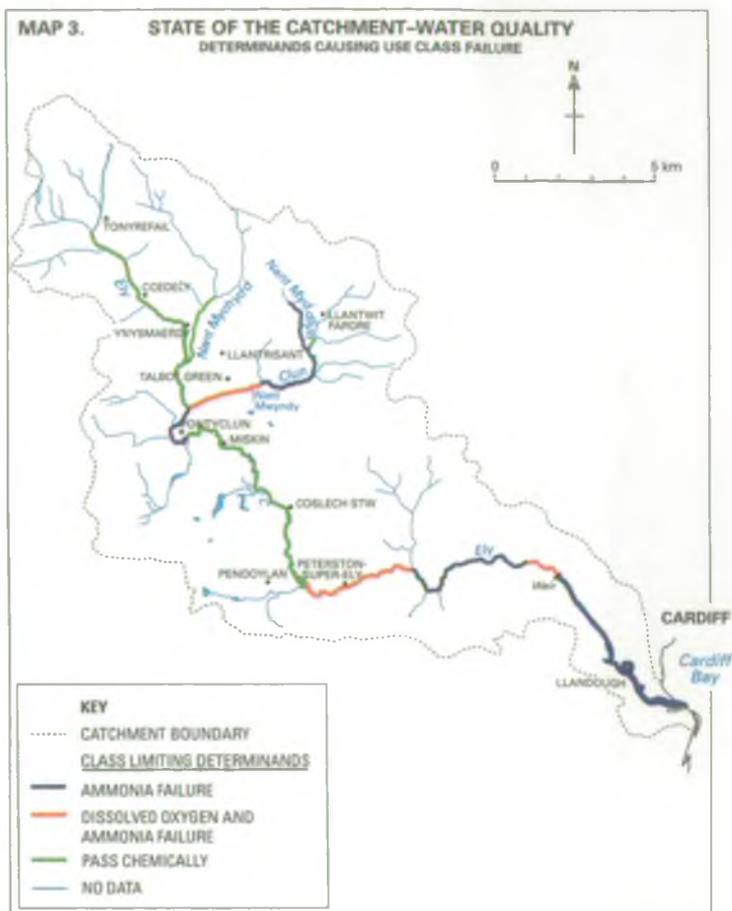
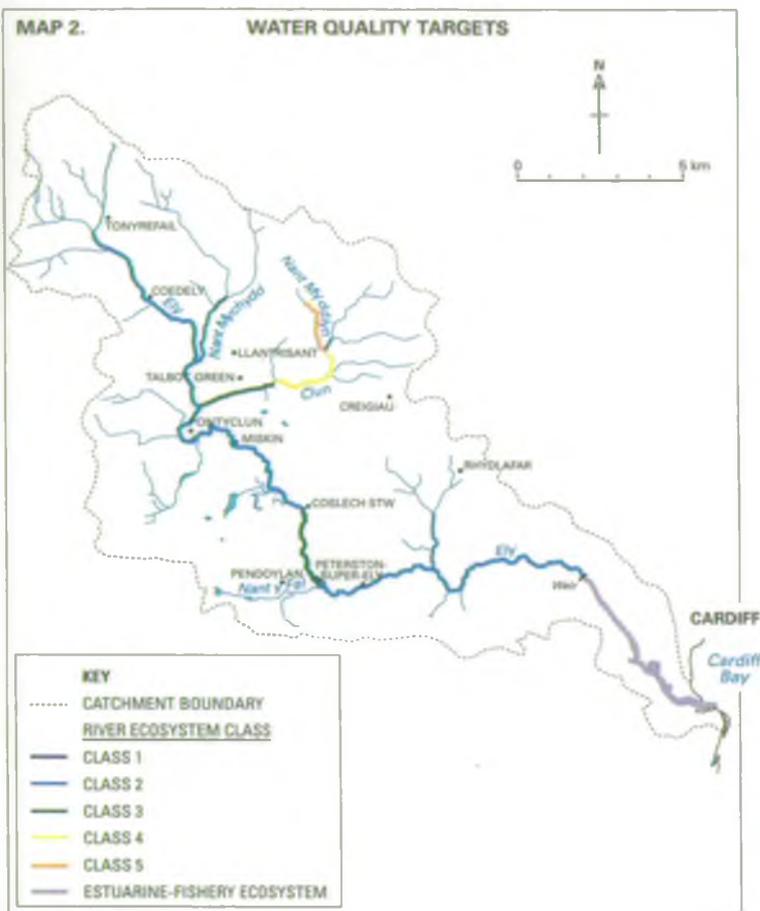


# ELY CATCHMENT MANAGEMENT PLAN ACTION PLAN: 1995



**NRA**

*National Rivers Authority  
Welsh Region*



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## THE AREA MANAGER'S VISION FOR THE ELY CATCHMENT

The Ely catchment is relatively small yet supports a large number of uses. Industry and urban development occur particularly in its uppermost and lowest reaches. Consequently the river is heavily used for sewage effluent disposal. Sheep and dairy farming is the principal land use in rural areas.

Angling is the only significant water-based recreational activity. There is also limited canoeing and the middle parts of the river corridor are used for walking, bird-watching and shooting.

The river's ecology has in the past been significantly affected by man's activities but considerable improvement is now taking place and fish populations are increasing. Threats, however, still remain, particularly from the growing population and industrial development.

The challenge of managing and improving the River Ely is one to which the NRA readily responds, recognising that there is still much to be done if we are to move into the next century with a catchment of the quality that we would all desire.

My vision for the Ely during the lifetime of the plan is to achieve further improvements in the fisheries by

making the river more accessible to migratory fish and improving the water quality in general. The ammonia levels in the Ely will be substantially reduced. We will continue to maintain the flood defences to the required standard and river flows will be safeguarded by the careful consideration of abstraction licences. The impact of the planned Cardiff Bay Barrage will be closely scrutinised in order to safeguard the water environment. We will take positive steps where possible to improve the conditions for wildlife.

It is my intention to work with all the other agencies and representative organisations in the catchment to promote and achieve an integrated approach to management. In particular, I anticipate that the plan will influence the planning process of local authorities.

The realisation of this vision will be achieved through a balanced management approach to all activities so that the required improvements in the catchment can, as far as practicable, be obtained and sustained in active collaboration with all users of the catchment.

