



3.1 Scale

The importance of geological, geomorphological, and hydrological processes to upland rivers has been highlighted in **Section 2.0**. These processes have a fundamental influence on our decisions regarding the management of our river fisheries. Whilst there are things we can usefully do at a local level to improve instream habitat, their benefit will not be optimised without consideration of wider catchment issues.

SURVEYING UNDERTAKEN AS PART OF PROJECT PLANNING



It is therefore important that any management prescriptions are formulated on a co-ordinated river and catchment-wide basis. Planning and delivery should involve as many interested parties as possible. Landowners, fishery interests, conservation groups and statutory agencies with connections to the river should be consulted. Ideally, a 'river conservation group' should be formed to encompass and engage all of the key parties. This group can be very informal, meeting over a 'pint and pie' from time to time, or can be more formally constituted, with the numerous rivers trusts (www.associationofriverstrusts.org.uk) throughout the British Isles good examples of the latter approach. If this proves impossible, then it

remains vitally important that good communication is maintained with key groups, particularly landowners.

Consideration must be given within these groups as to how catchment scale processes can be affected so as to benefit the ecology of the river. There are a number of philosophical and financial issues that must be addressed. For instance, sea trout and brown trout spawning is likely to take place in smaller tributaries and upper reaches of the main river. These 'natural hatcheries' supply other reaches of the river where angling takes place, and yet paradoxically often have limited value themselves for fishing. Why then should the

supported by











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owners of these reaches be expected to manage their reaches of river for the benefit of others further downstream, whilst receiving no clear benefit themselves? The challenge is to persuade

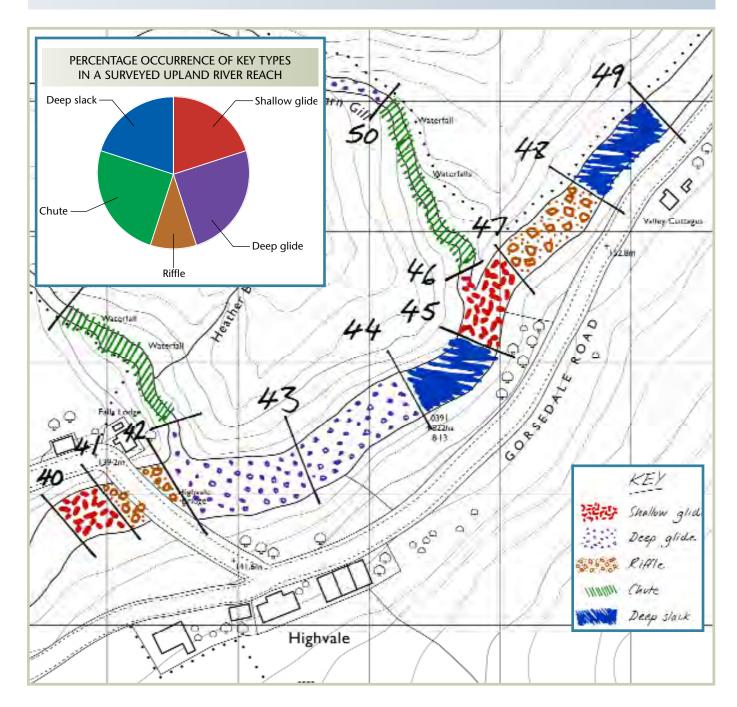
landowners to consider these river-wide issues,

