

Culinary Water Master Plan January 2021 Comparison to July 2022

1. Growth Rate Projections

Growth Rate 2021

- Year 2021 Projected Population (Hildale & Colorado City): $7,032(1+0.00)^1 = 7,032$ People
- Year 2022 Projected Population (Hildale & Colorado City): $7,032(1+0.01)^1 = 7,103$ People
- Year 2024 Projected Population (Hildale & Colorado City): $7,103(1+0.01)^3 = 7,245$ People
- Year 2031 Projected Population (Hildale & Colorado City): $7,245(1+0.018)^7 = 8,209$ People
- Year 2041 Projected Population (Hildale & Colorado City): $7,245(1+0.018)^{17} = 9,812$ People

The projected number of connections can be estimated with the same equation.

- Year 2021 Projected Number of Connections: $847(1+0.00)^1 = 847$ Connections
- Year 2022 Projected Number of Connections: $847(1+0.01)^1 = 855$ Connections
- Year 2024 Projected Number of Connections: $855(1+0.01)^3 = 873$ Connections
- Year 2031 Projected Number of Connections: $873(1+0.018)^7 = 989$ Connections
- Year 2041 Projected Number of Connections: $954(1+0.018)^{15} = 1,182$ Connections

Figure II-2 shows past population and number of connections and how population and number of connections are projected over the next 40 years.

Growth Rate 2022

Figure II-2: Growth Rate Analysis Summary

Calendar year	Est. Growth Rate	Proj.Total Population
2023	3.50%	8076
2024	3.50%	8358
2025	3.50%	8651
2026	3.50%	8954
2027	3.50%	9267
2028	3.25%	9568
2029	3.25%	9879
2030	3.25%	10200
2031	3.25%	10532
2032	3.25%	10874
2033	2.00%	11091
2034	2.00%	11313
2035	2.00%	11540
2036	2.00%	11770
2037	2.00%	12006
2038	2.00%	12246
2039	2.00%	12491
2040	2.00%	12741
2041	2.00%	12995
2042	2.00%	13255

2. Current Water System Production Capacity

Reported Capacity 2021

Figure III-1: Existing Water Source Capacity

Hildale City and Town of Colorado City Sources		Total Flow	
Well #		CFS	gpm
24	350 S 450 W Colorado City	0.334	150
22	350 S 450 W Colorado City	0.412	185
11	350 S 450 W Colorado City	0.334	150
8	585 W. Johnson Avenue	0.134	60
4a, 4b	195 S Richard St.	0.334	150
10	155 S Richard St.	0.189	85
21	5 S Richard St.	0.468	210
15	5 N Richard St.	0.056	25
19	730 W Township Ave.	0.323	145
17	330 N Willow	0.178	80
Wells Total =		2.763	1,240
Additional Wells Currently Unavailable			
Academy Well		0.624	280
Power Plant Well		0.544	244
Additional Well Total =		1.168	524
Springs			
Jans Canyon		0.036	16
Maxwell Canyon		0.143	64
Springs Total =		0.178	80
Source Total Without Additional Wells =		0.321	1,320
Source Total With Additional Wells =		2.941	1,844

Actual Reported Capacity 2022

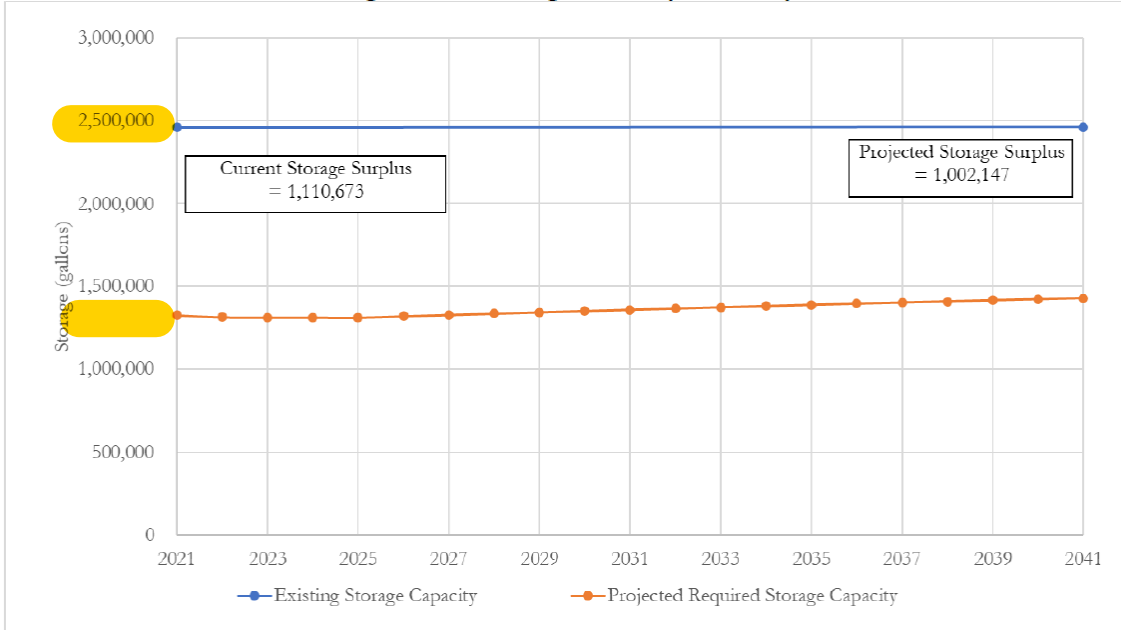
Figure III-1: Hildale and Colorado City Existing Water Sources

