

## INVEST TO SAVE BUDGET

### PRO FORMA FOR ROUND X FORMAL BIDS

**BID NO xx**

Project title	Severe Weather and Flood Warnings Project – Informing the Public		
Parties to project (lead partner in bold)	<p><b>The Environment Agency</b> and The Met Office</p> <p>Contact: X</p> <p>Supporting partners - Redcar and Cleveland Borough Council</p>		
Objectives of project	<p>To increase the number of individuals and organisations who receive timely and effective warnings of severe weather by</p> <ul style="list-style-type: none"> <li>• Providing the UK’s first integrated multi-media warning system</li> <li>• Developing links between a wide variety of partners to deliver an effective warning service</li> </ul> <p>Success criteria for the project</p> <ul style="list-style-type: none"> <li>• To increase the percentage of the “at risk” population receiving warnings from 58% to 80% by 2010</li> <li>• To reduce the financial and personal cost of flooding by around £3bn over 10 years</li> </ul>		
Description of project	<p>Working with private and public sector partners, the project will provide an advanced public warning and information system for severe weather impacts via multi-media communication including e-mail, internet, SMS text messaging, digital TV, mobile and fixed telephones and fax. These systems will improve public service delivery, through innovative use of technology, by providing timely and targeted warnings to the general public and emergency services thereby potentially reducing the cost of damage and minimising distress</p>		
Round 4 theme (secretariat use only)	Policy category (secretariat use only)		
ISB funding sought (2 years only)	(£'000's)	02/03	¾
	Current	£1,538	£1,138
	Capital	-	-
	Total	£1,538	£1,138

## **Executive Summary**

The **Severe Weather and Flood Warnings Project** aims to provide the UK's first integrated multi-media public warning and information system.

The risk to life and property from the effects of severe weather is an ever-present threat. In England and Wales around five million people, some 10% of the population, live or work in areas at risk of flooding from rivers or the sea. The severe weather that hit many parts of the country in Autumn 2000 caused widespread disruption and damage, engulfing nearly 10,000 properties and causing storm damage and disruption to the country's infrastructure and services. Whilst flood defences can reduce the risk of flooding, the risk can never be eliminated. Climate change threatens more floods in the future and the forecast of three million new homes to be built over the next 20 years will place flood risk communities under even greater pressure. A robust public warning system to enable people to take effective action to protect themselves and their home or business is therefore critical.

The project will exploit a number of current and emerging technologies such as WAP, SMS Text, Digital broadcasting and the Internet to implement a multi-media public warning and information system. Through the use of the latest technology warnings will be targeted more effectively increasing the number of people receiving timely warnings. The use of technology will also enable the Agency to disseminate a greater range of information encouraging a pro-active response to the risk of flooding. The system will therefore minimise the affect of flooding through improved service delivery and the innovative use of technology.

The project will build upon the existing work of the Environment Agency in successfully developing pioneering Automatic Voice Messaging technology to transmit record flood warning messages, and to develop Floodline and other technologies such as sirens and vehicle-mounted loudhailers.

Through a broad partnership approach the Environment Agency and Met Office will work with a range of stakeholders to deliver the project including those responsible for managing flood incidents, such as the emergency services and local authorities, and those affected by them, including the general public and industry to implement the system. This partnership approach will be based upon existing networks and will ensure that the system is effective and delivers the maximum potential benefits. The involvement of partners from the private sector will also ensure that the project benefits from the latest technology.

The development of the system is a first for the UK and will provide new technology that could be applied in other emergency warning situations across the UK and Europe.

Studies by Middlesex University, with the support of the Environment Agency, the Met Office and DEFRA have confirmed that the full implementation of the project could increase the percentage of the population receiving timely and effective warnings from 58% to 80% over 10 years. The corresponding likely reduction in financial and personal loss is estimated at £3 billion over 10 years.

