plan.

					<p>attended by the Council, SEPA and the Scottish Flood Forum.</p> <p>Two further community drop-in sessions took place in June 2022 to update the local community about the scheme detailed design and advance works. These were attended by representatives from the project team including Perth and Kinross Council, SGN, Scottish Water, SSE, Sweco and Balfour Beatty.</p> <p>The Council has maintained its project specific website 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 Council.</p> <p>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.</p> <p>SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.</p>	
<b>Self Help</b> (80410011)	<b>G</b>	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>The Council's Housing Service has fitted flood protection products to 15 Council properties within Comrie.</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 SFF have given independent PFR advice to a few properties in Crieff.</p>	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 and Stirling	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.

			Council, asset / land managers			
<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



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. Widespread surface water flooding occurred during the storm of August 2020, and approximately 11 properties were affected in Forgandenny. 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.

© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

Selected Actions in the Forteviot PVA 08/15

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						A A		G	G		G	G			G		G	G

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

Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Progress Made	Planned Actions to Complete
Strategic Mapping and Modelling (80410016)	A	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 FEH22 methodology. The FEH22 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. A major national update of the surface water maps is underway which will deliver updated surface water flooding maps for Scotland	The national surface water flooding modelling project will be completed in 2023. The outputs from this will be used to update SEPA maps early in cycle 2 and will inform SEPA's flood risk assessments for the next flood risk management cycle.

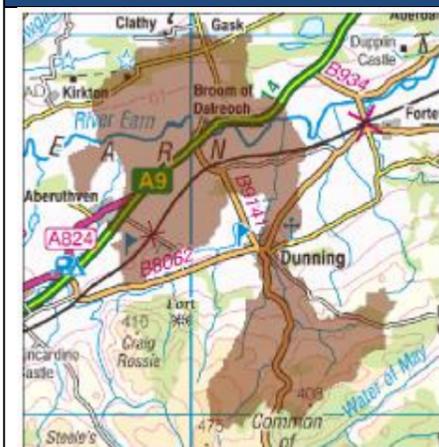
					representing the latest scientific understanding.	
<b>Strategic Mapping and Modelling</b> (80410016)	<b>A</b>	SEPA will seek to develop flood mapping in the Lower Earn area (from Forteviot Bridge to the River Tay confluence) to improve understanding of flood risk. The extent and timing of improvements will depend on detailed scoping and data availability.	SEPA	2016 - 2018	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time.	A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Innerpefferay 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 continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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. Widespread surface water flooding affected this area in August 2020, affecting properties in Forgandenny. The Council issued flood bulletins, responded to correspondence and held a series of online community meetings to raise awareness of flood risk. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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,	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.

			asset / land managers			
<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



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.

Widespread surface water flooding occurred during the storm of August 2020, and approximately 11 properties were affected in Dunning.

Perth & Kinross Council undertook sediment management works to maintain channel conveyance along the Dunning Burn in August 2018. Significant clearance works on the Dunning Burn were also undertaken following the flooding of August 2020.

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.

© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

Selected Actions in the Dunning PVA 08/16

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
08/16						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	Progress Made	Planned Actions to Complete
Strategic Mapping and Modelling (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	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time.	A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
Strategic Mapping and Modelling (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 the Auchterarder sewer catchment was completed in February 2018.	This action is complete.

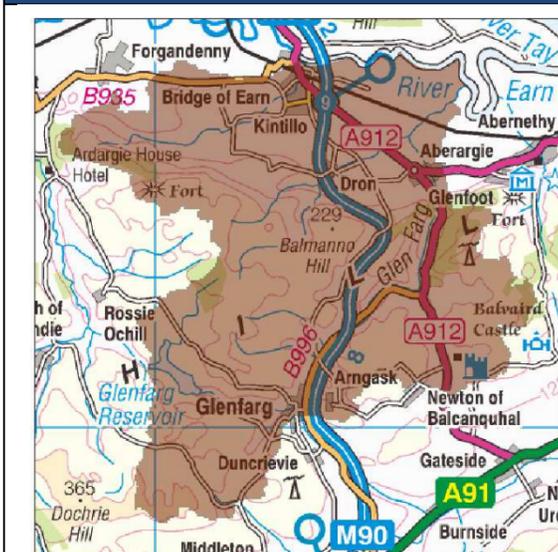
		Risk Management (Scotland) Act 2009.				
<b>Maintain Flood Warning</b> (80410030)	<b>G</b>	Continue to maintain the Innerpefferay to Bridge of Earn flood warning area which is part of the Earn river flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA 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 continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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. Widespread surface water flooding affected this area in August 2020, affecting properties in Dunning. The Council issued flood bulletins, responded to correspondence and held a series of online community meetings to raise awareness of flood risk. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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. Following the flooding of August 2020, the Council completed clearance works to remove timber debris from the Dunning Burn and the Latch Burn.	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



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. Reproduced from Tay Flood Risk Management Strategy, SEPA (December 2015).

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 significant weather events including Storms Desmond and Frank in December 2015 and January 2016 respectively, with several properties and roads affected. In March 2018, the 'Beast from the East' brought about significant levels of snow fall across the PVA, although a gradual thaw limited any flooding issues resulting from snowmelt. Widespread surface water flooding occurred during the storm of August 2020 and again in September 2022.

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 completed an assessment of flood risk in the Perth City sewer catchment.

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

Selected Actions in the Bridge of Earn PVA 08/17

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			G			A A G		G	G	G	G	G			G		G	G

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	Progress Made	Planned Actions to Complete
Maintain Flood Protection Scheme (80400017)	G	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.
Strategic Mapping and Modelling (80410016)	A	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 FEH22 methodology. The FEH22 dataset contains the latest science and understanding of rainfall	The national surface water flooding modelling project will be completed in 2023. The outputs from this will be used to update SEPA maps early in cycle 2 and will inform SEPA's flood risk assessments for the next

		data is currently available within this Local Plan District. 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.			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. A major national update of the surface water maps is underway which will deliver updated surface water flooding maps for Scotland representing the latest scientific understanding.	flood risk management cycle.
<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	SEPA began working on river mapping updates in this area but upon review of the available information it is not appropriate to complete the update at this time.	A review of how modelling and mapping updates are undertaken is being conducted to develop a more effective method of regional and national updates.
<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 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 was completed in April 2019.	This action is complete.
<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 continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding.	The Scottish Flood Forecast will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. The development and wider roll-out of surface water flooding forecasts is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.
<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> .  From 2016 SEPA will engage with the community through local participation in national initiatives, including partnership working with Neighbourhood Watch Scotland. In addition, SEPA will engage with local authorities and community resilience groups where possible. Local authorities will be undertaking additional awareness raising activities. Further details will be set out in the Local FRM Plan.	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. Widespread surface water flooding affected this area in August 2020. The Council issued flood bulletins, responded to correspondence and held a series of online community meetings to raise awareness of flood risk. Following the flooding of September 2022, the Council liaised with Bridge of Earn Community Council. The Scottish Flood Forum (SFF) 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. SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities (notably in person joint events) have been limited or delayed due to Covid-19.	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. The Council completed works to make safe a collapsed retaining wall on the Deich Burn in Bridge of Earn following the flooding of August 2020.	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, outwith 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.
- Riverbank 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 southeast of Pitlochry in the vicinity of Middlehaugh of Dalshian, Easthaugh of Ballyoukan and the Altrory Burn.
- Investigation works were completed on the North Muirton flood embankment. The Council has installed a sheet piled cut off wall to reduce the risk of ground water seepage during future flood events. This measure was completed in 2020 to manage the risk of flooding to adjacent properties while protecting the integrity of the flood defences in this area.
- In response to the severe flooding of 11 & 12 August 2020:
  - A coordinated response from various Council services and partner organisations involving investigations, advice and support.
  - Continued work with public agencies and local resilience groups to investigate and respond to the impact of the flooding, focusing on the homes and businesses most affected.
  - Responses to over 650 enquiries received via the Council's dedicated web page and generic e-mail address.
  - Nine online community meetings were held.
  - On the ground works in the most affected areas to respond to, and support, emergency works.

- Emergency clearance works on the Craigie Burn, the Alyth Burn and the Dunning Burn.
- CCTV camera surveys of drainage systems and culverts
- Works to make safe a collapsed retaining wall on the Deich Burn in Bridge of Earn.
- A report to the Council's Environment and Infrastructure Committee on 18 August 2021, including a summary of identified short, medium, and long-term actions. These actions were consistent with the Tay Local Flood Risk Management Plan.
- A review of the Council's Out of Hours Emergency Service and flood gate closure procedure.
- In November 2020, Scottish Water and the Council carried out the replacement of all 8 pumps (4 foul & 4 surface water) in the South Inch Pumping Station, as part of planned maintenance work. The remaining pumps on the Perth Flood scheme between Inveralmond and South Inch, have been replaced over the last year.

## List of Acronyms and Abbreviations

FEH	Flood Estimation Handbook
FEP	Flood Emergency Plan
FLS	Forestry and Land Scotland
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
SF	Scottish Forestry
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 Final 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 the Flood Risk Management Strategy, and the publication of Local Flood Risk Management Plans 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 an assessment of the progress made on implementing the Local Flood Risk Management Plan (LFRMP) for the Tay Local Plan District (LPD) as required by Section 38 of the Flood Risk Management (Scotland) Act 2009 (the “Act”).

#### **38 Local flood risk management plans: final report**

(1) Not earlier than 5 years, and not later than 6 years, after a local flood risk management plan is finalised, or by such other date as the Scottish Ministers may direct, the lead authority must publish a report on the plan containing —

- (a) an assessment of the progress made towards implementing the current measures,
- (b) a summary of the current measures which were not implemented, with reasons for their non-implementation, and
- (c) a description of any other measures implemented since the plan was finalised which the lead authority considers have contributed to the achievement of the objectives summarised in the supplementary part of the plan.

(2) The lead authority must make copies of the report available for public inspection.

The Tay Local Flood Risk Management Plan, which includes the ‘implementation part of the Plan’, was published in June 2016. An Interim Report on the progress made on this Plan was published in March 2019. This Final Report was therefore to be published between December 2021 and June 2022. However, the Scottish Minister’s subsequently directed that the Final Report be published by 31 December 2022.

The Final Report provides a summary of the Tay Local Flood Risk Management Plan actions ('measures') and assessment of the progress made towards implementing them. The information on progress includes:

- an assessment of the progress made towards implementing each of the actions.
- reasons for any actions where delivery is not as planned; and
- a summary of the actions which have not been implemented, with reasons why they were not implemented; and
- a description of arrangements planned to deliver the remaining actions and to address delayed actions; and
- a description of any other actions implemented since the Plan was finalised. which the lead authority considers have contributed to the achievement of the objectives summarised in the Plan.

The Final 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 Final Report will be in accordance with the agreed governance arrangements for the Local Plan District Partnership. The responsible authorities for the Tay LPD Partnership 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
- Scottish Forestry

### **Publication**

The published Final 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 Final Report for the Tay Local Flood Risk Management Plan 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 Final Report for the Tay Local Flood Risk Management Plan 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 ACCESS line	03452 777 778
Fife Council General Enquiries	03451 550 000
Stirling Council General Enquiries	01786 404 040

If you or someone you know would like a copy of this document in another language or format, (on occasion, only a summary of the document will be provided in translation), this can be arranged by contacting the Customer Service Centre on 01738 475000.

You can also send us a text message on 07824 498145.

All Council Services can offer a telephone translation facility.



### Invergowrie (Potentially Vulnerable Area 07/12)

Local Plan District	Local Authority	Main Catchment
Tay Estuary and Montrose Basin	Angus Council, Dundee City Council, Perth and Kinross Council	Invergowrie Burn

#### Summary of Progress Within PVA



There are approximately 240 residential properties and 60 non-residential properties at risk of flooding. The Annual Average Damages are approximately £740,000. Further information can be found in the [Tay Estuary and Montrose Basin \(TEAMB\) Local Flood Risk Management Plan](#) under PVA 07/12.

Key progress has been made with the Dundee Dighty, Monifieth and Sidlaws Flood Study and the establishment of the surface water management partnership. However, the majority of the flood risk in the Invergowrie area originates from fluvial sources of flooding and so this area was not taken forward in the wider surface water management plan. The Invergowrie Natural Flood Management Study was completed in 2022.

The PVA has been exposed to recent significant weather events including Storms Dennis in February 2021.

© Crown copyright. SEPA license number 100016991 (2022). All rights reserved.  
 Reproduced from Tay Estuary and Montrose Basin Flood Risk Management Strategy, SEPA (December 2022).

### Overview of actions to manage flooding in the Invergowrie PVA

PVA	Flood protections scheme/works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan/study	Strategic mapping and modelling	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Site protection plans	Emergency plans/response	Planning policies
07/12					G	G	G			G			G	G	G		G	G

### Summary of Progress of Actions to Manage Flood Risk in Invergowrie (PVA 07/12)

Action	Status (RAG)	Description	Delivery Lead	Planned Dates	Final Progress	Planned Actions to complete
Natural Flood Management Study	G	Undertake a natural flood management study to assess whether river / flood plain restoration and sediment management could help reduce flood risk in Invergowrie. The study will take a catchment approach and consider the potential benefits and disbenefits and interaction between actions upstream and downstream economically, socially and environmentally.	Angus Council, Dundee City Council, Perth & Kinross Council	2016 - 2020	The Invergowrie natural flood management study commenced in March 2020. The contract was administered by Perth & Kinross Council and was awarded to consulting engineers, Sweco UK Ltd. The study was completed in September 2022.	Perth and Kinross Council disseminated the study findings to the local community in September 2022.
Surface Water Plan/ Study	G	A surface water management plan or plans to cover Dundee, Broughty Ferry, Invergowrie, Lochee and Monifieth, which set objectives for the management of surface water flood risk and identify	Angus Council, Dundee City Council, Perth & Kinross Council	2016 - 2019	The SWMP for Invergowrie is being undertaken as part of the Dundee Downfield, Monifieth and Sidlaws Flood Protection study which commenced in June 2018. The SWMP partnership has been established and	Angus Council will continue to work with Dundee City Council, Scottish Water and RPS to prepare the surface water management plans for this PVA. These plans will identify joint and / or separate solutions to surface water

		<p>the most sustainable actions to achieve the objectives will be prepared.</p>			<p>available information reviewed.</p>	<p>flooding within this PVA. Once the plans are finalised the SWMP partners will support the prioritisation of solutions and jointly seek funding. This study is on track to complete in July 2019. The Tayside Integrated Catchment Study (ICS) demonstrated that there was very little interaction between the Invergowrie Burn and other sources of flooding. Perth and Kinross Council have therefore not progressed with the ICS which was originally intended to support the surface water management plan process.</p>
<p><b>Strategic Mapping and Modelling</b></p>	<p><b>G</b></p>	<p>Undertake further investigation and modelling in the Hatton 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.</p>	<p>Scottish Water</p>		<p>Scottish Water have delivered Section 16 assessment data as programmed in the Tay Estuary and Montrose Basin Local Flood Risk Management Plan.</p>	

<p><b>Flood forecasting (90320009)</b></p>	<p><b>G</b></p>	<p>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.</p>	<p>SEPA</p>		<p>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 flood 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.</p>	<p>SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily flood guidance statements, with flood alerts issued as required to enable communities and responders to reduce the impacts of flooding.</p>
<p><b>Awareness Raising</b></p>	<p><b>G</b></p>	<p>SEPA and the responsible authorities have a duty to raise public awareness of flood risk. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact. Scottish Water will support SEPA and responsible authorities with their awareness raising activities as</p>	<p>Responsible Authorities</p>	<p>Ongoing</p>	<p>SEPA has delivered a range of awareness raising activities through campaigning education activities and partnership delivery. We have run national and local digital and direct engagement campaigns to raise awareness of flood risk and SEPA's flood warning service, Flood line. We</p>	<p>SEPA will continue to raise awareness of flood risk through campaigning, developing education and engagement tools, creating new partnerships, improving the flood warning, and forecasting service. Many of our awareness raising activities currently underway will continue. Our focus will be on promoting flood</p>

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 Scottish Water website (<https://www.scottishwater.co.uk/you-and-your-home/your-home/flooding-information>). SEPA will undertake flood risk education and awareness raising activities. In addition, SEPA will engage with the Council and community resilience groups and participate in property level protection events delivered by the Scottish Flood Forum where possible. 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

publish and publicise an electronic Newsletter (Flooding Gateway) four times a year which is distributed to a wide audience. We are working with Education Scotland and Scottish Government Resilience team to embed flooding awareness within the Curriculum for Excellence, and resilience partners in Safer Communities programmes. We have also developed an inline tool that helps everyone share information on current flooding issues (Report-a-Flood). We have worked in partnership with Local Authorities, emergency services and community organisations (e.g., Neighbourhood Watch Scotland, Citizens Advice Scotland, and others) to share our resources and help to promote preparedness and understanding of how we manage flood risk in Scotland. We have actively supported the Scottish

warning and forecasting service, innovation, education and engagement with partners, customers, and the public. Perth and Kinross Council will continue with awareness raising activities when developing proposals for any on-going actions in it's local flood risk management plans.

		<p>exist, SEPA will engage with community resilience groups and community safety partnerships.</p>			<p>Flood Forum and worked closely with UK agencies to develop joint flooding information.</p> <p>Perth and Kinross Council engaged with the local community in Invergowrie in September 2022 to disseminate the findings of the Invergowrie Natural Flood Management Study. Advice and information on flood risk management are also available on the Council's website.</p>	
<p><b>Self Help</b></p>	<p><b>G</b></p>	<p>Everyone is responsible for protecting themselves and their property from flooding. 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 action plan and flood kit, installing property level protection, signing up to Floodline and Resilient Communities initiatives, and ensuring that properties and businesses are insured against flood damage.</p>	<p>Responsible Authorities</p>	<p>Ongoing</p>	<p>Everyone is responsible for protecting themselves and their property from flooding. 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 action plan and flood kit, installing property level protection, signing up to Floodline and Resilient Communities initiatives, and ensuring that properties and businesses are insured against flood damage.</p>	<p>Perth and Kinross Council will continue to support communities to become more resilient to flooding and to develop community resilience groups and emergency plans.</p>

					<p>Perth and Kinross Council supports communities to become more resilient to emergency situations, including flood events. Communities have been engaged through the multi-agency local Resilience Partnership and Community and Business Resilience Group led by the Council.</p>	
<p><b>Maintenance</b></p>	<p><b>G</b></p>	<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 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.</p>	<p>Local authorities, asset / land managers</p>	<p>Ongoing</p>	<p>Perth and Kinross Council has continued to inspect and assess watercourses. Routine 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 reduce that flood risk, then those works are included on the Council's clearance and repair schedule and carried out. Perth and Kinross Council</p>	<p>Perth and Kinross Council will continue to inspect and assess watercourses and carry out clearance and repair works where this would substantially reduce flood risk. Road gullies will continue to be monitored and cleared as per the gulley monitoring programme. Scottish Water will continue to undertake risk-based inspections and maintenance.</p>

			<p>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 gulleys 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. Scottish Water continue to undertake risk-based inspections maintenance and repair on the public sewer network.</p>	
--	--	--	--	--

**Emergency Plans / Response**

**G**

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. Scottish Water are a Category 2 responder under the Civil Contingencies Act 2004 and will support regional and local resilience partnerships as required. 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.

Category 1 and 2 responders

Ongoing

SEPA continues to support LAs in-emergency planning and the process is ongoing in identifying areas requiring Emergency Plans. Perth and Kinross Council has implemented its Flooding Emergency Response Plan. 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.

SEPA to provide a list of receptors at risk but not currently considered as a PVA action (as discussed during PVA consultation exercise). LA to discuss with private owner and / or Community group about preparing an Emergency Plan with assistance provided by Grampian Emergency Planning Unit and the Scottish Flood Forum Fife Council aims to raise awareness of flooding through ongoing community engagement and working in partnership with the Scottish Flood Forum, SEPA and Scottish Water to share our resources and help to promote community resilience and understanding of how we manage flood risk within the Local Authority area and the local plan districts. Where staffing resources allow, consideration will be given to working with schools through collaboration with colleagues in Education.

						<p>Consideration will also be given to a public communications campaign to assist with raising awareness of flooding. Perth and Kinross Council will continue to implement the Flooding Emergency Response Plan when required. Where no incidents have occurred within a 12-month period a tabletop exercise will be conducted to test the response plan. This exercise may include consideration of flooding incidents, severe weather, widespread flooding, storm events.</p>
<p><b>Planning Policies</b></p>	<p><b>G</b></p>	<p>Scottish Planning Policy 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 policy 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</p>	<p>Planning authority</p>	<p>Ongoing</p>	<p>SEPA and Local Authority Officers have continued to provide flood risk information to the local plan and the development control process. The promotion of sustainable surface water drainage is in place for all new developments. The current Perth &amp; Kinross Local Development Plan (LDP2) contains planning policy and development</p>	<p>This action will continue key milestones in Perth &amp; Kinross Council's LDP3 review will be the policy and place discussions which will take place during 2022/23, culminating in the preparation of an Evidence Report in 2023, whilst preparation of the Proposed Plan is programmed for 2024. To inform this process, the</p>

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 be avoided. For further information on the national planning policies see <http://www.sepa.org.uk/environment/land/planning/>. 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 FRM Act, 2009. SEPA also has a duty to cooperate with planning authorities in the preparation of development plans. When consulted in relation to planning applications for development or for site allocations in development plans, or where the planning authority considers there may be a risk of flooding, SEPA will provide advice. Advice provided by SEPA will be with respect to the risk of flooding and based on the relevant information it holds which is suitable for planning purposes. It will also

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 & 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 approximately 1,300 planning applications since the start of the 2019/20 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.

Council is undertaking a Strategic Environmental Assessment (SEA) and will prepare an Environmental Report to identify, describe and evaluate the significant effects on the environment. The SEA includes the consideration of flood risk in site assessment and policy work and will involve engagement with SEPA and Perth & Kinross Council's flooding team.

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.

Perth & Kinross Council has started a review of LDP2 (which was adopted in November 2019) to produce LDP3. The initial work on the LDP3 review has been centred on data gathering and settlement audit work. However, the work conducted since the adoption of LDP2 has been focussed on preparing, consulting on, revising and adopting the Flood Risk and Flood Risk Assessment Supplementary Guidance, which was adopted in March 2021, and responding to Scottish Government consultations on the draft National Planning Framework 4 (NPF4), and Local Development Planning regulations. The main updates to the Flood Risk and Flood Risk Assessment Supplementary Guidance related to climate change; and 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.	
--	--	--	--	---	--

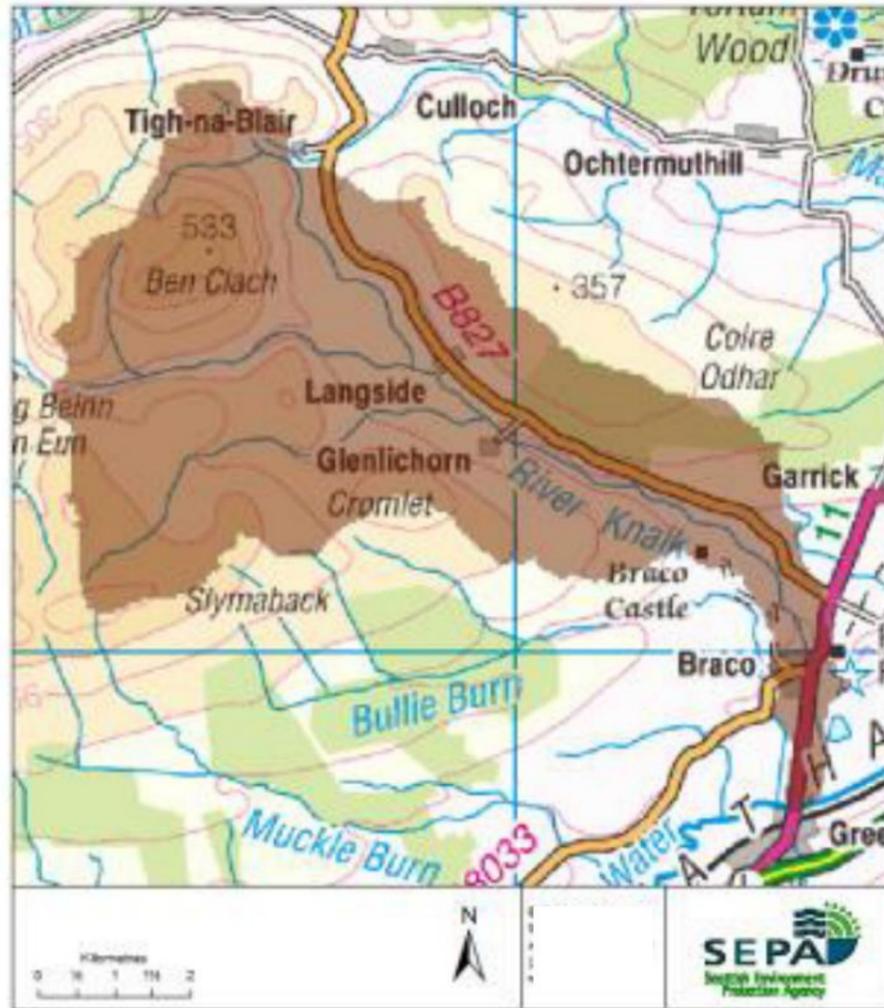
DRAFT

DRAFT

**3.2.2 Braco PVA 09/02**

Local Plan District	Local authority	Main catchment
Forth	Perth & Kinross Council	River Knaick

**Summary of Progress Within PVA**



There are approximately 20 residential properties and 10 non-residential properties at risk of flooding. The Annual Average Damages are approximately £29,000.” Further information can be found in the [Local Flood Risk Management Plan under PVA 09/02](#).

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

**Key Progress**

- Perth and Kinross Council supports communities to become more resilient to flooding. The Council has developed its website to provide more advice and information on flood risk management. The Braco and Greenloaning Community Resilience Group has also been established in this area.
- Perth and Kinross Council has not prioritised any specific measures in this area but will continue with awareness raising activities when developing any proposals for the remaining actions set out in the Forth Local Flood Risk Management Plan. The Council will also continue to carry out its other general actions to manage flood risk, including inspections and any necessary maintenance of the watercourses in the PVA.
- Following the second national flood risk assessment in late 2018, Braco will no longer be designated as a PVA in the Cycle 2 Forth Local Flood Risk Management Plan as it has been re-assessed as having a lower level of flood risk.

© Crown copyright and database rights 2022 Ordnance Survey 100020780 (Stirling Council). You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.  
 Reproduced from Forth Flood Risk Management Strategy, SEPA (December 2015).

Selected Actions in the Braco 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
09/02									G		G	G			G		G	G

Summary of Progress of Actions to Manage Flood Risk in the Braco PVA						
Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Progress Made	Planned Actions to Complete
Flood forecasting (90320009)	G	See Description within Local Plan District-wide Actions in Table 22	SEPA	Ongoing	See progress with Local Plan District-wide Actions in Table 2.	See planned actions in Table 2.
Self help (90320011)	G	See Description within Local Plan District-wide Actions in Table 22	Individual	Ongoing	Perth and Kinross Council supports communities to become more resilient to emergency situations, including flood events. Communities have been engaged through the multi-agency Local Resilience Partnership Community and Business Resilience Group, led by the council. The Braco and Greenloaning Community Resilience Group has been established in this area and an emergency rest centre has been established as part of the A9 Trunk Road Community Emergency Plan.	Perth and Kinross Council will continue to support communities to become more resilient to flooding. The council will also continue to support communities to develop community resilience groups and emergency plans.
Awareness raising (90320013)	G	SEPA and the responsible authorities have a duty to raise public awareness of flood risk. Improved awareness of flood risk, and actions that prepare individuals, homes and businesses for flooding, can reduce the overall impact.  SEPA-led education and awareness raising events and promotion of Floodline. SEPA engagement with community resilience groups and community safety partnerships. SEPA partnership working with Neighbourhood Watch	Responsible Authorities  SEPA	Ongoing  01/01/2016-31/12/2050	See Progress with Local Plan District-wide Actions. In Table 2  SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community resilience activities when able. Some planned activities notably in person joint events have been limited or delayed due to Covid 19.	Perth and Kinross Council will continue with awareness raising activities when developing proposals for the remaining actions in the Forth Local Flood Risk Management Plan.

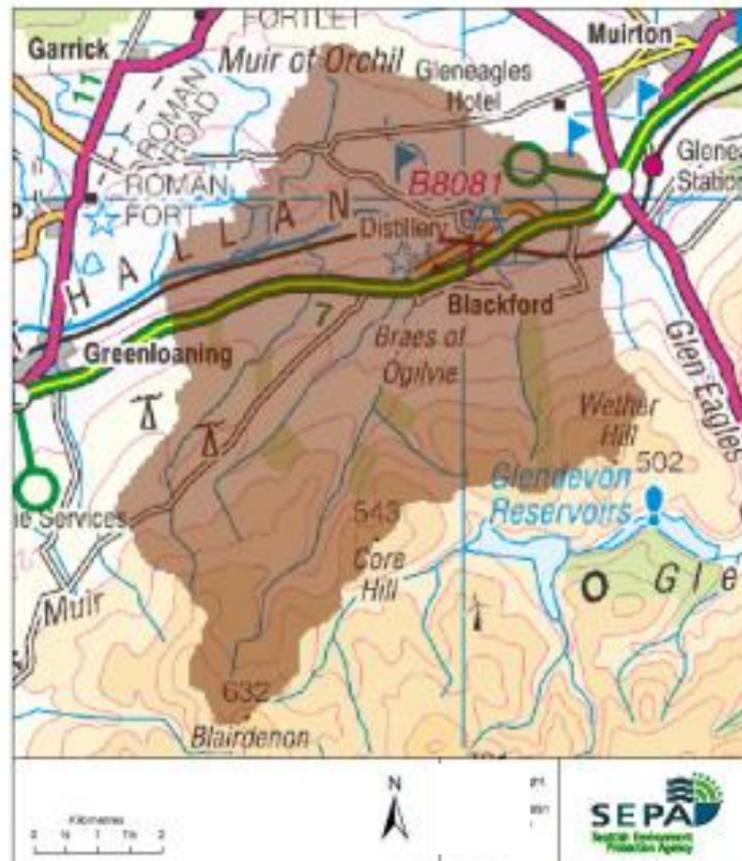
		Scotland. Perth and Kinross Council information dissemination. Perth and Kinross Council engagement with community and flood groups. Scottish Water provision of targeted information.				
<b>Maintenance</b> (90320007)	<b>G</b>	See Description within Local Plan District-wide Actions in Table 22	Perth & Kinross Council, asset / land managers	Ongoing	See Progress with Local Plan District-wide Actions in Table 2	See planned actions in Table 2.
<b>Emergency Plans / Response</b> (90320014)	<b>G</b>	See Description within Local Plan District-wide Actions in Table 22	Category 1 and 2 Responders	Ongoing	See Progress with Local Plan District-wide Actions in Table 2	See planned actions in Table 2.
<b>Planning Policies</b> (90010001)	<b>G</b>	See Description within Local Plan District-wide Actions in Table 22	Planning Authority	Ongoing	See Progress with Local Plan District-wide Actions in Table 2	See planned actions in Table 2

No additional actions have been implemented in this PVA.

3.2.13 Blackford 09/12c

Local Plan District	Local Authority	Main Catchment
Forth	Perth and Kinross Council	Allan Water

Summary of Progress Within PVA



There are approximately 50 residential properties and 20 non-residential properties at risk of flooding. The Annual Average Damages are approximately £270,000. Further information can be found in the [Forth Local Flood Risk Management Plan PVA 9/12c](#).

Since the publication of the Forth Local FRM Plan, flooding has occurred in this PVA. In February 2020, 2 homes and 1 business flooded. Other recent high flow events occurred in August 2019 and February 2021

Key progress

- Has been made in this PVA through the completion of the Blackford Flood Protection Study in November 2021, which recommended a flood protection scheme for the area.
- Awareness Raising activities were carried out in conjunction with the completion of this study between September and November 2021.
- Perth and Kinross Council supports communities to become more resilient to flooding. The Council has developed its website to provide more advice and information on flood risk management. The Blackford Community Resilience Group has also been established.
- The Council will also continue to carry out its other general actions to manage flood risk, including inspections and any necessary maintenance of the watercourses in the PVA.T

© Crown copyright and database rights 2022 Ordnance Survey 100020780 (Stirling Council). You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.  
 Reproduced from Forth Flood Risk Management Strategy, SEPA, December 2015).

Selected Actions in the Blackford 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
09/12c		G							G		G	G			G		G	G

Summary of Progress of Actions to Manage Flood Risk in the Blackford PVA 09/12c						
Action (ID)	Status (RAG)	Description	Delivery Lead	Planned Dates	Progress Made	Planned Actions to Complete
<b>Flood Protection Study (90310005)</b>	G	A flood protection study has been recommended for Blackford to assess whether flood defences, modification of conveyance, sediment management and natural flood management could reduce flood risk. The study also investigated the viability of property level protection. Natural flood management options that will be considered including runoff control and sediment management.	Perth & Kinross Council	2016 – 2021	The Blackford Flood Study was completed in November 2021 and recommended a flood scheme involving diversion channels, flood walls and natural flood management measures. The proposed scheme would protect a total of 38 properties, providing a 1 in 200-year standard of flood protection. The study findings were disseminated via the Council's online consultation hub and an online community meeting between September and November 2021.	This action is complete. The delivery of the recommended flood scheme is subject to prioritisation and inclusion in the next Forth Local FRM Plan and funding being made available. The scheme may then proceed to outline design, the statutory process required by the Flood Act, detailed design, procurement and construction.T
<b>Flood forecasting (90320009)</b>	G	See Description within Local Plan District-wide Actions in Table 2	SEPA	Ongoing	See Progress with Local Plan District -wide Actions in Table 2	See Progress with Local Plan District -wide Actions in Table 2
<b>Self Help (90320011)</b>	G	See Description within LOCAL PLAN DISTRICT-wide Actions in Table 2	Individuals	Ongoing	Perth and Kinross Council supports communities to become more resilient to emergency situations, including flood events. Communities have been engaged through the multi-agency Local Resilience Partnership Community and Business Resilience Group, led by the Council. The Blackford Community Resilience Group has been established in this area and the community hall is now available as an emergency rest centre.	Perth and Kinross Council will continue to support communities to become more resilient to flooding. The Council will also continue to support communities to develop community resilience groups and emergency plans.
<b>Awareness raising (90320013)</b>	G	SEPA and the responsible authorities have a duty to raise public awareness of flood risk. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact. SEPA-led education and awareness raising events and promotion of Floodline. SEPA engagement with community resilience groups and community safety partnerships. SEPA partnership working with Neighbourhood Watch	SEPA and the responsible authorities  SEPA	Ongoing  01/01/2016-31/12/2020	See Progress with LOCAL PLAN DISTRICT-wide Actions in Table 2. Awareness raising activity was carried out in conjunction with the Blackford Flood Study (Action ID 90310005)  SEPA continues to work with others to raise awareness of flood risk and its flood warning service. It has participated in local activities including school / education and community	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 any other relevant actions in the Forth Local FRM Plan. Blackford has been identified by the SFF as a potential site for a SFF supported RiverTrack community flood alerting project

		Scotland. Perth and Kinross Council and Stirling Council information dissemination. Perth and Kinross Council and Stirling Council engagement with community and flood groups. Scottish Water provision of targeted information.			resilience activities when able. Some planned activities notably in person joint events have been limited or delayed due to Covid 19.	but further scoping engagement required to assess feasibility.
<b>Maintenance (90320007)</b>	<b>G</b>	See Description within Local Plan District-wide Actions in Table 2	Perth and Kinross Council, Land/Asset managers	Ongoing	See Description within Local Plan District-wide Actions in Table 2	See Description within Local Plan District-wide Actions in Table 2
<b>Emergency plans/response (90320014)</b>	<b>G</b>	See Description within Local Plan District-wide Actions in Table 2	Category 1 and 2 Responders	Ongoing	See Description within Local Plan District-wide Actions in Table 2	See Description within Local Plan District-wide Actions in Table 2
<b>Planning Policy (90010001)</b>	<b>G</b>	See Progress within Local Plan District-wide Actions in Table 2	Planning Authority	Ongoing	See Progress within Local Plan District-wide Actions in Table 2	See Progress within Local Plan District-wide Actions in Table 2

No additional actions have been implemented in this PVA





**Kinross, Milnathort, Glenrothes and Kinglassie (Potentially Vulnerable Area 10/04)**

Local Plan District	Local authority	Main catchment
Forth Estuary	Fife Council and Perth & Kinross Council	River Leven (Fife)



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. *Reproduced from Forth Estuary Flood Risk Management Strategy, SEPA (December 2015).*

**Summary of Progress for Kinross, Milnathort, Glenrothes and Kinglassie**

There are approximately 210 residential properties and 150 non-residential properties at risk of flooding. The Annual Average Damages are approximately £1,200,000. Further information can be found in LFRMP under PVA 10/04.

Perth & Kinross Council are progressing the outline design of the South Kinross Flood Protection Scheme. Scottish Water have also completed a S16 Assessment of the Kinross sewer network. The Kinross Flood Resilience Group has also been set up.

Scottish Water has completed works on the sewer network serving Milnathort. Perth & Kinross Council have progressed the outline design of the Milnathort Surface Water Flood Protection Scheme, while taking cognisance of Scottish Water's work. A draft Surface Water Management Plan has been developed as part of this work and this - together with the flood scheme - will be subject to community consultation in early 2023.

### Overview of actions to manage flooding in Kinross, Milnathort, Glenrothes and Kinglassie (PVA 10/04)

PVA	Flood protection Scheme/Works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan/study	Strategic mapping and modelling	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Site protection plans	Emergency plans/response	Planning policies
10/04	A		A	G		A	G	G		G		N/A	G	G	G		G	G

### Summary of progress of actions to manage flood risk in the Kinross, Milnathort, Glenrothes and Kinglassie (PVA 10/04)

Action	Status (Red; Amber; Green)	Description	Delivery Lead	Planned Dates	Progress in Delivery, including key deliverables and dates	Revised dates and planned actions to complete / address delay
<b>Flood Protection Scheme / Works (100080006)</b>	<b>A</b>	A flood protection scheme has been proposed for Milnathort to address surface water flooding. The scheme would consist of pumping stations and provide a 1 in 100 year (plus climate change) standard of protection.	Perth & Kinross Council	2016-2019	The outline design of the Milnathort Surface Water Flood Protection Scheme commenced in November 2018. The contract was awarded to consulting engineers, Sweco UK Ltd. The outline design is currently nearing completion and will be subject to community consultation in early 2023. The flood scheme will be published in 2023.	The flood protection scheme is currently programmed for completion in the 2024/25 financial year.

