

NATIONAL RIVERS AUTHORITY  
SOUTHERN REGION



NRA

RIVER CATCHMENT MANAGEMENT PLANS

BRIEF FOR CONSULTANTS

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*EMD in E Planning  
Feb 68*



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1. GENERAL OVERVIEW

Introduction

The National Rivers Authority (NRA) is a new national body which has taken over the regulatory and protective functions relating to the water environment. These functions were formerly exercised by the regional water authorities. The NRA's Objectives are appended; those relating to its primary functions come under one of the headings of Environmental Protection (which includes Water Quality, Fisheries and Conservation) Water Resources and Flood Defence (formerly known as Land Drainage and Sea Defence). The Southern Region of the NRA now wishes to engage consultants to help with the preparation of River Catchment Management Plans (RCMPs) within the Region.

Rationale

Recognising the close interaction and potential conflict between its functions, the NRA has fixed on the individual river catchment as the basic building block for Corporate Planning. River Catchment Management Plans will accordingly:

- a) take account of functional strategies and objectives,
  - b) identify interactions and potential conflict,
  - c) identify present and future uses of water and land associated with it,
  - d) fix environmental quality and flood protection standards within national guidelines,
- and e) set out a plan and programme for the management of the catchment.

Procedure

It is expected that the procedure will be refined in the light of consultants' proposals and early experience, but initial thoughts are:

- 1. Obtain current data on catchment condition for all functions.
- 2. Identify all current and likely future uses of the catchment in general terms.
- 3. Identify requirements and functional targets separately for each use.
- 4. In consultation with NRA staff, collate the requirements, identifying likely problems and conflicts.
- 5. Compare requirements with current condition. (1)

6. Outline management options for consideration by the NRA.

The outcome of the above will then be released for public consultation as the RCMP Phase 1. Following comment and discussion, agreed solutions will be published as a formal RCMP Phase 2 which will be a plan of action for the catchment with a programme and targets.

Experience of Welsh Region

A considerable amount of preparatory work has been done by the Welsh Region of the NRA. This includes the preparation of a trial RCMP for a fictitious catchment, the "Eurwg". Documents prepared by the Welsh Region are appended for information. It should however be noted that the Welsh model has been prepared in the context of conditions, pressures etc. in their Region and some change of emphasis is appropriate for the Southern Region. Nevertheless the depth of study represented by the Welsh model will be required; the specific functional requirements for the Southern Region are given in Section 3.

S.24 Survey Records

Following the requirements of S.24 of the Water Act 1973 regional water authorities were each required to prepare a "Survey of Existing Water Use and Management". The preparatory work for this was carried out in the Southern Water Authority in the late 1970s and the Survey published in 1980. The volumes and plans relating to this will be available to the successful consultant(s).

Requirements

Proposals are invited from suitably experienced consultants for the execution of the following tasks.

1. Prepare Southern Region guidelines for the production of River Catchment Management Plans.
2. Assemble required information, from both internal and external sources, for the preparation of RCMPs Phase I for specified catchments (see Section 4).
3. Prepare RCMPs Phase 1 showing management options to achieve targets: the NRA-preferred option will normally be made evident.
4. In association with NRA staff carry out formal public consultation on draft Phase 1 Plans.
5. Prepare RCMPs final Phase 2 incorporating agreed plans for action.

Appraisal of Proposals and Payment

Consultants should submit their proposals for the preparation of RCMPs Phase 1 for six catchments, paired together as shown in Section 4. They should not assume that Plans for all six catchments will be done by a single consultant, but are welcome to submit alternative proposals and estimates based on their preparing Plans for more than one pair of catchments.

Proposals should comprise at least the following elements:

Outline method statement for executing the work.

CVs of key staff who will be responsible, showing the relevance of their qualifications and experience.

Schedule of inclusive rates for their services.

Estimate of the total cost of preparing each pair of Plans based on an estimate of staff time (which should be quoted) at the scheduled rates plus an allowance for expenses etc.

Proposals will be appraised and the successful consultant(s) selected on the basis of a combination of the above. The lowest estimated total cost will not be the primary consideration.

