



Environment
Agency

managing flood risk

River Welland Catchment Flood Management Plan

Summary of Scoping Report November 2006

We are the Environment Agency. It's our job to look after your environment and make it a **better place** – for you, and for future generations.

Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, we are making your environment cleaner and healthier.

The Environment Agency. Out there, making your environment a better place.

Published by:

Environment Agency
Kingfisher House
Goldhay Way, Orton Goldhay
Peterborough PE2 5ZR
Tel: 08708 506 506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

© Environment Agency

All rights reserved. This document may be reproduced with prior permission of the Environment Agency.
November 2006

What is a Catchment Flood Management Plan (CFMP)?

A Catchment Flood Management Plan is a plan that provides an overview for managing the long-term risk of flooding in a particular area.

We are producing a CFMP for each major river or area in England and Wales. CFMPs look at flooding from all sources except for coastal flooding from the sea. This is considered in Shoreline Management Plans (SMPs).

CFMPs will identify the main factors influencing flood flows and flood risk and will assess how they may change over time.

The final plan will outline sustainable flood risk management policies that will provide a balance between cost effectiveness, social needs, demands on land use for development and the environment over the next 50-100 years. It will include a Strategic Environmental Assessment (SEA) that will look at how the policy options we propose might affect the environment.

It will seek to make sure we provide a high level of protection and enhancement, wherever possible, to safeguard the environment for the future.

The policies will establish whether we should take action to allow flood risk to:

- increase in suitable areas
- be reduced
- remain at the current level

The CFMP will not propose specific measures to manage flood risk but will identify where we should undertake further work.

Q Have we adequately explained the concept of Catchment Flood Management Plans?



Kate's Bridge, Thurlby

Contents

What this booklet tells you	1	Consequences of flooding	7
What is a Catchment Flood Management Plan (CFMP)?	2	Environmental impact	8
What is the Scoping Stage?	3	Possible future scenarios	10
Timetable for the River Welland CFMP	3	Catchment objectives	11
Catchment overview	4	Way forward	12
Current flood risks and management	6	Feedback Form	13

What this booklet tells you:

This booklet tells you about a Scoping Report we have recently published on flood related issues within the River Welland catchment.

We are in the process of developing a Catchment Flood Management Plan (CFMP) for the River Welland catchment. This will be a broadscale strategic plan that will look to assess how flood risks might change and be managed over the next 50 to 100 years. The Scoping Report outlines our current understanding of flood risk in the catchment and provides a catchment wide understanding of flooding processes and how these may change in the future. Details of the timetable for producing the Final Plan are given on page 3.

This booklet aims to:

- inform, and get responses from interested groups or individuals on our understanding of why and how flooding might occur and the impacts of it;
- obtain your views on how we intend to assess which flood management policies might be appropriate over the life of the plan.

In particular we would like your comments on:

- the possible future scenarios described on page 10;

- the draft CFMP objectives that will be used to decide which flood risk management policies are appropriate in a particular part of the catchment.

You have until **23rd February 2007** to return your comments using the feedback form at the end of the booklet. You will find questions at several points throughout, and on the form to assist you in making your response. If you would like to see the full Scoping Report, you can either view this on our website at:

www.environment-agency.gov.uk

or at any of the following main libraries:

- | | |
|---------------------|----------------|
| ■ Market Harborough | ■ Oakham |
| ■ Stamford | ■ Bourne |
| ■ Market Deeping | ■ Peterborough |
| ■ Spalding | |

Alternatively, if you would like your own copy on CD, this can be sent upon request.

ENVIRONMENT AGENCY



102620

What is the Scoping Stage?

The Scoping Stage aims to present:

- an understanding of the catchment processes leading to flood risk;
 - a summary of past and present flood risk and flood risk management measures;
 - draft objectives to help us decide which flood risk management policies might be appropriate.
- a summary of:
 - the potential changes in land use management, urban growth and climate change affecting the catchment in the future;
 - an indication of the likely impact of these changes;
 - proposed scenarios for the future to be tested in the next stage.

