

NRA Wales 178

Upper Wye
Catchment
Management
Consultation
Report
Summary



*National Rivers Authority
Welsh Region*

**Guardians of
the Water Environment**

June 1993

INTRODUCTION

Never before has there been such a pressing need to conserve our rivers, lakes and coastal waters to support the rapidly increasing recreational, domestic, agricultural and industrial demands placed upon them. On the other hand, the need to protect life and property from flooding has never been greater. The NRA has a wide range of responsibilities for the control of the water environment, and seeks to reconcile the conflicts raised by the competing needs for water.

In particular the NRA is responsible for:

- conservation of water resources
- pollution control
- flood defence and flood warning
- maintenance and improvement of fisheries
- nature conservation in water related habitats
- promotion of water based recreation
- control of navigation, in some areas.

The NRA believes that it can only carry out its work by adopting the

concept of **integrated catchment management**. This means that a river catchment is considered as a whole and the actions in each of the NRA areas of responsibility must take account of the possible impact on other areas.

The NRA has decided to formally present its catchment management policies to the public via Catchment Management Plans which will be produced for all the rivers in Wales by 1998. The Plans are intended to provide a link between the NRA and the users of water in each catchment so that the Authority can better reflect their interests whilst carrying out its duties. For this reason each Plan includes a Consultation Phase during which the general public are invited to comment on the NRA's proposals for the future management of the catchment.



YOUR VIEWS

The Upper Wye Catchment Management Consultation Report is our assessment of the state of the catchment and identifies the key issues which need to be resolved. The most important are outlined in the tables at the end of this summary report.

We need your views:

- what do you think about the Plan in general?
- have we identified all the uses?
- have we identified all the issues?
- what do you think about the options proposed?

If you would like to comment on the Consultation Report or receive a copy of the full 150 page document please write to:-

**The Area Catchment Planner
National Rivers Authority,
South-East Area,
Plas-Yr-Afon,
St Mellons Business Park,
St Mellons,
Cardiff CF3 0LT.**

The Plan considers the upper part of the River Wye catchment including its tributaries and lakes from the source of the river down to Hay on Wye. It is mainly in the county of Powys. The lower Wye catchment will be covered in a subsequent document.

The River Wye rises on Plynlimon in the Cambrian Mountains and winds its way through an area displaying upland scenery and deep cut valleys.

CATCHMENT STATISTICS

GENERAL

Area	1623km ²
Population	28,723

WATER RESOURCES

Average annual rainfall	1350mm
(Varies from 2400 mm on Plynlimon to 1200mm at Hay on Wye)	
Average Daily Flow from Catchment	3425M1/d
Gross Licenced Abstraction	410M1/d
Nett Licenced Abstraction	395M1/d

WATER QUALITY

(from 1990 Water Quality Survey)