## 1. Introduction

- 1.1. The **Severe Weather and Flood Warnings Project** will develop the UK's first integrated multi-media warning system. The system will initially be used by the Environment Agency in England & Wales and the Met Office to issue Severe Weather and Flood Warnings. Redcar and Cleveland Borough Council will pilot the Project.
- 1.2. A wide range of stakeholders will be involved in the development and implementation of the project. These include those organisations responsible for managing flood incidents, such as local authorities and emergency services, as well as those affected by them, including industry and commerce. The project will also be promoted to a wider audience, as it will be applicable in other emergency situations and also to organisations across Europe. The involvement of stakeholders and wider dissemination will be co-ordinated through the existing network of partners established by the Environment Agency and the Met Office.
- 1.3. Discussions with private sector companies (such as Oracle, Vodafone and IBM) are ongoing to identify potential opportunities to bring their expertise into the project as partners. Whilst these discussions are at an early stage it is hoped that they will lead to opportunities to deliver further benefits without additional cost through the use of the latest technology.
- 1.4. In the future it is hoped to develop the existing Floodline as a "one stop shop" for information on flooding for the public. This development will complement the project by providing greater advice and guidance to the general public in addition to more effective warning

## 2. Objectives of the Project

- 2.1. The project will provide the UK's first integrated multi-media warning system, disseminating flood warning and other severe weather information **simultaneously** via E-mail, Internet, SMS Text Messaging, Digital TV, Mobile/Fixed Telephones and Fax and to provide multiple channels for supporting advice and information.
- 2.2. The purpose of a warning is to reduce the risk of severe weather to people and property. Warnings give people valuable time to prepare and take necessary action to protect themselves, their family and their property. As well as reaching a wider audience, the use of innovative technology, together with concurrent research into identifying vulnerable groups, will enable more effective targeting of flood warning to those at greatest risk.
- 2.3. Partnership working between the Environment Agency, the Met Office and local authorities will also lead to the development of a comprehensive system providing economies of scale and a potential pilot system for use in other areas of severe weather warning and/or emergency management. This is consistent with the recommendations of the Cabinet Office Emergency Planning Review (Discussion Document) dated August 2001 and is an approach which is also supported by the National Steering Committee on warning and Informing the Public (NSC) Interim report dated October 2001.
- 2.4. The overall objective of the project is therefore to increase the number of individuals and organisations who receive timely and effective warnings of severe weather by
  - Providing the UK's first integrated multi-media warning system
  - Developing links between a wide variety of partners to deliver an effective warning service

With the aim of

- Increasing the percentage of the "at risk" population receiving warnings from 58% to 80% by 2010
- Reducing the financial and personal cost of flooding by around £3bn over 10 years

### 3. Funding Requirements of the Project

	2002/03	2003-04	Totals
<b>ISB Funding</b>			
Current	£1,538,000	£1,138,000	£2,676,000
Capital	£0	£0	£0
<b>Bidders' own funding</b>			
Environment Agency	£550,000	£550,000	£1,100,000
Met Office	£100,000	£100,000	£200,000
<b>Totals</b>	<b>£2,188,000</b>	<b>£1,788,000</b>	<b>£3,976,000</b>

- 3.1. The bidders contributions are the maximum level of funding available. The Agency funds flood warning through contributions from Local Flood Defence Committees and receives no direct funding support from DEFRA.
- 3.2. The project is part of a co-ordinated programme of ongoing work to develop an effective and comprehensive flood warning system. The Agency has considered a number of options for scaling down the project if required but these have been largely discounted. The rationale behind these decisions is covered in more detail in paragraph 9.7 below.
- 3.3. The human, economic and political nature of Flooding and Flood Warning means that the Agency is committed to undertaking this project. Should we not be successful in securing the ISB funding the finance will need to be raised through the alternative channel of the Local Flood Defence Committees. Resource pressures on Local Flood Defence Committees will inevitably mean that the project will be implemented over a much longer time scale and/or in stages which would compromise the integrity of the system and mean the issue of flood warning was not properly addressed.
- 3.4. Other options for funding the project have been explored. Further funding from the partners has been explored but is unlikely because of pressure on existing budgets. Grant funding from other sources has been explored but no suitable source identified. Similarly partnerships with the private sector have been developed but are only likely to provide limited "help in kind" support. Funding from Invest to Save is therefore the only viable option for delivering the project.

