What is the problem under consideration? Why is government intervention necessary?

Government intervention is necessary (a) to secure the benefits of the comprehensive approach to flood risk management provided by the Directive and (b) to fulfil our obligation as a Member State of the European Union to transpose European Directives into domestic law.

What are the policy objectives and the intended effects?
The Floods Directive aims to standardise how Member States assess the risk of flooding, map its potential impact and plan measures to reduce flood risk in the context of climate change. Through this common framework it aims to reduce the potential adverse consequences of flooding on human health, the environment, cultural heritage and economic activity. It also requires Member States with cross-border catchments to manage flood risk strategically. In England (and Wales) given that coastal and main river flood risk is already mapped, we propose to focus on local flood risk, including surface water and groundwater, and reservoir flood risk to meet the Directive requirements. Some of this work, e.g. surface water - see separate IA - and reservoirs, was in train before work to transpose the Directive began, so where this is the case costs have not been included in this assessment.

What policy options have been considered? Please justify any preferred option.
(1) Do nothing more; this option is not assessed in detail as it would result in infraction penalties and subsequent transposition to address EC fines and reputational damage.
(2) Comprehensive transposition through the Floods and Water Bill with a fallback Statutory Instrument to address any increase in the risk of infraction. This is the preferred option on which a full cost-benefit analysis follows. A variety of options is considered from using existing maps and plans to starting with completely new Directive deliverables.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?
The first cycle of Floods Directive assessment, maps and plans should be complete by December 2015 and made available to the Commission by March 2016. The policy may be reviewed after that.
Ministerial Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister:

............................................................................................................................................Date:
### Summary: Analysis & Evidence

**Policy Option:** Comprehensive transposition  
**Description:** Transpose through Floods and Water Bill, draw on existing maps and plans co-ordinated to meet FD requirements.

#### COSTS

**ANNUAL COSTS**

<table>
<thead>
<tr>
<th>Description</th>
<th>One-off (Transition) Yrs</th>
<th>Average Annual Cost (excluding one-off)</th>
<th>Total Cost (PV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description and scale of key monetised costs by 'main affected groups'</td>
<td>£ 1.2 million</td>
<td>£ 0.9 million</td>
<td>£ 19.67 million</td>
</tr>
<tr>
<td>(Over 30 years) Cost to Environment Agency of leading on production and co-ordination of appraisals, maps and plans. Cost to Upper Tier local authorities of producing local flood risk maps to suit Directive reporting requirements.</td>
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<td></td>
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</table>

Other key non-monetised costs by 'main affected groups'

#### BENEFITS

**ANNUAL BENEFITS**

<table>
<thead>
<tr>
<th>Description</th>
<th>One-off Yrs</th>
<th>Average Annual Benefit (excluding one-off)</th>
<th>Total Benefit (PV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description and scale of key monetised benefits by 'main affected groups'</td>
<td>£ Nil</td>
<td>£ Nil</td>
<td>£ -</td>
</tr>
<tr>
<td>(Over 30 years) It has not been possible to quantify the benefits.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other key non-monetised benefits by 'main affected groups'  
Reducing the potential damage from flooding by prioritising measures and objectives to reduce flood risk from all sources in areas of potential significant flood risk. Potential for better public engagement and information in the flood risk management and planning cycle.

Key Assumptions/Sensitivities/Risks  
Risk - Floods and Water Bill timetable is delayed meaning transposition is not complete in time for reporting deadlines. Contingency - lay separate transposing regulations. It is assumed that for subsequent cycles of assessments, maps and plans costs will be reduced by two thirds of the transitional (first cycle) costs.

**Price Base**

<table>
<thead>
<tr>
<th>Year</th>
<th>Time Period</th>
<th>Net Benefit Range (NPV)</th>
<th>NET BENEFIT (NPV Best estimate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Years 30</td>
<td>£</td>
<td>£ -19.67 million</td>
</tr>
</tbody>
</table>

What is the geographic coverage of the policy/option?  
England and Wales

On what date will the policy be implemented?  
26 November 2009

Which organisation(s) will enforce the policy?  
Environment Agency

What is the total annual cost of enforcement for these organisations?  
£ n/a

Does enforcement comply with Hampton principles?  
Yes

Will implementation go beyond minimum EU requirements?  
No

What is the value of the proposed offsetting measure per year?  
£

What is the value of changes in greenhouse gas emissions?  
£

Will the proposal have a significant impact on competition?  
No

Annual cost (£-£) per organisation (excluding one-off)  
<table>
<thead>
<tr>
<th>Micro</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

