

River Dee Water Protection Zone

A CONSULTATION DOCUMENT



NRA

*National Rivers Authority
Welsh Region*

INTRODUCTION

The River Dee is a critically important river providing drinking water to more than two million people in north east Wales, Cheshire and Merseyside. Many industries are located in the catchment and these have been the source of numerous pollution incidents, some affecting the drinking water supply.

By far the most serious of these incidents occurred in January 1984 when a phenolic chemical entered the river seriously affecting domestic water supplies and industrial processes for several days.

In circumstances where the potential exists for such risk to public health through water pollution, the law allows for additional protection measures to be promoted including those associated with the designation of an area as a "Water Protection Zone" (WPZ). A WPZ is a defined area within which additional controls are introduced, prohibiting or restricting certain activities (in this case the storage or use of designated substances) in order to reduce the risk of pollution affecting water quality.

Previous initiatives to establish a WPZ were delayed by the privatisation of the water industry. Since the National Rivers Authority came into being in 1989, a comprehensive research and development programme on risk assessment at industrial sites has been completed.

The purpose of this document is:

- to explain why the NRA will be applying to the Secretaries of State for the Environment and Wales for the freshwater River Dee catchment to be designated as a WPZ.
- to describe briefly the essential features of a WPZ and what its impact would be on industries based in the catchment.
- to outline the alternatives to a WPZ which have been considered.
- to seek the views and comments of those who would be affected if the River Dee catchment were to be designated as a WPZ.

WHAT IS A WATER PROTECTION ZONE?

A WPZ is an area, which can be a part or the whole of a river catchment, where additional controls apply which seek to anticipate and prevent water pollution. In practical terms a WPZ would control or, if necessary, prohibit the storage and use of chemicals within the designated area in order to provide a safer environment and protect the purity of water supplies.

LEGAL BACKGROUND AND PROCEDURES

One of the most important functions of the National Rivers Authority is the control of water pollution. This role includes a requirement under Section 15 of the Water Resources Act 1991 (WRA) to protect the quality of rivers used for drinking water supply so that the water companies are able to supply "wholesome" drinking water (Section 68, Water Industries Act 1991).

The WRA (Section 93) empowers the NRA to apply to Secretary of State for an Order (or Orders) designating areas as "Water Protection Zones". A WPZ Order is therefore a legal mechanism aimed at anticipating and preventing water pollution arising from activities which are unsuited to control by licensing of direct discharges.

An application by the NRA for the designation of a WPZ would be the first use of the legislation although similar powers have been in place since 1974. It will be the Secretaries of State for the Environment and Wales, in consultation with the Minister of Agriculture, Fisheries and Food, who will decide whether an Order is necessary and may, in reaching a decision, call a public local inquiry to examine all the issues.

WHY THE NRA WANTS THE DEE CATCHMENT TO BE A WPZ

The Dee is one of the biggest lowland rivers used for public water supplies in England and Wales. It is particularly vulnerable because of the large number of industries using chemicals located upstream of the abstractions and the lack of bankside storage for some abstractions. Bankside storage can be used to avoid disruption to supply when the abstraction is temporarily closed and for keeping polluted water out of the supply pipelines.

The number of pollution incidents, resulting from the accidental release of chemicals by industry, remains high in the Dee compared with other rivers.

The NRA has developed a sophisticated and comprehensive water quality monitoring system in conjunction with some companies who have implemented pollution control measures. However the NRA believes that it can only be a matter of time before an incident as serious as that in 1984 recurs.

Whilst a number of other existing controls may be used to deal with and anticipate pollution incidents, Section 93 of the WRA allows a more comprehensive, long term and proactive approach to pollution prevention by the NRA.

UPDATE...UPDATE...UPDATE...UPDATE...UPDATE...UPDATE...UP

DEE ESTUARY

The Dee Estuary has not been included in the WPZ proposal because tidal waters give rise to different considerations and the main purpose is to protect drinking water supplies. All the drinking water abstraction points are above the weir at Chester and, therefore, above the effective tidal range.