<b>Flood Protection Scheme / Works (100110006)</b>	<b>A</b>	A flood protection scheme has been proposed for South Kinross to address flooding from the South Queich, Gelly Burn and Clash Burn. The scheme would consist of flood defence walls and provide a 1 in 200 year (plus climate change) standard of protection.	Perth & Kinross Council	2017-2021	The outline design of the South Kinross Flood Protection Scheme commenced in February 2019. The contract was awarded to consulting engineers, RPS Group. The outline design is currently ongoing and will be subject to community consultation in early 2023. The flood scheme will be published in 2023.	The flood protection scheme is currently programmed for completion in the 2025/26 financial year.
<b>New Flood Warning (100990010)</b>	<b>A</b>	The area under consideration includes properties affected by flooding in Fife and Perth & Kinross and is likely to include Kinross. Further feasibility assessment will be required to assess delivery potential and the final detail of communities for which warnings can be provided will be determined during the scoping process.	SEPA	May 2021	SEPA undertook an initial feasibility study for Leven and Glenrothes which concluded a new flood warning scheme was not recommended at the present time due to the uncertainty in the degree of flood risk. However this is to be reviewed further on completion of the Leven flood study, which was underway at the time of the feasibility assessment. This is to confirm flood risk for Leven and Glenrothes.	Review Leven and Glenrothes flood study (when complete) and update feasibility study if necessary.
<b>Flood Protection Study (100120005)</b>	<b>G</b>	A Study looking at surface water management in Glenrothes is scheduled to start in 2017. This study may identify future study needs that would be taken forward in the second flood risk management cycle.	Fife Council	2016-2020	On track to deliver as scheduled in the LFRMP.	Flood Study to be completed during financial year 2022-23. Further works dependent on outcomes from Flood Study.
<b>Surface Water Plan/Study (100040018)</b>	<b>G</b>	The Leven and eastern Methil area will be covered by a surface water management plan or plans (SWMP) that set objectives for the management of	Fife Council	2016-2021	Study planned to start towards the end of 2019.	Surface Water Management Plan to be completed within Cycle 2

		<p>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.</p>				
<p><b>Surface Water Plan/Study (100040019)</b></p>	<p><b>G</b></p>	<p>An integrated catchment study covering the Leven Valley catchment will be carried out to improve knowledge and understanding of the interactions between the above ground and below ground drainage network e.g. 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 Fife 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 to develop solutions to the significant flooding issues.</p>	<p>Scottish Water in partnership with local authorities</p>	<p>2021</p>	<p>Complete</p>	

<b>Surface Water Plan/Study (100080018)</b>	<b>A</b>	<p>Milnathort will be covered by a surface water management plan that sets objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives. Perth &amp; Kinross Council had previously engaged consultants, Atkins, to produce the Milnathort Surface Water Investigation study which was completed in 2011. This study recommended a surface water flood protection scheme (involving drainage measures, underground storage and pumping stations). The proposed scheme will provide a 1:100 year standard of protection against surface water flooding, and will include an additional allowance for climate change. This action will be implemented through the Milnathort Surface Water Flood Protection Scheme Action (ID) 100080006. 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.</p>	Perth & Kinross Council	2016-2019	<p>The development of the Milnathort surface water management plan commence in November 2018. The contract was awarded to consulting engineers, Sweco UK Ltd.</p> <p>This action is being implemented in conjunction with the Milnathort Surface Water Flood Protection Scheme (Action ID 100080006).</p>	<p>The draft surface water management plan will be subject to community consultation in early 2023, prior to being finalised.</p>
<b>Surface Water Plan/Study (101030018)</b>	<b>A</b>	<p>The Glenrothes and Markinch areas will be covered by a surface water management plan or plans (SWMP) that set objectives for the management of</p>	Fife Council	2016-2021.		<p>Surface Water Management Plan to be completed within Cycle 2</p>

		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.				
<b>Surface Water Plan/Study (101030019)</b>	<b>G</b>	<p>An integrated catchment study covering the Leven Valley catchment will be carried out to improve knowledge and understanding of the interactions between the above ground and below ground drainage network e.g. the sewer network, watercourses and (where applicable) the sea.</p> <p>This will improve the understanding of local surface water flood risk. The stated timescales and funding arrangements between Scottish Water and Fife 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 to develop solutions to the significant flooding issues.</p>	Scottish Water in partnership with local authorities	2018-2021	Flow Survey complete. Manhole and ancillary survey complete. Watercourse surveys complete.	Historical Verification & Catchment Flood Assessment delivery.

<b>Strategic mapping and modelling (100990019)</b>	<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 Kinross, Leven Valley and Milnathort sewer catchments to improve knowledge and understanding of flood risk in this area, as required under S16 of the Flood Risk Management (Scotland) Act 2009.	Scottish Water	2021	Complete	
<b>Maintain Flood Protection Scheme (100100017)</b>	<b>G</b>	Perth & Kinross Council continue to maintain the existing flood protection schemes along the Back Burn in Milnathort. These include the Milnathort Flood Protection Schemes completed in 2006 and 2010.	Perth & Kinross Council	Ongoing	Perth & Kinross Council carries out routine inspections of the existing flood defences in Milnathort. Maintenance works are carried out as required.	Routine inspections will continue to be carried out as part of the Council's statutory duties.
<b>Flood forecasting (100990009)</b>	<b>G</b>	Link to Scottish Flood Forecasting Service Refer to Figure 3; page 26	SEPA	Ongoing	Refer to FINAL progress described in Figure 3 of this report.	Refer to the planned actions described in Figure 3 of this report.
<b>Community Flood Action Groups (100100012)</b>	<b>N/A</b>	A community resilience group operated in this area and was supported by Perth & Kinross Council to develop community resilience plans. This action has been included in SEPA's Flood Risk Management Strategy however, this community action group has now ceased its activities.	Community	N/A	Previously, there were no operational community resilience groups in Milnathort or Kinross. However the Kinross Flood Resilience Group has recently been set up.	Perth & Kinross Council will continue to coordinate with the Kinross Flood Resilience Group on a priority needs basis where resources allow.

<b>Self help (100990011)</b>	<b>G</b>	Raising community awareness of self help measures available to protect property Refer to Figure 3; page 26	Community		No additional self help activities have been carried out in this PVA, beyond those already described in Figure 3 of this report.	No planned actions in this PVA, further to the planned actions described in Figure 3 of this report.
<b>Awareness raising (100990013)</b>	<b>G</b>	Raising Community Awareness of flood risk Refer to Figure 3; page 29	Responsible Authorities	Ongoing	Further to the awareness raising actions described in Figure 3 of this report, Perth & Kinross Council has carried out additional awareness raising activity in Kinross following recent flooding events and in conjunction with the South Kinross Flood Protection Scheme (Action ID 100110006). This included community flood bulletins and an online community meeting.	Further to the planned actions described in Figure 3 (LPD wide actions) of this report. Perth & Kinross Council plan to carry out awareness raising in conjunction with the flood schemes in Milnathort and South Kinross (Action ID's 100080006 & 100110006).
<b>Maintenance (100990007)</b>	<b>G</b>	Maintenance at locations where flood risk has been identified Refer to Figure 3; page 33	Responsible Authorities and asset / land managers	Ongoing	No additional maintenance activities been carried out in this PVA, beyond those already described in Figure 3 of this report.	No planned actions in this PVA, further to the planned actions described in Figure 3 of this report.
<b>Emergency plans / response (100990014)</b>	<b>G</b>	Raise awareness of plans and actions in place for flood incidents Refer to figure 3; page 37	Category 1 and 2 Responders	Ongoing	No additional emergency/planning response activities have been carried out in this PVA, beyond those already described in Figure 3 of this report.	Further to the planned actions described in Figure 3 of this report. Fife Council Emergency Plan will be updated by the end of financial year 2022-23.

					Fife Council Updated Flood Emergency Plan published Nov 2018.	
<b>Planning Policy (100010001)</b>	<b>G</b>	LPD reflects flood risk Refer to Figure 3; page 40	Planning Authority	Ongoing	No additional planning policy actions have been carried out in this PVA, beyond those already described in Figure 3 of this report.	No planned actions in this PVA, further to the planned actions described in Figure 3 of this report.



Local Plan District	PVA	OTA	Location	General Actions														Specific Actions									
				Awareness Raising	Data to Support Climate Resilience	Emergency Plans	Flood Forecasting	Flood Warning Development Framework	Future Flood Risk Management Planning	Guidance Development	Hazard Mapping Updates	Land Use Planning	Maintenance	Natural Flood Management Mapping	National Flood Risk Assessment	National Surface Water Mapping	Reservoirs	Scottish Flood Defence Asset Database	Self Help	Adaptation Planning	Community Engagement	Community Resilience Group	Flood Protection Scheme or Works	Flood Study	Flood Warning Maintenance	Maintenance of Existing Flood Scheme	Sewer Flood Risk Assessment
Tay Estuary	07/09	235	Invergowrie	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	07/15	-	Auchtermuchty	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tay	08/01	172	Blair Atholl	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/02	254	Pitlochry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/03	182	Weem	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		183	Aberfeldy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/04	189	Alyth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/05	230	Forfar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		241	Kirriemuir	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/06	199	Blairgowrie & Rattray	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/07	214	Coupar Angus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/08	179	Spittalfield	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		225	Dunkeld & Birnam	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		273	Dalguise	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/09	194	Bankfoot	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/10	247	Luncarty	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/11	255	Scone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/12	187	Almondbank	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
249		Methven	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
253		Perth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
08/13	213	Comrie	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
08/14	205	Bridge of Earn	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Forth	09/03	198	Blackford	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Forth Estuary	10/03	239	Kinross	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		303	Milnathort	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



Flood Risk Management  
(Scotland) Act 2009:

Local Flood Risk Management Plan  
Tay Local Plan District  
Cycle 2: 2022 - 2028



**Published by: Perth & Kinross Council**

**21 December 2022**



Scottish Forestry / Coilltearachd na h-Alba



Delivering sustainable flood risk management is important for Scotland's continued economic success and well-being. It is essential that we avoid and reduce the risk of flooding, and prepare and protect ourselves and our communities.

This is second local flood risk management plan for the Tay Local Plan District, describing the actions which will make a real difference to managing the risk of flooding and recovering from any future flood events.

The task now for us – local authorities, Scottish Water, SEPA, the Scottish Government and all other responsible authorities and public bodies – is to turn our local flood risk management plan into action.

## Foreword

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.

The publication of this Plan is an important milestone in implementing the Flood Risk Management (Scotland) Act 2009 and improving how we cope with and manage floods in the Tay local plan district. The Plan translates this legislation into actions to reduce the damage and distress caused by flooding over the second planning cycle from 2022 to 2028.

The Tay local plan district is led by Perth & Kinross Council who have published this Plan on behalf of a partnership comprising Angus Council, Fife Council, Stirling Council, SEPA, Scottish Water, Scottish Forestry, Forestry and Land Scotland, Loch Lomond & Trossachs National Park Authority and Cairngorms National Park Authority.

In summary, there are 14 areas that have been identified as being potentially vulnerable to flood risk across the Tay local plan district. It is estimated there are around 9,000 homes and businesses at risk from flooding, and this may increase to 13,000 homes and businesses by the 2080s due to climate change. The estimated annual average damage of these flood risks is £11.4 million.

This Plan presents actions to avoid and reduce the risk of flooding, and prepare and protect ourselves and our communities within these potentially vulnerable areas and across the local plan district. These actions include 6 flood protection schemes or works; 9 flood studies and 5 surface water management plans. The delivery of many of these actions may be dependent on the availability of funding; however, we can all play our part in managing flood risk as we are able.

Individuals are the first line of defence against flooding and have responsibilities to protect themselves from flooding. The publication of this Plan shows that the coordinated and collaborative efforts of public bodies can be brought together to deliver sustainable outcomes. However, the actions in this Plan can only be delivered with the support of all the public bodies, the Scottish Government and, most importantly, you and your communities.

This Plan therefore provides the blueprint upon which SEPA, local authorities and Scottish Water and any other responsible authorities will deliver their flood risk management responsibilities and, in particular, that all steps should be taken to manage flooding in a sustainable manner.

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.

## Contributors

Perth and Kinross Council  
Angus Council  
Fife Council  
Stirling Council  
SEPA  
Scottish Water  
Loch Lomond and the Trossachs National Park  
Cairngorms National Park Authority  
Scottish Forestry  
Forestry and Land Scotland

## Contents

Foreword .....	3
Contributors.....	4
Contents.....	5
List of Acronyms and Abbreviations.....	7
Chapter 1. What is a Local Flood Risk Management Plan? .....	8
1.1 How to Read This Plan .....	9
1.2 Progress in Cycle 1 (2016-2022).....	9
1.3 How have we developed the Local Flood Risk Management Plan? .....	10
1.4 Roles and Responsibilities for Flood Risk Management Planning .....	10
1.5 Consultation, Engagement and Advice .....	13
1.6 Identification of Objectives, Appraisal and Prioritisation of Actions .....	13
1.7 Strategic Environmental Assessment and Habitats Regulations Appraisal.....	14
1.8 Links with other Plans, Policies, Strategies and Legislative Requirements.....	15
1.9 Next Steps and Monitoring Progress.....	17
1.10 Licensing Acknowledgements.....	17
Chapter 2. Managing Flood Risk in the Tay Local Plan District.....	18
2.1 Understanding of Flooding Within the Tay Local Plan District .....	18
2.2 Background Summary of Flooding in the Tay Local Plan District .....	18
2.3 Summary of Objectives and Actions Across the Tay Local Plan District.....	20
2.4 Potentially Vulnerable Areas (PVAs).....	32
Chapter 3. Potentially Vulnerable Areas (PVAs).....	36
3.1 List of Potentially Vulnerable Areas (PVAs).....	37
3.1 Blair Atholl - PVA 02/08/01.....	38
3.2 Pitlochry - PVA 02/08/02.....	42
3.3 Aberfeldy and Weem - PVA 02/08/03 .....	47
3.4 Alyth - PVA 02/08/04.....	54
3.5 Kirriemuir & Forfar - PVA 02/08/05.....	58
3.6 Blairgowrie & Rattray - PVA 02/08/06 .....	65
3.7 Coupar Angus - PVA 02/08/07 .....	69
3.8 Dunkeld & Birnam - PVA 02/08/08 .....	73
3.9 Bankfoot - PVA 02/08/09.....	82
3.10 Luncarty - PVA 02/08/010 .....	85
3.11 Scone - PVA 02/08/11 .....	89
3.12 Perth & Almondbank - PVA 02/08/12 .....	94

3.13	Comrie - PVA 02/08/13 .....	106
3.14	Bridge of Earn - PVA 02/08/14 .....	112
3.15	Other Flood Risk Activities by Local Authorities in the Tay Local Plan District.....	117
3.16	Next Steps and Monitoring Progress.....	118
	Annex 1: Tay LPD Roles, Responsibilities & Contact Details.....	119
	Annex 2: Consultation and Engagement.....	124
	Annex 3: Land Use Planning .....	139
	Annex 4: Strategic Environmental Assessment & Habitats Regulations Appraisal .....	142
	Annex 5: Links to Other Plans, Policies, Strategies and Legislative Requirements .....	144
	Annex 6: Supporting information.....	148
	Annex 7: Glossary .....	152
	Annex 8: Licencing & Acknowledgements .....	167

## List of Acronyms and Abbreviations

AOB	- Area of Benefit
CNPA	- Cairngorms National Park Authority
CoSLA	- Convention of Scottish Local Authorities
FLS	- Forestry and Land Scotland
ICS	- Integrated Catchment Study
LFRMP	- Local Flood Risk Management Plan
LLTNPA	- Loch Lomond and Trossachs National Park Authority
LPD	- Local Plan District
PVA	- Potentially Vulnerable Area
PVAc	- Candidate Potentially Vulnerable Area
Q&S	- Quality & Standards (Scottish Water)
RAs	- Responsible Authorities (Local Authorities, Scottish Water, National Park Authorities and Forestry and Land Scotland)
SEPA	- Scottish Environment Protection Agency
SW	- Scottish Water

## Chapter.1 What is a Local Flood Risk Management Plan?

This Local Flood Risk Management Plan (the 'Plan') has been developed to detail the actions adopted to reduce the devastating and costly impact of flooding in the Tay Local Plan District. The Plan supplements the [Tay Flood Risk Management Plan](#) for the Tay Local Plan District developed by SEPA in consultation with local authorities, Scottish Water, the National Park Authorities and transport and utility companies. The Flood Risk Management Plans were developed to coordinate the efforts of all organisations that tackle flooding from all sources and in both urban and rural areas. They set the objectives to tackle flooding and identify actions to deliver these objectives. Objectives and actions have been set and agreed by all responsible authorities and programmed over six-year planning cycles. The Flood Risk Management Plans set out the short to long term ambition for flood risk management in Scotland, identifying where the risk of flooding and the benefits of investment are greatest. They are also important in our response to the climate emergency as flooding is increasing due to climate change.

The Local Flood Risk Management Plan takes the actions contained in the Flood Risk Management Plan and adds details as to who will be responsible for implementing actions, a timetable of when actions will be delivered and a description of the coordination and funding arrangements (for detail [see Chapter 3](#)). The Local Plan covers the second six-year implementation cycle from 2022 to 2028.

By publishing the Local Flood Risk Management Plan, individuals and local communities are provided with information that allows them to better manage their own responsibilities. Everyone can take action with the confidence of what others are doing and with the clear knowledge of when they are undertaking these actions. It is through this risk-based and plan-led approach that flood management will improve for the individuals, communities and businesses at risk in the Tay Local Plan District.

The contents of the Local Flood Risk Management Plan have been agreed by the lead authority, all responsible authorities and SEPA.

The Plan is published by Perth & Kinross Council as the lead authority for the Tay Local Plan District. It has been prepared in collaboration with Stirling Council, Angus Council, Fife Council, SEPA, Scottish Water, Loch Lomond and the Trossachs National Park Authority, Cairngorms National Park Authority, Scottish Forestry, Forestry and Land Scotland and other organisations with a responsibility or interest in managing flooding. The Plan is a statutory requirement of the Flood Risk Management (Scotland) Act 2009.

## 1.1 How to Read This Plan

This Local Flood Risk Management Plan has been developed in three sections:

- Chapter one explains what the flood risk management plan is, how it has been developed and the obligations different partners have to fulfil duties under the Flood Risk Management (Scotland) Act 2009;
- Chapter two provides a summary of flood risk in the Tay Local Plan District and an overview of the objectives and actions that have been selected to manage that risk across the district and within the Potentially Vulnerable Areas;
- Chapter three looks at the detail of the objectives and actions set within each Potentially Vulnerable Area for the second flood risk management cycle from 2022 – 2028, along with historical flooding information.

The annexes to this Plan provide supporting documents and references, and present more detailed information in various formats. A [glossary](#) of the terms used within this document is also available.

This Plan should be read alongside the Flood Risk Management Plan for the Tay Local Plan District. The Flood Risk Management Plan has been developed by SEPA in parallel with this Plan and provides additional background information and national context. The Flood Risk Management Plans were approved by Scottish Ministers and published in December 2021. Both this Local Plan and the Flood Risk Management Plan will be updated every six years.

## 1.2 Progress in Cycle 1 (2016-2022)

The 2016 local flood risk management plan outlined the long-term objectives to tackle flooding in the areas at highest risk within the Tay Local Plan District.

The objectives for each area were agreed and actions were developed to meet those objectives. Actions to reduce flood risk included developing flood studies and flood protection schemes and providing public flood warnings and alerts. Actions to avoid flooding included maintenance of flood defences and storage areas and producing strong planning policies, which prevent development from taking place in flood risk areas.

In 2019, Perth and Kinross Council published the interim report for the Tay Local Plan District. This report gave the status of each action at that time and reported them as red, amber or green:

- 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 Local Flood Risk Management Plan.

Actions with a green or amber status can be expected to succeed in working towards their objectives. The final report was published December 2022. The interim and final reports can be viewed at [www.pkc.gov.uk/frmplans](http://www.pkc.gov.uk/frmplans).

### 1.3 How have we developed the Local Flood Risk Management Plan?

Many organisations and individuals have been involved in helping to improve flood risk management in Scotland and to provide a more holistic approach than was previously undertaken. It is recognised that a piecemeal or reactive approach to tackling flooding does not work. Working jointly to overcome administrative, institutional, and geographical boundaries is essential to deliver effective flood risk management.

The Local Flood Risk Management Plan has been developed in close partnership between all responsible authorities, SEPA and Scottish Water. In local partnerships, here and throughout Scotland, SEPA has provided the technical analysis and the evidence to ensure that a nationally consistent approach is taken. Local authorities, Scottish Water and the National Park Authorities have made sure that local knowledge and expertise has informed the decision-making. The Tay Local Plan has been developed in partnership by:

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

### 1.4 Roles and Responsibilities for Flood Risk Management Planning

**Individuals** are the first line of defence against flooding and have responsibilities to protect themselves from flooding. Being prepared by knowing what to do and who to

contact if flooding happens can help you reduce the damage and disruption flooding can have on your life. There are steps you can take now to be flood prepared and reduce the damage and disruption flooding can have on your life.

- View SEPA's flood maps to check if your area is affected by flooding  
<https://map.sepa.org.uk/floodmaps>
- Sign up to Floodline to receive messages when flooding is forecast in your area  
<https://www.floodlinescotland.org.uk/>
- Know who to contact if flooding happens  
[https://www.sepa.org.uk/media/28952/who\\_to\\_contact\\_2014.pdf](https://www.sepa.org.uk/media/28952/who_to_contact_2014.pdf)

**The Scottish Government** oversees the implementation of the Flood Risk Management (Scotland) Act 2009, which requires the production of flood risk management plans and local flood risk management plans. Scottish Ministers are responsible for setting the policy framework for how organisations collectively manage flooding in Scotland.

**SEPA** is Scotland's national flood forecasting, flood warning and strategic flood risk management authority. SEPA has a statutory duty to produce Scotland's Flood Risk Management Plans. SEPA works closely with other organisations responsible for managing flood risk through a network of partnerships and stakeholder groups to ensure that a nationally consistent approach to flood risk management is adopted. SEPA also has a responsibility to identify where in Scotland there is the potential for natural flood management techniques to be introduced.

In running Floodline, SEPA provides direct warnings, live flooding information and advice on how to prepare for or cope with the impacts of flooding 24 hours a day, seven days a week. To help forecast for flooding SEPA works in partnership with the [Met Office](#) through the Scottish Flood Forecasting Service. SEPA has piloted surface water flood forecasting to help urban areas improve their resilience to, and preparedness for, flooding. The development and wider roll-out of this service is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.

To raise awareness of flooding at a national level SEPA runs education initiatives, community engagement programmes and an annual campaign to promote the useful advice and information available through Floodline. SEPA works in partnership with local authorities, Neighbourhood Watch Scotland, Ready Scotland and others to share our resources and help to promote preparedness and understanding of how flood risk is managed.

**Local authorities** work together for flood risk management planning purposes through a single lead authority which has the responsibility to produce a Local Flood Risk Management Plan. Local authorities have been working collaboratively to develop these. It is the responsibility of your local authority to implement its flood protection actions agreed within the Plan whether that is new engineering projects,

raising awareness of flooding or clearance and repair activities on the watercourses the Council manages. During severe flooding, local authorities will work with the emergency services and coordinate shelter for people evacuated from their homes.

**Scottish Water** is a responsible authority for flood risk management and is working closely with SEPA, local authorities and others to coordinate plans to manage flood risk. Scottish Water has the public drainage duty and is responsible for foul drainage and the drainage of rainwater run-off from roofs and any paved ground surface from the boundary of properties. Additionally, Scottish Water helps to protect homes from flooding caused by sewers either overflowing or becoming blocked. Scottish Water is not responsible for private pipework or guttering within the property boundary

**Loch Lomond and the Trossachs National Park Authority (LLTNPA)** is a responsible authority for flood risk management, is a land manager and is the planning authority for the area of the Tay catchment within the National Park boundary. Local Authorities and the LLTNPA will work closely to ensure any actions that may affect the park are approved and undertaken in such a way that is sensitive to the conservation areas and in keeping with the National Parks environmental policies.

**Cairngorms National Park Authority (CNPA)** is a responsible authority for flood risk management, is a land manager and is the planning authority for the area of the Tay catchment within the National Park boundary. Local Authorities and the CNPA will work closely to ensure any actions that may affect the park are approved and undertaken in such a way that is sensitive to the conservation areas and in keeping with the National Parks environmental policies.

**Scottish Forestry and Forestry and Land Scotland** took over the roles of Forestry Commission Scotland in 2018 when the Forestry and Land Management (Scotland) Act 2018 came into force. While these executive agencies of Scottish Government are not formally designated as a responsible authority under the Flood Risk Management (Scotland) Act 2009, they support Scottish Government in delivering its flood risk related duties. This includes engaging in the development of the flood risk management plans through national and local advisory groups, Local Plan District partnerships, and collaborative projects. This reflects the widely held view that forestry can play a significant role in managing flooding.

**The Met Office** provides a wide range of forecasts and weather warnings. SEPA and the Met Office work together through the [Scottish Flood Forecasting Service](#), combining SEPA's hydrological expertise with the Met Office's meteorological data to predict the likelihood and timing of river, coastal and surface water flooding.

**The emergency services** provide emergency relief when flooding occurs and can coordinate evacuations. You should call the emergency services on 999 if you are concerned about your safety or the safety of others and act immediately on any advice provided.

**The Scottish Flood Forum** aims to reduce the impacts of flooding by providing immediate support and by establishing a network of community resilience groups in flood risk areas, to equip communities to cope with flooding.

Further details on some of these key roles are outlined in [Annex 1](#).

## 1.5 Consultation, Engagement and Advice

Local authorities and SEPA were keen to hear from the people and communities that live under the threat of flooding, to ensure that our technical analysis of the risks is accurate and that efforts to manage flooding are targeted to where most can be achieved. Two statutory public consultations were held during the development of the Flood Risk Management Strategies and Plans. The first consultation, held in 2018 and led by SEPA, was on the general approach to flood risk management planning and the identification of priority areas. The second, held in 2021, was a joint SEPA and lead authority consultation on the draft Flood Risk Management Strategies and implementation plans. The views and representations of the respondents to this second consultation were taken into account in developing and finalising this Local Flood Risk Management Plan.

In addition to input from the public consultations, advice has been sought from relevant organisations at key stages. Some of the work carried out has been complex and technical in nature for which professional advice was sought. Working together, SEPA, the Scottish Government, local authorities, Scottish Water, Scottish Forestry, Forestry and Land Scotland, the National Park Authorities and other key interested organisations have assisted each other and developed industry best practice guidance for flood risk management planning.

Further detail on consultation and engagement can be found within [Annex 2](#).

## 1.6 Identification of Objectives, Appraisal and Prioritisation of Actions

The identification of objectives and selection of actions was led by SEPA as part of the Flood Risk Management Plan with input from local authorities and Scottish Water.

Working collaboratively with local partnerships, SEPA has agreed the objectives for addressing the main flooding impacts. Actions that could deliver these agreed objectives have been selected to ensure the right combinations are identified and prioritised. The actions considered in the development of the Flood Risk Management Plan include structural actions (such as building floodwalls, restoring flood plains, or clearance and repair works to rivers) and non-structural actions (such

as flood warning, land use planning or improving our emergency response). Structural and non-structural actions are used together to manage flood risk effectively.

Natural flood management can provide opportunities for using the land to slow down and store water. Natural flood management actions will be considered further as part of any individual flood studies.

The lists of actions to meet agreed goals and objectives in the second 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 out in the Flood Risk Management Plans in December 2021 and detailed in this Plan will be dependent on the availability of the necessary funding in each year of the six-year Plan.

The distribution of Scottish Government grant funding for actions in the plan for the period 2022 – 2028 is currently being considered by a flood risk management working group. This group will put forward options and recommendations to the Scottish Ministers and COSLA, through the Settlement and Distribution Group, for consideration. A decision will not be made in time for the publication of this Plan. As such it should be noted that it may not be possible for all actions identified in the Plan to be grant funded. Inclusion of an action in this plan does not formally commit a Council to implement it, if reasons arise which make any actions undeliverable, including inability to secure adequate funding.

This Plan remains the best understanding of the objectives and actions required over the long term to manage flood risk in the identified high risk areas within this LPD. The delivery of the Plan, particularly the ambitions on how quickly actions can be delivered, may have to be adapted to reflect wider developments in public funding, the ability of responsible authorities to access funding from other sources, pandemic recovery, and other national priorities.

## 1.7 Strategic Environmental Assessment and Habitats Regulations Appraisal

A Strategic Environmental Assessment (SEA) and Habitats Regulations appraisal have been undertaken for the Flood Risk Management Plan document that has informed this Plan. As this Local Flood Risk Management Plan is considered to be consistent with the Flood Risk Management Plan, no further SEA assessment has been undertaken. In order to confirm this was appropriate, Perth and Kinross Council submitted a SEA screening report to the SEA Gateway. The screening responses received via the SEA Gateway confirmed that the above approach was acceptable. Further impact assessments will be undertaken on any specific projects as required.

As the lead authority for the Tay District and a competent authority, Perth and Kinross Council also undertook a Habitats Regulations Appraisal to ensure that the Tay Local Flood Risk Management Plan will not adversely affect the integrity of Special Areas of Conservation and Special Protection Areas. NatureScot were consulted on the appraisal and their views have been taken into account. Mitigation has been applied where required to ensure that this Local Flood Risk Management Plan will not adversely affect the integrity of Special Areas of Conservation and Special Protection Areas.

Further details are available in [Annex 4](#).

## 1.8 Links with other Plans, Policies, Strategies and Legislative Requirements

This Plan does not stand in isolation. As far as is practicable, an integrated approach to land and water management has been pursued. When developing the Flood Risk Management Plan and the Local Flood Risk Management Plan, early links were made with other relevant aspects of water and land management including local development plans, river basin management plans and emergency plans. In turn, the responsible authorities will work proactively to ensure the findings from these flood risk management plans and strategies will influence other planning initiatives in an interactive and iterative cycle. Making these links has helped identify opportunities to deliver multiple benefits from flood risk management goals, objectives and actions.

### River basin management planning

Reducing flood risk in Scotland through the development of Flood Risk Management Plans has provided an opportunity to connect with plans to improve the quality of Scotland's water environment. For example, coordination between river basin management and flood risk management can reduce flood risk, whilst improving water quality and biodiversity.

SEPA is coordinating the delivery of River Basin Management Plans and Flood Risk Management Plans, and local authorities for Local Flood Risk Management Plans, and they have worked to ensure that there is integration and coordination between them. This coordination, particularly in regard to consultation and engagement but also in delivering environmental improvements, will be important for stakeholders many of whom have an interest in both sets of plans

### Land Use and Spatial Planning

Land use planning decisions are pivotal to achieving sustainable flood risk management. Flood risk management can have significant implications for the location of development and similarly the location of development can have an

impact on flood risk. Actions that deliver national land use planning policies are summarised in [Annex 3](#).

Perth and Kinross Council develops and adopts a new Local Development Plan every five years. It sets out the Council's strategy for delivering appropriate development in Perth and Kinross, considering a number of potential constraints, including flooding. The current plan (LDP2) was adopted in November 2019. Work has started on the review of LDP2 in order to produce LDP3. The initial work on the LDP3 review has been centred on data gathering and settlement audit work. Key milestones in the LDP3 review will be the policy and place discussions which will take place during 2023/24, culminating in the preparation of an Evidence Report in 2024, whilst preparation of the Proposed Plan is programmed for 2024/25.

### **Emergency Planning and Response**

Emergency planning and response is undertaken by Category 1 and 2 responders including Police Scotland, the Scottish Fire and Rescue Service, the Scottish Ambulance Service, both local authorities, the NHS, the Met Office and SEPA. Emergency plans are prepared under the Civil Contingencies Act 2004.

Perth and Kinross Council has produced its Flooding Emergency Response Plan, which 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. Other local authorities have similar arrangements in place.

### **Scottish Water Investment Plans**

There is a close relationship between flood risk management plans and Scottish Water's 25-year strategic plan. Sewer flooding is not considered in detail in the flood risk management plans as it remains a high priority for Scottish Water and its customers. Scottish Water's close involvement in flood risk management planning aims to ensure that there is strong coordination between the management of sewer flooding and wider surface water flood risk, and the actions to be taken forward by local authorities and others.

### **Surface Water Management Plans**

Surface water flooding occurs when rainwater does not drain away via normal drainage systems or soak into the ground but lies on or flows over the ground instead. This form of flooding is experienced in areas of the Tay Local Plan District. This will be addressed by Surface Water Management Planning, which is a key component of the flood risk assessment that has led to the development of this Plan. Further details of this work can be found in [Annex 5](#).

## 1.9 Next Steps and Monitoring Progress

This Plan runs from December 2022 until June 2028. Over this period the Tay LPD Partnership will continue to liaise periodically to monitor progress towards implementing the actions detailed in [Chapter 3](#) of the Plan.

Between June 2024 and 2025, Perth & Kinross Council, as lead authority will publish an interim report on the progress towards implementing the actions identified in the local flood risk management plan. This mid-term report will be made publicly available.

Between June 2027 and 2028, Perth & Kinross Council, as lead authority will publish a final report on the progress towards implementing the actions contained in the local flood risk management plan. This final report will also be made publicly available.

A third set of Flood Risk Management Plans and Local Flood Risk Management Plans will be published in December 2027 and June 2028 respectively.

## 1.10 Licensing Acknowledgements

Full licensing acknowledgements can be found in [Annex 8](#) of this Plan.

## 2. Managing Flood Risk in the Tay Local Plan District

### 2.1 Understanding of Flooding Within the Tay Local Plan District

This chapter presents a background summary of flooding in the Tay Local Plan District. This summary includes the characteristics and impacts of flooding from river, coastal and surface water sources in the Tay Local Plan District. A summary of the objectives and planned actions to manage flooding from these mechanisms across the whole local plan district and within each of the 14 Potentially Vulnerable Areas (PVAs) is also provided.

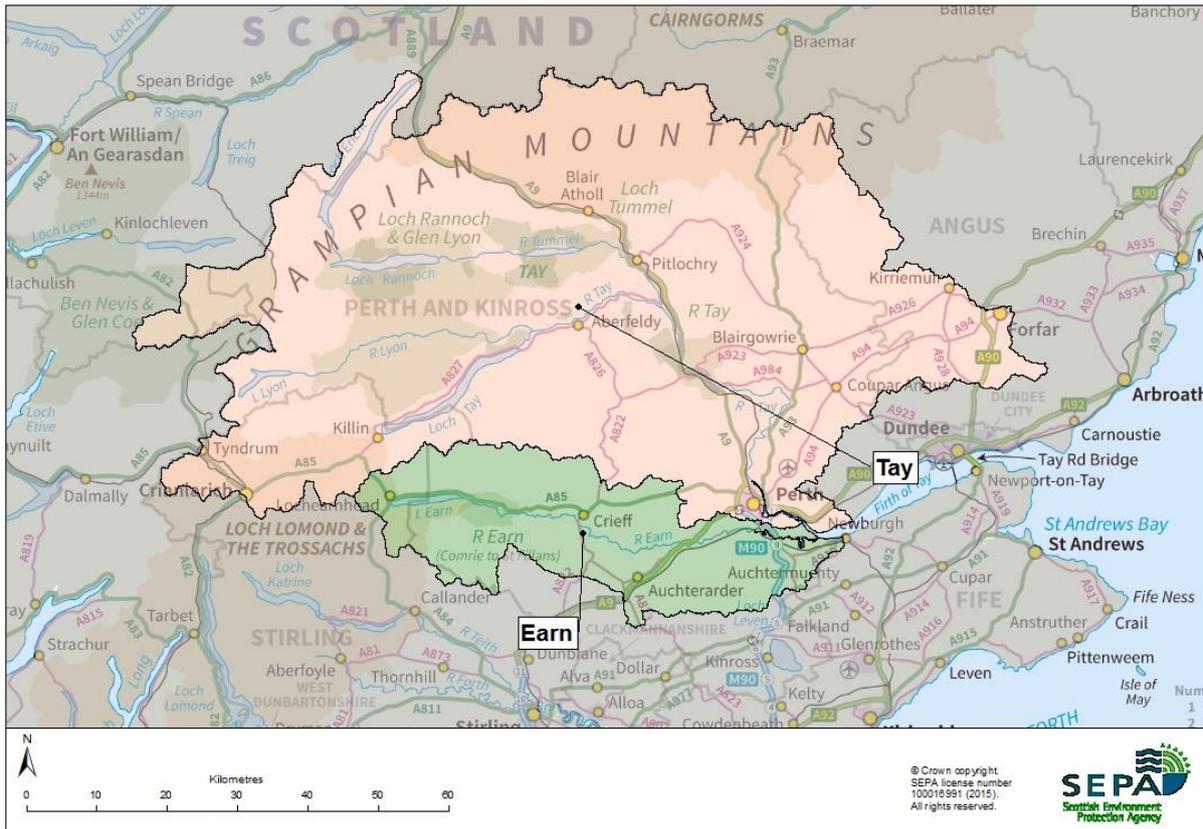
### 2.2 Background Summary of Flooding in the Tay Local Plan District

The Tay Local Plan District covers around 6,100km<sup>2</sup> and has a population of approximately 160,000. It spans from the southern part of the Cairngorms National Park all the way to the Firth of Tay. The Local Plan District includes a 74km stretch of the inner Firth of Tay coastline, where the River Tay and the River Earn meet. It includes the urban areas of Aberfeldy, Alyth Blairgowrie, Comrie, Dunkeld, Forfar, Perth and Pitlochry.

There are urban and agricultural areas to the east and more rural, mountainous and forested areas to the west. There are many large lochs and reservoirs, including Loch Ericht, Loch Rannoch and Loch Tay. The main rivers are the Earn and Tay and the catchments are shown in Figure 1 below. The River Tay is Scotland's longest river at 190km, and its main tributaries include the River Garry, River Tummel, River Lyon, River Braan, River Isla and River Almond. Many of the lochs and rivers in the Tay catchment are managed to produce hydropower.

The Tay Local Plan District includes a 74km stretch of the inner Firth of Tay, where the River Tay and the River Earn meet the Firth of Tay.

There is a river, surface water and coastal flood risk. A number of large floods have affected this Local Plan District. Recently, intense rainfall in August 2020 and in September 2022 caused extensive surface water flooding in Perth and many other towns. Further extensive surface water floods were recorded in July 2015 following intense rainfall. Storms Desmond and Frank in December 2015 caused river flooding, affecting many areas within the Local Plan District. Extensive flooding in the early 1990s, notably in 1993, resulted in the construction of the Perth Flood Protection Scheme. Other formal flood protection schemes have been constructed within the Local Plan District including in Almondbank, Bridge of Earn, Comrie, Kirriemuir, and Weem.



**Figure 1: River catchments within the Tay LPD**

(Reproduced from the Tay Flood Risk Management Strategy, SEPA, December 2015)

Flood maps are required by the Flood Risk Management (Scotland) Act to show information that describes the nature of a flood in terms of the source, extent, water level or depth and, where appropriate, velocity of water. River, coastal and surface water flood maps were developed by SEPA using a consistent methodology to produce outputs for the whole of Scotland. This was supplemented with more detailed, local assessments where available and suitable for use.

In developing the flood maps SEPA have:

- Used the most up to date modelling techniques;
- Used industry endorsed methods;
- Been able to show more information than ever before on the sources and impacts of flooding;
- Developed the first national natural flood management maps showing the areas where natural techniques to help reduce flood risk could be most effective.

In developing the maps SEPA worked in partnership with local authorities. They also worked with the industry to define the overall approach to flood hazard mapping and undertook a series of internal checks and local authority reviews of outputs. Further information on Flood Hazard and Risk including mapping can be found at:

<http://www.sepa.org.uk/environment/water/flooding/flood-maps/>

Flood hazard and risk maps are referred to collectively as flood maps and are available on the SEPA website here:

<http://www.sepa.org.uk/environment/water/flooding/flood-maps/>

Currently it is estimated that there are around 13,000 people and 9,000 homes and businesses at risk from flooding in the Tay Local Plan District. This may increase to 21,000 people and 13,000 homes and businesses by 2080s due to climate change. The expected annual cost of flooding over a long period of time is around £11.4 million.

SEPA lead development of the flood risk management plans for Scotland and delivery of flood warning services. Local flood risk management planning in the Tay Local Plan District is led by Perth and Kinross Council, as the lead local authority.

Other responsible authorities include three more local authorities, Scottish Water, Loch Lomond and the Trossachs National Park Authority and Cairngorm National Park Authority. They are supported by Scottish Government agencies including Forestry and Land Scotland, Scottish Forestry and Transport Scotland.

Within this Local Plan District, actions are regularly carried out by SEPA and responsible authorities to help prepare communities for potential flooding and reduce the impact of any flooding that does occur.

### 2.3 Summary of Objectives and Actions Across the Tay Local Plan District

The identified objectives are the shared aims for managing flood risk and have been set out in the Tay flood risk management plan which can be viewed in the [Tay Flood Risk Management Plan](#). The associated actions describe where and how that flood risk will be managed. The objectives and actions have been developed by SEPA in consultation with responsible authorities to manage flooding within the Tay Local Plan District.

Some flood risk management actions apply to all areas and locations (whether designated as a Potentially Vulnerable Area or not). For example, flood risk can be managed through national planning policy or as part of ongoing statutory duties for local authorities.

The general actions that apply across the Tay Local Plan District are set out in the tables below. These actions are consistent with the Flood Risk Management Plan. The tables provide further information about who will be responsible for the delivery and implementation of the actions, a timetable of when the actions will be undertaken and the coordination and funding arrangements for those actions.

