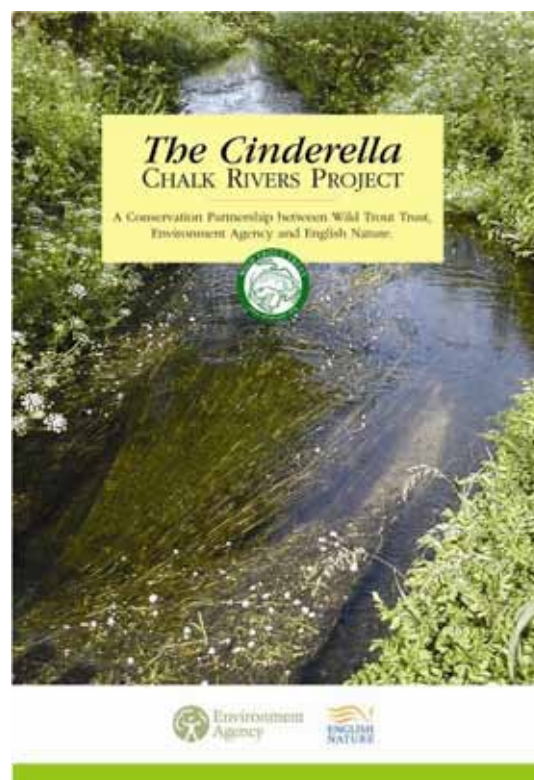




**HABITAT ADVISORY VISIT TO THE RIVER CERNE,
DORSET.**

**UNDERTAKEN BY VAUGHAN LEWIS, WINDRUSH
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APRIL 2008



1.0 Introduction

This report is the output of a site visit undertaken by Vaughan Lewis, Windrush AEC Ltd to the River Cerne, Nether Cerne, Dorset on 3rd April 2008 on behalf of the Gallia Family. This visit was sponsored by the Environment Agency as part of the Cinderella Chalkstreams Project.

Comments in the report are based on observations on the day of the site visit, and discussion with Edward Gallia. Throughout the report, normal convention is followed with respect to bank identification i.e. banks are designated Left Bank (LB) or Right Bank (RB) whilst looking downstream.

2.0 Habitat Assessment

The River Cerne is a delightful small chalkstream in rural Dorset. The fishery owned by the Gallia family is located near to the village of Nether Cerne. Work undertaken by the Gallias on the fishery has been recognised by the award of a prize in a previous Wild Trout Trust conservation award. The aim of this advisory visit was to build on this previous work, providing advice regarding upgrading and replacing features where appropriate.

Instream habitat throughout the fishery was generally good, with abundant gravel shallows suitable for spawning and juvenile brown trout. Habitat for adult trout was also abundant, with deeper pools, undercut banks and tree root systems providing cover. Large stands of water crowfoot *Ranunculus* Spp were associated with the shallow gravel riffles. There were also stands of starwort *Callitriche* Spp, water-cress *Rorippa nasturtium*, and hemlock water dropwort *Oenanthe* Spp. Himalayan Balsam *Impatiens glandulifera* can be prolific along much of the fishery during the summer period.

The RB was heavily treed along much of the length of the fishery downstream of the Manor, with alder *Alnus glutinosa* the dominant species. Ash *Fraxinus excelsior*, willow *Salix* Spp. and hawthorn *Crataegus monogyna* were also present. LB land use was primarily arable, with a wide buffer strip of uncut, rough grass.

Further upstream, there were sections of overgrazed bank where erosion was a significant issue. This had been addressed in the past by the creation of small fenced areas, preventing grazing of the banks.

Throughout the fishery, there were sections of over-wide channel. Fine sediment was building up at these locations. Much of this sediment was unconsolidated, with limited growth of binding marginal vegetation present.



Unconsolidated fine sediment in marginal areas

The lower reach of the river through Forston Water Meadows had been artificially straightened in the past. In addition, it had been extensively dredged (evidence the pile of dredgings creating a bund on the LB), leaving it rather incised. It was fenced on the LB with a thick deciduous hedge proving the boundary to the channel on the RB. The fields on either side of the river were owned by others, making it very difficult to consider removing the LB spoil pile, and reprofiling the channel. The downstream limit of this reach was marked by a water meadow sluice that impounded

water upstream. As a consequence of all of these factors, the river was very constrained, within a tight narrow channel, making it very hard to fish.

Despite these obvious constraints on recreational angling, the channel provided good instream habitat, with reasonable stocks of fish present.

Downstream of the sluice, the channel had generally excellent habitat, although there were sections of overwide, shallow channel, with habitat quality limited by the shallow depth of the water and lack of instream cover.



Overwide section of river in Forston water meadows

3.0 Fish stocks

The river has not been stocked in the recent past. Brown trout recruitment at the fishery appears excellent, with good numbers of fish observed on the day of the site visit.

In addition to brown trout, bullhead *Cottus gobio*, Brook lamprey *Lampetra planeri* and eel *Anguilla anguilla* were present in the river. These are all species of conservation concern with bullhead cited in Annex II of the EU Habitats Directive, in recognition of its conservation importance in a European context.

