

Hydrological Analysis

Client: Severn-Trent Water Ltd

Project: Drought Permit Review

Background

In January 2011 Hydro-Logic, in collaboration with ESI Ltd and APEM, was appointed by Severn-Trent Water Ltd (STW), to examine the impacts of revised drought permits on the Rivers Derwent and Churnet.

The Drought Reports produced would be supplementary to the existing Environmental Reports, which review the ecological and hydrological conditions in support of future drought Permit applications.

Tasks and Deliverables

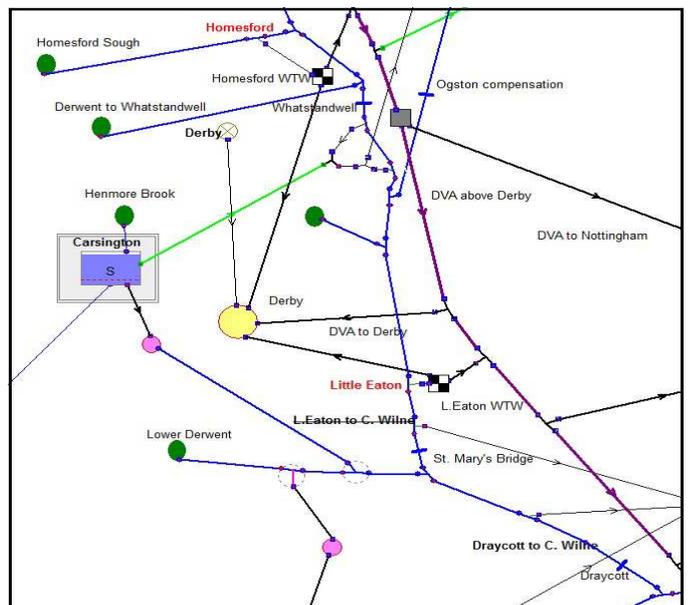
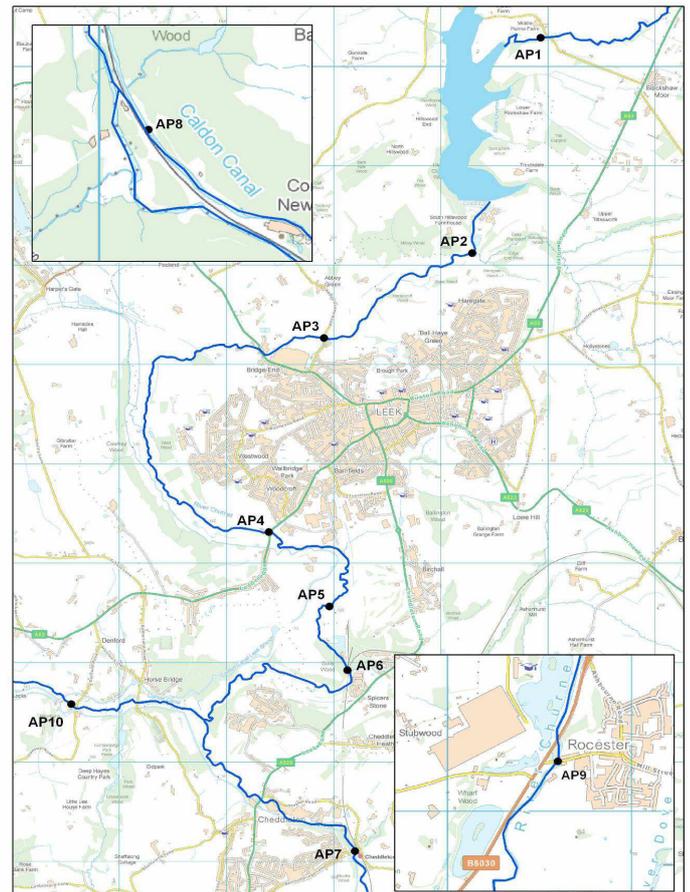
Hydro-Logic's role was to determine the likely changes to river flows resulting from the reduced compensation releases implied by the revised drought permits. River flow estimation was undertaken at a number of assessment points, based on a range of techniques including spot gauging, analysis of historical flow data, naturalised flows developed using LowFlows software, and simulated flows using the STW *Aquator* model.

Analysis of the data enabled accretion profiles, flow duration curves and depth-discharge relationships to be developed that could be used to predict the likely outcomes of the drought permits. These results were used to inform an assessment of the likely impacts of the drought permits in terms of water quality, ecology, amenity and leisure, and water resources.

Benefits and Outcomes

New data collected since the previous report is identified, the concerns of the Environment Agency and STW addressed, and the relevant impact assessments revisited. Where potential impacts were identified, appropriate mitigation measures were proposed.

The work enabled the development of Environmental Monitoring Plans detailing monitoring recommendations for the periods prior to, during and post drought permit implementation, identifying any impacts occurring as a consequence.



A selection of our clients and what they say about our work.



FRA for Major Quarry Company. *"Thank you for your input into the planning application and EIA. In the end, planning permission was granted for the proposal... Thank you once again - a great result"*

Water Company in response to our auditor's review. *"The audit in particular benefitted from the HLS auditor's understanding of the subject matter."*

On contribution to Floods & Dredging Paper. *"We would certainly never have been able to pull the report together without your hard work, it's been very valuable."*

Homeowner in Milton Keynes: *"...after a week of speaking to the under writers liaison they now confirm that I am not a flood risk and have reduced by direct debit premium from £166.35 per month to £47.64. I am very happy with this result :)."*

Flood report in Fareham: *"...the work you produced has really helped us to get the consensus we were seeking and will be invaluable as we move forward"*

Flood survey, Devon: *"We have now received a copy of your survey, and think it is very clear, and seems to cover everything. Thank you very much for the trouble you have taken."*

Water Company Manager on resource modelling. *"EA feedback has been excellent which is good"*

Training for Water Company staff: *"Just wanted to say thanks for our training on Friday, everyone found it really useful"*