

# Understanding the Burns Valley Groundwater Basin

## INFO & FAQ

### 1. Where is the Burns Valley Groundwater Basin (BVGB)?

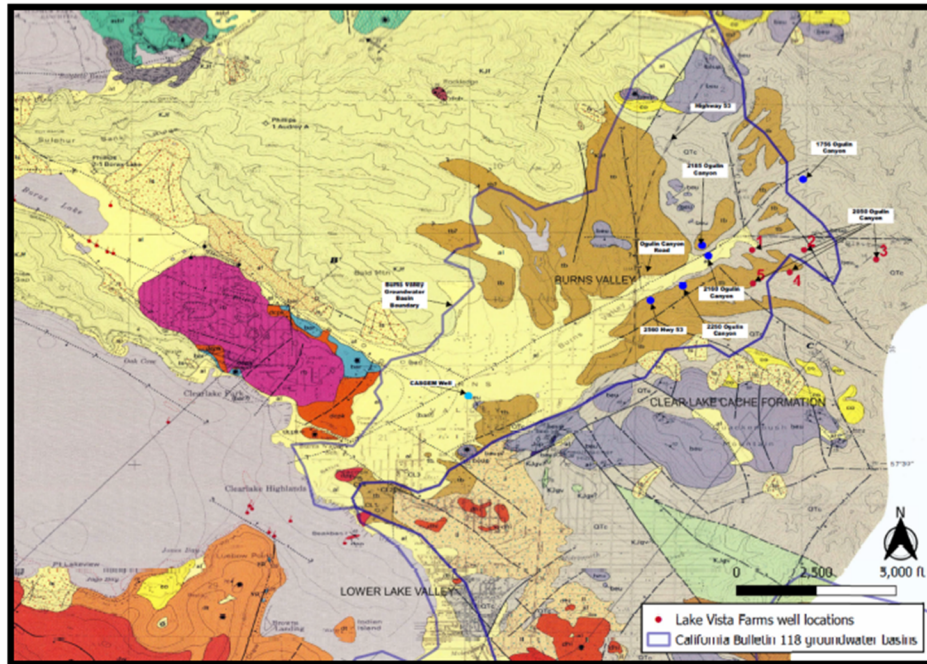
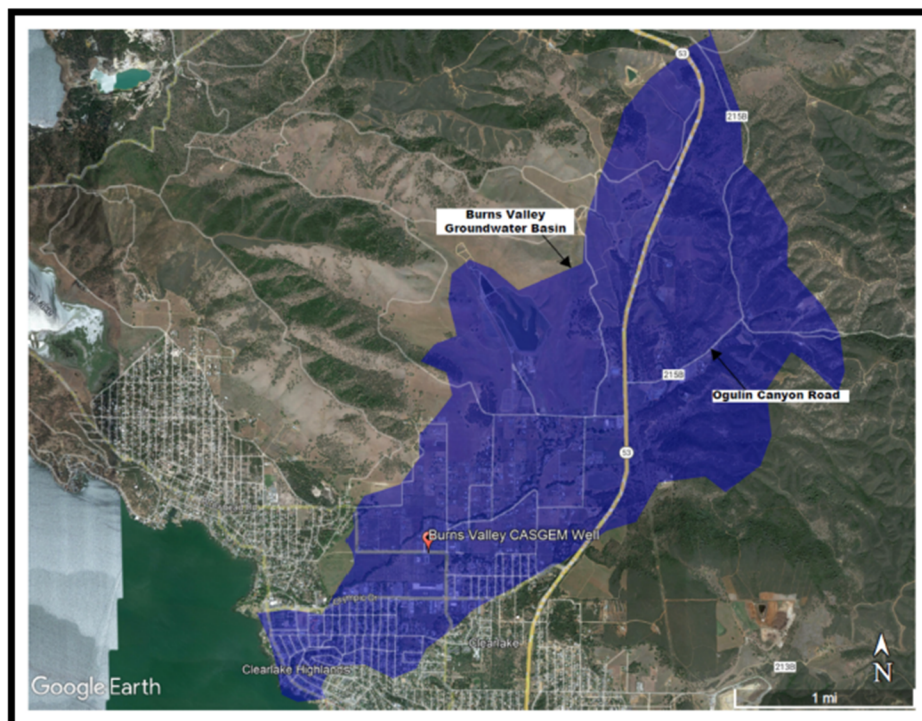


Figure 1. Burns Valley Groundwater Basin local geology (source: <https://pubs.usgs.gov/imap/2362/>), cultivation well locations, and CASGEM well location. QTc = Clear Lake Cache Formation, 'tb' = nonmarine terrace deposits, and 'al' = alluvium.

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### 2. Where is the well that that monitors the BVGB?



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**3. Is the Burns Valley CASGEM well operational?**

- a. The City of Clearlake recently did a well performance test on this well and made any adjustments necessary to ensure this well is operational.