### 4. Innovation

- 4.1. The project has a number of innovative features that are listed in bullet point below.
  - Use of latest technology to effectively disseminate warnings to the public and emergency services to minimise the damage caused by flooding.
  - A fully integrated solution to provide simultaneous multi-media warning dissemination to five million people at risk of flooding in England & Wales.
  - A system to target warnings automatically to people at home, work or on the move by a method of their choice with the potential to extend to other emergency response organisations in the UK and overseas

- Ability to "broadcast" digital messages to all recipients within a predefined geographical area that will greatly increase the successful "hit rate" of warning messages.
- A platform to provide online advice and information about current river, sea and weather conditions 24 hours a day.
- A technical solution to provide accurate up to date information in an accessible consistent format 24 hours a day. Input could be either by manual entry of data or linked to remote sensing equipment.

## **5. Benefits to Users**

- 5.1. The purpose of any warning is to reduce the effect of severe weather on people and property. Warnings give people valuable time to prepare and take necessary action to protect themselves, their family and their property.
- 5.2. The development of this project has been informed by ongoing consultation with a wide range of stakeholders and surveys of those affected by flooding. This ongoing process has confirmed wide support for the proposals.
- 5.3. The general public will benefit from more effective warnings and the provision of advice and guidance enabling them to avoid the personal risk caused by flooding and severe weather as well as to minimise damage to property and possessions. Warnings will be provided in a variety of media to increase the number of people forewarned and will also be targeted to specific geographic areas. Use of a wider range of media will also enable the more effective dissemination of advice and guidance, particularly to vulnerable communities and groups, to enable people to prepare for any likely flooding. Use of a wider range of media will also enable more information to be disseminated, linking the current status of flood warning to river levels and rainfall for example, enabling the public to make more informed decisions.
- 5.4. The emergency services, including local authorities, will benefit from receiving a wider range of better co-ordinated information enabling to better plan for and then respond to flooding and make the most effective use of the resources they have available.
- 5.5. Public and private sector organisations will also benefit. Costs to business and government would be reduced through greater advice and guidance, enabling organisations to plan for the risk of flooding, and more effective warnings, enabling a more effective response to the risk of flooding. Organisations directly affected by flooding such as Utility Companies and British Waterways will benefit the most but all organisations within flood plains could potentially benefit.
- 5.6. There are many other potential beneficiaries of the project including the media, who will be able to more effectively disseminate warnings as part of news broadcasts. The Agency has also been working closely with the insurance industry, particularly since the Floods of October 2000. Whilst the Agency can not be seen to favour either the insurers or the insured, and recognising that Insurance Companies use their own risk assessment calculations, it is hoped that projects such as this, together with other Agency initiatives such as flood defence will have a positive rather than detrimental effect on both parties by way of losses and premiums.
- 5.7. Improving the flow of supplementary information such as weather forecasts, rainfall data etc. will also enable the public and professional partners to be pro-active i.e. take action on their own initiative prior to a formal warning from the Agency. Thus, the project is expected to deliver a mix of benefits through a range of users and recipients of information by providing more effective information and warnings.

## **6. Estimated Savings**

- 6.1. Much of the theoretical analysis and calculation work concerning the costs of Flooding has been carried out by Middlesex University's Flood Hazard Research Centre under a programme sponsored by the Environment Agency.
- 6.2. Whilst it is emphasised that this project is just one part of an integrated package of work, on the basis of this research it is estimated that the introduction of the system could lead to a reduction in the financial and personal costs of flooding by around £3 billion over 10 years.
- 6.3. The potential direct saving of £3 billion will largely result from savings associated with minimising the affect of flooding through greater warning notably in reducing the costs of damage to property.
- 6.4. Further indirect savings will also be achieved. As stated above, the University's research shows that the indirect or intangible benefits are mostly theoretical i.e. the cost of stress, inconvenience etc. but nevertheless significant and other intangible costs although it has been based on sound academic research carried out by Middlesex University's Flood Hazard Research Centre.
- 6.5. Savings to the public sector will largely result from greater warning enabling planned preparation or evacuation rather than costly emergency measures. These savings are difficult to quantify as they will vary from area to area and will be dependent on the severity of the flood incidents.
- 6.6. To measure its performance against the agreed targets, the Environment Agency will use an independent survey company to measure the achievement of targets annually.
- 6.7. In summary therefore, the estimated savings will be made primarily in the avoidance of loss and damage to life and property.

