REVIEW OF COUNCILS’ BIENNIAL FLOOD REPORTS

Professor Alan Werritty

Department of Geography
University of Dundee

March 2005

Report to the Scottish Environment Group, Air Climate and Engineering Division of the Scottish Executive
EXECUTIVE SUMMARY

Thirty-two local authority biennial reports of flooding covering the period November 2001 to November 2003 are analysed to see how well they meet the reporting requirements under the *Flood Prevention and Land Drainage (Scotland) Act* 1997.

The reports vary greatly in terms of length (2 to 212 pages) and were directed at two contrasting audiences (policy makers and flood risk managers and council tax payers). Occasionally both audiences were targeted but via markedly different types of report.

Spatial referencing of water courses (crucially important in terms of assessment) is only undertaken by twelve councils and information on updating such inventories is reported by a minority of councils. Reporting of maintenance regimes is also highly variable with only half the councils providing detailed accounts of measures taken to mitigate flood risk. However, thirteen councils have identified and prioritised maintenance in high risk sites.

The frequency of inspections within maintenance programmes varies from weekly to yearly with monthly checks providing the modal class. But as many as fourteen councils provide no information on the frequency of inspection. The type of maintenance undertaken mainly comprises clearing screens and unblocking culverts and drains in urban areas. This is replaced by the removal of vegetation in more rural water courses.

All except one authority provided information on individual flooding incidents. Typically these incidents were poorly referenced in terms of location and timing. The causes of individual incidents was also not always reported reflecting, in part, the difficulty of assigning a single cause. Where the flood type was recorded, water course overflow, sewer surcharge, poor road drainage and surface flooding were the dominant cause of flooding.

The reports generally meet the reporting requirements under the 1997 Act but there is a striking diversity in format, structure and content and often a lack of detail which makes it difficult to derive a national overview. This diversity is reflected in no general agreement as to the targeted audience. Some reports are written in non-technical language and directed to local council tax payers, whereas other reports are highly technical and could only be understood by engineers and flood risk managers. Reporting on maintenance programmes also varies greatly in terms of the nature of the work done and where and when it is undertaken. Similarly the lack of precision in reporting flooding incidents precludes the compilation of a national map. The least satisfactory section in most reports is that recording the measures needed to prevent or mitigate flooding. The lack of precision in specifying maintenance programmes coupled with highly variable reporting on flood protection schemes makes it impossible to generate an overview which could inform national flooding policy and future investment needs. The diversity of content does, however, reveal much valuable information on local initiatives in terms of FLAG groups, the installation of SuDS and detailed reports on coastal flooding. This information should continue to be captured in future reports.
Guidance on the structure, format and content of future biennial reports is proposed. This should include a clear specification of the target audience with a user-friendly leaflet favoured for local council tax payers and a more detailed technical report for professional engineers and flood risk managers. When the latter audience is being targeted water course assessments should be referenced in terms of a GIS or digital map, maintenance reports should be linked into the GIS or digital map and the nature of the maintenance tasks together with their timing clearly recorded. In terms of flooding incidents all events should be coded in terms of cause or origin and linked to the GIS or digital map. Flood prevention schemes should be reported in terms of the stage reached following guidelines in the main body of the report.

Acknowledgements
In preparing this report valuable assistance was provided by Alan Burdekin and Hazel Gallagher (Scottish Executive) and Adam Olejnik (Perth and Kinross Council) and Graeme Hedger (West Lothian Council). Useful informal feedback was also provided following a talk given at the Scottish Executive’s Conference on “Sustainable Flood Management” in September 2004. Jonathan Werritty extracted key information from individual reports enabling summary data to be compiled.
Background

Policy on flooding at the national level is currently under review following the 
*Water Environment and Water Services Act* (2003), the emergence of a National Flooding Framework, the OST report *Future Flooding Scotland* and the work of the National Technical Advisory Group on Flooding through much of 2004. The Scottish Executive’s current policy comprising the National Flooding Framework is focused on promoting the four ‘As’ (Awareness, Avoidance Assistance and Alleviation). This in turn is embedded in the definition of “Sustainable Flood Management” currently under development within the Executive.

Prior to the *Water Environment and Water Services Act* (2003) the statutory provision relating to flooding was based on the *Flood Prevention (Scotland) Act* 1961 amended by the *Flood Prevention and Land Drainage (Scotland) Act* 1997. Both Acts identified powers and, in some cases duties, which local authorities could and should exercise in preventing or mitigating flooding on non-agricultural land. In the latter Act section 6A placed a duty on every local authority to publish a report at two yearly intervals starting from November 1997. The report must specify:

- the measures which the authority considers they require to take to prevent or mitigate the flooding of non-agricultural land in their area;
- such measures as they have taken since the publication of their previous report
- all occurrences of flooding of such land since that date.

