

LOS OSOS GROUNDWATER BASIN, BASIN MANAGEMENT COMMITTEE

NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that the Los Osos Groundwater Basin, Basin Management Committee Board of Directors will hold a **Regular Board Meeting at 1:00 P.M. on Thursday, March 25, 2021**. Based on the threat of COVID-19 as reflected in the Proclamations of Emergency issued by both the Governor of the State of California and the San Luis Obispo County Emergency Services Director, as well as the Governor's Executive Order N-29-20 issued on March 17, 2020 relating to the convening of public meetings in response to the COVID-19 pandemic, this meeting will be conducted as a phone-in/web-based meeting only. There will be no physical meeting location for this BMC Meeting. Members of the public can participate via phone or by logging into the web-based meeting.

For quick access, go to <https://us04web.zoom.us/j/778762508>
(This link will help connect both your browser and telephone to the call)

If not using a computer, dial 1 (669) 900-6833 or 1 (346) 248-779 and enter **778 762 508**

All persons desiring to speak during any Public Comment can submit a comment by:

- Email at dheimel@wsc-inc.com by 5:00 PM on the day prior to the Committee meeting.
- Teleconference by phone at 1 (669) 900-6833 and enter **778 762 508**
- Teleconference by phone at 1 (346) 248-7799 and enter **778 762 508**
- Teleconference meeting at <https://us04web.zoom.us/j/778762508>
- Mail by 5:00 PM on the day prior to the Committee meeting to:
Attn: Dan Heibel (Basin Management Committee)
2122 9th St.
Suite 110
Los Osos, CA 93402

Additional information on how to submit Public Comment is provided on page 3 of this Agenda

Directors: Agenda items are numbered for identification purposes only and may not necessarily be considered in numerical order.

NOTE: The Basin Management Committee reserves the right to limit each speaker to three (3) minutes per subject or topic. In compliance with the Americans with Disabilities Act and Executive Order N 29-20, all possible accommodations will be made for individuals with disabilities, so they may participate in the meeting. Persons who require accommodation for any audio, visual or other disability in order to participate in the meeting of the BMC are encouraged to request such accommodation 48 hours in advance of the meeting from Dan Heibel at dheimel@wsc-inc.com.

BASIN MANAGEMENT COMMITTEE BOARD OF DIRECTORS AGENDA

1. CALL TO ORDER

2. ROLL CALL

3. BOARD MEMBER COMMENTS

Board members may make brief comments, provide project status updates, or communicate with other directors, staff, or the public regarding non-agenda topics.

4. SPECIAL PRESENTATION

Presentation from Purolite on Nitrate removal improvements and efficiencies.

5. CONSENT AGENDA

The following routine items listed below are scheduled for consideration as a group. Each item is recommended for approval unless noted and may be approved in their entirety by one motion. Any member of the public who wishes to comment on any Consent Agenda item may do so at this time. Consent items generally require no discussion. However, any Director may request that any item be withdrawn from the Consent Agenda and moved to the "Action Items" portion of the Agenda to permit discussion or to change the recommended course of action. The Board may approve the remainder of the Consent Agenda on one motion.

- a. Approval of Minutes from January 20, 2021 Meeting**
- b. 2020 Budget Update and Invoice Register**
- c. 2021 Budget Update and Invoice Register**

6. PUBLIC COMMENTS ON ITEMS NOT APPEARING ON THE AGENDA

The Basin Management Committee will consider public comments on items not appearing on the agenda and within the subject matter jurisdiction of the Basin Management Committee. The Basin Management Committee cannot enter into a detailed discussion or take any action on any items presented during public comments at this time. Such items may only be referred to the Executive Director or other staff for administrative action or scheduled on a subsequent agenda for discussion. Persons wishing to speak on specific agenda items should do so at the time specified for those items. The presiding Chair shall limit public comments to three minutes.

7. EXECUTIVE DIRECTOR'S REPORT

8. ACTION ITEMS

- a. Review Preliminary Annual Report Findings**

Recommendation: Receive an update on preliminary findings from 2020 Annual Report and provide input to staff on future direction.

- b. Formalize the Process for Implementation of Adaptive Management Plan**

Recommendation: Approve the proposed approach and resolution for formalizing the process of implementing the Adaptive Management Plan or provide alternate direction to staff.

9. ADJOURNMENT

Notice of Meeting
LOS OSOS GROUNDWATER BASIN, BASIN MANAGEMENT
COMMITTEE

*****CONFERENCE CALL/WEBINAR ONLY*****

Thursday, March 25, 2021 at 1:00 PM

Important Notice Regarding COVID-19: Based on guidance from the California Department of Public Health and the California Governor's Office, in order to minimize the spread of the COVID-19 virus, please note the following:

1. The meeting will only be held telephonically and via internet via the number and website link information provided on the agenda. After each item is presented, Committee Members will have the opportunity to ask questions. Participants on the phone or on the computer will then be provided an opportunity to speak for 3 minutes as public comment prior to Committee deliberations and/or actions or moving on to the next item. If a participant wants to provide public comment on an item they should select the "Raise Hand" icon on the Zoom Online Meeting platform or press *9 if on the phone. The meeting host will then unmute the participant when it is their turn to speak and allow them to provide public comment.
2. The Committee's agenda and staff reports are available at the following website:
[https://www.slocounty.ca.gov/Departments/Public-Works/Committees-Programs/Los-Osos-Basin-Management-Committee-\(BMC\).aspx](https://www.slocounty.ca.gov/Departments/Public-Works/Committees-Programs/Los-Osos-Basin-Management-Committee-(BMC).aspx)
3. If you choose not to participate in the meeting and wish to make a written comment on any matter within the Committee's subject matter jurisdiction, regardless of whether it is on the agenda for the Committee's consideration or action, please submit your comment via email or U.S. Mail by 5:00 p.m. on the day prior to the Committee meeting. Please submit your comment to Dan Heibel at dheibel@wsc-inc.com. Your comment will be placed into the administrative record of the meeting.
4. If you choose not to participate in the meeting and wish to submit verbal comment, please call (805) 457-8833 x104 and ask for Dan Heibel. If leaving a message, state and spell your name, mention the agenda item number you are calling about and leave your comment. The verbal comments must be received by no later than 9:00 a.m. on the morning of the noticed meeting and will be limited to 3 minutes. Every effort will be made to include your comment into the record, but some comments may not be included due to time limitations.

Mailing Address:
Attn: Dan Heibel
Basin Management Committee
2122 9th St.
Suite 110
Los Osos, CA 93402

All Americans with Disabilities Act (ADA) accommodations shall be promptly reviewed and resolved. Persons who require accommodations for any audio, visual or other disability in order to review an agenda, or to participate in the meeting of the Basin Management Committee per the ADA, are encouraged to request such accommodation 48 hours in advance of the meeting from Dan Heibel at (805) 457-8833 x104.

BASIN MANAGEMENT COMMITTEE BOARD OF DIRECTORS

Agenda Item 5a: Minutes of the Meeting of January 20, 2021

Agenda Item	Discussion or Action
1. CALL TO ORDER	Chairperson Ochylski called the meeting to order at 1:30 pm.
2. ROLL CALL	Laura Durban, acting Clerk, called roll to begin the meeting. Chairperson Marshall Ochylski, Director Bruce Gibson, Director Charlie Cote, and Vice Chairperson Mark Zimmer were all present.
3. BOARD MEMBER COMMENTS	<u>Board Comments</u> Mr. Daniel Heimel not present due to illness; Ron Munds will stand in for him. Chairperson Ochylski: Item 5 Executive Directors' Report stricken from Agenda today due to Dan's absence. Items 6c, 6d and 6f will be continued at the next meeting.
4. CONSENT AGENDA	
4a. Approval of Minutes of December 16, 2020 Meeting.	Review of minutes from December 16, 2020 meeting. <u>Public Comment</u> Jeff Edwards: Request Item 4c be continued to next meeting. Linde Owen: Expand minutes. Julie Tacker: Expand minutes; WSC contract; don't pay for absence.
4b. Approval of Budget Update and Invoice Register through December 2020	<u>Board Comment</u> Ochylski and Cote: Minutes should be expanded. <u>Board Action</u> The Board of Directors approved Item 4. Ayes: Chairperson Ochylski, Director Gibson, Director Cote, and Vice Chairperson Zimmer
4c. Approval of Proposal from Water Systems Consulting for Professional Services as Executive Director for the Basin Management Committee	Nays: None Abstain: None Absent: None
5. EXECUTIVE DIRECTOR'S REPORT	Continued to next meeting.
6. ACTION ITEMS	
6a. Draft 2020 Fall Lower Aquifer Groundwater Basin Monitoring	Recommendation: Receive an update on early findings for the Fall 2020 Lower Aquifer Groundwater Monitoring results. <u>Board Comment</u> Spencer: answered seawater intrusion question; Broderson plan is appropriate.

	<p>Bruce: Review all metrics, especially chloride; transient model needed to measure effects of precipitation or lack; confirm reliability of well output; location of wells.</p> <p><u>Public Comment</u> Jeff Edwards: Broderson not loaded as needed (500 acre feet per year). Linde Owen: Saltwater intrusion question.</p> <p><u>Board Direction</u> None</p>
<p>6b. Proposals from Cleath Harris Geologist to provide Professional Services for the 2020 Annual Monitoring Report and Additional Management Tasks, the 2021 Groundwater Monitoring Program and the Recycled Water Beneficial Use Evaluation</p>	<p>Recommendation: Approve the proposed scope and fee for hydrogeologic services for calendar year 2021, to be provided by Cleath Harris Geologists (CHG), in an amount not to exceed \$123,000.</p> <p><u>Public Comment</u> Linde Owen: Have costs gone up from last year; Item 9. Jeff Edwards: No use for Cleath-Harris to evaluate Recycled Water– already known; Goodwin property water giveaway; Unclear basin monitoring metric evaluation is still included.</p> <p><u>Board Action</u> The Board of Directors approved Item 7a 2021 BMC Budget</p> <p>Ayes: Chairperson Ochylski, Director Gibson, Chris Gardner, and Vice Chairperson Zimmer Nays: None Abstain: None Absent: None</p>
<p>6c. BMC Agenda Restructuring</p>	<p>Recommendation: Review the proposed new agenda structure for BMC Meetings and provide direction to staff. Continue to next meeting.</p> <p><u>Public Comment</u> Jeff Edwards: Committee should approve this today. Linde Owen: Supports moving Public Comment to beginning of meetings. Julie Tacker: Public Comment at the beginning will make meeting faster.</p> <p><u>Board Comment</u> Ochylski: asked if this committee wants to vote today; Heibel requested it to be present. Gibson: leave public comment agenda placement up to the Chair.</p>
<p>6d. Formalizing the Process for Implementation of Adaptive Management Plan</p>	<p>Recommendation: Approve the proposed approach and resolution for formalizing the process of implementing the Adaptive Management Plan or provide alternate direction to staff. Continued to next meeting.</p> <p><u>Public Comment</u> None</p>
<p>6e. Wild Coast Farms Water Offset Program</p>	<p>Recommendation: Receive a presentation from County Planning Staff on the Wild Coast Farms Water Offset Program and provide direction to staff.</p>