## **7. "Additionality" Test**

- 7.1. As already stated above, the human, economic and political implications of Flooding and Flood Warning means that the Agency is committed to undertaking this project.
- 7.2. The Agency receives no funding from DEFRA towards flood warning. The Regional Flood Defence Committees, as the main financiers of flood warning, would therefore be required to fund any further development dependant upon the availability of resources.
- 7.3. By combining the Agencies resources with those of the Met Office, private and public sector partners with funding from Invest to Save it will be possible to deliver the project in a much shorter timescale and deliver the full benefits. Invest to Save funding will also allow us to expand the system to exploit any new technologies that come to about either as a result of working closely with Industry partners on the project itself or from Industry as a whole.

## **8. Accountability and Audit**

- 8.1. Barbara Young, the Environment Agency's Chief Executive is responsible for the regularity, propriety and value for money of all Environment Agency expenditure. These responsibilities are exercised through the operation of the internal control framework. Key elements of the framework include:
  - 8.1.1. Procurement procedures: in accordance with the Environment Agency's Procurement Manual all external expenditure relating to the project will be either competitively tendered or if appropriate full advantage made of existing contracts.

- 8.1.2. The project will be run in accordance with the Environment Agency's Project Management Procedures. A project team has already been set up under Project Executive Peter Borrows, Regional Flood Defence Manager, to manage the initial project phases. Once the Project has secured approval from the Agency's Project Approval Board, the membership will be expanded to include professional partners. A project brief is currently in preparation.
- 8.1.3. Expenditure authorisation: robust contract management and compliance with the Environment Agency's Scheme of Delegation will ensure that all expenditure is appropriately authorised prior to payment.
- 8.1.4. Internal Audit: the Environment Agency has an independent Internal Audit Function who as part of their role conduct project audits. Their work gives assurance to the Chief Executive and Audit Committee that the internal control framework is operating effectively.

## 9. Project Cycle Management

The following explains the background and assumptions to the economic appraisal for the project attached at Annex A.

- 9.1. Research undertaken by DEFRA (formerly MAFF) identified two main areas of cost associated with flooding;

- 9.1.1. *Tangible costs*

The Annual Average Damages to property caused by flooding is estimated at £626 million based upon maintaining present levels of protection for sea, tidal and fluvial defences.

- 9.1.2. *Intangible costs i.e. stress, trauma, inconvenience etc.*

Intangible benefits by their nature are difficult to quantify. However, a recent report by the ICE Presidential Commission into Flood Defences suggests those benefits are of an equivalent value to the tangible benefits.

- 9.2. The NFWC's Flood Warning Investment Strategy seeks approval for a ten year (2000/01 to 2009/10) integrated programme of work to enable improvements in the delivery of a seamless and integrated service of flood forecasting, warning and response in England and Wales. The strategy provides a broad indication of the anticipated spend over the next 10 years which is required to generate a return (benefit) in the form of targeted improvements in the flood warning service the Agency is able to provide.

- 9.3. In the Strategy, the economic benefits of flood warnings were derived from the following formula based on research by Middlesex University's Flood Hazard Research Centre