Alun S Gee  
Area Manager



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**1.0 INTRODUCTION**

**THE CONCEPT OF CATCHMENT MANAGEMENT PLANNING**

The rivers, lakes, estuaries and coastal waters of England and Wales are subject to large and rapidly increasing demands from the users of water. Many different uses interact or compete for water or water space, and will inevitably come into conflict with one another. The National Rivers Authority aims to protect and improve the water environment in England and Wales and to harmonise conflicts between competing water users. Our Mission Statement expresses the following principles:

We will protect and improve the water environment by the effective management of water resources and by substantial reductions in pollution. We will aim to provide effective defence for people and property against flooding from rivers and the sea. In discharging our duties we will operate openly and balance the interests of all who benefit from and use rivers, groundwaters, estuaries and coastal waters. We will be businesslike, efficient and caring towards our employees.

We have chosen to use Catchment Management Plans to translate those principles into action. The Action Plan is a strategic policy framework for the

management of the catchment and is produced after we have considered the comments received on the Consultation Plan. It includes an action plan to achieve the vision for the Ely Catchment and will form the basis for improvements to the water environment by outlining the areas for work and investment proposed by the NRA and others. The Action Plan primarily covers the five year period from 1994/1995 to 1998/1999. A number of the projects may take longer owing to funding availability and government policy. The Region will formally adopt the proposals in the Action Plan.

The plans also provide the means of promoting two key aspects of environmental management:-

- land use planning
- water quality objectives

**RELATIONSHIP BETWEEN LAND USE PLANNING AND CATCHMENT MANAGEMENT PLANNING**

The broad objective of catchment management planning is to conserve and enhance the total river environment through effective land and water resource management. However, while the NRA is a statutory consultee under the General Development Order and our role is further supported by Government circulars, planning decisions are ultimately the responsibility of local planning authorities.

The policies in statutory Development Plans are

## 1.0 INTRODUCTION

important in this regard as they set out the framework for land use change and provide the key rules in determining development applications; the NRA actively pursues the inclusion of policies which go hand in hand with its responsibilities.

As guidance for local authorities, the NRA has prepared a set of statements relating to the broad headings of water quality and water resources, flood defence, fisheries, conservation, recreation and navigation in the river corridor, with regard also to mineral workings and waste disposal. These statements summarise the NRA's "Guidance Notes for Local Planning Authorities on Methods of Protecting the Water Environment through Development Plans".

This CMP Action Plan sets out issues and actions specific to this catchment which have been agreed within the framework of these Guidance Notes. Later in this plan we discuss how the concerns of the water environment should influence the location and nature of development and land use change within the catchment.

### WATER QUALITY OBJECTIVES

The Water Resources Act 1991 allows for the introduction of a scheme of Statutory Water Quality Objectives (SWQOs). This is a new system for water quality planning which would place quality targets on a statutory footing. The scheme is based upon the uses

to which waters may be put, recognising that there is cost involved in meeting the quality targets necessary to support these uses. Five river uses are referred to by the Government in their consultation document *River Quality: The Government proposals* (December 1992). They are River Ecosystem (formerly identified as Fisheries Ecosystem in the Ely Consultation Document), Special Ecosystem, Abstraction for Potable Supply, Agricultural/Industrial Abstraction and Watersports.

The Government has subsequently produced Regulations for the River Ecosystem use, which is the backbone of the SWQO scheme, in *The Surface Waters (River Ecosystem) (Classification) Regulations 1994*. One of the SWQO River Ecosystem Classes will be appropriate to most stretches of river and canal, though a very small minority of grossly polluted river stretches may fall below Class 5 (lowest of the five classes). At present these targets will only be applied informally although it is hoped that in the near future, they may be established as statutory WQOs by the Secretaries of State for the Environment and Wales. So far, SWQOs relate only to freshwaters and consequently do not apply to the estuarine stretches of the Ely in Cardiff. The former National Water Council (NWC) classification has been used to define the Water Quality Objectives of the estuary, supplemented by the requirements of various EC Directives.

## 2.0 REVIEW OF THE ELY CONSULTATION PROCESS

The NRA published the Ely Catchment Management Consultation Report in March 1994 seeking comment from all those interested in the water environment. The two month consultation period started with a presentation at Talbot Green Community Centre on March 24th 1994. After that date, information about the catchment and the consultation document were deposited in local libraries and council offices. Further copies have been sent to individuals and organisations who requested them.

The consultation aimed to obtain agreement on the catchment uses, environmental objectives and standards required and detailed comment on the issues and options in the document. As a result of the consultation process we are now able to publish this Ely Catchment Action Plan for the 5 year period

commencing June 1995. Thirty letters with detailed comments were received. All comments were noted and, where appropriate, there was further correspondence to clarify points. A number of local issues were raised in the course of the consultation procedure and these matters have been referred to the appropriate department for action. We would like to assure you that any factual errors will be corrected in the review document in 5 years time. The NRA welcomes the comments that have been received; several changes to the issues raised in the plan have been made as a consequence of consultation. These are detailed later in this document. The general support shown for many of the objectives set out in the Consultation Document is appreciated.

## RESPONSES RECEIVED THROUGH CONSULTATION

Arjo Wiggins plc.	Pioneer Concrete Holdings
Borough Council of Taff Ely	Pontyclun Community Council
British Assoc. for Shooting and Conservation	Regional Railways
Cardiff Bay Development Corporation	Royal Commission on the Ancient and Historical Monuments in Wales
City of Cardiff	The Ramblers Association
Countryside Council for Wales	RSPB
The Forestry Authority for Wales	University of Glamorgan
Friends of the Earth	South Glamorgan County Council
Land Authority for Wales	The Vale of Glamorgan Borough Council
MAFF	Wales Tourist Board
Mid Glamorgan County Council	Welsh Office Agricultural Dept.
Penarth Town Council	Welsh Office
Peterson-super-Ely Community Council	
Taff-Ely Environmental Consultancy	

## 3.0 THE RIVER ELY CATCHMENT AND ITS USES

### GEOLOGY

The high ground of the upper catchment is underlain by hard Pennant Sandstone of the Upper Coal Measures series. South of this are east-west running outcrops of Middle Coal measures and Carboniferous Limestone. The southern part of the catchment is formed from the softer conglomerates, sandstone and marls of the Triassic and Jurassic Periods. Overlying the solid geology are extensive deposits of glacial till in the north and sand and gravels in the south.