**4. What is the estimated storage capacity of the BVGB?**

- a. It is estimated at 4,000 acre-feet

**5. What is the usable storage capacity of the BVGB?**

- a. It is estimated at 1,400 acre-feet

**6. What is the current water usage in the BVGB?**

- a. Exiting Agriculture = 105 – 555 acre-feet per
  - i. This number range is based on the following:
    1. Low estimate
      - a. [From the 2006 Lake County Groundwater Management](#) Plan -
    2. High estimate
      - a. [From the Lake County Water Demand Forecast](#) -
        - i. Vineyards use 0.5 acre-feet/year
          1. There are 450 acres of existing vineyards
        - ii. Walnut/pears use 2.2 acre-feet/year
          1. There are 150 acres of existing orchards
  - b. Proposed Cultivation = 7.8 acre-feet/year
    - i. Note – Table below reflects 2050 Ogulin not cultivating due to Board of Supervisor's decision and the low probability of 2560 Hwy 53 operating this year.

Location	As of January 2022						As of May 15, 2022		
	Jurisdiction	APN	Parcel Area (acres)	Cultivation (Acres)	Cultivation % of Parcel Area	Est. Annual Water Demand (acre-feet)	Cultivation (Acres)	Cultivation % of Parcel Area	Est. Annual Water Demand (acre-feet)
1756 Ogulin Canyon	County	010-055-46	46.5	2	4%	3.3	2	4%	3.3
2050 Ogulin Canyon	County	010-053-01 & 02	302.4	15	5%	24.9		5%	
2185 Ogulin Canyon	City	010-044-17	21.3	0.5	2%	1.8	0.5	2%	1.8
2160 Ogulin Canyon	City	010-444-21	9.6	0.2	2%	1.7	0.2	2%	1.7
2560 Highway 53	City	010-048-05	15.4	1.3	8%	4.3		8%	
2250 Ogulin Canyon (1st year build out)	City	010-444-19	13	0.23	1%	0.62	0.23	1%	1
TOTAL				19.23		36.62	2.93		7.8
% of total available acre-feet						3%			1%

**7. What is the potential cannabis usage in the BVGB if every parcel that was legally allowed to cultivated was in use ?**

- a. Lake County (not included in table in Question 6) =
  - i. Potential for 48 acres of new outdoor cultivation.
    - 1. With county restrictions of 1 acre/20 acres and usable land total is
      - a. About 10 – 20 acres of new cannabis in Lake County
      - b. That is about 14.4 acre-feet/year
- b. City of Clearlake (not included in table in Question 6) =
  - i. Potential for 242 acres of new cultivation.
    - 1. With space and topography limitations, usable land total is
      - a. About 18-20 acres of new cannabis in the City of Clearlake
      - b. That is about 14.4 acre-feet/year
- c. Combined Potential Cannabis water use in BVGB
  - i. Previous table = 36.62 acre-feet
  - ii. New in Lake = 14.4 acre-feet
  - iii. New in Clearlake = 55.2 acre-feet
  - iv. Total = 106.6 acre-feet/year
    - 1. ***This is a high estimate as it includes projects that will not be moving forward this year and a lot of the acreage is the storage units.***
- d. Combined with Existing Ag = 661.6 acre-feet/year
  - i. Using the high estimate of existing ag using 555 acre-feet/year and the potential for 106.6 acre-feet/year from cannabis. That would use 47% of the usable water storage.

**8. What would be the proposed usage of 2250 in the BVGB?**

- a. First Year as proposed = Acre Feet/year = .62
  - i. This is .0004% of the usable storage capacity in the BVGB
- b. Full build out = Acre Feet/year = 1.1
  - i. This is .0007% of the usable storage capacity in the BVGB
- c. This number reflects the reduced size of operation
  - i. 6000 square feet of Processing to 2400 square feet of processing.
  - ii. 17,500 square feet of cultivation to 10,000 square feet of cultivation in the first year.
  - iii. 20 employees to 3 employees due to decrease of operations.

**9. What was the water usage of 2250 Ogulin in prior years?**

- a. Average acre-feet/year = 1.5 acre-feet/year
  - i. Swimming Pool = 30,000
  - ii. Family of 4 living there = 87,600
    - 1. Family of four at 60 gal/person/day/365
  - iii. Watering Lawn = 386,880
    - 1. 12,000 sf of lawn\*.62 gallons/sf\*52 weeks

**10. What is the groundwater source for 2250 Ogulin?**

- a. 2250 Ogulin is within the Lower Lake Formation
  - i. This formation is below the alluvial deposits and is located in the upper half of the BVGB. It has low permeability and is the dominant source of agricultural water in the BVGB.
- b. The other formation in the BVGB is the Quaternary Alluvium
  - i. This is the majority of the southwestern area of the BVGB where it is mostly residential.