Three sets of reports covering the periods 1997-99, 1999-2001 and 2001-2003 have now been submitted to the Scottish Executive.

In June 2004 the Scottish Environment Group, Air, Climate and Engineering Division commissioned a project to consider a national perspective on flooding in Scotland and the measures taken, or planned to be taken, by local authorities in light of the statutory biennial flooding reports published by councils in November 2003. The remit of that project was as follows:

- to review the published information and identify best practice to ensure prescribed information is reported clearly
- to provide information on the causes of flooding events; river, tidal, sewer, road drainage etc, where practical
- to provide information on the details of measures taken to provide a national perspective of achievements so far
- to provide details of the measures planned to be taken to inform national policy and future investment needs

For each of the 32 reports on flooding issued by local authorities for the two years up to November 2003, this report will:
• ascertain if the reporting requirements under the 1997 Act have been met
• identify the assessment of water courses and associated maintenance programmes
• characterise the nature, extent and severity of flooding of non-agricultural land
• report strategies for developing flood protection schemes
• provide draft guidance for future local authority biennial reports

As required in the remit, the analysis will be based solely on what is contained within the 32 biennial reports for the period 2001-03.

**Structure and content of councils’ biennial reports**

The reports vary greatly in both format and structure. The most minimal (East Ayrshire, Falkirk, Inverclyde, Renfrewshire and the Western Isles) comprise 2 or 3 pages and struggled to meet the requirements of the 1997 Act (Annex 1). In some cases a limited response reflected the low level of threat posed by flooding (eg East Renfrewshire had no floods to report). In other cases, the minimalist approach reflected the low priority accorded to flooding by the council. By contrast other councils produced highly detailed technical reports, Fife’s report (221 pages) being exemplary in this respect. The majority of reports comprised less than 20 pages (Table 1).

<table>
<thead>
<tr>
<th>Number of pages</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>13</td>
</tr>
<tr>
<td>11-20</td>
<td>8</td>
</tr>
<tr>
<td>21-30</td>
<td>4</td>
</tr>
<tr>
<td>31-40</td>
<td>5</td>
</tr>
<tr>
<td>41-50</td>
<td>0</td>
</tr>
<tr>
<td>&gt;50</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 1: Number of pages in each report

The audience being addressed differed markedly between councils. For many the audience was engineering professionals and this was reflected in the structure, level of technical detail and language used (eg the Fife report). Other councils clearly had the council tax payer in mind resulting in a simple, user-friendly non-technical report or pamphlet (eg Stirling and Falkirk). Perth and Kinross produced both types of report cleverly targeted on contrasting audiences.

In terms of assessing water courses, 12 councils have databases of which only 7 are fully spatially referenced. For those databases which are not embedded within a GIS it is often difficult to ascertain the status of individual objects, eg what is meant by a reference to a specific reach within a stream. In some cases (eg Perth and Kinross) a graphical representation of the database is provided to assist in defining the upper and lower limits of each water course. For staff routinely working with the database this works well; for others a map or GIS of all the water courses would assist in understanding any patterns in the flooding incidents reported later. Of the 12 databases which have been developed, 6
are regularly updated irrespective of floods and 4 are updated following floods. This leaves 20 councils which provide no information on how they update their inventories of water courses.

The reporting of maintenance regimes across local authorities is highly variable (Table 2).

<table>
<thead>
<tr>
<th>Type of maintenance reported</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>in full</td>
<td>16</td>
</tr>
<tr>
<td>in part</td>
<td>14</td>
</tr>
<tr>
<td>minimally</td>
<td>1</td>
</tr>
<tr>
<td>only following floods</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2: Maintenance regimes

Whilst half the councils provide a very detailed account of the measures taken to reduce flood risk, half the councils fall far short in this key obligation. In some cases where the flood risk is low, this is acceptable. But for councils where floods are routinely experienced, information on the nature of and frequency with which water courses are maintained is crucial under the 1961 and 1997 Acts. Targeting resources can be an important aspect of council strategy in preventing or mitigating flooding. It is noteworthy that only 13 councils have identified and prioritised maintenance in high risk areas. If councils seek to promote increased “awareness” alongside increased “alleviation”, identifying priority sites and publicising them needs to be more widely disseminated.