### WATER QUALITY

Headwater streams of all the Ely tributaries rise on undeveloped land and generally have good water quality. The significant inputs of sewage and trade effluents together with run-off from agricultural land during heavy rainfall elevate the ammonia and lower the dissolved oxygen in the water along middle and lower reaches of the main river. These stretches have a good water quality most of the time but, due to this type of intermittent pollution, have only moderate to poor biological quality. The Afon Clun is of low quality due to the coke works and by-product plant and the inadequate sewerage system (which is currently being replaced) on the Nant Myddlyn.

In 1994, subsequent to the production of the Ely CMP Consultation Report, the Government introduced

regulations for the implementation of a new Water Quality Classification Scheme called River Ecosystem (RE), which replaced the Fisheries Ecosystem Scheme used in the earlier report. The new scheme contains water quality standards which are statistically more robust than those in the earlier proposal. Consequently, the data used for the CMP Consultation Report have been re-examined to reflect this new scheme and some of the actions proposed may have changed as a result. The benefit of the more rigorous examination is that the NRA can be even more confident that the money it spends or asks others to spend to resolve issues will lead to a significant improvement in water quality. The long term River Quality Objectives are primarily RE class 2 and 3 but in certain stretches some action targets have been set lower to reflect the high industrial sewage effluent disposal use and low available dilution. (see map 2 & 3 page iii). The following further changes have also been made:

- The target class of RE Class 3 for the River Ely below Coslech Sewage Treatment Works (STW) has been extended to the confluence with the Nant y Felin. The water quality meets this standard.
- The River Ely below Coedely now passes its target class RE2 according to the latest data collected in 1993/4.

### 3.0 THE RIVER ELY CATCHMENT AND ITS USES

- The small stretch of the River Ely at Pontyclun now passes the dissolved oxygen standards and fails only the ammonia standards. Below this the River Ely passes the target class of RE2.

The Ely estuary also has elevated levels of ammonia and low dissolved oxygen concentrations but improvements are expected once the Cogan sewage outfall has been directed elsewhere as part of the Cardiff Bay Barrage scheme.

The NRA is not aware of any significant groundwater quality problems in the catchment but will continue to protect this valuable resource by the implementation of our Groundwater Protection Policy in relation to new development proposals.

#### WATER ABSTRACTION

Most of the drinking water used within the catchment originates elsewhere although much of it subsequently enters the Ely as treated sewage effluent. Water is abstracted from within the catchment for industrial and other purposes but, because most of this is returned to the river, there is little reduction in the natural flow. Quite large quantities of groundwater may be available within the Ely catchment, notably in the Carboniferous Limestone. Springs, which are formed where the groundwater table reaches the surface support important local wetland features and provide the baseflow of streams and rivers, maintaining their flow at times of low rainfall.

#### SEWAGE AND TRADE EFFLUENT DISCHARGES

Significant discharges of trade and sewage effluents enter the river along its length, including that from Cwm Coke Works which flows into the headwaters of the Clun. Treated sewage effluent represents up to 40% of the dry weather flow of the River Ely at

St.Fagans. There are 20 STWs with effluent discharges of more than 5m<sup>3</sup>/d. The principal ones are at Cosleth and Duffryn Isaf. Storm sewage discharges from some 45 combined sewer overflows (CSOs) and run-off from agricultural land enter the river after heavy rainfall.

The estuary currently receives a substantial amount of crude sewage from Cogan outfall and storm sewage from several CSOs, including the very large one from Cardiff Western District Pumping Station. In addition, the Arjo Wiggins papermill has a consent to discharge a major trade effluent at the head of the estuary. At present paper making is temporarily suspended and discharges are limited to small volumes of cooling water and site drainage. However, if paper making is resumed, additional treatment would be required as a consequence of the construction of the barrage.

#### FLOOD DEFENCES

Flood defences have been constructed at Pontyclun and on the lower reaches of the Ely in Cardiff. The former are maintained by the NRA and the latter by Cardiff City Council. These have not been seriously threatened since their construction. The NRA provides a flood warning system for flood risk areas at Ynysmaerdy, Talbot Green, Pontyclun, the area between Miskin and St.Fagans and Cardiff. The main area of flood plain is agricultural land between Pontyclun and St.Fagans.

#### CONSERVATION

The river's ecology has been significantly and detrimentally affected by man's activities. Improvements are now taking place, although there is still a threat from the increasing development throughout the catchment.

The upstream part of the catchment is dominated by acid or neutral grasslands, used either as rough or improved pasture. Many tributaries have narrow corridors of broad-leaved woodlands and small areas of marsh. The ecology of the main river is less natural, with areas of artificial banks and infestation with alien weeds (Japanese Knotweed and Himalayan Balsam are widespread). Lower down the river there has been more agricultural improvement but there are numerous open-water habitats, fairly extensive areas of wet grasslands and some unimproved grasslands which are of value to wildlife. The river channel meanders and the bankside vegetation is often restricted to a single line of alders. Otters are known to frequent the main river and some tributaries.



*Cwm Coke Works*

### 3.0 THE RIVER ELY CATCHMENT AND ITS USES

The Ely Valley between Misken and Peterston-super-Ely is designated as an Area of Special Landscape Value. The middle and lower reaches of the main river are designated a Site of Special Scientific Interest (SSSI) as the best area in Wales for the rare flower, Monkshood.

The estuary is also an SSSI due to its importance as a feeding ground for birds but this area will be flooded when the Cardiff Bay Barrage is built. The catchment contains several Scheduled Ancient Monuments and a number of unscheduled sites of historic and archaeological interest.



*Monkshood*

#### FISHERIES

Coarse fish species, including roach, chub, dace and gudgeon are present from the paper mill weir in Cardiff to above Talbot Green. Roach populations have increased over the last 10 years. Coarse fish populations will be enhanced by stocking and habitat improvement. A reasonable trout fishery also exists



*Weir at Ely papermill - barrier to fish migration*

throughout the catchment apart from in the lower Clun and the Nant Myddlyn.