Timetable for the River Welland CFMP

When	Milestone	Output
March 2006 – May 2006	Inception Stage	Initial data collection and understanding of the catchment. Engage with interested parties. Inception Report.
June 2006 – November 2006	Scoping Stage	Understanding current flood risks and management. Identify draft opportunities and constraints. Identify draft scenarios and objectives. Scoping Report.
November 2006 – February 2007	Scoping Consultation	Consultation responses. Establish direction of CFMP.
January 2007 – May 2007	Draft CFMP Stage	Develop opportunities and constraints. Appraise policies. Draft CFMP.
May 2007 – September 2007	Draft CFMP Consultation	Consultation responses
September 2007 – November 2007	Final CFMP	Agree sustainable responses. Identify future strategies and studies. Publish final CFMP.

Catchment overview

The River Welland catchment is located in the east of England and extends from its headwaters around Market Harborough, through Stamford and Spalding to its outfall into The Wash.

The CFMP area is made up of a number of separate watercourses divided by natural watersheds. Each watercourse has a separate hydrometric catchment. For this CFMP we have combined these to form a larger unit with a total area of approximately 1650 km². The catchment is predominantly rural, with the main urban areas being Market Harborough, Oakham, Stamford, Market Deeping, Bourne, Spalding and the northern part of Peterborough.

The River Welland and its tributaries drain the entire CFMP catchment area, and are divided into two significantly different regimes.

To the West of Stamford, the catchment is hilly with the Welland's major tributaries such as the River Charter and River Gwash cutting valleys into the underlying clay. To the east of Stamford the hills flatten out to form the entirely different landscape of the Fens where the river is embanked and acts as a carrier for upland water through low-lying fenland, discharging out to sea at Fosdyke. The tidal limit is in Spalding.

“We have a range of powers in respect of flood risk management for the main rivers in the catchment.”

The catchment supports a variety of land uses, although 95% is agricultural land. Besides agriculture, 2% of the catchment is urban and the remaining 3% non-agricultural (including open water, shrub, woodland and natural grassland).

We have a range of powers in respect of flood risk management for the main rivers in the catchment. Ordinary watercourses are managed by local authorities, while the fen area in the east of the catchment is drained by a network of watercourses and pumping stations maintained by Internal Drainage Boards.

