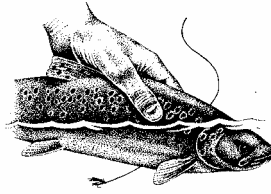


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Report sponsored by  
The Wild Trout Trust.

Consultants : Freshwater Fisheries, Conservation & Wetland Ecology

### **Report on Advisory Visit to River Allen, High Hall, April 2004**

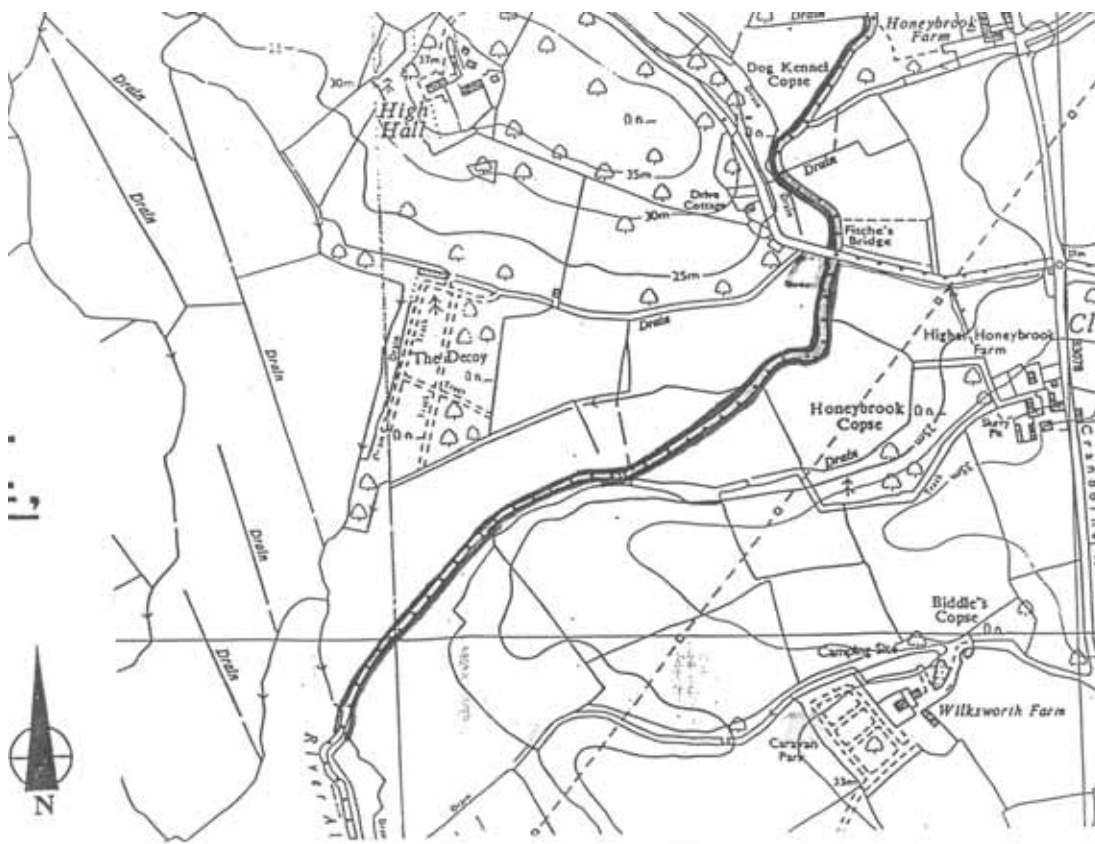
#### **Summary**

1. Nick Giles walked the High Hall Syndicate water on the morning of April 22<sup>nd</sup> in the good company of Mr Nigel McCorkell, the Lessee of the fishery. The fishery runs for around a mile of mostly double bank up- and downstream of Fitches Bridge. The syndicate of 12 rods currently fishes the water with low intensity, at present does not stock and is currently helping The Game Conservancy Trust with its trout stocking research project. The vast majority of trout and grayling caught are thought to be returned.
2. The farming in the riparian meadows appears, currently, to be mostly for cattle and grass production. Most of the banks are fenced, are in good condition with a varied plant community and there is generally a good 'buffer zone' between the fence line and the river bank, allowing reasonable access to the river for angling. The farming appears to be carried out well, with little apparent adverse impact on the river. Maize cultivation was recently instigated on the large field (right hand bank) below Fitches Bridge but has now ceased. This is beneficial to the river ecology as arable cultivation of maize close to a watercourse can have serious adverse impacts, especially for wild trout populations. Impacts often include silt and chemical inputs to adjacent rivers.
3. The River Allen at High Hall is potentially a lovely river but it is currently adversely affected by:
  - a silt-laden river bed (affecting trout spawning success and fly hatches),
  - a distinct lack of winter physical cover for both wild trout and grayling (increasing predation risk),
  - a probable need to control pike numbers (reducing predation),
  - a need for extensive weed-cutting (especially of ribbon weed) during the summer,
  - pruning of some over-hanging willows (to improve fishability) and
  - A need for revetment of one or two areas of bank where erosion is getting out of hand and will lead to significant bank loss (Beat 3).
  - Trout could be stocked to improve the performance of the fishery but, in the longer term, habitat improvement for self-sustaining wild trout and grayling stocks is recommended. This will also benefit the overall ecological quality of the river.

