

Canal & River Trust (the Trust) - Rudyard Reservoir

Background



Figure 1 Dam crest – looking west

Rudyard Reservoir was originally constructed in 1797 under the direction of John Rennie and is a designated a “high-risk” large raised reservoir. It supplies water to the Trent & Mersey Canal via the Caldon Canal and is used as a local amenity for sailing and angling. The dam and surrounding land are open to the public and it is a popular tourist attraction with a miniature railway running along most of the left shore.

A little known fact, Rudyard Kipling was named after the reservoir, it was a favourite holiday location for his parents.

George Orwell also visited the dam in his walk across the midlands and the north of England preparing for his book “The Road to Wigan Pier”, he found the reservoir partly frozen over at the time to be less attractive, with ice broken and pushed up against the dam.

The reservoir is 3km long, holds 2,662,400m³ and is the Canal & River Trust’s third largest reservoir. The dam has a puddle clay core 12ft wide at the bottom and 6ft wide at the top with a cut off trench 12ft thick. We know this because while we do not have the original drawings, we have kept John Rennie’s specification which is surprisingly detailed. The dam embankment is circa 155m long and 11m high. The crest is 14m wide at its narrowest point, which is large and it is presumed the width is to allow for dam raising at some point, although there is no written evidence for this. The crest could not now be raised with the reservoir having become a large and well loved attraction with many boat houses and holiday homes constructed along the shore.



Figure 2 Spillway in flood (normally dry) and discharge flow measurement pond looking upstream at right half of dam

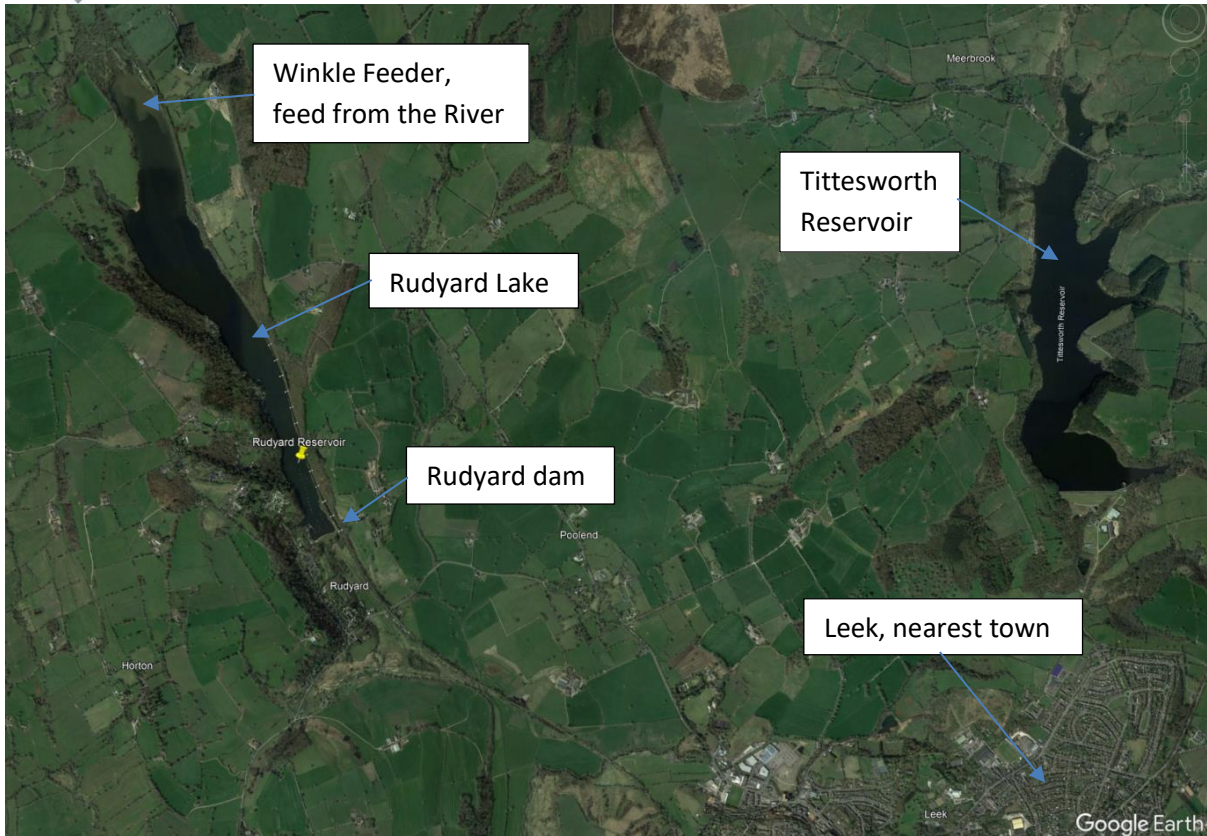


Figure 3 Rudyard Reservoir, with STW Tittesworth Reservoir to the west – location plan – Google Earth image

