



California Regional Water Quality Control Board Central Coast Region

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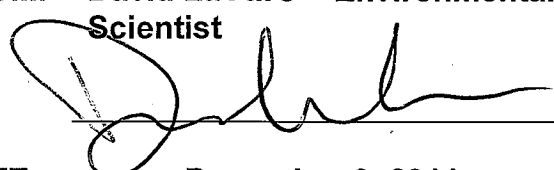
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MEMORANDUM

TO: Central Coast Regional Water
Quality Control Board

FROM: David LaCaro – Environmental
Scientist

DATE: 
December 9, 2011

UPDATE ON THE LOS OSOS GROUNDWATER BASIN ISJ WORKING GROUP'S ACTIVITIES, SAN LUIS OBISPO COUNTY

Background

Domestic water for the Los Osos community is produced by three main water purveyors, Golden State Water Company (GSWC), Los Osos Community Services District (LOCSO), and S and T Mutual Water Company (S&T). To resolve a formal complaint that was filed in San Luis Obispo County Superior Court by the LOCSO, the three main water purveyors and San Luis Obispo County entered into an Interlocutory Stipulated Judgment (ISJ) on August 5, 2008. The ISJ allows for the parties to cooperatively assess, develop, and implement a plan to address water rights and use in the Los Osos Basin. The County's participation in the ISJ Working Group allows coordinated efforts between the construction of the wastewater project and water management in Los Osos.

2010 Los Osos Groundwater Basin Update

The ISJ Working Group notified the public of their efforts through the May 5, 2010 Los Osos Groundwater Basin Plan Update. The update included a discussion of various ISJ Working Group activities that will be investigated and considered to balance the Los Osos groundwater basin. The basin is currently not in balance; pumping withdrawals exceed the safe yield of parts of the basin's aquifers, leading to seawater intrusion. Central Coast Water Board staff wrote a memorandum on July 23, 2010, which described the ISJ Working Group's activities in detail. The memorandum can be found at the following link.

http://www.swrcb.ca.gov/centralcoast/water_issues/hot_topics/2010_07_23_ISJ_working_group_memo.pdf

2011 ISJ Working Group Status Update

On October 6, 2011, Rob Miller (LOCSD contract engineer and ISJ Working Group representative) provided a status update on the ISJ Working Group's current activities (funding, draft basin plan development) and an overview of the April 2011 draft conservation evaluation (Maddaus Report) at a LOCSD meeting. The October 6, 2011 LOCSD meeting agenda, staff report, and minutes can be found at the following link.

<http://www.losososcscd.org/cm/board/AgendaandMinutes/Board%20Meeting%20Agendas%20and%20Minutes.html>

ISJ Working Group Goals

The ISJ Working Group established goals that guide the group's decision-making process. These goals include writing a comprehensive Los Osos Basin Plan (Basin Plan), coordinating and aligning efforts with the County's Los Osos Wastewater Project, developing concrete actions to address seawater intrusion, implementing the Los Osos Basin Plan with built-in flexibility based on new information, and reinstituting the quarterly groundwater monitoring and reporting program to track groundwater quality as activities are being implemented. At this time, some elements of the draft Basin Plan are far along. However, the ISJ Working Group is working on resolving some remaining elements of the Basin Plan. . The ISJ Working Group will release the draft Basin Plan for public review and comment. Although a specific release date has not been provided, the ISJ Working Group says it is working diligently to release it as soon as possible.

Current Activities

Water Conservation Activities – The ISJ Working Group's water conservation measures currently in progress include the County's Retrofit-Upon-Sale Program and the New Development Offset Program, which have already converted several hundred fixtures in the community; installation of water meters in the S&T service area, which should serve to reduce lower aquifer pumping in their service area; purveyor-specific rebate programs where purveyors provide a discount for the replacement of old fixtures with low flow fixtures; and implementation of the water conservation program, which will begin in spring of 2012. These programs are designed to decrease water use through retrofit programs and increase awareness of water use within the community. Similarly, the County is developing its own water conservation plan associated with the permitting of the wastewater project pursuant to the California Coastal Commission Coastal Development Permit.

Basin Plan Delineation – The ISJ Working Group developed various maps that delineate the boundary of the basin. The map includes water purveyor service areas, rural residential parcels within the Basin Plan area served by individual/private wells, delineated open space areas, and agricultural parcels. Parcels identified within the Basin Plan area will be subject to ordinances and actions to manage groundwater that are adopted as part of the Basin Plan.

Groundwater Basin Modeling – The ISJ Working Group has developed multiple iterations of groundwater modeling. Each modeling scenario includes variations of well production (i.e., upper to lower aquifers and pumping areas located east to west). The goal of the groundwater models was to establish an approximate safe pumping yield rate. A safety factor of 10 to 20 percent, based on uncertainties of each groundwater model, was used in determining the theoretical safe pumping yield. If the estimated safe pumping yield is maintained, the ISJ Working Group anticipates that the seawater intrusion wedge in the upper zone of the lower aquifer (Zone D) will recede in a westerly direction. The safety factors and modeled safe pumping yields will be incorporated in to the draft Basin Plan for public vetting.

