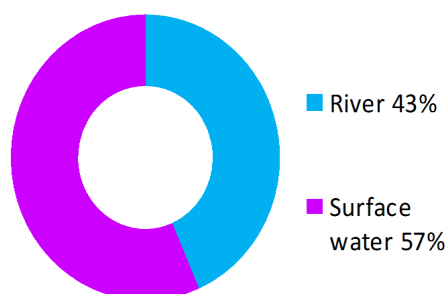


## Carrbridge (Potentially Vulnerable Area 05/10)

| Local Plan District          | Local authority      | Main catchment |
|------------------------------|----------------------|----------------|
| Findhorn, Nairn and Speyside | The Highland Council | River Spey     |

### Summary of flooding impacts



#### At risk of flooding

- <10 residential properties
- <10 non-residential properties
- £9,000 Annual Average Damages

(damages by flood source shown left)

Summary of flooding impacts

### Summary of objectives to manage flooding

Objectives have been set by SEPA and agreed with flood risk management authorities. These are the aims for managing local flood risk. The objectives have been grouped in three main ways: by reducing risk, avoiding increasing risk or accepting risk by maintaining current levels of management.

Many organisations, such as Scottish Water and energy companies, actively maintain and manage their own assets including their risk from flooding. Where known, these actions are described here. Scottish Natural Heritage and Historic Environment Scotland work with site owners to manage flooding where appropriate at designated environmental and/or cultural heritage sites. These actions are not detailed further in the Flood Risk Management Strategies.

Objectives

### Summary of actions to manage flooding

The actions below have been selected to manage flood risk.

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

Actions

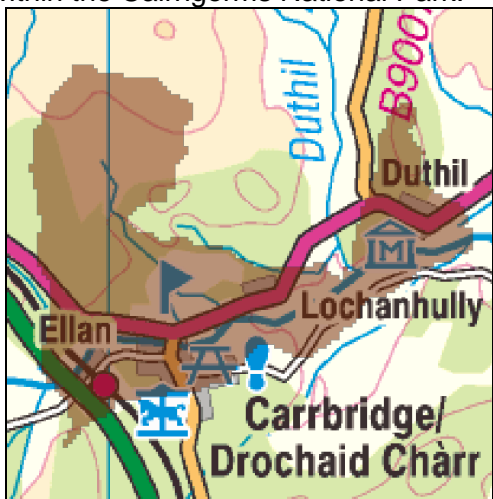
# Carrbridge (Potentially Vulnerable Area 05/10)

| Local Planning District      | Local authority      | Main catchment |
|------------------------------|----------------------|----------------|
| Findhorn, Nairn and Speyside | The Highland Council | River Spey     |

## Background

This Potentially Vulnerable Area covers the community of Carrbridge and the surrounding mainly rural areas (shown below).

It is approximately 10km<sup>2</sup> and is located within the Cairngorms National Park.

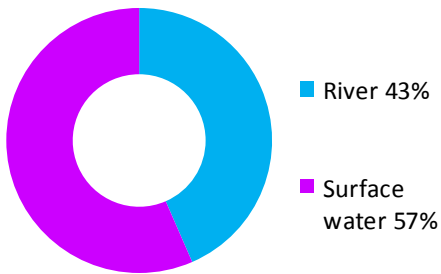


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The A9, A938 and B9153 pass through the area. The main watercourse in the area is the River Dulnain.

There are fewer than 10 residential and non-residential properties at risk of flooding.

The Annual Average Damages are approximately £9,000 with the majority caused by surface water flooding.



**Figure 1:** Annual Average Damages by flood source

## Summary of flooding impacts

The risk of flooding to people and property, as well as to community facilities, utilities, the transport network, designated sites and agricultural land is summarised in Table 1.

Roads potentially affected by flooding include the A9, A938 and B9153. The Inverness to Perth railway line has a risk of being flooded in several locations.