What is the geographic coverage of the policy/option?  
England and Wales

What is the value of the proposed offsetting measure per year?  
£

What is the value of changes in greenhouse gas emissions?  
£

Will the proposal have a significant impact on competition?  
No

Annual cost (£-£) per organisation (excluding one-off)  
<table>
<thead>
<tr>
<th>Micro</th>
<th>Small</th>
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<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Impact on Admin Burdens Baseline (2005 Prices)  
(Increase - Decrease)

<table>
<thead>
<tr>
<th>Increase of</th>
<th>Decrease of</th>
<th>Net Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
</tbody>
</table>

Are any of these organisations exempt?  
Yes

Yes

N/A

N/A
What is the problem under consideration?

This Impact Assessment considers the options for transposing the EC Floods Directive into domestic law in England [and Wales] and its implementation. Scotland and Northern Ireland are transposing the Directive independently.

Flood risk management in England [and Wales] already addresses main river and coastal flooding and, in the light of the summer 2007 flooding, is now focusing on surface water, groundwater and reservoirs. In many respects transposing and implementing the Directive simply means continuing this evolution of maps and plans, and then co-ordinating the outputs to meet the requirements of the Directive. This impact assessment therefore focuses on the costs and benefits of any additional work to implement the Directive. It does not include the costs of work that is already undertaken under existing or developing policies.

Why is Government intervention necessary?

Government intervention is necessary both to secure the benefits of the Directive’s comprehensive framework of flood risk management and to fulfil our obligation as a Member State of the European Union, to transpose European Directives into domestic law.

Our current approach to flood risk management, although well developed for main river and coastal flooding, needs to be extended to local flood risks and reservoirs in order to meet the Directive requirements which apply to all sources of flooding. The Directive also requires all maps and plans to be made available to the public and requires active participation in flood risk management planning. So in expanding flood risk mapping to other flood sources we will need to make the process visible and engaging.

Existing and developing flood risk management

As mentioned above, flood risk management maps and plans already exist for main river and sea flooding. These take the form of Catchment Flood Management Plans (CFMPs) and Shoreline Management Plans (SMPs).

Local authorities already prepare Strategic Flood Risk Assessments (SFRAs) which underpin the spatial planning system and guide the location of future development to avoid and minimise flood risk. Level two SFRAs provide further detail on flood risk from all sources.

Following the Pitt Review into the summer 2007 flooding in England recommendations were agreed by Government to manage surface water, groundwater and reservoir flood risk. Specifically local authorities are being asked to prepare Surface Water Management Plans (SWMPs) in areas of high flood risk, assessing all forms of flooding. See the SWMP Impact Assessment for details [insert link].

Concurrently work is well underway to map the inundation paths and consequences of reservoir dam failure, to share this information with emergency planners. This will also help reservoir undertakers (owners or operators) to prepare reservoir flood plans to reduce the probability of flooding.

Requirements and timetable for the Floods Directive

The Floods Directive requires Member States:

(a) To draw together a Preliminary Flood Risk Assessment by 22 December 2011 based on available or readily derivable information.
On the basis of this assessment, to identify areas of potentially significant flood risk (‘significant risk’).

For those areas of significant risk, to prepare maps showing the nature and potential consequences of floods by 22 December 2013.

For these mapped areas, to produce Flood Risk Management Plans by 22 December 2015 that set out objectives and measures aimed at reducing the consequence and/or likelihood of flooding.

The appraisal, mapping and planning sequence continues thereafter on a 6-year cycle, although the second cycle PFRA is not due until 2018. Given that this would restrict future mapping periods to one year rather than two, we are consulting on a proposal to bring this date forward to 22 December 2017 and every 6 years after that.

What are the policy objectives and intended effects?

Our policy objectives are:

- To rationalise and build on existing flood risk management policy to:
  - achieve better understanding and management of a wider range of flood risk;
  - minimise additional flood risk from inappropriate new development;
  - make best use of available resources to manage flood risk; and
  - achieve better public engagement.

- To transpose and implement the Floods Directive in a timely and compliant fashion.

Policy options considered

1. **Do nothing more** – this option is discounted as it would (a) not achieve the desirable outcomes of better and extended mapping and planning which the Directive requires and (b) result in infraction penalties.

2. **Proportionate transposition and implementation** – we propose to adopt this approach to transposition, sub-options of which are considered in this impact assessment.