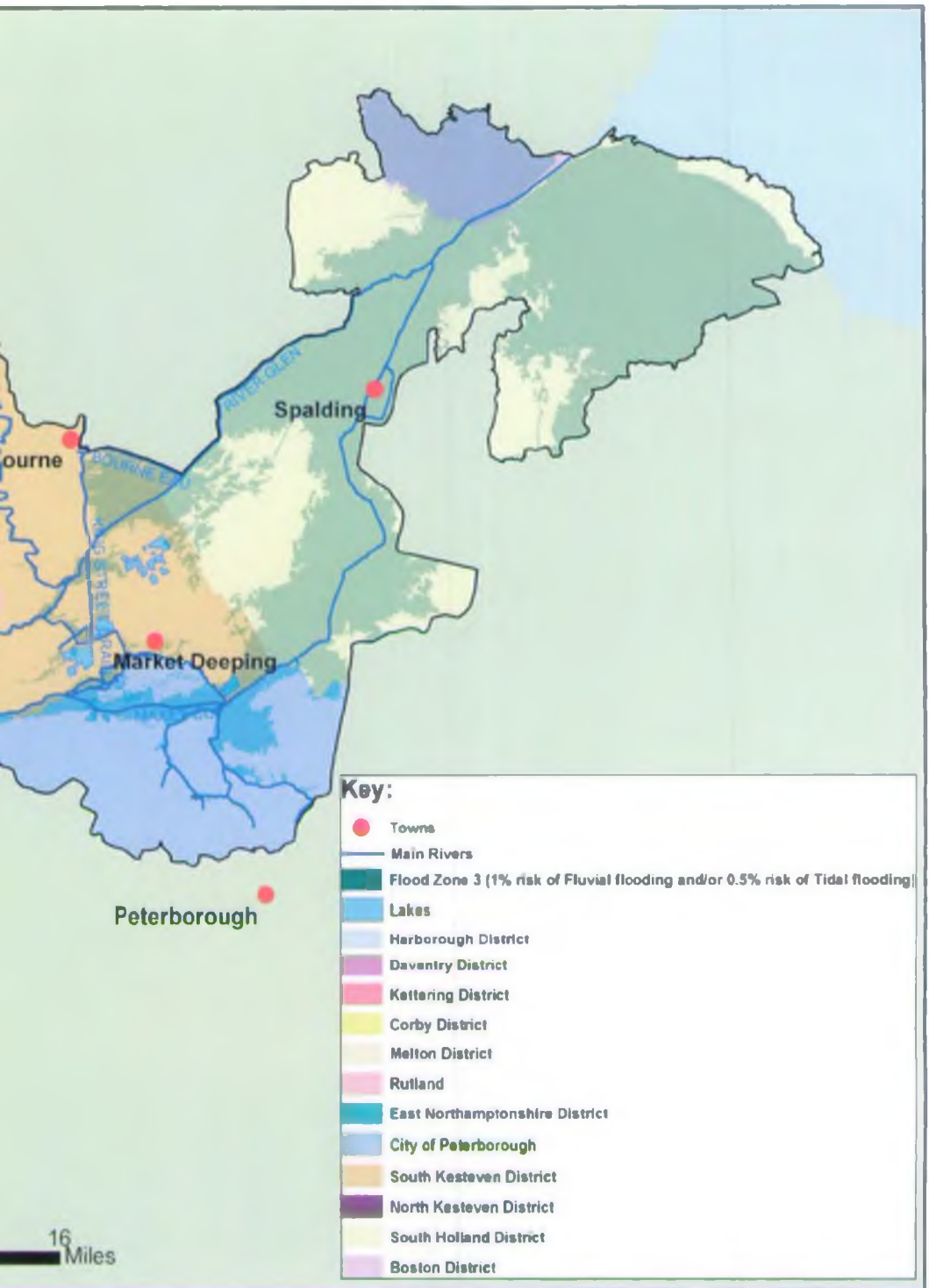
Figure 1 shows an overview of the catchment.



Stamford Town Centre



Figure 1 - The River Welland Catchment



Current flood risks and management

People, property and the environment are at risk of flooding now. We spend a significant amount each year on flood risk management. Anglian Water, local authorities and Internal Drainage Boards undertake management in addition to this.

The main cause of flooding in the catchment is heavy rain falling over a short time period, particularly when the ground is already saturated or when channels become blocked. High tide levels may also result in flooding due to tide locking of low-lying watercourses or drainage systems.

The main watercourses draining across the fenland area are embanked channels. These are maintained; however should the embankments fail or be overtopped, serious flooding could result. Any failures of the pumped drainage system could also lead to flooding.



Duddington Mill Sluice

Our flood map shows the area at risk of flooding and it can be viewed on our website www.environment-agency.gov.uk. The flood map does not distinguish between flooding from the sea and flooding from rivers. It also assumes there are no flood defences. In reality there are river and coastal flood defences that we maintain. We have designed these to protect against flood events of various sizes.

Other types of flood risk management within the catchment are:

- Pumped drainage – much of the low lying land relies on pumping stations for effective drainage. We manage these alongside the Internal Drainage Boards.
- Flood storage areas – such as the Crowland Cowbit Washes, which reduce peak flows.
- Flood diversion channels – such as the Coronation Channel and Maxey Cut, which allow floodwaters to bypass risk areas.
- Management operations - such as maintenance, monitoring and operation of defence structures. We also have an annual maintenance program, which includes channel dredging and weed cutting.
- Flood warning – most of the areas at risk of flooding are covered by our Flood Warning service where we aim to give 2 hours notice of the possible onset of flooding. However, we realise that, with some upper river reaches reacting very quickly to rainfall, we may not always be able to meet this target.