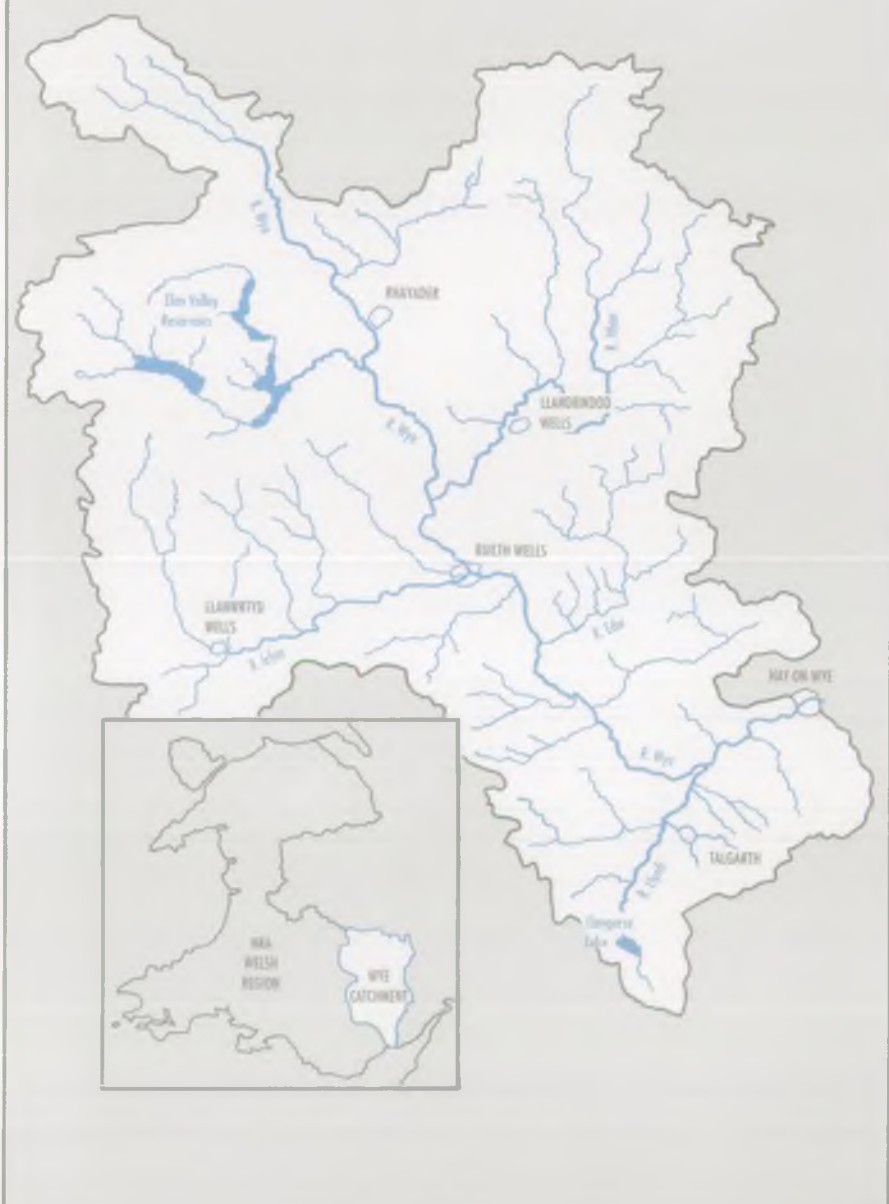
Length in Class 1A (v. good)	380.6km
Length in Class 1B (good)	68.8km
Length in Class 2 (fair)	0.0km
Length in Class 3 (poor)	4.7km
Length in Class 4 (bad)	0.0km

FLOOD DEFENCE

Length of Statutory main river	119km
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Abbreviation: M1/d = Megalitres per day

THE UPPER WYE CATCHMENT



DEVELOPMENTS AND LAND USE

The catchment is predominantly rural. The population approximately of 29,000 is centred mainly in the towns of Rhayader, Builth Wells, Llandrindod Wells, Llanwrtyd Wells and Talgarth and is substantially increased in the holiday season.

Agriculture is the predominant land use ranging from upland sheep farming to arable and dairy farming in the lower parts of the catchment. Forestry constitutes a major land use in this catchment. There is very little industry in the catchment, but some mineral extraction occurs. Tourism and conservation are important in this extremely picturesque and unique valley.

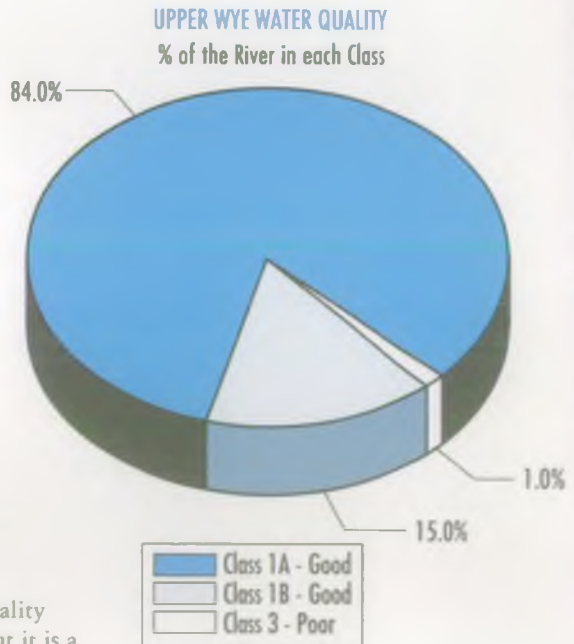
The County Plans recognise that there is a need for small localised developments for industry, storage and warehousing in the major towns in the catchment and that an increase in the number of houses is also necessary. Several projects for road straightening and improvement are also planned.

WATER QUALITY

The River Water Quality Survey in 1990 showed that of the 454km of rivers in this catchment 99% were classified as good although parts of some tributaries are affected by acidification. Rivers in the catchment receive effluents from 39 major sewage treatment works but there are very few industrial discharges apart from water treatment works, fish farms and site drainage from quarries and saw mills. The water is used as a source of drinking water.