#### Timetable

Representatives of consultants shortlisted will be invited to a short informal discussion of this Brief in February. Following that, the timetable will be as follows:

16 March	:	Submission of consultants' formal proposals
17 April	:	Notification of successful consultant(s)
29 October	:	Presentation of RCMPs Phase 1.

DJM/JB/FD10/5  
17 January 1990

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## NATIONAL RIVERS AUTHORITY

### MISSION STATEMENT

The National Rivers Authority will protect and improve the water environment. This will be achieved through effective management of water resources and by substantial reductions in pollution. The Authority aims to provide effective defence for people and property against flooding from rivers and the sea. In discharging its duties it will operate openly and balance the interests of all who benefit from and use rivers, ground waters, estuaries and coastal waters. The Authority will be businesslike, efficient and caring towards its employees.

### AIMS

1. To achieve a continuing improvement in the quality of rivers, estuaries and coastal waters, through the control of water pollution.
2. To assess, manage, plan and conserve water resources and to maintain and improve the quality of water for all those who use it.
3. To provide effective defence for people and property against flooding from rivers and the sea.
4. To provide adequate arrangements for flood forecasting and warning.
5. To maintain, improve and develop fisheries.
6. To develop the amenity and recreational potential of waters and lands under NRA control.
7. To conserve and enhance wildlife, landscape and archaeological features associated with waters under NRA control.
8. To improve and maintain inland waterways and their facilities for use by the public where the NRA is the navigation authority.
9. To ensure that dischargers pay the costs of the consequences of their discharges, and as far as possible to recover the costs of water environment improvements from those who benefit.
10. To improve public understanding of the water environment and the NRA's work.
11. To improve efficiency in the exercise of the NRA's functions and to provide challenge and opportunity for employees and show concern for their welfare.

## SECTION 3A - FUNCTIONAL BRIEF - ENVIRONMENTAL PROTECTION

### 1. Water Quality

The requirement for this stage will be to produce a catchment database to be laid out in the form of synoptic maps along the lines set out in the Welsh model catchment already referred to. The sequence of information is as follows:

- 1.1 General features of the catchment: eg rivers, streams, settlements, licensed inputs and abstractions, areas of amenity etc.
- 1.2 Assessment of current catchment uses by main river reach; these will cover the uses set out in document RF/2 attached.
- 1.3 Application of use-based Quality Objectives; these will be set out in the form of suites of Environmental Quality Standards relating to use. The majority of these will be as laid down in the Annexes to relevant EC Directives.
- 1.4 Summary of Water Quality Objectives; these will relate to current use and a Master Objective will be derived for each reach. Where a relevant EQS is not available at the time of preparation of the Plan a Master Objective will not be assigned.
- 1.5 Statement of present Quality Status; this will be summarised as a record of compliance with the summary of objectives set out in 1.1 to 1.4 above.
- 1.6 Stresses; this will be a record of expected development involving changes in input and abstraction within the next ten years. It will appear as part of the identification of problems present and future to be shown for each use.

#### Availability of Data

Most of the information needed for 1.1 is available from NRA and a substantial proportion of that required for 1.2 also.

The information necessary subsequently to complete 1.3, 1.4 and 1.5 is entirely available within NRA SR and statements of EQS suites are conveniently laid out in the Eurw g document.

### 2. Conservation and Topography

General ecosystem conservation relates to the preservation of Water Quality and flow within the relevant targets shown in 4.4 of the Eurwig document. It is more important to relate this to the assessments of topographical targets and status which ties in better with the operation of Flood Defence. This is not well done in the Welsh approach and alternatives are sought.

#### Availability of Data

Most of the requisite information is available within NRA.

### 3. Fisheries

The Plan will provide a database comprising information on presence of cyprinid and salmonid fish and eels. Much information is available from NRA records but consultation with fishery interests and angling association will be essential at this stage.

## Section 3B: Functional Brief - Resources

### Introduction

This functional brief develops the Welsh NRA documents on Catchment Management Plans. The form of presentation should be similar to the model CMP for the imaginary River Eurwg, but a larger number of map and summary sections are required.

### Requirements of Catchments Plans

The main requirement is to collate, update, summarise and present existing data in a concise manner which will complement the inputs from other functions to give an integrated Catchment Management Plan. Normal presentation for each numbered section will be on A4 sheets, with one map page, one summary text page and one page of tabulated data, if necessary.

