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Dams and Reservoirs

Editorial: BDS Prize Papers

The British Dam Society (BDS) Prize is awarded every two years for the best paper authored by a BDS Young Professional, i.e. a member under 35 years old at the time of the award. In 2023 there were ten entries, and the competition was judged by five BDS members, who also took into the account the presentations of the five finalists and their answers to questions to reach a score for each paper. All ten entries were deemed worthy of publication in *Dams and Reservoirs*, and in this issue we are able to publish six of them. The remaining four papers that were submitted for the BDS prize will be published in the next issue of *Dams and Reservoirs*.

The winner of the competition was Veronika Martin with her paper on the hydraulic analysis of spillway options for a dam in Zambia (Martin, 2024). This paper describes how the options of a labyrinth weir and an ogee weir were evaluated to give an hydraulically acceptable least-cost solution, the aim being to minimise the volume of concrete used in the construction of the new spillway. Recent research on the hydraulics of labyrinth weirs was used in the option analysis.

The paper which came second in the competition was by Matthew Craig (Craig, 2024). He describes how two redundant Scottish Water impounding reservoirs were discontinued, which in this case involved totally removing the earth embankment dams down to original ground level, and reinstatement of the watercourse that had run through the site prior to construction of the reservoirs. The construction phase had to consider the impact of a flood during the discontinuance and the management of the silt in the reservoir basins.

The third prize of the competition went to the paper by Daniel Morris (Morris, 2024) which describes works that were carried out to Northumbrian Water's Burnhope Reservoir. These works were to provide a replacement washout valve, a requirement that was complicated by the need to maintain both a supply to the treatment works and the provision of washout facilities at all times. The sequence of work to achieve this is described, as is how a more resilient system resulted from the project.

One of the shortlisted papers of the competition was by Emily Hale (Hale, 2024) which outlines the design and construction of a control structure for a flood storage reservoir. The Leeds Flood Alleviation Scheme (Phase 2) comprises both linear defences and an online reservoir on the River Aire upstream of the city. The reservoir flow control comprises twin bottom-hinged gates in a concrete structure. The paper identifies the various legislation that affected the design and how compliance was achieved. It also covers the temporary works and the issues that arose with these.

Another shortlisted paper was by Tom Rigby (Rigby, 2024) which outlines the need for grouting a United Utilities' moorland dam, and details how the work was carried out. It covers the investigations which identified where leakage was occurring, and which enabled the grout layout to be designed. The details of the grouting and the subsequent reduction in the probability of reservoir failure are given, along with the pre- and post-works temperature profiling within the dam, which confirmed the effectiveness of the work.

The last of the British Dam Society Prize paper submissions published in this issue of *Dams and Reservoirs* is from Lucy Monkhouse (Monkhouse, 2024). This paper concerns a bywash channel at the Canal and River Trust's Slaithwaite Reservoir, which can be used to divert inflows past the reservoir in the event of an emergency. The bywash was found to have inadequate capacity, and the paper describes the process by which a project to upgrade the channel was initiated and taken through to completion.

The next BDS Prize paper competition for Young Professionals will be held in 2025, but if you will be eligible and would like to take part why not start thinking about a paper now? It is much easier to collect information and photographs of a project while it is still ongoing than to try and assemble what you need for a paper after the work is completed and all involved have gone their separate ways.

Comments or questions on any of these papers by these BDS Young Professionals are welcomed, and we will aim to include such contributions, along with a response from the author, in a subsequent issue of *Dams and Reservoirs*. Please send any contributions to editor@britishdams.org or atpec@peppernet.org

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