Effective maintenance depends in part on the frequency of inspections (Figure 1). This varies markedly from weekly to annually, with monthly checks being the modal class.

![Figure 1: Frequency of inspections](image-url)
It is noteworthy that whereas 4 councils have a policy of inspecting sites during and immediately after a flood, 14 councils provide no information on their inspection regime. It is not possible to judge whether this is an omission in reporting or whether this represents a policy decision.

![Types of maintenance recorded during site visits](image)

**Figure 2: Types of maintenance recorded during site visits**

When maintenance is undertaken, this usually involves cleaning screens and unblocking culverts and drains reflecting the statutory requirement to prevent or mitigate flooding on non-agricultural land. Improving flood conveyance by the removal of vegetation, repairs to banks and dredging attract less maintenance work reflecting the importance of screen and culverts as potential flood ‘hotspots’.

Thirty one of Scotland’s local authorities provide a report on individual flooding incidents during the previous two years as required under the 1997 Act, with East Renfrewshire reporting no floods and thus entering a null return. However, only 4 of the reports provide information on where the flood occurred in terms of a National Grid Reference or location on a map. The more general style of reporting is to note the street or the general locality of the flood. For the non-local reader this lack of precision makes it difficult to judge the severity or extent of the flood. The precision with which the timing of foods is reported also varies markedly across councils. Whilst 18 councils specify the day on which the flood occurred, 5 only identify the month or season and 9 provide no information at all. A key flood property is the immediate cause and some councils attempt to provide this information (Figure 3). However, closer analysis of individual reports often reveals no information on flood type and often a lack of consistency where such returns are made. Part of the problem arises from the difficulty of assigning a unique label to a flood which may have more than one origin (eg an overtopped water course combined with either surface flow or sewer surcharge). A further complication arises from Scottish Water being the competent authority for damage arising from sewer surcharges. There is also uncertainty as to whether surface runoff which originates on agricultural land (outwith the terms of the 1997 Act) can be
Figure 3. Typology of floods reported by councils

coded as the cause of a flood in residential areas. Noting all these caveats, flooding attributed to water courses, surcharged sewers, surface runoff and poor road drainage dominate the record and seem to occur with approximately equal frequency. It is noteworthy that coastal flooding is only recorded once, but this may reflect its exclusion from the terms of the 1997 Act.

It is very difficult to summarise the information on flood prevention schemes as councils often fail to record whether a proposed scheme qualifies under the terms of the 1961 Act. Furthermore, the status of many schemes is often unclear in terms of their status (under consideration; awaiting permissions or grant aid from the Scottish Executive; in the process of being constructed). Again noting these caveats, in November 2003 it appeared that 17 local authorities had no schemes and 13 had between 1 and 3 schemes at varying stages of implementation. Two authorities were much more ambitious with Highland Council having 6 major schemes under consideration and Perth and Kinross 3 schemes in operation and a further 8 schemes under consideration. There is a general lack of consistency in the way that individual flood alleviation schemes were reported and itemised within individual council reports. This makes it impossible to generate a national view on schemes currently being brought forward by local authorities.

Commentary on reports

The reports generally meet minimal reporting requirements under 1997 Act, but the lack of guidance has fostered a variety of formats and extremely diverse content. This lack of common purpose is initially demonstrated in terms of contrasting audiences. Whilst some reports are targeted on local residents and council tax payers: for others the audience is the Scottish Executive. Reports addressing the concerns of local residents tend to be written in non-technical language, explain the council’s duties under the 1997 Act and are illustrative rather than exhaustive in terms of reporting maintenance regime and flooding incidents (eg Stirlingshire). By contrast most reports are targeted on the
perceived expectations of the Scottish Executive. As a result they are written in highly technical language, often assume familiarity with the relevant legislation and, some cases, are exhaustive in the detail provided (eg Fife).

The reports are also highly diverse in content. Inventories of water courses share few common elements across councils and relatively few are held within a GIS or spatially referenced database. A map of the water courses covered by the 1961 and 1997 Acts would greatly assist the non-local reader in understanding the threat posed by flooding within that specific local authority. Twenty councils provide no information on their water courses and only 10 local authorities regularly update their water course inventories. A key benefit in maintaining an updated inventory of water courses is to prioritise maintenance programmes which reduce the incidence and severity of flooding on non-agricultural land. This in turn can be a key element in councils’ strategies for preventing floods or mitigating their impacts.