<b>Action:</b>	<b>AWARENESS RAISING</b>		
<b>Delivery lead:</b>	SEPA and responsible authorities		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	<p>SEPA, the responsible authorities and other organisations such as the Scottish Flood Forum work together through national and local initiatives to help communities understand the risk of flooding and what actions individuals can take. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact of flooding.</p> <p>Local authorities undertake additional awareness raising activities when developing any specific project proposals and will engage with community resilience groups and local communities.</p> <p>The Scottish Flood Forum supports flood risk communities by raising community awareness, promoting self-help, developing community groups and establish a recovery support programme after a flood.</p>		
<b>Coordination Arrangement:</b>	<p>Delivery of actions to raise awareness will be coordinated by SEPA and the responsible authorities through the Local Plan District Partnership. SEPA and the Responsible Authorities will use any studies, projects and flood schemes to engage with communities and raise awareness of flood risk. Communications activity will be coordinated through existing arrangements within Local Plan District Partnerships. Information will be disseminated through website, social media and other community engagement activity. SEPA and responsible authorities will coordinate awareness raising activities with other related actions.</p>		
<b>Funding Arrangement:</b>	<p>SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.</p> <p>Awareness raising activities will be funded from local authority revenue budgets.</p> <p>Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.</p> <p>The National Park Authorities also have a duty to raise awareness of flood risk but do not receive any Scottish Government funding to support any flood specific activities.</p>		
<b>Action (ID):</b>	<b>DATA TO SUPPORT CLIMATE RESILIENCE</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going

<b>Description:</b>	<p>As Scotland’s hydrometric authority, SEPA operates a network of stations to measure river level, flow, rainfall, sea level, loch and groundwater level. The data goes into a long term data archive and is critical to underpin all flood risk management activities including flood warning, flood mapping, design of flood protection and sustainable development as well as supporting a range of regulatory and recreational uses.</p> <p>SEPA will continue to maintain and develop its hydrometric network, contribute to UK and international data archives, and improve and update the datasets used for flood frequency analysis.</p> <p>SEPA will support research and development of data, methods and guidance to improve the evidence on which decisions can be made, and to enable the impact of climate change to be included in all flood risk management activities.</p>
<b>Coordination Arrangement:</b>	SEPA will coordinate with a range of other parties as required to deliver better and more accessible data, and ongoing improvements to the use of the data to underpin flood risk management activities and decisions.
<b>Funding Arrangement:</b>	SEPA’s role in this action is funded by Scottish Government through SEPA’s grant in aid settlement.

<b>Action (ID):</b>	<b>EMERGENCY PLANS / RESPONSE</b>		
<b>Delivery lead:</b>	Category 1 and 2 Responders		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	<p>Many organisations, including local authorities, the emergency services and SEPA provide an emergency response to flooding. Emergency plans are prepared and maintained under the Civil Contingencies Act 2004 by Category 1 and 2 Responders and are coordinated through regional and local resilience partnerships, often supported by voluntary organisations. They set out the steps to be taken to maximise safety and minimise impacts during flooding. 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 required.</p>		
<b>Coordination Arrangement:</b>	<p>Perth and Kinross Council has developed a Generic Emergency Plan and a Flooding Emergency Response Plan. The Plan is designed to ensure that contingency measures are in place for the coordinated and flexible response to flooding incidents to mitigate the effects of flooding emergencies.</p> <p>SEPA flood alerts and warnings will be monitored and resources made ready as required. A coordinated response will follow any reports of flooding.</p> <p>Emergency response is coordinated with regional and local resilience partnerships. This response may be supported by the</p>		

	<p>work of voluntary organisations. A debrief and plan review will be carried out following any flood events.</p> <p>Protecting property from flooding is the responsibility of the owner of the property, but local authorities can sometimes provide sandbags to properties. Unfortunately Councils only have the resources to supply sandbags to residents where there is an imminent risk of flooding.</p> <p>Emergency plans/response activities will be coordinated with other related actions.</p>
<b>Funding Arrangement:</b>	<p>Funding is allocated to category 1 and 2 responders by the Scottish Government for dealing with emergency response and in extreme cases may reimburse responders after an extreme event. Scottish Water is funded by customer charges as set by their economic regulator. All business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.</p>

<b>Action (ID):</b>	<b>FLOOD FORECASTING</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	<p>The Scottish Flood Forecasting Service is a partnership between SEPA and the Met Office. The service continues to produce a daily, national flood guidance statement, issued to emergency responders, local authorities, and other organisations with flood risk management duties. As the flood warning authority for Scotland SEPA continues to provide its flood warning service issuing flood alerts and warnings when required, giving people a better chance of reducing the impact of flooding on their home or business.</p>		
<b>Coordination Arrangement:</b>	<p>SEPA work in partnership with the Met Office and will work closely with all other authorities involved in emergency response to flooding.</p>		
<b>Funding Arrangement:</b>	<p>SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.</p>		

<b>Action (ID):</b>	<b>FLOOD WARNING DEVELOPMENT FRAMEWORK</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	New	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	<p>SEPA will publish a new flood warning development framework by March 2022, which will detail its ambitions and strategic actions to maintain and improve our flood warning service across Scotland. SEPA will continue to develop the Scottish Flood Forecast, a 3 day forecast of flood risk across Scotland and bring together all live information such as flood warnings, river levels and rainfall data into a central hub easily accessible for the public. Working in close partnership with the Met Office</p>		

	through the Scottish Flood Forecasting Service, SEPA will develop its capability in surface water flooding forecasting, focusing initially on the transport sector to support climate-ready infrastructure. SEPA will also undertake a prioritised improvement programme of existing river and coastal flood warning schemes to provide more accurate forecast with improved lead time.
<b>Coordination Arrangement:</b>	SEPA work in partnership with the Met Office. Appropriate engagement with the other authorities involved in emergency response will happen as the flood warning developments are progressed.
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.

<b>Action (ID):</b>	<b>FUTURE FLOOD RISK MANAGEMENT PLANNING</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going; Flooding services strategy 2023; Next flood risk management plans 2027
<b>Description:</b>	<p>The years covered by the lifetime of this plan are crucial. Radical progress is needed in how we reduce our impact on the climate and respond to the effects of climate change. How we plan to manage flooding to our communities is on the front line of the challenges of this decade. The 2027 flood risk management plans will be more ambitious than ever before. The plans will look to develop long term plans for more flood resilient communities prepared for the impacts of climate change. The priority areas which will be the focus points of the next flood risk management plans will be identified in 2024 with the designation of PVAs. A 3-month public consultation will be held to inform the PVA designation.</p> <p>We will plan for a better future by publishing our flooding services strategy in 2023 with a clear and measurable delivery plan. We will put greener, fairer communities at the heart of our ambitions.</p> <p>SEPA has set its own target to be a regenerative organisation by 2030 and the next set of plans will further this ambition. During this plan cycle, SEPA will work to develop new partnerships with a wider range of stakeholders, including businesses and commercial sectors. We will investigate alternative sources of finance to tackle flooding and drive forward practical options for adaptation.</p>		
<b>Coordination Arrangement:</b>	SEPA will lead the work, in partnership with the Scottish Government and other responsible authorities. A wider range of partners and stakeholders will be developed to support the		

	action. SEPA will carry out a full consultation on the next draft flood risk management plans in 2026.
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.

<b>Action (ID):</b>	<b>GUIDANCE DEVELOPMENT</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	Draft flood studies guidance (SEPA) 2023; Options appraisal & Adaptation guidance (Scottish Govt & SEPA) 2023; Other guidance & updates 2023-2028
<b>Description:</b>	<p>The Scottish Government and SEPA will develop and update guidance to inform flood risk management projects. This guidance will be produced in 2022 and will look at how best to adapt to the long-term impacts of climate change and the most appropriate methods of assessing the benefits of flood risk management actions.</p> <p>Technical guidance to support flood risk management partners will be reviewed and updated by SEPA where required.</p> <p>Scottish Forestry, in collaboration with its UK counterparts, will produce guidance on designing and managing forests to reduce flood risk.</p> <p>Guidance will be developed to help local authorities understand the requirements for mapping relevant bodies of water and sustainable urban drainage systems in their areas.</p>		
<b>Coordination Arrangement:</b>	The Scottish Government, SEPA and Scottish Forestry all have lead roles in delivering the new or updated guidance outlined. A range of forums will be used to help coordinate and develop the guidance with the appropriate input from others, including SAIFF (The Scottish Advisory Implementation Forum for Flooding) and cross-party working groups.		
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

<b>Action (ID):</b>	<b>HAZARD MAPPING UPDATES</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	An understanding of flooding is essential to develop a plan led risk-based approach to flood risk management. SEPA will continue to update their national hazard mapping, which shows the likelihood of flooding in Scotland from different flooding		

	<p>sources:  <a href="https://www.sepa.org.uk/environment/water/flooding/flood-maps/">https://www.sepa.org.uk/environment/water/flooding/flood-maps/</a>.  SEPA will continue to develop the hazard mapping viewer to make it easier for the public, partners and stakeholders to access data on the likelihood of flooding. SEPA will also review how modelling and mapping updates are undertaken to develop a more effective method of regional and national updates for the hazard maps.</p>
<b>Coordination Arrangement:</b>	SEPA will work with other relevant parties - including authorities who have ownership of data used in flood mapping - to develop the quality and accessibility of flood hazard mapping.
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.

<b>Action (ID):</b>	<b>LAND USE PLANNING</b>		
<b>Delivery lead:</b>	Planning authority		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	<p>Local authorities, SEPA and Scottish Water all have a responsibility under the Flood Risk Management (Scotland) Act 2009 to support sustainable flood risk management through the land use planning process. National planning policies set out the Scottish Ministers' priorities for the development and use of land. Under this approach, new development in areas with medium to high likelihood of flooding should generally be avoided. Current national planning policies aim to restrict development within the floodplain and limit exposure of new receptors to flood risk, promote flood reduction via natural and structural flood management measures and restoration of natural features, and avoid increased surface water flooding through sustainable drainage and the minimisation of impermeable surfaces. Locally determined planning policies may place further requirements within their area of operation to restrict inappropriate development and prevent unacceptable risk.</p>		
<b>Coordination Arrangement:</b>	<p>Planning authorities coordinate their work with the strategic development planning authority and the National Parks Authorities, who are also planning authorities. SEPA, Scottish Water and local authority flooding teams are consulted on planning applications and coordinate with the Planning authorities to ensure that flood risk is addressed. Local Development Plans provides the framework against which planning applications outside the National Parks are assessed and are consistent with the Strategic Development Plans. SEPA deliver statutory advice on flooding on both planning applications and Local Development Plans and will continue to work with the other responsible authorities to support the land use planning process. Perth and Kinross Council's Flooding Team are consulted on planning applications and work with the Planning and</p>		

	<p>Development Service to ensure that flood risk is addressed. The Perth &amp; Kinross Local Development Plan (LDP2) provides the framework against which planning applications outside the National Parks are assessed and is consistent with the Strategic Development Plan (TAYplan). Supplementary Guidance on Flood Risk and Flood Risk Assessments is also available to support the content of the Perth &amp; Kinross Local Development Plan.</p> <p>Planning applications within the National Parks are assessed against their respective Local Development Plans, which also contain policies in relation to flood risk.</p> <p>Planning applications are also reviewed against SEPA's indicative flood maps, existing flood studies and records of flooding. Where flood risk is an issue, developers are required to prepare and submit a site-specific flood risk assessment and drainage impact assessment as applicable. They must also consider how a development site will be drained and how surface water runoff will be managed through the implementation of appropriate Sustainable Urban Drainage Measures. So as to align the flood risk management and land use planning systems, land use planning objectives and actions have been developed which can be viewed in <a href="#">Annex 3</a>.</p>
<b>Funding Arrangement:</b>	<p>SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Local authority planning activities are subject to funding from Council revenue budgets. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure. Planning activities are funded from the National Park's revenue budget which is a combination of Scottish Government direct grant and planning fees.</p>

<b>Action (ID):</b>	<b>MAINTENANCE</b>		
<b>Delivery lead:</b>	Local authority, Scottish Water, asset / land managers		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	<p>Local authorities have a duty to assess bodies of water and to carry out clearance and repair works where such works would substantially reduce flood risk. Local authorities are also responsible for the drainage of roads. In addition, local authorities may also be responsible for maintenance of any existing flood protection schemes or works.</p> <p>Scottish Water will continue to undertake risk-based inspection, maintenance and repair on the public sewer network.</p> <p>Asset owners and riparian landowners are responsible for the maintenance and management of their own assets including those which help to reduce flood risk.</p>		
<b>Coordination Arrangement:</b>	Local authorities prepare maps of relevant bodies of water and sustainable urban drainage systems (SUDS) and carry out		

<b>Funding Arrangement:</b>	<p>routine, scheduled inspections of bodies of water on their lists at a frequency which depends on flood risk. Local authorities assess flood risk on bodies of water from time to time and prepare a schedule of clearance and repair works where such works would substantially reduce flood risk. The schedule is available for public inspection and local authorities have a duty to carry out any clearance and repair works described therein. Further reactive inspections are carried out when issues are highlighted or during times of flooding. Further bodies of water will be included where it has been identified that they may give rise to a risk of flooding.</p> <p>Any identified clearance and repair works from these inspections are logged in a database and are undertaken in order of priority, subject to available funding.</p> <p>Asset owners and riparian landowners are responsible for the maintenance and management of their own assets including those which help to reduce flood risk. In the first instance, clearance and repair works are therefore referred to the landowner, where they can be identified. Local authorities usually only carry out works where there has been a failure of the landowner to act, where landownership is not clear, or where urgent intervention is required.</p> <p>Local authorities will liaise with SEPA where controlled activities may be required and with private landowners where they may require to take access on private land or to notify landowners that they require to undertake maintenance.</p>
<b>Funding Arrangement:</b>	<p>Maintenance activities are subject to funding from the relevant local authority revenue budget.</p> <p>Scottish Water is funded by customer charges as set by their economic regulator. All business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.</p>

<b>Action (ID):</b>	<b>NATURAL FLOOD MANAGEMENT MAPPING</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	2025
<b>Description:</b>	<p>SEPA will continue to support activities that improve our understanding of how to effectively target and deliver natural flood management. As part of this, SEPA will review and update the opportunities mapping for natural flood management. This will include linking blue-green infrastructure with the surrounding natural catchment and coastline. Natural flood management seeks to store or slow down flood waters through measures such as the planting of woodlands, wetland creation, river restoration, or the creation of intertidal habitats. In addition to flooding benefits, natural flood management measures can also provide many additional benefits to biodiversity, water quality, recreation, and carbon storage.</p>		

<b>Coordination Arrangement:</b>	SEPA will work with key stakeholders to review and update the opportunities mapping.
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.

<b>Action (ID):</b>	<b>NATIONAL FLOOD RISK ASSESSMENT</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	SEPA will use the most suitable data to review and update the national flood risk assessment (NFRA) undertaken in 2018. This update will be used to identify future potentially vulnerable areas and focus flood risk management planning.		
<b>Coordination Arrangement:</b>	SEPA will work with others as the NFRA is updated, including to keep other responsible authorities informed through the Local Plan District Partnerships.		
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

<b>Action (ID):</b>	<b>NATIONAL SURFACE WATER MAPPING</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	2024
<b>Description:</b>	The national flood risk assessment 2018 identified that surface water flooding has the potential to impact more properties in Scotland than any other source of flooding. Over the next 6 year cycle SEPA will look to vastly improve its national understanding of surface flood risk by undertaking a wholesale update of the national surface water maps to reflect developments in data and understanding, including the impact of climate change.		
<b>Coordination Arrangement:</b>	SEPA is currently working with a contractor to develop the modelling needed to deliver the flood maps. As the mapping is developed, local authorities and Scottish Water will continue to be engaged in opportunities to verify, shape and understand the new mapping products.		
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

<b>Action (ID):</b>	<b>RESERVOIRS</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going; (Flood warning developments 2022-2024)
<b>Description:</b>	SEPA will continue to develop its assessment of flood risk from dam failure and use these assessments to direct a proportionate regulatory approach to ensure reservoir safety. Over the next management cycle we will implement further developments of		

	our flood warning capabilities in the unlikely event of reservoir failure.
<b>Coordination Arrangement:</b>	SEPA will work with others as required, to deliver the regulatory duties and to develop flood warning capabilities. Others will include reservoir managers and operators, and Civil Contingencies Act responders who share duties for emergency response.
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.

<b>Action (ID):</b>	<b>SCOTTISH FLOOD DEFENCE ASSET DATABASE</b>		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	The Scottish Flood Defence Asset Database provides information on existing flood protection schemes. National data on flood protection infrastructure is needed to understand flood risk and to develop adaptation planning for Scotland. SEPA will continue to host SFDAD and look for opportunities to support the development of our understanding of how and when Scotland's flood defence assets should be adapted to continue to maintain protection from flooding in the future.		
<b>Coordination Arrangement:</b>	SEPA will work with the local authorities to ensure accurate data on existing and new schemes is made available for the Scottish Flood Defence Asset Database.		
<b>Funding Arrangement:</b>	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

<b>Action (ID):</b>	<b>SELF HELP (80410011)</b>		
<b>Delivery lead:</b>	-		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	<p>Everyone is responsible for protecting themselves and their property from flooding. People can take 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 flood resilience measures, signing up to Floodline, engaging with their local flood group, and ensuring that properties and businesses are insured against flood damage. The following places offer help with taking steps to protect yourself:</p> <p><a href="https://www.floodre.co.uk/">https://www.floodre.co.uk/</a>  <a href="https://www.biba.org.uk/current-issues/flood-insurance/">https://www.biba.org.uk/current-issues/flood-insurance/</a>  <a href="https://floodlinescotland.org.uk/">https://floodlinescotland.org.uk/</a>  <a href="https://scottishfloodforum.org/">https://scottishfloodforum.org/</a></p> <p>Responsible authorities and SEPA will continue to develop the understanding of flood risk to communities and promote</p>		

	measures to help individuals and businesses to reduce their risk.
<b>Coordination Arrangement:</b>	<p>SEPA and Responsible Authorities have a duty to raise public awareness of flood risk. Helping individuals understand the risks from which they are most vulnerable from is the first step in the process.</p> <p>SEPA and Responsible Authorities will continue to actively promote Floodline; provide communities with advice to help them prepare for flooding and to install property flood products; and will support community resilience groups to developing their emergency plans.</p> <p>Work by SEPA and the responsible authorities to develop understanding and help communities reduce their risk will be coordinated through the Local Plan District Partnership.</p>
<b>Funding Arrangement:</b>	Individuals have prime responsibility for protecting themselves and their property from flooding and are therefore expected to meet the costs of protecting themselves.

## 2.4 Potentially Vulnerable Areas (PVAs)

Potentially Vulnerable Areas (PVAs) were designated in 2018 based on the potential current or future risk from all sources of flooding. This designation was informed by the second national flood risk assessment, which can be viewed at:

<https://www.sepa.org.uk/data-visualisation/nfra2018/>)

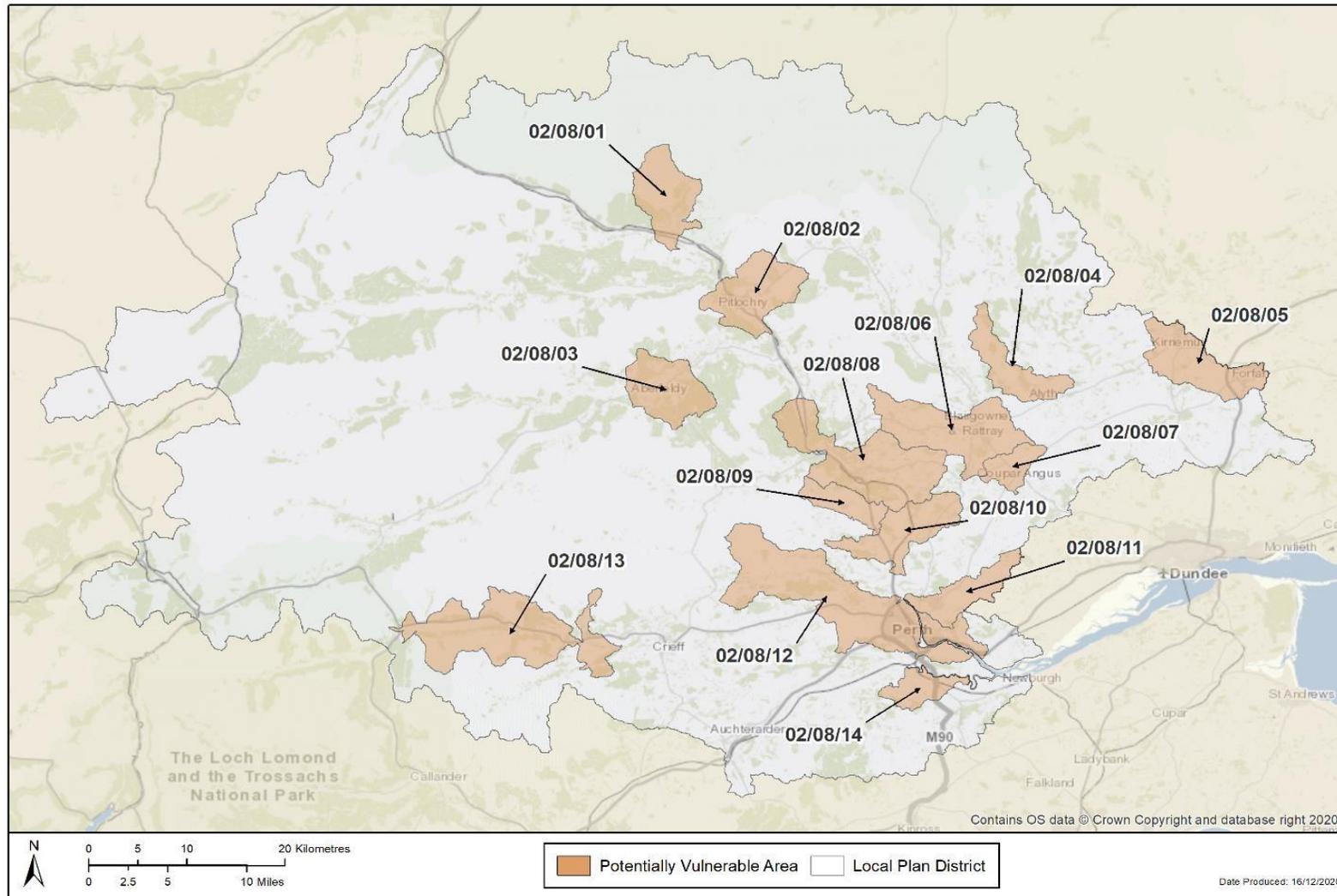
As part of continued analysis of flood risk, the national flood risk assessment and Potentially Vulnerable Areas (PVAs) will be reviewed every 6 years to take on board any new information. Following the second national flood risk assessment, a small number of Potentially Vulnerable Areas were identified as having a lower flood risk than first thought. In light of this new information, those PVAs only have general objectives and actions and no specific objectives or actions have been set.

There are now 14 Potentially Vulnerable Areas (PVAs) in this Local Plan District, as shown in Figure 2 below.

The main focus of this Local Flood Risk Management Plan is to manage flood risk in these Potentially Vulnerable Areas where specific objectives and actions apply, in addition to the general actions listed in 2.3 above. These specific actions are required to manage a particular source of potential flooding. Table 3 therefore provides a summary of where specific actions will be undertaken during the second flood risk management planning cycle (2022-2028). Further detail on the specific objectives and actions relating to each individual Potentially Vulnerable Area can be found in [Chapter 3](#) of this Plan.

This local flood risk management plan also introduces new Objective Target Areas (OTAs), which are located within potentially vulnerable areas and should benefit from objectives and actions to manage flood risk. These objectives and actions to manage flooding have been set for each target area in the flood risk management plans. The OTAs are based on communities at risk of flooding.

Organisations such as Scottish Water, energy companies and Historic Environment Scotland actively maintain and manage their own assets, including the risk of flooding. These actions are not detailed further in the Local Flood Risk Management Plans.



**Figure 2 - Potentially Vulnerable Areas in the Tay Local Plan District**  
 (Reproduced from the Tay Flood Risk Management Plan, SEPA, December 2021)

**Table 3: Summary of Actions to Manage Flood Risk Within PVAs During 2022-2028**

Local Plan District	PVA	OTA	Location	General Actions														Specific Actions								
				Awareness Raising	Data to Support Climate Resilience	Emergency Plans	Flood Forecasting	Flood Warning Development Framework	Future Flood Risk Management Planning	Guidance Development	Hazard Mapping Updates	Land Use Planning	Maintenance	Natural Flood Management Mapping	National Flood Risk Assessment	National Surface Water Mapping	Reservoirs	Scottish Flood Defence Asset Database	Self Help	Adaptation Planning	Community Engagement	Community Resilience Group	Flood Protection Scheme or Works	Flood Study	Flood Warning Maintenance	Maintenance of Existing Flood Scheme
Tay Estuary	07/09	235	Invergowrie	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓			✓	
Tay	08/01	172	Blair Atholl	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓				
	08/02	254	Pitlochry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓			
	08/03	182	Weem	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						✓	✓		
		183	Aberfeldy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓			✓
	08/04	189	Alyth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓				
	08/05	230	Forfar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓				
		241	Kirriemuir	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		
08/06	199	Blairgowrie & Rattray	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓			✓	

	08/07	214	Coupar Angus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓			✓					
	08/08	179	Spittalfield	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓			✓					
		225	Dunkeld & Birnam	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	✓				
		273	Dalguise	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓			
	08/09	194	Bankfoot	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓								
	08/10	247	Luncarty	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓				✓				✓	
	08/11	255	Scone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓			✓		✓
	08/12	187	Almondbank	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓	✓			
		249	Methven	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓				✓					
		253	Perth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
	08/13	213	Comrie	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
	08/14	205	Bridge of Earn	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓				✓	✓	✓	✓		
Forth	09/03	198	Blackford	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓						
Forth Estuary	10/03	239	Kinross	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓				✓	✓	✓
		303	Milnathort	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓					✓	✓

## Chapter.2 Potentially Vulnerable Areas (PVAs)

Potentially Vulnerable Areas (PVAs) are catchments identified as being at medium to high risk of flooding and where the impact of flooding is sufficient to justify further assessment and appraisal. There are 14 PVAs within this Local Plan District as shown in Figure 2.

The main focus of this Local Flood Risk Management Plan is to manage flood risk in these PVAs where specific actions apply in addition to the general actions (listed in Section 2.3). The following chapter therefore details the objectives and planned actions that have been prioritised for delivery between 2022 and 2028 in each of the 14 Potentially Vulnerable Areas (PVAs) within the Tay Local Plan District.

The information presented is based on Section 2.3 of the [Tay Flood Risk Management Plan](#) and includes the background to the area, the current understanding of flood risk and the objectives for flood risk management. A number of tables have also been provided which set out the actions to manage flooding in the Objective target Areas and identify who will be responsible for the delivery and implementation of the actions, along with a timetable of when the actions will be undertaken and the coordination and funding arrangements.

It should be noted that the general actions to manage flooding across the Local Plan District (as set out in Section 2.3) apply to each PVA as well as the identified specific actions set out in the following sections.

### 3.1 List of Potentially Vulnerable Areas (PVAs)

The following table provides links to further information on these areas.

PVA Ref	PVA Name	Local Authority Area	Page number
02/08/01	<a href="#">Blair Atholl</a>	Perth & Kinross	31
02/08/02	<a href="#">Pitlochry</a>	Perth & Kinross	50
02/08/03	<a href="#">Aberfeldy and Weem</a>	Perth & Kinross	55
02/08/04	<a href="#">Alyth</a>	Perth & Kinross	63
02/08/05	<a href="#">Kirriemuir and Forfar</a>	Angus	67
02/08/06	<a href="#">Blairgowrie and Rattray</a>	Perth & Kinross	75
02/08/07	<a href="#">Coupar Angus</a>	Perth & Kinross	79
02/08/08	<a href="#">Dunkeld and Birnam</a>	Perth & Kinross	83
02/08/09	<a href="#">Bankfoot</a>	Perth & Kinross	95
02/08/10	<a href="#">Luncarty</a>	Perth & Kinross	98
02/08/11	<a href="#">Scone</a>	Perth & Kinross	102
02/08/12	<a href="#">Perth and Almondbank</a>	Perth & Kinross	108
02/08/13	<a href="#">Comrie</a>	Perth & Kinross / Stirling	123
02/08/14	<a href="#">Bridge of Earn</a>	Perth & Kinross	129

### 3.1 Blair Atholl - PVA 02/08/01

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

#### Background

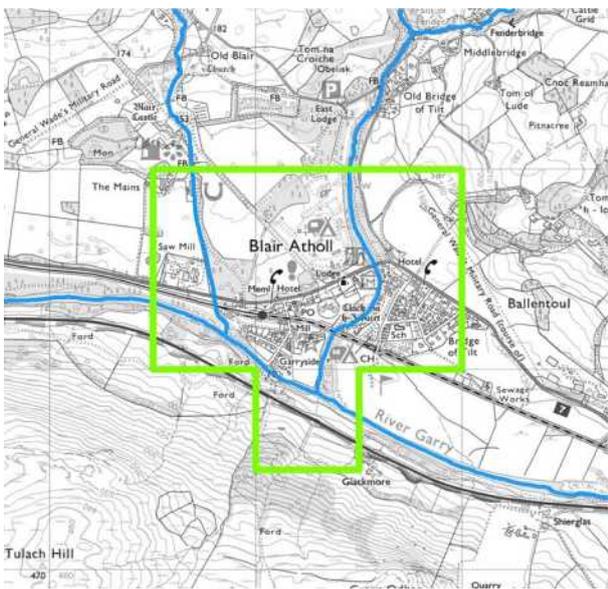
This area is designated as a potentially vulnerable area due to the flood risk to Blair Atholl. The main source of flooding is the River Garry and small watercourses. There is a history of flooding in the area, with recent floods occurring as a result of river flooding from the River Garry.

#### List of Objective Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment. This is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Blair Atholl                      Objective Target Area 172

**Blair Atholl (Objective Target Area 172)**

Summary	Location Map
<p>Blair Atholl is a village in Perthshire located on the banks of the River Garry and River Tilt. The main source of flooding in Blair Atholl is river flooding. There are approximately 50 people and 70 homes and businesses currently at risk from flooding. This is likely to increase to 80 people and 100 homes and businesses by the 2080s due to climate change. There are roads and railways at risk of flooding, which may cause travel disruption.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national assessment of river flooding has been improved by a SEPA led modelling project that improved the existing flood maps.

There is a history of flooding in this area. Most recently in December 2015, Storm Desmond caused the River Garry to flood, inundating 17 homes and businesses, Further flooding occurred in January 2016.

**Objectives and Actions in the Blair Atholl Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD STUDY (Ref: 17201)</b>		
Objective (ID):	Reduce the risk of river flooding in Blair Atholl (Ref: 1723)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not started	Planned Delivery Period:	2025-2027

Description:	A flood study has been recommended for Blair Atholl. The study will build on previous work carried out in the area and consider both current and long-term flood risk and how the area will adapt to changes in flood risk through adaptive planning.
Coordination Arrangement:	The study is programmed to commence in the 2025/26 financial year. Perth and Kinross Council will engage a consulting engineer to investigate the fluvial flood risk and identify potential options for managing that risk. The study will be coordinated through the Tay Local Plan District Partnership and with other related actions.
Funding Arrangement:	The flood study will be subject to funding from Perth and Kinross Council's revenue budget.

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 17202)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Blair Atholl (Ref: 1722)		
Delivery Lead:	SEPA and responsible authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement is to continue to be carried out in the area by the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with any on-going projects and activities.		
Coordination Arrangement:	Community engagement will take place around any projects and activities will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.		
Funding Arrangement:	Community engagement activities will be funded from the Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 17203)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Blair Atholl (1722)		
Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority. The Blair Atholl and Struan Community Resilience Group forms part of the A9 Resilience Plan. Perth and Kinross Council will continue to communicate and support the group on flood risk		

	matters. The resilience plan should be reviewed and updated regularly by the group, and this will be supported by the Council.
Coordination Arrangement:	Perth & Kinross Council will continue to coordinate with the Blair Atholl and Struan Community Resilience Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.
Funding Arrangement:	Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.

### 3.2 Pitlochry - PVA 02/08/02

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

#### Background

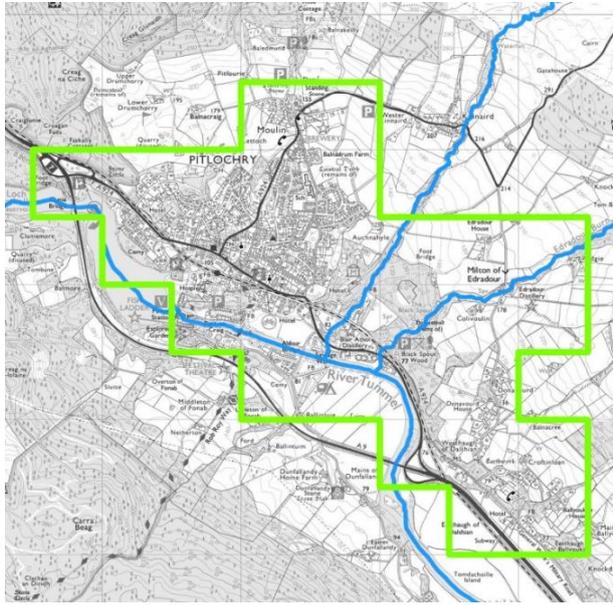
This area is designated as a potentially vulnerable area due to the flood risk to Pitlochry. The main source of flooding is the River Tummel and small watercourses. There is a long history of flooding in this area including recent flooding in August 2020.

#### List of Objective Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment, this is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Pitlochry                      Objective Target Area 254

**Pitlochry (Objective Target Area 254)**

Summary	Location Map
<p>Pitlochry is located on the banks of the River Tummel within the Perth and Kinross. The main source of flooding is river flooding from the River Tummel and small watercourses. Perth and Kinross Council has carried out a flood study in this area which estimated that there are approximately 155 homes and 75 businesses currently at risk of flooding.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding was improved by the completion of the Pitlochry Flood Study in 2018. The national understanding of surface water flooding was improved by a sewer flood risk assessment.

There is a long history of flooding in the Pitlochry area. In January 1993, widespread flooding across the Tay catchment resulted in over £20 million of damage; the flood affected Pitlochry. In July 2002 torrential rain caused river flooding to several homes and the local distillery. A subsequent landslide caused further damage to roads and homes. The area was exposed to significant weather events including Storms Desmond and Frank in December 2015 and January 2016, which resulted in flooding in the Tay and Tummel catchments. In July 2016, the Moulin Burn flooded affecting shops, houses and roads. Most recently flooding in August 2020 affected a number of properties on Atholl Road.

**Objectives and Actions in the Pitlochry Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD PROTECTION SCHEME (Ref: 25401)</b>		
Objective (ID):	Reduce the risk of river flooding from the small watercourses in Pitlochry (Ref: 2543)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not Started	Planned Delivery Period:	To be confirmed
Description:	<p>A flood protection scheme has been proposed for Pitlochry. A number of potential measures were identified for different locations, including flood defences, flood storage, managed diversions and natural flood management. The majority of these measures would provide a 1 in 200-year standard of protection (including a further allowance for climate change). However, one flood storage measure would adopt a lower 1 in 100-year standard of protection. These measures would also mitigate flood risk to other properties in the area but not to the same design standard. The study recommends that Perth and Kinross Council should select a preferred scheme and develop the proposals further. This work will also include ongoing community engagement as the project progresses. The scheme will then progress to the statutory process set out under the Flood Risk Management (Scotland) Act 2009. The detailed design will be completed thereafter.</p> <p>Current and long-term flood risk have been considered, including how the flood protection scheme and this area will adapt to changes in flood risk through development of an adaptation plan.</p> <p>Following completion of the detailed design, the proposed scheme should be procured and will progress to construction. As built drawings should be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates.</p> <p>Routine inspections and maintenance of the Pitlochry Flood Protection Scheme should commence when the scheme is complete in accordance with the inspection and maintenance regime.</p> <p>In accordance with the flood risk management plan, as part of the scheme or works, the responsible authority should aim to ensure the action will not have an adverse effect on the integrity of the River Tay Special Area of Conservation.</p>		
Coordination Arrangement:	The Pitlochry Flood Protection Scheme will be coordinated through the Tay Local Plan District Partnership. SEPA will work with the local authority on the potential to coordinate this action with an update to SFDAD and flood warning actions.		

Funding Arrangement:	The delivery of the Pitlochry Flood Protection Scheme is subject to capital funding being made available (up to 80% capital grant funding from the Scottish Government with the remaining funding being provided from Perth & Kinross Council's capital programme).
----------------------	---

Action (ID):	<b>FLOOD PROTECTION WORKS (Ref: 25402)</b>		
Objective (ID):	Reduce the risk of flooding from the culverts on the A9 in the vicinity of Dalshian area in Pitlochry (Ref: 2544)		
Delivery Lead:	Transport Scotland		
Status:	TBC	Planned Delivery Period:	TBC
Description:	Transport Scotland will continue to carry out civil engineering works in connection with the A9 dualling project which will reduce the risk of flooding on identified sections of the trunk road.		
Coordination Arrangement:	To be determined once the actions have been finalised.		
Funding Arrangement:	Transport Scotland to confirm		

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 25403)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Pitlochry (Ref: 2542)		
Delivery Lead:	SEPA and responsible authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement will continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with any on-going projects and activities.		
Coordination Arrangement:	Community engagement will take place around any projects and activities and will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity. Perth and Kinross Council will continue to coordinate with the Pitlochry and Moulin Community Resilience Group on a priority needs basis where resources allow.		
Funding Arrangement:	Community engagement activities will be subject to funding from the Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 25404)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Pitlochry (Ref: 2542)		
Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority.</p> <p>The Pitlochry and Moulin Community Resilience group operates in this area. Perth and Kinross Council will continue to communicate and support the group on flood risk matters. The resilience plan should be reviewed and updated regularly by the group, and this will be supported by the Council.</p>		
Coordination Arrangement:	Perth & Kinross Council will continue to coordinate with the Pitlochry and Moulin Community Resilience Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.		
Funding Arrangement:	Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.		

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 25405)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Pitlochry (Ref: 2542)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required. SEPA will maintain the River Tay flood warning scheme.</p>		
Coordination Arrangement:	SEPA will continue to raise awareness of flood warning, and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by the Scottish Government through SEPA's grant in aid settlement.		

### 3.3 Aberfeldy and Weem - PVA 02/08/03

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

#### Background

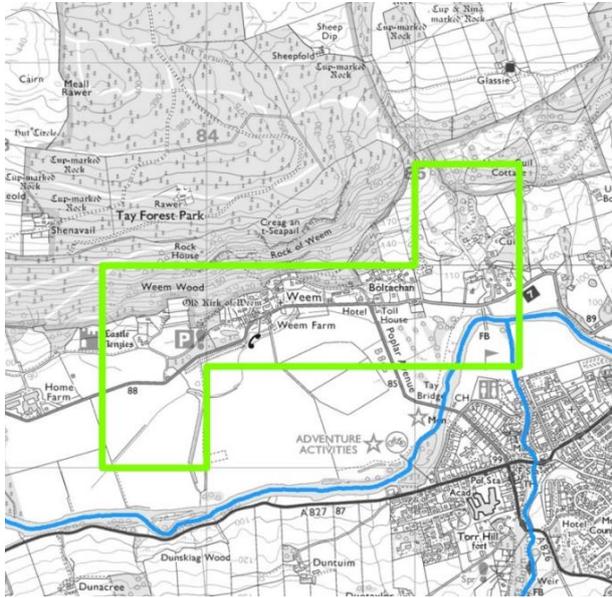
This area is designated as a potentially vulnerable area due to flood risk to Aberfeldy and Weem. The main sources of flooding are the River Tay and the Moness Burn, and there is also risk from surface water. There is a history of flooding in this area, with recent floods being caused by surface water.

#### List of Objective Target Areas

There are two target areas in this potentially vulnerable area, which have been the focus of further assessment. These are listed below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Weem	Target Area 182
Aberfeldy	Target Area 183

**Weem (Objective Target Area 182)**

Summary	Location Map
<p>The village of Weem is located near the town of Aberfeldy within Perth and Kinross. The main source of flooding in Weem is river flooding with a small proportion of risk coming from surface water. A flood protection scheme is in place that offers protection to the community. There are approximately 40 people and 30 homes and businesses at risk from flooding. This is estimated to increase to 50 people and 40 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011, SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding was improved by the Aberfeldy Flood Study which was completed in 2019. The study also assessed flooding in Weem and reviewed the standard of protection offered by the existing flood scheme.

