

Water Resources Modelling

Client: South Staffs Water plc

Project: Aquator Water Resource Model Development

Background

In January 2012, Hydro-Logic Services was appointed by South Staffs Water plc (SSW) to undertake a multi-stage water resource modelling project in support of its water resource planning activities.

Tasks and Deliverables

The project involved the following stages:

Stage 1 was to develop a new *Aquator* model based on SSW's existing WRAPSim water resource allocation model.

Stage 2 updated and refined the model to accommodate changes made to system assets and operations since 2009, when the previous model was used to support SSW's final Water Resources Management Plan (fWRMP09). The model refinement included a comprehensive review of the Blithfield inflow time series using HYSIM.

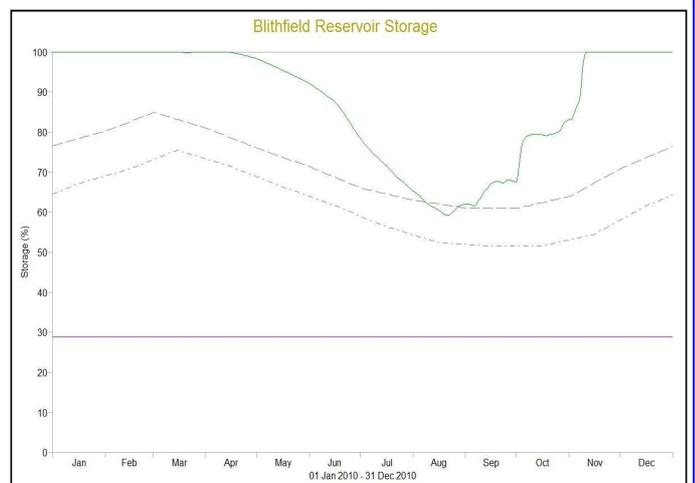
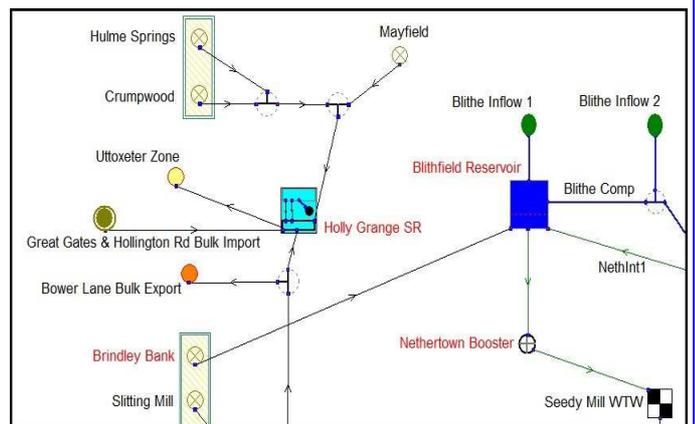
Stage 3 focused on utilising the updated model to support SSW in preparing its draft 2014 Water Resources Management plan (dWRMP14); specifically determine system deployable output under a set of climate change scenarios.

Benefits and Outcomes

The Stage 1 model was completed in April 2012 and compared favourably with the original model. Stage 2 was implemented over 20 phases, each examining the effects of a specific class of change, and was completed in December 2012. Stage 3 modelled a series of climate change scenarios using datasets perturbed according to the UKCP09 Climate Projections developed by HRWallingford, and was completed in March 2013.

An ongoing review of the model simulation results will lead to further refinement of the model to support SSW in preparing its final 2014 Water Resources Management Plan (fWRMP14).

SSW have been provided with the appropriate *Aquator* system licence and a copy of the model (incorporating all simulation results) for its own use in advance of completion of the project.



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"*