The reporting of maintenance programmes and inspection of key sites is also very variable making it difficult to generate a national overview. Whilst conceding that inspection regimes should be geared to levels of perceived flood risk, an effective maintenance programme requires at least an annual site visit. At other sites with a regular history of flooding monthly or quarterly site inspections are appropriate. The dominant forms of maintenance are screen cleaning and unblocking culverts. This, if done regularly and effectively, can provide significant alleviation of flooding at sites often at risk from localised flooding. Repairing banks, dredging and removal of vegetation can also reduce risk, but may need to be reviewed as more sustainable types of flood management emerge. In some water courses this form of maintenance may conflict with the implementation of local biodiversity action plans (eg the Kinnessburn in St. Andrews).

The lack of precision in reporting flooding incidents (both in terms of location and precise timing) also makes it difficult to generate a national overview of flood risk based on recent incidents. Improved reporting should include the precise timing and location/areal extent of the flood, a measure of its severity and, where possible, identification of the immediate cause. Consistent reporting of floods along these lines will help inform strategic decisions on future flood alleviation schemes.

The area in which the biennial reports are least satisfactory is reporting on “measures [under the 1961 Act] which the authority considers they require to take to prevent or mitigate the flooding of non-agricultural land in their area”. Some of these measures involve the maintenance of water courses but, as has been noted above, information on the frequency and nature of maintenance regimes is highly variable and some current forms of maintenance may be non-sustainable. Where potential losses are widespread and could be very high, local authorities can bring forward flood alleviation schemes. Fifteen councils currently have one or more such schemes under consideration or in the process of being built. But the reporting of such schemes lacks consistency and clarity making it impossible to generate an overview from the biennial reports capable of informing national policy and future investment needs.
Finally, there is much in the reports which exceeds the requirements of the 1997 Act. Shetland Council, for example, provides an extensive and illuminating report on coastal flood risks. Other councils provide information on flooding in rural areas that potentially falls outwith the terms of the 1997 Act. Many councils report on the setting up and operation of Flood Advisory Groups (renamed Flood Liaison and Advisory Groups in 2004) and reports on the installation of SuDS. Typically this additional information on flood risk is customised to local circumstances. Thus coastal flooding is a greater threat than water course flooding in Shetland. As the Scottish Executive develops a more holistic approach to managing flood risk the inclusion such local detail in biennial reports should be encouraged.

**Guidance for future biennial reports**

Hitherto, councils have interpreted the requirements of the 1997 Acts without specific guidance on the format and content of the biennial reports. The above analysis implies that guidance would now be timely. This section provides some initial thoughts on appropriate guidance, to be refined and amended by the Scottish Executive.

1. **Target audience**

Two target audiences need to be addressed. The primary audience comprises local council tax payers for whom the report should be either a simple leaflet or an item in the local authority newspaper may well suffice. The secondary audience comprises policy makers and flood risk managers in local authorities, SEPA, SNH, Scottish Water and the Scottish Executive. Two quite different types of report should be developed.

2. **Structure of report targeted on local council tax payers**

Ideally, the report should include sections on:

- legislative background (1961 and 1997 Acts) outlining local authority powers and duties
- assessment of water courses since last report
- sample of maintenance work following that assessment
- brief commentary on each flood prevention scheme under consideration (some might quality for grant, but others would remain at the discretion of the local authority)
- list of most severe flooding incidents (timing and extent) since last report

The primary purpose will be to raise flood awareness and this will require eye-catching graphic design, pictures of floods and simple non-technical language. Perth and Kinross provides an excellent example of how to address this audience in their most recent leaflet “Fourth Annual Report on Flood Prevention”.

10
3. **Structure of report targeted on policy makers and flood risk managers**

Ideally, the report should include sections on:

- legislative background (1961 and 1997 Acts) outlining local authority powers and duties
- update on water course assessment – especially for high risk areas (with appropriate details)
- itemisation of the location, timing and frequency of inspections and resulting maintenance for water courses
- list of all minor works undertaken to mitigate or prevent flooding
- brief report on each flood prevention scheme under consideration (distinguishing between those likely to be eligible for grant and those not) specifying the stage each scheme has reached
- list of flooding incidents (including location, duration and nature)
- report on actions taken outwith the requirements of the 1997 Act which will help promote sustainable flood management (eg work of FLAGs, installation of SuDS, raising public awareness etc)

3. **Further guidance on content of reports targeted on policy makers and flood risk managers**

*Water course assessment*

Ideally this should be on a GIS or digital map in which the high risk areas clearly identified. Frequency for assessing each water course needs to be stated and justified.