There is a long record of flooding in this area. Recent significant floods have occurred in January 1993, January 2005, December 2006 and in December 2015. The most recent flood was recorded in January 2020 when the Aberfeldy to Weem road was closed due to flooding caused by Storm Dennis.

**Objectives and Actions in the Weem Objective Target Area**

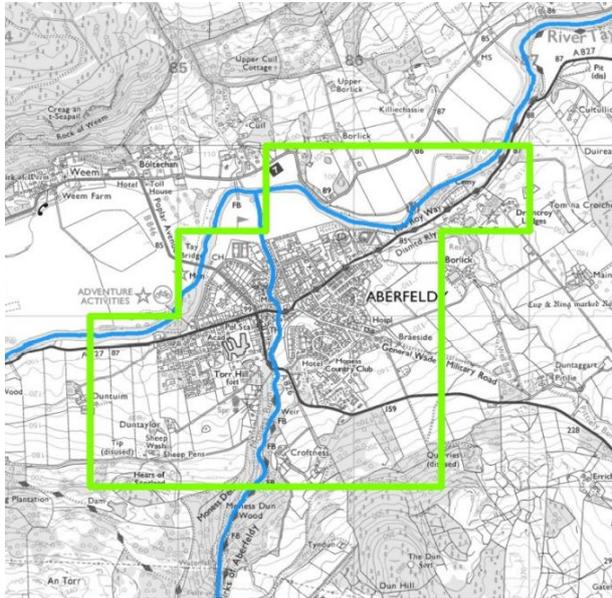
The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>MAINTAIN FLOOD PROTECTION SCHEME (Ref: 18201)</b>		
Objective (ID):	Avoid an increase in flood risk by the appropriate management and maintenance of Weem Flood Protection Scheme (Ref:1822)		
Delivery Lead:	Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Maintenance of the existing Weem Flood Protection Scheme will continue in accordance with the existing inspection and maintenance regime. Further maintenance work will also be carried out as identified by the recent review undertaken as part of the Aberfeldy flood study.		
Coordination Arrangement:	Perth & Kinross Council's Roads Maintenance Partnership maintain existing flood protection schemes through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, NatureScot, landowners and other stakeholders as required.		
Funding Arrangement:	The maintenance of flood protection schemes will be subject to funding from Perth and Kinross Council's revenue budget.		

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 18202)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Weem (Ref: 1823)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.		
Coordination Arrangement:	SEPA will maintain the River Tay flood warning scheme. SEPA will continue to raise awareness of flood warning and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by the Scottish Government through SEPA's grant in aid settlement.		

**Aberfeldy (Objective Target Area 183)**

Summary	Location Map
<p>Aberfeldy is located on the River Tay within the Perth and Kinross. The main source of flooding in Aberfeldy is river flooding, however there is also a risk from surface water flooding. Perth and Kinross Council carried out a flood study in this area which estimated that there are approximately 128 homes and 40 businesses are at risk of flooding.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding was improved by the Aberfeldy Flood Study, which was completed in 2019. The national understanding of surface water flooding is improved by a sewer flood risk assessment undertaken by Scottish Water.

There is a long record of flooding in this area. Significant floods have occurred in January 1993, January 2005, December 2006 and in December 2015. The most recent flooding was recorded in February 2020 during Storm Dennis when surface water runoff from fields caused flooding to 2 properties as well as flooding to roads. Further surface water flooding occurred in February 2021, however there is no record of properties being affected internally.

**Objectives and Actions in the Aberfeldy Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD PROTECTION SCHEME (Ref: 18301)</b>		
Objective (ID):	Reduce the risk of surface water and river flooding from the River Tay and Moness Burn in Aberfeldy (Ref: 1833)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not Started	Planned Delivery Period:	To be confirmed
Description:	<p>A flood protection scheme has been proposed in this area. The proposed scheme would consist of flood walls and embankments on the River Tay and the Moness Burn, along with culvert improvements on the Tomchulan Burn. The proposed scheme would provide a 1 in 200 year standard of protection. Current and long-term flood risk will be further considered at the design stage including the impacts of climate change and scheme adaptability. The outline design for the Aberfeldy Flood Protection Scheme will be progressed, in line with the recommendations of the Aberfeldy flood study. The flood study also recommended further consideration of natural flood management as part of the preferred option. This work is to also include ongoing community engagement as the project progresses.</p> <p>Once the flood protection scheme has been confirmed and the detailed design completed, the next stages are procurement then construction.</p> <p>As built drawings will be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates.</p> <p>Routine inspections and maintenance of the Aberfeldy Flood Protection Scheme would commence when the scheme is complete in accordance with the inspection and maintenance regime.</p> <p>In accordance with the flood risk management plan, as part of the scheme or works, Perth and Kinross Council will aim to ensure the action will not have an adverse effect on the integrity of the River Tay Special Area of Conservation.</p>		
Coordination Arrangement:	The Aberfeldy Flood Protection Scheme will be coordinated through the Tay Local Plan District Partnership. SEPA will work with the local authority on the potential to coordinate this action with an update to SFDAD and flood warning actions.		
Funding Arrangement:	The delivery of the Aberfeldy Flood Protection Scheme is subject to capital funding being made available (up to 80% capital grant funding from the Scottish Government with the remaining funding being provided from Perth & Kinross Council's capital programme).		

Action (ID):	<b>SURFACE WATER MANAGEMENT PLAN (Ref: 18302)</b>		
Objective (ID):	Reduce the risk of surface water and river flooding from the River Tay and Moness Burn in Aberfeldy (Ref: 1833)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not started	Planned Delivery Period:	2025 - 2027

Description:	Perth & Kinross Council will engage consulting engineers to develop a surface water management plan for Aberfeldy. This will investigate the surface water flood risk and identify potential options for managing that risk. The results of the sewer flood risk assessment will be considered. Current and long term flood risk will be assessed and if climate change impacts are found to be significant, surface water management should include adaptive planning.
Coordination Arrangement:	The surface water management plan is programmed to commence in the 2026/26 financial year and will be coordinated through the Tay Local Plan District Partnership. Scottish Water will support surface water management planning through ensuring that best available knowledge and data is used to input into the surface water management plan.
Funding Arrangement:	The surface water management plan will be subject to funding from Perth and Kinross Council's revenue budget.

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 18303)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Aberfeldy (Ref: 1832)		
Delivery Lead:	SEPA and responsible authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement is to continue to be carried out in the area by the responsible authorities to raise awareness of flood risk. Community engagement is to continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with any on-going projects and activities.		
Coordination Arrangement:	Community engagement will take place around any projects and activities will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity. Perth and Kinross Council will continue to coordinate with the Aberfeldy Resilience Group and the Tayside Waders Group on a priority needs basis where resources allow.		
Funding Arrangement:	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

Action (ID):	<b>COMMUNITY RESILIENCE GROUPS (Ref: 18304)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Aberfeldy (Ref: 1832)		

Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority.</p> <p>Perth and Kinross Council will continue to liaise with the Aberfeldy Resilience Group and the Tayside Waders Group on flood risk matters. Their resilience plans should be reviewed and updated regularly, and this will be supported by the Council.</p>		
Coordination Arrangement:	Perth & Kinross Council will continue to coordinate with the Aberfeldy Resilience Group and the Tayside Waders to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow		
Funding Arrangement:	Funding for Community resilience groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.		

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 18305)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Aberfeldy (Ref: 1832)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.		
Coordination Arrangement:	SEPA will maintain the River Tay flood warning scheme. SEPA will continue to raise awareness of flood warning and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by the Scottish Government through SEPA's grant in aid settlement.		

### 3.4 Alyth - PVA 02/08/04

Local Plan District	Local Authority	Main Catchment
Tay	Perth and Kinross Council	Alyth Burn (River Tay)

#### Background

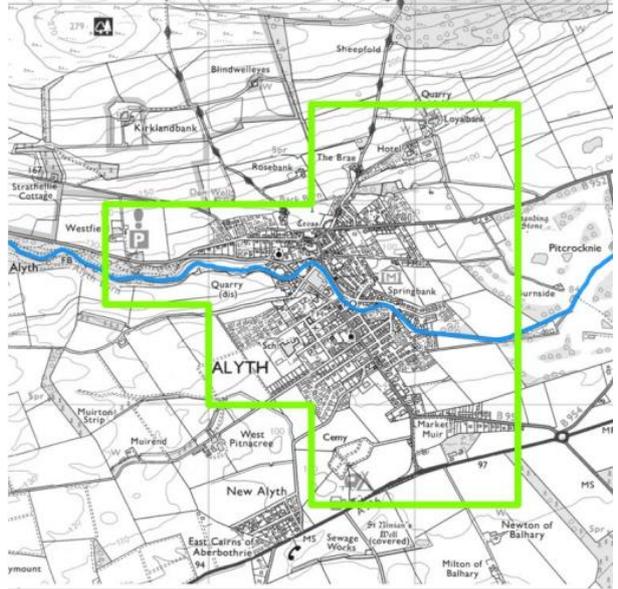
This area is designated as a potentially vulnerable area due to the flood risk at Alyth. The main source of flooding is the Alyth Burn. There is a history of flooding in this area, with recent flooding recorded in August 2020.

#### List of Objective Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment. This is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Alyth            Objective Target Area 189

**Alyth (Objective Target Area 189)**

Summary	Location Map
<p>The town of Alyth is located 6km northeast of Blairgowrie within Perth and Kinross. The main source of flooding is river flooding from the Alyth Burn.</p> <p>There are approximately 180 people and 120 homes and businesses currently at risk of flooding. This is likely to increase to 240 people and 150 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. Pervious work has underpinned the understanding of river flooding and the Joint Agency Report on the Flooding in Alyth of 17 July 2015 further improved the understanding of flooding mechanisms in this area.

There are records of frequent flooding in this area. A significant flood was recorded in July 2015 when the Alyth Burn burst its banks, affecting many homes and businesses. A notable flood occurred in August 2020, when the Alyth Burn and other small watercourses overtopped resulting in flooding of properties. Further flooding occurred in October 2020 and October 2021 but no properties in the area were flooded.

**Objectives and Actions in the Alyth Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD STUDY (Ref: 18901)</b>		
Objective (ID):	Reduce the risk of river flooding from the Alyth Burn in Alyth (Ref: 1893).		
Delivery Lead:	Perth and Kinross Council		
Status:	On-going	Planned Delivery Period:	2022-2023
Description:	A natural flood management study is underway for Alyth as identified in the published Cycle 1 Tay Flood Risk Management Strategy and Local Flood Risk Management Plan. The study is considering both current and long-term flood risk and how the area will adapt to changes in flood risk due to climate change.		
Coordination Arrangement:	The study commenced in January 2022. Perth and Kinross Council has engaged consulting engineers, AECOM, to investigate the fluvial flood risk and identify potential options for managing that risk. The study is being coordinated through the Tay Local Plan District Partnership.		
Funding Arrangement:	The study is being funded from Perth and Kinross Council's revenue budget.		

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 18902)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Alyth (Ref: 1892).		
Delivery Lead:	SEPA and responsible authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement is to continue to be carried out in the area by the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with any on-going projects and activities.		
Coordination Arrangement:	Community engagement will take place around any projects and activities and will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity. This will include continuing to support the Alyth Community Support Group and updating the community on the outcomes of the natural flood management study.		
Funding Arrangement:	Community engagement activities will be subject to funding from the Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 18903)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Alyth (Ref: 1892).		

Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority.</p> <p>The Alyth Community Support Group has been set up and has developed a community resilience plan, alongside other resilience work. The resilience plan should be reviewed and updated regularly by the group, and this will be supported by the Council.</p>		
Coordination Arrangement:	<p>Perth and Kinross Council will continue to coordinate with the Alyth Community Support Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.</p>		
Funding Arrangement:	<p>Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding</p>		

### 3.5 Kirriemuir & Forfar - PVA 02/08/05

Local Plan District	Local Authority	Main Catchment
Tay	Angus Council	River Isla (River Tay)

#### Background

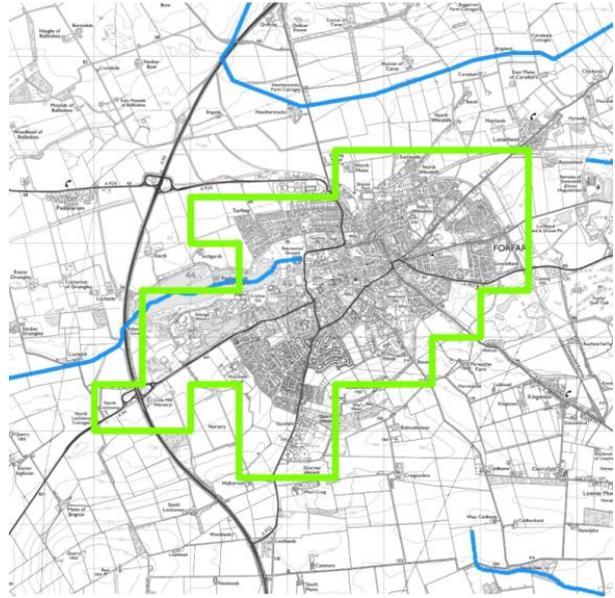
This area is designated as a potentially vulnerable area due to flood risk to Kirriemuir and Forfar. The main source of flooding is surface water. There is also risk of river flooding to Forfar from the Dean Water and to Kirriemuir from the Gairie Burn. There is a history of flooding in this area, with recent floods being caused by surface water.

#### List of Objective Target Areas

There are two target areas in this potentially vulnerable area, which has been the focus of further assessment. These are identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Forfar	Target Area 230
Kirriemuir	Target Area 241

**Forfar (Objective Target Area 230)**

Summary	Location Map
<p>Forfar is a town located north of Dundee and within the Angus Council Area. The main source of flooding in Forfar is surface water flooding, however there is a risk of river flooding. There are approximately 870 people and 590 homes and businesses currently at risk from flooding. This is likely to increase to 1,100 people and 700 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national assessment has been improved by flood studies undertaken by Angus Council and Scottish Water. There is a history of localised flooding in this area.

**Objectives and Actions in the Forfar Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD STUDY (OPTIONS APPRAISAL) (Ref: 23001)</b>		
Objective (ID):	Reduce the risk of river and surface water flooding in Forfar (Ref: 2303)		
Delivery Lead:	Angus Council		
Status:	TBC	Planned Delivery Period:	TBC
Description:	Angus Council will review the 2019 flood study outcomes and consider whether an additional detailed study of Forfar Loch and		

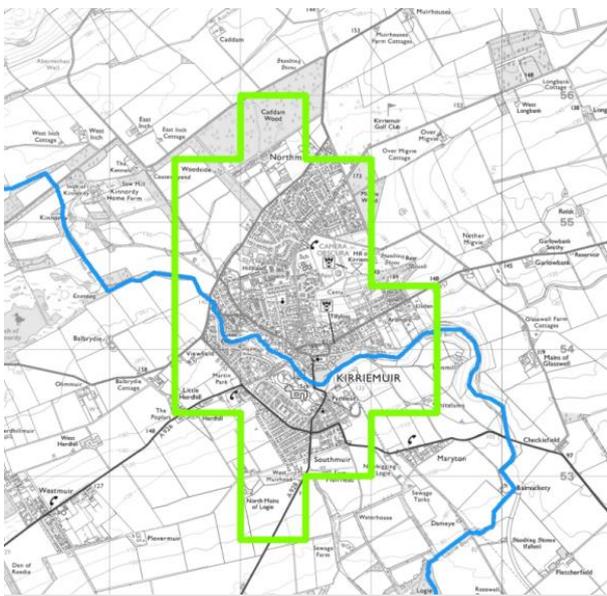
	Dean Water interaction will provide further opportunities for actions to reduce flood risk in the Forfar area. The additional detailed study will focus on the interaction of surface water flooding locations which discharge to Forfar Loch and the Forfar Loch to Dean Water interaction.
Coordination Arrangement:	The study is programmed to commence in the [TBC] financial year. Angus Council will engage a consulting engineer to investigate the fluvial and pluvial flood risk and identify potential options for managing that risk. The study will be coordinated through the Tay Local Plan District Partnership.
Funding Arrangement:	The flood study will be subject to funding from Angus Council's revenue budget.

Action (ID):	<b>ADAPTION PLAN (23002)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Forfar (Ref: 2302)		
Delivery Lead:	Angus Council		
Status:	TBC	Planned Delivery Period:	TBC
Description:	An adaptation master plan will be developed to cover the Angus Council area. As part of this, Angus Council will use best available knowledge on climate change predictions to assess the effect on flood risk infrastructure. From this a long term flood risk management approach will be developed. Any existing strategic initiatives will provide opportunities for adaptive actions to be implemented.		
Coordination Arrangement:	The adaptation plan is programmed to commence in the [TBC] financial year. Angus Council will engage a consulting engineer to develop the adaptation plan. The adaptation plan will be coordinated through the Tay Local Plan District Partnership.		
Funding Arrangement:	The adaptation plan will be subject to funding from Angus Council's revenue budget.		

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 23003)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Forfar (Ref: 2302)		
Delivery Lead:	SEPA and responsible authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement is to continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with any on-going projects and activities.		
Coordination Arrangement:	The community will have opportunities to get involved with the development of the adaptation plan and any flood related projects and initiatives being developed for Forfar. This will include the flood study and the adaptation plan		

<p>Funding Arrangement:</p>	<p>Community engagement activities will be funded from the Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.</p>
-----------------------------	---

**Kirriemuir (Objective Target Area 241)**

Summary	Location Map
<p>The town of Kirriemuir is located northwest of Forfar within the Angus area.</p> <p>The main sources of flooding in Kirriemuir are surface water and river flooding. There are approximately 140 people and 80 homes and businesses currently at risk from flooding. This is likely to increase to 180 people and 110 homes and businesses by the 2080s due to climate change</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national assessment has been improved by flood studies undertaken by Angus Council and Scottish Water. There is a history of localised flooding in this area.

**Objectives and Actions in the Kirriemuir Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD SCHEME OR WORKS IMPLEMENTATION (Ref: 24101)</b>		
Objective (ID):	Reduce the risk of river flooding from the Gairie Burn in Kirriemuir (Ref: 2415)		
Delivery Lead:	Angus Council		
Status:	TBC	Planned Delivery Period:	TBC
Description:	A flood study carried out for this location recommended a short-term option to manage flood risk. The preferred option consists of property flood resilience and localised kerb raising. It will be used in conjunction with the installation of a river gauge on the Gairie Burn to improve understanding of flood risk and support future		

	work. In accordance with the flood risk management plan, as part of the scheme or works, the responsible authority should aim to ensure that the action will not have an adverse effect on the integrity of the Loch of Kinnordy Special Protection Area.
Coordination Arrangement:	The works will be coordinated through the Tay Local Plan District Partnership.
Funding Arrangement:	TBC

Action (ID):	<b>DATA COLLECTION (Ref: 24102)</b>		
Objective (ID):	Improve data and understanding of river flooding from the Gairie Burn in Kirriemuir (Ref: 2413)		
Delivery Lead:	Angus Council		
Status:	TBC	Planned Delivery Period:	TBC
Description:	Angus Council will review the Kirriemuir flood study of 2019 and prepare a contract for installation of flow monitoring on the Gairie Burn to reduce the uncertainty around flow estimation identified in the 2019 study. This will improve confidence levels in the flood study findings and allow the impact of climate change to be assessed for Kirriemuir.		
Coordination Arrangement:	The work will be coordinated through the Tay Local Plan District Partnership.		
Funding Arrangement:	This work will be subject to funding from Angus Council's revenue budget.		

Action (ID):	<b>ADAPTION PLAN (Ref: 24103)</b>		
Objective (ID):	Improve data and understanding of river flooding from the Gairie Burn in Kirriemuir (Ref: 2413)		
Delivery Lead:	Angus Council		
Status:	TBC	Planned Delivery Period:	TBC
Description:	Information on climate change is to be used to develop an adaptation plan to allow for the impacts of climate change to be monitored, understood and managed. An adaptation master plan will be developed to cover the Angus Council area. As part of this, Angus Council will use best available knowledge on climate change predictions to assess the effect on flood risk infrastructure. From this a long term flood risk management approach will be developed. Any existing strategic initiatives will provide opportunities for adaptive actions to be implemented.		
Coordination Arrangement:	The adaptation plan is programmed to commence in the [TBC] financial year. Angus Council will engage a consulting engineer to develop the adaptation plan. The adaptation plan will be coordinated through the Tay Local Plan District Partnership.		

<b>Funding Arrangement:</b>	The adaptation plan will be subject to funding from Angus Council's revenue budget.
-----------------------------	---

<b>Action (ID):</b>	<b>COMMUNITY ENGAGEMENT (Ref: 24104)</b>		
<b>Objective (ID):</b>	Prepare for current flood risk and future flooding as a result of climate change in Kirriemuir (Ref: 2414)		
<b>Delivery Lead:</b>	SEPA and responsible authorities		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	Community engagement is to continue to be carried out in the area by the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with any on-going projects and activities.		
<b>Coordination Arrangement:</b>	The community will have opportunities to get involved with the development of the adaptation plan and any flood related projects and initiatives being developed for Kirriemuir. Angus Council will consider whether there is potential for provision of a community flood warning system (such as River Track) as part of a wider flood resilience approach for Kirriemuir and will discuss this with partners.		
<b>Funding Arrangement:</b>	Community engagement activities will be funded from the Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

<b>Action (ID):</b>	<b>FLOOD DEFENCE MAINTENANCE (Ref: 24105)</b>		
<b>Objective (ID):</b>	Avoid an increase in flood risk by the appropriate management and maintenance of Kirriemuir Flood Protection Scheme (Ref: 2412)		
<b>Delivery Lead:</b>	Angus Council		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	Angus Council will continue to maintain the flood defences on the Gairie Burn and seek opportunities to work with partners to reduce flood risk to existing commercial property impacted by the burn.		
<b>Coordination Arrangement:</b>	Angus Council maintain existing flood protection schemes through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, NatureScot, landowners and other stakeholders as required.		
<b>Funding Arrangement:</b>	The maintenance of flood protection schemes will be subject to funding from Angus Council's revenue budget.		

### 3.6 Blairgowrie & Rattray - PVA 02/08/06

Local Plan District	Local Authority	Main Catchment
Tay	Perth and Kinross Council	River Ericht (River Tay)

#### Background

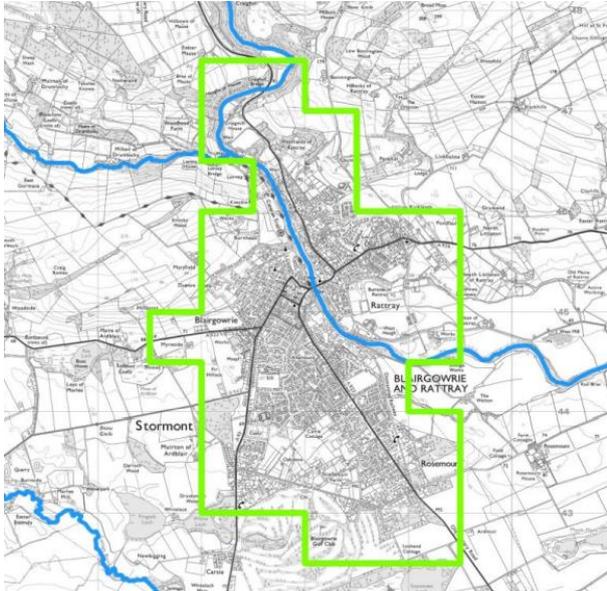
This area is designated as a potentially vulnerable area due to flood risk to Blairgowrie and Rattray. The main source of flooding in Blairgowrie is surface water. There is a history of flooding in this area with recent flooding recorded in August 2020, October 2021 and November 2022.

#### List of Objective Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment. This is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Blairgowrie and Rattray                      Target Area 199

**Blairgowrie and Rattray (Objective Target Area 199)**

Summary	Location Map
<p>This community includes the towns of Blairgowrie and Rattray. The main source of flooding is surface water. There are approximately 750 people and 440 homes and businesses currently at risk from flooding. This is likely to increase to 1,100 people and 630 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. Scottish Water has delivered an assessment of flood risk within the Blairgowrie sewer catchment.

There is a long record of flooding in this target area. In July 2004 a road and 2 properties were affected by surface water flooding. In July, October and December 2015 heavy rainfall led to flooding of a number of properties as well as road flooding. Flooding was recorded on 12 August 2020 when local roads and 5 properties flooded as a result of heavy rainfall in the area. In October 2021 flooding on the Rattray Burn affected 1 property in Rattray. Further flooding occurred on the Rattray Burn in November 2022.

**Objectives and Actions in the Blairgowrie and Rattray Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>SURFACE WATER MANAGEMENT PLAN (Ref: 19901)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Blairgowrie and Rattray (Ref: 1993)		
Delivery Lead:	Perth and Kinross Council		
Status:	Started	Planned Delivery Period:	2022 - 2024
Description:	Perth and Kinross Council has engaged consulting engineers to develop a surface water management plan for Blairgowrie and Rattray. This will investigate the surface water flood risk and identify potential options for managing that risk. The results of the sewer flood risk assessment will be considered. Current and long-term flood risk will be assessed and if climate change impacts are found to be significant, surface water management should include adaptive planning.		
Coordination Arrangement:	The surface water management plan is programmed to be concluded in the 2023/24 financial year and is being coordinated through the Tay Local Plan District Partnership. Scottish Water will support surface water management planning through ensuring that best available knowledge and data is used to input into the surface water management plan.		
Funding Arrangement:	The surface water management plan will be subject to funding from Perth and Kinross Council's revenue budget.		

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 19902)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Blairgowrie and Rattray (Ref: 1992)		
Delivery Lead:	SEPA and responsible authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement is to continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with any on-going projects and activities.		
Coordination Arrangement:	Community engagement will take place around any projects and activities will be coordinated through the Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.		
Funding Arrangement:	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 19903)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Blairgowrie and Rattray (Ref: 1992)		

Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority.</p> <p>Blairgowrie Community Resilience Group is active in this area. The resilience group should continue to implement the community emergency plan.</p>		
Coordination Arrangement:	<p>Perth &amp; Kinross Council will continue to coordinate with the Blairgowrie Community Resilience Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.</p>		
Funding Arrangement:	<p>Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.</p>		

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 19904)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Blairgowrie and Rattray (Ref: 1992)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.</p>		
Coordination Arrangement:	<p>SEPA will maintain the Erich flood warning scheme. SEPA will continue to raise awareness of flood warning, and engage with communities about the service when required.</p>		
Funding Arrangement:	<p>SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.</p>		

### 3.7 Coupar Angus - PVA 02/08/07

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

#### Background

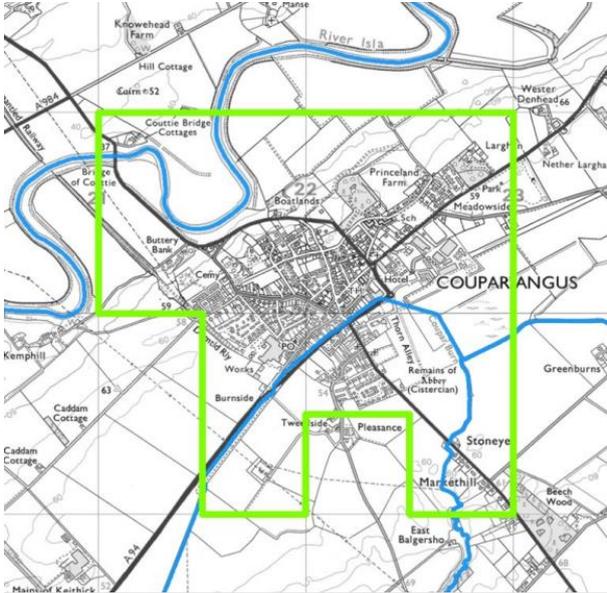
This area is designated as a potentially vulnerable area due to flood risk to Coupar Angus. The main source of flooding is the Coupar Burn. There is history of flooding in this area with recent floods caused by river flooding.

#### List of Objective Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment. This is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Coupar Angus                      Target Area 214

**Coupar Angus (Objective Target Area 214)**

Summary	Location Map
<p>Coupar Angus is located to the northeast of Perth on the banks of the River Isla within Perth and Kinross. The main source of flooding in Coupar Angus is river flooding from the Coupar Burn and small tributaries. A local detailed flood study undertaken by Perth and Kinross Council indicates that there are approximately 30 homes and businesses currently at risk of flooding, and that this may increase to 62 homes and businesses in the future due to climate change.</p>	

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding is improved by the Coupar Burn Flood Study completed in 2016 and the SEPA modelling study to improve flood maps in the area. The study concluded that structural actions such as a flood protection scheme were not viable.

There is a long history of flooding in this area from the Coupar Burn including flooding in August 2004 and December 2012, when several homes and businesses flooded from Coupar Burn. In December 2015, Storm Frank caused prolonged rainfall across Perth & Kinross. Several roads were affected in the Coupar Angus area. Flooding on the Coupar Burn occurred in February 2021 and November 2022 but there is no record of properties being affected.

**Objectives and Actions in the Coupar Angus Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 21401)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Coupar Angus (Ref: 2143)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.		
Coordination Arrangement:	SEPA will maintain the Isla flood warning scheme. SEPA will continue to raise awareness of flood warning, and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 21402)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Coupar Angus (Ref: 2143)		
Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority.</p> <p>The Coupar Angus Community Resilience Group operates in this area. Perth and Kinross Council will continue to communicate and support the group on flood risk matters. The resilience plan should be reviewed and updated regularly by the group, and this will be supported by the Council.</p>		
Coordination Arrangement:	Perth & Kinross Council will continue to coordinate with the Coupar Angus Community Resilience Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.		
Funding Arrangement:	Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.		

Action (ID):	<b>LAND USE PLANNING (Ref: 21403)</b>		
Objective (ID):	Avoid development that increases flood risk in Coupar Angus (Ref: 2141)		
Delivery Lead:	Perth & Kinross Council		
Status:	Existing	Planned Delivery Period:	On-going
Description:	As planning authority, Perth and Kinross Council will ensure that their development plan and planning decision-making supports the delivery of sustainable flood management. Perth and Kinross		

	Council will introduce protection for the Kettins Burn natural flood storage area through the local development planning process.
Coordination Arrangement:	Existing controls are already in place as set out under the Land Use Planning action. Perth and Kinross Council will further align the flood risk management and land use planning systems in this location. The Council will coordinate land use planning with other related actions.
Funding Arrangement:	Planning activities are subject to funding from Perth and Kinross Council's revenue budget.

### 3.8 Dunkeld & Birnam - PVA 02/08/08

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

#### Background

This area is designated as a potentially vulnerable area due to flood risk to Dunkeld & Birnam, Dalguise and Spittalfield. The main source of flood risk is the River Tay, the River Braan and small watercourses in Dunkeld and Birnam. The main source of flood risk in Dalguise and Spittalfield is the River Tay. There is history of flooding in the area.

#### List of Objective Target Areas

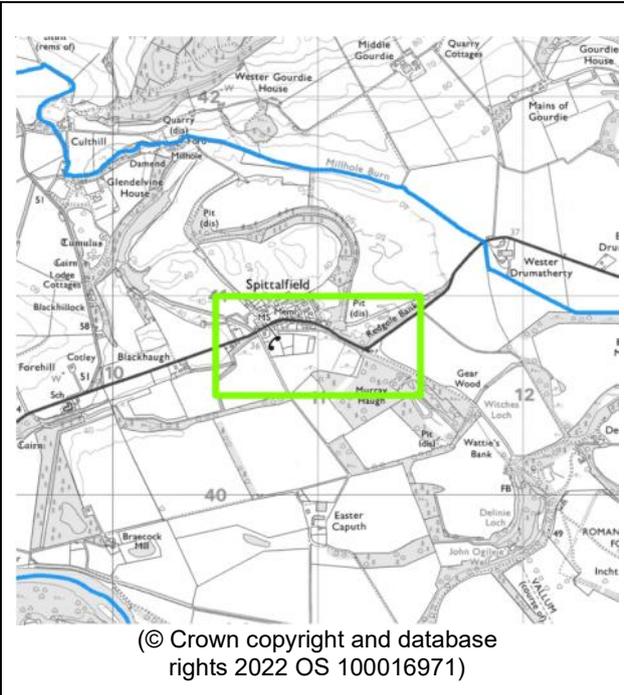
There are three objective target areas in this potentially vulnerable area, which have been the focus of further assessment. These are listed below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Spittalfield	Target Area 179
Dunkeld & Birnam	Target Area 225
Dalguise	Target Area 273

## Spittalfield (Objective Target Area 179)

The small settlement of Spittalfield is located near the River Tay in Perth and Kinross.

The main concern is flooding from the River Tay to homes and the A984, and how this risk may change in future because of climate change. SEPA's flood maps indicate that currently there are approximately 6 homes and businesses at risk from flooding. This is estimated to increase to 40 homes and businesses by the 2080s due to climate change. However, Perth and Kinross Council has carried out a flood study in this area which predicts that this number is higher with an estimated 18 homes and businesses currently at risk, which is likely to increase to 50 due to climate change.



## Current Understanding of Flood Risk

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding was improved by a recent flood study.

There is a record of periodic flooding in this area. The first flood recorded in the area occurred in January 1993 when heavy rain and snow melt inundated roads around the Green. Further flooding occurred in 2006 with property flooding and the A894 being affected. The most recent flood was recorded in December 2015 due to Storm Desmond, when roads and properties were affected. In January 2018 surface water flooding was reported in Spittalfield however there is no record of properties being affected by flooding.

## Objectives and Actions in the Spittalfield Objective Target Area

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

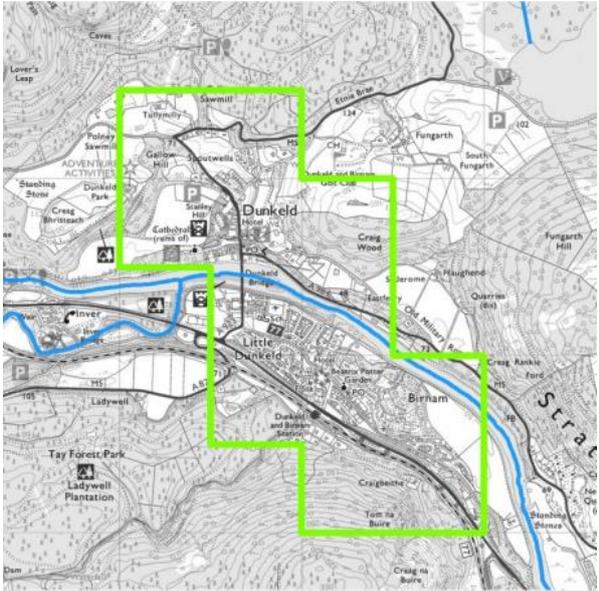
Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 17901)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Spittalfield (Ref: 1792)		
Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority.</p> <p>The Spittalfield and Caputh Community Resilience Group operates in this area. Perth and Kinross Council will continue to communicate and support the group on flood risk matters. The resilience plan should be reviewed and updated regularly by the group, and this will be supported by the Council.</p>		
Coordination Arrangement:	Perth & Kinross Council will continue to coordinate with the Spittalfield and Caputh Community Resilience Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.		
Funding Arrangement:	Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.		

Action (ID):	<b>EMERGENCY PLAN (Ref: 17902)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Spittalfield (Ref: 1792)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not started	Planned Delivery Period:	2022 - 2028
Description:	<p>The plan to coordinate responses to emergency incidents between organisations, including local authorities, the emergency services and SEPA, is to be maintained and executed as required.</p> <p>Perth and Kinross Council will include specific emergency planning arrangements for Spittalfield within its current Generic Emergency Plan and Flooding Emergency Response Plan.</p>		
Coordination Arrangement:	<p>Perth &amp; Kinross Council has developed a Generic Emergency Plan and a Flooding Emergency Response Plan, designed to ensure that contingency measures are in place for the coordinated and flexible response to flooding incidents to mitigate the effects of flooding emergencies.</p> <p>SEPA flood alerts and warnings will be monitored, and resources made ready as required. An emergency response will follow any reports of flooding, will be coordinated with regional and local resilience partnerships and may be supported by the work of voluntary organisations. A debrief and plan review will be carried out following any flood events.</p>		

	Protecting property from flooding is the responsibility of the owner of the property, but local authorities can sometimes provide sandbags to properties. Unfortunately the Council only has the resources to supply sandbags to residents where there is an imminent risk of flooding.
Funding Arrangement:	Emergency response activities are subject to funding from Perth and Kinross Council's revenue budget.

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 17903)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Spittalfield (Ref: 1792)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	2022-2028
Description:	SEPA will maintain the River Tay flood warning scheme. The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required		
Coordination Arrangement:	SEPA will maintain the River Tay flood warning scheme. SEPA will continue to raise awareness of flood warning, and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

**Dunkeld & Birnam (target area 225)**

Summary	Location Map
<p>The villages of Dunkeld, Little Dunkeld and Birnam are located on the River Tay and within Perth and Kinross. The main source of flooding in Dunkeld and Birnam is river flooding from the River Tay, the River Braan and other small watercourses. A recent flood study undertaken by Perth and Kinross Council indicates that there are approximately 104 homes and businesses currently at risk of flooding. This is likely to increase to 149 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding is being improved by a current flood study in the area.

There is a long record of flooding in this area, including notable flooding in February 1990 and January 1993. Further localised flooding occurred on the Spoutwells Burn, at Burnmouth Road and at Inver in August 2004. In December 2015 and January 2016, Storms Desmond and Frank caused prolonged rainfall throughout Perth and Kinross and properties and roads were affected in the Dunkeld area. The most recent flooding occurred in February 2020, with properties on Atholl Gardens being threatened by flooding from the Sawmill Burn

**Objectives and Actions in the Dunkeld & Birnam Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD STUDY (Ref: 22501)</b>		
Objective (ID):	Reduce the risk of river flooding from the River Tay, River Braan and small watercourses in Dunkeld (Ref: 2255)		
Delivery Lead:	Perth & Kinross Council		
Status:	Existing	Planned Delivery Period:	2020 - 2023
Description:	A flood protection study for Dunkeld was included in the Cycle 1 Tay Local Flood Risk Management Plan. The study is underway and is being carried out as planned. The study is considering current and future flood risk and the potential impacts of climate change.		
Coordination Arrangement:	<p>The study commenced in January 2020. Perth and Kinross Council engaged consulting engineers, AECOM, to investigate the fluvial flood risk and identify potential options for managing that risk.</p> <p>The study has involved the completion of existing investigations by previous consulting engineers, Mouchel, into the flooding on Atholl Gardens and Atholl Street, Dunkeld from the Spoutwells Burn and another small watercourses. The study also took a staged approach to allow coordination with SEPA on the Strategic Mapping and Modelling Action for the River Tay (Cycle 1 Action ID 80410016).</p> <p>The study has been coordinated through the Tay Local Plan District Partnership.</p>		
Funding Arrangement:	The flood study has been funded from Perth and Kinross Council's revenue budget.		

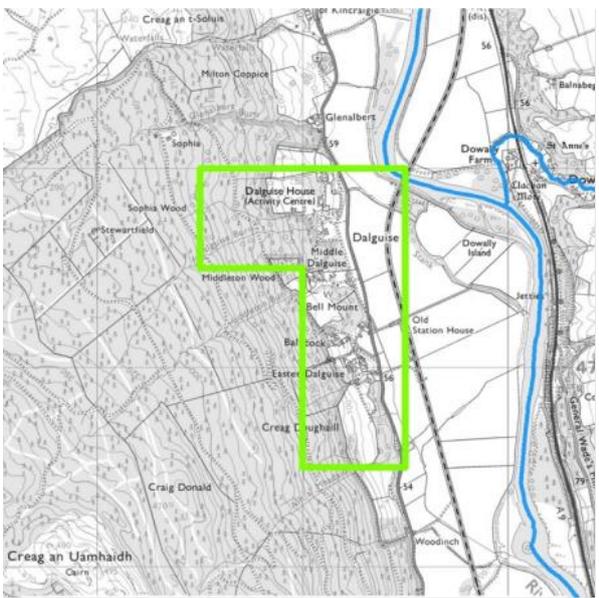
Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 22502)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Dunkeld and Birnam (Ref: 2252)		
Delivery Lead:	SEPA and responsible authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement will continue to be carried out in area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with any on-going projects and activities.		
Coordination Arrangement:	<p>Perth and Kinross will continue to coordinate with the Dunkeld Community Resilience Group on a priority needs basis where resources allow.</p> <p>Awareness raising and community engagement will take place around any projects and will be coordinated through the Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.</p>		
Funding Arrangement:	<p>Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget.</p> <p>SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.</p>		

	Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.
--	--

Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 22503)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Dunkeld and Birnam (Ref: 2252)		
Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority.</p> <p>The Dunkeld Community Resilience Group operates in this area. Perth and Kinross Council will continue to communicate and support the group on flood risk matters. The resilience plan should be reviewed and updated regularly by the group, and this will be supported by the Council.</p>		
Coordination Arrangement:	Perth & Kinross Council will continue to coordinate with the Dunkeld Community Resilience Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.		
Funding Arrangement:	Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.		

