

## Winter Evening Report

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Paul Knight – 03/03/16

Paul Knight - Salmon and Trout Conservation UK (and Tim Gaunt-Baker, regional rep.)

Paul Knight CEO explained that the change of name from the Salmon and Trout Association was aimed at better describing what they do even though it is nothing different. They may focus on fewer topics but delve into subjects more thoroughly.

He was frustrated by the EA (Environmental Agency) claiming that 70% of rivers are in a good biological state, whereas the EU reckons that only 25% are of good ecological status as defined by the Water Framework Directive<sup>1</sup> and that at the current rate of improvement it is likely to take a 100 years to reach 100%! Paul reckoned that this was a good reason to vote to stay in the EU as substantial fines are imposed on the Government if they do not meet the requirements.

Paul showed examples of rivers which might, to the casual observer, appear to be in pristine condition, but were in fact devoid of weed or invertebrate life. Problems are caused by silt running off of farmland which is often polluted with insecticides.

Paul dashed any thoughts of complacency on our (stillwater) part by showing a photo of Blagdon which has been severely affected by the proliferation of weed caused by the run off of fertilisers.

Sometimes the farming takes place in the rivers themselves. Water cress farms are treated with phosphates and any excess is carried off downstream. Chemcatchers set in the river, monitor the phosphate levels on a daily basis whereas the EA only monitor once a month. There was a massive difference between the results and it takes little imagination to predict which way the bias lent! Paul was charitable in blaming the cut in funding in failing to realise the true differences. However it seems that Government officials are quite willing to listen to concerns providing concrete evidence is presented.

Peaks in phosphate emissions from fish farms can also be detected despite the use of settling ponds. Somebody calculated that birds alone deposited 20 tonnes of dung into Grafham each year! I do wonder if there is a concentrating effect caused by the water being supplied to the towns on the upper Ouse and "effluent" being sucked in at Offord?

The ST&CUK host meetings of The Riverfly Partnership which is a group of many organisations monitoring the state of rivers on a monthly basis. The participants are trained in various methods. One of these is the 3 minute kick sampling where the bed of the river is disturbed for 3 minutes and the resulting water borne debris, including invertebrates, is collected and analysed.

Out of 12 rivers studied (Hamp, Avon, Itchen, Test, Lambourn, Wensum, Dove, Eden, Coquet, Axe, Camel and Welland), it was perhaps not surprising that the Wensum was the worse but on the other hand, who would suspect that the Itchen and Test were not much better? Top of the tree was the Avon and Meon where measurements were conducted on stretches where there was hardly any intensive farming. (I have to say that the Avon does not look that healthy below the Christchurch road bridge!). There are at least 300 monitoring sites at the moment.

<http://riverflies.org/node?page=1> is an excellent source of information.

Paul reported on some very interesting work at Bewl Bridge where a core sample was removed from the bed and analysed for the residual remains of chironomids. The level of silt increased by 3-4 cm. per year and it was demonstrated that there was a progressive reduction in invertebrates each year. I recall the deliberate addition of ferric sulphate to Grafham which resulted in thick layers of dead invertebrates (mainly snails and caddis lava) washed up on the bank such that there was a crunching noise underfoot: trout growth collapsed for several seasons.

Aquaculture in Scotland presents serious problems. Apparently most of the companies concerned are Norwegian and they establish themselves in Scotland because the regulations are far less severe. The UK is violating EU guidelines on lice. In Norway, for example, lice infested farms result in the culling of all the fish. Experiments adding Wrasse to the pens, which were thought to consume lice, have not been

successful. Another problem is the escape of salmon which can amount to thousands. It is claimed that there is a 30% ingress of farmed fish genes into wild fish (which I think affects their homing instinct). Other countries, notably China and Canada, are experimenting with farming fish in enclosed chambers, the ultimate aim being to locate the farm next to supermarkets and hence eliminate transport costs.

I have never heard of "mixed stock" fisheries before but it is just the term applied to netting operations which fail to identify the river system from whence the fish originate. It was interesting to see fish destined for the rivers on the east coast of Scotland actually head down the Yorkshire coast before retracing their steps (tails?) back north. Scotland is the only wild salmon country in the Northern Hemisphere which has allowed an increase in mixed stock fisheries and has failed to implement an EU habitats directive requiring an impact assessment. England is a bit better and will not renew licences when the current netsmen retire. Drift nets will be closed down by 2022. Basically, the problem is that netting at sea is indiscriminate as there is no way that the destination of the fish can be predicted and managed.

Hydropower is popular on some rivers with adequate flow thanks to the feed-in tariff. Paul showed a slide of a pair of Archimedes screws set across a weir. The power output is perhaps 100kW. The literature describes them as "fish friendly" which may account for that fact that despite the comprehensive Environment Agency Fish Pass Manual, some designs leave a lot to be desired.

Dredging has been in the news. Paul considered the problem on the Somerset Levels were quite complex but there had been no dredging for 20 years and much of the infrastructure had fallen into disrepair. Proposals to overcome the problem can be found by Googling "Somerset Levels and Moors: reducing the risk of flooding". However, ST&CUK consider that the source of the silt should be tackled in the first place. In this respect much has been made of reforestation of the uplands which has often lead to the planting of non-native conifers rather than deciduous trees. We then have acidification according to Paul: furthermore the susceptibility of firs to attack from weevils has lead to the widespread use of Cypermethrin which has a bit of a reputation from its use in sheep dips. I vaguely recall that manufacturers of carpets in the Kidderminster area used a similar pyrethroid to moth-proof their woollen products. The permitted discharge into the local rivers was absolutely miniscule (billionths of grams per litre) in order to avoid serious environmental problems.

We briefly touched on non-native species particularly plants such as Japanese knotweed, giant hogweed and Himalayan balsam. Signal crayfish received a mention – I have heard that the lake at Histon, alongside the bypass, is full of them. I have also heard that their proliferation in rivers may account for the leap in the size of chub in recent years. Killer shrimps were also discussed. Although they have transformed the bank fishing at Grafham (for the better!) in the latter half of the season, they were considered to be extremely aggressive and reduced the

ephemerid population. Peter Oldham reckoned that, by gorging on ova, they were also responsible for the lack of fry last season.

Paul drew our attention to the Blueprint for Water (<http://blueprintforwater.org.uk/about/>) which is a coalition of 16 organisations with 5 main objectives – use water wisely, stop polluting our waters, manage floods for people and wildlife, create, protect and restore places for wildlife, and join up water management. Progress has been slow so far but Paul was optimistic. As he put it "It can't get any worse!" Follow the activities of S&TUK on <http://www.salmon-trout.org/c/media-centre/>

Note

1. <http://www.theguardian.com/environment/2016/feb/19/government-approves-plans-to-improve-water-quality-of-rivers-in-england>

DG Jones 03/03/2016