## Introduction

This one-day visit was made possible by The Wild Trout Trust advisory scheme. The River Allen above Wimborne is a noted chalk stream with generally good water quality. There is a reasonably prolific population of brown trout and grayling (Game Conservancy Trust survey data – see Appendix). The River still supports a native crayfish population; a rarity these days. Past concerns on the Allen have included periodic episodes of serious pollution, abstraction of substantial quantities of water for public water supply and various other impacts on the ecology of the river. A present concern is the potential for increased disturbance to the river bank and to the upstream end of the fishing which may develop as the adjacent Honeybrook Farm Visitor Centre attracts tourists.

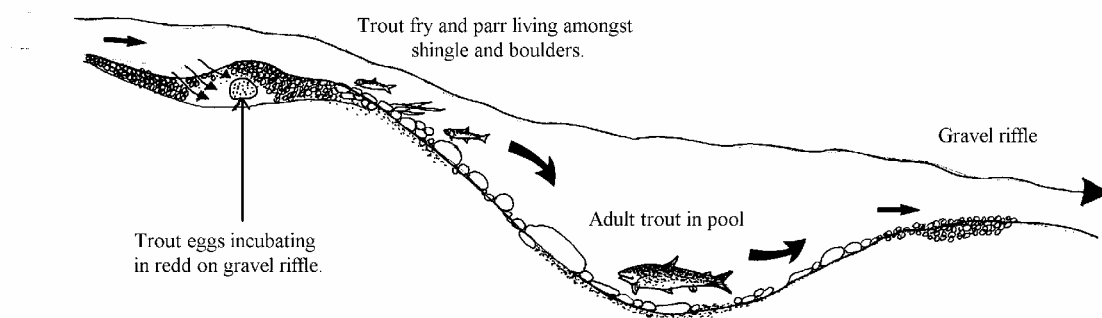
## Map of fishery



The Syndicate which currently fishes the High Hall water does so in a sustainable manner – not over-fishing the river, killing relatively few wild trout or grayling and not stocking with hatchery-produced trout which could impact adversely on the wild stock. Their cooperation with current Game Conservancy Trust research underlines a commitment to good management and long-term stewardship of the river. The Syndicate has carried out a certain amount of hard physical work annually, especially weed-cutting during the summer months. The principal aquatic plants requiring control are water crowfoot (*Ranunculus* species), ribbon weed (*Sparganium emersum*) and true bulrush (*Schoenoplectus*). No herbicides are used; the plants are physically cut and removed from the water. Some help from Nick Giles in over-seeing weed-cutting is recommended to maximise the benefits from this work. The river survey revealed further areas where well-targetted habitat management will improve wild trout and grayling stocks.

## Wild trout habitat

Brown trout need good, clean water flows, relatively silt-free gravel for spawning, abundant cover from predators and a nice varied sequence of shallow riffles, weedy glides and deeper pools. The diagram below shows how a short section of good habitat can provide everything a wild trout needs throughout its life cycle:



## Status of fish stocks – Game Conservancy Trust survey information.

These data are population estimates (per c. 200m length of river) for three age/size classes of brown trout for the two years in which electrofishing surveys have been undertaken. Densities (numbers of individuals  $100\text{m}^{-2}$ ) are given in parentheses.

Site 1 (SU002022)	2002*	2003*
0+	16 (0.99)	55 (3.42)
>0+<20cm in length	0 (0)	0 (0)
>20cm in length	15 (0.93)	25 (1.55)

Site 2 (SU007029)	2002*	2003*
0+	43 (3.53)	92 (7.54)
>0+<20cm in length	15 (1.23)	16 (1.31)
>20cm in length	55 (4.51)	47 (3.85)

\*Minnows, bullhead, eels and stone loach were common throughout.

Key points to note are:

- Presence of successful spawning, especially at the upstream site – a good sign.
- Variability in spawning success between 2002 and 2003 – may be due, mainly, to variability in flows.
- The markedly poorer trout stock in the lower site, with no sub-adults, either in 2002 or 2003 – a cause for concern.
- Moderate numbers of 20cm+ trout present.

Thanks to Ravi Chatterji for provision of these results.

