Appomattox
River
Water
Authority

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What causes the change in lake level?

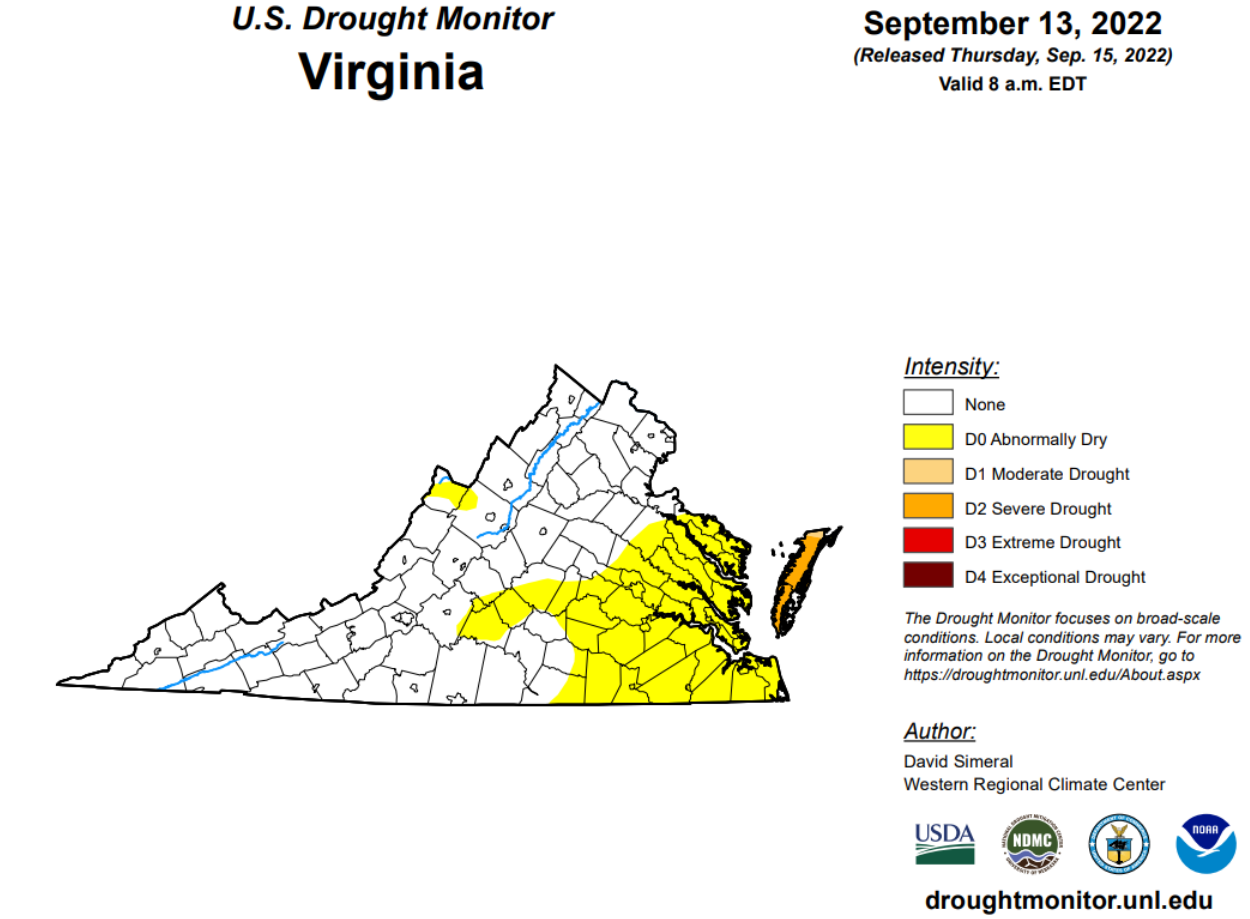
Lake Chesdin is a ***run of the river*** lake that was created with the construction of the Brasfield Dam. The term "*run of river*" means there is always water running over the spillway or through the Brasfield Dam. The Authority maintains a Virginia Water Protection (VWP) Permit that states the amount of water that can be withdrawn daily and the amount of water that must be released downstream of the dam daily to maintain the necessary flow in the Appomattox River. If there is not water flowing over the spillway of the dam, there is a set calculation based on the amount of water entering the lake (USGS gaging stations), time of year and other variables to determine the required flow-by release. When water is not overflowing the spillway, it is being released through the cone valve thirty-three feet below the spillway elevation on the back side of the dam.

Lake Chesdin is approximately twelve miles long and equivalent to 3,100-acre feet. The watershed acreage or drainage basin that flows into the lake is approximately 840,000 acres and traverses nine counties.