Name/#	Flow (CFS)	Flow (gpm)
Wells		
4	0.223	100
8	0.134	60
10	0.189	85
11	0.223	100
15	0.000	0
17	0.000	0
19	0.323	145
21	0.468	210
22	0.267	120
24	0.223	100
Academy	0.579	260
Power Plant*	0.000	0
Subtotal	2.629	1180
Springs		
Jans Canyon	0.036	16
Maxwell Canyon	0.143	64
Subtotal	0.178	80
Total Source	2.807	1260

3. Storage Capacity

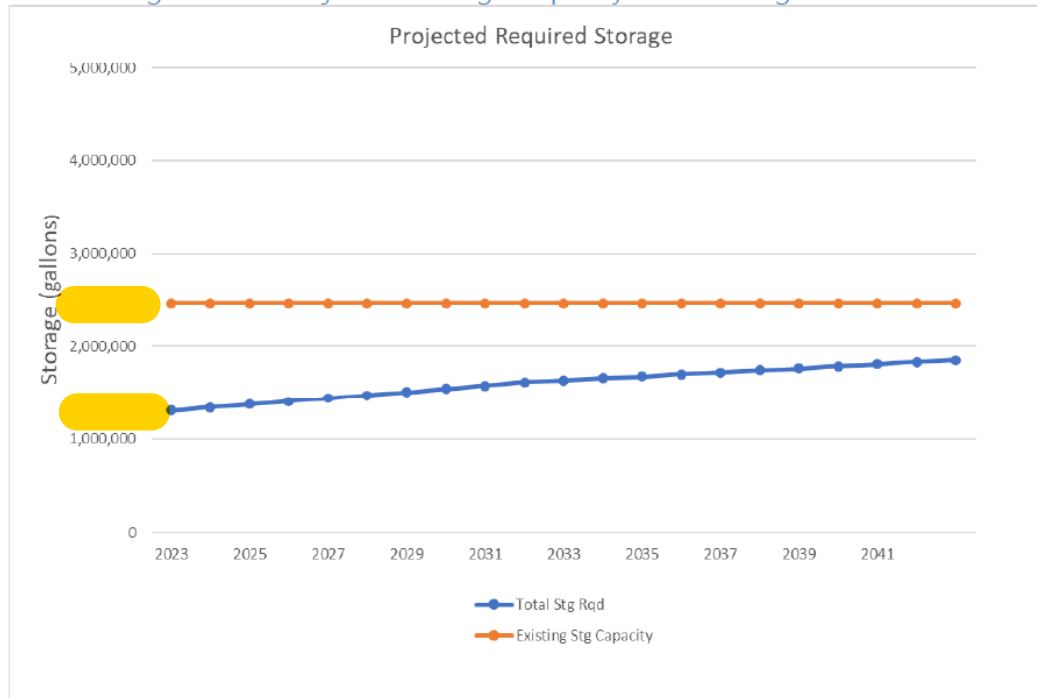
Reported Storage Capacity 2021

Figure IV-4: Storage Capacity Summary



Reported Storage Capacity 2022