Salmon and sea trout are found only rarely in the Ely and it is the aim of the NRA to regenerate these populations as soon as possible by further improving the water quality and reducing barriers to migration.

The major stillwaters in the Ely catchment containing coarse fish are Groesfaen Pond, Hensol Castle Lake, Hensol Lake, Mwyndy Pond, Pyscodlyn Mawr Pond, Talygarn Lake, and Warren Mill Pond.

#### RECREATION

Angling for trout and coarse fish (though not salmon or sea trout) is a significant recreational activity which takes place on the River Ely from Cardiff to Tonyrefail.

There are relatively few public rights of way alongside the river, but the low-lying land in the middle and lower reaches of the river and its estuary provide an attractive area for birdwatching and walking. Sport shooting takes place in several areas. Canoeing is limited to the lower reaches and there is a popular marina at Penarth docks. A major focal point in the catchment is the Welsh Folk Museum at St.Fagans.

## 4.0 KEY STATISTICS FOR THE ELY CATCHMENT

<b>Catchment Area:</b>	169 km <sup>2</sup>	
<b>Highest Point:</b>	416m AOD	
<b>Population:</b>	<b>Year</b>	<b>Population</b>
	1991	146,900
	2021	160,000 (predicted)
<b>County Councils:</b>	South Glamorgan	42%
<i>(% of plan area)</i>	Mid Glamorgan	58%
<b>City Council:</b>	Cardiff	
<b>Borough Councils:</b>	Vale of Glamorgan	
	Taff Ely	
<b>Water Company:</b>	Dŵr Cymru / Welsh Water plc.	
<b>Average annual rainfall:</b>	1400mm	
<b>Average Daily Flow from catchment:</b>	410 Ml/d	
<b>Gross Licensed Abstraction:</b>	34.7 Ml/d	
<b>Length of Statutory main river:</b>	102 km	

*Abbreviation: Ml/d = Megalitres per day = 1000 cubic metres per day*

## 5.0 THE INTERACTION BETWEEN LAND USE AND THE WATER ENVIRONMENT

### INTRODUCTION

Man's uses of the land, whether for residential, farming, industry, amenity or infrastructure developments, is likely to impact on the water environment, either directly or indirectly. This Catchment Management Plan (CMP) aims to address existing problems, seek general environmental improvement and protect the catchment from future damage.

Much of the catchment is rural but there are rapidly developing areas in the middle and lower parts of the valley. Industry is concentrated at Tonyrefail, the Llantrisant area and Cardiff. The predominant agricultural activities are dairy farming in the middle and lower catchment and sheep farming in the upper catchment. Issues of particular concern to the NRA are:

- the sewerage infrastructure.
- the risks associated with development on the

floodplain and the further flooding problems that may be created.

- the risk associated with spreading large amounts of sewage sludge on land.
- degradation of wildlife habitats and damage to heritage features.

The NRA's stance on all new development is that it is the developer's responsibility to assess the impact of the proposals on the water environment, and to provide suitable mitigation works where necessary. In order to ensure that the right issues are addressed, the developer must consult with the NRA at the earliest opportunity.

### INFRASTRUCTURE

Whilst much of the major sewerage infrastructure in the Ely catchment has been renewed recently, the NRA is aware that much of the available capacity has now

## 5.0 THE INTERACTION BETWEEN LAND USE AND THE WATER ENVIRONMENT

been utilised by existing development. It is clearly important that, wherever new development or redevelopment is proposed, the local authorities and Dŵr Cymru Welsh Water ensure that adequate and suitable drainage and treatment systems are available. In some areas with minor tributaries eg Creigiau and Rhydlafer, no further increase in organic loading can be accommodated by the rivers. Sewage flows from any future development in these areas would probably need to be disposed of outside the tributary catchments.

**Roads:** The Ely catchment is bisected by the M4 and many other roads cross the catchment. Recent road improvements linking the M4 from Miskin to Tonyrefail and from Capel Llanilltern to the Cardiff Bay area will continue to attract development. Future highway improvements include a by-pass of Church Village from which a new road will connect to the M4 at Capel Llanilltern

It is important that these improvements are undertaken in an environmentally sympathetic manner so as to protect water quality, the landscape and the flora and fauna of river and wetland habitats, and to ensure flooding problems are not created or exacerbated.

### DEVELOPMENT AND FLOOD RISK

Development may affect rivers and flood defences directly, or increase the risk of flooding. Development situated within the flood plain is obviously at risk, and the NRA is obliged to advise the local planning authorities, in accordance with Welsh Office Circular 68/92, whether a proposed development may flood.

It is Government policy that new development in areas of flood risk should make provision for flood defences. Where alleviation works are possible, the onus is on the developer to investigate the flood risk, and to design necessary works for submission to the planning authority. Development often results in increased rates of surface water run-off which may cause or exacerbate a flood risk.

The NRA's advice to the planning authorities in such circumstances calls for the restriction of flow from the site to maintain the status quo. In view of the complex and protracted discussions that may ensue, developers should consult with the NRA prior to making an application.

Commencing in 1995, the NRA will be undertaking major surveys of all river catchments, in phases and with the cooperation of the local authorities, to identify more accurately the areas at risk from flooding. This

work will take several years to complete and will concentrate initially on those areas where flooding is a major issue.

Within the Ely catchment, there has been pressure to develop on the flood plain, centred mainly around Pontyclun and Llantrisant. The NRA has, in many cases, objected to development and, in others, agreed mitigation works to alleviate flood risk. The NRA now requires surface water run-off from new developments to be restricted eg. by the provision of soakaways and porous pavements, particularly in the catchment area of the Afon Clun and other areas upstream of Miskin.



*Houses at Ynysddu with flood protection*

### CONTAMINATED LAND

When promoting redevelopment plans, developers also need to be mindful of the past use of the site. Within the Ely catchment there are localised problems of contaminated land, for example at the former colliery and coke site at Coedely where reclamation is taking place. It is always the developer's responsibility to assess the problem and implement appropriate remedial works in close consultation with the NRA in order to ensure there is no risk to surface or groundwater from the site.