Lake Chesdin Watershed Acreage	
	Contributing
	Watershed
County	Acres
Appomattox County	63,206
Prince Edward County	211,728
Buckingham County	22,622
Cumberland County	67,650
Powahatan County	43,488
Nottoway County	104,720
Amelia County	226,995
Chesterfield County	60,113
Dinwiddie County	39,213
	839,735

Approximately 65% of the watershed acreage is in three counties: Prince Edward County, Nottoway County, and Amelia County. The reason this is important is that precipitation in these three counties is the main influence on lake level.

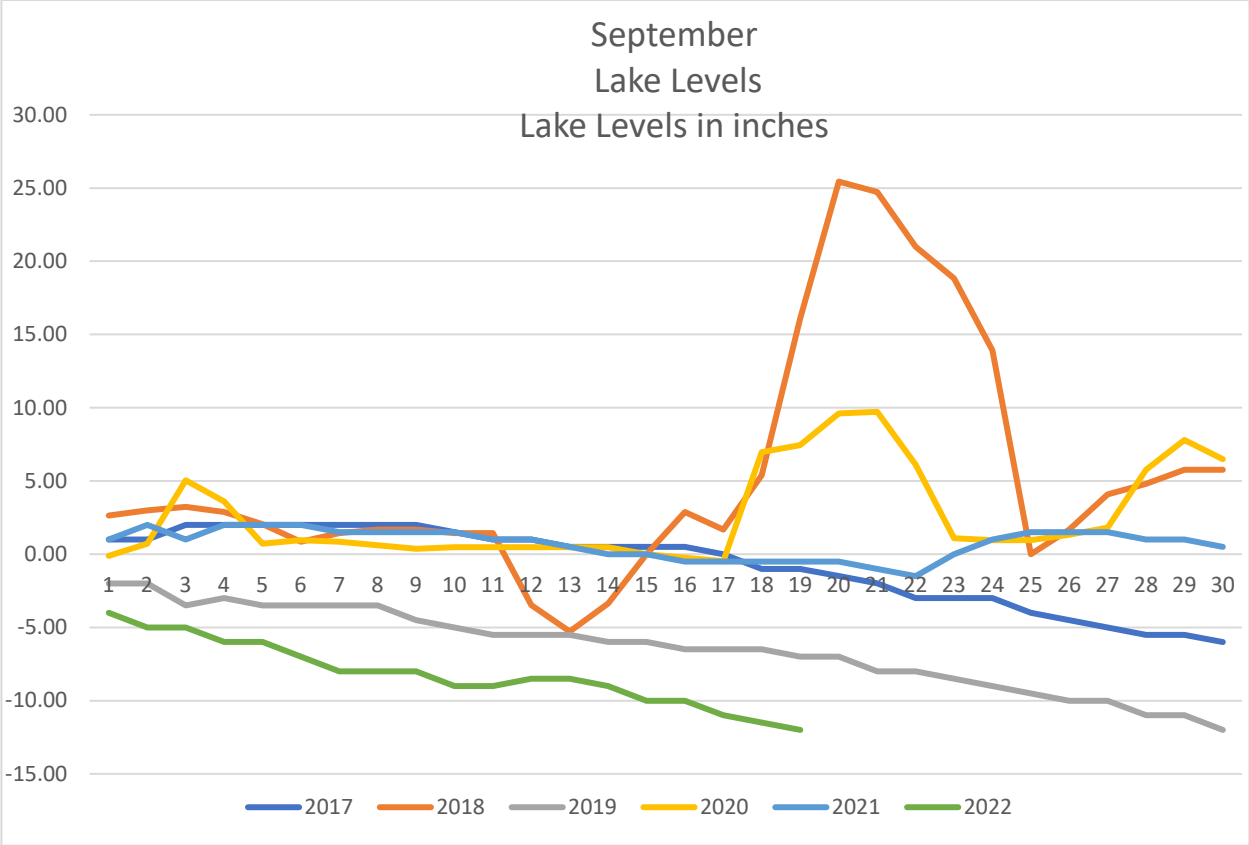
Currently, as of September 13th, most of the lake's watershed is in an "abnormally dry" state as determined by the U.S. Drought Monitor.



In the above diagram, it shows the majority of the watershed in yellow which is considered to be abnormally dry. The lake level will continue to drop until we see sustained precipitation in the nine counties mentioned earlier.

With the dropping lake levels, this would be the opportune time for maintenance around bulkheads. For maintenance around docks, dredging greater than 25 cubic yards of material, permits would be required from the Corps of Engineers.

The September lake level trends for the past five years are provided below. The green line is the current lake level trend for September 2022.



For 2017, 2019, and 2022 lake levels decreased during the month of September. For 2018 and 2020 there were two significant weather events that brought the lake level up with noticeable amounts of overflow.

The lake level normally returns to overflow in November and December. This is mainly influenced by tropical storms, hurricanes, rain and the rare snowfall in the watershed area. For the short term we do not see any appreciable precipitation forecasted for the watershed. That means the lake level will most likely continue to drop.