



May 15, 2024

**TO:** Utilities Advisory Committee  
**FROM:** Ron Munds, General Manager  
**SUBJECT:** **Agenda Item 3 – 05/15/2024 UAC Meeting**  
Basin Management Committee Updates

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### **DESCRIPTION**

Attached to this report is the Executive Summary from the Public Draft 2023 Los Osos Basin Annual Monitoring Report (AMR).

The entire Public Draft 2023 Los Osos Basin Annual Monitoring Report (AMR) is available on the District Website at:

<https://www.losososcscsd.org/public-draft-2023-los-osos-basin-annual-monitoring-report-amr>

### **STAFF RECOMMENDATION**

Staff recommends that the Utilities Advisory Committee review the entire report but if your time is limited, the following sections of the Annual Monitoring Report provide valuable information:

**Section 7- Data Interpretation** (page 45): where detailed information on the water storage capacity and basin metrics can be found.

**Section 8- Basin Status** (page 83): which summarizes status of the basin and other general information in the report.

**Section 9- Recommendations** (page 84): which provides recommendations and reports on the progress of implementing the Basin Plan programs.

**Section 10- Status of Basin Metrics, BMC Initiatives and LOB Program Implementation** (page 85): which describes the adaptive management strategies being considered or implemented.

Provide comments on the overall report.

### **Attachment**

Executive Summary from Public Draft 2023 Los Osos Basin Annual Monitoring Report (AMR)



## EXECUTIVE SUMMARY

The Los Osos Basin Plan Groundwater Monitoring Program – 2023 Annual Report (Annual Report) describes activities related to the Los Osos Basin Plan (LOBP) Groundwater Monitoring Program and provides results and interpretation of these activities for calendar year 2023. The LOBP Groundwater Monitoring Program is necessary to accomplish the following continuing goals set forth in Section 2.4 of the LOBP (ISJ Group, 2015):

1. Provide for a continuously updated hydrologic assessment of the Los Osos Groundwater Basin (Basin), its water resources and Sustainable Yield.
2. Create a water resource accounting which is able to meet the information needs for planning, monitoring, trading, environmental management, utility operations, land development and agricultural operations.

The LOBP Groundwater Monitoring Program is also necessary to support other goals of the LOBP, including halting or reversing seawater intrusion, establishing a long-term environmentally and economically sustainable and beneficial use of the Basin, and the equitable allocation of costs associated with Basin management.

### Groundwater Production

Groundwater production for calendar year 2023 is summarized in Table ES-1 below. Reported Purveyor (Los Osos Community Services District, Golden State Water Company, and S&T Mutual Water Company) production has decreased by three percent compared to 2022, while total Basin production is estimated to have decreased by 18 percent compared to 2022.

<b>Table ES-1. Groundwater Production</b>		
<b>Description</b>	<b>2023 Production in Acre-Feet</b>	<b>2022 Production in Acre-Feet</b>
Los Osos Community Services District	487	496
Golden State Water Company	470	491
S&T Mutual Water Company	27	29
<b>Purveyor Subtotal (metered)</b>	<b>984</b>	<b>1,016</b>
Domestic wells <sup>1</sup>	110	220
Community facilities <sup>1</sup>	60	90
Agricultural wells <sup>1</sup>	500	680
<b>Total Estimated Production<sup>1</sup></b>	<b>1,650</b>	<b>2,010</b>

<sup>1</sup> Rounded to the nearest 10 acre-feet. Production from non-metered wells (Domestic, Community, Agricultural) estimated per methods described in Appendix F and LOBP Section 4 and Section 7.5.



## **Basin Status**

The status of the Basin in terms of key parameters and metrics are listed below, along with the page reference for definitions and additional details on each key parameter:

**Precipitation (p. 42).** The Basin received above average rainfall in 2023. The drought condition for San Luis Obispo County ranged from extreme drought in January 2023 to no drought conditions by year-end 2023 (NDMC/USDA/NOAA, 2023).

**Seawater Intrusion Front (p. 57).** The seawater intrusion front in Zone D stabilized between Fall 2022 and Fall 2023. This interpretation is based on localized conditions contoured to represent regional trends. The seawater intrusion front in Zone E advanced inland through LA11 between Fall 2022 and Fall 2023 (a deterioration).

**Basin Yield Metric (p. 68).** The Basin Yield Metric decreased between 2022 and 2023 (an improvement) and meets the LOBP goal in 2023.

**Water Level Metric (p. 72).** The Water Level Metric increased between Spring 2022 and Spring 2023 (an improvement) and has not reached the target value.

**Chloride Metric (p. 75).** The Chloride Metric increased between Fall 2022 and Fall 2023 (a deterioration) and has not reached the target value.

**Nitrate Metric (p. 76).** The Nitrate Metric decreased between Winter 2022 and Winter 2023 (an improvement) and has not reached the target value.

**Upper Aquifer Water Level Profile (p. 79).** Water levels in the Upper Aquifer along the bay remain safely above the Protective Elevation, except for near well UA5, where chloride concentrations have stabilized at relatively low concentrations.

Recommendations for improving the quality and availability of data are contained in Section 9 of the Annual Report. Recommendations from the 2022 Annual Report that were completed in 2023 include developing a rating curve for the Los Osos Creek stream gage, continued water quality monitoring at UA5, and installation of a Lower Aquifer monitoring well cluster at the east end of Skyline Avenue. Recommendations from 2022 that are on-hold, in progress, or planned for 2024 include re-evaluating the Water Level, Chloride, and Nitrate Metrics (on-hold), developing a transient Basin model (in progress), locating and salvaging well FW7 at the Broderson site (planned), and updating the Maximum Sustainable Yield (planned).