### GROUNDWATER

The preservation of groundwater quality and quantity is a major objective of the NRA, and it has produced a document "Policy and Practise for the Protection of Groundwater" which provides advice on the management and protection of groundwater on a sustainable basis. This policy deals with the concept of vulnerability and risk to groundwater from a range of human activities. Aquifers within the Ely catchment are not used as a major source of supply, although some

## 5.0 THE INTERACTION BETWEEN LAND USE AND THE WATER ENVIRONMENT

properties do rely on small groundwater sources for private domestic purposes. The NRA expects planning authorities to have regard to the protection of groundwater resources when determining planning applications.

### RIVER CORRIDORS

**Buffer Zones:** River corridors provide important interconnections between habitats and are used extensively by wildlife. In the long-term, the creation of buffer zones (strips of land next to rivers managed for the good of the wildlife) alongside watercourses would benefit nature conservation, landscape and water quality and will be encouraged by the NRA wherever possible.

**Culverts, River Diversions and Wetlands:** Culverting of any watercourse requires a Land Drainage consent from the NRA. The installation of short lengths of culvert in small watercourses is generally acceptable practice. However, the NRA may, as part of its general conservation and fisheries duties, oppose the culverting of long lengths of watercourse used simply to facilitate development. The NRA also opposes infilling of wetlands. Wherever possible, the retention of a natural watercourse is encouraged. If river works are unavoidable, any new watercourses formed should be designed to be as natural as possible and compensatory measures for loss or damaged aquatic habitats incorporated into plans. Early consultation with the NRA is recommended for such developments.

### AGRICULTURE

The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991 have set minimum standards of construction for new or substantially altered agricultural effluent systems. The NRA is using these Regulations, and its contacts with farming organisations, to secure more effective pollution prevention and long term solutions for effluent control.

Much of the middle area of the Ely catchment is farmland. Whilst there are a few local problems, these

Regulations have raised the general awareness of farmers about effluent management and the NRA will continue to encourage compliance with them. The NRA also recognises that while much of the farmland is improved grassland, there are several areas of significant conservation value.

Sludge from sewage and industrial sources is applied to agricultural land in the catchment. The disposal of these wastes are covered by the 1994 Waste Management Licensing Regulations. However, wastes other than sewage sludge, that are deemed to be beneficial to the land, based on "properly qualified advice", subject to specified maximum quantities, are exempt from waste disposal licensing. The disposal of sewage sludge from municipal sewage works is subject to the statutory provisions within the Sludge (Use in Agriculture) Regulations 1989 and is monitored by Her Majesty's Inspectorate of Pollution. As sludges are a potential source of contamination of ground and surface water, the NRA encourages notification by waste disposal contractors so that guidance can be given on how to avoid detrimental effects on the water environment. The NRA is also in the process of drawing up a guidance document in conjunction with the National Association of Waste Regulation Officers to give further guidance on responsibilities in the sludge disposal activities.



*Slurry spreading in the Ely catchment*

## 6.0 ACTIONS

This following section outlines the actions that have been agreed in order to tackle the issues identified within the Ely CMP Consultation Report. The organisation(s) responsible for implementing the actions, the costs involved, and the agreed timescales within which the actions are to be undertaken are shown. Actions are only included where agreed and signed up to by the body responsible for undertaking the work/investment. Where an action is subject to constraint or is awaiting approval, this is made clear within the action table.

The Action Plan looks largely to the five year period from publication of the Consultation Report ie to March 1999. Where Issues are unlikely to be resolved within this timescale, this is indicated clearly within the tables. CMPs should be seen to be continually evolving, and therefore if priorities change or new opportunities for improvements present themselves,

they will be reflected in annual reviews of the plan. In the Consultation Report, 20 issues were identified where targets were not being achieved and therefore requiring some action in order to resolve them. These issues were presented, together with various management options, for discussion as part of the consultation process. All the responses received from external interests were considered, and where necessary further discussions were held to resolve issues and to agree appropriate, realistic and affordable actions.

All of the 20 identified within the Consultation report have been retained within this Action Plan although some have been amended in the light of comments made during the consultation period and the re-examination of the water quality data. Two new issues (Issue 15A and 21) have been added subsequent to the publication of the Consultation Report. (Abbreviations used in tables are listed on page 21).

## 7.0 ELY CMP ACTIONS

ISSUE 1 Cwm Coke Works - Ammonia Standard Failure in Nant Myddlyn and Rivers Clun and Ely							
	ACTION DESCRIPTION			MEASUREMENT			
<p>Cwm Coke Works (owned by Coal Products Ltd.) has recently commenced discharging liquors from the biological treatment plant to the public foul sewer. This has resulted in a significant reduction in the level of pollutant discharged directly to the Nant Myddlyn. It is too early to determine whether these improvements are sufficient to achieve the required water quality targets.</p> <p>Water management at the site continues to present difficulties and results in frequent unauthorised discharges. An improvement programme has been agreed between HMIP and Coal Products Ltd. to reduce environmental impacts to levels which will permit achievement of the water quality objectives whilst taking into account the potential damage caused by increased abstraction.</p>	<p>1) Coal Products Ltd. to implement environmental improvements in line with HMIP requirements.</p>			<p>Coal Products Ltd. report showing implementation of programme.</p> <p>NRA continue to monitor downstream for compliance with water quality objectives.</p> <p>Achievement of River Ecosystem targets.</p>			
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Environmental Improvement Programme implementation		—					£1.25m