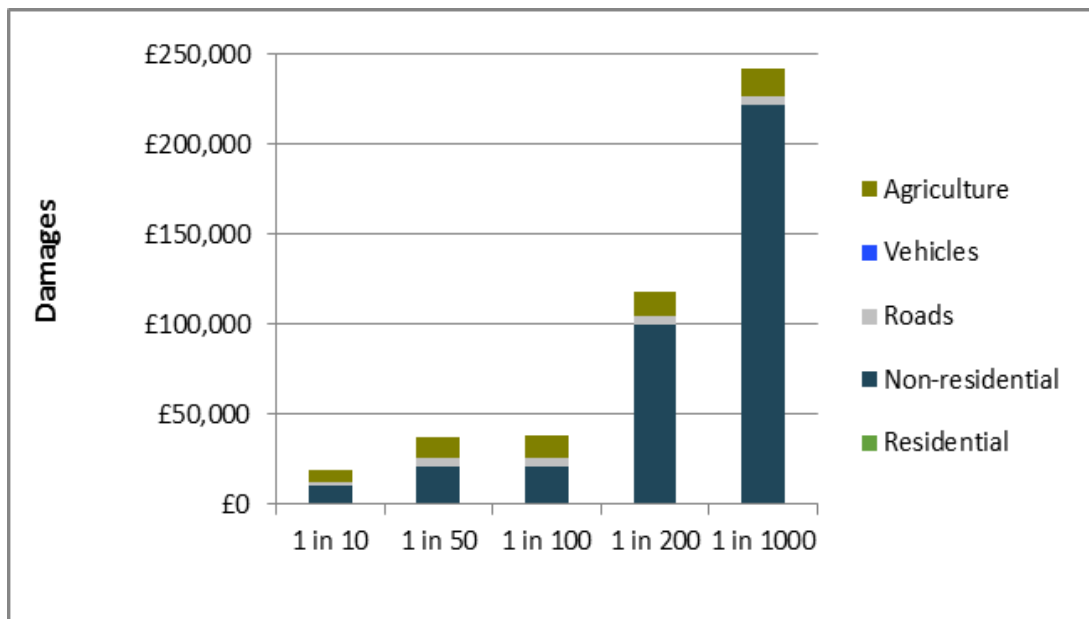
Designated cultural heritage sites and small areas of environmental importance are at risk. This includes parts of the Special Area of Conservation along the River Spey.

The damages associated with floods of different likelihood are shown in Figure 2. For this Potentially Vulnerable Area the highest damages are to non-residential properties and agricultural land.

The location of the impacts of flooding is shown in Figure 3.

|   | 1 in 10<br>High likelihood                     | 1 in 200<br>Medium likelihood                  | 1 in 1000<br>Low likelihood                    |
|---|--|--|--|
| Residential properties (total 380)                | <10  | <10  | <10  |
| Non-residential properties (total 60)             | <10  | <10  | <10  |
| People  | <10  | <10  | 10   |
| Community facilities                              | 0  | 0  | 0  |
| Utilities assets                                  | 0  | 0  | 0  |
| Transport links (excluding minor roads)           | Roads at 20 locations<br>Rail at <10 locations | Roads at 30 locations<br>Rail at <10 locations | Roads at 30 locations<br>Rail at <10 locations |
| Environmental designated areas (km <sup>2</sup> ) | 0.2  | 0.3  | 0.3  |
| Designated cultural heritage sites                | 1  | 1  | 1  |
| Agricultural land (km <sup>2</sup> )              | 0.3  | 0.6  | 0.7  |