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 22504)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Dunkeld and Birnam (Ref: 2252)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	2022-2028
Description:	SEPA should maintain the River Tay flood warning scheme. The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.		
Coordination Arrangement:	SEPA will maintain the River Tay flood warning scheme. SEPA will continue to raise awareness of flood warning, and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

**Dalguise (Objective Target Area 273)**

Summary	Location Map
<p>The small settlement of Dalguise is located on the western side of the River Tay and within Perth and Kinross.</p> <p>The main source of flooding in Dalguise is river flooding. There are approximately 20 people at risk from flooding and approximately 20 homes and businesses. There is also risk to an activity centre, railway line and local roads that become inundated resulting in the community being cut off.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national understanding of flooding in this area was also improved by a previous flood study. This study did not identify a viable structural flood management solution.

There is a long record of flooding in this area. In January 1993, a significant weather event flooded 6 properties and caused extensive damage to the Perth to Inverness railway line. In December 2006, 4 properties were flooded and again the railway line was closed. The most recent flood was recorded in December 2018 when the Dalguise Burn and River Tay inundated local roads.

**Objectives and Actions in the Dalguise Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>EMERGENCY PLAN (Ref: 27301)</b>
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Dalguise (Ref: 2732)
Delivery Lead:	Perth and Kinross Council

Status:	Not started	Planned Delivery Period:	2023
Description:	Perth and Kinross Council will include specific emergency planning arrangements for Dalguise within its current Generic Emergency Plan and Flooding Emergency Response Plan.		
Coordination Arrangement:	<p>Perth &amp; Kinross Council has developed emergency response plans, designed to ensure that contingency measures are in place for the coordinated and flexible response to flooding incidents to mitigate the effects of flooding emergencies.</p> <p>SEPA flood alerts and warnings will be monitored, and resources made ready as required. An emergency response will follow any reports of flooding, will be coordinated with regional and local resilience partnerships and may be supported by the work of voluntary organisations. A debrief and plan review will be carried out following any flood events.</p> <p>Protecting property from flooding is the responsibility of the owner of the property, but local authorities can sometimes provide sandbags to properties. Unfortunately, Councils only have the resources to supply sandbags to residents where there is an imminent risk of flooding.</p> <p>SEPA will work with Perth and Kinross Council on the potential to coordinate this action with flood warning actions.</p>		
Funding Arrangement:	Funding is allocated to category 1 and 2 responders by the Scottish Government for dealing with emergency response and in extreme cases may reimburse responders after an extreme event. Emergency response activities are subject to funding from Perth and Kinross Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 27302)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Dalguise (Ref: 2732)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	SEPA will maintain the River Tay flood warning scheme. The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.		
Coordination Arrangement:	SEPA will continue to raise awareness of flood warning and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by the Scottish Government through SEPA's grant in aid settlement.		

### 3.9 Bankfoot - PVA 02/08/09

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

#### Background

This area is designated as a potentially vulnerable area due to flood risk to Bankfoot. The main source of flooding is the Garry Burn and Glenhauch Burn. There is a history of flooding in this area, with recent floods being caused by river flooding.

#### List of Objective Target Areas

There is 1 target area in this potentially vulnerable area, which has been the focus of further assessment. This is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Bankfoot                      Target Area 194



Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 19401)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Bankfoot (Ref: 1942)		
Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority.</p> <p>Perth and Kinross Council will continue to communicate with and support the Auchtergaven Community Council and Bankfoot Resilience Group on flood risk matters. The resilience plans should be updated regularly by these groups, and this will be supported by the council.</p>		
Coordination Arrangement:	Perth & Kinross Council will continue to coordinate with the Bankfoot Resilience Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.		
Funding Arrangement:	Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.		

### 3.10 Luncarty - PVA 02/08/010

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

#### Background

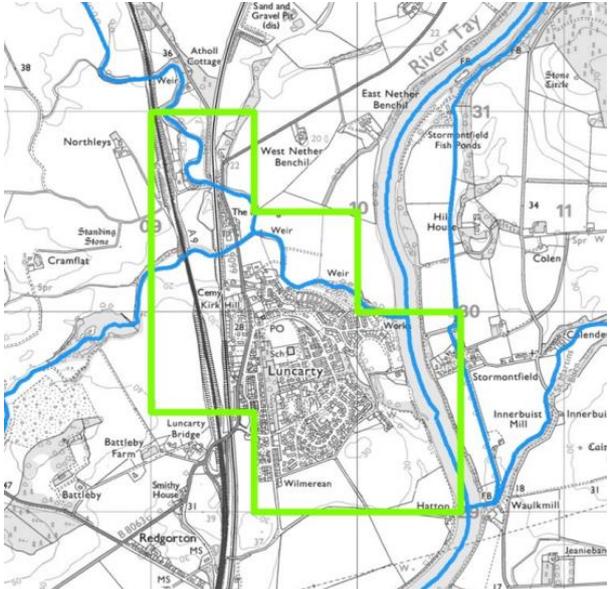
This area is designated as a potentially vulnerable area due to flood risk to Luncarty. The main sources of flooding are surface water and the River Tay and its tributaries. River flood risk is likely to increase significantly because of climate change. A number of floods have been recorded in this area.

#### List of Objective Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment. This is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Luncarty                      Target Area 247

**Luncarty (target area 247)**

Summary	Location Map
<p>Luncarty lies 6km north of Perth, near the River Tay and within Perth and Kinross.</p> <p>The main sources of flooding in Luncarty are river flooding and surface water flooding. There are approximately 160 people and 90 homes and businesses currently at risk of flooding. This is likely to increase to 250 people and 130 homes and businesses by the 2080s due to climate change. River flood risk is likely to increase significantly because of climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources, and this information has highlighted the risk of flooding in this area.

There are limited records of flooding in this area. Flooding occurred in January 1993 and further minor floods have been noted in February 2002, January 2005, July and November 2009 and in July 2015 in the Westfield area when surface water flooding affected roads. The most recent flood was recorded on 5 December 2015 from Storm Desmond which caused some flooding of gardens in the area.

**Selected Actions in the Luncarty Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD STUDY (Ref: 24701)</b>
Objective (ID):	Reduce the risk of river flooding in Luncarty (Ref: 2473)
Delivery Lead:	Perth & Kinross Council

Status:	Not started	Planned Delivery Period:	2024-2026
Description:	Perth and Kinross Council will progress a flood study to look at river flood risk in Luncarty. The flood risk from the River Tay, the Shochie Burn and the Ordie Burn will be assessed. The impacts of climate change on flood risk will be evaluated. The study will include flood modelling, and if flood risk is confirmed, an appraisal of potential future actions to manage flood risk and scoping of future work will be carried out.		
Coordination Arrangement:	The study is programmed to commence in the 2024/25 financial year. Perth and Kinross Council will engage a consulting engineer to investigate the fluvial flood risk and identify potential options for managing that risk. The study will be coordinated through the Local Plan District Partnership and with other related actions.		
Funding Arrangement:	The flood study will be subject to funding from Perth and Kinross Council's revenue budget.		

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 24702)</b>		
Objective (ID):	Prepare for future flooding as a result of climate change in Luncarty (Ref: 2472)		
Delivery Lead:	SEPA and Responsible Authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement will continue to be carried out in this area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with ongoing projects and activities. This will include engaging with the community on the development of the flood study.		
Coordination Arrangement:	Community engagement will take place around any projects and activities and will be coordinated through the Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.		
Funding Arrangement:	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

Action (ID):	<b>SEWER FLOOD RISK ASSESSMENT (Ref: 24703)</b>		
Objective (ID):	Prepare for future flooding as a result of climate change in Luncarty (Ref: 2472)		
Delivery Lead:	Scottish Water		
Status:	Planned	Planned Delivery Period:	2025-2027

Description:	Scottish Water will undertake a modelling assessment in the Perth City 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.
Coordination Arrangement:	Scottish Water will coordinate this action with Perth and Kinross Council and SEPA. Outputs of this modelling assessment will be shared with Perth and Kinross Council and SEPA
Funding Arrangement:	Funding for this action is secured within Scottish Water's business plan.

### 3.11 Scone - PVA 02/08/11

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

#### Background

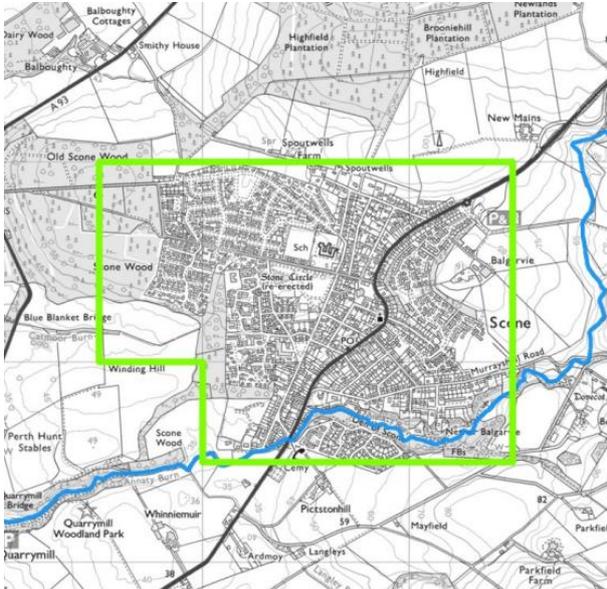
This area is designated as a potentially vulnerable area due to flood risk to Scone. The main source of flooding is the Annaty Burn and surface water. There is a history of flooding in this area, with recent floods caused by both river and surface water flooding.

#### List of Objective Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment. This is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Scone                      Target Area 255

**Score (Objective Target Area 255)**

Summary	Location Map
<p>Score is a town northeast of Perth located within Perth and Kinross. The main source of flooding is surface water and river flooding from the Annaty Burn. There are approximately 330 people and 180 homes and businesses currently at risk from flooding. This is likely to increase to 400 people and 220 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding was improved by a previous flood study for the Annaty Burn, while the national understanding of surface water flooding was improved by Scottish Water’s sewer flood risk assessment.

There has been a history of flooding in this area. In August 2004 high intensity rainfall resulted in flooding to a number of properties and the Annaty Burn overtopped. A series of small-scale localised floods in Scone were recorded in 2010, 2013 and 2014. In May 2017, heavy rainfall led to several roads in the area being flooded. Heavy rain on 11 and 12 August 2020 led to surface water flood water outside some properties to rise up to the level of airbricks. The most recent flood was recorded February 2021 when multiple areas across Perth and Kinross were affected, including Scone.

**Objectives and Actions in the Scone Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD PROTECTION SCHEME (Ref: 25501)</b>		
Objective (ID):	Reduce the risk of surface water and river flooding from the Annaty Burn in Scone (Ref: 2554)		
Delivery Lead:	Perth & Kinross Council		
Status:	Not started	Planned Delivery Period:	To be confirmed
Description:	<p>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 flood protection.</p> <p>The commencement of the work to develop the scheme has been delayed. The development of the proposals will be informed by community engagement. The scheme will then progress to the statutory process set out under the Flood Risk Management (Scotland) Act 2009. The detailed design will be completed thereafter.</p> <p>Following completion of the detailed design, the proposed scheme will be procured and will progress to construction.</p> <p>As built drawings will be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates.</p>		
Coordination Arrangement:	The Scone (Annaty Burn) Flood Protection Scheme will be coordinated through the Tay Local Plan District Partnership. The flood protection scheme will be coordinated with other related actions.		
Funding Arrangement:	The delivery of the Annaty Burn Flood Protection Scheme is subject to capital funding being made available (up to 80% capital grant funding from the Scottish Government with the remaining funding being provided from Perth & Kinross Council's capital programme).		

Action (ID):	<b>MAINTAIN FLOOD PROTECTION SCHEME (Ref: 25502)</b>		
Objective (ID):	Avoid an increase in flood risk by the appropriate management and maintenance of Scone (Annaty Burn) Flood Protection Scheme (Ref: 2552)		
Delivery Lead:	Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	To be confirmed
Description:	Once built, Perth and Kinross Council will implement an inspection and maintenance regime for the Scone (Annaty Burn) Flood Protection Scheme.		
Coordination Arrangement:	Perth & Kinross Council's Roads Maintenance Partnership will maintain any existing flood protection scheme through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, NatureScot,		

	landowners and other stakeholders as required. The maintenance of the flood scheme will also be coordinated with related actions.
Funding Arrangement:	The maintenance of flood protection schemes will be subject to funding from Perth and Kinross Council revenue budget.

Action (ID):	<b>FLOOD STUDY (Ref: 25503)</b>		
Objective (ID):	Reduce the risk of surface water and river flooding from the Annaty Burn in Scone (Ref: 2554)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not Started	Planned Delivery Period:	2023 - 2024
Description:	<p>A flood protection study was carried out by Perth and Kinross Council for the Annaty Burn, Scone in 2007. The study identified a viable flood protection scheme as a priority in the first flood risk management cycle. Further study was recommended to supplement the previous investigations, looking at natural flood management and surface water flooding. Natural flood management options that should be considered include river/ floodplain restoration and sediment management. The study will also investigate the viability of property level protection. The study will take a catchment approach and consider the potential benefits and disbenefits and interaction between actions upstream and downstream.</p> <p>Perth and Kinross Council 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 and Kinross Council intends to re-examine this previous study following a small number of drain failures and this will be carried out in conjunction with the study identified above</p>		
Coordination Arrangement:	<p>The study is scheduled to commence in the 2022/23 financial year. Perth and Kinross Council will engage a consulting engineer to investigate the flood risk and identify potential options for managing that risk. This action will be undertaken in conjunction with the Scone surface water management plan (Action Ref 25504).</p> <p>The study will be coordinated through the Tay Local Plan District Partnership.</p>		
Funding Arrangement:	The flood study will be subject to funding from Perth and Kinross Council's revenue budget.		

Action (ID):	<b>SURFACE WATER MANAGEMENT PLAN (Ref: 25504)</b>		
Objective(ID):	Reduce the risk of surface water and river flooding from the Annaty Burn in Scone (Ref: 2554).		
Delivery Lead:	Perth and Kinross Council		
Status:	Not started	Planned Delivery Period:	2023 - 2024
Description:	Perth & Kinross Council will engage consulting engineers to develop a surface water management plan for Scone. This will		

	<p>investigate the surface water flood risk and identify potential options for managing that risk.</p> <p>The surface water management plan will be delivered as part of the Scone Flood Study (Action Ref 25503).</p> <p>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.</p>
Coordination Arrangement:	<p>The surface water management plan is scheduled to commence in the 2022/23 financial year and will be coordinated through the Tay Local Plan District Partnership.</p> <p>Scottish Water will support surface water management planning through ensuring that best available knowledge and data is used to input into the surface water management plan.</p>
Funding Arrangement:	<p>The surface water management plan will be subject to funding from Perth and Kinross Council's revenue budget.</p>

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 25505)</b>		
Objective (ID):	Prepare for current flood risk and future flooding in Scone as a result of climate change (Ref: 2553)		
Delivery Lead:	SEPA and Responsible Authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	<p>Community engagement is to continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with on-going projects and activities.</p> <p>Perth and Kinross Council will continue to coordinate with Scone Community Council and local landowners on a priority needs basis where resources allow.</p>		
Coordination Arrangement:	<p>Community engagement will take place around any projects and activities and will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.</p>		
Funding Arrangement:	<p>Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget.</p> <p>SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.</p> <p>Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.</p>		

### 3.12 Perth & Almondbank - PVA 02/08/12

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

#### Background

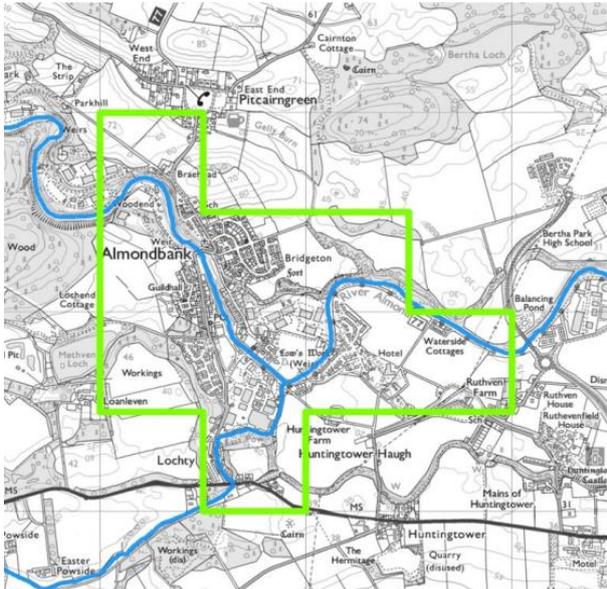
This area is designated as a potentially vulnerable area due to flood risk to Almondbank, Methven and Perth. The main source of flooding in Almondbank and Methven is river flooding. The main sources of flooding in Perth are small watercourses and surface water. Perth and Almondbank benefit from flood protection schemes. There is a long history of flooding in these areas, with recent flooding from surface water and small watercourses recorded in August 2020.

#### List of Objective Target Areas

There are three target areas in this potentially vulnerable area, which have been the focus of further assessment, these are listed below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Almondbank	Target Area 187
Methven	Target Area 249
Perth	Target Area 253

**Almondbank (Objective Target Area 187)**

Summary	Location Map
<p>Almondbank is located approximately 5km northwest of Perth on the banks of the River Almond within Perth and Kinross.</p> <p>The main source of flooding in Almondbank is river flooding. The recent Almondbank Flood Protection Scheme protects approximately 31 homes and 48 businesses on the River Almond and the East Pow Burn up to the 1 in 200-year flood.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding is improved by previous flood study work for the Almondbank Flood Protection Scheme.

There is a long record of flooding in this area. Previous significant flooding occurred in January 1993, September and December 1999 and January 2011. The most recent flood was recorded in December 2015 due to Storm Desmond when the River Almond overflowed causing erosion to the riverbank. The Almondbank Flood Protection Scheme was substantially completed in 2018 and protects homes and businesses from flooding in the area. In August 2020, some minor surface water flooding was recorded at the Lochty Industrial Estate. In September 2022, heavy rainfall resulted in the River Almond flooding onto the adjacent football pitch, affecting the road access to the bowling club. No properties were affected.

**Objectives and Actions in the Almondbank Objective Target Area**

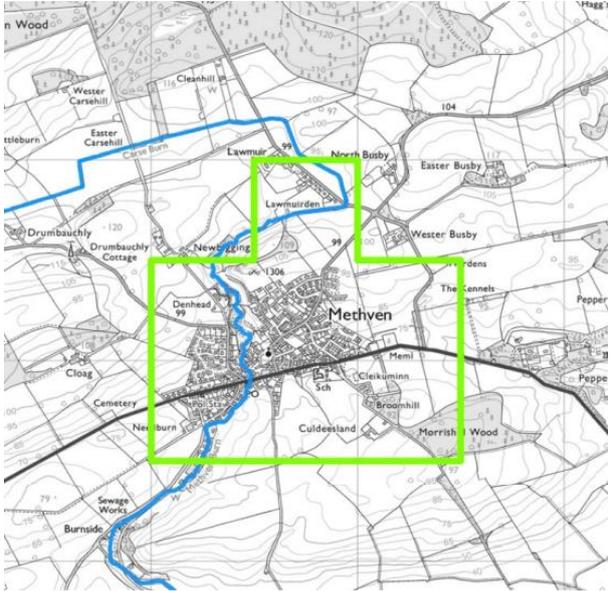
The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>MAINTAIN FLOOD PROTECTION SCHEME (Ref: 18701)</b>		
Objective (ID):	Avoid an increase in flood risk by the appropriate management and maintenance of Almondbank and Perth flood protection schemes (Ref: 1872)		
Delivery Lead:	Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Maintenance of the Almondbank Flood Protection Scheme on the River Almond and East Pow Burn will continue in accordance with the existing inspection and maintenance regime		
Coordination Arrangement:	Perth & Kinross Council's Roads Maintenance Partnership maintain existing flood protection schemes through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, NatureScot, landowners and other stakeholders as required.		
Funding Arrangement:	The maintenance of flood protection schemes will be subject to funding from Perth & Kinross Council's Revenue Budget.		

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 18702)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Almondbank (Ref: 1873)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required. SEPA will maintain the Almond flood warning scheme.		
Coordination Arrangement:	SEPA will maintain the Almond flood warning service. SEPA will continue to raise awareness of flood warning, and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

**Methven (Objective Target Area 249)**

Summary	Location Map
<p>Methven is a village which lies due west of Perth within Perth and Kinross.</p> <p>The main source of flooding in Methven is river flooding, with some risk from surface water flooding. There are approximately 50 homes and businesses currently at risk of flooding. This is likely to increase to 60 homes and businesses by 2080 due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources, and this information has highlighted the risk of flooding in this area.

There are records of flooding in this area. Flooding occurred in January and July 2002, July 2005, July 2010 and November 2012. In August 2020 when heavy rain led to flooding of approximately 4 properties and roads. The most recent flooding occurred in September 2022 when two properties are understood to have flooded.

**Objectives and Actions in the Methven Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

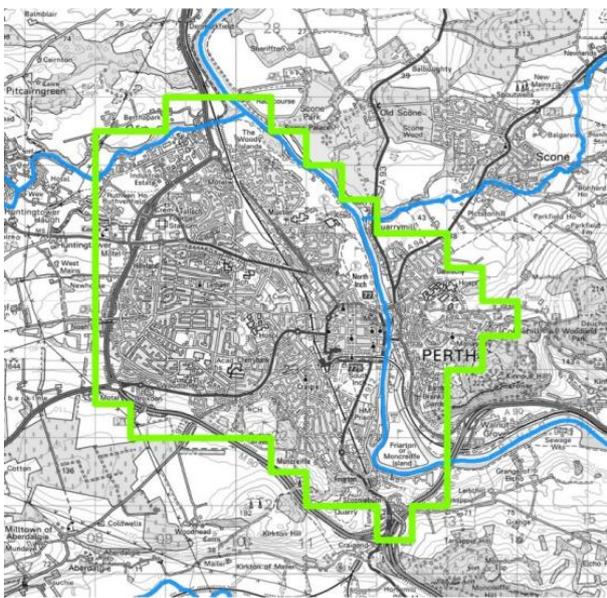
SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD STUDY (Ref: 24901)</b>		
Objective (ID):	Reduce the risk of river flooding from the Methven Burn in Methven (Ref: 2493).		
Delivery Lead:	Perth & Kinross Council		
Status:	Not started	Planned Delivery Period:	2026-2028

Description:	A flood study is required to improve understanding of river flood risk. The study will include flood modelling. If flood risk is confirmed, potential options to manage flood risk should be investigated. Current and long-term flood risk will be considered and include the assessment of the potential impacts of climate change.
Coordination Arrangement:	The study is programmed to commence in the 2026/27 financial year. Perth and Kinross Council will engage a consulting engineer to investigate the fluvial flood risk and identify potential options for managing that risk. The study will be coordinated through the Tay Local Plan District Partnership and with other related actions.
Funding Arrangement:	The flood study will be subject to funding from Perth and Kinross Council's revenue budget.

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 24902)</b>		
Objective (ID):	Prepare for current flood risk and/or future flooding as a result of climate change in Methven (Ref: 2492)		
Delivery Lead:	SEPA and Responsible Authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement is to continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with on-going projects and activities. This will include engaging with the community on the development of the flood study.		
Coordination Arrangement:	Community engagement will take place around any projects and activities and will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.		
Funding Arrangement:	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget. SEPA's role in this action is funded by the Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

**Perth (Objective Target Area 253)**

Summary	Location Map
<p>The city of Perth is located on the River Tay within Perth and Kinross. The main source of flooding in Perth is river flooding, however there is also a risk from surface water. It should be noted that Perth Flood Protection Scheme reduces the risk of river and coastal flooding in Perth. There are approximately 4,000 people and 2,600 homes and businesses currently at risk of flooding. This is likely to increase to 9,300 people and 5,500 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding is improved by previous flood studies carried out by the local authority for the Perth Flood Protection Scheme and the on-going Craigie Burn flood study and Perth surface water management plan. Understanding of sewer, river and surface water flooding was also improved as a result of the Perth integrated catchment study which assessed the interactions between the different flood sources.

There is a long record of flooding in this area, and most recently from surface water. Significant damage occurred in 1993 when widespread flooding resulted in damage to communication networks, hundreds of properties and farmland in and around Perth, causing an estimated £20 million of damage. Residents were evacuated in the North Muirton housing estate after flood defences were breached. Numerous surface water floods were recorded in the area too, including on 21 July 2010 when extensive surface water flooding around Perth affected properties and roads and 16 July 2011 when heavy rain caused surface water flooding in Perth. Homes and businesses were affected. In June 2017 drains overflowed as a result of heavy rainfall, flooding properties and several gardens and roads. Recently, on 11 and 12 August 2020 heavy rainfall caused widespread flooding in Perth flooding approximately 155 homes and businesses across the city. In September 2022

flooding occurred throughout Perth and Kinross, with approximately 40 properties were flooded in Perth.

### Objectives and Actions in the Perth Objective Target Area

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD PROTECTION WORKS (Ref: 25301)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Perth (Ref: 2535)		
Delivery Lead:	Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	To be confirmed
Description:	<p>The design of the proposed Bridgend surface water flood protection works has commenced. The proposed works include a high-capacity drainage channel and outfall to the River Tay. Following completion of the design, the Bridgend surface water flood protection works will be procured and constructed. As built drawings will be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates.</p> <p>In accordance with the Tay flood risk management plan, as part of the scheme or works, Perth and Kinross Council will aim to ensure the action will not have an adverse effect on the integrity of the River Tay Special Area of Conservation.</p>		
Coordination Arrangement:	The Bridgend surface water flood protection works will be coordinated through the Tay Local Plan District Partnership, taking cognisance of the on-going Perth surface water management plan.		
Funding Arrangement:	The delivery of the Bridged Flood Protection Works is subject to capital funding being made available (up to 80% capital grant funding from the Scottish Government with the remaining funding being provided from Perth & Kinross Council's capital programme).		

Action (ID):	<b>FLOOD STUDY (Ref: 25302)</b>		
Objective (ID):	Reduce the risk of river flooding from the Craigie Burn in Perth (Ref: 2534)		
Delivery Lead:	Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	2021 - 2023
Description:	Perth and Kinross Council has engaged consulting engineers to complete the Craigie Burn Flood Protection Study as set out in the Cycle 1 Tay local flood risk management plan.		

Coordination Arrangement:	The flood study commenced in November 2021 and is on-going. The consulting engineers are investigating the fluvial flood risk and the potential actions required to manage and, where achievable, to reduce that risk. The study is being coordinated through the Tay Local Plan District Partnership and with the on-going Perth surface water management plan.
Funding Arrangement:	The flood study is being funded from Perth and Kinross Council's revenue budget.

Action (ID):	<b>SEWER FLOOD RISK ASSESSMENT (Ref: 25303)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Perth. (Ref: 2535)		
Delivery Lead:	Scottish Water		
Status:	Not started	Planned Delivery Period:	2025 - 2027
Description:	Scottish Water will undertake a modelling assessment in the Perth City 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.		
Coordination Arrangement:	The outputs of the modelling assessment will be shared with Perth and Kinross Council and SEPA.		
Funding Arrangement:	Funding for this action is secured within Scottish Water's business plan.		

Action (ID):	<b>SURFACE WATER MANAGEMENT PLAN (Ref: 25304)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Perth (Ref: 2535)		
Delivery Lead:	Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	2021 - 2023
Description:	Perth and Kinross Council has engaged consulting engineers to develop the Perth Surface Water Management Plan. They are further investigating the surface water flood risk across Perth to identify potential options for managing that risk. The results of Scottish Water's sewer flood risk assessment and the Perth Integrated Catchment Study are being considered. Current and long-term flood risk is being considered and if climate change impacts are found to be significant, then an adaptation plan will be included. Perth is a Scottish Water priority area and opportunities to work jointly will be explored.		
Coordination Arrangement:	Development of the surface water management plan commenced in December 2021 and is on-going, and is being coordinated through the Tay Local Plan District Partnership. This is a priority area for Scottish Water, who are working with and supporting surface water management planning through ensuring that best available knowledge and data is used to input into the surface water management plan.		
Funding Arrangement:	The surface water management plan is being funded from Perth and Kinross Council's revenue budget.		

Action (ID):	<b>FLOOD STUDY (Ref: 25305)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Perth (Ref: 2535)		
Delivery Lead:	Scottish Water in coordination with Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	2020 - 2023
Description:	<p>The Perth Integrated Catchment Study identified a number of flooding hotspots in Perth. These areas include Feus Road, Cavendish Avenue, Marshall Place, South Street and Bells Sports Centre. Scottish Water and Perth and Kinross Council will continue to progress study work to identify options to manage flood risk in the future.</p> <p>The study will outline potential solutions and phasing of solutions to reduce flood risk from the sewer network and surface water in the Cavendish Avenue/Gray Street area of Perth. The remaining study outputs will be assessed by all parties to identify whether any works will be economically viable and affordable to be taken forwards. Due to the cost of the and scale of options, it is likely that any viable improvements would be delivered in a phased manner over a number of FRM cycles.</p>		
Coordination Arrangement:	<p>The study has commenced and is expected to be completed in 2023. The results from the Feus Road elements of the study were disseminated to the local community in November 2022. Other areas will follow.</p> <p>Scottish Water will continue to work with Perth and Kinross Council to investigate the sewer and pluvial flood risk in the noted high priority areas and identify potential options for managing that risk. The study is being coordinated through the Tay Local Plan District Partnership.</p>		
Funding Arrangement:	<p>The study is being funded from Perth and Kinross Council's revenue budget.</p> <p>Funding for this action is secured within Scottish Water's business plan.</p> <p>Funding for any potential future phases of work is not confirmed.</p>		

Action (ID):	<b>FLOOD STUDY (Ref: 25306)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Perth (Ref: 2535)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not started	Planned Delivery Period:	2023 - 2024
Description:	<p>The Perth Integrated Catchment Study identified a number of flooding hotspots in Perth. The highest priority areas are currently being studied under a joint project run by Scottish Water in partnership with Perth and Kinross Council (Action Ref: 25305). Scottish Water and Perth and Kinross Council should progress further study work for the remaining hotspots to identify options to manage flood risk in the future.</p>		

Coordination Arrangement:	The study is programmed to commence in 2023. Perth and Kinross Council will engage a consulting engineer to investigate the surface water flood risk and identify potential options for managing that risk. The study will be coordinated with Scottish Water through the Tay Local Plan District Partnership and with the on-going Perth Surface Water Management Plan (Action Ref: 25304). This is a priority area for Scottish Water, who will work with and support the Council through ensuring that best available knowledge and data is used to input into the study.
Funding Arrangement:	The study will be subject to funding from Perth and Kinross Council's revenue budget.

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 25307)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Perth (Ref: 2533)		
Delivery Lead:	SEPA and Responsible Authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement will continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with on-going projects and activities. Perth and Kinross Council will continue to coordinate with the Local Resilience Partnership's Community and Business Resilience Group and other community resilience groups on a priority needs basis where resources allow.		
Coordination Arrangement:	Community engagement will take place around any projects and activities and will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.		
Funding Arrangement:	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget. SEPA's role in this action is funded by the Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

Action (ID):	<b>COMMUNITY RESILIENCE GROUPS (Ref: 25308)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Perth (Ref: 2533)		
Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going

Description:	The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority. The Perth Community and Business Resilience Group and the South Inch Flood Group are active in this area. Perth and Kinross Council will continue to communicate and support these groups on flood risk matters. Their resilience plans should be reviewed and updated regularly by the groups, and this will be supported by the Council.
Coordination Arrangement:	Perth and Kinross Council will continue to coordinate with the Perth Business Community Resilience Group and the South Inch Flood Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with these groups on a priority needs basis where resources allow.
Funding Arrangement:	Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.

Action (ID):	<b>MAINTAIN FLOOD PROTECTION SCHEME (Ref: 25309)</b>		
Objective(ID):	Avoid an increase in flood risk by the appropriate management and maintenance of the Perth Flood Protection Scheme (Ref: 2532)		
Delivery Lead:	Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Maintenance of the Perth Flood Protection Scheme on the River Tay and the Craigie Burn should continue in accordance with the existing inspection and maintenance regime.		
Coordination Arrangement:	Perth & Kinross Council's Roads Maintenance Partnership will maintain any existing flood protection scheme through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, NatureScot, landowners and other stakeholders as required.		
Funding Arrangement:	The maintenance of flood protection schemes will be subject to funding from Perth & Kinross Council's revenue budget.		

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 25310)</b>		
Objective(ID):	Prepare for current flood risk and future flooding as a result of climate change in Perth (Ref: 2533)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required. SEPA should maintain the Almond flood warning scheme.		

Coordination Arrangement:	SEPA will maintain the River Almond flood warning scheme. SEPA will continue to raise awareness of flood warning and engage with communities about the service when required.
Funding Arrangement:	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.

Action (ID):	<b>FLOOD WARNING MAINTENANCE (Ref: 25311)</b>		
Objective(ID):	Prepare for current flood risk and future flooding as a result of climate change in Perth (Ref: 2533)		
Delivery Lead:	SEPA		
Status:	Existing	Planned Delivery Period:	On-going
Description:	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required. SEPA should maintain the River Tay flood warning scheme.		
Coordination Arrangement:	SEPA will maintain the River Tay flood warning scheme. SEPA will continue to raise awareness of flood warning and engage with communities about the service when required.		
Funding Arrangement:	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.		

### 3.13 Comrie - PVA 02/08/13

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

#### Background

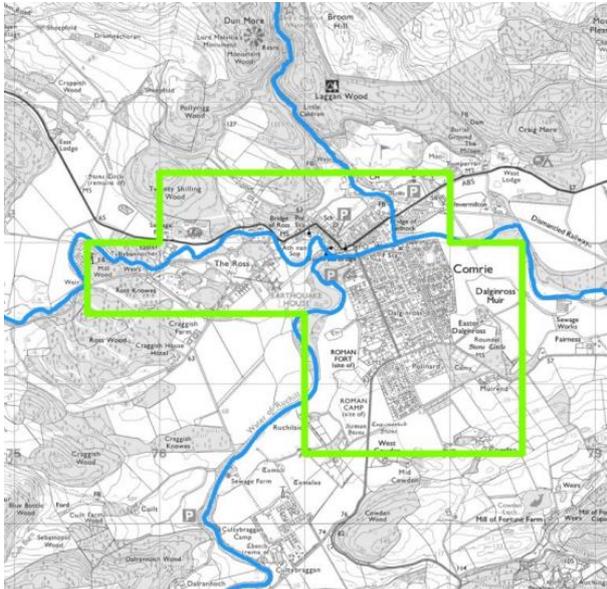
This area is designated as a potentially vulnerable area due to flood risk to Comrie. The main source of flooding is the River Earn, River Lednock and the Water of Ruchill. There is also risk of flooding from surface water. There is a history of flooding with significant floods recorded in 2015 and 2016 during Storm Frank.

#### List of Objective Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment. This area is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Comrie                      Target Area 213

**Comrie (Objective Target Area 213)**

Summary	Location Map
<p>Comrie is located to the east of Loch Earn within Perth and Kinross. The main source of flooding in Comrie is river flooding from the Water of Ruchill, the River Earn and the River Lednock. There is also risk of surface water flooding. The local authority has carried out a flood study in this area which estimated that there are approximately 191 homes and 2 businesses currently at risk from flooding.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding was improved by the studies supporting the on-going development of the proposed Comrie Flood Protection Scheme. The national understanding of surface water flooding was also improved by Scottish Water’s sewer flood risk assessment.

There is a long record of flooding in this area. In August 2012, approximately 60 properties in Dalginross were flooded by the Water of Ruchill. In November 2012 the Water of Ruchill flooded again, inundating approximately 150 homes. In January 2016 the fire service was called to attend a localised flooding issue. The most recent flood occurred in February 2021 however no properties were affected.

**Objectives and Actions in the Comrie Objective Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD PROTECTION SCHEME (Ref: 21301)</b>		
Objective(ID):	Reduce the risk of river flooding from the River Earn, River Lednock and the Water of Ruchill in Comrie (Ref: 2134)		
Delivery Lead:	Perth and Kinross Council		
Status:	Existing	Planned Delivery Period:	2022 - 2024
Description:	<p>The Comrie Flood Protection Scheme was confirmed under the Flood Risk Management (Scotland) Act on 18 August 2021. The detailed design of the flood scheme is on-going and once complete, the flood scheme is to be built.</p> <p>Advance works commenced in August 2022 and are on-going. The detailed design of the flood scheme is to be completed, followed by procurement and construction. The development of the proposals will continue to be informed by community engagement.</p> <p>Once complete, as built drawings will be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates.</p>		
Coordination Arrangement:	The Comrie Flood Protection Scheme is being coordinated through the Tay Local Plan District Partnership. SEPA will work with Perth and Kinross Council on the potential to coordinate this action with an update to SFDAD and flood warning actions.		
Funding Arrangement:	The Comrie Flood Protection Scheme will be subject to available capital funding (up to 80% capital grant funding from the Scottish Government with the remaining funding being provided from Perth & Kinross Council's capital programme).		

Action (ID):	<b>SEWER FLOOD RISK ASSESSMENT (Ref: 21302)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Comrie (Ref: 2133)		
Delivery Lead:	Scottish Water		
Status:	Not started	Planned Delivery Period:	2025 - 2027
Description:	Scottish Water will undertake a modelling assessment in the Comrie 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.		
Coordination Arrangement:	Outputs of this modelling assessment will be shared with local authorities and SEPA.		
Funding Arrangement:	Funding for this action is secured within Scottish Water's business plan.		

Action (ID):	<b>SURFACE WATER MANAGEMENT PLAN (Ref: 21303)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Comrie (Ref: 2135)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not started	Planned Delivery Period:	2023 - 2025

Description:	Perth & Kinross Council will engage consulting engineers to develop a surface water management plan for Comrie. This will investigate the surface water flood risk and identify potential options for managing that risk. The results of the sewer flood risk assessment will be considered. Current and long-term flood risk will be assessed and if climate change impacts are found to be significant, surface water management should include adaptive planning.
Coordination Arrangement:	The surface water management plan is programmed to commence in the 2023/24 financial year and will be coordinated through the Tay Local Plan District Partnership. Scottish Water support surface water management planning through ensuring that best available knowledge and data is used to input to the surface water management plan.
Funding Arrangement:	The surface water management plan will be subject to funding from Perth and Kinross Council's revenue budget.

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 21304)</b>		
Objective (ID):	Prepare for current flood risk and/or future flooding as a result of climate change in Comrie (Ref: 2133)		
Delivery Lead:	SEPA and Responsible Authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement is to continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with on-going projects and activities.		
Coordination Arrangement:	Community engagement will take place around any projects and activities and will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity. Perth and Kinross Council will continue to coordinate with the Comrie Community Resilience Group on a priority needs basis where resources allow.		
Funding Arrangement:	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget. SEPA's role in this action is funded by the Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		

Action (ID):	<b>COMMUNITY RESILIENCE GROUP (Ref: 21305)</b>		
Objective (ID):	Prepare for current flood risk and/or future flooding as a result of climate change in Comrie (Ref: 2133)		
Delivery Lead:	Community		
Status:	Existing	Planned Delivery Period:	On-going

<b>Description:</b>	The group of community volunteers work to prepare and put in practice their Community Resilience Plan and be supported by the local authority. The Comrie Community Resilience Group operates in this area. Perth and Kinross Council will continue to communicate and support the group on flood risk matters. The resilience plan should be reviewed and updated regularly by the group, and this will be supported by the Council.
<b>Coordination Arrangement:</b>	Perth and Kinross Council will continue to coordinate with the Comrie Community Resilience Group to manage flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the group on a priority needs basis where resources allow.
<b>Funding Arrangement:</b>	Funding for Community flood action groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.