4.0 Recommendations

In general, the habitat of the River Cerne was excellent, providing good quality habitat for all life stages of brown trout. A few additional recommendations are made which may prove helpful in improving the quality of the fishery still further:

- The balance between light and shade is important for any fishery, but particularly smaller streams, where bankside trees shade a bigger percentage of the channel. A good maxim is to aim for around 60% of the channel to be shaded; too much shade and weed growth in stream and on the banks is suppressed, too little and summer water temperatures can rise to near lethal levels for trout. Careful, rotational coppicing programmes can be used to maintain shade at optimum levels for the fishery.
- Where bankside trees were abundant, opportunities exist to increase the amount of Large Woody Debris (LWD) in the channel. This would not only increase cover for trout (particularly important during the winter period when the die back of weed can leave the fishery rather devoid of instream cover) but also would help to scour clean the gravel substrate, improving its quality for spawning trout. By cutting only 75% through the tree trunks and hinging them into the water, they will remain attached to their trunks, anchoring them to the bank and allowing them to continue growing. Additional stability can be provided to the hinged timber by the use of wooden stakes driven into the bed, and high tensile wire. As an alternative, individual large tree limbs or trunks can be fixed using stakes and wire in order to create flow deflectors. A few simple principles should guide any introduction of LWD:

- Ø All timber must be adequately fixed with no risk of it ripping out in high flows.
- Ø Adequate keying in of the timber to the existing bank is essential to prevent erosion. The easiest way to achieve this is to notch the bank out with a spade, introduce the butt of the timber into the bank for at least 1m and then backfill over the top.
- Ø Upstream facing timber tends to scour the centre of the channel, whilst downstream facing timber often results in bank scour (generally not desirable)

It is vital that the Environment Agency are aware of plans to introduce any LWD, in order both to ensure that any requirement for Land Drainage consent is met, and also to guarantee that no removal of introduced LWD is undertaken during routine maintenance operations.

- The quality of the gravel throughout the fishery was good. Its quality can be improved further still by continuing and extending the current regime of cleaning spawning gravels each September, using high-pressure water jets. Care must be taken to clean riffles rotationally, with only short sections being treated annually. It is important that the EA are contacted prior to any cleaning of gravel, due to the possible discoloration of water in the river resulting from the operation. The same concerns dictate that downstream neighbours should also be forewarned of the operation.



Naturally occurring LWD....



...And introduced LWD

- The management of watercress and hemlock water dropwort was raised during the site visit. In general, unless there are real risks associated with leaving it in the river (for instance blockage of downstream sluices during flood events) then it is recommended that no active management of these plants be undertaken. The rapid growth of cress in particular is a response to a reduction in river flow during the latter part of the summer. The cress growth acts to narrow the channel, maintaining flow velocity, hence reducing the deposition of silt in the central section of the channel. It also provides valuable cover for smaller life stages of fish. As flows increase during the winter, cress is washed away, particularly after heavy frosts, with water crowfoot largely replacing it in these heavier flows. This feedback mechanism is very important to the chalkstream ecology. To interfere with it is very likely to prove counter-productive in the long term.

If it is deemed desirable to remove any hemlock water dropwort, considerable care must be taken over its disposal as the whole plant, in particular its roots, are highly toxic to grazing animals.

- Sections of overwide channel with unconsolidated sediment in marginal areas could usefully be narrowed by the use of faggot bundles. These should be firmly staked in place along the outer edge of the deposited silt line, with the area behind them backfilled with well secured brushwood. Provided that the site is not too shaded (check and coppice trees locally if it is), colonisation of the brushwood and faggots by marginal plants should be rapid.

- An alternative approach to narrowing wider sections is to construct a series of small mid-stream faggot islands. This is an excellent way of not only reducing channel width but also of creating an alternative habitat type.



Mid-channel islands constructed from faggot bundles on a small chalkstream

- A considerable number of large stones are available from the estate. These could usefully be introduced in a random fashion, particularly on the shallow riffle and glide sections of the river. They will create individual lies for parr and adult fish and may increase visual isolation of fry, potentially increasing the carrying capacity of the stream at this key lifestage.
- The section of erosion within the gardens of the Manor could be addressed by modifying the present grass-cutting regime so as to leave an uncut margin of 3m-5m. This will allow the development of emergent vegetation, with a stronger, more robust root system that is more resilient to erosive forces. It may also help to install a line of deadwood faggot bundles along the toe of the bank to increase erosion resistance.
- The present sections of fencing in the reach downstream of the Manor should be extended to encompass all of the heavily sheep grazed sections of bank. This will allow the river to recover to a more natural width, with an increased abundance of overhanging, fringing vegetation.
- The presence of Himalayan Balsam is undesirable. It is classified as an alien invasive weed species. There is no policy for its control on a catchment basis, with no authority having a remit to undertake this work. Despite this, it may be possible to undertake limited control of the large stands of balsam present in some areas of the fishery. Chemical control with the herbicide glyphosate when the plant is actively growing in early spring should be effective. Alternatively, the plants can be cut at ground level before the flowering stage (June) or they can be pulled up by the roots and disposed of by composting or burning unless seeds are present.
- Additional funding for some of the work recommended might be forthcoming from the Wild Trout Trust who hold small 'pump priming' pots of money for projects of this nature. The Trust also operates a 'Practical Visit' scheme whereby a river restoration specialist undertakes up to 2 days work at the site in order to demonstrate techniques that are suitable to address the issues raised in this report. Contact Tim Jacklin at the Trust at projects@wildtrout.org further details. Other potential funding sources include the Environment Agency (contact Allan Frake).
- Note that all works to bed or banks of the river or within 8m of its banks may require the written consent from the Environment Agency under the Land Drainage legislation.

5.0 Disclaimer

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