

**N. DE HOOP VLEI GORGE**

**Field Note N8e2. Hydrology – De Hoop Vlei – Water levels 2021-2022**

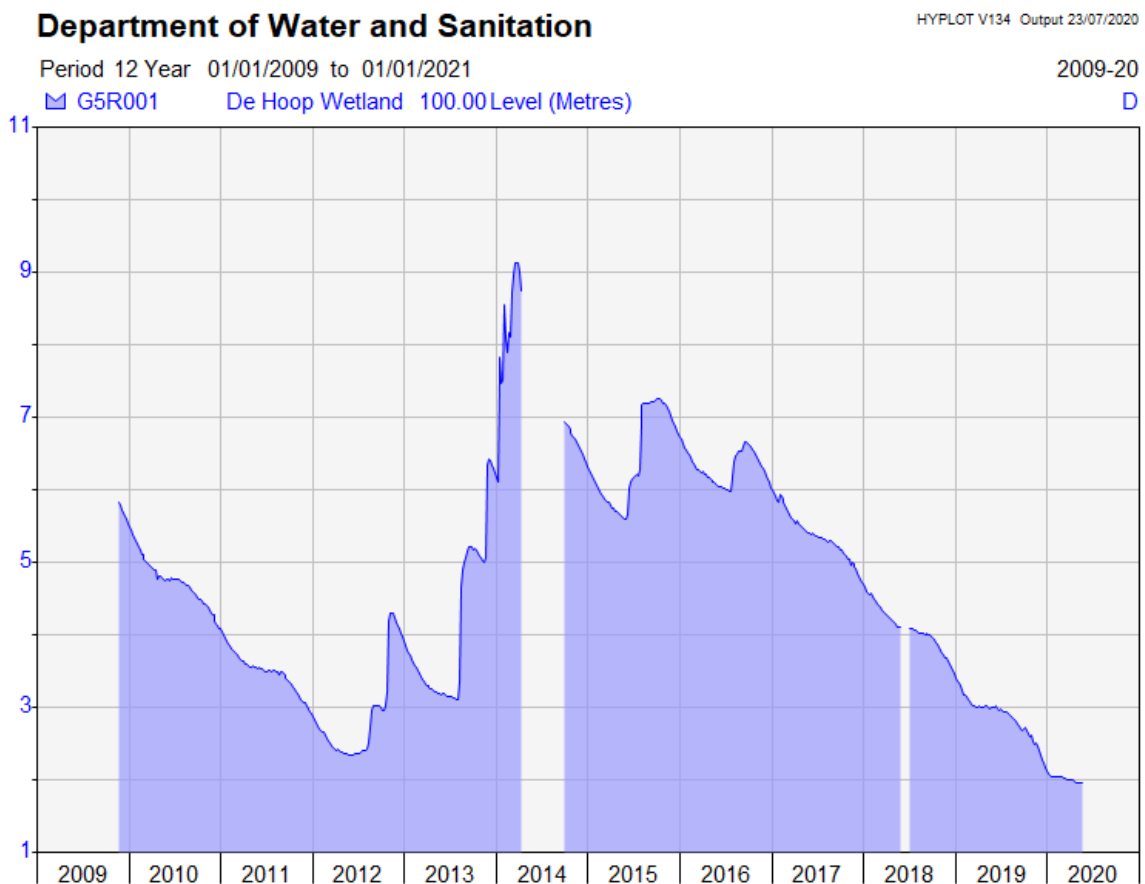
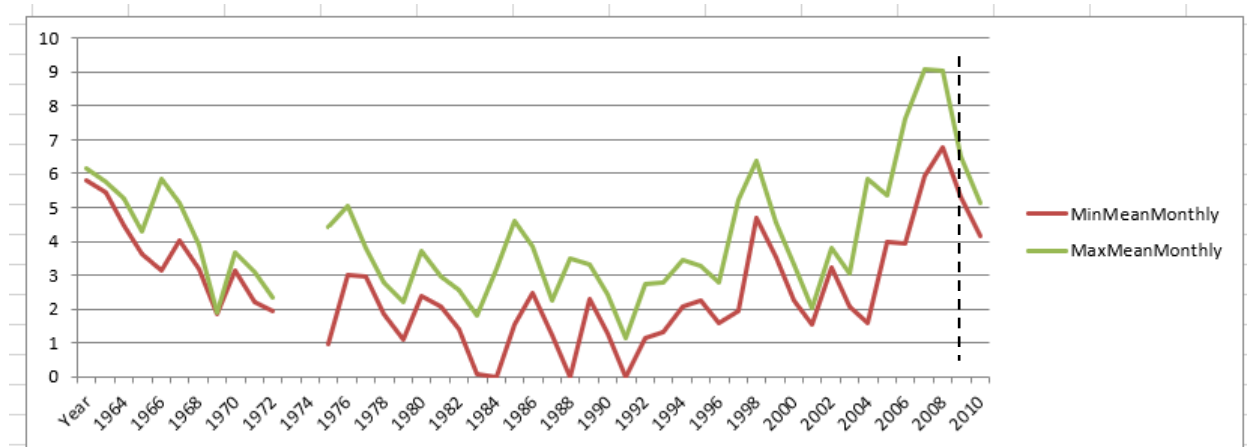