*Maintenance*

Reporting on maintenance should include reference to the GIS (or digital map) timing and nature of the task. Annual spend on maintenance should be reported.

*Flooding incidents*

All incidents to be coded (water course, sewer, surface, road, coastal, other – specified) and referenced to the GIS (or digital map) for inclusion as additional layer in SEPA’s new flood risk maps.

*Flood Prevention Schemes*

Specify stage each scheme has reached (at end of reporting period):

1. Investigation of flooding occurrence, initial description of scheme
2. Publication of scheme (including capital cost) and serving notice
3. Submission to Scottish Ministers
4. Resolution of any objections, confirmation by Scottish Ministers and notice of scheme confirmation
5. Detailed design and tendering
6. Project schedule (start and finish dates)
7. Completed (if during the reporting period)
Annex 1: Assessment grid of individual reports

Criteria used in scoring individual reports

This scoring exercise was carried out as a way of extracting key information in each report for three key outputs and identifying the range of responses across the 32 local authorities. It is not dissimilar to the three-page table produced by the Scottish Executive. It is not a formal evaluation exercise and the final marks should be seen as indicative and not ascribed a spurious precision.

For each report a score of between 0 and 3 is used to grade each of the three requirements stipulated by the 1997 Act, and contained in columns 2-4 below:

A score of 0 indicates an element of the report that falls short of the requirements of the 1997 Act, by reasons of omission or misunderstanding; a score of 1 indicates a ‘pass’ mark; a score of 2 indicates a good response and a score of 3 a particularly innovative and comprehensive answer. This means that each report has a maximum possible score of 9. No attempt is made to score the reporting of flood prevention schemes on account of the great variety of reporting systems adopted

In one instance (East Renfrewshire) it was not possible to derive a mark: there were no flooding incidents to report, so a star * was used to denote this situations and the overall mark was out of six not nine.

General descriptors for individual reports follow based on the 0-9 point scale

- 1-3 a poor report lacking in the necessary detail
- 3-4 a satisfactory but not very detailed report
- 5-7 an authoritative and well written report
- 8-9 an exceptional report substantially exceeding the requirements under the Act.
## Table scoring local authority compliance with requirements of the Act