## **LOBP Metrics**

As described in Section 7.5 (“Basin Metrics”) of this Annual Report, the LOBP established several Basin metrics to evaluate nitrate impacts to the Upper Aquifer, seawater intrusion into the Lower Aquifer, and the effect of management efforts of the Basin Management Committee (BMC). These metrics allow the BMC, regulatory agencies, and the public to evaluate the status of nitrate levels and seawater intrusion, and the impact of implementation of the LOBP programs in the Basin through objective, numerical criteria that can be tracked over time. The status of key Basin metrics is summarized in Table ES-2.



<b>Table ES-2. LOBP Metric Summary</b>			
<b>Metric<sup>1</sup></b>	<b>LOBP Goal</b>	<b>Calculated Value from 2023 Data</b>	<b>Change in Condition from 2022</b>
<b>Basin Yield Metric</b>	80 or less	69	Decrease from 84 (improvement)
<b>Water Level Metric</b>	8 feet above mean sea level or higher	4.3 feet above mean sea level	Increase from 2.5 ft. (improvement)
<b>Chloride Metric</b>	100 mg/L or lower	199 mg/L	Increase from 184 mg/L (deterioration)
<b>Nitrate Metric</b>	10 mg/L or lower	14.2 mg/L (NO <sub>3</sub> -N)	Decrease from 17.5 mg/L (improvement)

<sup>1</sup>Revisions to the Water Level, Chloride, and Nitrate Metrics were initiated in 2021 and are currently on hold as the BMC continues to improve the Basin Monitoring Network through the addition of new monitoring wells and rehabilitation of existing wells.

Approval of the Annual Monitoring Report by the BMC does not constitute unanimous approval of actions listed under Section 5.11.4 (Approval Requirements) of the Stipulated Judgment or setting the Sustainable Yield for a given year. These actions require a separate action and unanimous approval by the BMC.

**Adaptive Management**

In addition to the programs described in the LOBP, the following additional initiatives were under evaluation or completed by the BMC in 2023 through adaptive management. Details regarding the status of each program listed below are provided in Section 10 of this Annual Report.

- Lower Aquifer Monitoring Improvements
- Updated Metric Evaluation
- Program C Adaptive Management
- Lower Aquifer Nitrate Investigation
- Los Osos Basin Well Database
- Evaluation of Water Conservation Measures
- WRFP/Transient Groundwater Model
- Discussion and Recommendation of Criteria for Future Growth



**LOBP Infrastructure Programs**

The status of LOBP infrastructure programs is summarized Table ES- 3.

<b>Table ES-3. Basin Infrastructure Projects</b>				
<b>Project Name</b>	<b>Parties Involved</b>	<b>Funding Status</b>	<b>Capital Cost</b>	<b>Status</b>
<b>Program A</b>				
Water Systems Interconnection	LOCSD/ GSWC			Completed
Upper Aquifer Well (8 <sup>th</sup> Street)	LOCSD			Completed
South Bay Well Nitrate Removal	LOCSD			Completed
Palisades Well Modifications	LOCSD			Completed
Blending Project (Skyline Well)	GSWC			Completed
Water Meters	S&T			Completed
<b>Program B</b>				
LOCSD Wells	LOCSD	Not Funded	BMP: \$2.7 mil	Project not initiated
GSWC Wells	GSWC	Not Funded	BMP: \$3.2 mil	Project not initiated
Community Nitrate Removal Facility	LOCSD/GSWC/S&T	GSWC Portion Funded	GSWC: \$1.23 mil	GSWC’s Program A Blending Project might be capable of expanding to be the first phase of the Program B Community Nitrate Removal Facility.



Project Name	Parties Involved	Funding Status	Capital Cost	Status
<b>Program C</b>				
Expansion Well No. 1 (Los Olivos)	GSWC			Completed
Expansion Well No. 2	LOCSD	LOCSD	LOCSD Cost Estimate: \$3.1 mil	The well construction and transmission main are complete. Completion of all phases of the project is estimated to occur in December 2024.
Expansion Well 3 and LOVR Water Main Upgrade	GSWC/LOCSD	Cooperative Funding	BMP: \$1.6 mil	The deferral from Program C for this project was removed by the BMC on August 16 <sup>th</sup> , 2023.
LOVR Water Main Upgrade	GSWC	May be deferred	BMP: \$1.53 mil	Project may not be required, depending on the pumping capacity of the drilled Program C wells. It may be deferred to Program D.
S&T/GSWC Interconnection	S&T/GSWC	Pending	BMP: \$30,000	Currently on hold pending further evaluation of the project.



Project Name	Parties Involved	Funding Status	Capital Cost	Status
<b>Program M</b>				
New Zone D/E Lower Aquifer monitoring well in Cuesta by the Sea	All Parties			Completed
<b>Program U</b>				
Creek Discharge Program	All Parties		TBD	These activities are currently on hold. The Transient Model and Water Recycling Funding Study are intended to better inform the BMC on the most effective opportunities for increasing the sustainable yield of the Basin.
8 <sup>th</sup> and El Moro Urban Storm Water Recovery Project	All Parties		TBD	These activities are currently on hold. The Transient Model and Water Recycling Funding Study are intended to better inform the BMC on the most effective opportunities for increasing the sustainable yield of the Basin.