SUBSTANCES COVERED

The substances to be controlled include the following:

- a dangerous substance; a lubricant, industrial spirit or solvent
- a medicinal product; a liquid food or feeding stuff
- an inorganic fertilizer; a cosmetic product
- or a substance identified by its manufacturer as being toxic, harmful, corrosive or irritant

THE NEXT STEPS

Final preparations are underway for the NRA to apply in the near future to the Secretaries of State for the Environment and Wales for an Order designating the WPZ. The application for an Order will be accompanied by a draft of the Order applied for and notices of the application will be published in one or more local newspapers and in the London Gazette.

Copies of the newspaper notice will be served on every local authority and water undertaker within the proposed zone. The draft Order will also be available for public inspection.

Objections to the making of the Order may be made within 28 days of the first publication of the newspaper notice. The Secretaries of State may hold a local public inquiry before deciding on the application.

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RIVER DEE

WATER PROTECTION ZONE

PROPOSAL

As a result of feedback from the recently-completed public consultation exercise on the River Dee WPZ proposal, the National Rivers Authority has decided to make the following changes to the draft Order being prepared for submission to the Secretaries of State for the Environment and Wales:

- gases to be exempt
- only liquid foods and feeding stuffs (not solids and powders) to be included
- areas within a site covered by an Integrated Pollution Control authorisation to be exempt

SOME POINTS TO NOTE:

The following will be exempt:

- Agricultural units - other powers exist for their control which are more appropriate
- Petrol filling stations
- Construction sites
- Fuels - if kept on site solely for heating or power
- Substances present on site for 24 hours or less while in transit

See over....

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PROPOSED PROTECTION ZONE AREA

The Dee has a wide ranging industrial base which is spread throughout the catchment. Some of the most significant industries are sited above all the major abstraction points. To ensure that significant industries are not excluded from control, the whole of the non-tidal catchment above Chester Weir (the abstraction point for Chester Water Company) needs to be included. This is because chemicals released at the top of the catchment can easily flow down to the sea at toxic concentrations (see map).

WHAT WOULD HAPPEN IF THE WPZ APPLICATION IS SUCCESSFUL?

The proposed Water Protection Zone (River Dee Catchment) Designation Order 1993 would cover all the procedural aspects of managing the protection zone.

The main features would be:

- the requirement for the NRA's consent before the storage or use of particular chemical substances within certain, broadly industrial sites, and
- the demonstration of a satisfactory risk assessment for both the operation and storage of the substances concerned.

Industries requiring a WPZ consent would be identified through a preliminary screening exercise. The charge for this consent is thought likely to be around £50 for a straightforward situation with very few chemicals rising to about £250 for more complex sites.

During the transitional period when the risk assessment procedures would take place, authorisations or "consents" would be granted to existing industries but they would be subject to review after two years. Authorisations granted to new or changed industrial processes would also be reviewed after two years.

If there was a change in land control or ownership, an application for continuation of the consent would be required.

An appeals mechanism, allowing for various matters to be referred to the Secretary of State, would be available.

CONTROLLING INDUSTRIAL HAZARDS

A risk assessment project, co-funded by the National Rivers Authority, the Department of Environment and the Health and Safety Executive, and undertaken by acknowledged experts in the field has been developed to underpin promotion of the Order for a Water Protection Zone.

Risk Assessment allows the proactive prevention of pollution. It involves the identification of any industrial chemicals in the catchment which are capable of causing unacceptable pollution of the river. The NRA would then be able to require industry to introduce precautions to:

- reduce the risk of an accident occurring (such as revised operating procedures), or
- diminish the consequences if one occurs (such as improved bunding or drainage systems).

The project has produced a personal computer software tool, PRAIRIE (Pollution Risk from Accidental Influxes into Rivers and Estuaries) which assesses the consequences of spillages of chemicals into river systems.