<table>
<thead>
<tr>
<th>Local authority</th>
<th>Measures required</th>
<th>Measures taken</th>
<th>Flooding incidents</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td><strong>8/9</strong> Comprehensive itemization of flooding incidents, very detailed account of schemes being considered</td>
</tr>
<tr>
<td>Aberdeenshire</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td><strong>5/9</strong> Lack of detail in specifying major flooding incidents and future plans for mitigation</td>
</tr>
<tr>
<td>Angus</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td><strong>9/9</strong> Very good on categorising floods by type, very detailed on measures taken, very clear explanation of council policy and future flood strategy</td>
</tr>
<tr>
<td>Argyll and Bute</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td><strong>4/9</strong> No details on inspection and maintenance regimes, no dates for flooding incidents, but very good on financial implications of flood prevention schemes</td>
</tr>
<tr>
<td>Borders</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td><strong>4/9</strong> Minimal detail in main body of report (but good appendices), no precise dates for floods and flood type not specified</td>
</tr>
<tr>
<td>Clackmannanshire</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td><strong>1/9</strong> Primary data presented with no interpretation, generally fails to address reporting requirements of the 1997 Act</td>
</tr>
<tr>
<td>Dumfries and Galloway</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td><strong>7/9</strong> Very good on maintenance regimes and identification of high risk sites, full list of works undertaken.</td>
</tr>
<tr>
<td>Dundee</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td><strong>6/9</strong> Excellent use of maps locating high risk sites, but no detail on mitigation measures or potential capital schemes.</td>
</tr>
<tr>
<td>East Ayrshire</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td><strong>4/9</strong> Detail lacking in terms of measures taken and nature of flooding incidents. Mitigation measures also lack detail.</td>
</tr>
<tr>
<td>East Dunbartonshire</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td><strong>5/9</strong> Very good on measures taken (esp maintenance) and flood prevention schemes, but dates for flooding incidents not always specified.</td>
</tr>
<tr>
<td>East Lothian</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td><strong>2/9</strong> Measures required to mitigate floods not specified, measures taken since last report difficult to assess because of lack of detail, lack of clarity on future priorities for mitigation or flood protection</td>
</tr>
<tr>
<td>Area</td>
<td>Rating 1</td>
<td>Rating 2</td>
<td>Rating 3</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>East Renfrewshire</td>
<td>2</td>
<td>3</td>
<td>*</td>
<td>5/6 Given no significant floods little to report, maintenance regime clearly reported, no major schemes anticipated.</td>
</tr>
<tr>
<td>Edinburgh</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9/9 Brief, comprehensive, clearly structured and well-written to inform general public. Appropriate level of detail throughout, flooding incidents include both precise date and cause</td>
</tr>
<tr>
<td>Falkirk</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4/9 Clearly structured and well written, targeted on general public Good on flooding incidents (but dates imprecise), and measures taken. Poorer on mitigation strategy</td>
</tr>
<tr>
<td>Fife</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9/9 Comprehensive and very detailed, aimed at technical audience, innovative coding of water courses in terms of potential flood risk</td>
</tr>
<tr>
<td>Glasgow</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>7/9 Comprehensive report, measures clearly identified and maintenance works clearly reported</td>
</tr>
<tr>
<td>Highland</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9/9 Comprehensive report with full documentation of measures required and measures taken. Very clear pro-formas for water course assessment and reporting flooding incidents</td>
</tr>
<tr>
<td>Inverclyde</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2/9 Barely meets the reporting standard required. No detail provided on measures taken or the nature of flooding incidents</td>
</tr>
<tr>
<td>Midlothian</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6/9 Brief report but measures taken clearly specified and information provided on both flooding incidents and locations at high risk</td>
</tr>
<tr>
<td>Moray</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9/9 Detailed report which provides a detailed account of high risk sites and flooding incidents. Mitigation very well covered both in terms of maintenance work and proposed flood alleviation schemes</td>
</tr>
<tr>
<td>North Ayrshire</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9/9 Full and detailed report covering assessment of water courses, description of major flood prevention schemes, maintenance regimes and flooding incidents</td>
</tr>
<tr>
<td>Council</td>
<td>Rating</td>
<td>Details</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Lanarkshire</td>
<td>3/3/3</td>
<td>9/9 Innovative categorization of degree of flood risk for sites and incorporation of information into a GIS. Meticulous recording of maintenance works and flooding incidents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orkney</td>
<td>0/1/0</td>
<td>1/9 Partial return with no information on either measures taken or flooding incidents.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renfrewshire</td>
<td>0/1/0</td>
<td>1/9 Very brief report which fails to meet the requirements of the Act. Measures required/taken recorded solely as present or absent. Likewise for recording flooding incidents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shetland</td>
<td>1/1/1</td>
<td>3/9 Meets the requirements of the Act but very little detail reported on specific measures taken. Majority of the report on coastal flooding and climate change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Ayrshire</td>
<td>3/2/3</td>
<td>8/9 Full account of measures required and taken under the Act. No major floods inevitably means that only minor events itemised</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Lanarkshire</td>
<td>1/2/2</td>
<td>5/9 Maintenance programme and reporting of flooding incidents highly generalized and little on measures to mitigate floods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stirling</td>
<td>2/2/2</td>
<td>6/9 Very clearly written report targeted on council tax payers. Flooding incidents, maintenance programmes and proposed flood alleviation schemes all clearly outlined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Dunbartonshire</td>
<td>2/2/3</td>
<td>7/9 Clearly written and laid out with detailed accounts of flooding incidents and maintenance works. Innovative section on “preparing for floods”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Lothian</td>
<td>3/2/2</td>
<td>7/9 Clear and well-drafted report with detailed account of maintenance works, but flooding incidents only recorded by their location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Isles</td>
<td>1/0/1</td>
<td>2/9 Minimal report in terms of measures needed and location and timing of flooding incidents</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Grouped scored in alphabetical order**

**Score 8-9**
Aberdeen, Angus, East Renfrewshire (*5/6), Edinburgh, Fife, Highland, Moray, North Ayrshire, North Lanarkshire, Perth and Kinross, and South Ayrshire

**Score 5-7**
Aberdeenshire, Dundee, Dumfries and Galloway, East Dumbartonshire, Glasgow, Mid Lothian, South Lanarkshire, Stirling, West Dunbartonshire, and West Lothian

**Score 3-4**
Argyll and Bute, Borders, East Ayrshire, Falkirk and Shetland

**Score 1-2**
Clackmannanshire, East Lothian, Inverclyde, Orkney, Renfrewshire and the Western Isles