<b>Action (ID):</b>	<b>MAINTAIN FLOOD PROTECTION SCHEME (Ref: 21306)</b>		
<b>Objective (ID):</b>	Avoid an increase in flood risk by the appropriate management and maintenance of the flood protection scheme in Comrie (Ref: 2132)		
<b>Delivery Lead:</b>	Perth and Kinross Council		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	Perth and Kinross Council will continue to maintain existing flood defences and flood protection works in Comrie in accordance with the existing inspection and maintenance regime. These include the Water of Ruchill Flood Protection Scheme constructed in the 1960s and flood protection works carried out in 2013. Once built, Perth and Kinross Council will implement an inspection and maintenance regime for the Comrie Flood Protection Scheme		
<b>Coordination Arrangement:</b>	Perth & Kinross Council's Roads Maintenance Partnership maintain existing flood protection schemes and works through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, NatureScot, landowners and other stakeholders as required.		
<b>Funding Arrangement:</b>	The maintenance of flood protection schemes will be subject to funding from Perth & Kinross Council's revenue budget.		

<b>Action (ID):</b>	<b>FLOOD WARNING MAINTENANCE (Ref: 21307)</b>		
<b>Objective (ID):</b>	Prepare for current flood risk and/or future flooding as a result of climate change in Comrie (Ref: 2133)		
<b>Delivery Lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going

Description:	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required. SEPA should maintain the Comrie flood warning scheme.
Coordination Arrangement:	SEPA will work with Perth & Kinross Council on the potential to use information from the Comrie flood scheme to inform on-going flood warning. SEPA will continue to raise awareness of flood warning and engage with communities about the service when required.
Funding Arrangement:	SEPA's role in this action is funded by the Scottish Government through SEPA's grant in aid settlement.

### 3.14 Bridge of Earn - PVA 02/08/14

Local Plan District	Local Authority	Main Catchment
Tay	Perth and Kinross Council	River Earn

#### Background

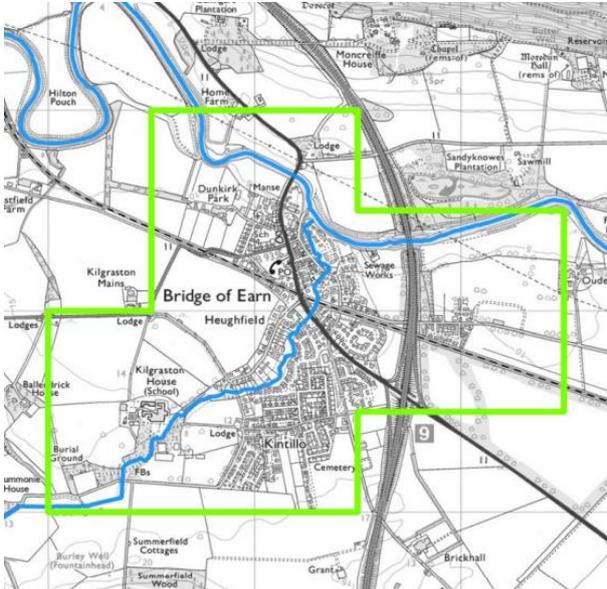
This area is designated as a potentially vulnerable area due to flood risk to Bridge of Earn. The main source of flooding is river flooding from the River Earn, Deich Burn and Yellow Burn. A flood protection scheme offers some protection against flooding in this area. There is also risk of surface water flooding. There is history of flooding in this area, with recent flooding recorded in 2015, 2016, and 2020.

#### List of Target Areas

There is one target area in this potentially vulnerable area, which has been the focus of further assessment. This area is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

Bridge of Earn                      Target Area 205

**Bridge of Earn (Objective Target Area 205)**

Summary	Location Map
<p>The town of Bridge of Earn is located on the River Earn within Perth and Kinross.</p> <p>The main source of flooding in Bridge of Earn is river flooding, however there is also a risk of surface water flooding. There are approximately 290 people and 150 homes and businesses at risk from flooding. This is likely to increase to 340 people and 180 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

**Current Understanding of Flood Risk**

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river and surface water flooding was improved by the Perth integrated catchment study which has assessed the interactions between sewer, river and surface water flooding.

There is a long record of flooding in this area. The town was affected by flooding in February 1990 and January 1993. In December 2015, Storm Desmond caused prolonged rainfall across Perth & Kinross, affecting several properties in Bridge of Earn. In June 2016 intense rainfall caused flooding to homes, roads and a local school. In August 2020, heavy rain flooded one property and some roads. The most recent flooding occurred in September 2022 when surface water flooding affected four properties.

**Objectives and Actions in the Bridge of Earn Target Area**

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk. A description of these actions is included in Section 2.3.

Action (ID):	<b>FLOOD STUDY (Ref: 20501)</b>		
Objective (ID):	Reduce the risk of surface water flooding in Bridge of Earn (Ref: 2054)		
Delivery Lead:	Perth and Kinross Council		
Status:	Not started	Planned Delivery Period:	2023-2025
Description:	A flood study will be carried out in order to better understand the integrated flooding mechanisms in Bridge of Earn. The study will initially include a high-level assessment of actions and then consider the works required to reduce flood risk in the future. The results of the recent Perth Integrated Catchment Study will be incorporated. Current and long-term flood risk will be considered.		
Coordination Arrangement:	The study is programmed to commence in the 2023/24 financial year. Perth and Kinross Council will engage a consulting engineer to investigate the flood risk and identify potential options for managing that risk. The study will be coordinated through the Tay Local Plan District Partnership. 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 the Section 16 sewer assessment and/or Perth integrated catchment study.		
Funding Arrangement:	The flood study will be subject to funding from Perth and Kinross Council's revenue budget.		

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 20502)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Bridge of Earn (Ref: 2053)		
Delivery Lead:	SEPA and Responsible Authorities		
Status:	Existing	Planned Delivery Period:	On-going
Description:	Community engagement will continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement will continue in connection with any on-going projects and activities. Perth and Kinross Council will continue to coordinate with Bridge of Earn Community Council and other groups on a priority needs basis where resources allow.		
Coordination Arrangement:	Community engagement will take place around any projects and activities and will be coordinated through the Tay Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.		
Funding Arrangement:	Community engagement activities will be subject to funding from the Council's revenue budget. SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this		

	action by Scottish Water are accounted for in their capital or operational expenditure.
--	---

<b>Action (ID):</b>	<b>SEWER FLOOD RISK ASSESSMENT (Ref: 20503)</b>		
<b>Objective (ID):</b>	Reduce the risk of surface water flooding in Bridge of Earn (Ref: 2054)		
<b>Delivery Lead:</b>	Scottish Water		
<b>Status:</b>	Not started	<b>Planned Delivery Period:</b>	2025-2027
<b>Description:</b>	Scottish Water will undertake a modelling assessment in the Perth City 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.		
<b>Coordination Arrangement:</b>	Outputs of this modelling assessment will be shared with local authorities and SEPA.		
<b>Funding Arrangement:</b>	Funding for this action is secured within Scottish Water's business plan.		

<b>Action (ID):</b>	<b>MAINTAIN FLOOD PROTECTION SCHEME (Ref: 20504)</b>		
<b>Objective (ID):</b>	Avoid an increase in flood risk by the appropriate management and maintenance of the Bridge of Earn Flood Protection Scheme (Ref: 2052)		
<b>Delivery Lead:</b>	Perth and Kinross Council		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	Maintenance of the Bridge of Earn Flood Protection Scheme on the River Earn, the Deich Burn and the Yellow Burn will continue in accordance with the existing inspection and maintenance regime.		
<b>Coordination Arrangement:</b>	Perth & Kinross Council's Roads Maintenance Partnership maintain existing flood protection schemes through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, NatureScot, landowners and other stakeholders as required.		
<b>Funding Arrangement:</b>	The maintenance of flood protection schemes will be subject to funding from Perth & Kinross Council's Revenue Budget.		

<b>Action (ID):</b>	<b>FLOOD WARNING MAINTENANCE (Ref: 20505)</b>		
<b>Objective (ID):</b>	Prepare for current flood risk and future flooding as a result of climate change in Bridge of Earn (Ref: 2053)		
<b>Delivery Lead:</b>	SEPA		
<b>Status:</b>	Existing	<b>Planned Delivery Period:</b>	On-going
<b>Description:</b>	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required. SEPA will maintain the Earn flood warning scheme.		

Coordination Arrangement:	SEPA will work with Perth and Kinross Council on the potential to use information from the flood study to inform ongoing flood warning. SEPA will continue to raise awareness of flood warning and engage with communities about the service when required.
Funding Arrangement:	SEPA's role in this action is funded by Scottish Government through SEPA's grant in aid settlement.

### 3.15 Other Flood Risk Activities by Local Authorities in the Tay Local Plan District

This Local Flood Risk Management Plan presents the actions to manage flood risk in the Tay Local Plan District. These actions are at a LPD-wide scale or are targeted at specific Potentially Vulnerable Areas. In addition to the actions in this Plan, responsible authorities are undertaking other activities to manage flood risk as included in the Flood Risk Management (Scotland) Act 2009. The main activities that have a significant effect and should be considered in conjunction with the Plan are summarised as follows:

#### Surface Water Management Planning

As described in paragraph 1.8 of this Plan, surface water flooding occurs in areas of the Tay Local Plan District. This will be addressed by Surface Water Management Planning. Details of the Surface Water Management Planning for each local authority in the Local Plan District are included in [Annex 5](#) of this Plan.

#### Section 18 & 59: Works of Clearance and Repair

Based on an assessment of the condition of a body of water, local authorities must prepare a schedule of clearance and repair works that would substantially reduce the risk of flooding of land. This is commonly referred to as a Schedule 18, which is made available by each local authority within the Local Plan District for public inspection. Under Section 59 of the Flood Risk Management (Scotland) Act, a local authority must carry out the works in the Schedule 18 if it considers that this will contribute to (or will not affect) the implementation of actions in this Plan. Details of how to access Schedule 18's for each local authority in the Local Plan District are included in [Annex 5](#) of this Plan.

#### Section 56: General Power to manage flood risk

Without affecting the implementation of actions in this Plan, a local authority may do anything which it considers will contribute to the implementation of actions in this Plan or is necessary to reduce the risk of a flood which is likely to occur imminently and have serious adverse consequences for human health, the environment, cultural heritage or economic activity in its area.

This may include carrying out flood protection works, which may not be identified as actions in this Plan. Where a local authority has a commitment to carry out such flood protection works or any other activities within the period of the current FRM cycle not included as actions in this Plan, then these works are identified in [Annex 5](#) of this Plan.

### 3.16 Next Steps and Monitoring Progress

This Plan will run for six years from 2022. Over this period the Tay Local Plan District partnership will meet from time to time to monitor progress on implementing the actions detailed in Section 3 of the Plan.

Between years two and three of the cycle (i.e. before December 2025), Perth and Kinross Council, as lead local authority, will publish an interim report on the conclusions of a review of the Plan, including information on the progress that has been made towards delivering the actions identified in the Plan.

Between years five and six of the cycle (i.e. before June 2028), Perth and Kinross Council, as lead local authority, will publish a final report on the Plan containing an assessment of the progress made towards delivering the “current actions”, a summary of the actions not implemented, with reasons why, and a description of any other actions undertaken since the plan was finalised, which the lead local authority considers have contributed to the achievement of the objectives in the Plan.

Perth and Kinross Council will make these reports available for public inspection.

## Annex 1: Tay LPD Roles, Responsibilities & Contact Details

### Roles and responsibilities for Flood Risk Management Planning

Individuals are the first line of defence against flooding. However, public bodies have responsibilities too and are working together to reduce the impacts of flooding in Scotland. Responsibility for flood risk management planning falls in the main to SEPA, local authorities and Scottish Water. However, individuals have a personal responsibility to protect themselves and their property.

Some of the key roles are outlined below and more information is available from the SEPA website.

### Your Responsibilities

Organisations and individuals have responsibilities to protect themselves from flooding. Being prepared by knowing what to do and who to contact if flooding happens can help you reduce the damage and disruption flooding can have on your life.

The first step to being prepared is [signing up to Floodline](#) so you can receive messages to let you know where and when flooding is likely to happen. Other useful tools and advice on how to be prepared are available on the [Floodline](#) website including a quick guide to who to contact in the event of a flood. You can also check how your area could be affected by flooding by looking at SEPA's [flood maps](#).

### SEPA

SEPA is Scotland's national flood forecasting, flood warning and strategic flood risk management authority. We have a statutory duty to produce Scotland's Flood Risk Management Strategies. As described above, we work closely with other organisations responsible for managing flood risk through a network of partnerships and stakeholder groups to ensure that a nationally consistent approach to flood risk management is adopted.

SEPA also has a responsibility to identify where in Scotland there is the potential for natural flood management techniques to be introduced. Natural flood management is the use of the natural features of the land to store and slow down the flow of water. In running Floodline, we provide live flooding information and advice on how to prepare for or cope with the impacts of flooding 24 hours a day, seven days a week. To help us forecast for flooding we work closely with the [Met Office](#).

To raise awareness of flooding at a national level SEPA runs education initiatives, community engagement programmes and an annual campaign to promote the useful

advice and information available through Floodline. We work in partnership with local authorities, Neighbourhood Watch Scotland, Ready Scotland and others to share our resources and help to promote preparedness and understanding of how flood risk is managed.

SEPA can be contacted as follows:

Telephone: 03000 99 66 99

E-mail: [frmplanning@sepa.org](mailto:frmplanning@sepa.org)

Address: Strathallan House Castle Business Park Stirling, FK9 4TZ

## Local Authorities

Local authorities work together for flood risk management planning purposes through a single lead authority which has the responsibility for producing the Local Flood Risk Management Plan. Local authorities have been working collaboratively in the manner described above to develop these.

It is the responsibility of your local authority to implement its flood protection actions agreed within the Flood Risk Management Strategy, including new schemes or works and the requirement to carry out clearance and repair works on bodies of water. You can help your local authority to manage flooding by letting them know if debris is blocking watercourses or if flood defences are tampered with.

During severe flooding, local authorities will work with the emergency services and coordinate shelter for people evacuated from their homes.

The lead authority for the Tay Local Plan District is Perth & Kinross Council. Other local authorities who are responsible authorities for the Tay Local Plan District are:

- Angus Council;
- Fife Council;
- Stirling Council.

Contact details are provided below.

Local Authority	Telephone	E-mail	Address
Perth & Kinross Council	01738 475000	<a href="mailto:Flood@pkc.gov.uk">Flood@pkc.gov.uk</a>	Pullar House 35 Kinnoull Street Perth PH1 5GD
Angus Council	03452 777 778	<a href="mailto:Accesline@angus.gov.uk">Accesline@angus.gov.uk</a>	Orchardbank Business Park, Orchardbank, Forfar, Angus DD8 1AX
Fife Council	03451 550000	<a href="mailto:fife.council@fife.gov.uk">fife.council@fife.gov.uk</a>	Fife Council Fife House,

			North Street, Glenrothes KY7 5LT
Stirling Council	01786 404040	<a href="http://my.stirling.gov.uk/contact">http://my.stirling.gov.uk/contact</a> (online form)	Flooding Team, Stirling Council, Endrick House, Kerse Road, Stirling FK7 7SZ

## Scottish Water

Scottish Water is a responsible authority for flood risk management and is working closely with SEPA, local authorities and others to coordinate plans to manage flood risk. Scottish Water has the public drainage duty and is responsible for foul drainage and the drainage of rainwater run-off from roofs and any paved ground surface from the boundary of properties. Additionally, Scottish Water helps to protect homes from flooding caused by sewers either overflowing or becoming blocked. Scottish Water is not responsible for private pipework or guttering within the property boundary.

Scottish Water can be contacted on 0800 0778 778.

## National Parks

The two National Park Authorities, Loch Lomond and Trossachs National Park and Cairngorms National Park, are the Planning Authorities for their respective areas and were designated as responsible authorities for flood risk management purposes in 2012. Both have worked with SEPA, local authorities and Scottish Water to help develop Flood Risk Management Strategies and Local Flood Risk Management Plans. As planning authorities they fulfil an important role in land use planning, carrying out or granting permission for activities that can play a key role in managing and reducing flood risk. The Loch Lomond and Trossachs National Park and the Cairngorms National Park are responsible authorities with the Tay Local Plan District.

Contact details are provided below.

National Park Authority	Telephone	E-mail	Address
Loch Lomond & Trossachs	01389 722 600	<a href="mailto:info@lochlomond-trossachs.org">info@lochlomond-trossachs.org</a>	Carrochan, Carrochan Road, Balloch, G83 8EG
Cairngorms	01479 873 535	<a href="mailto:planning@cairngorms.co.uk">planning@cairngorms.co.uk</a>	14 The Square, Grantown-on-Spey PH26 3HG

## Other organisations

- The **Scottish Government** oversees the implementation of the Flood Risk Management (Scotland) Act 2009 which requires the production of Flood Risk Management Strategies and Local Flood Risk Management Plans. Scottish Ministers are responsible for setting the policy framework for how organisations collectively manage flooding in Scotland. The Scottish Government has also approved the Tay Flood Risk Management Strategy.
- **Scottish Natural Heritage** has provided general and local advice in the development of the Flood Risk Management Strategies. Flooding is seen as a natural process that can maintain the features of interest at many designated sites, so Scottish Natural Heritage helps to ensure that any changes to patterns of flooding do not adversely affect the environment. Scottish Natural Heritage also provides advice on the impact of Flood Protection Schemes and other land use development on designated sites and species.
- **Forestry and Land Scotland** was designated in 2012 as a responsible authority for flood risk management planning purposes and has engaged in the development of the Flood Risk Management Strategies through national and local advisory groups. This reflects the widely held view that forestry can play a significant role in managing flooding. Forestry and Land Scotland can be contacted as follows:

Tel: 03000 676 005

Address: Upper Battleby, Redgorton, Perth, PH1 3EN

- During the preparation of the first flood risk management plans, **Network Rail** and **Transport Scotland** have undertaken works to address flooding at a number of frequently flooded sites. Further engagement is planned with SEPA and local authorities to identify areas of future work. There is the opportunity for further works to be undertaken during the first flood risk management planning cycle although locations for these works are yet to be confirmed.
- **Utility companies** have undertaken site specific flood risk studies for their primary assets and have management plans in place to mitigate the effects of flooding to their assets and minimise the impacts on customers.
- The **Met Office** provides a wide range of forecasts and weather warnings. SEPA and the Met Office work together through the [Scottish Flood Forecasting Service](#).
- The **emergency services** provide emergency relief when flooding occurs and can coordinate evacuations. You should call the emergency services on 999 if you are concerned about your safety or the safety of others and act immediately on any advice provided.
- **Historic Environment Scotland** considers flooding as part of their regular site assessments. As such, flooding is considered as one of the many factors which

inform the development and delivery of its management and maintenance programmes.

- **The Scottish Flood Forum** is a Scottish charitable organisation that provides support for those who are affected by, or are at risk of, flooding. It provides flood advice, information, awareness, education and training to individuals and communities to help reduce the risk of flooding; in partnership with the local authority, provides support during the recovery process following a flood incident and aims to support the development of resilient communities. The Scottish Flood Forum can be contacted as follows:

Tel: 01698 839 021

Web: [www.scottishfloodforum.org](http://www.scottishfloodforum.org)

Address: Caledonian Exchange, 19A Canning Street, Edinburgh, EH3 8HE

## Annex 2: Consultation and Engagement

It is essential that any action taken on flooding is informed by the best available data. The 2009 Act therefore required that the draft Flood Risk Management Plans and corresponding supplementary parts of Local Flood Risk Management Plans be put to public consultation. SEPA and the lead local authorities were required to coordinate their consultation arrangements during the preparation of these documents.

The purpose of the consultation was to seek views from everyone including individuals, businesses and interested community groups at risk of flooding as well as organisations with an interest in how flood risk is managed and delivered. This Annex contains a summary of the responses made in the Tay Local Plan District and explains how SEPA took these into account in preparing the Tay Flood Risk Management Plan and also how they have taken them into account in preparing this Tay Local Flood Risk Management Plan.

The public consultation was delivered through a phased approach. Phase 1 (which included a series of characterisation reports) commenced on 21 December 2021. Phase 2 (which added initial objectives, a short list of measures and implementation arrangements) commenced on 30 July 2021. The consultation closed on 31 October 2021.

The consultation was a web-based exercise carried out jointly with SEPA and the other responsible authorities. The Citizen Space web-based platform was used to host the consultation. Consultation questions were developed to stimulate a response and respondents were also given the opportunity to make comment.

In order to encourage appropriate participation in the public consultation, Perth & Kinross Council placed public notices in newspapers circulating in the Tay District and the Council wrote to the other Responsible Authorities, Category 1 Responders, SEPA, NatureScot and the national park authorities. The Council also wrote to community councils and advertised the consultation online and through social media. The other responsible authorities in the Tay District also followed similar arrangements.

28 respondents made specific comments on the public consultation for the Tay Local Plan District as follows:

<b>Respondent</b>	<b>No of Responses</b>
Members of the public	22
Local businesses	1
Community bodies	1
Other organisations	2
Elected members	1
Local authorities	1
<b>Total</b>	<b>28</b>

Three consultation responses were received from the statutory consultees:

- Perth & Kinross Council
- Elected members
- NatureScot

A summary of the specific responses received along with a summary of the changes made to this Plan is provided below in Table A2.1.

In general, the respondents made comment on the catchment characterisation, objectives and selected actions as follows:-

- Some concerns were raised about on-going flooding of increasing frequency in various areas – mainly in Perth – but these areas are within the designated PVAs and OTA's and objectives and actions have been set that will address them. Some respondents noted concern that their area was outside of a PVA, but this was due to lower flood risk and the general actions (as set out in Section 2.3 of this Plan) will apply. Overall, this suggests that the majority of significant flooding has been recorded in the characterisation reports.
- In general, there was agreement with the proposed objectives and actions although some responses sought clarification on the timelines, or requested accelerated timelines. Where possible, the timescales will be provided in the final published Local Flood Risk Management Plan.
- Concerns were frequently raised around increased flood risk due to development, but the LPD-wide land use planning action has been set to address this. [Annex 3](#) of this local flood risk management plan also includes land use planning objectives.

Any concerns raised are considered to have been addressed by the development of SEPA's Flood Risk Management Plan, the Council's actions (flood studies, flood schemes and on-going flood risk management responsibilities) or the final selected actions. Therefore, no changes were required to the draft Tay Local Flood Risk Management Plan.

**Table A2.1: Summary of Specific Issues Raised During Public Consultation**

No	Respondent	Brief Summary of Issues Raised	Lead Authority Comments
1	Member of the public	Noted flooding in some areas of Perth City and Bridge of Earn; that package of proposed objectives was too vague; wanted to hear more about maintenance, river dredging, use of	The Tay Local FRM Plan includes various actions for both Perth and Bridge of Earn, including flood studies and a surface water management plan. More detail on the objectives and actions –

		beavers, flooding of set aside agricultural land, etc; work should begin immediately.	including timescales - has been provided in the final published Plan. The Plan will also include maintenance actions.
2	Member of the public	A member of the public in Perth is concerned that their property has flooded multiple times because of heavy rain and blocked drains. They are concerned that this will happen again.	The Tay Local FRM Plan includes various actions to manage the risk of flooding including various flood studies, a surface water management plan and maintenance works. Perth & Kinross Council's Roads Maintenance Partnership carry out maintenance of road drainage systems. Road defects (including blocked gullies) can be reported to the Council via their website.
3	Member of the public	A resident of Wallace Crescent and Fairfield, Perth expressed concern that this area is not mentioned, despite previous repeated flooding of their property. They are looking for reassurance that this will be considered. They expressed concern about development in the area, the lack of upgrades or improvements to the existing drainage system and the time required for improvements.	This area is located within the Perth PVA (02/08/12) and OTA 253. The proposed Tay Local FRM Plan includes specific actions for the area that are intended to bring about a reduction in flood risk. These actions include the on-going Perth SWMP. Perth & Kinross Council also invested in road drainage improvements on Wallace Crescent in 2021 to reduce the risk of flooding.
4	Member of the public	A resident in Aberfeldy is concerned about the visual impact and access issues associated with the proposal to build a flood wall as part of the Aberfeldy Flood Scheme. The respondent noted involvement in the local community resilience plan and in reporting blocked street drains to the local authority.	The Tay Local FRM Plan includes an action for a new flood protection scheme in Aberfeldy. Any issues associated with visual impact and access will be addressed during the outline design of the flood scheme via further public consultation and the Environmental Impact Assessment. In the meantime, the Council welcomes local efforts to improve flood resilience in Aberfeldy.

5	Member of the public	A local resident who lives next to the Craigie Burn in Perth flooded last year and expressed concern that flooding has become more frequent. They requested quick action be taken by pumping water away, noting issues with surface water, sewer flooding, issues with flood gates, property insurance costs, SUDS and storage ponds. They have taken steps to protect their home and liaise with local councillors.	The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253), including the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study and the Perth SWMP. The Plan also includes self-help and awareness raising actions. It is individual property owners' responsibility to protect themselves and their assets from flooding.
6	Member of the public	A resident in Craigie, Perth noted concern that development has increased flood risk and that the objective should include infrastructure upgrades. They noted that some maintenance work has helped matters but more requires to be done. The resident noted that they have previously raised issues, but they have not been acted on, and suggested a community meeting. They also note that they monitor flooding in the Craigie area and have reported this to the Council.	The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253), including the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study, and the Perth SWMP. The Council has already undertaken public consultation in connection with these issues. The proposed Plan also includes other actions including: <ul style="list-style-type: none"> <li>• Land Use Planning - all new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.</li> <li>• Maintenance - of watercourses, road drainage and existing flood defences.</li> </ul> The Council welcomes local efforts to improve flood resilience in Perth.
7	Member of the public	A local resident in Blairgowrie & Rattray noted that localised flooding in	The Tay Local FRM Plan includes maintenance of watercourses. Perth & Kinross

		rural Perthshire could be mitigated in a cost-effective way by improved ditch and verge maintenance. The resident noted the proposed actions and timescales are 'non-committal' and won't be adhered to. They have carried out their own verge maintenance works.	Council's Flooding team inspect and assess bodies of water and carry out clearance and repair works, where this will substantially reduce flood risk. The primary responsibility for avoiding or managing flood risk remains with landowners. Actions and timescales will be set out in the published Plan and interim and final reports will also be published setting out the progress made. The Council welcomes local efforts to improve flood resilience in Blairgowrie & Rattray.
8	Member of the public	A local resident in Alyth noted two floods in 6 years and expressed concern about waiting until 2028 for a plan to be made. They noted the action taken by the local community to protect properties but noted that the Council should do more. They also noted the need for more radical action to prevent flooding by creating an artificial flood plain to the north of the town.	The Tay Local FRM Plan includes a number of on-going actions to manage flood risk in Alyth. In particular, Perth & Kinross Council are currently undertaking a Natural Flood Management (NFM) Study in Alyth. The study will explore the potential options for flood risk management measures in this area, including NFM and flood storage.
9	Member of the public	A local resident in Blairgowrie and Rattray noted that the timescales for actions are not quick enough.	The Tay Local FRM Plan will set out the current timescales for actions in Blairgowrie and Rattray. This area is currently the focus of an on-going surface water management plan which will consider the potential means of managing and, where achievable, reducing flood risk in this area.
10	Member of the public	A member of the public in Pitlochry agreed that the main communities and infrastructure had been identified and with the	No response required.

		proposed objectives for this area.	
11	Member of the public	A member of the public noted that Dunning was not listed in the consultation.	Dunning was included within PVA 08/16 in the Cycle 1 FRM Plans, however, following the 2 <sup>nd</sup> national flood risk assessment in 2018, this area has been re-assessed as having a lower level of flood risk. Dunning is therefore no longer designated as a PVA. However, the area is covered by the proposed LPD-wide actions set out in the Tay Local FRM Plan.
12	Member of the public	A member of the public in Coupar Angus noted that: <ul style="list-style-type: none"> <li>• flood risk is preventing development and that development elsewhere has increased flood risk;</li> <li>• watercourses are flowing slower due to overgrown vegetation and silt.</li> <li>• the A93 road should be raised to prevent road closures and delayed emergency access due to flooding.</li> <li>• flood defences would prevent flooding in Coupar Angus but this would move the problem elsewhere.</li> </ul>	The Tay Local FRM Plan includes actions to manage flood risk in this area, including the land use planning action. All new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water. Perth & Kinross Council's Flooding team inspect and assess bodies of water and carry out clearance and repair works where this will substantially reduce flood risk. The primary responsibility for avoiding or managing flood risk remains with landowners. The Council's previous flood study considered the potential options for reducing flood risk in Coupar Angus but unfortunately did not identify an economically viable flood scheme. Flood risk will therefore continue to be managed as set out in the Tay Local FRM Plan.
13	Member of the public	A member of the public in Perth noted: <ul style="list-style-type: none"> <li>• 8 flood events on the Craigie Burn since 1981;</li> </ul>	The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253)

		<ul style="list-style-type: none"> <li>• concern about increased flood risk due to development and global warming;</li> <li>• the lack of scope for improving existing flood defences, e.g. bottlenecks and culverts in the Craigie Burn, and the limited benefit of maintenance works;</li> <li>• that the pace of FRM is too slow to keep pace with the increased frequency of flooding;</li> <li>• that local residents need to be kept informed of any local works;</li> <li>• the on-going risk to property and people and the associated costs; and</li> <li>• it is the public authorities job to manage flood risk.</li> </ul>	<p>and in particular the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study and the Perth SWMP. The Council has already undertaken public consultation in connection with these issues and the associated timescales. The Plan also includes other actions including:</p> <ul style="list-style-type: none"> <li>• Land Use Planning - all new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.</li> <li>• Maintenance - of watercourses, road drainage and existing flood defences.</li> </ul> <p>While certain public authorities have a duty to manage and, where achievable, reduce flood risk overall, the primary responsibility for avoiding or managing flood risk remains with land and property owners.</p>
14	Member of the public	<p>A member of the public in Perth noted the increasing frequency of flooding; the increase in flood risk due to development; the need to improve drainage and not rely on existing drainage or watercourses such as the Craigie Burn; the need for improved communication on actions being taken; that the scale of the flooding over the last 20 years has been understated; that the timescales for action are too slow and that interim changes are also required.</p>	<p>The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253) and, in particular, the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study and the Perth SWMP. The Council has already undertaken public consultation in connection with these issues and the associated timescales. The Plan also includes other actions including:</p> <ul style="list-style-type: none"> <li>• Land Use Planning - all new development is required to comply with national and local planning policies, the Council's Supplementary</li> </ul>

			<p>Guidance and to include SUDS to manage surface water.</p> <ul style="list-style-type: none"> <li>• Maintenance - of watercourses, road drainage and existing flood defences.</li> </ul>
15	Member of the public	<p>A local resident in Perth noted:</p> <ul style="list-style-type: none"> <li>• that flooding wasn't happening 'once every 200 years' – there had been 8 flood events on the Craigie Burn since 1981;</li> <li>• concern about increased flood risk due to development;</li> <li>• concern about how SUDS operate and if they deal with older development;</li> <li>• concern about flooding on the Craigie Burn due to small culverts and blockages and the impact on flooding of adjacent properties;</li> <li>• concern that dredging of the Craigie Burn increases flood risk downstream;</li> <li>• disappointment that Perth &amp; Kinross Council appear to be blaming householders for the flooding, while allowing development further upstream;</li> <li>• the damage done due to surface water flooding; and;</li> <li>• that action to manage flood risk is too slow – flooding is more frequent; and</li> <li>• that more communication is required from the Council.</li> </ul>	<p>The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253) and in particular the on-going maintenance of the existing Perth Flood Scheme, the on-going Craigie Burn Flood Study and the Perth SWMP. The Council has already undertaken public consultation in connection with these issues and the associated timescales. The Plan also includes other actions including:</p> <ul style="list-style-type: none"> <li>• Land Use Planning - all new development is required to comply with national and local planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.</li> <li>• Maintenance - of watercourses, road drainage and existing flood defences.</li> </ul> <p>While certain public authorities have a duty to manage and, where achievable, reduce flood risk overall, the primary responsibility for avoiding or managing flood risk remains with land and property owners.</p>

16	Member of the public	A local resident on the Cavendish Avenue area of Perth noted concern about increasing flooding and health impacts due to the limited capacity of the sewer system outside their property and development elsewhere in the catchment. This has been an issue for 15-16 years, and they feel that the sewer requires to be upgraded. The resident doesn't feel able to act as this may increase flood risk to adjacent properties.	The Tay Local FRM Plan includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253). In particular, there is an on-going IFOS (Internal Flooding due to Overloaded Sewers) study being carried out jointly between Scottish Water and Perth and Kinross Council to consider the potential means of managing and, where achievable, reducing flood risk to properties in the vicinity of Cavendish Avenue. Community drop-in sessions will be held early in 2023 to disseminate the findings of this study.
17	Member of the public	A member of the public in the Tomcroy Terrace area of Pitlochry noted concern that the flood map omits to show the flood risk to their neighbours property, which has been affected twice by an adjacent small burn and surface water run off from fields. They noted they may be able to help the local community resilience group.	SEPA's indicative flood maps do not always show flooding on small watercourses (due to their limited catchment size). Tomcroy Terrace is affected by flooding from the Wester Kinnaird Burn which was fully considered by the more detailed modelling work carried out under the Pitlochry Flood Study. The study recommended a new watercourse diversion channel on the Wester Kinnaird Burn at Tomcroy Terrace, as part of the wider proposals for a flood scheme in this area. The proposed scheme is included as one of the actions for this area (the Pitlochry PVA 02/08/02 and OTA 254) in the Tay Local FRM Plan. The Council welcomes local efforts to improve flood resilience in Pitlochry.
18	Member of the public	A member of the public noted concern about an increase in flood risk due to development.	The Tay Local FRM Plan includes actions to manage flood risk, including the land use planning action. All new development is required to comply with national and local

			planning policies, the Council's Supplementary Guidance and to include SUDS to manage surface water.
19	Member of the public	A member of the public in Comrie agreed that the main communities and infrastructure had been identified and agreed with the proposed objectives for this area.	No response required.
20	Member of the public	A member of the public in Bridge of Earn is concerned that the Oudenarde and Brickhall industrial sites are not included within the objective target area. They noted concern about the proposed objectives don't include tributaries to the River Earn, and need to address the flat topography which limits surface water drainage. They also noted concern that the timescales for actions were too long.	The Tay Local FRM Plan includes actions to manage flood risk in Bridge of Earn (PVA 02/08/14 and OTA 205). The development site at Oudenarde and the Brickhall Industrial site both fall outwith OTA 205, although they are within PVA 02/08/14. The flood risk on these sites is being managed through the land use planning action which applies across the whole of the local plan district. The proposed objectives do not mention any watercourses but instead refer to the management of flood risk. Flood risk from any bodies of water and their tributaries will therefore be considered. The Deich and Yellow Burns have been noted against the 'Maintain flood protection scheme' action. The Plan also includes a Flood study to better understand the integrated flooding mechanisms in Bridge of Earn (including surface water) and the potential works required to reduce flood risk in the future. The timescales for all of these actions have been set out in the published Plan.
21	Member of the public	A member of the public noted that all vulnerable areas should be identified, and this should not be	The potentially vulnerable areas (PVA's) were set out in the second national flood risk assessment, published in

		<p>limited to affected houses, but should also include infrastructure. They note that Forgandenny isn't included, despite previous flooding, and that the flood risk maps do not show previous flooding. They noted that support is required from both Perth and Kinross Council and SEPA and noted concern that current legislation does not force rural landowners to cooperate on natural flood measures within their land.</p>	<p>December 2018. This assessment considered homes, businesses and infrastructure. Forgandenny is not within one of the areas designated as a PVA in 2018. Even though there has been previous flooding, the level of flood risk is not significant enough for this area to be included within a PVA. SEPA's indicative flood maps do not always show flooding on small watercourses (due to their limited catchment size). Notwithstanding the above, actions have been set out in the Tay Local FRM Plan to manage flood risk across the local plan district and these apply to Forgandenny. While current legislation does not force rural landowners to undertake flood measures on their land, landowners remain responsible for managing or avoiding flood risk.</p>
22	Member of the public	<p>A member of the public in Coupar Angus agreed that the main communities and infrastructure had been identified and agreed with the proposed package of objectives.</p>	<p>No response required.</p>
23	Local business	<p>A local business owner in Aberfeldy noted that the underlying causes of flooding (the mismanagement of the moorlands in Highland Perthshire) have not been fully addressed. Work and legislation should be introduced immediately. They noted that banning grouse shooting, stopping muir burning and moorland ditchwork, and tree planting would help.</p>	<p>The Tay Local FRM Plan includes actions to manage flood risk in Aberfeldy (PVA 02/08/03 and OTA 183). This area was fully considered by the Aberfeldy Flood Study which was completed in 2019. The study considered a long list of options (including land management techniques) and recommended a flood scheme involving new flood defences in the town. The study findings were disseminated to the local community via drop-in</p>

			sessions on 20 and 25 June 2019.
24	Community body	Earn Community Council agreed that the main communities and infrastructure had been identified and agreed with the proposed objectives, actions and timescales for the Bridge of Earn area. The community council noted that the local community can help to limit surface water runoff due to monoblocking/surfacing of private land and by implementing natural flood management.	Perth and Kinross Council welcomes local efforts to improve flood resilience in Bridge of Earn.
25	Other organisation	A group of 72 healthcare professionals in Tayside and North Fife issued an open letter to Tayside and Fife Councillors, in support of climate mitigation for public health. The group are concerned that the worsening climate crisis is a public health emergency, due to several factors including worsening extreme weather, such as heavy rain and flooding. Creating green and blue spaces can provide health benefits; adaptation is required to cope with increased rainfall, and the risk of flooding as climate change worsens.	The publication of the second Tay Local FRM Plan is one of the key actions to help us adapt to climate change. As a society, we need to take action to manage the risk of flooding and its impacts on our lives, recognising that the risk can't ever be removed entirely. This plan takes our knowledge and understanding of flooding and the impacts of climate change and turns it into a set of actions that are planned, prioritised and co-ordinated to tackle flooding in the communities where it affects us the most. Flooding needs to be managed sustainably so that flood risk is reduced without moving the problem elsewhere. It must be done in a way that contributes to the health and wellbeing of communities, supports the protection and regeneration of the environment, improves resilience to climate change and enables a sustainable economy. Actions are needed on all sources of flooding – including from rivers, the sea, surface water and groundwater – to meet the needs of present

			and future generations while also protecting and enhancing the environment.
26	Other organisation	NatureScot noted that they had previously contributed to the 2018 NFRA consultation and were in general agreement with this consultation. They provided various detailed comments on the proposed actions in various OTA's and the need for an HRA to cover some of these, due to on-going and proposed actions within Special Areas of Conservation (SAC). NatureScot also reiterated that Natural Flood Management (NFM) should be used where possible to reduce flood risk.	NatureScot's comments will inform the various future actions to be taken on flood risk. The Council has undertaken a HRA as part of development of the Tay Local FRM Plan and has consulted with NatureScot on this. NFM is considered in the development of the Tay Local FRM Plan and in the long list of actions considered as part of any individual flood studies.
27	Elected members	Two of the Ward 10 elected members (Councillors Barrett & Wilson) in Perth & Kinross Council noted concern about various flooding issues in Perth including: <ul style="list-style-type: none"> <li>• Surface water flooding from the M90 motorway and the Broxden Park &amp; Ride facility;</li> <li>• Operation of the flood storage ponds at Broxden;</li> <li>• Maintenance of the Scouring and Craigie Burns;</li> <li>• Arrangements for developers completing works and handing them to the Council for adoption;</li> <li>• Flood gate closures on the Perth Flood Scheme;</li> <li>• River and surface water flooding at various locations.</li> </ul>	The Tay Local FRM Plan on-going includes actions to manage flood risk in this area (the Perth PVA 02/08/12 and OTA 253); in particular, the maintenance of the existing Perth Flood Scheme, the Craigie Burn Flood Study, the Perth SWMP and the Perth IFOS Project. Perth & Kinross Council's Flooding team inspect and assess bodies of water and carry out clearance and repair works where this will substantially reduce flood risk. The Council also works with developers to ensure that any issues are fully addressed prior to adoption. The primary responsibility for avoiding or managing flood risk remains with landowners. A separate detailed response was sent to the elected members by e-mail on 25 January 2022.