## 7.0 ELY CMP ACTIONS

ISSUE 2 Ely Estuary - Ammonia and Dissolved Oxygen Standard Failure							
	ACTION DESCRIPTION			MEASUREMENT			
<p>The Ely estuary has suffered from serious pollution for many years. Effluents from industry and crude sewage from Cogan outfall, Cardiff Western District Pumping Station overflow and Trelai Park storm overflow combine to make the estuary water quality amongst the worst in Wales.</p> <p>NRA R&amp;D Project 323 is looking at dissolved oxygen and ammonia in tidal waters in relation to SWQOs. £24k has already been spent on a project definition study.</p>	<p>1) DCWW/CBDC to divert Cogan effluent to Cog Moors by April 1997 as part of the Penarth/Lavernock scheme.</p> <p>2) DCWW/ CBDC to improve Trelai Park and Cardiff Western District Pumping Station storm overflows by increasing storage and/or pass forward flow by 1998.</p>			<p>Completion of scheme. Improvement in water quality.</p> <p>Completion of improvements.</p>			
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Divert effluent to Cog Moors		██████████					Included in total costs of Issue 8, Action 3.
2) Improve CWDPS storm overflow.		████████████████████					
ISSUE 3 Intermittent Pollution from Combined Sewer Overflows							
	ACTION DESCRIPTION			MEASUREMENT			
<p>CSOs mostly affect the river upstream of Miskin but their intermittent operation is not necessarily detected in the routine chemical monitoring. Assessment nevertheless indicates that several CSOs require improvements. 10 of the 45 CSOs appear on the NRA Regional Strategy list as unsatisfactory. This list has been prepared by the NRA and fed directly into negotiations on DCWW's investment programme for sewage effluent disposal for the period 1995- 2015.</p>	<p>1) NRA/DCWW to prioritise remedial works to CSO's by March 1996.</p> <p>2) DCWW to improve/relocate CSOs by 2015.</p>			<p>Production of prioritised list.</p> <p>Completion of improvement works. Improvement in water quality.</p>			
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Prioritise remedial works.		██████████					Part of routine work.
2) Improve / relocate CSOs.		████████████████████				2015	A small part of approx. £50m (yet to be negotiated).

## 7.0 ELY CMP ACTIONS

ISSUE 4		Coslech Sewage Treatment Works						
	ACTION DESCRIPTION	MEASUREMENT						
Water quality of the River Ely below this STW just meets the target of River Ecosystem Class 3 due to the large proportion of sewage effluent in the water. Unless additional sewage treatment capacity is provided, further development in the Ely catchment will be restricted. Future improvement of the water quality is also dependent on reducing ammonia levels upstream of the STW discharge.	1) DCWW to rebuild Rhiwsaeson STW by March 1996 to provide extra treatment capacity at Coslech STW.	Completion of Rhiwsaeson STW. Maintenance of RE3 target in Ely.						
ACTIONS		1995	1996	1997	1998	1999	Cost	
1) Rebuild Rhiwsaeson STW.		█	█				£1.7m	
ISSUE 5		Pollution and Siltation of Talygarn Lake						
	ACTION DESCRIPTION	MEASUREMENT						
On occasions, the discharge from Forest Wood Quarry together with run-off from surrounding land has caused an increased turbidity of the water and small oil patches on the lake surface. Improvement works are being undertaken at the quarry and will be extended as necessary to achieve compliance with the discharge consent standards. The other issue is siltation of the lake which has reduced its depth and exacerbated weed and algal growth. This has caused a deterioration in the fishery and also has implications for the use of the lake as a water reservoir for fire fighting for Talygarn Rehabilitation Centre. If proposed, desilting of the lake will need to be performed in an environmentally sensitive manner.	1) NRA to review the Forest Wood Quarry discharge consent by May 1995 in order to limit the effect on the lake.  2) Implementation of improvement works by Forest Wood Quarry by mid. 1996.	Consent review issued. Improvement to water quality.  Completion of improvement works.						
ACTIONS		1995	1996	1997	1998	1999	Cost	
1) Review Quarry discharge consent.		█					£1k	
2) Implement improvement works.		█	█				Dependent on Action 1).	

**7.0 ELY CMP ACTIONS**

<b>ISSUE 6</b> Impact of Maendy Tip Leachate on the Nant Ty'r Arlwydd							
	ACTION DESCRIPTION			MEASUREMENT			
Leachate from this closed landfill site causes localised pollution in the Nant Ty'r Arlwydd. Improvements are required to raise the overall water quality in this stream.	1) Cleanaway to carry out a cost-benefit analysis to determine which action to be implemented and submit preferred improvement option to the NRA by 31/12/95. (Investigative work has cost the company £50k to date. Disposal off-site to sewer will cost approx.£150k but this is only one of the options available).  2) Cleanaway to implement action plan to minimise pollution of the stream. The timescale of this action is dependent on agreed option.			Production of cost- benefit report identifying preferred option.          Action implemented. NRA monitor stream water quality and leachate. Significant local water quality improvement and compliance with water quality targets.			
<b>ACTIONS</b>		1995	1996	1997	1998	1999	Cost
1) Submit preferred improvement option.		█					£50k to date
2) Implement improvement scheme.			████████████████████				Dependent on Action 1).
<b>ISSUE 7</b> Foam on the River Ely							
	ACTIONS						
The main River Ely suffered occasionally from the presence of detergent foam. The sources of detergent have been identified and remedial actions implemented.	No further action required.						



## 7.0 ELY CMP ACTIONS

ISSUE 9		The Impact of Sludge Disposal to Land on Water Quality						
	ACTION DESCRIPTION	MEASUREMENT						
Increasing use is being made of farmland in the catchment to dispose of sewage sludge and industrial organic waste. eg sewage sludge filter cake from Coslech STW and digested liquid sludge from Penybont STW. There is a significant potential for this to cause pollution of the water environment and as such the NRA needs to monitor the situation.	<p>1) NRA/ NAWRO to draw up, by March 1996, guidance for responsibilities covering sludge disposal to land operations in order to minimise the effect on the water environment.</p> <p>2) NRA to monitor impact of sludge disposal on the water environment.</p>	<p>Guidance produced and implemented.</p> <p>Update sludge disposal database, NRA monitor streams in 'sensitive' disposal areas.</p>						
ACTIONS		1995	1996	1997	1998	1999	Cost	
1) Sludge Disposal Guidance.		■■■■					Part of routine work.	
2) Monitor impact of sludge disposal.			■■■■■■■■■■			ongoing	£2k pa.	
ISSUE 10		Lack of Groundwater Data						
	ACTION DESCRIPTION	MEASUREMENT						
The NRA has little up to date data on the groundwater regime of the Ely catchment.	<p>1) The NRA will continue to review and identify needs for the national groundwater monitoring network in 1995</p> <p>2) Implement Ely action programme based on review from 1997 onwards.</p>	<p>Provide action programme for Welsh Region network.</p> <p>Construction of boreholes where identified as necessary.</p>						
ACTIONS		1995	1996	1997	1998	1999	Cost	
1) Review national groundwater network.		■■■■■■■■■■					Part of routine work.	
2) Implement Ely Action programme.				■■■■		ongoing	Approx. £20k	