Rudyard Reservoir has an earth embankment located along the southern edge with a curved concrete wave wall along the upstream face. The reservoir has a primary spillway of 17m width with a masonry chute of a novel arrangement; a drop into a chute curved in both plan and section. Rudyard Reservoir is fed from the River Dane via the Winkle Feeder to the north end and a local catchment of approximately 11km².



Figure 4 Rudyard Reservoir – spillway from left abutment with narrow gauge railway along the eastern bank, and spillway from upstream with floating boom to prevent anchored yachts from blocking the spillway during a storm (safety measure)

Proposed asset improvement works

Following a Risk Assessment for Reservoir Safety (RARS) works are planned to commence in 2026 to complete degradation maintenance and improve monitoring. The Section 10 inspection is due in July 2024 and we anticipate RARS will have captured the S10 potential

safety measures and other measures. You will find out if we captured the key works at the visit:

- Spillway masonry repairs, re-pointing and grouting.
- Spillway investigations to confirm if a key is required into the dam core.
- Repair guard valve actuator and reduce seepage into upstream draw-off.
- Drainage improvements, v-notch flow measurement, remote monitoring.
- Tree removal to prevent damage to the left wing wall.
- Vehicle barrier to prevent public vehicle access to the crest.

Combined use scheme

Severn Trent Water (STW) and the Canal & River Trust are considering a conjunctive use scheme to provide water from Rudyard to the STW Tittesworth Water Treatment Works as a drought mitigation project. This project is in its early stages of optioneering to consider if it provides benefits to both parties, which could comprise a long term income source to maintain the canal network and a drought mitigation option for public water supply. The project would include a pumping station at Rudyard to pump water during extreme droughts to the Tittesworth catchment.

Site visit

The visit will involve a coach drop off 500m south of Rudyard Reservoir, a short walk along the canal feeder up to the dam and a guided tour around the dam structure. There is a small museum at the dam, a café and public toilets. Two CRT staff will be available to describe the construction and operation of Rudyard dam and a high-level explanation of the potential feed to Tittesworth Reservoir. No construction works are ongoing, with works planned for 2026. It is recommended that sturdy footwear is required along with suitable wet weather clothing. There is a very good website created by the Friends of Rudyard Lake with history and videos of the dam structure which we recommend is viewed prior to the visit: [Rudyard Lake – The Hidden Gem of the Staffordshire Moorlands](#)

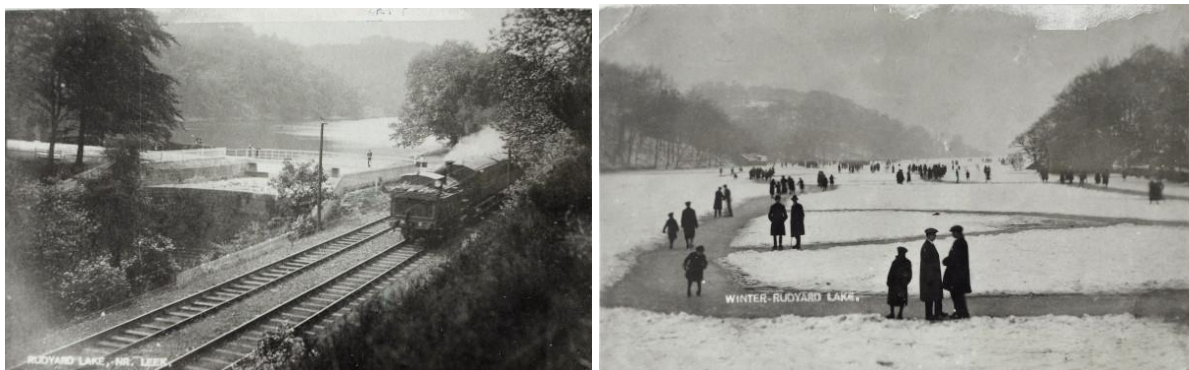


Figure 5 Rudyard Reservoir – historic photos from 1935 – reservoir, spillway and original rail line looking north on the left bank, and a photo of the lake frozen over with ice skating