Increasing Upper Aquifer Production – The ISJ Working Group is currently pursuing activities that will maximize production in the upper aquifer. As an example, the LOCSD recently applied for Proposition 84 grant funds (through the state Department of Public Health) to establish an upper aquifer nitrate removal facility at the new South Bay upper aquifer well, using ion exchange. As part of this effort, construction bidding documents have been prepared with the intent of advancing the project quickly in the event grant funds are secured. The ISJ Working Group is also considering a centralized nitrate removal project, which will likely be described at a programmatic level in the first draft of the Basin Plan. Currently, the conceptual centralized nitrate facility has not been funded or designed.

The ISJ Working Group also recognizes that recent technical information indicates that the upper aquifer can safely yield more water, from a quantity basis, as opposed to a quality basis. As such, the LOCSD is currently maximizing production from its South Bay lower aquifer well (Dave: but doesn't that increase overpumping from the lower aquifer?) with the intent of lowering nitrate to a level appropriate for blending with its new upper aquifer well.

GSWC is also pursuing increased production from the upper aquifer through the implementation of the Rosina well blending project. This funded project includes the construction of a pipeline from the upper aquifer Skyline Well to the lower aquifer Rosina Well for the purpose of blending. GSWC is currently pursuing a coastal development permit for the project through San Luis Obispo County.

Minimizing Westerly Pumping Activities – Both the LOCSD and GSWC continue to utilize easterly production facilities to the extent practical, including maximizing production at the GSWC South Bay Well and LOCSD's South Bay lower aquifer well. More pumping in the east reduces pumping on the westerly front, which leads to less immediate pressure reductions in the west, for interim seawater intrusion relief. GSWC recently placed its deep aquifer Pecho Well, which is located within the westerly portion of the basin, on standby status with Department Of Public Health. It will only be used for emergency purposes. The focus of current infrastructure projects is on increasing upper aquifer production as described above.

Maddaus Report – On April 5, 2011, the ISJ Working Group publicly released the draft 2011 Water Demand Analysis and Water Conservation Evaluation (Maddaus Report). The purpose of the Maddaus Report was to analyze various water conservation options for future funding and implementation. The report focused on five main conservation goals: 1) forecast future water demand under various water conservation scenarios, 2) estimate conservation costs and related water savings, 3) analyze individual conservation measures, 4) group conservation measures into defined programs, and 5) assess effectiveness of programs to meet the indoor use goal of 50 gallons per person per day. The report analyzed 31 conservation measures and specifically evaluated the water savings, associated costs, and cost-to-benefit ratios. Furthermore, the report identified five water conservation programs, which contained different combinations of the 31 different water conservation measures based on associated costs, water savings, and overall benefit. The report concluded that three programs did not meet the goal of 50 gallon per capita per day. However, the report recommended that a combination of elements from the other two programs might be implemented as both programs provide a favorable cost-to-benefit comparison and will meet the water saving goal of 50 gallons per capita per day. The selected water conservation program will have to align with the County's water conservation program pursuant to the coastal development permit, which will ultimately be approved by the California Coastal Commission.

Future Activities

ISJ Working Group Input in the County's Urban Reuse Program – Many areas identified for urban reuse (e.g., schools, community park, cemetery) as part of the greater Los Osos Wastewater Project are customers of GSWC and LOCSD. The GSWC and LOCSD will have input in the County's Urban Reuse program in order to ensure that the reuse program aligns with the draft Basin Plan. Furthermore, the ISJ Working Group will provide input regarding dual-plumbing for subdivisions, new development, and other areas where feasible.

Comprehensive Groundwater Monitoring – The ISJ Working Group proposes to reinstitute groundwater monitoring for the three aquifer layers (e.g., perched or first

water, upper, and lower). The ISJ Working Group is currently developing a groundwater monitoring plan that will be incorporated into the draft Basin Plan. The comprehensive groundwater monitoring program will be consistent with the Central Coast Water Board's Monitoring and Reporting Program (MRP) for the County's Wastewater Project, which will begin prior to the wastewater facility's start-up

County Basin-Wide Special Tax – The County may consider establishing a specific tax for all basin users. This will provide a consistent funding source for projects associated with the management of the basin (i.e., new production wells, conservation activities, nitrate removal activities) to meet current and future demands. However, the County has not formally proposed a special tax at this time.

Anticipated Legal Activities – The ISJ Working Group anticipates that once the draft Basin Plan and associated legal boundary is complete, a "watermaster" will be established to manage the basin. The ISJ Technical Group could perform this function. A framework will be established to share operations and funding of future production facilities (i.e., nitrate removal facilities, interties, etc.) and to seek opportunities to involve users (i.e., agriculture parcels and private well owners) outside of the purveyors' service areas, such as basin-wide ordinances for water use.

Concluding Observation

The Los Osos groundwater basin has been damaged by 1) wastewater from septic tanks causing nitrate degradation and contamination, and 2) excessive pumping of the lower aquifer with resultant seawater intrusion. The nitrate problem has caused purveyors to curtail shallow well use in recent years. This shallow aquifer abandonment has led to increased deeper pumping which has greatly exacerbated seawater intrusion. Both nitrate and seawater render water undrinkable without expensive treatment or blending. This lack of wastewater and pumping management is proving costly to the community. The County is proceeding with improved wastewater management to deal with the nitrate problem (and other wastewater caused problems), and the ISJ working group is working on overall basin management including managed pumping. All participants are working on conservation to reduce the demand, which will reduce the difficulty of pumping management. With reduced demand, nitrate control, and pumping management, the groundwater basin can be brought back into balance to repel seawater intrusion.

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