

# **Devon Avon (Water Quality) Group**

## **Terms of Reference and Objectives**

### **PURPOSE**

This task group (DAG) exists to coordinate and drive forward a programme of water improvement projects on the Devon Avon. The Environment Agency (EA) is the leading statutory body charged with delivery of government policy concerning rivers under DEFRA but nowadays is actively encouraging the participation and involvement of other parties. In response, this working group has been convened to promote collaboration between interested organisations and the EA to understand and manage the Avon's water quality and ecological well being.

### **GEOGRAPHICAL AREA**

The DAG's area of activity will concentrate initially on delivering water quality improvements that will meet the Water Framework Directive targets for 2015 for the Devon Avon or Aune (known herein as 'the Avon') and its tributaries. The Avon waterbody is to be split after 2015 to consist of the HMWB upstream of Bala Brook or [WB\\_GB108046004941](#) - including the Avon dam (classified as of Good Ecological Potential), and the rest of the river downstream of Bala Brook or [WB\\_GB108046004940](#) (classified as of Good Ecological Status).

### **MEMBERSHIP**

The Group will initially comprise representatives of:

- Aune Conservation Association (ACA)
- Avon Fishing Association (AFA)
- Environment Agency (EA)
- South Devon AONB (AONB)
- South West Rivers Association (SWRA)
- South West Water (SWW)
- Westcountry Rivers Trust (WRT)
- Wild Trout Trust (WTT)

This membership does not exclude other organisations with related, relevant objectives from joining at a future date. The membership can be varied as the DAG chooses, and as required by the tasks and projects being pursued. It will be for each member organisation to appoint its representative(s) as it wishes.

It is accepted that any of the parties may withdraw from the DAG at any time without liability to the others.

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#### ADMINISTRATION

1. The DAG will meet as required and will be convened by the Aune Conservation Association normally with at least a month's notice. The group will nominate a chairman annually as required.
2. The ACA will arrange these meetings and the EA will take minutes.
3. If the DAG acquires funds, the WRT, which has charitable status, will hold them as a separate fund and administer them in accordance with the wishes of the DAG and in accordance with the objects and powers set out in its governing documents and the Charities Act 2011.
4. WRT will use its charitable status to obtain funds for the activities of the DAG when this is possible, with the reasonable assistance of other members where necessary. However, nothing in these Objectives and Terms of Reference requires any party to provide funds for the purposes of the DAG.
5. Between meetings impetus will be maintained by e-mail, phone and other contacts.
6. Each organisation will designate a member to be their lead contact.
7. The DAG will hold regular meetings at approximately six-monthly intervals and will review its purposes, membership and work schedule annually.
8. The DAG may be wound up when no further project work is being progressed.

#### OBJECTIVES

The overarching objective of the DAG is to enhance the Avon as a suitable habitat for a wide, native, faunal and floral community. Specifically, the population levels of sentinel fish species, which are excellent indicators of the health of a river – especially eel, salmon and trout, will be restored to a state of abundance or to such a level that the river and its tributaries are achieving their full ecological carrying capacity. Subsidiary objectives are divided into three main groups: to improve the quality of fish management information; to maximise accessibility of spawning areas to adults; and, to maximise productivity of spawning and nursery habitats. These three groups can themselves be divided into sets of specific, measurable, achievable, relevant and time-based objectives which will be reviewed, updated and agreed from time to time (see Appendix).

#### LEGAL STATUS

These Objectives and Terms of Reference are not legally binding and do not create any legal obligation or legal relationship of any kind between any of the parties. None of the parties shall have authority to act on behalf of or to legally bind any of the other parties in any way.

SWW's involvement in the DAG shall not prevent or restrict it from discharging its statutory functions as an appointed statutory water and sewerage undertaker as it sees fit.

SDMW 26 July 2012

APPENDIX

**ACTIVITIES AND RESEARCH**

**1. Improve the quality of fish management information**

Carry out actions that will contribute to the improvement of our knowledge about salmon stocks and habitats.

1.1 Walkover surveys should be completed for the whole river, with priority being given to upland spawning and parr areas and tributaries.

1.2 Juvenile surveys should be undertaken according to an agreed timetable and location plan by electro-fishing and dipping. (EA already does this work, but insufficiently, and so it should be supplemented by other organisations who will record results in a single, universally accessible, database)

1.3 Steps towards establishing a centralised invertebrate database should be encouraged

1.4 All opportunities should be taken to promote the installation of a counter for adult migrating fish and the interpretation of data therefrom.

1.5 All opportunities should be taken to promote the installation of a counter for migrating smolts and the interpretation of data therefrom.

1.6 From the information becoming available a study should be made as to the maximum potential of the river to produce salmon and sea trout and the actions needed to achieve this.

1.7 The extent and importance of passive trout migration from the reservoir (over the Avon Dam) and their contribution to the fish population of the river should be better understood.

**2. Maximise accessibility of spawning areas to adults.**

Carry out actions that will contribute to allowing spawning adults to reach all available spawning areas throughout the catchment on a regular basis. This would include removal of barriers or obstructions including low water levels, and improvements to fish passes.