**Table 1:** Summary of flooding impacts<sup>1</sup>

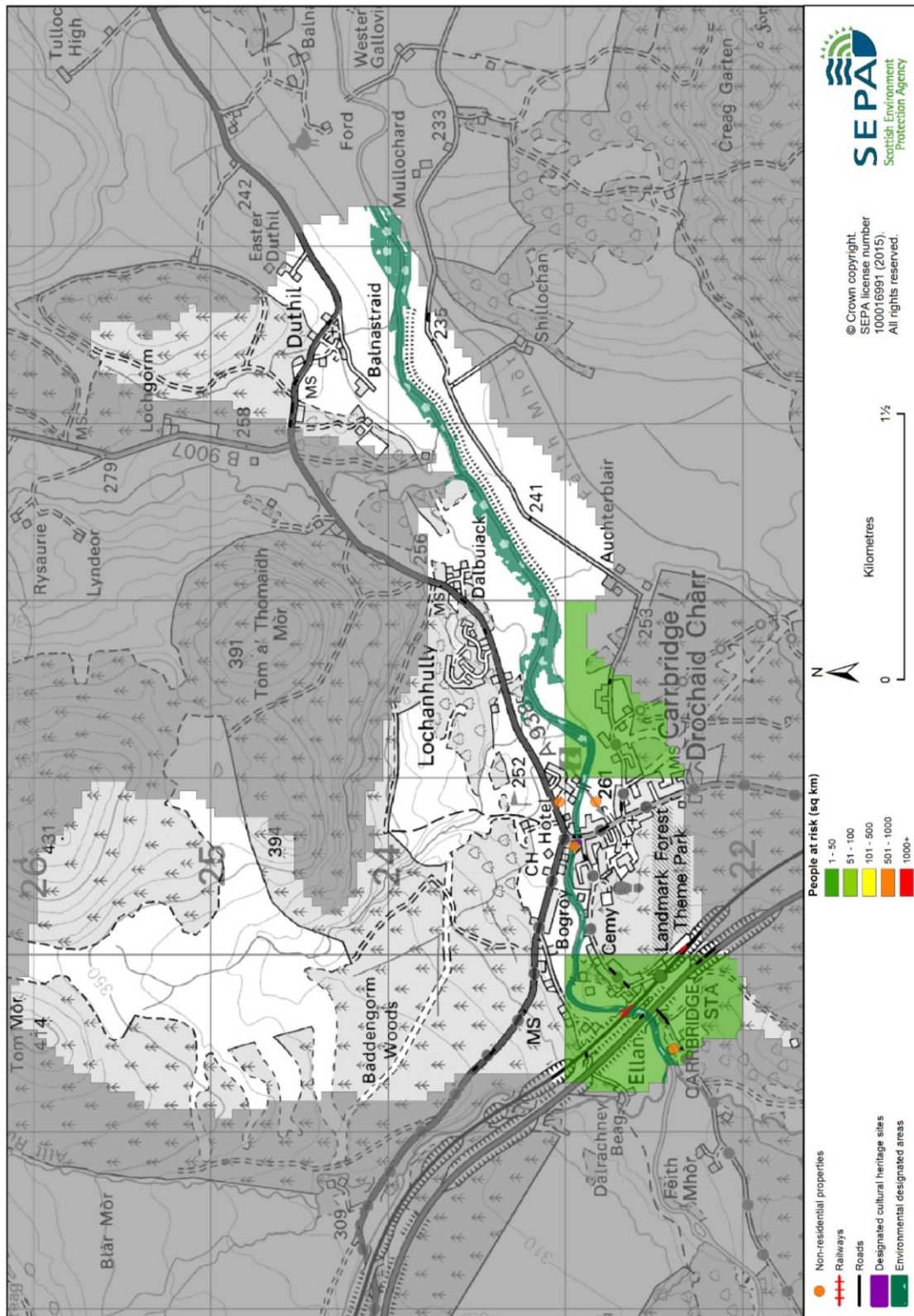


**Figure 2:** Damages by flood likelihood

## History of flooding

The earliest recorded flood was on the River Dulnain in 1829 during the Great Muckle Spate, which severely damaged the local bridge. There were river floods in 1875 and 1892. In 1914 a serious rail accident occurred at Carrbridge, when a bridge was swept away resulting in the death of five people. In 1923 there was flooding at Carrbridge, resulting in four bridges being destroyed and a two mile stretch of road closed for over a month. More recently, the River Dulnain flooded in 2004 and 2014.

<sup>1</sup> Some receptors are counted more than once if flooded from multiple sources



**Figure 3: Impacts of flooding**

## Objectives to manage flooding in Potentially Vulnerable Area 05/10

Objectives provide a common goal and shared ambition for managing floods. These objectives have been set by SEPA and agreed with flood risk management authorities following consultation. They were identified through an assessment of the underlying evidence of the causes and impacts of flooding. Target areas have been set to focus actions; they do not necessarily correspond to areas at risk in SEPA's flood map. The objectives below have been set for Carrbridge Potentially Vulnerable Area.

| Target area   | Objective   | ID     | Indicators within PVA  |
|---|---|--------|--|
| Carrbridge  | Reduce the physical risk, or disruption risk, related to areas of the A9 at risk of flooding  | 5307   | <ul style="list-style-type: none"> <li>• 3 locations on the A9 with a total length of 90m</li> </ul>                       |
| Applies across Findhorn, Nairn and Speyside Local Plan District | Avoid an overall increase in flood risk   | 500001 | <ul style="list-style-type: none"> <li>• &lt;10 residential properties</li> <li>• £9,000 Annual Average Damages</li> </ul> |
| Applies across Findhorn, Nairn and Speyside Local Plan District | Reduce overall flood risk   | 500002 | <ul style="list-style-type: none"> <li>• &lt;10 residential properties</li> <li>• £9,000 Annual Average Damages</li> </ul> |
| Applies across Findhorn, Nairn and Speyside Local Plan District | 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 Flood Risk Management Strategies. |        |  |

## Actions to manage flooding in Potentially Vulnerable Area 05/10

Actions describe where and how flood risk will be managed. These actions have been set by SEPA and agreed with flood risk management authorities following consultation. Selection of actions to deliver the agreed objectives was based on a detailed assessment and comparison of economic, social and environmental criteria. The actions shaded and then described below have been selected as the most appropriate for Carrbridge Potentially Vulnerable Area.