   2a. **Inclusion of flooding from sewerage systems** - The Floods Directive applies to all forms of flooding but Member States may decide to exclude floods from sewerage systems. For reasons described in the consultation paper, following limited informal consultation, we propose to exclude flooding from sewerage systems from transposition in England.

   However, broader flooding events that include an element of flooding from sewers are included. Although very unpleasant, sewer flooding is localised and can happen at any point in the system, so it is not well suited to the risk mapping approach devised by the Directive, which is better suited to ‘natural’ flood processes.

   Sewer flooding is already tackled by water companies who are charged with reducing the number of properties affected as part of their Price Review obligations. Given that there are strong policy and practical arguments in favour of excluding flooding from sewerage systems, no estimate of the cost of including such flooding has been made.

1. **Do nothing more**

The current approach to flood risk management is not satisfactory for Directive compliance for the following reasons.

(1) There is no preliminary screening of flood risk from local flooding sources (ordinary watercourses, surface water and groundwater). Although strategic flood risk assessments
make a broad assessment to inform spatial planning considerations, these need to be expanded to consider all forms of flooding.

(2) Flood risk from local flooding sources is not currently mapped. Whilst level two SFRAs and modelling for SWMPs will go some way towards addressing this, to comply with the Directive local authorities will need to carry out detailed mapping for all flood sources including where these are combined with national flood risk.

(3) Similarly, at present we would not be able to demonstrate to the Commission that we have prepared flood risk management plans for all sources of flooding. SWMPs will bridge the gap by planning for local flood risk but there needs to be an overarching strategy that pulls together the objectives and measures from SWMPs, CFMPs, SMPs and reservoir plans in order to demonstrate a coordinated strategy for flood risk management.

(4) Lastly, flood risk management plans are not yet coordinated with Water Framework Directive river basin management plans as required by the Floods Directive.

Therefore our proposed solution should build on existing and developing flood risk maps and plans, and ensure that flooding from all sources is assessed and managed cohesively.

2. Proportionate transposition and implementation

Our preferred approach to transposition is explained further in the consultation document. Given the proposed changes to flood risk management roles and responsibilities set out in the draft Floods and Water Bill, and the central role that the Floods Directive will play in future flood risk mapping and planning, it clearly makes sense to transpose the Directive through the final Bill. However, should the Bill timetable create a substantial risk of infraction for failure to transpose in time, we will retain the option of transposing via Regulations made under the section 2(2) of the European Communities Act 1972.

Sewer flooding

As mentioned above, following informal consultation with Ofwat and Water UK, we propose to exclude flooding from sewerage systems from transposition in England. However, broader flooding events that include an element of flooding from sewers will be included. Although very unpleasant, sewer flooding is localised and can happen at any point in the system, so it is not well suited to the risk mapping approach devised by the Directive, which is better suited to ‘natural’ flood events.

Sewer flooding is already tackled by water companies who are charged with reducing the number of properties affected as part of their Price Review obligations. Given that there are strong policy and practical arguments in favour of excluding flooding from sewerage systems, no estimate of the cost of including such flooding has been made. The consultation document includes a more detailed discussion of this issue.

Responsibilities for preparing Directive maps and plans

The consultation paper sets the context for the proposed division of responsibilities between ‘national’ and ‘local’ flood risk as follows:

- The Environment Agency would be responsible for mapping and planning in relation to flood risk from the sea, main rivers and reservoirs.
- Local authorities (county councils in two-tier areas) would be responsible for preliminary assessments, mapping and planning local flood risk (i.e. from surface water, ground water and ordinary watercourses) engaging with other relevant bodies to inform this work.
- The EA would support local authorities in undertaking their roles (for example by providing guidance on undertaking assessments, mapping and planning) and also by participating on a quality review panel to review local authority outputs and help achieve a nationally consistent approach.
Preliminary Flood Risk Assessments

In order to inform the Preliminary Flood Risk Assessment (PFRA) it will be necessary to draw together relevant information from existing flood maps and plans. Given that the EA already holds flood maps and plans for national flooding (sea and main river) there is no need for a PFRA so this work should instead focus on local flood risk.

We propose that higher tier local authorities will be responsible for preparing PFRAs for ordinary watercourses, surface water and groundwater flood risk. Level one SFRAs prepared by local authorities to inform spatial planning decisions, should provide the information on which the PFRA may be based. These responsibilities would be supported by a new duty on other public bodies to cooperate and share data. The EA should be involved in quality assuring local authority prepared PFRAs.