	<p><u>Board Comment</u> Ochylski : Request this item on the Coastal Commission should be continued, and allowing more time for substantive consideration by this this committee for this topic and future. Request clarification on reports not attached. Gibson: Recused self due to Land Use permitting conflict with Board of Supervisors; left meeting at this time. Zimmer: Request clarification on offset programs. Request continuance to Planning Committee. Gardner: RO offset and if Western portion had received offset credits already. More information needed.</p> <p>Presentation by Jan DiLeo County Planning Department Applicant Adam Kirchner clarified Monsoon Consultants offset programs.</p> <p><u>Public Comment</u> Jeff Edwards: Applicant should complete report including ag offset, and return to BMC. Julie Tacker: This project has existed for a long time and the report has been available; disappointed that agenda packet was produced without the report, and attached only at 5pm last night. New well will require meter. Linde Owen: Water measurement details in report are questionable. Conflict of interest due to RO test done by applicant. 2:1 offset needed.</p> <p><u>Board Direction</u> BMC Staff to draft letter to County requesting continuance of this time until BMC can receive final offset report from applicant.</p> <p>Ayes: Chairperson Ochylski, Director Gardner, and Vice Chairperson Zimmer Nays: None Abstain: None Absent: None</p>
6f. Update on Status of Basin Plan Programs	Recommendation: Receive report and provide input to staff on future direction. Continued to next meeting.
7. PUBLIC COMMENTS ON ITEMS NOT APPEARING ON THE AGENDA	<p><u>Public Comment</u> Linde Owen: Request Well Metering information from 500 wells to be released. Jeff Edwards: County should pay for Transient Model; Sierra Club letter.</p> <p><u>Board Comments</u> None</p>
8. ADJOURNMENT	Meeting was adjourned at approximately 3:30 PM. The next regularly scheduled meeting is on February 17, 2021 at 1:30 PM.

TO: Los Osos Basin Management Committee

FROM: Dan Heimel, Executive Director

DATE: March 25, 2021

SUBJECT: Item 7 – Executive Director’s Report

Recommendations

Staff recommends that the Committee receive and file the report and provide staff with any direction for future discussions. Sections of the Executive Director’s Report that have been updated or significantly changed from the previous meeting’s version are underlined.

Discussion

This report was prepared to summarize administrative matters not covered in other agenda items and to provide a general update on staff activities.

Funding and Financing Programs to Support Basin Plan Implementation

Prop 1 GWGP: As indicated in the January 2018 meeting, the State Board confirmed that sea water intrusion mitigation projects under Program C are eligible for low interest loans but are not currently eligible for grants under the Proposition 1 Groundwater Grant Program (GWGP). New wells in the upper and lower aquifer are viewed as aquifer management, not aquifer clean-up as defined by the State, therefore we will need to look for future funding rounds and other opportunities. Round 3 of the Prop 1 GWGP is anticipated to be released in July of 2021. If aquifer clean-up projects (e.g. Community Nitrate Facility, Upper Aquifer Capture and Treatment) are proposed for further implementation of the Basin Plan the BMC could consider pursuing grant funding through this program.

IRWM: The Program A upper aquifer well at 8th Street was submitted by Los Osos CSD to the local IRWM process in 2019 and was subsequently selected to be a part of the application for the current funding opportunity. The application for this grant was submitted in December 2019 and the Project was included in the Department of Water Resource’s July 2020 Final Funding Award List for the full grant request (\$238,000).

Prop 1 SWGP: The concept of urban storm water recovery at 8th and El Moro was ranked in the County Stormwater Resource Plan, and a grant opportunity may be available through the Prop 1 Storm Water Grant Program (SWGP). The application period for Round 2 of SWGP funding has closed. The Stormwater Resource Plan can be found here:

<https://www.slocounty.ca.gov/Departments/Public-Works/Committees-Programs/Stormwater-Resource-Plan.aspx>

And information about the Storm Water Grant Program can be found here:

https://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/

WRFP: The State Water Resource Control Board (SWRCB) recently increased the amount for Water Recycled Program Planning (WRFP) grants from \$75k to \$150k. This could provide a grant funding opportunity to advance Basin Plan initiatives, with a reduced cost to the community of Los Osos, through preparation of a Recycled Water Facilities Planning Study (RWFPS). Potential scope items for the RWFPS could include:

- Transient Groundwater Model Development
- Soil Aquifer Treatment (SAT) Assessment
- Broderson/Creek Discharge Scenario Analysis
- Stormwater and Perched Water Recovery Project – Feasibility Study
- Adaptive Management Groundwater Modeling
- RWFPS Report Development

Status of BMC Initiatives

Formalize Sustainable Yield: Updated production capacity at purveyor wells received for two of the three purveyors. Recycled water distribution updated. Will update sustainable yield for year-end 2020 and incorporate into Annual Report. Current draft BYM of 73 based on sustainable yield of 2,760 AFY from 2019 and 2020 production of 2010 AF ($2010/2760*100 = 73$).

Lower Aquifer Transducer Installation: Five new transducers will arrive next week. Access requests were sent out for deployments at six lower aquifer locations – anticipate deploying new transducers in April and may deploy additional transducers using our in-house inventory.

Basin Metric Evaluation: Analysis of alternative metric approaches in progress. This will be a separate TM for review after completion of annual report. Alternative metrics will be evaluated in 2021 and incorporate into the 2021 Annual Report. Draft TM anticipated in July.

Recycled Water Beneficial Use Evaluation: Work on initiative to begin following completion of Annual Report preparations. Draft TM anticipated in August.

Status of Basin Plan Implementation and Funding Plans

The BMC has requested an integrated funding plan for project implementation and BMC monitoring and administration. BMC Staff and BMC Party Staff have formed a Funding and Organizational Working Group to identify and evaluate potential future funding and organization structures for the BMC and implementation of the Basin Plan. Consistent with the Basin Plan, the Working Group is identifying and evaluating funding and organizational structures that will provide a long-term mechanism for funding BMC Administration and Basin Plan Implementation costs and that allocate costs equitably amongst all who benefit from the Basin's water resources.

The Working Group is reviewing previously completed analysis on BMC funding and organization structures, documenting the different alternatives and identifying data/information gaps that may required outside technical support. It is envisioned that the Working Group will

prepare a summary of the different funding and organization structures, an outline scope of work for the Funding and Organization Study and recommended next steps for the BMC to consider for future funding of BMC Administration and Basin Plan Implementation costs.

JPA Formation: Staff level discussions continue to focus on the need for, and benefits of, forming a JPA, see table below, to assist with implementation of the Basin Plan.

Table 1. JPA Formation Considerations

Pros	Cons
• Common ownership of basin assets	• Complexity and community perception
• Ability to contract for services as an entity	• Potential for more difficulty in formal proceedings - less nimble
• GSWC can participate as a director	• More difficult to exit/change if needed
• Could cover entire limits of basin for funding	
• If carefully done, incremental costs could be limited to insurance and up-front legal expenses	
• Ability to carry-over funds from one budget year to another	

As indicated in previous meetings, it was determined that GSWC could serve as an appointed JPA director without forming a separate Mutual Water Company entity, which would simplify the process.

Discussions with BMC Party Staff indicate that the BMC Parties would like to execute the Implementation Plan initiative to first develop a roadmap for the BMC and then evaluate the potential formation of a JPA or other governance structure once there is a more defined plan for future BMC initiatives.

Program B Implementation Process and Funding: The existing nitrate removal facility owned by GSWC is intended to serve existing development, so it is likely that a Program B facility intended for future development would be jointly owned by either a JPA or by one of the public agencies.

- Likely next steps for the implementation of Program B projects include:
 - Technical Studies to validate and update cost estimates
 - Siting Studies to identify project locations
 - AB 1600 analysis to evaluate funding options relative to future development in coordination with the Los Osos Community Plan
 - Environmental Review (CEQA)
 - Land Use Permitting (e.g. Coastal Development Permits, etc.)

Land Use Planning Process Update

Los Osos Community Plan:

The Los Osos Community Plan is being reviewed by the California Coastal Commission and a hearing date has not yet been scheduled. On December 15, 2020, the County Board of Supervisors adopted the Los Osos Community Plan ("LOCP") update and Final Environmental Impact Report and tentatively adopted amendments to the Growth Management Ordinance that would establish a residential growth rate for the Los Osos urban area. The LOCP policies are still subject to change based on California Coastal Commission review. If the LOCP is certified by Coastal Commission with no changes, the Growth Management Ordinance amendments to establish a growth rate for Los Osos are effective upon certification. If the LOCP requires changes, then the growth rate would need to be established at another Board hearing. The LOCP and Growth Management Ordinance policies considered by the Board on December 15 are available at: <https://agenda.slocounty.ca.gov/iip/sanluisobispo/agendaitem/details/12683>.

Background

The Board authorized preparation of this update on December 11, 2012. A series of community outreach meetings to unveil the Community Plan were conducted in the Spring of 2015. The plan was prepared to be consistent and coordinated with the draft groundwater basin management plan and the draft Habitat Conservation Plan ("HCP"). The draft Environmental Impact Report was released on September 12, 2019; comments were due December 11, 2019. A Community Meeting on the Draft Environmental Impact Report for the LOCP, HCP, and associated Environmental Documents was held on October 28, 2019. The Final Environmental Impact Report and Public Hearing Draft were released on June 8, 2020. The Planning Commission held hearings on July 9, 2020, August 13, 2020, and October 8, 2020. At the October 8, 2020 hearing, the Planning Commission recommended approval of the Plan to the Board of Supervisors.

Accessory Dwelling Units (ADU):

On January 28, 2020, the Board of Supervisors considered and adopted a resolution to amend Title 22 and 23 for the replacement of the Secondary Dwelling Ordinance with a new ordinance for Accessory Dwelling Units (ADUs). The Board of Supervisors adopted amendments to Table "O" of the Coastal Framework on June 16, 2020. These amendments would allow ADUs to be established in the Community of Los Osos. The amendments to Title 23 and Table "O" of the Coastal Framework for Planning are currently under review by the California Coastal Commission. Until such amendments are approved by the California Coastal Commission, the County will review ADU applications for consistency with State ADU law, which would allow for the construction of ADUs in the Coastal Zone. On March 12, 2021, Coastal Commission found that Los Osos ADU projects approved by the County thus far raise a substantial issue and did not hold a hearing on the question. The Commission took jurisdiction over the projects and voided the County's prior approval. The next step in the process is the de novo hearing, which has not yet been scheduled. The Commission would prefer to take an action on the County's proposed ADU Ordinance before taking an action on individual projects. The Commission has requested additional information from the County about the ADU Ordinance. The County is

preparing a response, which includes coordinating with the Los Osos water purveyors regarding ADUs.

Los Osos Wastewater Project Flow and Connection Update

The following table summarizes flows from the LOWRF based on the available data. Cells highlighted in yellow indicate data that was not available at the time the Executive Director's Report was developed.