PRAIRIE is used in the first stage of the process, as a screening exercise for companies holding significant stocks of chemicals. There are more than 1,000 companies in the Dee catchment but only about a quarter of these would require protection zone consent and only these would therefore need to carry out the assessment.

The next two stages involve increasingly-complex risk assessment procedures. These consider the probability of a spillage occurring because of some unplanned event and the ability of in-site systems to contain the spillage.

WHAT OTHER OPTIONS APART FROM A WPZ ARE THERE?

"Do Nothing": This would be unacceptable having regard to the history of pollution incidents and, in any event, could still involve considerable potential costs arising from:

- cleaning up after pollution incidents and possible heavy fines and compensation payments;
- poorly targeted improvements;
- intensive and expensive monitoring requirements.

New/Additional bankside storage: The provision of new or additional bankside storage facilities for the four water companies to allow them to maintain supplies while intakes are closed until the polluted water has flowed past could amount to £20 million. However, as this would not prevent pollution it would not be a solution addressing the real problem. Piping water direct from existing reservoirs within the catchment would be even more expensive and could potentially result in ecological damage.

Voluntary scheme: A voluntary scheme for protecting the river from industrial pollution would not cost any less than the formal approach providing it was uniformly adopted but it is very doubtful that any voluntary scheme would be fully supported.

Water Protection Zone costs would be of the same order as those associated with a voluntary scheme but would ensure that the "polluter pays" principle is followed.

More generally, companies operating in the Dee catchment would have to respond positively to the challenge of protecting a relatively high risk environment whilst maintaining and developing their productive enterprises.

A VIEW FROM INDUSTRY

"While planning the installation of a new waste water treatment plant in 1987, we voluntarily carried out a risk assessment at our site to identify the most vulnerable areas for surface water pollution. Consequently, we were able to introduce a number of projects which significantly reduced the risks to the River Dee from a site incident by providing adequate containment systems and procedures without an unacceptable impact on site overheads. Whilst our actions have already brought the same significant benefits locally as would be achieved generally by a Water Protection Zone, we understand the wider concerns of the NRA and we support this worthwhile initiative."

HOWARD BOWLES

Environmental Manager, Monsanto plc, Wrexham

SOME KEY ISSUES

Some of the key issues which you may wish to consider and comment upon are:

- the need for such additional controls in the Dee catchment
- how successful they are likely to be
- the costs to industry
- the use of alternative measures including the voluntary approach.

THE NEXT STEPS

The NRA will hold meetings with special groups and organisations as well as individual companies to discuss its proposals for a WPZ. Public meetings will be held at Wrexham, Mold and Chester – the dates and venues of these will be advertised locally.

When the NRA has considered the responses to this consultation paper, and if it remains convinced of the need for an Order it will make a formal application to the Secretaries of State for the Environment and Wales for an Order designating the WPZ. The application for an Order must be accompanied by a draft of the Order applied for and notices of the application will be published in one or more local newspapers and in the London Gazette. Copies of the newspaper notice will be served on every local authority and water undertaker within the proposed zone. The draft Order will also be available for public inspection and sale. Objections to the making of the Order may be made within 28 days of the first publication of the newspaper notice. The Secretaries of State may hold a local public inquiry before deciding upon the application.

It is the NRA's wish that a Water Protection Zone for the River Dee should be established as soon as possible and it is presently intended for the application to be made in January 1994.

WHAT YOU SHOULD DO

The NRA wants to hear your views and comments. It would be most helpful if you give your thoughts to an organisation to which you belong so that it can represent the collective views of its members. If this is not possible we would be pleased to hear from you directly and try to answer some of your questions. Of course, this in no way prejudices the rights of consultees in formally making their views known to the Secretaries of State. If you have any queries before making your response, then please call our Mold Helpline on 0352 758877 between 0900 and 1630 hours Monday to Friday (an answer phone service will be available outside these hours). The Helpline will be available from 1 November to 23 December this year.

The closing date for comments is 31 December 1993. Responses marked "S.93 Consultation Paper" should be sent to:

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