## 7.0 ELY CMP ACTIONS

ISSUE 11 The Threat to the Water Environment from New Industrial Developments							
	ACTION DESCRIPTION			MEASUREMENT			
Considerable industrial development is occurring, principally around Ynysmaerdy. The surface water from the new factories and industrial estates drains to local streams and there is an increased risk of pollution from spillages and leaks. At the present time the NRA cannot legally require industry to provide anti-pollution measures (unless pollution is being caused) and reliance has to be placed on recommendations made through the planning system for such measures to be implemented.	1) NRA/LPAs to persuade developers to include pollution prevention measures where possible on an ongoing basis through the planning system.  2) NRA to continue making regular inspections of industrial premises.			NRA/LPA Report on where pollution prevention measures have been adopted at planning stage.  Update database and keep record of industrial inspections and findings.			
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Persuade developers to include pollution prevention measures.						ongoing	Part of routine work.
2) Inspect industrial premises.						ongoing	Part of routine work.
ISSUE 12 Development in Upper Catchment - Increased Flood Risk							
	ACTION DESCRIPTION			MEASUREMENT			
The increase in the rate of run-off which occurs when new sites are developed results in increased and /or more frequent peak flows in the receiving watercourse. This in turn can increase the risk of flooding downstream. The NRA seeks to maintain the status quo by advising LPAs to put conditions on new developments.	1) LPAs in accordance with Welsh Office circular 68/92 "Development and Flood Risk" to ensure that developers include measures to restrict run-off from new developments which would increase the risk of flooding elsewhere.			Monitor planning decisions to ensure that, where necessary, run-off restrictions have been included.			
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Inclusion of measures to restrict run-off.						ongoing	Part of routine work.

## 7.0 ELY CMP ACTIONS

ISSUE 13 Surface Drainage Problems in Low-Lying Areas of Cardiff Associated with High Tides							
		ACTION DESCRIPTION			MEASUREMENT		
At times of very high tide, the surface drainage systems within low-lying land become tide-locked and unable to discharge.		1) Cardiff City Council as Planning Authority, in accordance with Welsh Office circular 68/92, to ensure that developments include measures to store surface water or to dispose of it by pumping, to prevent flooding at times of high tides.			Reduction in incidence of drainage problems recorded by CCC.		
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Ensure adequate storage/pumping						ongoing	Part of routine work.
ISSUE 14 Floodplain and Riverside Development							
		ACTION DESCRIPTION			MEASUREMENT		
The NRA is opposed to most floodplain development because the floodplain provides a natural "safety valve" in the drainage system. Many floodplain areas are also valuable for wildlife and should be maintained and enhanced where possible.		1) LPAs in consultation with NRA to restrict development on floodplain and riverside via Development Plans and routine planning consultations.			NRA to monitor LPAs decisions to ensure that, where necessary run-off restrictions have been included.		
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Restrict development on floodplain						ongoing	Part of routine work.

**7.0 ELY CMP ACTIONS**

<b>ISSUE 15</b>		<b>Responsibility for Maintenance of Watercourses and Associated Structures passing into multiple ownership as a result of Development</b>						
	<b>ACTION DESCRIPTION</b>	<b>MEASUREMENT</b>						
One example of this is the recently constructed housing development in Ynysddu. The gardens of some properties incorporate the flood bank which protects the development. It is important that individual owners of these properties do not carry out any works which would compromise the integrity of the flood defences. It would be preferable from the point of view of maintenance of watercourses and flood defences to exclude them from individual householders ownership by exercising greater control when planning approval is granted.	1) NRA/LPAs and Developers to ensure that the responsibility for maintenance of flood defences etc. passes to a single body capable of maintaining the watercourse or associated structure.	Reduced number of formal notices of entry/ enforcement actions by NRA and other drainage bodies.						
<b>ACTIONS</b>		1995	1996	1997	1998	1999	Cost	
1) Ensure responsibility passes to single body						ongoing	Part of routine work.	
<b>ISSUE 15A</b>		<b>Responsibility for Maintenance of Surface water Pumping Stations installed where Development on Former Floodplains has Occurred</b>						
	<b>ACTION DESCRIPTION</b>	<b>MEASUREMENT</b>						
One example of this is the recently constructed housing development in Ynysddu Farm, Pontyclun. During a period of high river levels in the River Ely in 1994, minor flooding of part of the estate occurred due to the failure of a pumping station.	1) LPAs in consultation with NRA/DCWW, to ensure that adequate arrangements for adoption/maintenance of such pumping stations exist.	Reduction in number of flooding incidents and actions by emergency services.						
<b>ACTIONS</b>		1995	1996	1997	1998	1999	Cost	
1) Ensure responsibility passes to relevant body						ongoing	Part of routine work.	

**7.0 ELY CMP ACTIONS**

ISSUE 16		Lack of Riverbank Habitat Diversity and Structure in the Ely						
	ACTION DESCRIPTION	MEASUREMENT						
<p>From the detailed River Corridor Survey, it is evident that in many reaches the river bank habitat lacks diversity and structure. Natural regeneration of trees and shrubs is limited for a variety of reasons, resulting in a very even age structure and vegetation of limited interest.</p> <p>The NRA has also undertaken projects such as "River Corridor surveys in relation to nature conservation activities of the NRA" and "Buffer zones for conservation of rivers and bankside habitats". The latter cost £13k.</p>	1) NRA undertook a River Corridor Survey in 1994/5 in order to identify the scale of the problem and assist in prioritising actions for improvement.	River Corridor Survey Report produced to show existing habitat diversity and structure.						
	2) NRA to continue to undertake habitat improvements during flood defence maintenance work as opportunities arise. This could incorporate localised alien plant control (Issue 17).	NRA compile list of habitat improvements carried out. Undertake post-project appraisal.						
	3) NRA, LPAs and Landowners to promote enhancement measures through the NRA's granting of land drainage consents and planning consultation procedures where possible.	Monitor implementation of significant enhancement proposals.						
	4) NRA and Conservation Organisations to identify needs and implement catchment- wide capital projects to enhance the aquatic environment.	Projects implemented and reported. Undertake post-project appraisal.						
ACTIONS		1995	1996	1997	1998	1999	Cost	
1) River Corridor Survey.	Completed						£3k	
2) Flood defence maintenance work.						ongoing	Part of routine work	
3) Promote enhancement measures.						ongoing		
4) Catchment-wide Capital Projects.							£10k	