LOWRF Wastewater and Recycled Water Flows

Year	Month	Influent	Disposal (Broderson)	Disposal (Bayridge)	Landscape Irrigation (Sea Pines)	Agricultural Irrigation (Goodwin)	Construction	Discharge/ Recycled Water Delivery Total (AF)
2020	Jan	45.1	41.2	0.0	1.9	0.0	0.0	43.1
2020	Feb	42.1	37.2	0.0	4.3	0.0	0.1	41.6
2020	Mar	47.8	45.8	0.0	3.5	0.0	0.1	49.4
2020	Apr	45.7	35.8	1.0	7.2	0.0	0.1	44.1
2020	May	47.9	33.0	1.1	12.2	0.0	0.0	46.3
2020	Jun	45.8	31.5	1.0	10.4	0.0	0.0	42.9
2020	Jul	47.6	33.2	1.0	10.4	0.0	0.0	44.6
2020	Aug	47.6	37.8	1.0	5.6	0.0	0.0	44.4
2020	Sept	45.6	37.0	0.9	5.7	0.0	0.0	43.6
2020	Oct	46.2	41.6	1.0	2.4	0.0	0.1	45.2
2020	Nov	45.9	41.1	0.9	1.7	0.0	0.0	43.7
2020	Dec	47.1	40.9	1.1	1.7	0.0	0.1	43.8
Total		554.5	456.0	9.0	67.0	0.0	0.6	532.5

Enforcement: A list of properties that were not connected were transferred to County Code Enforcement and Notice of Violations were issued last year in Feb. 2019. That list was about 70 properties. As of 10/1/2020, the sewer service area had a 99.2% connection status with a total of 44 properties not yet connected. Of those, one is not required to connect because there is no structure (demolished), 24 have expired building permits, and the rest have an open Code Enforcement case. Expired permits did not receive a Code Enforcement case because those properties have their own noticing process through the Building Department which, if not corrected, could result in a Notice of Violation.

The County has assigned new staff in code enforcement to Los Osos. They will be reviewing the status of cases that were issued earlier last year.

Water Conservation Update

Rebate Update: Average indoor water usage for 2019 was estimated to be 40 gpd per person and remains at that number currently.

Cannabis and Hemp Information

Hemp: According to the Ag Commissioners Office there is no hemp cultivation currently registered in Los Osos.

Cannabis: The County is processing DRC2018-00215 a Development Plan to establish a cannabis cultivation site. The County is requiring the applicant to offset the increased water use for the project, and the current proposal is to retrofit neighboring property irrigation systems. The total proposed offset volume is 3.5 acre feet per year.

Sustainable Groundwater Management Act (SGMA)

SGMA Overview: The SGMA took effect on January 1, 2015.¹ SGMA provides new authorities to local agencies with water supply, water management or land use responsibilities and requires various actions be taken in order to achieve sustainable groundwater management in high and medium priority groundwater basins. Los Osos Valley Groundwater Basin (Los Osos Basin) was subject to SGMA based on the 2014 Basin Prioritization by the California Department of Water Resources (DWR) that listed the Los Osos Basin as high priority and in critical conditions of overdraft.²

Basin Prioritization: On December 18, 2019, DWR released the SGMA 2019 Basin Prioritizations. Basins or subbasins reassess to low or very low priority basins or subbasins are not subject to SGMA regulations. A summary of DWR's Final SGMA Prioritizations for the Los Osos Area Subbasin and Warden Creek Subbasin are listed below:

- Los Osos Area Subbasin is listed as **very low** priority for SGMA³ and in critical conditions of overdraft⁴
 - SGMA does not apply to the portions of Los Osos Basin that are adjudicated provided that certain requirements are met (Water Code §10720.8).
- Warden Creek Subbasin is listed as **very low** priority for SGMA³

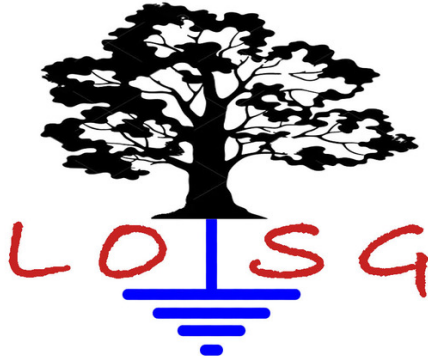
For more information on DWR's basin boundary modification and prioritization process, please visit: <https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization>

¹ On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as SGMA

² SGMA mandates that all groundwater basins identified by DWR as high- or medium-priority by January 31, 2015, must have groundwater sustainability agencies established by June 30, 2017. The act also requires that all high- and medium-priority basins classified as being subject to critical conditions of overdraft in Bulletin 118, as of January 1, 2017, be covered by groundwater sustainability plans, or their equivalent, by January 31, 2020. Groundwater sustainability plans, or their equivalent, must be established for all other high- and medium-priority basins by January 31, 2022.

³ As noted by DWR, the priority for the subbasin has been set to very low (0 total priority points) as a result of conditions being met under sub-component C of the Draft SGMA 2019 Basin Prioritizations.

⁴ Critical conditions of overdraft have been identified in 21 groundwater basins as described in Bulletin 118 (Water Code Section 12924). Bulletin 118 (updates 2003) defines a groundwater basin subject to condition of critical overdraft as: "A basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts."



March 12, 2021

Los Osos Basin Management Committee
Los Osos, CA

Dear Committee Members:

Subject: Concerns and requests regarding the status and management of the Los Osos Groundwater Basin (with underlined corrections to our March 3, 2021 letter)

I am writing on behalf of the Los Osos Sustainability Group (LOSG).

We would, first, like to thank the three purveyors on the BMC for the letters you submitted to the County regarding the Los Osos Community Plan (LOCP). Your letters, which ask the County to slow down on the push to develop the area, reflect our concerns as homeowners and as water customers. We agree with the LOCSD and Golden State Water Company that not enough reliable data is available to conclude that the Basin can support further development, and that the first priority of the Basin Plan and the BMC is to provide a sustainable water supply for the current population. We also agree with S & T Mutual that the Basin is not sustainable under current conditions due to the threat that active seawater intrusion and nitrate contamination pose to existing production wells.

Our other purpose for writing is to provide you with an overview of our concerns relating to the Basin Plan and Basin management, including our concerns that some of your actions may enable unsustainable development over the Basin via the LOCP and most

recent Growth Management Ordinance. As property owners and water customers, like some of you, we have a very large investment in the Basin, having helped fund the wastewater project, which recently had a cost increase, and having invested in the Basin Plan and Basin management through increased water rates. Our members have also invested a good deal individually to install conservation measures including rainwater and grey water systems, and water-saving indoor measures. As a group, the LOSG also invested considerable time, energy, and money in advocating for the sustainability of the Basin during the wastewater project review process, in front of the Regional Water Quality Control Board, and at BMC meetings. Along with the Sierra Club and Surfrider Foundation, we were instrumental in encouraging the Coastal Commission to include Special Conditions 5 and 6 in the Coastal Development Permit for the wastewater project.

After reviewing BMC documents, we have submitted comments to the County regarding the water-supply aspects of the LOCP, the Basin Plan, and basin management. We hope BMC members have had a chance to review them. A summary of our concerns follows, along with related specific requests.

Summary of Concerns

Concerns relating to BMC priorities

A main concern for us is for the BMC not to lose its focus on prioritizing the first two immediate goals of the Basin Plan—to stop and/or to the extent possible reverse seawater intrusion, and to provide a sustainable water supply for the current population.

When referring to seawater intrusion in the lower aquifer and nitrate contamination in the upper aquifer, the Basin Plan states on Page 1, “It is vital that bold, decisive and immediate actions be taken to solve these twin challenges and protect the sustainability of the Basin.” The Basin Plan later states:

Seawater intrusion has caused some municipal wells in Los Osos to become unsuitable as sources of drinking water due to high levels of salts, and threatens to affect many other wells in the community. Currently, and for the foreseeable future, seawater intrusion is the most serious challenge facing the Basin (p. 93).

Since 2015 when the Basin Plan was finalized, seawater intrusion appeared to be retreating based on the Chloride Metric in 2017 and 2018, only to move back in, so that by fall of 2020, it was near its original 2016 position when intrusion was at its worst. Seawater intrusion in Zone E, the most severe and advanced intrusion into the Basin—possibly reaching as far inland as the commercial area—has continued to destroy substantial Basin capacity and may be moving in across a wider front than originally estimated. A September 2019, TM confirms that Zone E intrusion is moving in at LA11 in

the northern Basin, and the new Zone E monitoring well, LA40, confirms it is moving in further to the south along the syncline. The 2019 Annual Monitoring Report states that not enough data is available to accurately track Zone E intrusion, but assumes it has intruded into most of the Western Area of the Basin (p. D2). We note that, until 2018 the Annual Monitoring Reports (AMRs) indicated that intrusion in Zone E was likely through “a relative narrow preferential pathway,” but in 2019 the AMR no longer included that assumption, implying that it is intruding via a wider front (e.g., 2018 ARM, p. 54).

Despite this continuing and severe seawater intrusion, the BMC has not taken “bold, decisive, and immediate actions” to address the problem. In the past six years since beginning operation, the BMC has implemented a voluntary conservation program with low participation, a recycled water program (the largest part of which, Broderon leach fields, have yet to push back seawater intrusion, and may never live up to modeling predictions), and one Program C expansion well (2019 AMR, pp. 81, 84 & 87).

At the same time, the BMC has spent over \$600,000 on administration, monitoring reports, studies, and technical memoranda (TMs). One of these TMs, the 2018 Adaptive Management TM released in February 2019, found the Basin to be sustainable for the current population based on modeling and Chloride and Water Level Metric results, which showed positive “trends” at the time. Since then, the metric trends reversed and the Chloride Metric now shows conditions are almost as bad as they were at their worst. The Water Level Metric shows little improvement, remaining at about 1.8’ above mean sea level in 2020, well below the 8’ target.

However, the BMC did not reject the Adaptive Management TM’s findings when the metrics reversed, reaffirming a commitment to implementing all the programs needed to stop and reverse seawater intrusion to provide a sustainable water supply for the current population. Instead, the BMC last month voted to revise the metrics.

This month the BMC is considering a proposal to change adaptive management procedures, which we understand may formalize the findings of the 2018 Adaptive Management™, effectively reserving some or all of the remaining Basin Plan mitigation programs for future development. If this action has the potential to delay or reduce the programs or actions that support Basin sustainability for the current population, it would be inconsistent with Basin Plan priorities, the basic purpose of adaptive management, and sound management practices. Inconsistency with sound management practices would be shown by the BMC’s basing a decision that has long-term irreversible consequences on a modeling prediction not supported by adequate monitoring data.

The LOSG has pointed out in the past that Basin Plan metrics and monitoring in general have significant problems, and we recommend changes in our attached requests. However,

the BMC's inconsistent use of the metrics and data to justify delays in implementing programs, apparently to reserve programs for new development, is very troubling and signals to us a shift in BMC priorities from immediate goals to the support of further development.

Another example of the BMC's shift away from stopping seawater intrusion as soon as possible is the BMC's failure to object to the use of the Title 19 program. The program directly competes with the BMC and purveyor programs for the remaining conservation potential. The Basin Plan points out that aggressive conservation, as current residents have implemented in the Basin, can result in a "hardening of demand," which precludes the effective use of conservation to respond to droughts and water shortage emergencies (p. 112).

