

Yorkshire Water Report to Gouthwaite Board of Management April 2024

2023-2024

2023 was a wet year with rainfall 123% of the Long-Term Average (LTA). January to June was relatively dry and saw 494 mm rainfall compared to a LTA of 567 mm – 89% LTA. January and March were very wet 144% & 119%, February very dry 26%. July to December was exceptionally wet 153% LTA, with July 185%, October 161% & December 209%. (See Table 2 at end for details)

Figure 1 shows the reservoir levels from the start of 2023, and the required and actual releases. The reservoir safety programme at the start of the year required a 2.7m drawdown (equivalent to 53%) for the period May to November. The works continued into the new year, with the works completed after the end of the drawdown.

The actual releases followed the required releases well up mid-April. Normal operational rules were suspended from April 2023, when releases started to achieve the required drawdown in May. Compensation releases were increased to achieve the required drawdown for the reservoir safety scheme. When the required drawdown was achieved, the release was maintained at 40MI/d until late June despite reservoir levels being in the 22.8MI/d release band in recognition of the fact that levels were low due to the drawdown, and to provide continued support to the fish farm. When levels continued to fall, the release was decreased to 28MI/d. Heavy rainfall in July (185% LTA) required increased compensation releases. From mid-September higher than average rainfall required increased compensation releases.

Figure 2 shows Gouthwaite historical reservoir stocks (percentage).

Figure 3 shows the reservoir stocks plotted with the control lines, and shows that for much of the summer the stocks fell along the 28MI/d control line, but June – July fell into the 22MI/d release zone. The releases made at this time were generally higher than would be required according to the rules for the reservoir level at that time, as additional releases were made to maintain the reservoir drawdown and to support flows on the river and for the fish farm.