28	Local Authorities	Perth & Kinross Council's flooding team made comments specific to various OTA's; provided updates for the prioritisation of proposed Cycle 2 flood schemes and flood protection works; noted concern over the lack of any Scottish Water actions; and suggested that Scottish Forestry/Forestry & Land Scotland should be including objectives and actions within the published FRM Plans. No comment was made by other services within the Council.	N/A
----	-------------------	--	-----

Perth and Kinross Council informed SEPA of any views expressed during the consultation that were considered to be relevant to SEPA's Flood Risk Management Plan. SEPA subsequently published their consultation digest in March 2022 (which can be viewed [here](#)) explaining how they took account of these views in preparing the Flood Risk Management Plans.

The views and representations of the respondents were also taken into account in developing and finalising this Local Flood Risk Management Plan.

The local authorities in the Tay District presented the findings from the public consultation to their elected members as follows:

#### Perth & Kinross Council

Perth and Kinross Council presented the findings of the consultation in a report to their Climate Change and Sustainability Committee on 19 December 2022. The committee report can be viewed here:

[link to be inserted]

#### Angus Council

Angus Council presented the findings of the consultation in a report to their Environment Committee on [date to be advised]. The committee report can be viewed here:

[link to be inserted]

#### Stirling Council

Stirling Council presented the outcome of the consultation initially to their committee. The committee report can be viewed here:

[link to be inserted]

Fife Council

Fife Council presented the findings of the consultation to their elected members on 23 June 2015 as detailed here:

[link to be inserted]

As noted at the start of this Annex, the public consultation closed on 31 October 2021 and there has not been any further formal communications or engagement in relation to this Plan.

## Annex 3: Land Use Planning

### Approach to Land Use Planning in the Tay Local Plan District

Perth and Kinross Council is a local planning authority and will coordinate its work with the strategic development planning authority and the National Parks Authorities, who are also planning authorities.

The Council's Flooding Team are consulted on planning applications and work with the Planning and Development Service to provide advice and ensure that flood risk is addressed. The Perth & Kinross Local Development Plan (LDP2) provides the framework against which planning applications outside the National Parks are assessed and is consistent with the Strategic Development Plan (TAYplan).

Supplementary Guidance on Flood Risk and Flood Risk Assessments is also available to support the content of the Perth & Kinross Local Development Plan. Planning applications within the National Parks are assessed against their respective Local Development Plans, which also contain policies in relation to flood risk. Planning applications are also reviewed against SEPA's indicative flood maps, existing flood studies and records of flooding. Where flood risk is an issue, developers are required to prepare and submit a site-specific flood risk assessment and drainage impact assessment as applicable. They must also consider how a development site will be drained and how surface water runoff will be managed through the implementation of appropriate Sustainable Urban Drainage Systems (SuDS).

The above referenced documents can be viewed at the links provided in [Annex 5](#).

The Scottish Planning Policy sets out a flood risk framework to guide development. Areas of medium to high risk – where the annual probability of coastal or watercourse flooding is greater than 0.5% (1:200 years) – may be suitable for development provided 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. This is a matter for careful consideration through review of the Development Plan and its Strategic Environmental Assessment. However, if the site is an important component of the settlement strategy and no other equally suitable site is available then development (apart from civic infrastructure and the most vulnerable uses) may be suitable. Any development in such areas would also be subject to appropriate mitigation measures: including water resistance, and water resilience measures and evacuation procedures.

So as to align the flood risk management and land use planning systems, land use planning objectives and actions have been developed as shown below.

## Flood Risk Management Actions From National Planning Policies

The following objectives and actions reflect national Land Use Planning policies and Guidance:-

### AVOID DEVELOPMENT IN MEDIUM TO HIGH RISK AREAS

- a) **Planning authorities** work in partnership undertaking catchment-wide Strategic Flood Risk Assessments to inform their development plan allocations in line with SEPA's guidance and Land Use Vulnerability.
- b) **Planning authorities and SEPA** require the submission of flood risk assessments that accord with SEPA's *Technical Flood Risk Guidance for Stakeholders*, to support planning applications where there is a potential flood risk. The flood risk assessment should be used to demonstrate as far as possible that the development will be safe for its lifetime, without increasing flood risk elsewhere and, where possible, takes opportunities to reduce flood risk overall.
- c) **SEPA** ensures that its flood risk advice to planning authorities is clear and appropriate. SEPA, in consultation with planning authorities, undertakes an annual assessment of planning advice and its contribution to flood risk.
- d) **SEPA and planning authorities** engage at an early stage of the development plan process to agree appropriate forms of development to help inform the preparation and implementation of Strategic Flood Risk Assessments.

### REDUCE IMPACTS TO EXISTING BUILDINGS

- a) **SEPA, planning authorities and local communities** are required to engage at an early stage of the development plan process to agree the best long term land uses for areas where relocation, abandonment and/or change of use have been identified to deliver sustainable flood risk management. Where possible, new land uses should aim to achieve multiple benefits for local communities such as the creation of blue / green infrastructure and increased resilience to climate change.

### PROTECT AND ENHANCE NATURAL FEATURES THAT HAVE A POSITIVE IMPACT ON REDUCING OVERALL FLOOD RISK

- a) **SEPA and planning authorities** are required to engage early in the development plan process to identify opportunities for the restoration and protection of natural features which help manage flood risk. Opportunities should be maximised to achieve multiple benefits such as the development of green / blue infrastructure and improved place making. Areas of land that may contribute to flood management should be identified and protected.

## **NEW DEVELOPMENTS ARE DESIGNED TO ENSURE THAT SURFACE WATER DRAINAGE DOES NOT INCREASE FLOOD RISK ON OR OFF SITE**

- a) **SEPA** prepares guidance for planning authorities and developers on the use of surface water hazard maps for land use planning purposes.
- b) **Planning authorities** support the implementation of Surface Water Management Plans, developed by the local authorities, through development plan allocations and policies. Surface Water Management Plans should take account of development opportunities that could contribute to the reduction of surface water flood risk.
- c) **SEPA** engages at an early stage of the development plan process to progress exemplar projects that demonstrate the potential for land use planning to mitigate surface water flooding and contribute to wider environmental benefits.

## **NEW DEVELOPMENT IS RESILIENT TO PREDICTED FUTURE CHANGES IN CLIMATE**

- a) **Planning authorities** ensure that climate change is considered in Strategic Flood Risk Assessments and Flood Risk Assessments, based upon the best scientific evidence and the information requirements of planners to make informed decisions.

## Annex 4: Strategic Environmental Assessment & Habitats Regulations Appraisal

### Strategic Environmental Assessment

The Environmental Assessment (Scotland) Act 2005 places a duty on Perth & Kinross Council to identify and assess the environmental consequences of its proposals.

There are likely to be significant environmental effects associated with the Tay Local Flood Risk Management Plan. As a consequence, an environmental assessment is necessary. SEPA have completed an environmental assessment for their Flood Risk Management Plans and their environmental report has been published. Following a review of this assessment, it has been confirmed that this will cover the Tay Local Flood Risk Management Plan and that no further assessment is required. A screening report was submitted to the SEA Gateway to confirm this. The screening responses received via the SEA Gateway confirmed that this Plan is consistent with the Tay Flood Risk Management Plan and therefore no further assessment is required at this time. Further impact assessments will be undertaken on any specific projects as required. The screening report can be viewed via the SEA Gateway by searching for Perth & Kinross Council at the following link;

<https://www.strategicenvironmentalassessment.gov.scot/>

### Habitats Regulations Appraisal

The Tay Local Flood Risk Management Plan was considered in light of the assessment requirements of regulation 48(1) of the Conservation (Natural Habitats, &c) Regulations 1994 (as amended) by Perth and Kinross Council as the competent authority responsible for adopting the Plan and any assessment of it required by the Regulations.

Following screening out of sites where there were no credible impact pathways from the proposals within the Local Flood Risk Management Plan, a list of European sites potentially affected by the Plan is given below:

- River Tay SAC
- Shingle Islands SAC
- Black Wood of Rannoch SAC
- Glenartney Juniper Wood SAC
- Upper Strathearn Oakwoods SAC
- Loch of Kinnordy SPA

Having carried out a 'screening' assessment of the Plan, the competent authority has concluded that 20 actions in the Plan have been assessed as having a likely significant effect on a European site. The following generic mitigation statement has been applied: 'Therefore, to be in accord with the Tay Local Flood Risk Management Plan, the responsible authority should seek to ensure that the action will not have an

adverse effect on the integrity of any Natura site (SPA or SAC) before any consents or permissions are granted'. This statement ensures that a more detailed assessment of each action is carried out as more detail becomes available (i.e., at the project level). This may require the inclusion of suitable mitigation during the development of these actions in the first planning cycle.

NatureScot was consulted on this conclusion (on 29<sup>th</sup> July 2022) and has agreed with it (following the adoption of any recommended changes).

## Annex 5: Links to Other Plans, Policies, Strategies and Legislative Requirements

### Other Plans, Policies, Strategies and Legislative Requirements

The following plans, policies strategies and legislative requirements are relevant to this Plan:

Council/ Responsible Authority	Details of Plan	Hyperlink or web address
Perth & Kinross Council	Strategic Development Plan	<a href="https://www.tayplan-sdpa.gov.uk/publications">https://www.tayplan-sdpa.gov.uk/publications</a>
Perth & Kinross Council	Strategic Development Plan (TAYPlan Website)	<a href="http://www.tayplan-sdpa.gov.uk/strategic_development_plan">http://www.tayplan-sdpa.gov.uk/strategic_development_plan</a>
Perth & Kinross Council	Local Development Plan	<a href="https://www.pkc.gov.uk/media/45242/Adopted-Local-Development-Plan-2019/pdf/LDP_2_2019_Adopted_Interactive.pdf?m=637122639435770000">https://www.pkc.gov.uk/media/45242/Adopted-Local-Development-Plan-2019/pdf/LDP_2_2019_Adopted_Interactive.pdf?m=637122639435770000</a>
Perth & Kinross Council	Local Development Plan (website link)	<a href="http://www.pkc.gov.uk/developmentplan">http://www.pkc.gov.uk/developmentplan</a>
Perth & Kinross Council	Supplementary Guidance - Developers Guidance Note on Flooding & Drainage	<a href="https://www.pkc.gov.uk/ldp2floodrisk">https://www.pkc.gov.uk/ldp2floodrisk</a>
Angus Council	Local Development Plan	<a href="https://archive.angus.gov.uk/localdevelopmentplan/AngusDevelopmentPlanScheme2014.pdf">https://archive.angus.gov.uk/localdevelopmentplan/AngusDevelopmentPlanScheme2014.pdf</a>
Stirling Council	Local Development Plan	<a href="https://my.stirling.gov.uk/services/planning-and-the-environment/planning-and-building-standards/local-and-statutory-development-plans/local-development-plan">https://my.stirling.gov.uk/services/planning-and-the-environment/planning-and-building-standards/local-and-statutory-development-plans/local-development-plan</a>
Fife Council	TAYPlan and SESPlan are the soon to be adopted Strategic Development Plans	<a href="https://www.fifedirect.org.uk/topics/index.cfm?fuseaction=service.display&amp;p2sid=BA85256B-C559-16FB-C2D8A09D3FEB7E83&amp;themeid=2B482E89-1CC4-E06A-52FBA69F838F4D24">https://www.fifedirect.org.uk/topics/index.cfm?fuseaction=service.display&amp;p2sid=BA85256B-C559-16FB-C2D8A09D3FEB7E83&amp;themeid=2B482E89-1CC4-E06A-52FBA69F838F4D24</a>
Fife Council	Local Development Plan due to be adopted in 2016	<a href="https://www.fifedirect.org.uk/topics/index.cfm?fuseaction=page.display&amp;p2sid=D61AC1F5-DD4B-CE6A-51E3BDDDED79D5ABC&amp;themeid=2B482E89-1CC4-E06A-52FBA69F838F4D24">https://www.fifedirect.org.uk/topics/index.cfm?fuseaction=page.display&amp;p2sid=D61AC1F5-DD4B-CE6A-51E3BDDDED79D5ABC&amp;themeid=2B482E89-1CC4-E06A-52FBA69F838F4D24</a>
Fife Council	Adopted St Andrews & East Fife Local Plan	<a href="http://fife-consult.objective.co.uk/portal/fife_ldp/fifeplan_-_adopted_plan_13/adopted_fifeplan">http://fife-consult.objective.co.uk/portal/fife_ldp/fifeplan_-_adopted_plan_13/adopted_fifeplan</a>

Fife Council	Adopted Mid Fife Local Plan	<a href="http://fife-consult.objective.co.uk/portal/fife_ldp/fifeplan - adopted plan 13/adopted fifeplan">http://fife-consult.objective.co.uk/portal/fife_ldp/fifeplan - adopted plan 13/adopted fifeplan</a>
Fife Council	Adopted Dunfermline & West Fife Local Plan	<a href="http://fife-consult.objective.co.uk/portal/fife_ldp/fifeplan - adopted plan 13/adopted fifeplan">http://fife-consult.objective.co.uk/portal/fife_ldp/fifeplan - adopted plan 13/adopted fifeplan</a>
Fife Council	South East Scotland and Tay Strategic Transport Plans	<a href="http://sestran.gov.uk/">http://sestran.gov.uk/</a> <a href="https://tactran.gov.uk/">https://tactran.gov.uk/</a>
Fife Council	Shoreline Management Plan	<a href="https://www.fifedirect.org.uk/minisites/index.cfm?fuseaction=page.display&amp;pageid=B3679654-A6D1-5C31-F426BD276B04EF36&amp;siteID=B35A78B8-9AF8-3BC3-A4DA217231595BC2">https://www.fifedirect.org.uk/minisites/index.cfm?fuseaction=page.display&amp;pageid=B3679654-A6D1-5C31-F426BD276B04EF36&amp;siteID=B35A78B8-9AF8-3BC3-A4DA217231595BC2</a>
Scottish Water	General Guidance on Flooding	<a href="http://www.scottishwater.co.uk/you-and-your-home/your-home/flooding-information">http://www.scottishwater.co.uk/you-and-your-home/your-home/flooding-information</a>
SEPA	The river basin management plan for the Scotland river basin district: 2015–2027	<a href="http://www.sepa.org.uk/environment/water/river-basin-management-planning/">http://www.sepa.org.uk/environment/water/river-basin-management-planning/</a>
SEPA	FRM Strategy Tay Local Plan District, December 2015	<a href="http://apps.sepa.org.uk/FRMStrategies/tay.html">http://apps.sepa.org.uk/FRMStrategies/tay.html</a>
SEPA	FRM Strategies for Scotland Environmental Report, December 2015	<a href="http://www.sepa.org.uk/environment/water/flooding/FRM-strategies/frminfo/">http://www.sepa.org.uk/environment/water/flooding/FRM-strategies/frminfo/</a>
SEPA	Land use planning guidance	<a href="http://www.sepa.org.uk/environment/land/planning/">http://www.sepa.org.uk/environment/land/planning/</a>
SEPA	Flood Maps	<a href="http://www.sepa.org.uk/environment/water/flooding/flood-maps/">http://www.sepa.org.uk/environment/water/flooding/flood-maps/</a>
Forestry And Land Scotland	Control of Woodland	<a href="https://scotland.forestry.gov.uk/supporting/strategy-policy-guidance/woodland-expansion/control-of-woodland-removal">https://scotland.forestry.gov.uk/supporting/strategy-policy-guidance/woodland-expansion/control-of-woodland-removal</a>
Loch Lomond & Trossachs NPA	Local Development Plan (Adopted)	<a href="http://www.lochlomond-trossachs.org/planning/planning-guidance/local-development-plan/">http://www.lochlomond-trossachs.org/planning/planning-guidance/local-development-plan/</a>
Cairngorms NPA	National Park Partnership Plan 2012-2017	<a href="http://cairngorms.co.uk/authority/publication/299/">http://cairngorms.co.uk/authority/publication/299/</a>
Cairngorms NPA	Local Development Plan 2015	<a href="http://cairngorms.co.uk/park-authority/planning/local-dev-plan/">http://cairngorms.co.uk/park-authority/planning/local-dev-plan/</a>

## Section 18 Schedule of Clearance and Repair Works

The following links provide access to the schedules of clearance and repair produced by the local authorities in the Tay Local Plan District. The schedules are a requirement of Section 18 of the Flood Risk Management (Scotland) Act 2009.

Local Authority	Method of Public Access to the Schedule of Clearance and Repair Works
Perth & Kinross Council	Perth & Kinross Council's Schedule of Clearance & Repair Works is available at the following web address: <a href="https://www.pkc.gov.uk/article/14718/Flooding-duties-and-responsibilities">https://www.pkc.gov.uk/article/14718/Flooding-duties-and-responsibilities</a> or via the direct link: <a href="https://www.pkc.gov.uk/media/22028/Schedule-of-watercourse-clearance-and-repair/pdf/2022_02_25_Schedule_of_Watercourse_Clearance_and_Repair_-_2021-22.pdf?m=637813829018370000">https://www.pkc.gov.uk/media/22028/Schedule-of-watercourse-clearance-and-repair/pdf/2022_02_25_Schedule_of_Watercourse_Clearance_and_Repair_-_2021-22.pdf?m=637813829018370000</a>
Angus Council	Currently only obtainable in hard copy from: County Buildings, Market Street, Forfar, Angus, DD8 3WE
Fife Council	Fife Council's Schedule of Clearance & Repair is available at the following web address: <a href="http://www.fifedirect.org.uk/topics/index.cfm?fuseaction=page.display&amp;p2sid=618DD563-ABBC-ECA5-1675450324EED528&amp;themeid=81E299FB-1BCF-4994-8C8A-233463B738F6">http://www.fifedirect.org.uk/topics/index.cfm?fuseaction=page.display&amp;p2sid=618DD563-ABBC-ECA5-1675450324EED528&amp;themeid=81E299FB-1BCF-4994-8C8A-233463B738F6</a>
Stirling Council	Currently only available on request at; Endrick House, Kerse Road, Stirling FK7 7SZ

## Surface Water Management Plans

As noted in Chapter 2 of this Plan, surface water flooding is experienced in areas of the Tay Local Plan District. This will be addressed by Surface Water Management Planning. A brief description of the work that is currently being carried, out or is planned, within the Tay Local Plan District is provided below.

### Perth and Kinross Council

Scottish Water and Perth and Kinross Council completed the Perth Integrated Catchment Study in December 2019. Perth and Kinross Council worked in partnership with Scottish Water on this study. The Council is currently leading on the development of the Perth Surface Water Management Plan in partnership with Scottish Water and SEPA. This is being informed by the work of the integrated catchment study and will identify and implement the most sustainable actions to manage surface water flooding in the area.

The development of a surface water management plan for Blairgowrie and Rattray commenced in October 2022. This project will also consider the flood risk on the Rattray Burn.

Further surface water management plans are also proposed for Scone, Comrie and Aberfeldy and will commence later in the second flood risk management planning cycle.

#### Angus Council

Angus Council will lead on the development of a Surface Water Management Plan for Forfar. This work will be carried out in partnership with Scottish Water and SEPA and will identify the most sustainable measures to manage surface water flooding in the area.

#### Fife Council

Fife Council has no surface water management planning actions to deliver within the Tay Local Plan District.

#### Stirling Council

Stirling Council has no surface water management planning actions to deliver within the Tay Local Plan District.

## Annex 6: Supporting information

The following information has been extracted from the [Tay Flood Risk Management Plan](#)

### Sources of Flooding Described in the Plan

The Tay Flood Risk Management Plan addresses the risk of flooding from rivers, the coast and surface water. The risk of flooding from rivers is usually due to rainfall causing a river to rise above bank level spreading out and inundating adjacent areas. Coastal flooding is where the risk is from the sea. Sea levels can change in response to tidal cycles or atmospheric conditions. Over the longer term, sea levels and coastal flood risk may change due to climate change. Surface water flooding happens when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. There can be interactions between these sources of flooding.

Groundwater is usually a contributing factor to flooding rather than the primary source. It is caused by water rising up from underlying rocks or flowing from springs. Actions to directly target groundwater are quite limited in the Plan. However, susceptibility to the contributing effects of groundwater on flooding was considered everywhere in the national flood risk assessment which underpins the Plan. Maps of areas where groundwater can contribute to flood risk are available to view on SEPA's website: <https://map.sepa.org.uk/floodmap/map.htm>

The following aspects of flooding have not been incorporated into the Plan:

- **Reservoir breaches** have been assessed under separate legislation (Reservoirs (Scotland) Act 2011) and so flood risk from reservoir breach is not considered in this plan. There are fundamental differences in probability of flooding and associated management actions for reservoirs. Further information and maps can be found on SEPA's website at: [www.sepa.org.uk/regulations/water/reservoirs/](http://www.sepa.org.uk/regulations/water/reservoirs/)
- The Flood Risk Management (Scotland) Act 2009 does not require SEPA or responsible authorities to assess or manage **coastal erosion**. However, SEPA has included consideration of erosion in the Flood Risk Management Plans by identifying areas that are likely to be susceptible to erosion and where erosion can exacerbate flood risk. As part of considering where actions might deliver multiple benefits, SEPA have looked to see where the focus of coastal flood risk management studies coincides with areas at risk of coastal erosion as identified by the Dynamic Coast project. Subsequent detailed flood studies and scheme design will need to consider coastal erosion in these areas. This includes ensuring that actions to manage flood risk do not contribute to increased coastal

erosion and where appropriate, help to manage risks from coastal erosion now and in the future.

- **Coastal flood modelling.** The information on coastal flooding used to set objectives and identify actions is based on SEPA modelling using simplified coastal processes and flooding mechanisms. As a result, coastal flood risk may be underestimated in some areas and overestimated in others. Where more detailed local models were available from flood studies or from flood warning schemes, these have been incorporated into the development of the flood risk management plans, as have other sources of local information such as records of past flooding. SEPA is currently working on updates to the national coastal flood mapping to better represent the effects of waves. Actions in the plans reflect the best information currently available.

## Commonly Used Terms

Below are explanatory notes for the commonly used terms in this local flood risk management plan. A glossary of terms is also available.

- **Reference to flood risk.** To develop this Plan, flood risk has been assessed over a range of likelihoods. For consistency in reporting information, unless otherwise stated, all references to properties or other receptors being 'at risk of flooding' refer to a medium likelihood flood (up to a 0.5% chance of flooding in any given year). By exception, references will be made to high or low risk flooding, which should be taken to mean a 10% chance/likelihood or 0.1% chance/likelihood of flooding in any given year respectively.

Chance / Likelihood of flooding		
Likelihood	Return Period	Annual Chance
High	10 year	10%
Medium	200 year	0.5%
Low	1000 year	0.1%

- An **Annual Cost of Flooding** is given as an assessment of the economic impact of flooding within an area. Depending on its size or severity each flood will cause a different amount of damage to a given area. Annual average damages are the theoretical average economic damages caused by flooding when considered over many years. It does not mean that value of damage will occur every year: in many years there will be no damages and in some years the damages will be minor. In most places, there will be a very small number of years when much bigger floods occur, and that is when the highest damage costs will occur. To assess the annual cost, this is averaged over many years. In some areas, smaller floods which happen frequently contribute more to the annual cost than much larger events which are rarer. Within the plans, the annual cost of flooding has been calculated based on the methods set out in the Flood Hazard Research Centre's Multi-Coloured Handbook (2016).

- **History of flooding.** The history of flooding sections of this document report floods that have occurred up to November 2022.

## Flood risk management planning process

Flood risk management in Scotland aims to manage flooding in a sustainable way. Sustainable flood risk management considers where floods are likely to occur in the future and takes action to reduce their impact without moving the problem elsewhere. It considers all sources of flooding, whether from rivers, the sea or from surface water. It delivers actions that will meet the needs of present and future generations whilst also protecting and enhancing the environment.

The sustainable approach to managing flood risk works on a six-year planning cycle, progressing through the key stages outlined below.

### Identifying priority areas at significant flood risk

The first step to delivering a risk-based, sustainable and plan-led approach to flood risk management was SEPA's **second National Flood Risk Assessment**, which was published in 2018. The assessment considered the likelihood of flooding from rivers, groundwater, and the sea, as well as flooding caused when heavy rainfall is unable to enter drainage systems or the river network. The likelihood of flooding was examined alongside the estimated impact on people, the economy, cultural heritage and the environment. It significantly improved our understanding of the causes and consequences of flooding and identified areas most vulnerable to floods.

Based on the second National Flood Risk Assessment, SEPA identified areas where flooding was considered to be nationally significant. These areas are based on catchment units as it is within the context of the wider catchment that flooding can be best understood and managed. These nationally significant catchments are referred to as **Potentially Vulnerable Areas**. In Scotland, 235 Potentially Vulnerable Areas were identified. They are estimated to contain around 90% of the total number of properties at risk.

### Improving the understanding of flooding

SEPA has developed **flood hazard and flood risk maps**. These maps improved our understanding of flooding and helped inform the subsequent selection of actions to manage flood risk in Potentially Vulnerable Areas. The flood hazard maps show information such as the extent of flooding, water level, as well as depth and velocity where appropriate. The flood risk maps provide detail on the impacts on people, the economy, cultural heritage and the environment.

In 2012 SEPA also developed an **assessment of the potential for natural flood management**. The assessment produced the first national source of information on where natural flood management actions would be most effective within Scotland. Flood hazard and flood risk maps and the assessment of the potential for natural flood management can be viewed on SEPA's website at [www.sepa.org.uk](http://www.sepa.org.uk).

## Identifying objectives and selecting actions

The objectives and actions to manage flooding will provide the long-term vision and practical steps for delivering flood risk management in Scotland.

Working collaboratively with local partnerships, SEPA has agreed the objectives for addressing the main flooding impacts. Actions that could deliver these agreed objectives have been selected to ensure the right combinations are identified. The actions considered in the development of this Plan include structural actions (such as building floodwalls, restoring flood plains, or clearance and repair works to rivers) and non-structural actions (such as flood warning, land use planning or improving our emergency response). Structural and non-structural actions should be used together to manage flood risk effectively.

An assessment of the potential for natural flood management was used to help identify opportunities for using the land and coast to slow down and store water. Natural flood management actions will be considered further in areas where flood studies are planned.

## Annex 7: Glossary

TERMINOLOGY	DEFINITION
Accretion	Accumulation of sediment.
Actions	Activities undertaken to reduce the impact of flooding. Referred to as 'measures' within the FRM Act, Actions in the plans describe where and how flood risk will be managed. These actions have been set by SEPA and agreed with flood risk management authorities and were subject to public consultation. Section 1.2.6 of the flood risk management plans describes how actions have been selected.
Adaptation Plan	An adaptation plan is intended to inform medium to long term management of an area. This plan should investigate multiple potential climate change scenarios and identify the best route to flood management under each scenario.
Annual Average Damages (AAD)	Depending on its size or severity each flood will cause a different amount of damage to a given area. Annual average damages (AADs) are the theoretical average economic damages caused by flooding when considered over a very long period of time. It does not mean that level of damage will occur every year: in many years there will be no damages, in some years minor damages and in a few years major damages may occur. High likelihood events, which occur more regularly, contribute proportionally more to AADs than rarer events. Within the flood risk management plans AADs incorporate economic damages to the following receptors: residential properties, nonresidential properties, vehicles, emergency services, agriculture and roads. They have been calculated based on the principles set out in the Flood Hazard Research Centre Multi-Coloured Manual (2016).
Annual cost of flooding	An annual cost of flooding is an assessment of the economic impact of flooding within an area. Depending on its size or severity each flood will cause a different amount of damage to a given area. See 'annual average damages'.
Appraisal	The process of defining objectives, examining flood management options and weighing up costs, benefits, risks and uncertainties before a decision is made. The appraisal method used in the flood risk management plans is designed to set objectives and identify the most sustainable combination of actions

	to tackle flooding from rivers, the sea and surface water.
Appraisal baseline	Defines the existing level of flood risk under the current flood risk management regime.
Area of benefit (AOB)	An area which has benefited from a flood defence or flood protection scheme and is now at a reduced risk of flooding relative to the scheme's standard of protection.
Assets	Flood risk assets are structures and features which are likely to have a significant effect on flood risk. These can include pumping stations, culverts, walls and river banks.
Awareness Raising	Public awareness, participation and community support are essential components of sustainable flood risk management. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact. SEPA and other responsible authorities have a duty to raise public awareness of flood risk. This is undertaken both individually and collaboratively by a range of organisations.
Bathing waters	Bathing waters are classed as protected areas under Annex IV of the Water Framework Directive (WFD). There are 84 designated bathing waters in Scotland.
Benefit cost ratio (BCR)	A benefit cost ratio summarises the overall value for money of an action or project. It is expressed as the ratio of benefits to costs (both expressed as present value monetary values). A ratio greater than 1:1 indicates that the economic benefits associated with an action are greater than the economic costs of implementation; therefore, this is taken as the threshold of economic viability. It should be recognised that it is not always possible to accurately estimate economic values for all elements of benefit, and benefit cost ratio is just one of a number of techniques used in appraisal.
Blue green infrastructure	Blue green infrastructure refers to use of green pathways to store or transfer excess water and includes sustainable drainage systems, swales (shallow, broad and vegetated channels designed to store and/or convey runoff and remove pollutants), wetlands, rivers, canals (and their banks) and all watercourses. See also green infrastructure.
Bund	See flood bund
Candidate Potentially Vulnerable Area (PVAc)	Candidate PVAs are those areas identified after the National Flood Risk Assessment (2011) as a result of new information where the impact of flooding is potentially sufficient to justify further assessment and appraisal. They will be considered for inclusion as

	new PVAs in the next flood risk management planning cycle.
Catchment	All the land drained by a river and its tributaries.
Category 1 and 2 Responders (Cat 1 / 2)	<p>Category 1 and 2 responders are defined as part of the Civil Contingencies Act 2004 which seeks to minimise disruption in the event of an emergency.</p> <ul style="list-style-type: none"> <li>• <b>Category 1 responders</b> are 'core' responders: local authorities, police, fire and rescue services, ambulance service, NHS health boards, SEPA and the Maritime and Coastguard Agency.</li> <li>• <b>Category 2 responders</b> are key co-operating responders in support of Category 1 responders. These include gas and electricity companies, rail and air transport operators, harbour authorities, telecommunications providers, Scottish Water, the Health and Safety Executive and NHS National Services Scotland.</li> </ul>
Channel (capacity) improvement	Where work has been carried out on a river channel allowing an increase in the volume of water it can carry.
Characterisation	A description of the natural characteristics of catchment, coastlines and urban areas in terms of hydrology, geomorphology, topography and land use. It also includes the characterisation of existing levels of flood risk and activities to manage flood risk.
Coastal flooding	Coastal flooding is where the risk is from the sea. Flooding can result from high sea levels or a combination of high sea levels and stormy conditions. The term coastal flooding is used under the Flood Risk Management (Scotland) Act 2009, but in some areas it is also referred to as tidal flooding and covers areas such as estuaries and river channels that are influenced by tidal flows.
Combines sewer	Combined sewers transport sewage from homes and industry and also carry surface water runoff from gutters, drains and some highways. Heavy or prolonged rainfall can rapidly increase the flow in a combined sewer until the amount of water exceeds sewer capacity.
Combined sewer (overflow) (CSO)	Combined sewer overflows are structures designed to ensure any excess water from sewerage systems is discharged in a controlled way and at a specific managed location.
Community facility	<p>Within the plans the term 'community facilities' includes:</p> <ul style="list-style-type: none"> <li>• Emergency services (police, fire, ambulance, coastguard, and mountain rescue)</li> </ul>

	<ul style="list-style-type: none"> <li>• Educational buildings (crèche, nursery, primary, secondary, further, higher and special education premises)</li> <li>• Healthcare facilities: hospitals, health centres and residential care homes</li> </ul>
Competent Authority	SEPA's designation
Community flood action groups	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.
Confluence	Where two or more rivers meet.
Conveyance	Conveyance is a measure of the carrying capacity of a watercourse. Increasing conveyance enables flow to pass more rapidly and reducing conveyance slows flow down. Both actions can be effective in managing flood risk depending on local conditions.
Cross Border Advisory Group (CBAG)	The Cross Border Advisory Group is a statutory group made up of representatives from the Environment Agency, SEPA, Scottish Water and the 4 local authorities located within the Solway-Tweed River Basin District. This group ensure coordination of plans across the border between England and Scotland.
Cultural heritage site	Historic Environment Scotland maintains lists of buildings of special architectural or historic interest. These buildings are referred to as 'listed buildings'. The highest level of designation is a World Heritage Site. Other designations included in this assessment are scheduled monuments, gardens and designed landscapes, and battlefields.
Culvert	A pipe, channel or tunnel used for the conveyance of a watercourse or surface drainage water under a road, railway, canal or other obstacle.
Damages	See 'Annual Average Damages', 'direct damages', 'indirect damages'.
Demountable defences	A temporary flood barrier is one that is only installed when the need arises, that is, when high flood levels are forecast. A demountable flood defence is a particular form of temporary defence that requires built-in parts and therefore can only be deployed in one specific location. <sup>v</sup>
Deposition	A natural process leading to an accumulation of sediment on a river bed, floodplain or coastline.

Direct damages	Defined in the appraisal process as immediate damages to the receptor as a result of flooding (e.g. damages to the fabric or content of buildings, clean-up costs).
Economic impact	An assessment of the economic value of the positive and negative effects of flooding and the actions taken to manage floods.
Embankment	Flood embankments are earthfill structures designed to contain high river levels. They are commonly grass-covered, but may need additional protection against erosion by swiftly flowing water, waves or overtopping.
Emergency plans / response	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.
Environmental impact	A change in the environment that could have a negative or positive effect on the ecosystem.
Environmental Impact Assessment (EIA)	Environmental Impact Assessment (EIA) is a process which identifies the potential environmental effects, both negative and positive, of a proposal.
Environmental sites / environmental designated areas/ environmentally designated sites	Areas formally designated for environmental importance, such as Sites of Special Scientific Interest (SSSI), Special Protection Area (SPA) or Special Areas of Conservation (SAC).
Episodic erosion	Erosion induced by a single event such as a storm.
Erosion	A natural process leading to the removal of sediment from a river bed, bank or floodplain or coastline.
Estuarine surge attenuation	How an estuary influences the dissipation of coastal surges caused by tides or weather.
Estuary	A coastal body of water usually found where a river meets the sea; the part of the river that is affected by tides.
Fault (fault line)	A break or fracture in the ground that occurs when the Earth's tectonic plates move. In Scotland the Highland Boundary Fault is the major geological fault line cutting diagonally across the Highlands from Fort William to Inverness. It is also known as the Great Glen.
Fetch	The distance travelled by wind or waves across open water.
Flash flood	A flash flood is a flood that occurs in a short period of time after high intensity rainfall or a sudden snow melt. A sudden increase in the level and velocity of the water body is often characteristic of these events.

	Rising water levels in the river network can reach a peak within minutes to a few hours of the onset of the flood event, leaving a short time for warning or actions.
Flashy watercourse	A 'flashy' river or watercourse has a short lag time (the delay between peak rainfall intensity and peak river discharge), high peak discharge, and quickly returns to average flow. Rivers with these characteristics can be more likely to flood and leave a short time for warning or actions.
Flood	A flood can be defined as the period of time flooding is expected, occurs and drains away. It causes significant adverse impacts on people, property, environment or infrastructure and is not a result of regular weather or infrastructure drainage.
Flood bund	A constructed retaining wall, embankment or dyke designed to prevent flooding.
Flood defence	Infrastructure, such as flood walls and embankments, intended to protect an area against flooding to a specified standard of protection.
Flood extent	The area that has been affected by flooding, or is at risk of flooding from one or more sources.
Flood forecasting	SEPA operates a network of over 250 rainfall, river and coastal monitoring stations throughout Scotland that generate data 24 hours a day. This hydrological information is combined with meteorological information from the Met Office. A team of experts then predict the likelihood and timing of river, coastal and surface water flooding. This joint initiative between SEPA and the Met Office forms the Scottish Flood Forecasting Service.
Flood frequency	How often we expect a flood to happen (see likelihood).
Flood gate	An adjustable, sometimes temporary, barrier used as a flood defence to control the flow of water within a water system or during a flood.
Flood hazard	In terms of the FRM Act, hazard refers to the characteristics (extent, depth, velocity) of a flood.
Flood hazard map	Required by the FRM Act to show information that describes the nature of a flood in terms of the source, extent, water level or depth and velocity of water, where appropriate.
Flood Prevention Scheme / Flood Protection Scheme (FPS)	Flood defence measures (flood prevention schemes) formerly promoted under the Flood Prevention (Scotland) Act 1961 can now be taken forward under the FRM Act by a local authority to reduce flood risk. A flood protection scheme, as defined by the FRM Act, is a scheme by a local authority for the management of flood risk within the authority's area.

Flood protection study	A detailed assessment of an area for flood risk. The study may assess what is at risk of flooding with more accuracy and provide options for dealing with the risk of flooding.
Flood protection works	Flood protection works can include the same flood defence measures that would make up a flood protection scheme but without the legal requirements, process and protections that would come by designating the works as a scheme.
Flood risk	A measure of the combination of the likelihood of flooding occurring and the associated impacts on people, the economy and the environment.
Flood Risk Assessment (FRA)	Flood Risk Assessments are detailed studies of an area where flood risk may be present. These are often used to inform planning decisions, develop flood schemes and they also contributed to the National Flood Risk Assessment.
Flood Risk Management (Scotland) Act 2009 (FRM Act)	The flood risk management legislation for Scotland. It transposes the EC Floods Directive into Scots Law and aims to reduce the adverse consequences of flooding on communities, the environment, cultural heritage and economic activity.
Flood risk management cycle	Under the FRM Act flood risk management planning is to occur in six year cycles. The second cycle is 2022 – 2028.
Flood Prevention (Scotland) Act 1961	The Flood Prevention (Scotland) Act 1961 gave local authorities discretionary powers to make and build flood prevention schemes. It was superseded by the Flood Risk Management (Scotland) Act 2009.
Flood Risk Management Local Advisory Groups	FRM Local Advisory Groups are stakeholder groups convened to advise SEPA and lead local authorities in the preparation of Flood Risk Management Plans. SEPA and lead local authorities must have regard to the advice they provide.
Flood Risk Management Plans (FRM Plans)	A term used in the FRM Act. FRM Plans set out the actions that will be taken to reduce flood risk in a Local Plan District. They comprise Flood Risk Management Strategies, developed by SEPA, and Local Flood Risk Management Plans produced by lead local authorities.
Flood Risk Management Strategy (FRM Flood Risk Management Strategy)	Sets out a long-term vision for the overall reduction of flood risk. They contain a summary of flood risk in each Local Plan District, together with information on catchment characteristics and a summary of objectives and actions for Potentially Vulnerable Areas.
Flood risk map	Builds on flood hazard maps providing detail on the impacts of flooding on people, the economy and the environment.