**Estimated costs - first cycle of PFRAs**

For the Environment Agency the cost of drawing together flood risk data for each River Basin District is estimated to be £100,000, so £1.1 million in total for all 11 RBDs in England and Wales. These costs might rise if additional work is required, e.g. on the Agency’s National Receptor Database, a literature review on historical events and GIS evaluation of future impact, so a more realistic cost range is between £1.1 and £1.3 million.

For local authorities, research\(^1\) nearing completion estimates that the cost of preparing SFRAs is between £5,000 and £40,000 per local authority, so between £860,000 and £6.88m in total for all 172 upper tier/unitary authorities in England and Wales. The variation is due to the number of local planning authorities involved, their geographic area, the complexity of the flooding and the degree of additional modelling required.

These level one SFRAs are desk based studies that review local flood risk to inform spatial planning decisions. As such they will also fulfill the requirements of the preliminary flood risk assessment and so no additional cost is envisaged for meeting the requirements of the Floods Directive.

The total estimated cost for the first cycle of PFRAs is therefore between **£1.1m and £1.3m (ave. £1.2m)** during calendar years 2010 and 2011.

**Estimated costs - subsequent cycles of PFRAs**

Given that a substantial evidence base should be amassed during the first cycle of PFRAs, subsequent cycles should be less onerous. We therefore estimate that the total cost should fall to about one-third of the original costs, so between **£367,000 and £433,000 (ave. £400,000)** in 2016/2017 and again in 2022/2023 and so on.

**Assessment of significant risk**

Based on the information provided by PFRAs, an assessment needs to be made of areas of “significant flood risk”. These areas will then be subject to the mapping and planning

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1. Land use planning – Quality and influence of Strategic Flood Risk Assessments in the planning process" (FD 2610)
requirements of the Directive. We propose that upper tier local authorities will be responsible for proposing areas of significant risk based on guidance to be provided by the Environment Agency. These proposals may be subject to review by a panel of experts and the final determination of significant risk may ultimately rest with the Secretary of State.

For national flood risk, existing mapping means that there is no current need to make an assessment of significant risk. However should the Environment Agency in future wish to vary the flood risk area that it maps, we propose that it will be their responsibility in consultation with interested parties, to change the area defined as significant.

### Flood Risk Maps and Flood Hazard Maps

In order to meet Floods Directive mapping requirements the Environment Agency will need to expand its main river and coastal flooding maps to include indicators such as depth, velocity and consequence. The EA’s flood mapping strategy already addresses some of these issues, so the only additional cost recognised here is developing the science to support the Directive’s mapping requirements.

Local authorities will need to produce maps to a specification set by the Environment Agency for areas of local significant risk. To this end level two strategic flood risk assessments will help inform the requirements of Directive flood risk and flood hazard maps, but further work may be needed to develop the final outputs.

#### Estimated costs – first cycle of mapping

For the Environment Agency the cost of additional scientific development is estimated to be £300,000 per year for each of the four years from 2010 to 2013 inclusive. The cost of producing a mapping specification for LAs is about £100,000, a one-off cost in 2010-2011. So total costs of £1.3 million during this period. To fulfil Directive requirements the EA will need to make all maps and plans available on a single national map portal, estimated at £300,000 for integration (mostly in 2013-2014) and a possible £150,000 to £300,000 per year thereafter depending on IT data sharing issues. This would meaning a maximum cost to the Agency over four years of £2.5 million.

The cost to local authorities will vary depending on the number and extent of significant risk areas selected, but an estimate of £250,000 per modelling study per area is suggested. Assuming that there are 50 such areas to be mapped during 2011-2013, total costs would be £12.5 million. This should be covered by the funding already allocated for Surface Water Management Plans (SWMPs) – see the SWMP impact assessment for further details – so no additional cost is envisaged for Directive compliance.

#### Estimated costs – subsequent cycles of mapping

For subsequent cycles the costs to the EA are likely to decrease considerably as the initial development will have been completed. Taking the maximum estimate for putting all maps and plans on its national map portal, the ongoing cost to the Agency in co-ordinating flood risk maps and flood hazard maps might be £300,000 per annum. This would equate to £600,000 for each subsequent two-year mapping period.

### Flood Risk Management Plans (FRMPs)
The final stage in the Floods Directive mapping and planning cycle is the preparation of Flood Risk Management Plans (FRMPs). These must include appropriate objectives and measures to manage flood risk, focusing on reducing the adverse consequences and/or likelihood of flooding. The Directive provides for a single FRMP or co-ordinated set of plans.