The groundwater in this catchment is an important source of water for local needs.

The NRA is not aware of any quality problems in the ground water but it is a valuable resource to protect.



WATER RESOURCES

The rivers in the Upper Wye have a natural low flow in summer. In winter, the flows rise and fall rapidly in response to rainfall. This is a result of the geology, the thin soils and steep gradients of the catchment which form the natural character of the Upper Wye and its tributaries. The surface water in the catchment is a major source of drinking water. The largest abstraction is from the Elan Valley Reservoirs which is used to supply Birmingham via the Elan Aqueduct. Water is also used for agriculture and fish farms in the area but very little is used for industrial purposes. Electricity is generated at Caban Coch Reservoir. Groundwater resources obtained from the shallow wells and springs in the fissured Wenlock and Aymestry Limestone are locally important as a source of drinking water.



FLOOD DEFENCE

Flood defences have been constructed for the communities of Glasbury, Llanwrtyd Wells, Llangammarch Wells, Beulah and Penybont. The NRA also provides a flood warning system covering the rivers Ithon and Wye at Rhayader, Builth Wells and Glasbury and the agricultural area around Hay on Wye.

FISHERIES

The River Wye is one of the best salmon rivers in England and Wales and the Upper Wye is the principal salmon spawning area of the river. However, declining rod catches of salmon and trout and evidence from NRA monitoring indicate adverse effects on fish stocks. Coarse fish species including chub, dace, pike and grayling are present as far upstream as Rhayader in the Wye and in the lower reaches of the rivers Irfon and Ithon and throughout the Llynfi. Salmon, trout and coarse fishing are practised in many parts of the catchment. Llandrindod Wells and Llangorse lakes are important stillwater coarse fisheries. Fishing and access rights on the Wye and its tributaries are in private ownership.



CONSERVATION

The River Wye is of national importance as an example of a major river which has a largely natural regime, unspoilt and unpolluted by human activity. This is reflected by the fact that the whole of the river has been designated a Site of Special Scientific Interest (SSSI). It is because it is so natural that it supports a wide range of flora and fauna, such as crayfish, otters and dippers, which all rely on the continued maintenance of the healthy river environment.

The landscape of the catchment is another feature that makes the valley so special. Parts of the catchment fall within the Cambrian Mountains Environmentally Sensitive Area and other parts are in the Brecon Beacons National Park.





RECREATION

Many people live alongside the rivers and streams in this catchment and more come to visit and walk along the Wye Valley. Tourists are attracted by the rugged beauty of the Elan Valley with its reservoirs, and the softer views of the Wye Valley itself. The Wye Valley Walk follows the River Wye for 35 miles and there are many other footpaths within the catchment. Other areas of public amenity include Llandrindod Wells Lake, the Groe Park at Builth Wells and Llangorse Lake.

Whilst access is strictly limited, parts of the River Wye are used by clubs and universities for canoeing and white water canoeing at Llangurig and Glasbury. Llangorse Lake plays host to adventure holiday groups for sailing and canoeing tuition and is an important recreational facility for sailing, fishing, waterskiing and sail boarding.



ISSUES AND OPTIONS

The following tables list the 17 issues which the NRA has identified within the Upper Wye. We would like to hear from you if:

- you think that there are other issues which have been missed.
- you think that we have not considered all the options available.
- you have any views on the options suggested.
- you have any other information about the catchment or any comment about its future management.

ISSUE 1: ACIDIFICATION			
Options/Actions	Responsibility	Advantages or Benefits	Disadvantages or Constraints
pH and total hardness adjustment and control - 'Liming' of catchment or sub-catchment headwaters	NRA	Short term expedient to improve biological quality and fishery	Adverse effects on terrestrial ecosystems
Long term solution by controlling/reducing sulphur emissions	Government/ Power Generators	Improve biological quality and fishery	Political
Control of additional coniferous tree planting by application of Welsh Region's afforestation policy	NRA/Forestry Authority/ CCW	Maintenance of present water quality conditions	Limitation to forestry development
Identify stretches of river adversely affected by acidification and assess the effect on salmon and trout stocks	NRA/Forestry Authority/ CCW	Quantifies problems	
ISSUE 2: FAILURE TO ACHIEVE LONG TERM RIVER QUALITY OBJECTIVE AND F1 FISHERY STATUS - RIVER LLYNFI			
Increase monitoring to include diurnal cycle and improve data	NRA	Improve data. Better targeting of actions	
Investigate sources of agricultural pollution and re-assess performance of sewage treatment works to reduce weed and algal growth in Llangorse Lake and River Llynfi	NRA/ Welsh Water/ Farmers	Improved water quality and enhanced fishery potential	Requires co-operation of Welsh Water and Farmers