and to understand the benefits of working together

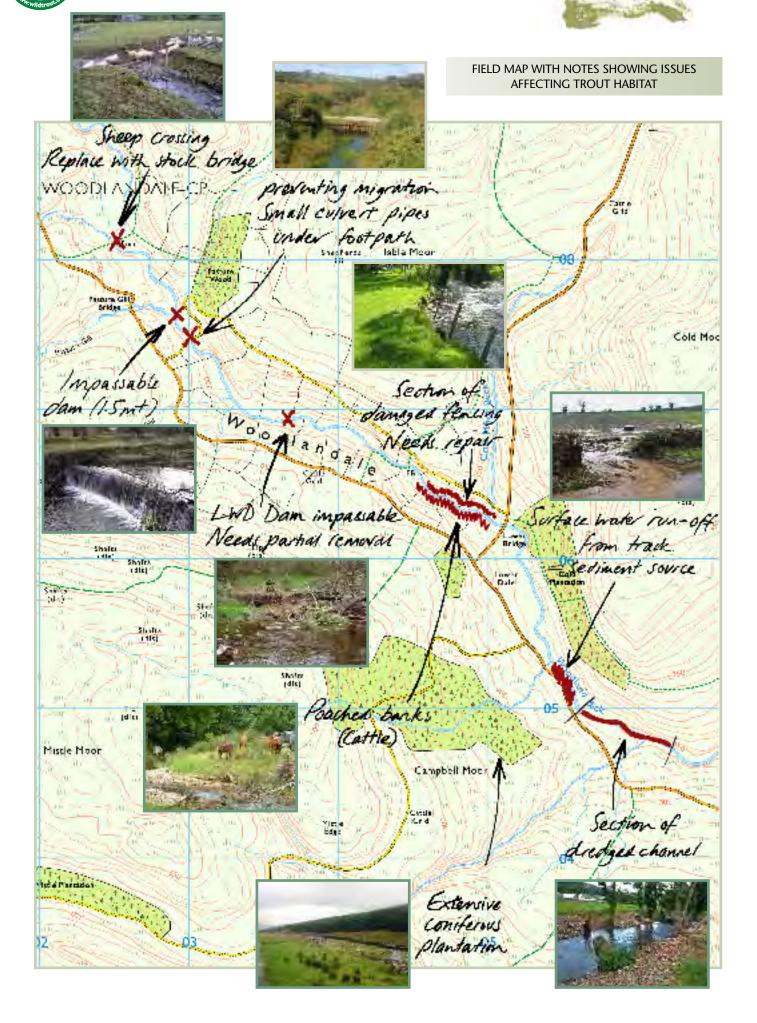
within the catchment to achieve a common objective. A similar argument can be promulgated for the management of key terrestrial habitat aimed at optimising in-river conditions.

3.2 Aims and objectives

The 'river conservation group' needs to carefully evaluate their aims and how they are going to achieve them. A 'scatter gun' approach, without co-ordination, will not yield the benefits of a selection of priorities and delivery mechanisms. The development of any group strategy does not need to be a complex process, but should encompass a written statement of the group's aims and objectives, ideally accompanied by maps showing the location of identified issues.



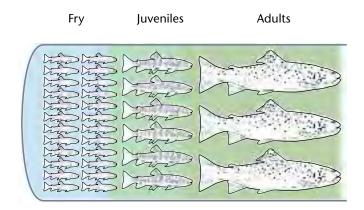






Adults

FISHERIES LIMITING FACTORS AS BOTTLENECKS

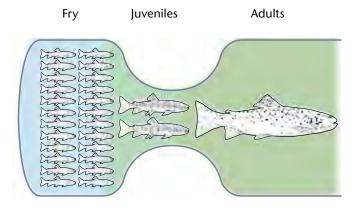


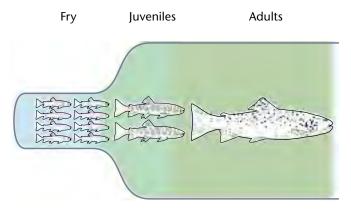
Juveniles

a). No limiting factor

b). Adult habitat acting as limiting factor

Fry





c). Juvenile habitat as limiting factor

d). Spawning habitat as limiting factor

Priority should be given to bottlenecks in habitat quality for key lifestages for trout. A walkover survey of the fishery will allow for quantitative assessment of habitat, which will help to highlight any bottlenecks. Further details of this approach can be found in Section 3.0 of the WTT 'Wild Trout Survival Guide'.

Observations from these walkover surveys can be recorded on **Form 3.3**. Photographs of all key issues should be taken with their locations accurately recorded. Always remember to face downstream when defining the left and right banks, and indicate these on the observations and photographs.