### Catchment Geography

1. Map (1:150,000 or 1:250,000) showing catchment and sub-catchments in the regional context, with administrative and functional auto-boundaries.
2. River map with names and features (tidal limit, locks, sluices, bridges, reservoirs, fish farms, cress beds, perennial springs etc. (1:150,000?).
3. Geology-Hydrogeology map, with tip sits and mineral workings etc.

### Catchment Hydrology

4. Resource areas with rainfall isohyets for long term average.
5. Residual resources/groundwater recharge.
6. River flows at key stations; mean 95%, low flow indices, flow duration etc.
7. Groundwater levels:
  - (a) high
  - (b) low
8. Abstractions:

Public water supply; industry; agriculture (including fish farms and cress beds); surface water and groundwater.

9. Effluent disposal.

10. Degree of development, abstraction versus available resources.

#### Resource Controls

11. Prescribed flows; minimum residual flows; local control flows/levels.

12. Compensation; augmentation; maintained flows.

13. Groundwater controls.

#### Resource Management Policy

14. Map showing key strategic features of Resource Management Policy for the catchment including:

Major controlling flows, effluent re-use, major abstractions, reservoirs, trunk mains, aquifers, transfer between catchments/undertakings.

#### Resource Development Strategy

15. Map showing future Resource Development Strategy including location of new demands centres, new abstractions and discharges, development options.

Development and control options to be considered are to include:

Surface and groundwater abstractions, surface reservoirs, groundwater augmentation schemes, effluent recharge to aquifer, effluent discharge to rivers, recovery of effluent discharge to tidal waters, revocation of Licences of Right, setting MAF's, licensing policy (refusal/winter only/prescribed flows etc).

PWH  
19 January 1990

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### 3C. FUNCTIONAL BRIEF - FLOOD DEFENCE

#### Introduction

In accordance with the procedure set out in Section 1, this Functional Brief sets out the requirements for a Catchment Plan to the extent that it relates to Flood Defence. These requirements will need to be collated with those of other functions (Environmental and Resources) to arrive at mutually compatible options for the management of the catchment.

#### NRA National Standards and Performance Measures

As a national organisation the NRA has a duty to set standards for the services it provides. It must also report to central Government on its plans for the achievement of those standards and its performance in relation to them.

Performance measures and standards for Flood Defence are at present the subject of discussion and study within the function across the country. Different measures and standards were inherited from regional water authorities and the need for harmonisation is clear. Table 3C.1 shows the interim measures and standards currently in force. These are based on those in use in the Thames Region, and consultants' proposals should be based on them.

#### NRA National Aims

Those relevant to the Flood Defence function are:

3. To provide effective defence for people and property against flooding from rivers and the sea.
4. To provide adequate arrangements for flood forecasting and warning.

However, in addition to the general requirement for Plans to be mutually compatible between the major NRA functions, particular attention will need to be paid to the interaction, in appropriate cases, between Flood Defence and Navigation. Aim 8 is therefore also relevant:

8. To improve and maintain inland waterways and their facilities for use by the public where the NRA is the navigation authority.

#### Requirements of Catchment Plans

1. Identify and classify land at risk from flooding into broad use classes according to Table 3C.1. and identify likely future changes.

Information will come from current Ordnance Survey data, and from Structure and Local Plans for both current and future land use. In some cases sets of aerial photographs may be available.

2. Identify and locate existing channel features, flood plains, artificial detention storage and installations such as pumping stations

To include their operating characteristics in general terms.