We are also concerned about the apparent inconsistent use of modeling to support new development. The BMC continues to allow what are likely best-case scenarios to be used in TMs to arrive at findings that support development, without considering modeling uncertainties and less-than-best-case scenarios. For instance, though rainfall over the past 15 years has averaged 13% less than assumed in the model, the BMC is not assuming the Yield Metric Target has been reduced by about 350 AFY based on a 2017 TM (see BYM Response Analysis TM, Table 4, p.10). It is also not challenging the finding of a TM sponsored by the LOCS, included in the June 2020 BMC agenda packet, that 150 AFY of "marginal yield" exists for future development, when that 150 AFY would be more than offset by the last 15 years of lower rainfall (see Program Update TM, p. 3).

Further, the BMC is not having Cleath-Harris Geologists run scenarios where Broderson leach fields are ineffective at pushing back seawater intrusion to see where the model would locate the seawater intrusion fronts in Zones D and E, or what the new Yield Metric Target would have to be to maintain the seawater intrusion fronts offshore as currently predicted with the model assuming operational leach fields. In addition, the BMC is not requiring updates of the model, a range of less-than-best-case modeling scenarios (e.g., related to relocating wells), nor having an objective outside expert do an uncertainty analysis or a peer review of the model as provided for in the Stipulated Judgment (p. 22).

Concerns relating to costs

We appreciate that the BMC has attempted to reduce costs to residents for Basin Plan programs and BMC operation by seeking grant funding and paying for programs through periodic water rate increases. However, the Stipulated Judgment gives the BMC explicit authority to raise funds, citing the urgent need to implement programs.

The parties shall make every reasonable and practical effort to implement a plan to fund the administration of the Basin Management Committee and its implementation of the Basin Plan as promptly and timely as possible, with the full knowledge that the implementation of the Basin Plan is crucial to preserve the long-term integrity of Basin groundwater resources. (p.13)

On Page 31, the Stipulated Judgment provides explicit direction for creating a zone of benefit if necessary, stating in part:

The parties anticipate that the San Luis Obispo County Flood Control and Water Conservation District (Flood Control District) will establish a Zone of Benefit coterminous with the area subject to this Action and seek approval of a special tax or assessment within said Zone to cover the administrative costs of the Basin Management Committee and such other costs as deemed appropriate by the parties and the Flood Control District. (p. 31)

Further, the Basin Plan sets a goal and provides a plan for spreading costs Basin-wide to relieve the cost burden on residents within the wastewater service area and purveyor service areas (p. 22). Spreading the costs of the recycled water, conservation, and infrastructure programs to residents outside the wastewater service area—especially if residents within the wastewater and purveyor service areas are credited with disproportionate prior costs—will relieve much of the burden on those paying the most for Basin sustainability until now. The Basin Plan provides a plan for spreading the costs on Pages 307 to 311.

The Basin Plan further sets a goal to “establish mandatory standards and policies that promote water use efficiency” (conservation) and it makes “...water use efficiency...the highest priority program (for) ...preventing further seawater intrusion” (pp. 21 & 141). The Basin Plan also provides for the County to administer a Basin-wide conservation program using the \$5 million the wastewater project CDP (Special Condition 5) requires it to spend, in addition to \$500,000 in new funding for properties outside of the wastewater service area (pp. 141, 198 & 199).

The County, of course, has never implemented a Basin-wide conservation program, except programs tied to development and home sales, and it has never, to our knowledge, spent the entire \$5 million, which the Basin Plan indicates has been paid for by wastewater facility rates and charges (p. 199). Besides requiring the County to spend the \$5 million “to help Basin residents to reduce potable water use as much as possible,” Special Condition 5 also requires the County to implement measures with “enforceable

mechanisms,” and the Basin Plan indicates that the County has the authority to implement both a mandatory conservation program and private well monitoring program if the County chooses, the latter costing only \$150,000 (pp. 138 & 139).

Opportunities

Despite our significant concerns, we are encouraged that the BMC has seen a need to re-evaluate the metrics. Being a substantive aspect of the Basin Plan, which requires a unanimous vote of the BMC per the Stipulated Judgment, this decision opens up the opportunity for the BMC to make other substantive changes in order to make progress toward sustainability and to avoid unsustainable development.

As we have indicated since 2013, the definition of “sustainable yield” is not consistent with accepted definitions or even the Stipulated Judgment, which defines “safe yield” and “sustainable yield,” as a yield that causes no undesirable results (pp. 9 & 10). As currently defined in the Basin Plan, the “sustainable yield” allows seawater intrusion to move further into the Basin (see Figure 38, p. 111). Figure 38 doesn’t specify whether it is showing modeling results for Zone D or Zone E intrusion. However, in either case, pumping at “sustainable yield” causes seawater intrusion to move further into the Basin and other undesirable results. The Basin Plan recognizes that allowing seawater intrusion to remain in the Basin to this extent is an undesirable condition, which is why it recommends moving the front offshore by pumping at or below the Basin Yield Metric of 80 (80% of “sustainable yield” (p. 110).

The BMC’s decision in January to revise the metrics and to update the “sustainable yield” of the Basin provides an opportunity to revise the definition of sustainable yield. It also provides the opportunity to update and recalibrate the model and/or to run multiple less-than-best-case modeling scenarios, e.g., with reduced rainfall, Broderon leach fields not pushing back seawater intrusion, and different estimates of Basin-wide water use. The Basin Plan estimates that annual water use figures have at least 5% uncertainty levels (Basin Plan, p. 47). Running multiple scenarios is an important use of the model, which enables the BMC and other stakeholders to have a realistic understanding of the range of possible outcomes of management actions and the challenges the BMC faces.

Conclusion

We believe you’ll agree, after reviewing our requests and the support we provide, that the actions we request are reasonable and necessary for the BMC and other decision makers

to be fully informed about Basin conditions and to have the tools necessary to establish a sustainable Basin for the current and future populations.

Again, we thank you for your letters to the County and would appreciate your prompt attention to the following requests. If you have any questions, need further information, and/or would like to share information that you believe we don't currently have, please contact us at theLOSG@gmail.com.

Sincerely,

Patrick McGibney, Chair,
Los Osos Sustainability Group (LOSG)

Specific requests with reasons and support

The LOSG requests that the BMC:

- 1. Immediately declares seawater intrusion into Zone E a significant threat to Basin sustainability and devises and implements a plan to stop and reverse it.**

Reasons and support: In late 2019 the BMC asked for a review of seawater intrusion into Zone E, and the 2019 Adaptive Management TM (which we also refer to as the Nitrate and Seawater Intrusion TM) presented you with a clear and unqualified conclusion that the front is moving in at Well LA 11. Data at new observation Well LA40, to the south of LA11, also confirmed very high chloride levels in late 2019 (1460 mg/l). By spring of 2020, the levels at LA40 rose to 2190 mg/l. and by fall of 2020 to 2290 mg/l, indicating active seawater intrusion in Zone E, possibly across a wide front.

Zone E is the largest and deepest aquifer, having the largest volume of water and comprising most of the Basin's capacity. When seawater intrusion moves into Zone E, it is destroying substantial amounts of freshwater that may need to be accessed to a greater extent in the future—most purveyor production is currently from Zone D. Because it is the deepest aquifer, Zone E also has the most severe and advanced seawater intrusion. In 2012, chloride levels measured 1910 mg/l at the Zone E level of the Palisades Well (LA15), and in 2013 the Zone E level of the wells was sealed off in order to continue pumping from Zone D (Nitrate and Seawater Intrusion TM, p. 7 and 2019 AMR, p. 55).

In 2015, the Basin Plan estimates that the Zone E intrusion front had reached the commercial area where there is a very large pumping depression (p. 88 & 90). Both Eugene Yates and CHG indicate that Zone E intrusion can upcone into Zone D

wells (see Nitrate and Seawater Intrusion TM, p. 8 and Yates 2014 Review, p. 8). The Basin Plan also states that the clay layer separating Zones D and E may be “discontinuous,” which may allow Zone E intrusion to enter Zone D (p. 65). The front is not mapped and could be moving into or under the large depression, especially since the deepest part of the front forms a wedge that extends further inland than the parts of the wedge likely to be measurable, e.g., at LA18 (see Basin Plan, Figure 27, p. 90).

Eugene Yates points out in his 2014 review of the Basin Plan that the plan abandons Zone E and he indicates that doing so is a mistake (p. 8). He states that the Water Level Metric target should be set at 12’ instead of 8’ to push back Zone E intrusion to the bottom of the aquifer. Clearly, the Basin is not sustainable if seawater intrusion in Zone E is allowed to move into or under the large pumping depression. Failing to stop and push back seawater intrusion in Zone E allows it to threaten Zone D and all but one or two supply wells in the Basin—effectively threatening the entire purveyor system.

Stakeholders in the Basin cannot afford for the BMC to abandon Zone E. Over a year has passed since release of the Nitrate and Seawater Intrusion TM, and the BMC has done nothing to address it. Recently, budget items were passed to install transducers in some wells downslope of Broderson leach fields to measure the potential rise of water levels in the lower aquifers. The BMC is also having CHG revise the metric and evaluate recycled water use. However, this does not constitute a plan to address Zone E intrusion. In 2019, CHG recommended that that the BMC consider implementing Infrastructure Program B, and in 2020, CHG recommended converting several lower aquifer wells to dedicated Zone E wells to track seawater intrusion into Zone E, but the recommendations were not considered (see Nitrate and Seawater Intrusion TM, p. 11, and 2019 ARM, pp. 55 & D2).

As homeowners with a stake in the Basin, we are extremely concerned that the BMC is abandoning Zone E. Allowing seawater intrusion to destroy a major part of the Basin’s freshwater capacity is not in our best interest as homeowners and water customers, nor is it consistent with the BMC’s obligation to preserve and responsibly manage the Basin. We ask that you act immediately and decisively to address it by devising a plan and following through.

- 2. Reaffirms its commitment to the first two immediate goals of the Basin Plan (to stop and/or to the extent possible reverse seawater intrusion and to provide a sustainable water supply for current development) by committing to maximizing conservation, recycled water reuse, infrastructure programs, grey water reuse, storm water reuse, injection wells, and all other mitigation programs short of imported water and desalination to achieve the immediate goals as soon as possible.**

Reasons and Support: Since mid to late 2019, when the County began an effort to complete the LOCP, the priority of the BMC, it appears to us, has shifted from

stopping seawater intrusion as soon as possible to taking a “wait and see” approach to management that assumes seawater intrusion will stop at some point in the future and the Basin can support added development at some level without permanent harm. That shift has been shown in the lack of attention to Zone E, the decision to change the metric when it began to show worsening conditions unfavorable to adding development, and acceptance of the widespread use of Title 19, though it uses the limited remaining conservation potential within the Basin and wastewater service area. The shift is also shown in two TMs prepared for the BMC since early 2019 that find the Basin to be sustainable without Infrastructure Program C completed. The Basin Plan indicates that Infrastructure Program C will be used to support the current population (e.g., p. 308).