**The drying De Hoop Vlei (below the resort) in February 2021.**

**N. DE HOOP VLEI GORGE**

**Field Note N8e2. Hydrology – De Hoop Vlei – Water levels 2021-2022**

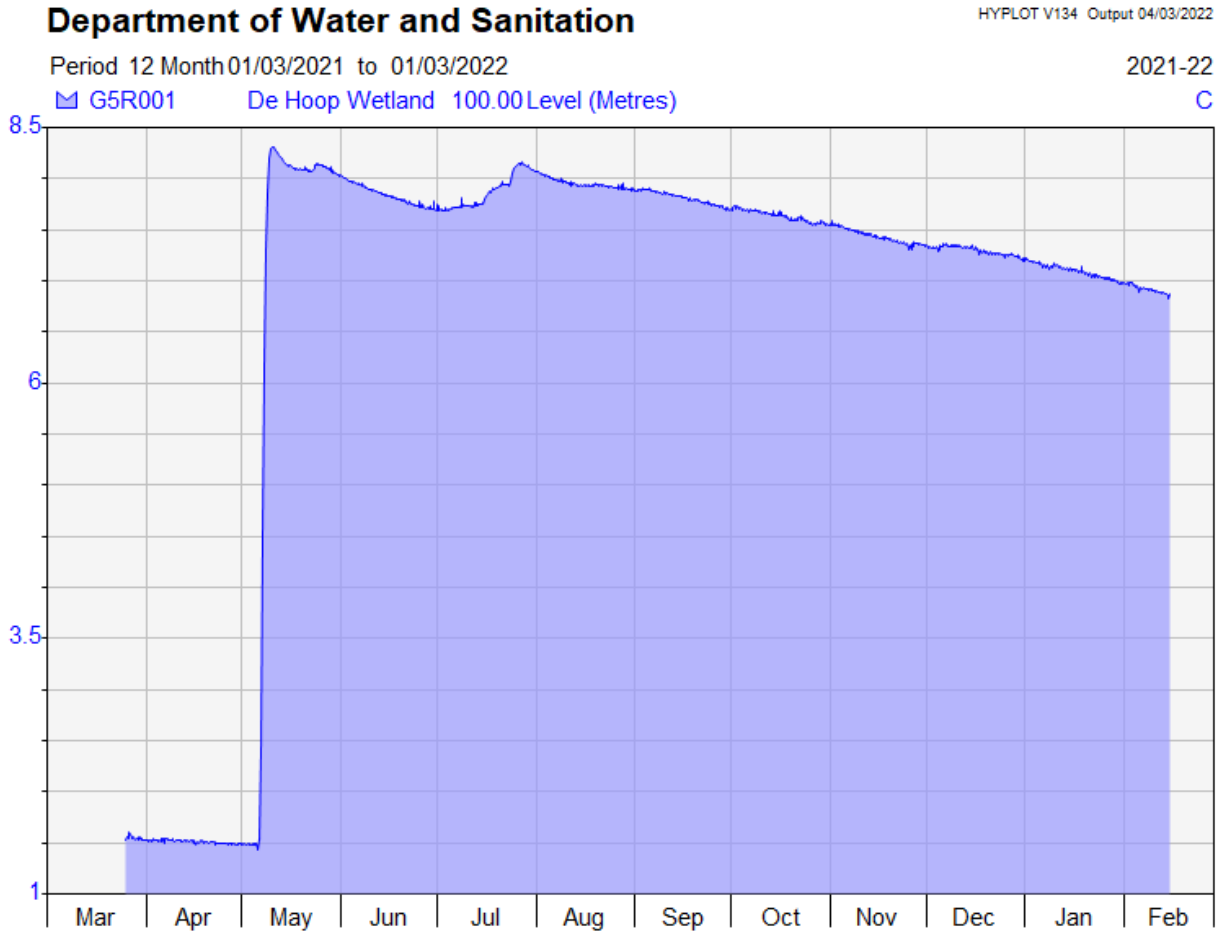
The vlei water level fluctuations from 1960 to 2020 are presented in Figure 1. The water level was dropping since 2013, and at the end of 2020 it is as low as it was in 1992, leaving only little water along the shore between the hotel and Die Mond and in Die Mond.