Figure 1: Gouthwaite Levels and compensation releases

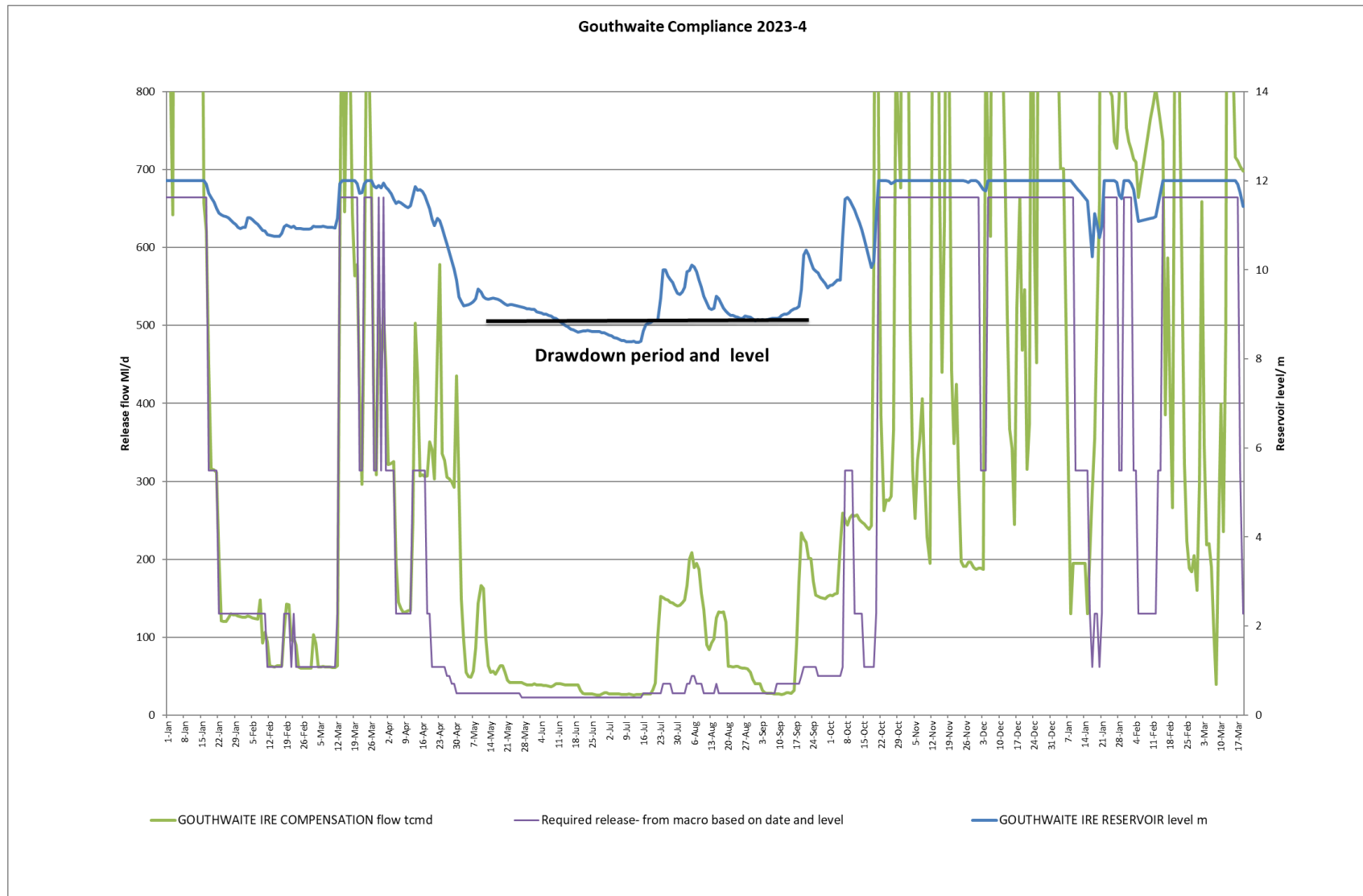


Figure 2: Historical Gouthwaite stocks

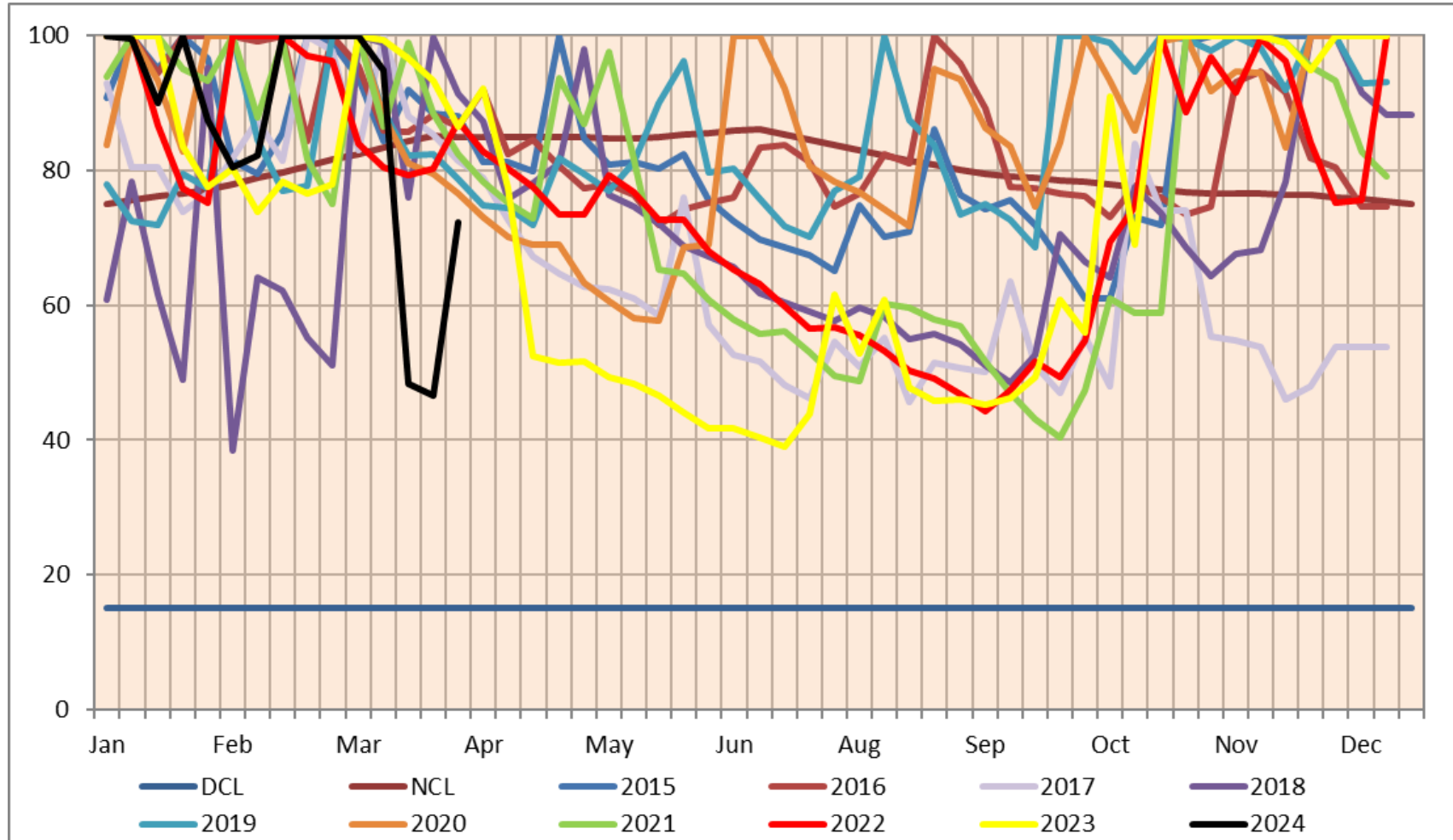


Figure 3: Gouthwaite Control Lines and 2023 weekly reservoir levels and releases

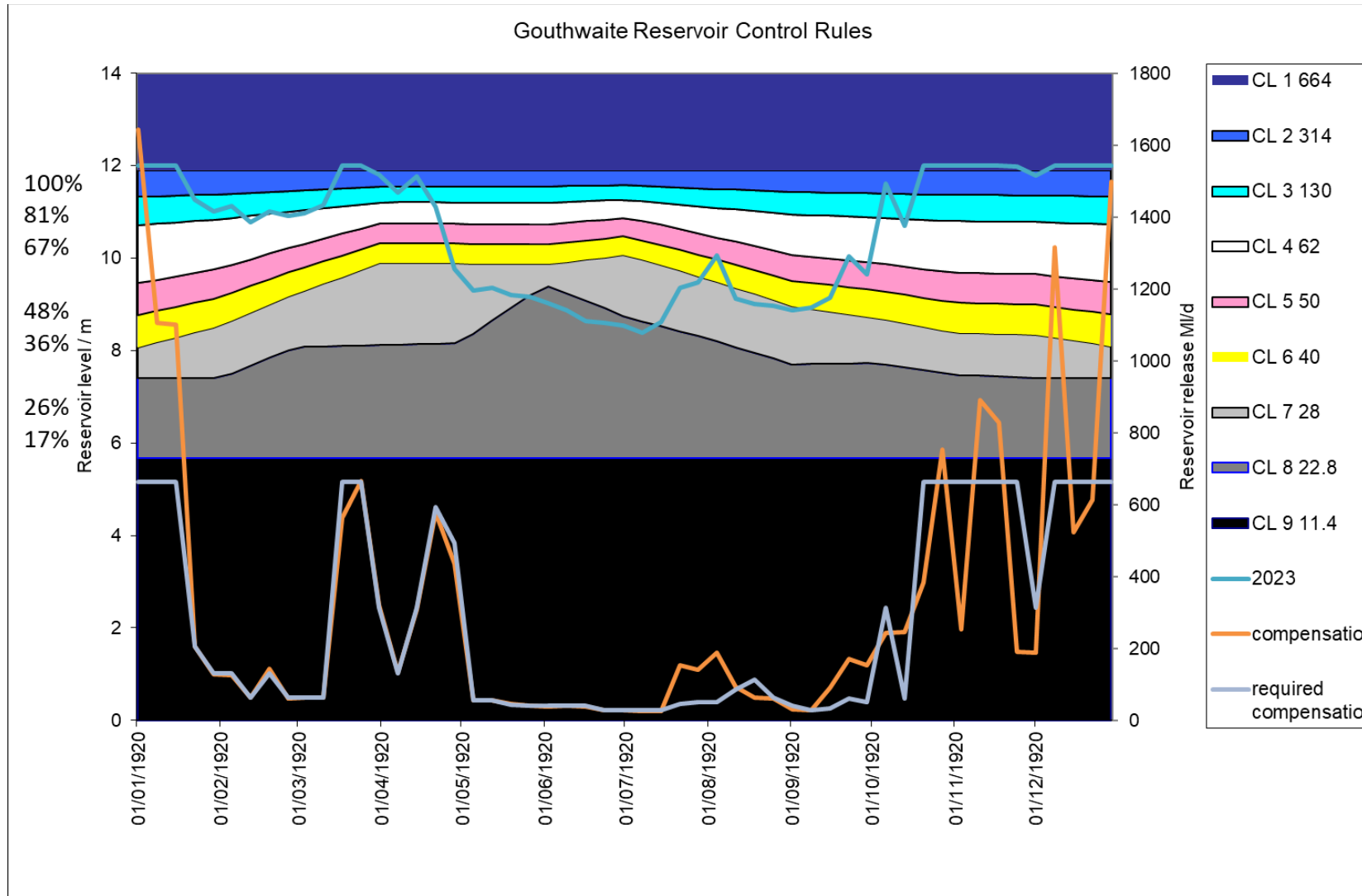


Table 1. Gouthwaite Rainfall

Gouthwaite Resr No2			
month	LTA mm	Rain mm	%LTA
Jan	128.5	185.4	144%
Feb	91.5	24.2	26%
Mar	105.9	125.7	119%
Apr	81.3	79.7	98%
May	77.1	36.5	47%
Jun	72.2	42.7	59%
Jul	69.7	128.9	185%
Aug	93.4	98.8	106%
Sep	94.4	109.2	116%
Oct	113.9	183.2	161%
Nov	125.5	164.5	131%
Dec	132.6	277.7	209%
TOTAL	1186.0	1456.5	123%