2.1 Reducing abstraction. The Catchment Abstraction Management Strategy describes the Avon as of marginally 'over licensed' status with no known impact on the water environment. Conversely, the EA has stated that abstraction at some sites 'creates problems for the downstream migration of smolts'. New licences may be issued, but should have tight conditions limiting or stopping abstraction when river flow is low. This should ensure the river remains at over-licensed and the situation does not worsen.

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2.2 Increasing the available water volume. Consideration should be given to the potential for improving the regime for compensation flow and to the incidence and timing of releases of the fisheries water bank from Avon Reservoir. See also 3.4, below. The presence of adults in Bigbury Bay, ready for migration upriver, should be established prior to modification of water flow.

2.3 Information disclosure. The EA, subject to commercial confidentiality, will update DAG members in regard to applications for and changes and proposed revision of abstraction, discharge, hydropower generation and any other licences which may affect the characteristics of the river.

2.4 Removal or mitigation of obstructions to fish migration. The EA has carried out a recent desk survey of obstructions but this needs to be supplemented by fresh on-site inspection to produce an up-to-date list of obstructions and mitigation priorities. In the past, the EA has identified 34 weirs and other obstacles in the Avon and Erme catchments that were impassable under low flow conditions. The Partnership will make a bid for Catchment Restoration Fund money to carry out the actions proposed, some of which will require EA approval or assistance.

2.5 The ACA through its membership from around the Avon estuary will remain vigilant in reporting to the EA and the police any suspicious fishing or poaching activities.

### **3. Maximise productivity of spawning and nursery habitats.**

Carry out actions that will improve the quality of the habitats for all life stages of salmon. This would include physical habitat improvements as well as the regulation of abstractions and pollution control.

3.1 Improving spawning areas and fry habitat for both salmon and sea trout. The WTT has surveyed the river and recommends concentrating on reaches below Shipley Bridge where the loss of spawning habitat can be identified. Building the habitat quality from downstream would ensure that any newly restored reach is more likely to be utilized by fish pushing a little further upstream from the section that currently performs well. In addition, any gravel placed into the sections further downstream might possibly last longer, assuming a slightly more gentle gradient, whereas gravels introduced into the Woolshole reach may well get washed out very quickly.

Importing spawning material may not seem like a sustainable solution but as an option it might be comparatively cheap, easy to undertake and will undoubtedly bring benefits to a system starved of sediment supply by the barrier of the Avon dam. Introducing a range of material sizes and monitoring how fast and far it moves might be extremely valuable in planning any long term mitigation for the dam.

3.2 Siltation of redds – Agricultural run-off and the leaching of phosphates contribute both to siltation and to eutrophication (although the latter, given the rapid run-off peculiar to spate rivers, would appear not to have shown significant problems on the Avon to date, despite the consistently elevated levels of phosphates recorded by the EA near Hatch Bridge). Bank erosion by humans and

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livestock are contributing factors in the build up of siltation. Indiscriminate felling of waterside trees promotes the deterioration of rootstocks, consequent destabilisation of the riverbank and siltation of the watercourse. Water quality should be checked on a regular basis to locate any problems that can be dealt with immediately at source. The growth and spread of invasive weeds such as Himalayan Balsam, *Impatiens glandulifera*, should be minimised. Balsam is very quick in colonising areas of silt on river margins and elsewhere; the ACA has produced an advisory pamphlet on this topic which has been widely distributed throughout the catchment. Timber that has fallen into the river, in preference, should be carefully repositioned and secured to the bank so as to provide large woody debris cover for fish and invertebrates or, otherwise, should be removed and carried to ground beyond the high spate line. Such activity requires regular working parties.

3.3 A conservation limit of 700,000 salmon eggs has been recommended for the Avon and was assessed to be below that limit in 2003. The current situation needs to be re-assessed and any necessary remedial steps taken.

3.4 Saving smolts during their annual descent to the sea. Control of the 'Fisheries Water Bank' by appropriately timed releases from the Avon dam during the spring smolt run season should help the upper reaches of the Avon, where pre-smolts reside and will give them a slightly quicker journey downstream. Smolts migrate at night passively with the flow and any decrease in the time it takes to drop downstream will reduce losses. Typical salmonid smolt runs will be between mid-March and mid-May but with local variations.

The importance of monitoring and thereafter taking measures to assist the safe passage of smolts on their downstream migration is emphasised in the official advisory booklet 'Monitoring the Atlantic Salmon'.

3.5 Riverbank coppicing. It is thought over-shading from trees and vegetation along the river is a contributory factor in the decline of salmon numbers. Research by the WRT on the River Exe, for example, found that "tunnelled" sections of the river greater than 100 yards in length rarely supported more than 40 per cent of the juvenile salmon found in more open stretches. Electro-fishing surveys carried out by the WRT in the summer showed lower than expected salmonid fry numbers in over-shaded sections of the river. Restricted sunlight limits the ability of plants to grow in the river, which cuts the number of small creatures providing food for young salmon and trout. The reason trees and shrubs have grown over the river is that, in recent times, the practice of coppicing to provide thin timbers for charcoal or gunpowder has died out, allowing trees to grow and create shade. Coppicing should boost invertebrate communities in these sections, increasing the food supply for salmon and trout fry, and ultimately increasing salmon numbers.