**Figure 1. De Hoop Vlei water levels 1960 to 2020. Top – 1960 to 2010; dashed line indicates the start of the bottom graph. Bottom – 2010 to 2020. The water level in the beginning of 2014 was the highest in the last 60 years. Between 2014 and 2020 the water level dropped ~1 m a year on average.**

Courtesy Department of Water Affairs and Sanitation, Hydrometry, Heatlievale, Worcester, 6849.

The water level in the beginning of May 2021 was the lowest since 1992, at about 1.5 m at the hydrometer. With the flash flood the water level rose within 3 days to 8.3 m. During the following 8 months, to the end of Dec 2021 it dropped by 1 m, to 7.3 m at the end of Dec 2021, or ~0.12 m per month (Figure 2). This rate of drop is typical of the monthly drop of the water level of the vlei.



**Figure 2. Water level in the De Hoop Vlei. Top – 2009 to 2020. Bottom – March 2021 to March 2022. Note that the level of the 2014 flood was higher than that of May 2021.**

Courtesy: Warren Adonis, Department of Water and Sanitation, Hydrometry, Heatlievale, Worcester, 6849.

Daily De Hoop Vlei water levels during the first half of 2022 are presented in Figure 3.

Day	Jan	Feb	Mar	Apr	May	Jun
1	7.207 Q	6.976 Q	6.769 Q	6.589 Q	6.469 Q	6.368 Q
2	7.193 Q	6.972 Q	6.764 Q	6.582 Q	6.464 Q	6.362 Q
3	7.185 Q	6.964 Q	6.757 Q	6.581 Q	6.462 Q	6.359 Q
4	7.179 Q	6.945 Q	6.746 Q	6.583 Q	6.456 Q	6.353 Q
5	7.166 Q	6.923 Q	6.732 Q	6.581 Q	6.453 Q	6.349 Q
6	7.148 Q	6.93 Q	6.734 Q	6.572 Q	6.45 Q	6.349 Q
7	7.146 Q	6.923 Q	6.724 Q	6.557 Q	6.45 Q	6.346 Q
8	7.137 Q	6.917 Q	6.715 Q	6.547 Q	6.448 Q	6.343 Q
9	7.151 Q	6.91 Q	6.713 Q	6.536 Q	6.444 Q	6.336 Q
10	7.151 Q	6.9 Q	6.708 Q	6.537 Q	6.442 Q	6.333 Q
11	7.14 Q	6.892 Q	6.713 Q	6.537 Q	6.432 Q	6.332 Q
12	7.125 Q	6.884 Q	6.709 Q	6.537 Q	6.428 Q	6.327 Q
13	7.119 Q	6.875 Q	6.707 Q	6.531 Q	6.423 Q	6.331 Q
14	7.115 Q	6.859 Q	6.693 Q	6.534 Q	6.411 Q	6.356 Q
15	7.112 Q	6.866 Q	6.686 Q	6.526 Q	6.405 Q	6.353 Q
16	7.106 Q	6.857 Q	6.678 Q	6.517 Q	6.404 Q	6.348 Q
17	7.096 Q	6.841 Q	6.67 Q	6.515 Q	6.4 Q	6.349 Q
18	7.099 Q	6.83 Q	6.667 Q	6.516 Q	6.4 Q	6.349 Q
19	7.077 Q	6.833 Q	6.659 Q	6.515 Q	6.392 Q	6.339 Q
20	7.067 Q	6.828 Q	6.653 Q	6.515 Q	6.388 Q	6.331 Q
21	7.05 Q	6.819 Q	6.647 Q	6.507 Q	6.385 Q	6.335 Q
22	7.048 Q	6.81 Q	6.639 Q	6.501 Q	6.381 Q	6.335 Q
23	7.045 Q	6.803 Q	6.64 Q	6.494 Q	6.378 Q	6.36 Q
24	7.037 Q	6.794 Q	6.64 Q	6.495 Q	6.376 Q	6.369 Q
25	7.027 Q	6.795 Q	6.637 Q	6.491 Q	6.372 Q	6.366 Q
26	7.019 Q	6.786 Q	6.623 Q	6.485 Q	6.371 Q	6.363 Q
27	7.012 Q	6.779 Q	6.621 Q	6.483 Q	6.369 Q	6.362 Q
28	7.006 Q	6.778 Q	6.618 Q	6.481 Q	6.374 Q	6.362 Q
29	6.993 Q		6.618 Q	6.481 Q	6.385 Q	6.358 Q
30	6.982 Q		6.61 Q	6.479 Q	6.385 Q	6.355 Q
31	6.979 Q		6.594 Q		6.373 Q	