Q Have we adequately explained current flood risk and how we manage it?

Consequences of flooding

Around 250,000 people live in the River Welland catchment with approximately 24,000 properties having a 1% (1:100) chance of flooding in any one year.

Flooding can affect people either directly or indirectly, although certain groups are particularly vulnerable to flooding. These include the elderly, the long-term sick and the financially deprived.

Flooding has a variety of impacts:

- **People:** Personal distress caused by damage to property and belongings; social disruption; and in extreme cases injury or loss of life.
- **Property and infrastructure:** Damage to infrastructure and buildings, and the disruption of farming and other economically valuable activities.
- **Environment:** Damage to rivers, habitats and species and the cultural, historic and recreational environments. However, some areas may actually benefit from flooding such as bog, marsh, fen and floodplain habitats.

Some idea of the direct costs of flooding can be gained from insurance industry figures for the year 2000 floods when insured losses approached £1 billion nationally.

The costs of flooding cannot always be measured in property damage and disruption to business alone. There are other, 'knock-on' effects which are very difficult to quantify. The trauma of flooding leading to health problems and the associated costs of treatment is an example. Such costs may equal or exceed those of physical damage.

Q Have the social and economic impacts of flooding been adequately recorded?



Flooding in Stamford, November 2000

Environmental Impact

The River Welland catchment contains a range of sites designated for environmental interests, which include four internationally designated sites.

Strategic Environmental Assessment (SEA) is the appraisal of the potential environmental consequences of high-level decision making, such as policies, plans and programmes, before they are approved. We are applying SEA to all CFMPs.

We have identified the most important environmental receptors that may be at risk from flooding, or that may reduce the range of options available. We have also identified aspects of the environment that we might improve through flood risk management.

Heritage

Nationally important archaeological sites are designated as Scheduled Ancient Monuments (SAMs). There are 158 SAMs located within the River Welland catchment. These include several bridges over watercourses in the catchment such as Lolham Bridges, Uffington Bridge and sections of Car Dyke, an ancient Roman watercourse.

Listed buildings are of national importance because of their 'special architectural or historic interest' with a character or appearance worth protecting or enhancing.

Conservation areas are designated by local authorities for the same reasons.

Consideration will be given to these heritage sites when identifying policies for flood risk management in the catchment and they may be a constraint on the choice of policy.

Wildlife

Within the River Welland catchment there are: three Special Areas of Conservation (SAC), three National Nature Reserves (NNR), 57 Sites of Special Scientific Interest (SSSI), and over 500 local wildlife sites notified by county councils.

In addition, Rutland Water (a large man made reservoir of approximately 13km² located immediately to the west of Oakham) has been designated both as a Special Protection Area (SPA) due to the number of migratory birds that pass through the site during winter, and as a Ramsar site (a wetland of international importance) due to the volume of waterfowl wintering at the site.



Gretton Weir

“Nearly 90% of the River Welland catchment is considered to have ‘very good’ or ‘good’ water quality with no stretches of river classified as ‘poor’ or ‘bad’.”

Geology

In addition to the protection of ecological features, the SSSI designation legally protects sites of special scientific geological interest to maintain features for future and ongoing study. Seven sites within the catchment are designated specifically for geological interest and a further three for geological and biological interest. These include Castle Bytham Quarry, Collyweston Slate Mine, Cowbit Wash and Saddington Reservoir.

These designated sites and environmental habitats may be either constraints or opportunities for the choice of policies in the CFMP.