Flood wall	A flood defence feature used to defend an area from flood water.
Flood Warning area (FWA)	A Flood Warning area is where SEPA operates a formal Flood Monitoring Scheme to issue targeted Flood Warning messages for properties located in the area.
Flood warning scheme	A flood warning scheme is the network of monitoring on a coastal stretch or river, which provides SEPA with the ability to issue Flood Warnings.
Floodplain	Area of land that borders a watercourse, an estuary or the sea, over which water flows in time of flood, or would naturally flow but for the presence of flood defences and other structures where they exist.
Floodplain storage	Floodplains naturally store water during high flows. Storage can be increased through natural or man-made features to increase flood depth or slow flows to reduce flooding elsewhere.
Floods Directive	European Directive 2007/60/EC on the Assessment and Management of Flood Risks builds on and is closely related to the Water Framework Directive (see river basin management planning). It was transposed into Scots Law by the Flood Risk Management (Scotland) Act 2009. The Directive requires Member States to assess if all watercourses and coastlines are at risk from flooding, to map the flood extent, assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk.
Fluvial flooding	Flooding from a river or other watercourse.
Gabion	A metal cage filled with rocks to walls often used in river bank protection.
Green infrastructure	The European Commission defines green infrastructure as “the use of ecosystems, green spaces and water in strategic land use planning to deliver environmental and quality of life benefits. It includes parks, open spaces, playing fields, woodlands, wetlands, road verges, allotments and private gardens. Green infrastructure can contribute to climate change mitigation and adaptation, natural disaster risk mitigation, protection against flooding and erosion as well as biodiversity conservation.” See also ‘blue infrastructure’.
Groundwater flooding	This type of flooding is caused by water rising up from underlying rocks or flowing from springs. Groundwater is generally a contributing factor to flooding rather than the primary source.
Hydrometric areas	These are either whole river catchments having one or more outlets to the sea or tidal estuary, or they may include several connected river catchments

	having similar surface features but with separate tidal outlets.xi There are 107 hydrometric areas in the UK, 45 of which are in Scotland.
Indirect damages	Defined in the appraisal process as damages incurred due to the knock on effects of flooding such as disruption, evacuation, costs to emergency services, loss of income or earnings/industrial production. (See also 'direct damages').
Integrated catchment study (ICS)	In urban areas, the causes of flooding are complex because of the interactions between rivers, surface water drainage and combined sewer systems and tidal waters. Scottish Water works with SEPA and local authorities to assess these interactions through detailed studies.
Land use planning (LUP)	The process undertaken by public authorities to identify, evaluate and decide on different options for the use of land, including consideration of long term economic, social and environmental objectives and the implications for different communities and interest groups.
Lead authority	A local authority responsible for the production, consultation, publication and review of a Local Flood Risk Management Plan.
Likelihood of flooding	The chance of flooding occurring. <b>High likelihood:</b> A flood is likely to occur in the defined area on average once in every ten years (1:10). Or a 10% chance of happening in any one year. <b>Medium likelihood:</b> A flood is likely to occur in the defined area on average once in every two hundred years (1:200). Or a 0.5% chance of happening in any one year. <b>Low likelihood:</b> A flood is likely to occur in the defined area on average once in every thousand years (1:1000). Or a 0.1% chance of happening in any one year.
Local Development Plans	Each planning authority area in Scotland is covered by a Local Development Plan, which sets out where most new developments are proposed and the policies that will guide decision-making on planning applications. The four main city regions in Scotland (Aberdeen, Dundee, Edinburgh and Glasgow) are also covered by a Strategic Development Plan which sets out the long-term development of the city region and deals with region-wide issues such as housing and transport.
Local Flood Risk Management Plans (Local FRM Plan)	Local Flood Risk Management Plans, produced by lead local authorities, will take forward the objectives and actions set out in Flood Risk Management Strategies. They will provide detail on the funding,

	timeline of delivery, arrangements and coordination of actions at the local level during each six year FRM planning cycle.
Local Nature Reserve	Local nature reserves are areas of at least locally important natural heritage, designated and managed by local authorities to give people better opportunities to learn about and enjoy nature close to where they live. Local authorities select and designate local nature reserves using their powers under the National Parks and Access to the Countryside Act 1949
Local Plan District (LPD)	Geographical areas for the purposes of flood risk management planning. There are 14 Local Plan Districts in Scotland.
Local Plan District Partnerships	Each LPD has established a local partnership comprised of local authorities, SEPA, Scottish Water and others as appropriate. These partnerships are distinct from the FRM Local Advisory Groups and they retain clear responsibility for delivery of the FRM actions set out in the Local Flood Risk Management Plans. It is the local partnership that makes decisions and supports the delivery of these plans.
Maintenance	Sections 18 and 59 of the Flood Risk Management (Scotland) Act 2009 put duties of watercourse inspection, clearance and repair on local authorities. In addition, local authorities may also be responsible for maintenance of existing flood protection schemes or defences.
Montane habitat	This habitat encompasses a range of natural or near-natural vegetation occurring in the montane zone, lying above or beyond the natural tree-line.
National Flood Management Advisory Group (NFMAG)	The National Flood Management Advisory Group provides advice and support to SEPA and, where required, Scottish Water, local authorities and other responsible authorities on the production of FRM Strategies and Local FRM Plans.
National Flood Risk Assessment (NFRA)	A national analysis of flood risk from all sources of flooding which also considers climate change impacts. Completed in December 2011 this provides the information required to undertake a strategic approach to flood management that identifies areas at flood risk that require further appraisal. The NFRA will be reviewed and updated for the second cycle of FRM Planning by December 2018.
Natural flood management (NFM)	A set of flood management techniques that aim to work with natural processes (or nature) to manage flood risk.
Non-residential properties	Properties that are not used for people to live in, such as shops or other commercial or industrial type buildings.

Objectives	Measurable goals relating to managing flood risk. The Flood Risk Management Strategies for each of the 14 Local Plan Districts in Scotland will set out objectives to reduce flood risk and actions to achieve those objectives.
Objective Target Area	Target areas are based on communities at risk of flooding. These are situated within potentially vulnerable areas and should benefit from actions to reduce flood risk. Objectives and actions to manage flooding have been set for each target area in the flood risk management plans. To benefit the community, actions may be applied outside the target area.
One in 200 year flood	See 'likelihood of flooding' and 'return period'.
Planning policies	Current national planning policies, Scottish Planning Policy and accompanying Planning Advice notes restrict development within the floodplain and limit exposure of new receptors to flood risk. 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.
Potentially Vulnerable Areas (PVA)	Catchments identified as being at risk of flooding and where the impact of flooding is sufficient to justify further assessment and appraisal. There were 243 PVAs identified by SEPA in the National Flood Risk Assessment and these will be the focus of the first FRM planning cycle.
Probability	The chance of a flood occurring within a given time. This is also expressed as likelihood of flooding as in the SEPA flood maps.
Property level protection	Property level protection includes flood gates, sandbags and other temporary barriers that can be used to prevent water from entering individual properties during a flood.
Property level protection scheme	Some responsible authorities may have a formal scheme to provide, install and maintain property level protection for properties.
Q&S	Quality and Standards (Q&S) is the process, governing costs and outputs, through which the planning and delivery of improvements to the public drinking water and sewerage services in Scotland is carried out
Ramsar sites	Ramsar sites are wetlands of international importance designated under the Ramsar Convention.
Receptor	Refers to the entity that may be impacted by flooding (a person, property, infrastructure or habitat). The vulnerability of a receptor can be modified by increasing its resilience to flooding.

Residual risk	The risk that remains after risk management and mitigation. This may include risk due to very severe (above design standard) storms or risks from unforeseen hazards.
Resilience	The ability of an individual, community or system to recover from flooding.
Responsible authority	Designated under the FRM (Scotland) Act 2009 and associated legislation as local authorities, Scottish Water and, from 21 December 2013, the National Park Authorities and Forestry and Land Scotland. Responsible authorities, along with SEPA and Scottish Ministers, have specific duties in relation to their flood risk related functions.
Return period	The average period of time between occurrences of a flood event. The longer the return period, the rarer the event. (See also 'likelihood of flooding'.)
Revetment	Sloping structures placed on banks or at the foot of cliffs in such a way as to deflect the energy of incoming water.
Riparian	The riparian area is the interface between land and a river or stream. For the purposes of FRM this commonly refers to the riparian owner, which denotes ownership of the land area beside a river or stream.
River basin district	Geographic areas over which River Basin Management and Flood Risk Management Plans are prepared. In Scotland there are two River Basin Districts identified under the Water Environment and Water Services (Scotland) Act 2003 (WEWS Act) - one for the Solway/Tweed area and one covering the rest of Scotland.
River basin management planning (RBMP)	The Water Environment and Water Services (Scotland) Act 2003 transposed the European Water Framework Directive into Scots law. The Act created the River Basin Management Planning process to achieve environmental improvements to protect and improve our water environment. It also provided for regulations to control the negative impacts of all activities likely to have an impact on the water environment.
Runoff reduction	Actions within a catchment or sub-catchment to reduce the amount of runoff during rainfall events. This can include intercepting rainfall, storing water, diverting flows or encouraging infiltration.
Scottish Advisory and Implementation Forum for Flooding (SAIFF)	The stakeholder forum on flooding set up by the Scottish Government to ensure legislative and policy aims are met and to provide a platform for sharing expertise and developing common aspirations and approaches to reducing the impact of flooding on

	Scotland's communities, environment, cultural heritage and economy.
Scottish Government's Rural Payments and Inspections Directorate	Part of the Scottish Government which has the most direct dealings with Scotland's land managers, including processing grant applications and payments, carrying out inspections, plant health visits and estate management.
Sediment balance	Within a river where erosion and deposition processes are equal over the medium to long-term resulting in channel dimensions (width, depth, slope) that are relatively stable.
Self help	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.
Sewer flooding (and other artificial drainage system flooding)	Flooding as a result of the sewer or other artificial drainage system (e.g. road drainage) capacity being exceeded by rainfall runoff or when the drainage system cannot discharge water at the outfall due to high water levels (river and sea levels) in receiving waters.
Shoreline Management Plan (SMP)	A Shoreline Management Plan is a large scale assessment of the coastal flood and erosion risks to people and the developed, historic and natural environment. It sets out a long-term framework for the management of these risks in a sustainable manner.
Site of Special Scientific Interest (SSSI)	Sites of Special Scientific Interest are protected by law under the Nature Conservation (Scotland) Act 2004 to conserve their plants, animals and habitats, rocks and landforms.
Site protection plans	Site protection plans are developed to identify whether normal operation of a facility can be maintained during a flood. This may be due to existing protection or resilience of the facility or the network.
Source of flooding	The type of flooding. This can be coastal, river, surface water or groundwater.
Special Area of Conservation (SAC)	Special Areas of Conservation are strictly protected sites designated under the European Habitats Directive. The Directive requires the establishment of a European network of protected areas which are internationally important for threatened habitats and species.
Special Protection Areas (SPA)	Special Protection Areas are strictly protected sites classified in accordance with the European Birds Directive. They are classified for rare and vulnerable

	birds (as listed in the Directive), and for regularly occurring migratory species
SR10 / SR15	SR10 and SR15 are Scottish Water's investment programmes. SR10 covered the period 2010 -2015 and SR15 covers 2015-2021. For more information on their investment programme please see <a href="https://www.scottishwater.co.uk/about-us/publications/strategic-projections">https://www.scottishwater.co.uk/about-us/publications/strategic-projections</a>
Standard of protection (SoP)	The flood event return period above which significant damage and possible failure of the flood defences could occur.
Storage area	A feature that can be used to store floodwater, this can be natural in the form of low lying land or manmade such as a large reservoir or modified landform.
Strategic Environmental Assessment (SEA)	A process for the early identification and assessment of the likely significant environmental effects, positive and negative, of activities. Often considered before actions are approved or adopted.
Strategic Flood Risk Assessment (SFRA)	A Strategic Flood Risk Assessment is designed for the purposes of specifically informing the Development Plan Process. A SFRA involves the collection, analysis and presentation of all existing and readily available flood risk information (from any source) for the area of interest. It constitutes a strategic overview of flood risk.
Strategic mapping and modelling	Strategic mapping and modelling actions have been identified in locations where SEPA is planning to undertake additional modelling or analysis of catchments and coastlines, working collaboratively with local authorities where appropriate, to improve the national understanding of flood risk.
Surcharge	Watercourses and culverts can carry a limited amount of water. When they can no longer cope, they overflow, or 'surcharge'.
Surface water flooding	Flooding that occurs when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead
Surface water management plan (SWMP)	A plan that takes an integrated approach to drainage accounting for all aspects of urban drainage systems and produces long term and sustainable actions. The aim is to ensure that during a flood the flows created can be managed in a way that will cause minimum harm to people, buildings, the environment and business.
Surface water plan/study	The management of flooding from surface water sewers, drains, small watercourses and ditches that occurs, primarily in urban areas, during heavy rainfall. FRM Strategy actions in this category

	include: Surface Water Management Plans, Integrated Catchment Studies and assessment of flood risk from sewerage systems (FRM Act Section 16) by Scottish Water. These have been selected as appropriate for each Potentially Vulnerable Area.
Surface water runoff	The flow of water from rain, snow melt or other sources over land.
Sustainable flood risk management	An approach which involves taking actions now to manage the risk of flooding that are robust enough to stand the test of time. There are three pillars of sustainability that must be considered - environmental, social and economic.
Sustainable drainage systems (SuDS)	A set of techniques designed to slow the flow of water. They can contribute to reducing flood risk by absorbing some of the initial rainfall and then releasing it gradually, thereby reducing the flood peak and helping to mitigate downstream problems. SuDS encourage us to take account of quality, quantity and amenity / biodiversity.
Target Area	See 'Objective Target Area'
Training wall	A wall, bank or jetty built to confine and direct the flow of water.
UK Climate Change Projections (UKCP09)	The leading source of climate change information for the UK. It can help users to assess their climate risks and plan how to adapt to a changing climate.
Utility assets	Within the FRM Strategies this refers to electricity sub stations, mineral and fuel extraction sites, telephone assets, television and radio assets.
Vulnerability	A measure of how likely someone or something is to suffer long-term damage as a result of flooding. It is a combination of the likelihood of suffering harm or damage during a flood (susceptibility) and the ability to recover following a flood (resilience).
Wave energy dissipation	Process by which a wave loses its mechanical energy.
Wave overtopping	Wave overtopping takes place when waves meet a submerged or emerged reef or structure and pass over it.

## Annex 8: Licencing & Acknowledgements

The information described in this Annex relates to the Figures and Maps that have been generated by SEPA and have been reproduced in this Local Flood Risk Management Plan from the Tay Flood Risk Management Strategy. The Tay Local Plan District Partners gratefully acknowledge the cooperation and input that various parties have provided, including inter alia, the following organisations:

### SEPA

Local authorities acknowledge the inclusion of text generated by SEPA in preparation of the Tay Flood Risk Management Plan. Figures and Maps produced by SEPA for the Tay Flood Risk Management Plan have been reproduced in the Tay Local Flood Risk Management Plan with authorisation from SEPA under SEPA Licence number 100016991 (2022).

### Ordnance Survey

These reproduced maps are based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Any unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. SEPA Licence number 100016991 (2022). Perth & Kinross Council Licence number 100016971 (2022). © Crown copyright and database rights 2022 OS 100016971. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.

### The Centre for Ecology and Hydrology

Some features of these reproduced maps are based upon digital spatial data licensed from the Centre for Ecology and Hydrology © NERC (CEH) and third party licensors.

### The Met Office

Data provided by The Met Office has been used by SEPA under licence in some areas of flood risk information production. ©Crown Copyright (2022), the Met Office.

### The James Hutton Institute

Data provided to SEPA under license from the James Hutton Institute has been applied in production of flood risk management information. Copyright © The James Hutton Institute and third party licensors.

### British Geological Survey

Flood risk information has been derived by SEPA from BGS digital data under license. British Geological Survey ©NERC

### Local authorities

Lead authorities acknowledge the provision of flood models and other supporting data and information from local authorities in Scotland and their collaboration in the production of flood risk management information.

**Scottish Water**

Local authorities acknowledge the inclusion of surface water flooding data generated by Scottish Water in preparation of flood risk information.



**02/07/09 (Dundee, Broughty Ferry and Invergowrie)**

This area is designated as a potentially vulnerable area due to flood risk in Broughty Ferry, Dundee and Invergowrie. There is flood risk from all sources including coastal from the Firth of Tay, surface water and small watercourses. A flood protection scheme has recently been completed in Dundee to protect the city from coastal flooding. There is a long history of flooding in this area. This includes recent flooding due to wave overtopping in Dundee during Storm Ciara, and frequent surface water flooding.

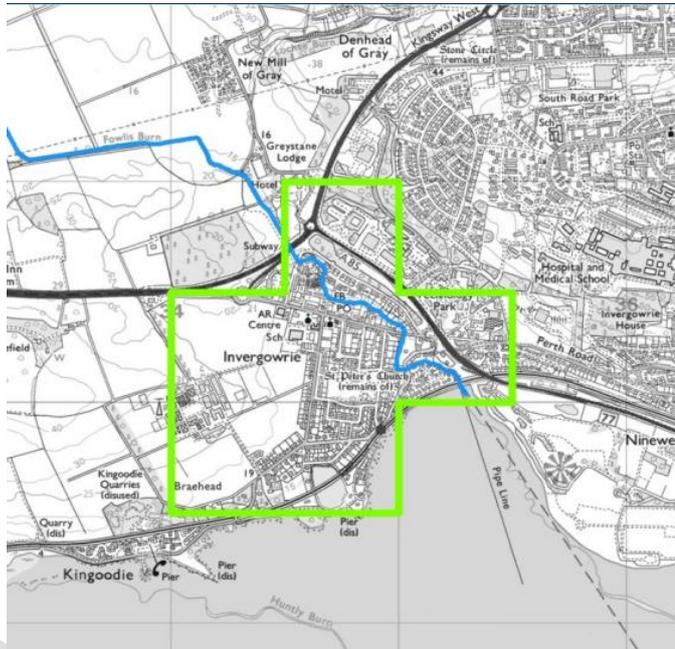
There are 3 target areas in this potentially vulnerable area, which have been the focus of further assessment. These are listed below. Further information on the objectives and actions to manage flood risk within this area is provided below

**List of target areas**

Invergowrie (target area 235)

DRAFT

## Invergowrie (Objective Target Area 235)

Summary	Location Map
<p>Invergowrie lies on the north bank of the Firth of Tay, west of Dundee, within the Perth and Kinross Council area. The main source of flooding is river flooding from the Invergowrie Burn and there is also some risk from surface water. An on-going natural flood management flood study carried out by the local authority indicates that there are approximately 10 homes and businesses currently at risk of flooding and that this is likely to increase to 18 homes and businesses by the 2080s due to climate change.</p>	 <p>(© Crown copyright and database rights 2022 OS 100016971)</p>

## Current Understanding of Flood Risk

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment of surface water flooding was improved by a surface water management plan and a sewer flood risk assessment. The surface water management plan concluded that the majority of flood risk in Invergowrie was from river sources. An integrated catchment study was also carried out but this concluded that there is no interaction between sewer, river and surface water flooding.

There is a history of flooding in the area. Records are limited but the first flood recorded occurred in August 2004 when the Invergowrie Burn overflowed, affecting properties on Main Street, Burnside Road, Balruddery Farm and the road at Boniface Road and Boniface Place. In January 2011 the Invergowrie Burn overflowed, affecting roads and a residential property. The most recent flood was recorded in January 2016 when 1 residential property flooded.

## Objectives and Actions in the Comrie Objective Target Area

The objectives and actions for this target area are set out in the tables below.

SEPA and responsible authorities also carry out actions in all areas to manage current and future flood risk.

Action (ID):	<b>FLOOD STUDY (Ref: 23501)</b>		
Objective (ID):	Reduce the risk of surface water and river flooding from the Invergowrie Burn in Invergowrie (Ref: 2353).		
Delivery Lead:	Perth and Kinross Council		
Status:	Complete	Planned Delivery Period:	2022
Description:	A natural flood management study for the Invergowrie Burn was included in the Cycle 1 Tay Estuary Local Flood Risk Management Plan. The study, which commenced in March 2020, was administered by Perth and Kinross Council and awarded to consulting engineers, Sweco UK Ltd. The study was completed following community engagement in September 2022.		
Coordination Arrangement:	Perth and Kinross Council coordinated the natural flood management study with Dundee City Council, Angus Council and other partners in the Tay Estuary & Montrose Basin local plan district partnership.		
Funding Arrangement:	Funding for the flood study was allocated from Perth and Kinross Council's revenue budget.		

Action (ID):	<b>SEWER FLOOD RISK ASSESSMENT (Ref: 23502)</b>		
Objective (ID):	Reduce the risk of surface water and river flooding from the Invergowrie Burn in Invergowrie (Ref: 2353)		
Delivery Lead:	Scottish Water		
Status:	Not Started	Planned Delivery Period:	2023-2025
Description:	Scottish Water will undertake a modelling assessment in the Hatton 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.		
Coordination Arrangement:	Outputs of this modelling assessment will be shared with local authorities and SEPA.		
Funding Arrangement:	Funding for this action is secured through Scottish Water's business plan.		

Action (ID):	<b>COMMUNITY ENGAGEMENT (Ref: 23503)</b>		
Objective (ID):	Prepare for current flood risk and future flooding as a result of climate change in Invergowrie (Ref: 2352)		
Delivery Lead:	SEPA and Responsible Authorities		
Status:	Existing	Planned Delivery Period:	On-going

Description:	Community engagement will continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk. Community engagement activity will continue in connection with on-going projects and activities.
Coordination Arrangement:	Community engagement will take place around any projects and activities and will be coordinated through the Tay Estuary and Montrose Basin Local Plan District Partnership. Information will be disseminated through website, social media and other community engagement activity.
Funding Arrangement:	Community engagement activities will subject to funding from Perth and Kinross Council's revenue budget. SEPA's community engagement activities are funded by the Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator; all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.

DRAFT

### 2.4.3 PVA 02/09/03 (Blackford)

This area is designated as a potentially vulnerable area due to flood risk to Blackford.

The main source of flooding in Blackford is river flooding from the Danny Burn and other small watercourses. There is some history of flooding. Most recently, two homes and one business were flooded in February 2020, while high flow events occurred in August 2019 and February 2021.

There is 1 target area in this potentially vulnerable area, which has been the focus of further assessment, this is identified below. Further information on the objectives and actions to manage flood risk within this area is provided below.

#### List of target areas

Blackford (target area 198)

DRAFT

## Local Flood Risk Management plan datasheet

### 2.4.3.1 Blackford 198

Summary	Location Map
<p>The village of Blackford is located around 8km from Auchterarder and within the Perth and Kinross Council area. The main source of flooding in Blackford is river flooding from the Danny Burn and small watercourses. The local authority has carried out a flood study in this area which estimated that there are approximately 32 homes and 6 businesses currently at risk from flooding.</p>	 <p>© Crown copyright and database rights 2022 Ordnance Survey 100020780 (Stirling Council). You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.</p>

#### What is the Current understanding of Flood risk

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding was improved by the Blackford Flood Study. There are records of flooding in this area. On 13 December 2006 properties in Abercairney Place, Blackford and surrounding areas were flooded. Recent notable floods include August 2019 and February 2020. In February 2020, 2 homes and 1 business flooded following Storm Dennis

Objective	ID	Description
Avoid flood risk	1981	Avoid development that increases flood risk in Blackford
Prepare for flooding	1982	Prepare for current flood risk and future flooding as a result of climate change in Blackford

Reduce flood risk	1983	Reduce the risk of river flooding from the Allan Water, Danny Burn, Burn of Ogilvie, Back Burn and Kinpauch Burn in Backford.
-------------------	------	---

Action ID	Blackford	19801
Action Type	Flood Protection Scheme	
Action Delivery Lead	Perth and Kinross Council	Indicative Delivery To be confirmed
Description	<p>A flood protection scheme has been proposed in this area. The proposed scheme involves a combination of river flow diversions, direct flood defences and natural flood management. It aims to provide a 1 in 200-year standard of protection. Current and long-term flood risk will be further considered at the design stage including the impacts of climate change and scheme adaptability. The outline design for the Blackford Flood Protection Scheme will be progressed, in line with the recommendations of the Blackford Flood Study. This work will also include ongoing community engagement as the project progresses.</p> <p>Once the flood protection scheme has been confirmed and the detailed design completed, the next stages will involve procurement and construction.</p> <p>As built drawings will be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates.</p> <p>Routine inspections and maintenance of the Blackford Flood Protection Scheme will commence when the scheme is complete in accordance with the inspection and maintenance regime.</p>	
Funding	The delivery of the Blackford Flood Protection Scheme is subject to capital funding being made available (up to 80% capital grant funding from the Scottish Government with the remaining funding being provided from Perth & Kinross Council's capital programme).	
Coordination	The Blackford Flood Protection Scheme will be coordinated through the Forth Local Plan District Partnership. SEPA will work with the local authority on the potential to coordinate this action with an update to SFDAD.	
Action	The outline design of the flood scheme will commence once capital funding is secured.	

Action ID	Blackford	19802
Action Type	Community Engagement	
Action Delivery Lead	SEPA and Responsible Authorities	Indicative Delivery On-going
Description	Community engagement will continue in connection with ongoing projects and activities. Perth and Kinross Council will continue to coordinate with the Blackford Community Council on	

	a priority needs basis where resources allow.
Funding	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget. SEPA's community engagement activities are funded by the Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator; all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.
Coordination	Community engagement will be coordinated through the Local Plan District partnership between SEPA and the responsible authorities. SEPA and the responsible authorities will use any studies, projects and flood schemes to engage with communities and raise awareness of flood risk. Communications activity will be coordinated through existing arrangements within Local Plan District Partnerships. Information will be disseminated through website, social media and other community engagement activity.
Action	Community engagement will continue to be carried out in the area by SEPA and the responsible authorities to raise awareness of flood risk.

Action ID	Blackford	19803
Action Type	<b>Community Resilience Group</b>	
Action Delivery Lead	Community Group	Indicative Delivery On-going
Description	Perth and Kinross Council will continue to communicate with and support the Blackford Community Council on flood risk matters. The resilience plans should be updated regularly by the group and this will be supported by the Council	
Funding	Funding for Community resilience groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.	
Coordination	Perth and Kinross Council will continue to coordinate with the Blackford Community Council on a priority needs basis where resources allow.	
Action	The group of community volunteers will work to prepare and put in practice their Community Resilience Plan with support from Perth and Kinross Council.	

#### 2.4.4 Kinross, Milnathort And Glenrothes (02/10/03)

Kinross, Milnathort and Glenrothes have been designated as a potentially vulnerable area due to the various risks of flooding, within these areas. Surface water pluvial flooding is the most prevalent flooding facing Glenrothes and Markinch, whilst fluvial flooding from the Lochty Burn is the most prevalent flooding risk facing Kinglassie. The main source of flooding in Kinross is from surface water and river flooding from the South Queich, the Gelly Burn and the Clash Burn. The main source of flooding in Milnathort is river flooding from the Back Burn, however there is also a risk of surface water flooding.

There are three target areas within this potentially vulnerable area, which have been the focus of further assessment. These are listed below. Further information on the objectives and actions to manage flood risk within this area is provided below.

##### List of target areas

Kinross (target area 239)

Milnathort (target area 303)

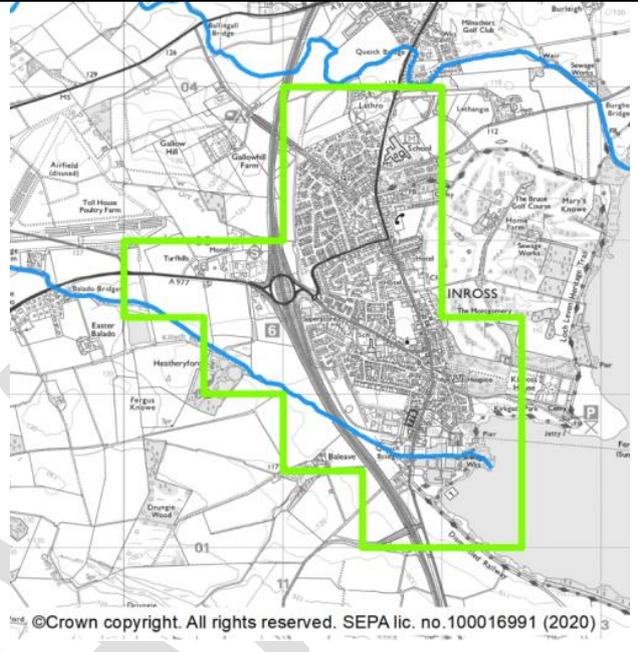
## Local Flood Risk Management plan datasheet

Kinross (target area 239)

### Summary

The town of Kinross is located around 20km south of Perth. The main sources of flooding in Kinross are surface water and river flooding from the South Queich, Gelly Burn and Clash Burn. The local authority has carried out a flood study in this area in support of the proposed flood scheme. The study indicates that 129 homes and 55 businesses are currently at risk of flooding from the South Queich, the Gelly Burn and the Clash Burn.

### Location Map



### Current understanding of Flood Risk

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for river flooding is improved by flood study work supporting the ongoing development of proposals for the South Kinross Flood Protection Scheme. The understanding of surface water flooding was also improved by Scottish Water's sewer flood risk assessment.

There is a long record of flooding in this target area. Flooding occurred in January 1993, January 1999, December 2006, January and August 2008 and November 2009. In February 2020 a number of homes and roads suffered river flooding. Most recently, flooding was recorded in August 2020 when homes flooded as a result of unprecedented rainfall in the area.

Objective	ID	Description
Avoid flood risk	2391	Avoid inappropriate development that increases flood risk in Kinross
Avoid flood risk	2392	Avoid an increase in flood risk by the appropriate management and maintenance of the South Kinross Flood Protection Scheme

Prepare for flooding	2393	Prepare for current flood risk and future flooding as a result of climate change in Kinross
Reduce flood risk	2394	Reduce the risk of river flooding from the South Queich, Gelly Burn and Clash Burn in South Kinross
Reduce flood risk	2395	Reduce the risk of surface water flooding in Kinross

Action ID	Kinross 23901		
Action Type	Flood Protection Scheme		
Action Delivery Lead	Perth and Kinross Council	Indicative Delivery	2022 - 2025
Description	<p>The development of the outline design for the South Kinross Flood Protection Scheme will continue and will consider long term flood risk and climate change. The development of the proposals will also be informed by community engagement. The scheme will then progress to the statutory process set out under the Flood Risk Management (Scotland) Act 2009. The detailed design will be completed thereafter.</p> <p>Following completion of the detailed design, the proposed scheme will be procured and will progress to construction.</p> <p>As built drawings will be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates.</p>		
Funding	The South Kinross Flood Protection Scheme will be subject to available capital funding (up to 80% capital grant funding from the Scottish Government with the remaining funding being provided from Perth & Kinross Council's capital programme).		
Coordination	The South Kinross Flood Protection Scheme will be coordinated through the Forth Estuary Local Plan District Partnership.		

Action ID	Kinross 23902		
Action Type	Maintain Flood Protection Scheme		
Action Delivery Lead	Perth and Kinross Council	Indicative Delivery	On-going
Description	Once built, Perth and Kinross Council will implement an inspection and maintenance regime for the South Kinross Flood Protection Scheme.		
Funding	The maintenance of flood protection schemes will be subject to funding from Perth and Kinross Council's revenue budget.		

Coordination	Perth & Kinross Council's Roads Maintenance Partnership will maintain any existing flood protection schemes and works through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, NatureScot, landowners and other stakeholders as required.
--------------	--

Action ID	Kinross	23903
Action Type	Sewer Flood Risk Assessment	
Action Delivery Lead	Scottish Water	Indicative Delivery 2023 - 2025
Description	Scottish Water will undertake a modelling assessment in the Kinross 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	
Funding	Funding for this action is secured within Scottish Water's business plan.	
Coordination	Outputs of this modelling assessment will be shared with local authorities and SEPA.	

Action ID	Kinross	23904
Action Type	Surface Water Management Plan	
Action Delivery Lead	Perth and Kinross Council	Indicative Delivery 2024 - 2026
Description	Perth and Kinross Council will develop a surface water management plan for Kinross. This will improve the understanding of surface water flood risk, and in the longer term look at possible action to manage the risk. The results of the sewer flood risk assessment will be considered. Current and long term flood risk will be considered and if climate change impacts are found to be significant, surface water management will include adaptive planning.	
Funding	The surface water management plan will be subject to funding from Perth and Kinross Council's revenue budget.	
Coordination	<p>The surface water management plan is programmed to commence in the 2024/25 financial year. Perth and Kinross Council will engage consulting engineers to investigate the surface water flood risk and identify potential options for managing that risk. The surface water management plan will be coordinated through the Forth Estuary Local Plan District Partnership.</p> <p>Scottish Water will work with and support surface water management planning through ensuring that best available</p>	

	knowledge and data is used to input into the surface water management plans.
--	--

Action ID	Kinross 23905		
Action Type	Community Engagement		
Action Delivery Lead	SEPA and Responsible Authorities	Indicative Delivery	On-going
Description	Community engagement will continue in connection with on-going projects and activities. This will include engaging with the community on the development of the flood scheme proposals and the surface water management plan (Action ID's 23901 & 23904).		
Funding	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budget. SEPA's community engagement activities are funded by the Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator; all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		
Coordination	The action delivery lead is Perth and Kinross Council. Awareness raising and community engagement will take place around any projects and will be coordinated through the Local Plan District Partnership.		

Action ID	Kinross 23906		
Action Type	Community Resilience Group		
Action Delivery Lead	Community	Indicative Delivery	On-going
Description	Perth and Kinross Council will continue to liaise with the Kinross Flood Resilience Group.		
Funding	Funding for Community resilience groups will be provided by private individuals, businesses, organisations or communities at risk of flooding.		
Coordination	Perth and Kinross Council will work with the Kinross Flood Resilience Group to reduce flood risk, improve preparedness and increase resilience against flooding. The Council will continue to co-ordinate with the Kinross Flood Resilience Group on a priority needs basis where resources allow.  The Council will coordinate community resilience groups with any related actions.		

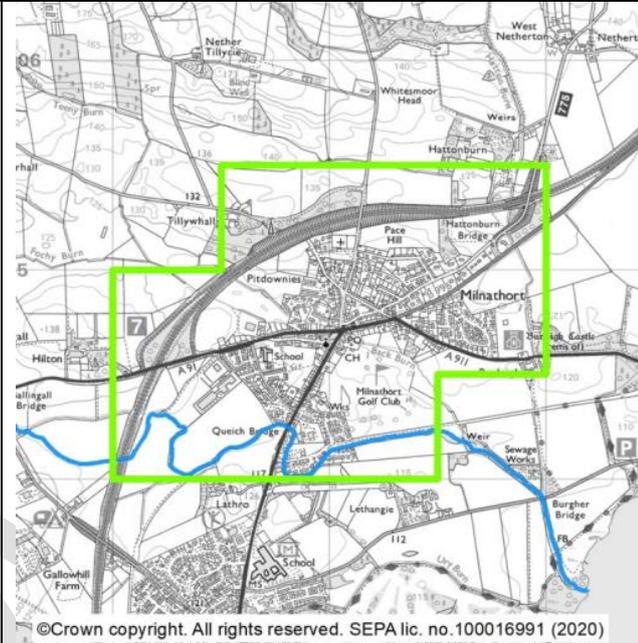
## Local Flood Risk Management plan datasheet

Milnathort (target area 303)

### Summary

Milnathort is a small town in Perth and Kinross located just north of Kinross. The main source of flooding in Milnathort is river flooding, however there is also a risk of surface water flooding. There are approximately 200 people and 130 properties currently at risk from flooding. This is likely to increase to 300 people and 180 properties by the 2080s due to climate change. A flood protection scheme is in place in the area, protecting homes and businesses to a 1 in 100 year standard of protection.

### Location Map



### Current understanding of Flood risk

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national assessments of flooding from rivers, surface water and coastal sources. The national assessment for surface water is improved by an on-going surface water management plan, a sewer flood risk assessment and flood study work in support of a proposed surface water flood protection scheme. National understanding of river flooding is improved by flood study work carried out for the existing Milnathort Flood Protection Scheme on the Back Burn.

There is a long record of flooding in this area. The Back Burn flooded in January 1993, affecting properties in the town centre. In December 2006 a prolonged period of heavy rainfall caused flooding to houses and a local pub, necessitating residents to be evacuated from their homes. The most recent significant flood was recorded in July 2013 when surface water flooded a number of homes and businesses. Since then, smaller scale surface water flooding occurred in 2020 but did not cause any damage to properties.

Objective	ID	Description
Avoid flood risk	3031	Avoid inappropriate development that increases flood risk in Milnathort
Avoid flood risk	3032	Avoid an increase in flood risk by the appropriate management and maintenance of the flood protection schemes in Milnathort
Prepare for flooding	3033	Prepare for current flood risk and future flooding as a result of climate change in Milnathort
Reduce flood risk	3034	Reduce the risk of surface water in Milnathort

Action ID	Milnathort	30301		
Action Type	Flood Protection Scheme			
Action Lead	Perth and Kinross Council	Indicative Delivery	2022 - 2025	
Description	<p>The development of the outline design for the Milnathort Surface Water Flood Protection Scheme will continue and will consider long term flood risk and climate change. The development of the proposals will be informed by community engagement. The scheme will then progress to the statutory process set out under the Flood Risk Management (Scotland) Act. The detailed design will be completed thereafter.</p> <p>Following completion of the detailed design, the proposed scheme will be procured and will progress to construction.</p> <p>As built drawings will be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates.</p>			
Funding	The Milnathort Surface Water Flood Protection Scheme will be subject to available capital funding (up to 80% capital grant funding from the Scottish Government with the remaining funding being provided from Perth & Kinross Council's capital programme).			
Coordination	The Milnathort Surface Water Flood Protection Scheme will continue to be coordinated through the Forth Estuary Local Plan District Partnership.			

Action ID	Milnathort	30302		
Action Type	Maintain Flood Protection Scheme			
Action Lead	Perth and Kinross Council	Indicative Delivery	On-going	

Description	<p>Maintenance of the existing Milnathort Flood Protection Schemes (on the Back Burn) will continue in accordance with the inspection and maintenance regime.</p> <p>Maintenance of the new Milnathort Surface Water Flood Protection Scheme will commence once construction of the scheme is complete.</p>
Funding	The maintenance of flood protection schemes will be subject to funding from Perth and Kinross Council's revenue budget.
Coordination	Perth & Kinross Council's Roads Maintenance Partnership will maintain any existing flood protection schemes and works through a programme of inspections carried out in accordance with the recommendations set out in the scheme maintenance manuals. Maintenance works will be coordinated with SEPA, SNH, landowners and other stakeholders as required. The maintenance of the flood scheme/works will also be coordinated with related actions.

Action ID	Milnathort	30303
Action Type	Sewer Flood Risk Assessment	
Action Lead	Scottish Water	Indicative Delivery 2024 - 2026
Description	Scottish Water will undertake a modelling assessment in the Milnathort 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.	
Funding	Funding for this action is secured within Scottish Water's business plan.	
Coordination	Outputs of this modelling assessment will be shared with local authorities and SEPA.	

Action ID	Milnathort	30304
Action Type	Surface Water Management Plan	
Action Lead	Perth and Kinross Council	Indicative Delivery 2022 - 2023
Description	<p>The development of a surface water management plan for Milnathort is on-going. This is being coordinated with the development of the proposed Milnathort Surface Water Flood Protection Scheme (Action ID 30301).</p> <p>Current and long term flood risk is being considered and, if climate change impacts are found to be significant, the plan will consider how the area can adapt to increased flood risk in the future.</p>	

Funding	The surface water management plan will be subject to funding from Perth and Kinross Council's revenue budget.
Coordination	<p>Work to develop a surface water management plan is ongoing. Perth and Kinross Council engaged consulting engineers, Sweco UK Ltd, to investigate the surface water flood risk and identify potential options for managing that risk. The plan/study will be coordinated through the Forth Estuary Local Plan District Partnership.</p> <p>Scottish Water will work with and support surface water management planning through ensuring that best available knowledge and data is used to input into the surface water management plans.</p>

Action ID	Milnathort 30305		
Action Type	Community Engagement		
Action Lead	Delivery	Indicative Delivery	On-going
Description	SEPA and Responsible authorities		
Description	Community engagement will continue in connection with ongoing projects and activities. This will include engaging with the community on the development of the flood scheme proposals and the surface water management plan (Action ID's 30301 & 30304).		
Funding	Community engagement activities will be subject to funding from Perth and Kinross Council's revenue budgets. SEPA's community engagement activities are funded by the Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by their economic regulator, all business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.		
Coordination	<p>Community engagement will be coordinated through the Local Plan District partnership between SEPA and the responsible authorities. SEPA and the responsible authorities will use any studies, projects and flood schemes to engage with communities and raise awareness of flood risk.</p> <p>Communications activity will be coordinated through existing arrangements within Local Plan District Partnerships. Information will be disseminated through website, social media and other community engagement activity.</p>		