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

|                        |   |                      |                  |
|------------------------|---|----------------------|------------------|
| <b>Action (ID):</b>    | <b>FLOOD PROTECTION SCHEME/WORKS (5307021)</b>  |                      |                  |
| <b>Objective (ID):</b> | Reduce the physical risk, or disruption risk, related to areas of the A9 at risk of flooding (5307)                     |                      |                  |
| <b>Delivery lead:</b>  | Transport Scotland  |                      |                  |
| <b>Status:</b>         | <b>Under development</b>  | Indicative delivery: | <b>2022-2027</b> |
| <b>Description:</b>    | Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A9. |                      |                  |

|                        |   |                      |                |
|------------------------|---|----------------------|----------------|
| <b>Action (ID):</b>    | <b>MAINTAIN FLOOD WARNING (5000020030)</b>  |                      |                |
| <b>Objective (ID):</b> | Reduce overall flood risk (500002)  |                      |                |
| <b>Delivery lead:</b>  | SEPA  |                      |                |
| <b>Status:</b>         | <b>Existing</b>   | Indicative delivery: | <b>Ongoing</b> |
| <b>Description:</b>    | Continue to maintain the 'Sluggan to Dulnain Bridge' flood warning area on the River Dulnain which forms part of the Spey river flood warning scheme. |                      |                |

|                        |  |                      |                |
|------------------------|--|----------------------|----------------|
| <b>Action (ID):</b>    | <b>FLOOD FORECASTING (5000020009)</b>  |                      |                |
| <b>Objective (ID):</b> | Reduce overall flood risk (500002)   |                      |                |
| <b>Delivery lead:</b>  | SEPA   |                      |                |
| <b>Status:</b>         | <b>Existing</b>  | Indicative delivery: | <b>Ongoing</b> |
| <b>Description:</b>    | <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 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.</p> <p>The Potentially Vulnerable Area is within the 'Findhorn Nairn Moray and Speyside' flood alert area.</p> |                      |                |

|                        |  |                      |                |
|------------------------|--|----------------------|----------------|
| <b>Action (ID):</b>    | <b>SELF HELP (5000020011)</b>  |                      |                |
| <b>Objective (ID):</b> | Reduce overall flood risk (500002)   |                      |                |
| <b>Delivery lead:</b>  | —  |                      |                |
| <b>Status:</b>         | <b>Existing</b>  | Indicative delivery: | <b>Ongoing</b> |
| <b>Description:</b>    | <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 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> |                      |                |

|                        |  |                      |                |
|------------------------|--|----------------------|----------------|
| <b>Action (ID):</b>    | <b>AWARENESS RAISING (5000020013)</b>  |                      |                |
| <b>Objective (ID):</b> | Reduce overall flood risk (500002)   |                      |                |
| <b>Delivery lead:</b>  | Responsible authorities  |                      |                |
| <b>Status:</b>         | <b>Existing</b>  | Indicative delivery: | <b>Ongoing</b> |
| <b>Description:</b>    | <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.</p> <p>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.</p> |                      |                |

|                        |   |                      |                |
|------------------------|---|----------------------|----------------|
| <b>Action (ID):</b>    | <b>MAINTENANCE (5000020007)</b>   |                      |                |
| <b>Objective (ID):</b> | Reduce overall flood risk (500002)  |                      |                |
| <b>Delivery lead:</b>  | The Highland Council, asset / land managers   |                      |                |
| <b>Status:</b>         | <b>Existing</b>   | Indicative delivery: | <b>Ongoing</b> |
| <b>Description:</b>    | 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 inspection 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. |                      |                |

|                        |  |                      |                |
|------------------------|--|----------------------|----------------|
| <b>Action (ID):</b>    | <b>EMERGENCY PLANS/RESPONSE (5000020014)</b>   |                      |                |
| <b>Objective (ID):</b> | Reduce overall flood risk (500002)   |                      |                |
| <b>Delivery lead:</b>  | Category 1 and 2 Responders  |                      |                |
| <b>Status:</b>         | <b>Existing</b>  | Indicative delivery: | <b>Ongoing</b> |
| <b>Description:</b>    | 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 co-ordinated through regional and local resilience partnerships. This response may be supported by the work of voluntary organisations. |                      |                |

|                        |  |                      |                |
|------------------------|--|----------------------|----------------|
| <b>Action (ID):</b>    | <b>PLANNING POLICIES (5000010001)</b>  |                      |                |
| <b>Objective (ID):</b> | Avoid an overall increase in flood risk (500001)<br>Reduce overall flood risk (500002)   |                      |                |
| <b>Delivery lead:</b>  | Planning authority   |                      |                |
| <b>Status:</b>         | <b>Existing</b>  | Indicative delivery: | <b>Ongoing</b> |
| <b>Description:</b>    | 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 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 application of national planning policies see Annex 2. |                      |                |