Soils and agriculture

The soil type varies across the catchment from well drained material around Stamford and Market Deeping (which allows water to soak into the ground rather than flow into the rivers), to seasonally waterlogged low permeability soils in the upper catchment (which can lead to rapid runoff of winter rainfall if the ground becomes saturated).

Agriculture is the main land use throughout the catchment, a large proportion of which is classified as Grade 2 (very good) and Grade 3 (good/moderate). Regional and local policy guidance advises against the development of high-grade agricultural land.

Water Quality

The Water Framework Directive imposes a legal requirement to bring all waterbodies up to ‘good’ quality status based on ecological, physical and chemical parameters by 2015. This will be a challenge and policies adopted for the CFMP will need to ensure water quality is not compromised.

Nearly 90% of the River Welland catchment is considered to have ‘very good’ or ‘good’ water quality with no stretches of river classified as ‘poor’ or ‘bad’.

Recreation

The River Welland and the River Glen are relatively lightly used for navigation, with craft usually seen on these watercourses consisting of small cruisers and open top day boats. The Spalding Water Taxi service operates in the spring/summer season taking passengers by boat between the town centre and an outlet shopping centre.

Rutland Water is an important centre for recreation in the catchment, used for a variety of activities including trout fishing, cycling, watersports and bird watching.

Q Have we adequately recorded the Environmental issues within the catchment?

Possible future scenarios

A key requirement of the CFMP is to assess future flooding conditions within the catchment over the next 50 to 100 years and compare this to the current situation.

The financial impacts of floods are likely to rise as development and the value of property in at risk areas increases. The resources available for the future management of flood risk will be determined nationally. Planning policy aims to minimise further development in areas at risk of flooding.

Three factors which may increase future flood risk are:

- land use management;
- urban expansion;
- climate change.

The performance of various policies will be tested against what could happen in the future. These future scenarios must be built from knowledge of the catchment's sensitivity to land use and climate change and from trends in the catchment.

The following factors could be used for scenario testing:

- urban (and tourism) growth/decline;
- industry growth/decline;
- agricultural land use change
 - growth/decline in intensive agriculture,
 - decrease/increase in forestry/grassland/ wetland.

During the next stage of the CFMP, various combinations of these scenarios will be grouped to see the effect of different catchment policies at two points in time: 2050 and 2100.

Q Do you think the appropriate scenarios have been highlighted?

Objectives

The generic objectives for all CFMPs are given below:

The key objective of a CFMP is ‘to develop complementary policies for long-term management of flood risk within the catchment that take into account the likely impacts of changes in climate, the effects of land use and land management, deliver multiple benefits and contribute towards sustainable development’.

Other objectives of a CFMP are:

- To undertake a high-level strategic assessment of current and future flood risk from all sources (i.e. rivers, sewers, groundwater, etc) within the catchment, by understanding the components that constitute the risk (i.e. both probability and impact) and the effect of current risk reduction measures. The scale of risk should be broadly quantified in economic, social and environmental terms.
- To identify opportunities and constraints within the catchment for reducing flood risk through strategic changes or responses, such as changes in land use, land management practices and/or the flood defence infrastructure.
- To identify opportunities during flood risk management to maintain, restore and enhance the total stock of natural and historic assets (including biodiversity).
- To identify the relative priorities for strategic studies, actions or projects to be undertaken to manage flood risk within the catchment, and assign responsibility to ourselves, other operating authorities, local authorities, water companies or other people we work with.

Taking the above factors into account, draft objectives for the River Welland CFMP are being developed having regard to the objectives of other interested groups within the catchment. Those relevant to flood risk will be used to assess which policies are appropriate for the future management of that risk.