A time frame for tackling known problems should be included along with mechanisms for investigating issues that may be less well understood. The document should be reviewed regularly, and revised accordingly. This need not be an onerous task, and is one of the few ways of keeping a focused approach to resolving what are often deep-seated land management issues. Name of Main River Name of Tributary

DETAILS OF SECTION SURVEYED

3.3 Form for recording key habitat and water quality issues

This form records vital information about the ownership of the land bordering the river for the particular survey section. If the owner does not farm the land, the name and contact details of the tenant or licensee who currently occupies the land should be shown also. The reference code allocated to the owner/occupier of the land should be entered onto the first of the large-scale maps of the survey section to show the ownership of each field on either side of the river.

Map Reference			to				
Individual map codes (1:500 i.e. RD/TY 1–12							
Date(s) of Survey			a b				
SURVEY UNDERTAKEN BY							
Name					Phone		
Name					Phone		
Name Phone							
GENERAL COMMENTS							
Briefly summarise your main observations about the improvement needs of the survey section							
Shelly sammande your main observations about the improvement needs of the survey section							
Owner						Left Bank	Reference
and/or Occupier	Co	ontact Name & Add	ress Telephone N		e Number	and/or Right Bank	Code for Map entry
Owner/ Occupier	Name:						р ол.о. у
	ivairie.						
	Address:						A
							7 -
Owner/ Occupier	Name:						
	nume.						
	Address						B
	Address:						
Owner/ Occupier	Name:						
	Address:						
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Owner/ Occupier	Name:						
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	Address:						



3.4 Influencing landowners and delivering outcomes

The economics of agriculture in upland areas are not always robust. Dramatic fluctuations in the price of fuel, and animal feed, and the future need for increased security of food supply in the British Isles, all influence land management options in fundamental ways. It is not however always clear just how these pressures will affect upland farming. What is certain is that in order to have any chance of effecting beneficial changes to land management in a river catchment, a financial incentive is often required. Incentives can be presented in a number of ways; direct payment for profit foregone, (either through targeted agri-environment payments or from other sources), or by the development of beneficial changes (for instance, provision of good quality drainage, separating 'dirty' run-off from stock yards from roof water).



TALKING TO LANDOWNERS TO EMPHASISE THE POSITIVE BENEFITS TO RIVERS OF GOOD MANAGEMENT

Most of the agri-environment schemes are subject to compliance with relatively strict environmental conditions. Failure to meet these may result in the cessation of some or all of the payments to farmers. Clearly, however, this may not be the best route to take to ensure a good long term relationship with farming partners!

More positively, strong and regular contact with the local farming and landowning community will improve the chances of successful outcomes for any habitat enhancements, particularly those involving changes to land use. Emphasising the positive benefits of the proposals, including perhaps increased work for local business such as fencers, plant operators and tree surgeons, and cost savings, including reduced fertiliser inputs, can help increase positive uptake for schemes. Delivery of agreed management varies depending on the geographical coverage and financial outlay involved. Generally, as the size and value of projects increases, so does their complexity. Dealing with a large number of individual landowners and a number of statutory agencies on projects covering a substantial area can bring its own difficulties. However, it is likely that once agreement has been reached with all parties, delivery itself can be relatively painless, often relying for implementation on the efforts of others.

To some extent, the obverse is true with smaller, reach-scale projects and river management changes. These can be easier to plan and agree, as they often involve only one or two landowners, with implementation on the ground often requiring considerable hard physical work to achieve success.



DISCUSSION WITH LANDOWNERS IS A VITAL COMPONENT OF ALL PROJECTS

3.5 Case Studies

The Nanny Carr Project:

The Nanny Carr project was initiated by Manchester Anglers, with the assistance of the WTT. The project focussed on improving riparian habitat at the confluence of the Cam Beck with the River Ribble, Lancashire, at the eponymous Nanny Carr pool.

Working with WTT, Manchester Anglers identified over-grazing and consequent extensive erosion in big spates, as the key mechanism causing habitat degradation. Using grants obtained from the Yorkshire Dales Millenium Trust and the WTT, the club developed plans for fencing the site. Craven College Land Based Studies Unit (LBSU) were looking

for practical conservation task for their students to tackle. Local liaison established the Nanny Carr project as a suitable candidate site. LBSU duly commenced work in February 2007, with over 500m fencing and associated watergate erected by April that year, creating a 6m wide buffer strip.

A mixed stand of 300 native trees was then planted within the fenced buffer strip, augmenting natural regeneration processes.