**Figure 3. Water level in the De Hoop Vlei, Jan to June 2022.**

Courtesy: Warren Adonis, Department of Water and Sanitation, Hydrometry, Heatlievale, Worcester, 6849.



Daily De Hoop Vlei water levels during the second half of 2022 are presented in Figure 4.

6.354	Q	6.327	Q	6.266	Q	6.18	Q	6.013	Q	5.819	Q	1
6.357	Q	6.327	Q	6.269	Q	6.177	Q	6.02	Q	5.824	Q	2
6.346	Q	6.327	Q	6.265	Q	6.175	Q	6.019	Q	5.799	Q	3
6.342	Q	6.324	Q	6.282	Q	6.163	Q	6.018	Q	5.791	Q	4
6.344	Q	6.323	Q	6.279	Q	6.159	Q	6.014	Q	5.784	Q	5
6.346	Q	6.315	Q	6.251	Q	6.16	Q	6.006	Q	5.776	Q	6
6.346	Q	6.318	Q	6.249	Q	6.143	Q	6.007	Q	5.767	Q	7
6.346	Q	6.32	Q	6.249	Q	6.14	Q	6	Q			8
6.35	Q	6.319	Q	6.246	Q	6.133	Q	5.99	Q			9
6.354	Q	6.318	Q	6.249	Q	6.132	Q	5.965	Q			10
6.358	Q	6.315	Q	6.245	Q	6.13	Q	5.971	Q			11
6.355	Q	6.32	Q	6.243	Q	6.123	Q	5.971	Q			12
6.366	Q	6.321	Q	6.233	Q	6.123	Q	5.957	Q			13
6.353	Q	6.31	Q	6.233	Q	6.114	Q	5.946	Q			14
6.35	Q	6.307	Q	6.231	Q	6.118	Q	5.947	Q			15
6.354	Q	6.304	Q	6.229	Q	6.124	Q	5.933	Q			16
6.35	Q	6.313	Q	6.225	Q	6.123	Q	5.925	Q			17
6.348	Q	6.311	Q	6.224	Q	6.115	Q	5.92	Q			18
6.351	Q	6.327	Q	6.224	Q	6.114	Q	5.913	Q			19
6.349	Q	6.31	Q	6.218	Q	6.106	Q	5.901	Q			20
6.347	Q	6.305	Q	6.219	Q	6.101	Q	5.895	Q			21
6.348	Q	6.3	Q	6.219	Q	6.085	Q	5.888	Q			22
6.348	Q	6.299	Q	6.203	Q	6.084	Q	5.895	Q			23
6.342	Q	6.298	Q	6.199	Q	6.081	Q	5.876	Q			24
6.34	Q	6.302	Q	6.2	Q	6.078	Q	5.86	Q			25
6.342	Q	6.292	Q	6.202	Q	6.065	Q	5.851	Q			26
6.336	Q	6.286	Q	6.2	Q	6.066	Q	5.838	Q			27
6.34	Q	6.282	Q	6.194	Q	6.052	Q	5.829	Q			28
6.342	Q	6.269	Q	6.19	Q	6.055	Q	5.831	Q			29
6.339	Q	6.258	Q	6.19	Q	6.049	Q	5.826	Q			30
6.333	Q	6.256	Q			6.033	Q					31

**Figure 4. Water level in the De Hoop Vlei, July to Dec 2022.**

Courtesy: Warren Adonis, Department of Water and Sanitation, Hydrometry, Heatlievale, Worcester, 6849.

The water level of the vlei during 2022 fell in just over 11 months (1 Jan to 7 Dec) from 7.3 m to 5.7, or 1.6 m, which represents a monthly average drop of ~0.145 m. This drop, which is higher than the average in previous years, may be ascribed to the lower-than-average rainfall over the Overberg (the Salt River catchment area) during the rainy season.