ISSUE 5: SPECIFICATION OF ENVIRONMENTAL REQUIREMENTS OF RIVER AND ITS PLANT, ANIMAL AND FISH LIFE. SETTING OF HAND-OFF FLOW CONDITIONS

Options/Actions	Responsibility	Advantages or Benefits	Disadvantages or Constraints
Undertake fundamental research into flow requirements of river flora and fauna	NRA	Partly in hand through NRA R&D programme. Difficult to quantify	Unlikely to produce practically applicable results quickly
Develop and implement licensing policy based on 'Yorkshire' methodology to determine licensable resource and compare with existing use	NRA and others as consultees	Tried and tested. Widely accepted principle. Can provide policy within 2 years	Not scientifically rigorous at every site

ISSUE 6: IMPROVED LAND DRAINAGE AND LAND USE CHANGE ALLEGED TO HAVE REDUCED BASEFLOWS, INCREASED RATES OF RUNOFF

Investigate flow records to establish to what extent higher runoff rates and lower baseflows occur	NRA	Will understand causal mechanisms. Scope for ameliorative measures can be assessed	
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ISSUE 7: TRIGGER LEVEL FOR SECTION 57 SPRAY IRRIGATION RESTRICTIONS

Undertake review of trigger level	NRA	Trigger level defensible	Environmental benefits too difficult to quantify
Do nothing		No cost or effort	Trigger levels may not protect river, or unduly penalise abstractors

ISSUE 3: BLUE-GREEN ALGAE IN LAKES AND STATIC WATER BODIES

Options/Actions	Responsibility	Advantages or Benefits	Disadvantages or Constraints
Develop and implement action plans for priority lakes to reduce or prevent occurrence of algal blooms	NRA/ Lake Owners/ Landowners	Will identify the cost effective and practical long term solutions	Long term solution may be difficult to implement and control, eg. changes of land-use, nutrient removal
Implement short term control or prevention measures (eg. use of barley straw) where appropriate	NRA/ Lake Owners	Short term effective control. Relatively cheap	Success uncertain. Not long term solution. Can only apply to small water bodies
Continue to monitor occurrence of blooms and provide warnings and advice to owners and users	NRA/ Lake Owners	Protect users from danger. Low cost option	Does not provide solution to problem. Closure of lakes continue

ISSUE 4: UNABLE TO MEET DEMANDS FOR SPRAY IRRIGATION IN SUMMER MONTHS

Provide winter-filled storage for summer use, subject to a 'hands-off' flow	Spray Irrigators	Acceptable supply reliability. Reduces summer demand on river. Storage ponds have conservation benefits if properly designed	Subject to planning control. Monitoring filling of storage facility
Augment flow in watercourses	NRA	Allows abstraction when water required. Reduced summer demand on river. Increased flow in dry periods	Several storage facilities required. Dependent upon availability of water resources. Cannot realistically supply to all sites
Provide winter storage reservoirs	NRA	Reduces summer demand on river. Reservoirs have environmental benefits if properly designed	Subject to planning control. Monitoring required to negate environmental effects

ISSUE 8: AVAILABLE WATER RESOURCES IN UPPER ITHON INADEQUATE TO MEET DEVELOPMENT DEMANDS

Options/Actions	Responsibility	Advantages or Benefits	Disadvantages or Constraints
Oppose all future planning applications requiring additional local water supply abstractions	NRA	Reduce pressure on local river environment	Restricts local development
Obtain water from further down river or other location	Welsh Water	Reduced pressure on local river environment. More reliable supplies	Cost of piping in supplies

ISSUE 9: GROUNDWATER ABSTRACTIONS FOR SPRAY IRRIGATION AFFECTING SURFACE WATERS. (Note: There are only 2 such abstractions in the Upper Wye, but over 30 in the Wye as a whole).