We understand that the BMC is considering a proposal to revise the “adaptive program.” The program was never fully developed as an adaptive program and consists primarily of the same mitigation programs, implemented in the same ways, as Basin Plan mitigation programs. The adaptive management proposal would apparently formalize the program in a way that preserves some or all of the remaining mitigation programs to support future development. The goal, as we understand it, is to support the proposed LOCP and Growth Management Ordinance, which is subject to review and approval by the Coastal Commission later this year. Reserving mitigation programs to support further development rather than using them to stop and reverse seawater intrusion as soon as possible is not consistent with the Basin Plan and it limits the potential of the current population to have a sustainable water supply. We request that you specifically do not reserve adaptive programs for development but instead maximize all mitigation programs to stop and reverse seawater intrusion as soon as possible to provide a sustainable Basin and water supply for the current population and dependent sensitive habitat.

- 3. Sets time-specific goals, objectives, and interim objectives for stopping and reversing seawater intrusion as soon as possible, including specific measurable goals and objectives for water and chloride levels that reverse seawater intrusion fronts in Zones D and E to points offshore under the estuary, which can be confirmed with the conclusive physical evidence provided by the monitoring grid we request in #5.**

Reasons and Support: Whereas the Basin Plan includes Water Level and Chloride Metric targets of 8' above mean sea level (msl) and 100 mg/l of chlorides respectively, and whereas the BMC has set a Basin Yield Metric Target of 80 that, when modeled, moves the fronts in Zones D and E offshore of the landed portion of the Basin under the estuary, and whereas the BMC has now indicated it is changing the metrics; the BMC has an opportunity to set clear and measurable goals and objectives, including interim objectives, that can be shown with conclusive evidence from sufficient reliable well data to have been reached or not reached, providing clear and unambiguous indicators of Basin seawater intrusion conditions and Basin sustainability. Such goals and objectives would be consistent with the requirements of the wastewater CDP, Special Condition 5C, which requires

“...measurable goals and interim and long-term success criteria... including at a minimum clear criteria that demonstrate that the health and sustainability of the Plan area resources are steadily improving over time, including with respect to seawater intrusion.”

Given the importance of the Basin as a sole water source, how much of the Basin has been destroyed, and the need for a significant freshwater barrier and buffer between the estuary and commercial area to protect the main pumping center and preserve as much of the Basin as possible, including as many active and inactive wells as possible, the measurable goal should be to move Zone D and E fronts offshore. We believe this goal is imperative for the Basin’s long-term sustainability, given uncertainties associated with climate change and other impacts. Thus, the measurable goals (e.g., projected seawater intrusion contour lines) should be the same as those modeled for the current Basin Yield Metric target of 80 (see Figure 38, p. 111), and the water level goals should be 12’ to stop and reverse seawater intrusion in Zones E at its deepest levels. Interim seawater intrusion objectives should be contour lines somewhere to the west of Well LA5 to protect active Wells LA 8 and LA9, and water levels should be 4-6 feet above mean sea level (msl) between the estuary and key wells within the large pumping depression (e.g., LOSG supply well LA32 and GSWC supply well LA39).

- 4. Water purveyors not issue will-serve letters until seawater intrusion and water levels in Zones D and E are shown with conclusive evidence, including adequate reliable and accurate well monitoring data, to meet the appropriate measurable physical objectives requested in Request #3 determined to be necessary to establish conclusively (with a margin of safety) that the Basin will sustainably support that development long-term through droughts, climate change, and other impacts.**

Reasons and Support: Recently the BMC acknowledged that the current metrics are not accurately measuring seawater intrusion and possibly water levels, and the 2019 Annual Monitoring Report states that there is not enough information to track seawater intrusion in Zone E (p. 55). At the same time, available evidence (rising chloride levels at key wells) shows that seawater intrusion is advancing and conditions have not improved significantly from when they were at their worst in 2016. The BMC and CHG have also indicated that production well LA10 may be shut down and Wells LA8 and LA9 may be threatened due to well-bore leakage and a high-nitrate water source flowing into the Basin. At the same time Expansion Well #2 is not installed and Expansion Well #3 is not planned and may be difficult to site due to private well owner objections, as evidenced by neighborhood concerns voiced during the siting of Expansion Well #2 (see LOCSA November 5 agenda packet, pdf pp. 47-55 on line). All in all, the condition of the Basin is clearly not sustainable for the present population and will require significant further mitigation to become sustainable. For these reasons, and the ones we cite in other requests (e.g., #1), stopping the issuance of will-serve letters is necessary to protect the water supply for its continued beneficial use. Further, the failure of the metrics to provide reliable and accurate evidence of conditions is reason to put off

decisions that can have irreversible long-term consequences until a reliable and accurate system of monitoring wells are developed and protective physical objectives are set (see Requests #3 & #5-#7).

- 5. Plans and installs a network of lower aquifer monitoring sites to track water levels and water quality, including chloride levels, like the new dual-well (nested) Zone D and E site off Lupine Avenue, which will provide conclusive evidence of seawater intrusion conditions, including the exact positions of seawater intrusion fronts that can be rendered as contour lines based on the data and the exact heights of water levels in Zones D and E, which grid also provides conclusive evidence that seawater intrusion-related physical goals, objectives, and interim objectives have been reached.**

Reasons and support: The current monitoring system consists almost entirely of old wells, many of which are screened in more than one aquifer and/or have well bore leakage. Further, there are significant gaps in the system, including almost no wells in the northern Basin and significant gaps along the intrusion pathway and southern Basin (e.g., gaps in reliable monitoring sites). Eugene Yates in his 2014 Basin Review indicates that many more monitoring wells are needed, including along the seawater intrusion pathway and along the estuary (p. 10). For the BMC and other decision makers to accurately assess seawater intrusion conditions and to provide conclusive evidence that goals and objectives are reached, a significantly upgraded system of monitoring wells is needed. To provide conclusive evidence of Basin conditions, the system must be upgraded with multiple new wells positioned closely enough to measure the exact location of the fronts and water levels wherever the Basin is susceptible to seawater intrusion in Zones D and E. As Eugene Yates points out, seawater intrusion can move around wells and progress along relatively narrow preferred pathways (see Yates 2014 Review, pp. 8 & 9). Therefore, the network must be sufficiently dense to detect seawater intrusion at any point in the western portion of the Basin between the estuary and points east of Well LA12 in the northern Basin and east of Well LA39 in the southern Basin and along the seawater intrusion pathway. The cost of a dual-well monitoring site like the new monitoring site installed off Lupine Avenue is \$115,000 per the 2019 Annual Monitoring Report (p. 7). Thus, for a cost of \$2 million (about the cost of an expansion well), about 17 new dual-well monitoring sites can be installed.

- 6. Abandons the use of metrics that provide single metric values (averages) for assessing Basin conditions, in favor of minimum threshold values at each well in a series or group of wells in a monitoring grid, said thresholds having to be maintained for a given period of time to meet goals and objectives, including interim objectives.**

Reasons and support: As we understand SGMA requirements, measurable objectives are achieved by meeting minimum thresholds at individual wells over a given period of time, which precludes problems developing in any monitored part of a Basin. Metrics expressed as single average values can allow seawater

intrusion, for instance, to move into the Basin even though the objective is being met.

- 7. Plans and installs a network of lower aquifer monitoring sites to track water levels and water quality throughout the Western and Central Areas of the Basin, and that the BMC divides the Basin into sub-areas setting objectives, including interim objectives, for each sub-area, said objectives being represented as minimum thresholds at individual monitoring sites for key parameters that conclusively ensure all areas of the Basin have the water levels and water quality, with precautionary margins of safety, necessary to support present and future development through climate change and other adverse impacts on the Basin.**

Reasons and support: Due to the major changes in recharge from dispersed septic system recharge to point source recharge with recycled water primarily at Broderson leach fields, low water levels and related problems such as aquifer damage may develop. Further, salt build up may occur as recycled water is used and higher conservation levels concentrate salts and other constituents in recycled water. Yates warns of salt buildup in a closed Basin system (see Yates 2014 Review, p. 4). To avoid these eventualities, a complete monitoring grid should be designed and implemented for the Western and Central Areas of the Basin. The grid will also improve the accuracy of water level contour mapping and storage estimates, while providing important information about water movement within the Basin and Basin structure for improving the BMC's understanding of the Basin and modeling accuracy.

- 8. Declares that the County's use of a Title 19 retrofit program must immediately stop because it reduces the mitigation potential of BMC and purveyor conservation programs to halt and reverse seawater intrusion into the Basin and provide a sustainable water supply for the current population, further removing one of the primary means for addressing emergency water shortage conditions and impending harm to the Basin, including from droughts, natural disasters, or other causes that may put the Basin and water supply into a crisis condition.**

Reasons and support: The County is using the Title 19 conservation retrofit offset program to approve development. The ordinance allows the applicants for new development to use the remaining conservation potential of the Basin for what the County claims offsets the water use of the new development at a 2:1 ratio, resulting in a theoretical net benefit to the Basin. Although Title 19 provides a means to verify the water use reductions from the program, neither the County nor BMC has apparently done a review of the program to verify the claimed reductions in water use. This review should be done for homes and businesses that have received and provided the retrofits, and the review should cover at least a 5-year period to determine if the program results in a net reduction over time--since the benefit of the program must be long-term to benefit the Basin. If a review is done, we request that the BMC receive updated records of Title 19 use from the County and

selects an objective third party with input from the public to complete an audit of the program, which should also include the adequacy of offset amounts and formulas for crediting offsets.

Even if some net benefits are found to result from the program, however, the program should not be used to approve new development until seawater intrusion is shown with conclusive evidence to be stopped and reversed as confirmed by reaching measurable physical objectives as described in Request #3, and Basin sustainability is established for the current population with a margin of safety. It should also not be used until and unless an evaluation of the remaining conservation potential in the Basin shows that enough remains to support the existing population during droughts and other emergencies. In June of 2020, the Planning and Building Department estimated that 160 to 350 AFY of conservation potential remained, but the estimate has not been reviewed or confirmed by any hard data.

The Title 19 program results in hardening of demand and a reduction in what is likely to be limited remaining conservation potential in the urban part of the Basin, especially within the wastewater service area. A careful evaluation of conservation potential remaining in the Basin must be done to ensure enough remains to reverse seawater intrusion and respond to severe droughts and other emergencies with the current population. The wastewater project coastal development permit (CDP Special Condition 5) requires the County to maximize conservation for “Basin residents” with \$5 million, which we understand has not been exhausted, and to use enforceable mechanisms as needed.

- 9. Develops and implements within six months, in cooperation with the County as needed, a funding mechanism that spreads the costs of all projects, programs, measures, and BMC-related activities needed to establish a sustainable Basin equitably among all users of the Basin, including the costs of all Basin Plan programs, all related wastewater project measures and programs, and programs not yet implemented and/or considered that may be needed, short of imported water and desalination, to achieve Basin sustainability as soon as possible and to meet the physical objectives described in Request #3 above, said programs including but not limited to injection to remedy Zone E intrusion, Basin-wide conservation, rainwater/ storm water capture and reuse, and nitrate remediation.**

Reasons and support: One goal of the Basin Plan is to ensure costs are shared equitably Basin-wide among all users of the Basin (p. 22). This will require a Basin-wide funding mechanism, which will most likely require the County to establish a zone of benefit and conduct the assessment through the Flood Control and Conservation District as provided for in the Stipulated Judgment (p. 31). The BMC (parties to the Stipulated Judgment) should take these steps immediately to meet the obligations of the parties as stated in the Basin Plan and Stipulated Judgment:

The parties shall make every reasonable and practical effort to implement a plan to fund the administration of the Basin Management Committee and its implementation of the Basin Plan as promptly and timely as possible, with full knowledge that the implementation of the Basin Plan is crucial to preserve the long-term integrity of Basin groundwater resources (Stipulated Judgment, p. 13).