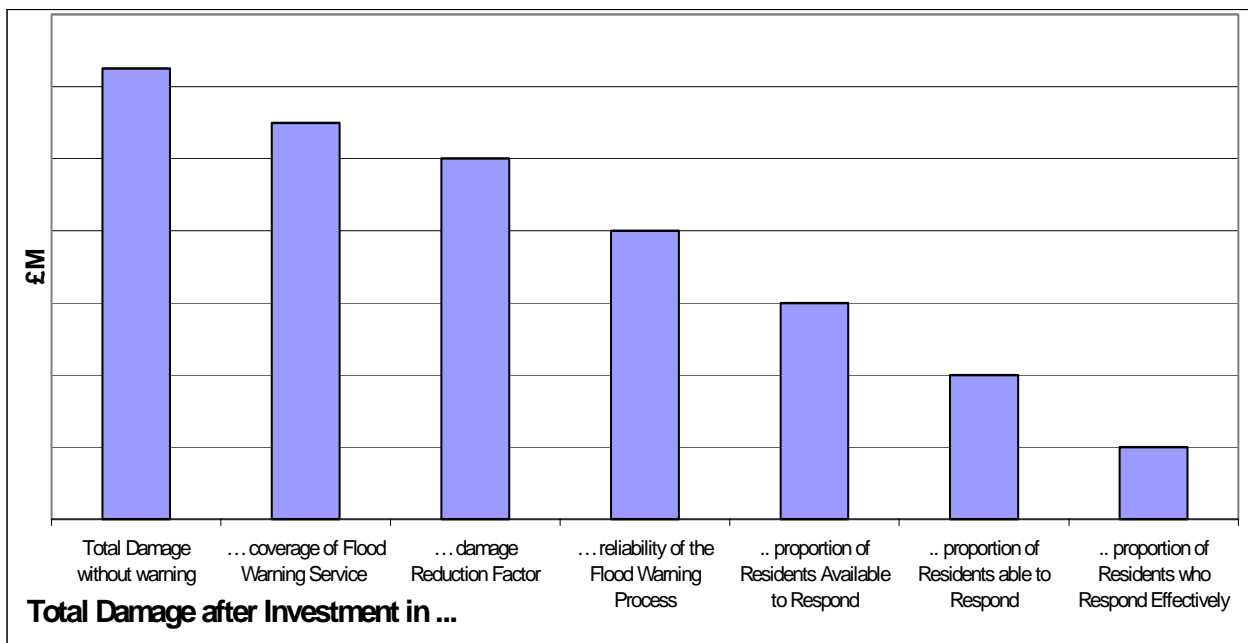
$$\text{FDA} = (\text{AAD} \times \text{DR} \times \text{C}) \times (\text{R} \times \text{PRA} \times \text{PHR} \times \text{PHE})$$

<b>Expression</b>	<b>Definition</b>	<b>Discussion</b>
<b>FDA</b>	Actual Flood Damage Avoided	The economic value of losses avoided through provision of a flood warning service.
<b>AAD</b>	Annual Average Damages	The annual average damages to property by maintaining present levels of protection.
<b>DR</b>	Damage Reduction Factor	Potential flood damage that could be avoided from the amount of prior warning received by at-risk properties.
<b>C</b>	Coverage Of Flood Warning Service	<p>“At Risk” properties are all residential and commercial properties within the boundaries of the indicative floodplain.</p> <p>The flood warning service coverage is defined as those properties that receive a full targeted flood warning service;</p> <p>The target coverage of the flood warning service is to be 80% of the at risk properties. This takes account of locations where there are particular difficulties in issuing a specific warning with sufficient lead-time. For the remaining 20%, a flood watch service will be provided on a best endeavours basis.</p>
<b>R</b>	Reliability Of The Flood Warning Process	<p>The proportion of the properties at risk which are warned with sufficient lead time to take action;</p> <p>An empirical estimate of the performance of the flood warning system;</p> <p>Tied in with OPM 1 (“The proportion of properties flooded (excluding garden/drive only floods) who received a warning prior to flooding”);</p> <p>Influenced by flood warning dissemination systems;</p> <p>Measured via Post Event Survey (BMRB).</p>
<b>PRA</b>	Proportion Of Residents Available To Respond To A Warning	<p>Refers to proportion of properties in which at least one adult is awake/at home/at work so as to receive a warning;</p> <p>Influenced by flood warning dissemination systems (e.g. AVM, loudhailer, wardens etc).</p>
<b>PHR</b>	Proportion Of Residents Able To Respond To A Warning	<p>Reflects the proportion of residents of at risk properties who are able to respond and recognises those who are elderly, disabled, ill, pregnant, or otherwise physically unable to respond to damage-reducing action;</p> <p>Influenced by flood warning dissemination systems;</p> <p>Measured by annual At Risk Survey (BRMB).</p>
<b>PHE</b>	Proportion Of Residents Who Respond Effectively	<p>Relates to the proportion of residents who actually are willing to respond and effectively take appropriate action to mitigate damage and personal risk;</p> <p>Tied in with OPM 2 (“The proportion of properties flooded who took action to mitigate damage and personal risk”);</p> <p>Influenced by Public Awareness Campaign;</p> <p>Measured by Post Event Survey (BMRB).</p>

- 9.4. As can be seen above, the strategy encompasses the whole range of activities carried out by the Agency to achieve its targets, not just dissemination. However because the estimated benefits are largely qualitative, the figures in the strategy have been used as the basis for the estimated benefits of this project.
- 9.5. The following extract from the NFWC's Investment Strategy shows targets for the next 10 years. As stated above, this particular project will impact on more than one target area. Nevertheless for the purposes of this appraisal it has been assumed that the project will deliver 50% of the Coverage target.