Determine which spray irrigation abstractions from groundwater affect river flows directly and include in any restrictions	NRA	Comply with legal requirements. Reduced demands on river during very low flows. Abstractors treated consistently	Abstractors not previously affected subject to restrictions. May require some pumping tests
Do nothing		Small number of abstractors not affected by restrictions	Failure to comply with legal requirement. Demands on river in drought conditions higher than necessary

ISSUE 10: PROTECT AND ENHANCE THE WILDLIFE RESOURCE OF THE WYE CATCHMENT

Options/Actions	Responsibility	Advantages	Disadvantages
Further conservation when considering NRA Flood Defence capital and maintenance programmes	NRA	Improve habitats and conservation resource	
Further conservation when considering all applications for abstractions licences, land drainage consents, discharge consents and planning permission	NRA	Improve habitats and conservation resource	
Where there has been significant impact of stock on the river bank habitat, encourage ameliorative measures	NRA/ Land Owners	Protect riparian vegetation	Cost to Landowner
Restrict movement of signal crayfish into catchment to prevent spread of crayfish plague	NRA	Protection of native crayfish	Restricts opportunity for crayfish farming
Seek opportunities to plan and implement sub-catchment wide conservation capital projects. Especially in collaboration with other agencies and interested parties	NRA/ Conservation Agencies	Co-ordinated approach to improvements in habitats in a sub-catchment	

ISSUE 11: DECLINE IN SALMON STOCKS, ESPECIALLY SPRING FISH

Options/Actions	Responsibility	Advantages or Benefits	Disadvantages or Comments
Identify extent of acidification and its effect on fish stocks	See Issue No. 1	See Issue No. 1	See Issue No. 1
Review fishery byelaws to control exploitation to allow greater escapement to spawn	NRA/Fishery Owners	Increased stocks due to greater escapement	Loss of angling opportunity. Reduced rod catch
Conduct feasibility study of breeding programmes to increase large spring salmon stocks	NRA	Potential increase in stocks. Ensure any hatchery programme will benefit fishery	
Operate Glasbury Hatchery. Collect broodstock and restock fry into catchment to increase production	NRA	Enhancement of stocks by utilising extra nursery areas	
Investigate barriers to salmon migration and recommend a programme of fish pass construction to open up extra spawning /nursery areas and increase production	NRA	Enhancement of stocks by utilising extra nursery areas	May be undesirable impacts on indigenous fish and fauna

ISSUE 12: ILLEGAL FISHING FOR SALMON

Maintain surveillance and anti-poaching patrols by Water Bailiffs	NRA	Protection of stocks. Controlling illegal activity	
Water Bailiffs visit major potential outlets for salmon	NRA	Control of markets in illegally caught fish	
NRA ensure widest distribution of 'Buyer Beware' leaflets to potential outlets	NRA	Control of markets in illegally caught fish	
NRA raise public awareness of illegal fishing and market by distribution of 'SALMON WATCH' cards	NRA/Fishery interests	Control of markets in illegally caught fish	

ISSUE 13: DECLINE IN BROWN TROUT STOCKS AND MEASURES TO INCREASE STOCKS

Options/Actions	Responsibility	Advantages or Benefits	Disadvantages or Constraints
Acidification	See Issue No. 1	See Issue No. 1	See Issue No. 1
Identify habitat changes and recommend ameliorative measures	NRA/Fishery Owners	Improved spawning success and increased holding capacity of streams	Cost to fishery owner
Review fishery byelaws to control exploitation to allow greater escapement to spawn	NRA	Allow trout opportunity to spawn before capture by anglers	Reduced fishing opportunities
Act on recommendations of Brown Trout Strategy. In particular (i) research into effects and amelioration and upland drainage and afforestation, (ii) research into restocking policies	NRA	Increased brown trout stocks	Restrictions on re-stocking and restrictions on land use