## **Key findings from the river survey**

The River Allen at High Hall has:

- Suitably farmed riparian meadows which help to maintain good quality river ecology, and should be continued,
- Generally good physical structure with banks bound by a range of grasses, rushes, sedges and reeds,
- Diverse shallow riffle areas of gravel for spawning and juvenile trout habitat, with intermediate shallow glides suitable for maturing and adult trout and grayling and deeper corner pools which will hold big old fish (both trout and grayling),
- good water quality with native crayfish, bullheads, lampreys and water crowfoot beds – all of high conservation value.

## **Siltation of spawning gravels**

The wild trout and grayling stock is almost certainly being adversely affected by a river bed which is relatively silty, providing a poor environment for incubating fish eggs. This can be helped by a thorough water-jetting of suitable areas of gravel early each autumn, before the trout spawn in early winter. These cleaned areas will also be of value to grayling, bullheads and lampreys which spawn in the spring. Fly life will also be boosted by the opening-up of millions of ‘nooks and crannies’ in the formerly clogged river bed which will be re-colonised by a wide range of aquatic invertebrates. Larger flints uncovered during the water-jetting will be used by bullheads for breeding and cover and by trout fry and parr for cover. Crayfish will also use this improved cover habitat. Sediments disturbed during the jetting process will re-deposit downstream in areas such as inner bends where they will produce habitats for various burrowing invertebrates (eg *Ephemera* mayfly nymphs) and for lamprey larvae.

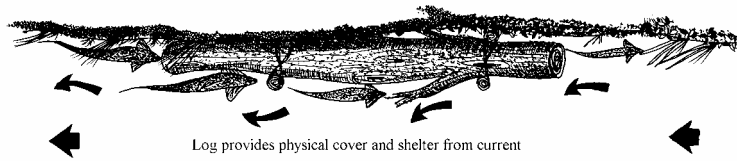
## **Recommendation 1**

In order to improve the physical quality of the river bed it is recommended that an annual cycle of gravel-jetting is undertaken. Each year a series of suitable gravel shallows will be selected and cleaned.

## **Physical cover**

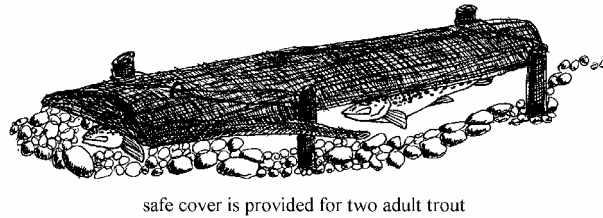
Trout parr (fish of up to a year's age) need relatively shallow water with cover from weed beds, boulders or deadwood (logs) staked securely along the margins. Adult trout continue to seek out habitat where year-round secure cover is available. Whilst weed beds offer good summer cover, they die back in winter leaving fish stocks vulnerable in open water to a range of potential predators. These predators include herons, cormorants, pike, mink and otters. Pike can seriously affect wild trout stocks on small rivers and should be removed from the river by angling each winter (or by properly conducted electric-fishing). Trout streams with abundant cover hold much higher fish stocks than those where most or all of the dead wood cover has been cleared away. To create improved cover, logs or half logs can readily be pinned close to the bank, leaving a gap underneath them for sheltering brown trout.

Trout using dead wood cover feature - staked close to well vegetated bank.



Most of the High Hall fishery lacks fish cover in the form of deadwood and there is great scope to add cover along many suitable stretches, using timber boards or small logs.

Half log cover board staked to river bed



The boards / logs will not rot as long as they remain submerged year-round.

## **Recommendation 2**

In order to improve the provision of year-round physical cover for trout and grayling, small logs and half log cover boards should be securely staked along the margins of suitable glides and pools.

## **Access for fishing**

Along some stretches, there is a need to modestly prune back some bank side trees so as to allow better access for fly fishing. Cut willow branches can be pushed into suitable areas of bank and allowed to grow into small bushes which will not hamper the fishing but which will add to available cover for wild trout and provide habitats for nesting song birds and many insect species.

A modest amount of habitat improvement of the above types will greatly boost the potential of the wild trout and grayling fishery at High Hall.

## **Recommendation 3**

In order to improve access for fishing and to plant new willow habitat the fishery should be trimmed back (by hand saw and small chain saw) each season in the autumn.

### **Bank erosion – Beat 3.**

The banks of the Allen (because of the extensive cattle fencing) are generally in good condition. There is, however, a section on Beat 3 where a new island (formed from sediments swept downstream by winter spates) is diverting flows into the far (left hand) bank and is causing rapid erosion. This will, over the next few winters, lead to the loss of grazing land and other associated problems. Two approaches could be considered:

1/. Removal of the island with a hydraulic excavator and/or protecting the relevant section of bank with live willow staking and weaving.

2/. Leaving the island and simply willow staking and weaving the bank.

This is a separate project which would need a full survey, costings and discussion with The Agent for the Estate, Owners of the Estate, Mr McCorkell and The Environment Agency.