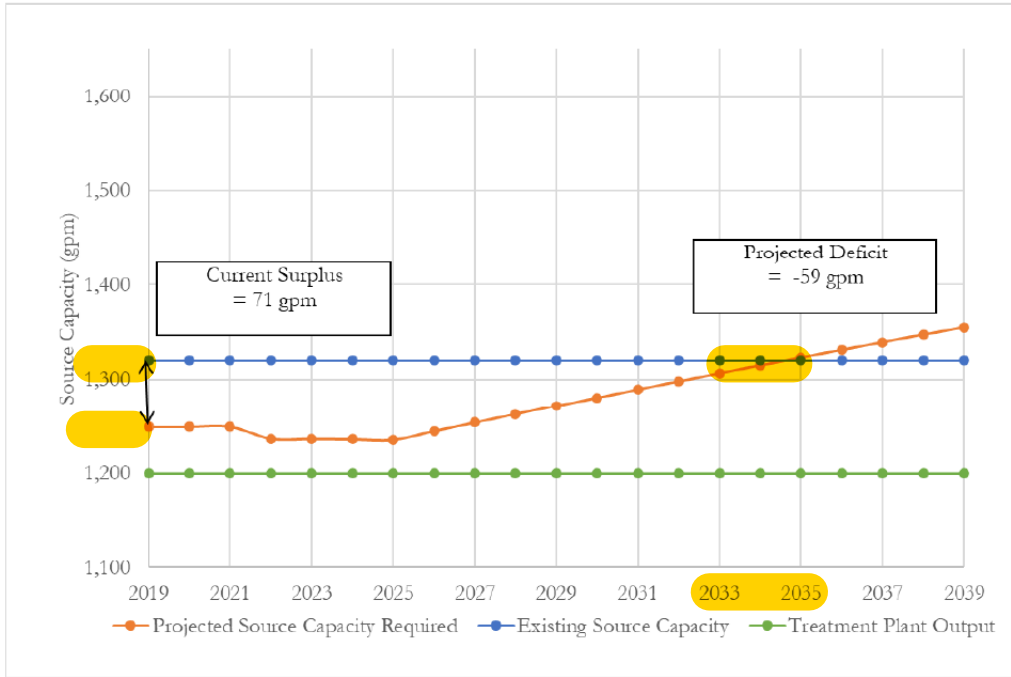
Figure IV-6: Projected Storage Capacity with Existing Conditions



4. Source Capacity

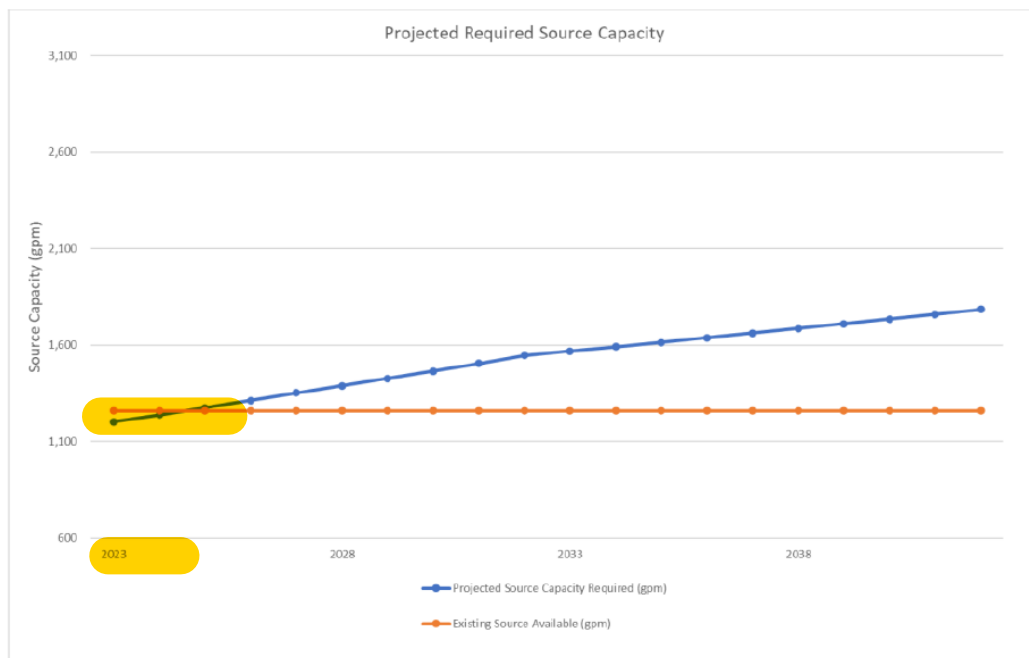
Source Capacity 2021

Figure III-4: Existing Source Capacity Summary



Source Capacity 2022

Figure III-6: Projected Source Capacity with Existing Conditions



5. Storage Capacity

Storage Capacity with Needed Improvements 2022

Figure III-7: Projected Source Capacity with Recommended Improvements