ISSUE 14: MONITORING OF FISH STOCKS IS ESSENTIAL FOR SUCCESSFUL MANAGEMENT OF THOSE STOCKS

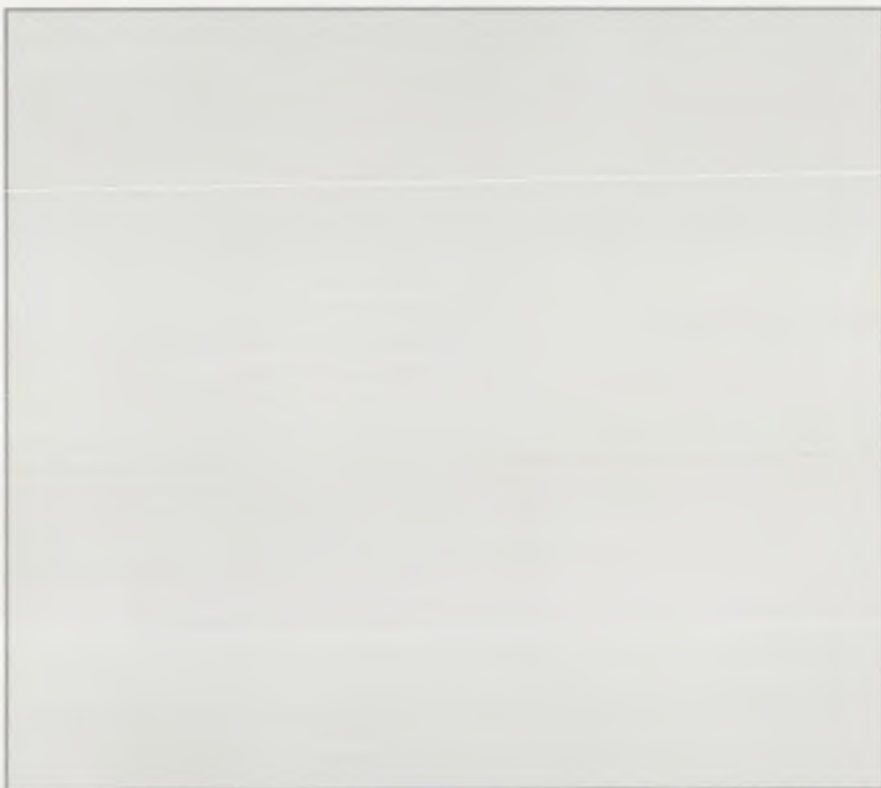
Investigate feasibility of installing an acoustic fish counter to count ascending salmon and descending kelts and smolts. (To be located in the lower Wye)	NRA	To enable management to be based on knowledge of stocks	
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ISSUE 15: AVIAN PREDATORS MAY BE AFFECTING FISH STOCKS ADVERSELY

Options/Actions	Responsibility	Advantages or Benefits	Disadvantages or Constraints
Assess numbers of goosander, mergansers and cormorants by surveys	NRA	Number of avian predators assessed allowing impact to be assessed	
Assess effects of goosander, mergansers and cormorants on fish stocks and consider possible control measures	NRA	Protection of birds or fish stocks	Practicality of controls

ISSUE 16: ROAD AND PROPERTY FLOODING AT LLANELWEDD AND BUILTH WELLS

Review viability of flood protection scheme	NRA	Alleviate flooding	Environmental impact of scheme
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ISSUE 17: CONFLICTS BETWEEN RECREATIONAL USERS OF THE RIVER AND BETWEEN USERS AND CONSERVATION IS A WIDESPREAD CONCERN

Options/Actions	Responsibility	Advantages or Benefits	Disadvantages or Constraints
Research to access the impact of recreation activities on wildlife conservation	NRA/Countryside Council for Wales/Sports Councils	Better management of recreation	Reduced recreational opportunity
The overall standard and distribution of information about the river to be improved through production of 'User Guide', Calender of Events, advice on conduct and noticeboards/ interpretive panels	NRA	Increase awareness of river environment by public	
Establish liaison group representing river users and other interests (eg. fishery owners) to ensure that these interests are fully consulted and involved in the management of the river. The group should work in association with and advise the Wye Management Advisory Group	NRA to initiate	Increase awareness of needs of different recreational groups	
Encourage and support access agreements between fishery owners and canoeists	Fishery Owners/Welsh Canoeing Association/NRA	Agreed access for canoeists	Possible impact on conservation interests
Consider navigation byelaws, where appropriate	NRA	Better management of river use	Possible reduction in boating opportunity
Regular monitoring to measure changes in the level and distribution of recreational use and changes in the wildlife resource (river corridor surveys)	NRA	Better management of river use	

THE FUTURE

Against this background, the NRA's aims for the catchment are as follows:

- To improve and maintain the status of the Upper Wye in terms of the standards currently achieved for water quality, fisheries, conservation and recreation.
- To improve fish stocks by identifying the mechanisms of the causes of their decline and implementing practical measures to alleviate their effects.
- To improve public awareness of the catchment's features and how to conserve them for the future.
- To ensure that any future developments within the catchment do not cause long term harm to the rivers and whenever possible to include measures to enhance the river environment
- To ensure that the water is used and made available to support the uses within the catchment before supporting uses outside of the catchment.



PICTURE CREDITS

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