RIVER CATCHMENT MANAGEMENT PLANS : FLOOD DEFENCE

TABLE 3C:1 Land Use Bands and Target Standards of Service

<i>Land Use Band</i>	<i>Description of Typical Land Use</i>	<i>Target Standard of Service</i>
A	A reach containing the urban elements of residential and non-residential property distributed over a significant proportion of its length, or densely populated areas over some of its length. Any agricultural influence is likely to be over-riden by urban interests. Amenity uses such as parks and sports fields may be prominent in view of the floodplain's proximity to areas of population density.	These heavily built-up areas should be protected to a standard such that the risk of flooding in any one year is no greater than 1 in 50. In some areas, higher standards may be applied.
B	Reaches containing residential and/or non-residential property either distributed over the full length of the reach or concentrated in parts but characterised by lower densities than Band A.	Buildings should be protected to a standard such that the risk of flooding in any one year is between 1 in 20 and 1 in 50. However, agricultural or amenity land found in these areas could remain susceptible to regular flooding.
C	Limited numbers of isolated rural communities or urban fringe at risk from flooding, including both residential and commercial interests. Intensive agricultural use could also be included.	The chance of flooding property in any one year would be between 1 in 10 and 1 in 50 years. Agricultural or amenity land, however, could be susceptible to more regular flooding.
D	Isolated, but limited numbers of residential and commercial properties at risk from flooding. Agricultural use will probably be the main customer interest with arable farming being a feature. In undeveloped pockets of largely urban use, amenity interests may be prominent.	Agriculture and amenity land in this band should be protected to a standard such that the chance of flooding or prolonged bankfull events in any one year, at a time when crops are normally susceptible to damage (ie March to October inclusive), is between 1 in 2 and 1 in 5.
E	There are likely to be very few properties and major roads at risk from flooding in these reaches. Agricultural use will be the main customer interest with either extensive grassland or, where the flood plain extent is small, arable cropping being the most common land uses. Amenity interests are likely to be limited to public footpaths along or across the river.	Agricultural land in this category could be susceptible to yearly waterlogging and/or flooding, possibly occurring on several occasions throughout the year. Protection should be maintained to a standard which reduces the risk of either type of event to between one and three times per year at a time when crops are normally susceptible to damage.
F	Any area to which a lower standard of service is offered for environmental or economic reasons.	

In some catchments (particularly the R. Medway and R. Stour) the NRA main river is fed by extensive subsidiary drainage systems operated and maintained by Internal Drainage Boards (IDBs). Liaison with these IDBs will be necessary in such cases.

3. Identify areas of land where use is dependent on pumped drainage or where levels are critical for gravity drainage

4. Establish present level of river maintenance activity and assess effectiveness

This will require information from Flood Defence operational staff at the locations shown in Section 4.

5. Establish present level of flood protection for each of the areas identified in (1)

This will require obtaining historic flood discharge and level data from NRA hydrometric records and elsewhere and/or obtaining data for the determination in broad terms of the rainfall and run-off characteristics of the catchment. From these it will be necessary to determine the extent and level of flooding for events with the return periods mentioned in Table 3C.1.

6. Determine required level of flood protection for each area with reference to Table 3C.1 and identify shortfalls

7. Set out requirements to make good shortfalls (or correct over-provision)

This would include:

- a) Policies for responding to development proposals
- b) Changes in maintenance activity
- c) Capital investment

and would include cost implications in broad terms.

8. Assess impact of (7) on conservation interests

This includes only the effects, and possible opportunities for enhancement, which are directly associated with proposed changes for Flood Defence purposes. As a primary Aim of the NRA, Conservation is dealt with separately in Section 3A.

9. Review current local flood forecasting and warning procedures and contacts and assess adequacy

#### Modelling

It is not envisaged that the level of information required will necessitate modelling. The consultant may however choose to recommend this if it is seen as necessary for the definitive planning in Phase 2.

### Presentation

The primary medium for presenting the data will be maps. It is unlikely that scales of less than 1:100,000 will be adequate, and larger-scale maps will be required for some areas within the catchment. Diagrams will help to illustrate the catchment's response to flooding events and the operating characteristics of installations.

The NRA Southern Region is not yet equipped to cope with a computer-based Geographical Information System, but proposals for the submission and handling of data by computer will be welcome.

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4. DETAILS OF CATCHMENTS

Plans are to be prepared for the following six catchments, paired geographically. In each case the location of the NRA District Office with operational responsibility for the catchment is given.

River Medway	)	
	)	Tonbridge
River Darent and River Cray	)	
	)	
River Stour (Kent)		Canterbury
River Rother (E. Sussex)		Rye
	)	
River Test	)	Winchester
	)	
River Itchen	)	

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