<b>Target (%):</b>	<b>Current (00/01)</b>	<b>Year 3 (02/03)</b>	<b>Year 5 (04/05)</b>	<b>Year 7 (06/07)</b>	<b>Year 10 (09/10)</b>
Damage Reduction (DR)	29	30	32	35	40
<b>Coverage (C)</b>	<b>58</b>	<b>70</b>	<b>75</b>	<b>77.5</b>	<b>80</b>
Reliability (R)	62	65	70	75	80
Residents Available (Pra)	55	63	71	75	80
Residents Able (Phr)	78	80	84	85	85
Residents Effective (Phe)	36	50	65	75	85

- 9.6. The Investment Strategy also emphasises that the cumulative effects of the benefits therefore to for the Project to achieve its full potential it is dependent on other projects being carried out as shown below.



- 9.7. As stated in paragraph 3.2 above, a reduction in the level of funding from Invest to Save may lead to a scaling down of the project in line with the programme of work. The options and outcomes of this are as follows;

9.7.1. *Do nothing*

The current AVM system is now 5 years old and is now becoming obsolescent. Without funding for a replacement it will fail and the Agency will be left with only one direct warning service – Floodline. This is not an option.

### 9.7.2. *Maintain Current spend Levels*

This will have the same effect as do nothing. The cost of maintaining the AVM will increase exponentially as it becomes more obsolescent. Without increased funding this will result in eventual failure.

### 9.7.3. *Implementation of part of the System*

A phased introduction of the project would permit the service to continue and possibly the coverage to increase, but it would result in failure of the Agency to meet its targets as set by DEFRA and the Welsh Assembly. Adding on elements as funding became available would compromise the integrated nature of the project and would lead to technical difficulties.

9.8. Cost benefit analysis has therefore not been prepared for any of these alternative options as all of them would lead to a failure to provide adequate flood warning to the standard set by DEFRA and the Welsh Assembly. The scaled down options would also mean the economies of scale of implementing the full project would be lost, inflationary costs would increase and there would be additional resource costs arising from extending the project.

9.9. The only option considered in detail is therefore the *preferred option*. This will involve implementing the system in full to provide an integrated flood warning system and thereby meet the objectives and deliver the full targets.

9.10. The following table outlines the main risks associated with delivering the project. A more detailed risk analysis will be prepared as part of the Project Implementation Plan.

Risk	Effect	Avoidance Measures
Lack of funding	See paragraph 9.7 above	Include budget in Investment Strategy and Regional re-charge costs (see paragraphs 3.3)
Failure of the system.	By having an integrated system, failure of one part could result in failure of the whole.	Ensure adequate fail safe and parallel running is built in
Technology	Current Technology will not allow a fully integrated system	Exploit trusted, rather than innovative technology  Develop close working relationships with professional partners.
Obsolescence	A technology becomes obsolescent within the timescale of the project (i.e analogue mobile comms)	Work with the professional partners and Regulatory bodies to ensure obsolescence is planned
Inaccurate background data	Due to flood plain development, changes in building use and changes to the geographic flood risk map, the Agency does not provide an adequate warning service	Provide a robust cross functional project team with effective reporting streams to capture the appropriate data.

**ANNEX A to Invest to Save Bid 42 - Severe Weather and Flood Warnings Project – Informing the Public**

(All figures are in £M)

		Year 1 (00/01)	Year 2 (01/02)	Year 3 (02/03)	Year 4 (03/04)	Year 5 (04/05)	Year 6 (05/06)	Year 7 (06/07)	Year 8 (07/08)	Year 9 (08/09)	Year 10 (09/10)
<b>COST OF FLOODING</b> (see 6.4 above)	<b>Tangible Costs</b>	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00
	<b>Intangible Costs</b>	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00	£626.00
	<b>TOTAL</b>	£1,252.00	£1,252.00	£1,252.00	£1,252.00	£1,252.00	£1,252.00	£1,252.00	£1,252.00	£1,252.00	£1,252.00
<b>INVESTMENT STRATEGY COSTS</b>	<b>(Taken from Investment Strategy)</b>	£0.00	£0.18	£1.83	£0.57	£0.10	£0.10	£0.10	£1.55	£0.30	£0.00