A funding mechanism that spreads costs Basin-wide is important for the success of a funding effort because the people living within the sewer service area, who make up about 85% of the residents in the community, will be reluctant to support another assessment after having a recent sewer rate increase. Currently, residents living within the wastewater service area pay all sewer costs and most of the costs for Basin management. Residents living within purveyor service areas outside of the wastewater service area pay the remaining costs of Basin management, and residents with private wells living outside of both service areas pay none of the costs for restoring the Basin and maintaining Basin sustainability (e.g., mitigating nitrate contamination and seawater intrusion).

The cost sharing--if appropriately structured in a Prop 218 assessment to repay residents living within the wastewater service area and within purveyor customer areas for disproportionate earlier costs--would most likely be approved by voters. Most voters, we think, would agree that everyone should pay their fair share for a sustainable water supply.

The Basin Plan provides a plan for cost sharing, which recommends sharing Basin Plan monitoring and seawater intrusion mitigation program costs, i.e., for conservation, recycled water use, and infrastructure programs. (Basin Plan, pp. 307-310). One of the Basin Plan programs now covered by wastewater project costs paid solely by residents within the wastewater service area is the recycled water program (referred to as the Urban Water Reinvestment Program). The Basin Plan estimates the program costs about \$18 million (Basin Plan, p. 308).

Other wastewater project costs should also be shared, including the costs for nitrate remediation and monitoring programs, and for programs to protect riparian and aquatic habitat dependent on the Basin. The latter is required by the Coastal Commission as part Special Condition 5 of the wastewater project permit. Habitat protection is a "principle" of the Basin Plan but not included in the Plan. The County is now responsible for it (Basin Plan, pp. 22 & 122). Habitat protection programs should be administered by the BMC to ensure integrated management of Basin resources. Also, the sharing of nitrate remediation costs and other sewer related costs are justifiable given that all users of the Basin derive benefits from a sustainable Basin. Equitable sharing of costs is critical to effective Basin management because it ensures all users of the Basin are equally invested in and responsible for its sustainability.

10. Negotiates an agreement with the County within six months, in which the County implements a Basin-wide conservation program with a County

ordinance that requires all users of the Basin to meter and report water use and to participate in a Basin-wide conservation program.

Reasons and support: An ordinance that includes these mandatory measures is essential for effective management of the Basin because it is essential for obtaining accurate water use data and for ensuring the participation of all users of the Basin in a conservation program. The 2019 AMR reports that unmetered water use accounts for about 50% of water use in the Basin (p. 37). The Basin Plan indicates that underestimating water use (which can happen because so much of the Basin's water use is now estimated) may result in irreversible harm to the Basin because the error may not be detected for 15 years when it is too late to remedy (Basin Plan, p. 137). The Basin Plan describes estimated water use as one of the main sources of uncertainty in modeling, contributing about 5% of uncertainty (p. 47). The Basin Plan also outlines how an ordinance requiring monitoring can be implemented at a cost of about \$150,000 (p. 138 & 139). The same ordinance, using the same process, could be used to implement the Basin-wide conservation program recommended in the Basin Plan (pp. 198 & 199).

As mentioned, the wastewater project permit requires the County to implement enforceable mechanisms to “help Basin residents reduce potable water use as much as possible,” and the third immediate goal of the Basin Plan calls for mandatory conservation standards (p. 21). Achieving sustainability goals and objectives within a reasonable time frame with a reasonable level of certainty is not possible without Basin-wide water-use reporting and conservation. A well-crafted ordinance with the right combination of incentives, including both positive and negative monetary incentives, possibly incorporated into the County-wide funding mechanism described in Request #9, will provide the most cost-effective and efficient way—likely the only way—to preserve the Basin and establish Basin sustainability long-term for the current and future populations.

11. Investigates the source(s) of high-nitrate groundwater entering the lower aquifers of the Basin, including from well-bore leakage and other sources, and devises and implements a plan to remedy the inflow and contamination, in order to protect and preserve affected wells and the lower aquifers of the Basin.

Reasons and support: According to the Nitrate and Seawater Intrusion TM, several production wells are affected by well-bore leakage that results in nitrate levels rising much faster than the long-term trend in the lower aquifers. The TM estimates that nitrate levels in some lower aquifer wells will exceed the maximum contaminant level of 10 mg/l (e.g., Wells LA8, LA9, LA22, and LA17E11) (pp. 3-5). The TM also reports that a high nitrate source of groundwater may be contaminating Wells LA8 and LA9 and suggests that the source could be septic discharge from Cabrillo Estates (see Nitrate and Seawater Intrusion TM, p. 3).

To address well-bore leakage, the TM recommends nitrate treatment and blending (pp. 6 & 11). Nitrate treatment and blending may not be available or cost-effective

for a well owner, resulting in the owner being forced to shutdown the well(s). If this occurs, or if affected wells are shut down for other reasons, the well bore leakage is likely to continue and may worsen causing further contamination of the lower aquifer. Further, the TM does not recommend a remedy for contamination from the inflow of ongoing septic discharge.

The 2019 Annual Monitoring Report (AMR) indicates that rising nitrate levels in affected lower aquifer community supply wells will be addressed in strategic planning (2019 AMR, p. 76). However, the problem was not included in strategic planning options developed late in 2020. We request that the BMC investigates the inflow of high nitrate water to the lower aquifers as needed, and formulates a plan and set of actions to address the problem, so that the use of all wells is preserved and the lower aquifers in all parts of the Basin remain a source of water that can be used without nitrate treatment and blending. Protecting and preserving all parts of the Basin for cost-effective use is important for long-term Basin sustainability (also see Request #17).

12. Has the Basin model peer reviewed, within six months, by a neutral third party expert chosen with public input and, as part of the review, fully updates the model and performs complete sensitivity and uncertainty analyses that estimate and quantify the uncertainties associated with all basin parameters and assumptions used in modeling that have uncertainty.

The model has not had thorough sensitivity and uncertainties analyses done on all parameters having uncertainty to our knowledge, and the only related uncertainty analysis done was a generalized analysis prepared for the LOSG in 2010 by Eugene Yates (see Yates Review, Jan. 2010). Although Yates in his 2014 Basin Plan review endorses the Plan's 20% "buffer" for uncertainty--which the Basin Plan attributes to the model without an uncertainty analysis or specific justifications--Yates' 2010 review indicates that the model is likely to have much greater levels of uncertainty than the 20%. [We note that Yates states in the Basin review that he does not "investigate the strengths and weaknesses of the groundwater flow model in detail," and he adds that his intent is "not to discredit or delay" the Basin Plan but "to amplify and accelerate" it (p. 2).]

Further, the model has not been updated with the most recent data available and must be recalibrated to capture current conditions, including less rainfall than assumed, Broderson leach fields not pushing back seawater intrusion, the current use of recycled water, a revised understanding of Basin structure based on an LOCSD test well for Expansion Well #2, the current location of Expansion Well #2, and any other data and other evidence since 2010 that would affect modeling results.

13. Has a transient model developed as soon as grant funding is available or the County provides the funding, which is calibrated with the most recent data and has thorough sensitivity and uncertainty analyses completed.

Reasons and support: Stetson Engineers, who reviewed the model in 2010, recommended that a transient model be developed for the current steady state model. We believe a transient model may more accurately predict outcomes of conditions such as the temporary advance or retreat of the seawater intrusion front or low water levels from year to year. However, given the depth of the lower aquifers and likely timescales involved in responses to changing conditions and implementation of management actions (e.g., less rainfall and new expansion wells), the transient model may not significantly improve management effectiveness. Successful management will continue to require careful long-term planning that builds adequate margins of safety into measurable objectives and management actions.

Instead, we believe updating the current steady-state model with the most recent data, completing thorough sensitivity and uncertainty analyses per Requests #12 and #16, and running numerous modeling scenarios to show a range of possible outcomes from various management options under various conditions; may provide the best tool for planning. In any case, a transient model should be calibrated with the most current data and have sensitivity and uncertainty analyses done that inform decision makers of its potential inaccuracy, which could then also be used to determine protective margins of safety in sustainable yield predictions once sustainable yields are redefined per Request #17.

14. Immediately rescinds two technical memoranda (TM) and the findings, which have been refuted by available data.

Reasons and support: The 2018 Adaptive Management TM prepared for the BMC, as well as the June 2020 Program Update TM prepared for the LOCS and included in the June 2020 BMC agenda packet, find that the Basin is sustainable with Expansion Well #1 in place (in the case of the 2019 TM) and with Expansion Wells #1 and #2 in place (in the case of the 2020 TM). The findings of these two TMs are based on modeling (the Basin Yield Metric being at or below 80 since 2016). The TMs also cite metric results, which were positive in 2018 but reversed in 2019. The BMC recently recognized that the metrics (at least the Chloride Metric) have significant reliability and/or accuracy problems, and the BMC voted to have one or both metrics evaluated and modified.

We note that the “trends” identified in the 2018 Adaptive Management TM were questionable to begin with. The Chloride Metric “trend” indicated that the target of 100 mg/l of chlorides would be reached by 2019, about 25 years ahead of predictions in the Basin Plan and before water levels were high enough to reverse seawater intrusion (Basin Plan pp. 108-110 & Figure 37). The 2020 TM acknowledges problems with the metrics and bases the finding almost solely on the model (Program Update TM, p. 4). In lieu of any clear metric support, the 2020 TM indicates the Water Level Metric needs updating and a mound is forming under Broderson leach fields as evidence that seawater intrusion will stop and modeling predictions that the Basin is sustainable for the current population are accurate. Clearly the measurable evidence provided is not enough to confirm modeling

predictions and, in fact, the evidence provided only shows that the predictions are not confirmed.

15. Has Cleath-Harris Geologists run modeling scenarios with the model recalibrated for (1) Broderson leach fields being ineffective at pushing back seawater intrusion, and (2) the fifteen-year average rainfall total as reported in the 2019 Annual Monitoring Report of 15.14", 13% less than the 17.5" assumed in current modeling.

Reasons and support: In our letter to the Board of Supervisors in December of 2020, we estimate how much the above recalibrations would reduce the Yield Metric Target value based on the modeling scenario run for the Program Update TM, which is included in the June 2010 BMC agenda packet. The point we were making, of course, is that continuing seawater intrusion was reported in the 2019 Nitrate and Seawater Intrusion TM (aka the 2019 Adaptive Management TM) to be the cause of continuing seawater intrusion into Zone E. The TM reports that the mound is not supposed to fully form and begin to push through the Regional Aquitard for at least 5 years, although the TM also states that the timing of leach field effectiveness is uncertain (p. 10). If Broderson leach field ineffectiveness results in seawater intrusion in Zone E according to the model, it also results in intrusion into Zone D according to the model.