As previously mentioned, in England and Wales a series of plans which address flood risk are already produced or planned, i.e.:

- Catchment Flood Management Plans (CFMPs)
- Shoreline Management Plans (SMPs)
- Reservoir Flood Management Plans (RFPs)
- Surface Water Management Plans (SWMPs)

To compare and evaluate the options for meeting the Directive’s planning requirements, and recognising what is already produced in England and Wales, the Environment Agency commissioned Royal Haskoning to carry out a desk study considering a range of options from maintaining the status quo through to creating new FRMPs from scratch.

The options considered were as follows:

A. Produce 11 River Basin District (RBD)-scale plans to replace all existing Catchment Flood Management Plans (CFMPs), Surface Water Management Plans (SWMPs), reservoir flood plans (RFPs) when available, and Shoreline Management Plans (SMPs).

B. Produce 11 RBD scale plans in addition to CFMPs, SWMPs, RFPs, SMPs

C. Produce 77 catchment scale plans to replace existing maps and plans

D. Produce 77 catchment scale plans in addition to existing maps and plans

E. Present multiple scale plans - 77 CFMPs, 30 SMPs, 50 SWMPs and all RFPs

A cost comparison of the 5 options for compiling Flood Risk Management Plans is set out below.

Unit: £1,000

<table>
<thead>
<tr>
<th>Option</th>
<th>No. of FRMPs</th>
<th>Cost per FRMP</th>
<th>Cost per FRMP for SEA consultation and WFD</th>
<th>Total R&amp;D cost</th>
<th>Total FRMP production cost</th>
<th>Total SEA consultation and WFD* cost</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
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<td>50</td>
<td>100</td>
<td>10</td>
<td>20</td>
<td>150</td>
</tr>
</tbody>
</table>

* Floods Directive plans are subject to consultation under the Strategic Environmental Assessment and should be co-ordinated with Water Framework Directive river basin management plans.

** These costs will be incurred during the years 2014 and 2015, i.e. the first cycle of Flood Risk Management Plans. For subsequent cycles it is assumed that the cost will be reduced by two-thirds (not shown in the table), so in 2020/21, 2026/27 and so on.

2 Although called surface water management plans, they will in fact assess flood risk from all sources at a local level.
Note: These costs represent only one aspect of the total cost of producing FRMPs as the majority of FRMP deliverables and costs are contained within current and future CFMPs, SMPs, SWMPs and reservoir flood plans. **As these costs are not driven by the Directive they are not included here.**

In considering which option to pursue we looked at Directive requirements, proportionality, accessibility and cost. Whilst option A would undoubtedly result in the most cohesive set of flood plans, i.e. one FRMP per RBD, we recognised that the process of distilling at least 150 plans and reservoir plans into 11 RBD scale FRMPs would require an enormous exercise. We also questioned the additional value of such a process in delivering positive flood risk management benefits. This option would also ‘do away with’ all existing and developing plans and require major stakeholder re-engagement. Option B would avoid this latter consequence but would still require considerable resource and result in potential confusion with statutory Directive plans sitting alongside non-statutory plans.

Options C and D would require a similar process, combining information from the various component plans to produce 77 FRMPs, each one covering a single catchment. Again cost considerations would be considerable, and given the greater number of plans, slightly exceed options A and B respectively. That said, the same benefits would apply in terms of cohesive reporting to the Commission.

**Estimated costs – first cycle of plans**

On the basis of cost and retaining consistency in developing FRMPs, we propose to adopt option E, which makes maximum use of existing maps and plans. Although this option loses the apparent simplicity of having just 11 integrated plans, it does have several advantages: it is **by far the least costly option (between £4.8 million and £9.5 million for the first 6-year cycle)**; it involves the least change and highest use of existing plans, so reducing the risk of teething trouble; and it avoids having parallel (statutory) Directive and (non-statutory) operational plans.

**Estimated costs – subsequent cycles of plans**

As with the PFRA and flood maps, the cost of updating and co-ordinating FRMPs is likely to diminish considerably over time. Updated FRMPs will review progress and amend flood risk management objectives and measures, taking into account changes in land use development and climate change, but this is likely to be considerable less resource intensive than production and co-ordination during the first round. Costs are likely to be reduced, in line with mapping, by two-thirds. So the range between lowest and highest estimates for subsequent cycles would be between **£1.59 million and £3.18 million**.

**Meeting the costs**

The costs to the Environment Agency will be met out of the general grant in aid provided to it by Defra. The total sum available for flood and coastal erosion risk management will reach £800 million in 2010/11.

