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Ground investigation results show that significant work is needed to future-proof Cannop Ponds site

- Significant work will be needed to protect reservoirs for future generations
- Investigations reveal material found in dams not suited to retaining water

Forestry England has today (8 December) released the results of ground investigations at Cannop Ponds which has found that significant work will be needed at the site to protect the reservoirs.

The work, carried out by Gloucestershire-based geotechnical specialists Geotechnical Engineering Ltd, and analysed by engineering experts Arup has confirmed that the dams do not contain watertight clay (as found in modern dams) and rely on the earth forming the dams to be watertight. Within that earth, layers of granular material have been found, including sand and gravel. This type of material is permeable and explains the historic seepage and safety issues at the dams.

Over time, seepage through the dams will increase the risk of a potential failure. If the reservoirs are to remain in place for the future then significant works are required to ensure their continued safety.

Josh Howe, Director of Engineering for Forestry England said:

“This study confirms that doing nothing is not an option and that substantial work will be needed to protect properties downstream from flooding and keep the Ponds.

“We fully understand the importance of the Ponds to the local community and as custodians of the site our aim is to find the best solution to future-proof this cherished local landmark.”

The ground investigation report is the final piece of evidence for a business case to go to Forestry England’s investment committee, which will make recommendations, identify risks and outline initial estimates of the costs. The investment committee’s review will be presented to Forestry England’s Executive Board in early 2024, then the option to be developed will be shared with the public.

See the ground investigation report online [here](#).

Ends

Notes to Editor

1. Cannop Ponds are two reservoirs within the Forest of Dean. The reservoirs were created in the 1820s through the construction of two dams across Cannop Brook. The reservoirs originally provided water for industrial uses and have since become a valued part of the Forest.

Both dams have had a long history of repairs to stop leaks and fill holes to prevent failure. The dams don't meet modern requirements and now need substantial engineering work if they are to remain safe for generations to come.

For more information visit <https://www.forestryengland.uk/article/the-future-cannop-ponds>

2. The ground investigation was done by taking core samples through the dam embankment and down to the bedrock beneath. The samples were then taken away for laboratory analysis. The results and findings were then assessed by expert geotechnical engineers.

The results have confirmed that Upper and Lower Cannop are 'homogeneous type' earth dams, meaning they do not have a watertight clay core found in modern dams. This means they are reliant on the impermeability of the overall embankment to hold back the reservoir water.

The coring and laboratory analysis found zones of 'granular' materials within both embankments. This material is relatively permeable and not well suited for retaining water. These findings help explain some of the historic seepage and safety issues at the dams.

Overall, the results indicate the risk of the dams failing is slowly increasing over time and if the reservoirs are to be kept, significant works would be needed to improve watertightness and make the dams safe.

3. Forestry England manages and cares for the nation's 1,500 woods and forests, with over 291 million visits in 2022/23. As England's largest land manager, we shape landscapes and enhance forests for people to enjoy, wildlife to flourish and businesses to grow. We are continuing the work we have already started to make the nation's forests resilient to climate change and by 2026 we will:
 - create at least 6,000 more hectares where we integrate wilding activities in our productive forests

- increase the diversity of visitors to the nation's forests and have one million hours of high-quality volunteer time given to the nation's forests
- plant at least 2,000 hectares of new, high quality, predominantly broadleaf woodlands

Forestry England is an agency of the Forestry Commission.

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