The BMC recently voted to fund transducer installation in several wells down gradient from the leach fields, but we would like to know—and the public has a right to know—what the sustainable yield of the Basin is and has been until the leach fields are pushing back seawater intrusion. These modeling results will provide a picture of what the model predicts based on current conditions. The results will also help show why development decisions should not be based on the model—but instead on sufficient reliable and accurate well monitoring data in conjunction with clearly stated measurable objectives.

Since the model is supposed to be capable of predicting sustainable yields, the position of seawater intrusion fronts, and water levels; the scenarios should provide graphics of the predicted inland progress of the fronts and water levels in in Zones D and E with Broderson leach fields not pushing back seawater intrusion. Scenarios should also provide the predicted Yield Metric of 80% of target values needed to move seawater intrusion fronts to the current targeted locations offshore.

Supervisor Gibson has stated that use of the steady model is appropriate for long-term planning, and the transient model should be used for shorter-term planning. However, multiple scenarios for steady state models are also important for the BMC to consider, and are justified and reasonable, given that several scenarios already run for the BMC have included shorter-term assumptions than the ones we are requesting. For instance, the 2018 Adaptive Management TM and 2020 Program Update TM required recalibrations of the model based on production and recycled water use levels at the time that have since changed.

Each of the BMC members has the right and responsibility to have modeling scenarios run, especially scenarios that have significant implications for Basin management and Basin sustainability, and the Stipulated Judgment does not preclude it, so this should not require a unanimous vote.

16. Has CHG complete sensitivity and uncertainty analyses on the steady state model, along with multiple modeling scenarios showing less-than-best-case outcomes based on the analyses, so that the BMC can better understand the range of possible outcomes of management actions, e.g., moving wells to the upper aquifer and inland.

SGMA's BMP recommends that multiple scenarios are run using various climactic conditions to better inform decision makers of possible outcomes of management actions and relative risks of actions. Being more aware of the uncertainties and potential error in the model, as well as a range of potential outcomes from management options would give the BMC a more realistic and complete picture of what can be expected and what is needed in the way of margins of safety, redundancy in programs, and program options to reverse seawater intrusion as cost-effectively as possible, while avoiding costly undesirable consequences. In general, the analyses and multiple less-than-best-case scenarios would give the BMC and other stakeholders a better understanding and appreciation of what is needed to establish and maintain a sustainable Basin.

17. Revises the definition of “sustainable yield” so that it avoids undesirable results and targets the same outcomes as the Basin Yield Metric of 80 (BYM 80), the retreat of seawater intrusion fronts in Zones D and E to points offshore under the estuary.

Reasons/Support: As mentioned above, the Basin Plan definition of “sustainable yield” is not consistent with accepted definitions or even the definition provided in the Stipulated Judgment. In the Stipulated Judgment, “safe yield” and “sustainable yield,” are defined as a yield that does not cause an “undesirable result” (p. 9). As defined in the Basin Plan currently, “sustainable yield” results in seawater intrusion moving inland. It also results in the loss of Basin capacity and pumping capacity, and it could result in the loss of the Basin as a viable sole water source.

Figure 38 of the Basin Plan provides a plan view (overhead) map showing where the intrusion front would end up with Basin production at the “sustainable yield.” The figure shows the front moving into the large pumping depression under the commercial area to about 10th Street (p. 111). The figure does not specify whether the front is in Zone D or Zone E. We assume Figure 38 shows Zone E intrusion based on the Yates 2014 Basin Plan review (e.g., pp. 4, 7 & 8). The 2019 AMR indicates that plotting the exact location of the Zone E intrusion in plan view (from above) is not possible due to insufficient monitoring sites. However, it concludes based on chloride levels at LA18 that the front (250 mg/l isomere) is located

between Well LA15 and Well LA18 at the edge of the commercial area (west of 10th Street) (2019 AMR, pp. 55 & D2). Thus, Figure 38 indicates that the Zone E front would move further inland if the Basin were pumped at the “sustainable yield.”

As discussed in Request #1, Zone E intrusion into the large pumping depression threatens the sustainability of the Basin by threatening key supply wells in the commercial area via upconing and/or holes in the AT3 layer. Zone E intrusion also threatens wells to the west of the commercial area via upconing and, at a minimum, it will likely result in reduced production capacity as chloride levels rise in two active wells screened in Zones D and E—LA10, a community supply well, and LA16, a private well.

As Eugene Yates points out, Zone E should not be abandoned in this area of the Basin because additional Basin capacity may be needed in the future (Yates 2014 Review, p. 8). This is important advice given the major impacts the Basin is undergoing from shifts in pumping and recharge, in addition to climate change impacts. The BMC may find, for instance, that moving wells inland and to the upper aquifer overdrafts those parts of the Basin resulting in far less available yield than modeled.

The Basin Plan recognizes that allowing seawater intrusion to remain in the Basin to the extent modeled and shown in Figure 38 is an undesirable condition, and it sets a goal of pumping at or below the Basin Yield Metric (BYM) target of 80 (80% of “sustainable yield”) (p. 110). The BYM of 80 is modeled to move the Zone E front and apparently the Zone D front offshore to points under the estuary (see Figure 38, p. 111). Yates also points out that the BYM of 80 or under is needed to avoid salt build up in the Basin (Yates 2014 Review, p. 4). Because the BYM of 80 would avoid undesirable results, including seawater intrusion, adverse impacts to wells and Basin capacity, and salt build up in the Basin; the modeled outcomes for the BYM of 80 are more consistent with accepted definitions of sustainable yield than the outcomes of the current Basin Plan definition. Thus, “sustainable yield” for the Basin should be redefined as a yield that moves the fronts in Zones D and E offshore, also avoiding salt buildup.

The Los Osos Basin has lost substantial Basin capacity due to severe seawater intrusion resulting from more than 35 years of severe overdraft. A definition of sustainable yield that moves seawater to under the estuary, maintains and restores the integrity of all production wells by creating a freshwater barrier between the wells and fronts, that also maximizes all usable Basin capacity; is an appropriate definition for sustainable yield and an appropriate sustainability goal for the Los Osos Basin. The Basin Plan implies as much by setting the BYM 80 target. Aligning this definition of sustainable yield with this goal removes any confusion about what the goal is. We believe these actions are both reasonable and necessary to ensure the long-term integrity of the Basin and to provide a resilient and sustainable water supply for the present and future populations. The target also helps ensure ample groundwater is available for dependent sensitive habitat.

18. Bases any decisions that can result in irreversible harm to the Basin, such as whether to increase demand with further development, on ample reliable water level and chloride well monitoring data, as well as measurable objectives which have pre-determined margins of safety deemed necessary for a sustainable Basin under various conditions, including droughts and other adverse impacts at various levels of development.

Reasons/Support: Decisions that can result in permanent harm and even loss of the Basin must be based on ample reliable well monitoring data and measurable objectives with margins of safety rather than a model with inherent levels of uncertainty.

Documents Cited

Annual Monitoring Reports prepared for the BMC

1. 2018 AMR -- *Los Osos Basin Plan Groundwater Monitoring Program 2018 Annual Monitoring Report*, Cleath-Harris Geologists, Inc, June 2019.
2. 2019 AMR -- *Los Osos Basin Plan Groundwater Monitoring Program 2019 Annual Monitoring Report*, Cleath-Harris Geologists, Inc, June 2020.

Technical memoranda prepared for the BMC

3. Response Analysis TM -- *Technical Memorandum, Basin Yield Metric response to reduced long-term precipitation in the Los Osos Groundwater Basin*, Cleath-Harris Geologists, Inc, March 3, 2017
- 2018 Adaptive Management TM -- *Technical Memorandum, Metric Trends Review and Infrastructure Program C Evaluation*, Cleath-Harris Geologists, Inc, February 28, 2019
- Nitrate and Seawater Intrusion TM (aka. 2019 Adaptive Management TM) -- *Technical Memorandum, "Lower Aquifer nitrate concentration trends review and LA11 seawater intrusion evaluation,"* Cleath-Harris Geologists, Inc, November 6, 2019
- Program Update TM -- *Technical Memorandum, Update of Los Osos Basin Plan Programs U and C with respect to Basin Sustainable Yield*, Cleath-Harris Geologists, Inc, June 10, 2020 (Included in the BMC Meeting Agenda Packet 6-17-20, pdf pp. 65 to 68)

Other documents cited or referenced

1. CSUMB Report, 2010
2. LOCSD November 5, 2020, agenda packet (Neighbor petition against location of Expansion Well #2) pdf pp. 47-55
3. SGMA BMPs 1, 2 & 5
4. Special Condition 5 & 6
5. Stipulated Judgment
6. Yates Basin Plan Review (2014)
7. Yates Review (Jan. 2010)

All documents cited can be accessed on the BMC website or on the LOSG website at thelosg.com

TO: Los Osos Basin Management Committee

FROM: Daniel Heimel, Executive Director

DATE: March 25, 2021

SUBJECT: Item 8a – Presentation of Draft 2020 Annual Report Preliminary Findings

Recommendations

Receive an update on preliminary findings from 2020 Annual Report and provide input to staff on future direction.

Discussion

Section 5.8.3 of the Final Judgment requires that the preparation of an Annual Report by June 30 of each year. The BMC retained Cleath Harris Geologists (CHG) to prepare the fifth Annual Report for calendar year 2020. An excerpt of the preliminary work that CHG is preparing is attached, and a staff summary will be provided at the meeting. The Draft Annual Report is anticipated to be released soon for BMC and Public Review.

Financial Considerations

Budget items 5 and 6 in the adopted calendar year 2021 budget address monitoring and preparation of the annual report. At this time, no budget adjustments are recommended.