SECTION OF RIVER PRIOR TO COMMENCEMENT -OCTOBER 2006

THE SAME SECTION OF RIVER AFTER COMPLETION OF THE WORKS- *MARCH 2007.* NOTE NEW FENCING, TREE PLANTING, AND VEGETATION GROWTH ON PREVIOUSLY BARE BANK





ERECTION OF NEW FENCING IN FEBRUARY/MARCH 2007, TO CREATE A BUFFER STRIP







Selected club members have also been trained so that they can monitor any changes to aquatic invertebrate communities within the fenced reach.

The success of this project in creating a broad buffer strip of un-grazed vegetation and native trees clearly highlights the value of well-targeted enhancement, designed to tackle a specific problem, planned and carried out by a partnership of local community interests. Further details available at: http://www.manchester-anglers.org.uk/html/nanny_carr_project.html

All photographs for this Case Study by Ian Fleming



VIEW DURING THE LATTER STAGES OF THE WORK - MARCH 2007



COMPLETED WORK IN APRIL 2007, SHOWING FENCING, TREE PLANTING AND THE BEGINNINGS OF REGENERATION OF BANKSIDE VEGETATION



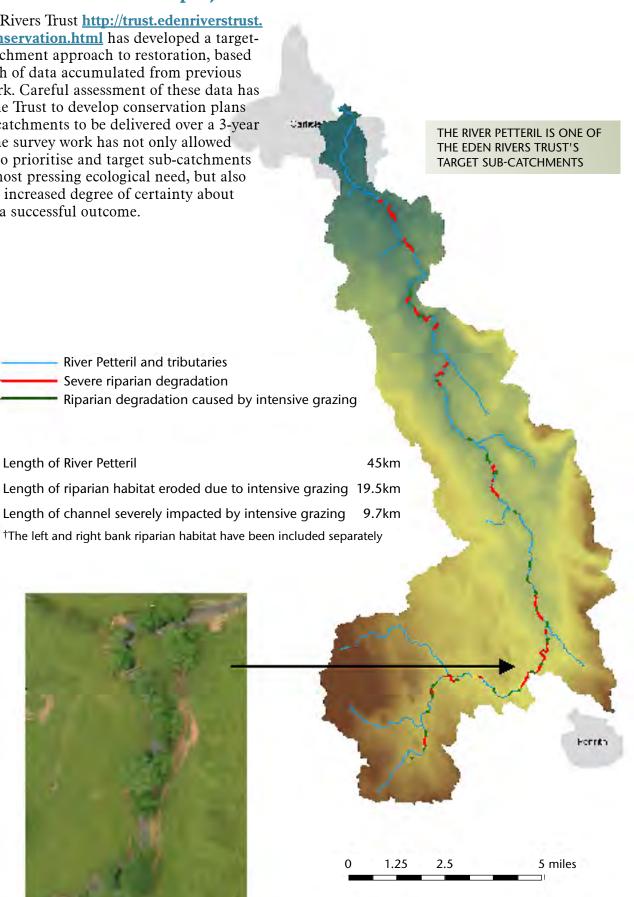


River Eden Sub-catchment projects:

The Eden Rivers Trust http://trust.edenriverstrust. org.uk/conservation.html has developed a targeted sub-catchment approach to restoration, based on a wealth of data accumulated from previous survey work. Careful assessment of these data has enabled the Trust to develop conservation plans for 5 sub-catchments to be delivered over a 3-year period. The survey work has not only allowed the Trust to prioritise and target sub-catchments with the most pressing ecological need, but also to have an increased degree of certainty about achieving a successful outcome.

> River Petteril and tributaries Severe riparian degradation

Length of River Petteril







A combination of aerial survey techniques, coupled with GIS mapping and development of pollution monitoring models have allowed ERT to clearly identify those sections of the river most affected by key issues. These include over-grazing by agricultural stock, the increasing size of many dairy farms, and diffuse source pollution from agriculture and road run-off.

The Trust has developed a suite of management prescriptions aimed at tackling the most damaging of these issues. Fencing (to reduce riparian habitat damage), the development of whole farm plans (to reduce diffuse source run-off) and control of invasive plant species, will individually and collectively improve conditions for a range of species.