The additional costs falling to local authorities will be supported by funding from Government in the form of revenue support grant.

**Benefits**

The benefits of implementing the Directive can broadly be divided into three:

1. A reduction in potential flood damages
2. Improved public engagement and participation
3. Avoiding the risk of infraction in terms of penalties and reputational damage
It has not been possible to quantify these benefits, however they are described in greater detail below.

**Reducing potential flood damages**

The Flood Directive’s three step approach to flood assessment, mapping and planning should enable investment in flood risk management to target areas of greatest need, thereby reducing potential flood damages. It is an approach that is already adopted in England and Wales with regard to flooding from main rivers and the sea. The need for this to be extended to cover local flood risk (including from surface water, groundwater and ordinary watercourses) has been demonstrated including by the Summer 2007 floods where many properties were flooded by surface water.

The PFRA screening process will support best use of public funds by applying a nationally consistent ‘significant risk’ criteria across all sources of flooding. Flood risk mapping will be significantly enhanced by including surface water flood risk in high risk areas. And flood risk management plans will secure a reduction in potential flood damages as the objectives and measures agreed therein will draw from a comprehensive integration of all evidence of flood risk, flood mapping and planning.

By expanding flood risk mapping and planning to include issues such as health effects and the impact on cultural heritage, the Directive will enable flood risk measures to be informed by a comprehensive assessment of risk.

**Public engagement and participation**

Our proposed implementation of the Floods Directive will provide a greater opportunity for the public to be involved in flood risk management issues that affect them. By making flood risk assessment, maps and plans available to the public, there should be a greater awareness of flood risk and an understanding of all the contributory factors. The determination of ‘significant risk’ will be set out in the context of all sources of flooding and the variety of impacts that result.

Public engagement will be further encouraged through the consultation on Flood Risk Management Plans. As we propose to construct these from existing flood maps and those already under development, we will be able to build on existing stakeholder engagement and avoid unnecessary costs.

It is difficult to monetise these benefits in a meaningful way. That said, improved public engagement on decisions that inform public spending on flood management should enable more people to better understand the complexity behind judging what is an acceptable level of flood risk.

**Avoiding the risk of infraction and reputational damage**

The work that is already done in England and Wales with regard to assessing and mapping flood risk, and providing plans for its management, already goes a long way towards achieving compliance with the Directive. However, it falls short of achieving full compliance in relation to flood risk from surface water, groundwater and ordinary watercourses. Also, flood hazard mapping is not fully developed and nor is there the level of public participation that is required by the Directive.

If we decided not to do any further work to meet the requirements of the Directive, not only would we fail to achieve the benefits of this extended approach to flood risk management, we would also lay ourselves open to infraction and reputational damage.

If we failed to transpose and implement the Floods Directive to the satisfaction of the European Commission then Article 228 proceedings may be initiated. This means a risk of being taken to
the European Court of Justice who can impose a lump sum fine and/or penalty payment (periodic payments until the breach is rectified) on the UK. Such fines can be considerable; for example, Greece was recently fined €20,000 a day for breaching EU waste requirements.

Moreover, public interest in flooding has been heightened by recent flood events, most notably the flooding in 2007 much of which resulted from surface water flooding. Though action is already under way to address this, there could be significant reputational damage to the Government if it failed to act on the requirements of the Directive which address this issue.

**Conclusion**

Transposing the Floods Directive into law in England and Wales will consolidate existing and developing flood risk management practice and ensure that it tackles all sources of flooding consistently.

The preliminary flood risk assessment will assist in identifying local flood risks, building on strategic flood risk assessments in which local authorities already engage. In particular the PFRA will extend existing assessments to include all local flood risks and will require joint working between local authorities and the Environment Agency on combined flood risk from both ‘national’ and local sources.

Flood hazard and flood risk mapping will mirror the preliminary assessment stage in that it will build on existing level 2 strategic flood risk assessments, but in this case local authorities will need to produce more detailed maps. This work was already identified and funded as preparatory work leading to surface water management plans, which contrary to their title, will cover all flood risks.

Finally the core output from transposition of the Directive, the flood risk management plan, will be an amalgam of existing plans (catchment flood management plans and shoreline management plans); surface water management plans (currently under development and funded separately) and reservoir flood plans.

So in summary the only additional work required to fulfil the Directive beyond existing policy development is mapping local flood risk, and for the EA, co-ordinating the component plans for FRMPs.