DRAFT

DRAFT Table. Municipal Groundwater Production (2013-2020)				
Year	LOCSD	GSWC	S&T	Total
	Acre-Feet¹			
2013	726	689	55	1,470
2014	634	564	48	1,246
2015	506	469	32	1,007
2016	519	453	31	1,003
2017	568	450	32	1,050
2018	522	464	32	1,018
2019	506	454	31	991
2020	527	502	34	1,063

Note: ¹Metered production

DRAFT Table. Basin Groundwater Production (2013-2020)					
Year	Purveyors	Domestic	Community	Agriculture	Total
	Acre-Feet¹				
2013	1,470	200	140	750	2,560
2014	1,250	220	130	800	2,400
2015	1,010	220	140	800	2,170
2016	1,000	220	140	800	2,160
2017	1,050	220	130	670	2,070
2018	1,020	220	120	670	2,030
2019	990	220	60	630	1,900
2020	1,060	220	80	650	2,010

Note: ¹All figures rounded to the nearest 10 acre-feet

Metric	LOBP Goal	DRAFT Values from 2020 Data
Basin Yield Metric:	80 or less	73
Water Level Metric:	8 feet above mean sea level or higher	1.8 feet above mean sea level
Chloride Metric:	100 mg/L or lower	205 mg/L
Nitrate Metric:	10 mg/L or lower	pending*

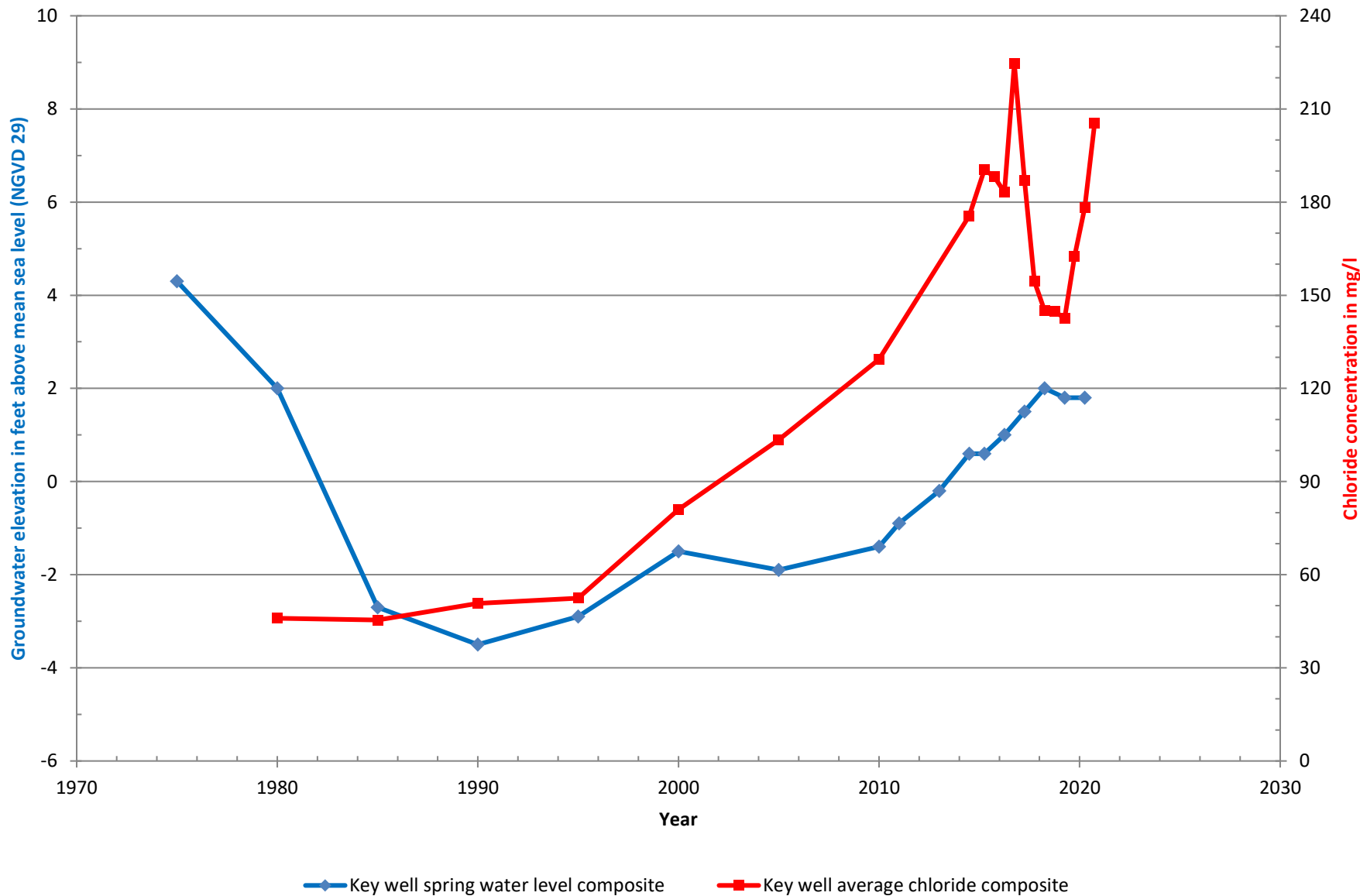
*Pending final 2020 Nitrate Monitoring Report

DRAFT

DRAFT Table. Recycled Water Uses in the Urban Water Reinvestment Program		
Potential Use	LOBP Planned Annual Volume (AFY)	Actual Annual Volume in 2020 (AFY)
Broderson Leach Fields	448	456
Bayridge Estates Leach Fields	33	9
Urban Reuse	63	0
Sea Pines Golf Course	40	67
Los Osos Valley Memorial Park	50	0
Agricultural Reuse	146	0
Total	780	532

DRAFT

Chloride and Water Level Metric Lower Aquifer



TO: Los Osos Basin Management Committee

FROM: Dan Heimel, Executive Director

DATE: March 25, 2021

SUBJECT: Item 8b - Formalizing the Process for Implementation of Adaptive Management Plan

Recommendations

Recommendation: Approve the proposed approach and resolution for formalizing the procedures of implementing the Adaptive Management Plan or provide alternate direction to staff.

Discussion

Section 16.2.4 of the Basin Plan provides a generalized description of how Adaptive Management can be utilized to ensure that the overall objectives of the groundwater basin are met. However, it does not outline the specific process that the BMC would utilize to make changes to the Basin Plan Programs and/or strategies otherwise set forth in the Basin Plan.

To provide additional structure and formalize the process for implementing Adaptive Management, BMC Staff developed the following procedure and the attached resolution for the BMC's consideration.

Proposed Process for implementing Adaptive Management modifications to Basin Plan

1. BMC directs BMC Executive Director, contract Hydrogeologist or other consultant (BMC Staff) to perform an evaluation of a potential Basin Plan Adaptive Management modification to a Basin Plan program or strategy as part of an appropriately described item on a BMC meeting agenda.
2. BMC Staff performs the requested evaluation and prepares an Adaptive Management modification recommendation for BMC review and approval.
3. BMC reviews and adopts, if approved, the Adaptive Management modification.
4. Status of Basin Plan Infrastructure Projects and Basin Plan Description in Annual Report is modified to reflect the Adaptive Management modification.

This proposed process for implementing Adaptive Management modifications to the Basin Plan is described in more detail in the attached resolution. Developing more formalized processes for utilizing Adaptive Management to modify elements of the Basin Plan has been identified as beneficial for the following reasons:

Formalizes Existing Procedures – Historically, the BMC has performed Adaptive Management as outlined in the Basin Plan and the proposed resolution confirms and clarifies the procedure for utilizing Adaptive Management to modify elements of the Basin Plan.

Coordination with Land Use Planning Documents – The Los Osos Community Plan, which includes the framework for potential new development in Los Osos, ties the timing for allowing new development to key Basin Plan Program implementation milestones. Formalizing the process for implementing the Adaptive Management Plan will assist in clarifying the status of the different Basin Plan Programs.

Financial Considerations

Performing the requested evaluation of potential modifications to Basin Plan Programs through Adaptive Management is not included in the base scope of work for hydrogeologic services. However, the approved CY 2021 BMC Budget includes a specific line item for Technical Support/Adaptive Management Services. It is anticipated that this budget item will be utilized to fund the evaluation of modifications to Basin Plan Programs, as requested by the BMC.

Los Osos Basin Management Committee

_____ day _____, 20 __

PRESENT: Directors

ABSENT:

RESOLUTION NO. 2021-__

RESOLUTION FORMALIZING THE PROCESS FOR IMPLEMENTING THE ADAPTIVE MANAGEMENT PLAN WITHIN SECTION 16.2.4 OF THE BASIN PLAN FOR THE LOS OSOS GROUNDWATER BASIN

The following Resolution is now offered and read:

WHEREAS, on October 14, 2015, Judge Martin J. Tangeman of the San Luis Obispo Superior Court (“Court”) signed an order approving the integrated Stipulated Judgment and Basin Plan for the Los Osos Groundwater Basin (“Basin Plan”) agreed to by the four parties to *Los Osos Community Services District v. Golden State Water Company, et al.* (CV 040126), namely the Los Osos Community Services District, Golden State Water Company, S&T Mutual Water Company and the County of San Luis Obispo (collectively, “Parties”); and

WHEREAS, the Stipulated Judgment creates the Los Osos Groundwater Basin Management Committee (“Basin Management Committee”) to implement the Stipulated Judgment and the Basin Plan and to engage in such other activities as may be necessary or appropriate to ensure their successful implementation; and

WHEREAS, various provisions of the Stipulated Judgment and Basin Plan require regular review and reporting, to wit: Section 7.6.2 of the Basin Plan requires preparation of an annual report as part of the Groundwater Monitoring Program that includes monitoring results and recommended changes to said Program; Section 16.2.3 of the Basin Plan requires periodic review to determine if, among other things, additional data collection or technical analyses are necessary, whether the Basin Plan metrics should be modified pursuant to the Adaptive Management Plan described in Section 16.2.4 and whether the Basin Plan programs have been implemented as planned and have had the predicted impact; and Section 5.8.3 of the Stipulated Judgment similarly requires preparation of an annual report which includes an update on the status of the Parties’ efforts to implement the Basin Plan; and

WHEREAS, consistent with the above requirements, each year since its inception, the Basin Management Committee has retained a consultant to prepare an annual report that describes the results of the Groundwater Monitoring Program (and previously adopted updates thereto) and recommended changes to said Program as well as a description of the status of implementation of the Basin Plan programs more generally (and previously adopted modifications thereto pursuant to the Adaptive Management Plan); and

WHEREAS, given the generality of the description of the Adaptive Management Plan in the Basin Plan and the desire to provide other agencies with the status of implementation of the

various Basin Plan programs, any modifications to these various programs, or any modifications to the strategy, metrics, or other elements set forth in the Basin Plan, the purpose of this Resolution is to formalize the manner in which the Basin Management Committee will implement the Adaptive Management Plan.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED by the Board of Directors of the Basin Management Committee, that the Adaptive Management Plan will be implemented and documented in accordance with the following process:

- Section 1. First Step. At its discretion, the Basin Management Committee shall direct the Executive Director, or approve a contract for a hydrogeologist or other consultant, to perform an evaluation of a potential modification to a Basin Plan program, strategy, metric, or other element set forth in the Basin Plan as part of an appropriately described item on a Basin Management Committee meeting agenda, subject to the following limitation: separate authorization shall not be required for the consultant previously retained by the Basin Management Committee to prepare the annual report to propose modifications to the Groundwater Monitoring Program therein.
- Section 2: Second Step. The Executive Director, hydrogeologist, or other consultant, as applicable, shall prepare a written recommendation in response to the direction described in Section 1 for consideration by the Basin Management Committee during a subsequent meeting. The written recommendation or accompanying staff report shall address whether the modification requires an amendment to the Basin Plan. All required amendments to the Basin Plan shall be adopted by the Basin Management Committee consistent with the requirements set forth in the Stipulated Judgment.
- Section 3: Third Step. Any modification to a Basin Plan program, strategy, metric, or other element set forth in the Basin Plan, as well as any related amendment to the Basin Plan itself, approved by the Basin Management Committee, shall be documented in the next annual report.

Upon motion of Director _____, seconded by Director _____, and on the following roll call vote, to wit:

AYES:
NOES:
ABSENT:
ABSTAINING:

the foregoing Resolution is hereby adopted on the ___ day of _____, 20 _____.

ATTEST:

By: _____
Secretary