The draft objectives for the River Welland CFMP are summarised below:

- To manage the economic impacts of flooding.
- To manage flood risk to support development objectives at regional and local government level.
- Minimise flood-related risks to the population.
- To identify and uptake opportunities to protect and enhance the recreational value of the natural environment.
- To increase awareness of self help methods (flood warning awareness/flood proofing) and encourage people to implement them where appropriate.
- To ensure that, when managing flood risk, cultural heritage features are protected and enhanced where possible e.g. listed buildings.
- To protect and enhance landscape character/visual amenity where possible.
- To protect and enhance nature conservation interests in the catchment including designated sites, non-designated sites and associated species.
- To ensure water resources are protected and where possible enhanced.
- To protect valuable soil resources and promote sustainable land use that is beneficial to flood risk management.

Q Are these appropriate objectives with which to appraise the policies?

Q Are there other objectives we should consider?

Way forward

The next stage is the development of the draft CFMP. Before this can be done we will collate all feedback received from the consultation on the Scoping Report.

The development of the draft Plan will include finalising the scenarios and objectives, confirming the opportunities and constraints and identifying and evaluating flood risk management policies against the catchment objectives. Priorities will also be identified for studies, plans, actions or projects to be undertaken to manage flood risk within the catchment. Following completion of the draft Plan we will again consult widely to ensure our conclusions are correct. Any feedback will then be incorporated into the subsequent final CFMP document.

We look forward to receiving your feedback on this current stage. However when making your response, please keep in mind the fact that the CFMP will be a high level document taking a strategic view at the catchment scale and will not be addressing local issues in detail or flooding from the sea.



Medbourne Village

Feedback form

Thank you for taking the time to fill in this questionnaire.

Name: Organisation:

Address:

..... E-mail:

Section 1

Please use this section to give us any feedback regarding the contents of this consultation report. This form can also be used for responses based on the full Scoping report - if this is the case, please indicate here.

1. Have we adequately explained the concept of catchment flood management plans?

.....
.....

2. Do you think we have fully explained flood risk and how it is / can be managed?

.....
.....

3. Do you feel the economic and social impacts of flood risk have been adequately recorded?

.....
.....

4. Have we adequately recorded the environmental issues within the catchment?

.....
.....

5. Do you think the appropriate scenarios have been highlighted?

.....
.....

6. Do you think these are appropriate objectives?

.....
.....

7. Are there other objectives we should consider?

.....
.....

8. Any other comments, questions or feedback?

.....
.....

Please attach additional page if required

Section 2

Please use this section to give us any feedback regarding how you have received information from us so far and how you would like to receive information in the future.

1. How did you receive the River Welland Catchment Flood Management Plan Scoping Consultation Report? (Please tick all that apply)

- By post CD by post hard copy
 Looked on the internet

2. Was the information easy to understand?

- Yes No

If no please comment.....

3. Was there information available sufficient?

- Too much Sufficient/Good Not enough

4. Would you prefer to have received the full Scoping report? Yes No

5. Do you think the format was appropriate for you?

- Yes No

If no, why?

6. How else would you like to receive outputs from next stage of the CFMP? (Please tick all that apply)

- By CD E-mail Website link
 Hard copy of full report Consultation report

7. What other methods of consultation would you find helpful?

- Meeting Workshop Presentation
 Newsletter Other

Other, please add comments

8. Are you confident that we will take your comments into account? Yes No

If no, why not?

Please return completed forms to Duncan Campbell, River Welland CFMP Project Manager, Environment Agency, Kingfisher House, Goldhay Way, Orton Goldhay, Peterborough, PE2 5ZR. Comments can also be e-mailed to:

riverwellandcfmp@environment-agency.gov.uk

**Would you like to find out more about us,
or about your environment?**

Then call us on

08708 506 506 (Mon-Fri 8-6)

email

enquiries@environment-agency.gov.uk

or visit our website

www.environment-agency.gov.uk

incident hotline 0800 80 70 60 (24hrs)

floodline 0845 988 1188



Environment first: This publication is printed on paper made from 100 per cent previously used waste. By-products from making the pulp and paper are used for composting and fertiliser, for making cement and for generating energy.