**SENSITIVITY ANALYSIS**

		Year 1 (00/01)	Year 2 (01/02)	Year 3 (02/03)	Year 4 (03/04)	Year 5 (04/05)	Year 6 (05/06)	Year 7 (06/07)	Year 8 (07/08)	Year 9 (08/09)	Year 10 (09/10)
<b>No Further Investment</b> (See 6.5 above)	<b>DR Benefit % <sup>1</sup></b>	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
	<b>C Benefits % <sup>2</sup></b>	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
	<b>DR Benefit £ <sup>3</sup></b>	£363.08	£363.08	£363.08	£363.08	£363.08	£363.08	£363.08	£363.08	£363.08	£363.08
	<b>C Benefit £ / 2 <sup>4</sup></b>	£105.29	£105.29	£105.29	£105.29	£105.29	£105.29	£105.29	£105.29	£105.29	£105.29

		Year 1 (00/01)	Year 2 (01/02)	Year 3 (02/03)	Year 4 (03/04)	Year 5 (04/05)	Year 6 (05/06)	Year 7 (06/07)	Year 8 (07/08)	Year 9 (08/09)	Year 10 (09/10)
<b>Investment as per Strategy</b> (See 6.5 above)	<b>DR Benefit %</b>	29%	30%	30%	31%	32%	34%	35%	37%	38%	40%
	<b>C Benefits %</b>	58%	64%	70%	73%	75%	76%	78%	78%	79%	80%
	<b>DR Benefit £</b>	£363.08	£375.60	£375.60	£388.12	£400.64	£425.68	£438.20	£463.24	£475.76	£500.80
	<b>C Benefit £ / 2</b>	£105.29	£120.19	£131.46	£141.66	£150.24	£161.76	£170.90	£180.66	£187.93	£200.32

**NOTES**

1. **DR = Damage Reduction Factor.**
2. **C = Coverage Factor .**
3. **Total Cost of Flooding x DR % benefit .**
4. **Total Cost of Flooding less DR Benefit x % benefit divided by 2.**  
Coverage benefit factor has been divided by 2 because warning dissemination only forms part of the coverage activity.

**NET PRESENT VALUE** (All figures are in £M)

		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>
		<b>(00/01)</b>	<b>(01/02)</b>	<b>(02/03)</b>	<b>(03/04)</b>	<b>(04/05)</b>	<b>(05/06)</b>	<b>(06/07)</b>	<b>(07/08)</b>	<b>(08/09)</b>	<b>(09/10)</b>
<b>No Further Investment</b>	<b>Net Benefit <sup>5</sup></b>	£105.29	£105.11	£105.12	£105.12	£105.19	£105.19	£105.19	£103.74	£104.99	£105.29
	<b>Disc. Factor (6%)</b>	1	0.94	0.8836	0.780749	0.68987	0.572995	0.47592	0.371574	0.290106	0.17684
	<b>NPV</b>	£105.29	£98.80	£92.88	£82.07	£72.57	£60.27	£50.06	£38.55	£30.46	£18.62
	<b>(Net Benefit x Disc. Factor)</b>										
	<b>Cumulative NPV</b>	£105.29	£204.09	£296.98	£379.05	£451.62	£511.89	£561.95	£600.50	£630.96	£649.58
<b>Investment as per Strategy</b>	<b>Net benefit</b>	£105.29	£120.01	£129.63	£141.09	£150.14	£161.66	£170.80	£179.11	£187.63	£200.32
	<b>Disc. Factor (6%)</b>	1	0.94	0.8836	0.780749	0.68987	0.572995	0.47592	0.371574	0.290106	0.17684
	<b>NPV</b>	£105.29	£112.81	£114.54	£110.16	£103.58	£92.63	£81.29	£66.55	£54.43	£35.42
	<b>(Net Benefit x Disc. Factor)</b>										
	<b>Cumulative NPV</b>	£105.29	£218.10	£332.64	£442.80	£546.38	£639.01	£720.29	£786.85	£841.28	£876.70

**NOTE**

5. Net Benefit = Coverage Benefit less Investment Strategy Cost