

**Executive Summary
2015 Annual Report
Los Osos Basin Plan Groundwater Monitoring Program**

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

1. Provide for a continuously updated hydrologic assessment of the 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 prevention of 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 2015 is summarized in Table ES-1 below. Purveyor production has been reduced by 19% compared to 2014 and 31% compared to 2013.

Table ES-1: Groundwater Production for Calendar Year 2015	
Description	Production in Acre-Feet
Los Osos Community Services District	510
Golden State Water Company	470
S&T Mutual Water Company	30
Purveyor Subtotal	1,010
Private domestic wells	220
Community facilities	140
Agricultural wells	800
Total Estimated Production	2,170

LOBP Metrics

As described in Chapter 7 (“Data Interpretation”) of this Annual Report, the LOBP established several metrics to measure 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 Parties, 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.

Metric	Basin Plan Goal	Calculated Value from 2015 Data	Additional Actions in Addition to Basin Plan Programs
Nitrate Metric	10 mg/L	25.4 mg/L (NO ₃ -N)	None recommended
Water Level Metric	8 feet above mean sea level	0.6 feet above mean sea level	Implement additional conservation measures to reduce indoor and outdoor demands (See Section 10.3.2)
Chloride Level Metric	100 mg/L	188 mg/L	Implement additional conservation measures to reduce indoor and outdoor demands (See Section 10.3.2)
Basin Yield Metric	80	86	Implement additional conservation measures to reduce indoor and outdoor demands (See Section 10.3.2)

Basin Status

The status of the Basin in terms of key parameters and the above-referenced metrics are as follows:

Precipitation. The Basin received below normal rainfall from 2012 through 2015. Rainfall for 2015 was 8.6 inches below average at Station #152 (Morro Bay Fire Department) and 7.0 inches below average at Station #727 (Los Osos Landfill). San Luis Obispo County continues to be in exceptional drought conditions.

Upper aquifer water levels. The 10-year trend shows a 0.5 foot per year decline in the upper aquifer.

Lower aquifer water levels. The 10-year trend shows a 0.9 foot per year increase in the lower aquifer.

Seawater intrusion front location. The inland advance of seawater continues at approximately 190 feet/year based on a 10-year trend.

Nitrate Metric. The nitrate metric increased from 2014 to 2015 by approximately 8 mg/L, indicating lack of improvement.

Water Level Metric. Although there has been a long-term increase of 3 feet since 2005, there was no improvement noted between 2014 and 2015.

Chloride Level Metric. The chloride levels in the Basin remained stable between Spring and Fall, 2015, but have increased relative to target value since 2014, indicating lack of improvement.

Basin Yield Metric. The Basin Yield Metric has improved (decreasing from 98 in 2014 to 89 in 2015), but the metric remains above the LOBP goal of 80.

Recommendations for improving the quality and availability of data are contained in Chapter 9 of the Annual Report. The recommendations include the addition of up to 12 existing wells into the Monitoring Program, the construction of two new monitoring wells, the development of a private well outreach program, and the performance of a sensitivity and error analysis for groundwater storage calculations.

LOBP Infrastructure Programs

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

Table ES-3: Basin Infrastructure Program Status				
Basin Plan Program	Description	Current Status	Funding Status	Projected Completion
A	Water Systems Interconnection (GSWC/LOCSD)	Inter-party agreement approved June, 2016. Design complete.	Fully funded	March, 2017
A	Upper Aquifer Well (LOCSD/8 th Street)	Permitted and in the process of public bidding for well drilling	Fully funded	June, 2017
A	South Bay Well Nitrate Removal	Complete		
A	Palisades Well	Complete		

Table ES-3: Basin Infrastructure Program Status				
Basin Plan Program	Description	Current Status	Funding Status	Projected Completion
	Modifications			
A	Blending Project (GSWC/ Skyline Well)	Blending facilities and pipeline complete. Nitrate removal system is currently planned to increase production from system. ¹	Fully funded	June, 2017
A	Water Meters (S&T)	Complete		
C	Expansion Well No. 1 (GSWC/Los Olivos)	In construction	Fully funded	September, 2016
C	Expansion Well No. 2 and 3, LOVR water main upgrade	Conceptual design and property acquisition	Pending funding vote	2018 to 2019
C	Water Systems Interconnection (S&T/GSWC)	Conceptual design	Pending funding vote	2017

Adaptive Management Program

In addition to the programs described in the LOBP, the following additional measures are recommended in the context of adaptive management:

Potential Adaptation of Urban Water Use Efficiency Program. The BMC plans to take a close look at the Urban Water Use Efficiency Program to determine which conservation measures are the most efficient and effective to meet the Basin Plan’s goals. This analysis may result in adaptation of some of the conservation measure set forth in the Basin Plan, including the addition of outdoor measures as described in Chapter 10.

Development of Contingency Plan. The BMC plans to develop a contingency plan and related actions in the event Basin Metric trends fail to demonstrate progress toward Basin Plan goals, including defined schedules and milestones.

¹ Construction of a nitrate removal system is technically a program B project. In order to respond to changing circumstances and proactively manage the basin, however, construction of this facility was prioritized and is being included in implementation of program A projects.

Discussion and Development of Metrics for Future Growth. The BMC plans to provide input into the Los Osos Community Plan, including consideration of Basin Metrics and defined goals as they relate to the timing of future growth.

Additional Water Quality Metrics. The BMC intends to consider developing additional metrics and/or numerical goals to protect the upper aquifer from water quality threats, such as seawater intrusion and chromium-6 contamination.