**7.0 ELY CMP ACTIONS**

ISSUE 17 Widespread Distribution of Alien Plants							
		ACTION DESCRIPTION			MEASUREMENT		
Japanese Knotweed and Himalayan Balsam are widespread on riverbanks in the catchment and pose problems for the inspection and maintenance of flood banks and restrict the native flora and fauna. The NRA has prepared and published a guidance note "Guidance for the Control of Invasive Plants near Watercourses" and is currently determining its policy on alien weed control. In the Ely catchment, regular trashing and herbicide spraying of Japanese Knotweed currently takes place where there are flood banks but not on other reaches of the river. This situation is likely to continue.		No further action likely in next 5 year period apart from maintenance of flood banks.					
ISSUE 18 No Standards of Service Agreed with CCW for Operations Affecting SSSIs							
		ACTION DESCRIPTION			MEASUREMENT		
Many operations can directly or indirectly affect wetland SSSIs, eg flood defence maintenance works, issuing of abstraction licences. There is therefore a need to identify sites which are sensitive to such operations and agree standards to be applied when dealing with them. Unfortunately this issue is not likely to be resolved within the 5 year period but has been included so that it can be considered if resources become available.		1) NRA and CCW to agree a standard of service in order to protect wetland SSSIs.			Production of a series of documents showing the Standard of Service agreed for each relevant SSSI.		
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Agree Standard of Service					■		£3k

## 7.0 ELY CMP ACTIONS

ISSUE 19 The Impact of Ely Paper Mill Weir on Fish Migration							
	ACTION DESCRIPTION			MEASUREMENT			
The NRA objective is to allow regeneration of a self-sustaining population of salmon and sea trout in the Ely. The weir is an obstruction to their migration except when it is raised. Arjo Wiggins have liaised closely with the NRA on this issue.	1) Arjo Wiggins and the NRA have agreed an informal arrangement to raise the weir on a more regular basis to allow free passage of salmon and sea trout.			NRA monitor salmon populations above weir to assess increases.			
	2) NRA to stock 10,000 juvenile salmon and 10,000 trout per year until 1997 to accelerate regeneration of populations.			Stocking programme completed. Monitor salmon population to assess increase.			
	3) When the efficiency of the Cardiff Bay Fish Pass is known, NRA and Arjo Wiggins to consider the cost effectiveness of installing a fish pass or raising the weir more permanently.			Monitor and report on efficiency of pass and then produce action plan.			
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Raise weir regularly.		████████████████████					Part of routine work.
2) Stock juvenile salmon and sea trout.		████████████████					£1k pa.
3) Consider installation of fish pass or raise weir permanently.					██		£100k
ISSUE 20 Setting of Hands-off Flows: Specifications of Environmental Requirements of River Plant and Animal Life							
	ACTION DESCRIPTION			MEASUREMENT			
When setting an abstraction licence, regard has to be given to the fish life as well as other conservation uses. This is usually accomplished by putting a condition on a licence which requires abstraction to be stopped when the flows in the river reach a certain level. This is known as a "Hands-off" flow condition. It is extremely difficult to assess how much water can be abstracted without affecting the river environment. The NRA is seeking to understand this better and to apply a consistent licensing policy for all rivers.	1) NRA to undertake research into flow requirements for river flora and fauna.			Research completed and reported.			
	2) NRA to develop a nationally consistent abstraction licensing policy by March 1996.			Licensing policy produced and implemented. Consistent setting of licences achieved.			
ACTIONS		1995	1996	1997	1998	1999	Cost*
1) Research flow requirements.		████████████████████				ongoing	£465k
2) Develop abstraction licensing policy.		██████████					£90k

\*Costs quoted relate to work covering the 8 NRA Regions.

## 7.0 ELY CMP ACTIONS

ISSUE 21 Enhancement of Coarse Fish Populations							
	ACTION DESCRIPTION			MEASUREMENT			
Coarse fish populations have increased steadily in recent years but their expansion is limited by the lack of spawning habitat and refuge from high river velocities. Improved bankside habitat (Issue 16) will also benefit fish populations.	1) NRA to stock coarse fish to reaches with reduced populations.			Fish stocked.			
	2) NRA to identify potential sites for enhancement of spawning/refuge areas.			Feasibility report produced.			
	3) NRA to undertake habitat improvements.			Habitat improvements undertaken and increase in coarse fish populations evident.			
ACTIONS		1995	1996	1997	1998	1999	Cost
1) Stock coarse fish.		■	■				£1k
2) Identity sites for habitat improvements		■	■				£500
3) Undertake habitat improvements.				■	■		As identified by 2).

## ABBREVIATIONS USED IN TABLES

CBDC	Cardiff Bay Development Corporation	NAWRO	National Association of Waste Regulation Officers
CCC	Cardiff City Council	m	One million
CCW	Countryside Council for Wales	MAFF	Ministry of Agriculture, Fisheries and Food
CSO	Combined Sewer Overflow	NRA	National Rivers Authority
CWDPS	Cardiff Western District Pumping Station	NWC	National Water Council
DCWW	Dŵr Cymru Welsh Water	RSPB	Royal Society for the Protection of Birds
EC	European Community	SSSI	Site of Special Scientific Interest
HMIP	Her Majesty's Inspectorate of Pollution	pa	per annum
k	One thousand	STW	Sewage Treatment Works
LPA	Local Planning Authority	SWQO	Statutory Water Quality Objective
UWWTD	Urban Waste Water Treatment Directive		

## 8.0 FUTURE REVIEW AND MONITORING

The NRA will be jointly responsible, with other identified organisations and individuals, for implementing this Action Plan. Progress will be monitored and normally reported annually. These reviews will examine the need to update the CMP in the light of changes in the catchment. The period

between major revisions will normally be five years. The annual review will take the form of a short progress report, to include work achieved compared with that planned, and to highlight any changes in the plan. The annual review will be made available to all those who received consultation reports.

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