

**SOQUEL/APTOS GROUNDWATER MANAGEMENT PLAN
BASIN IMPLEMENTATION GROUP (BIG)
SPECIAL MEETING MINUTES
August 14, 2014**

1. CALL TO ORDER

Bruce Jaffe, Soquel Creek Water District called the meeting to order at 6:03 p.m.

2. ROLL CALL

Committee Members Present:

Bruce Jaffe, Soquel Creek Water District
Don Hoernschemeyer, Soquel Creek Water District
John Benich, Central Water District
Bill Wigginton, Seascope Greens Homeowners Association

Committee Members Absent:

Bob Postle, Central Water District

Others Present:

Kim Adamson, General Manager, Soquel Creek Water District
Ralph Bracamonte, General Manager, Central Water District
John Ricker, Santa Cruz County Water Resources Division Director
Isidro Rivera, City of Santa Cruz Water Department
Brian Lockwood, Pajaro Valley Water Management Agency
Karen Reese, Executive Assistant/Board Clerk, Soquel Creek Water District

Others Present:

Cameron Tana, HydroMetrics, WRI participated via conference call
2 members of the public

3. APPROVAL OF MINUTES

3.1.1 June 24, 2014

One minor correction was made.

3.1.2 November 12, 2013 Regular Meeting

Minutes could not be approved for this meeting as those present at the 11/12/13 meeting were not present tonight to vote. The minutes will be brought back to a subsequent meeting.

<p>MOTION: Don Hoernschemeyer; Second; Bill Wigginton: To approve the minutes of June 24, 2014 with corrections. Motion passed.</p>
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4. ORAL COMMUNICATIONS

Don Heichel spoke about regional solutions of the major users of the Soquel/Aptos watershed. He feels that a missing component is the benefits to all the parties of a major recycling plant similar to one in San Jose and changing waste water to a resource.

Director Hoernschemeyer noted recycled water is an active investigation and invited Mr. Heichel to attend the August 26th special meeting of the Soquel Creek Water District where supplemental supply options will be discussed.

5. ADMINISTRATIVE BUSINESS

5.1 Consider Scope of Work from HydroMetrics WRI to Prepare a Basin Groundwater Model

Cameron Tana, HydroMetrics, WRI participated via conference call to answer questions from the committee.

Ms. Adamson reviewed the background regarding preparation of a groundwater model as outlined in her memo. The Scope of Work was presented to the Soquel Creek Water District's Board. The presentation was not given tonight as Soquel Creek Water District's Board has seen it and Central Water District has gone through the process of a water model. The City of Santa Cruz would possibly cost share in this process to include their portion of the basin in the model. To make this a regional effort, it was decided to have the groundwater model come from the BIG to include all users in the basin. Ms. Adamson noted the Grand Jury's report recommended the same thing. This would allow for future groundwater management to be cost-shared by all users in the basin. Central Water District has a credit toward future cost-share projects.

Mr. Tana reviewed the purpose of a water model. The proposal would take the existing Central Water District's model and extend it out to the west to cover the Purisima area. One of the important goals of a groundwater model is to understand of what the stakeholders want to get out of the model. The scoping efforts will bring together the staffs of the funding partners and others who have been identified to discuss what questions they want the model to answer. If changes come up during the scoping process, Mr. Tana would bring updates to the BIG.

Director Hoernschemeyer stated four outcomes that he understands the model would identify and asked Mr. Tana if these are correct.

- 1) Define potential for recharge by injection
- 2) New estimation of septic return
- 3) Recovery times for aquifer
- 4) Revision of protective levels with when the pumping is included (groundwater levels or pumping goals?) Original model did not include pumping? Would protective levels change?

Mr. Tana replied that the first three items will be included. Septic return will need to be defined and would be more information input to the model. He does not anticipate that the protective groundwater levels would change.

There is future work proposed to help identify where the interface is but at this time we don't have that information. The protective elevations are the best goal for keeping seawater intrusion offshore over the long term. If the pumping plans are decreased due to supplemental supply or different water use, HydroMetrics can see how the groundwater levels respond to the change in that pumping and if they respond such that the water levels are recovered to the protective elevations that have already been estimated then the simulation would show how the basin recovers with this plan. So he does not see the protective elevations changing, but using that as a goal to see what the effect of pumping is.

Mr. Bracamonte asked about Technical Advisory Committee (TAC) meetings and when they would be held.

Mr. Tana replied that part of the first task of scoping will be to come up with a work plan and a schedule for when TAC meetings will occur.

Mr. Ricker asked about the impacts on the inland pumping. Would the model help to evaluate those impacts and to also get a sense of how far inland the influence of inland pumping affects the coast?

Mr. Tana replied that is correct. It depends on the hydrogeology knowledge that is input into the model and assumption that are taken and how it relates to the kinds of groundwater flow.

Mr. Ricker commented the model could show what the impacts of a 15-20% reduction of pumping across the board would be. That helps the County work on support policies for working with the inland pumpers. The State has designated the Soquel valley having a high priority alluvial basin with regard to stream/aquifer interrelationships. Would an alluvial layer be needed going up the valley? He could possibly find funding through the County to help with some of the inland questions.

Mr. Tana agreed that was a topic that has come up in their investigation of how to do the stream/aquifer interactions.

Director Jaffe noted that once the model is built there might be additional uses for the model in the community. Is there framework in place to make this available to anyone who wants to use it?

Mr. Tana replied this will be the BIG's model and once it's finished they can have anyone use.

Mr. Jaffe felt that his experience with community models is that when you have multiple using it you learn.

Ms. Adamson noted that staff was approached by Andy Fisher who is moving forward with a project to study managed aquifer recharge in our basin with an almost an identical timeline with discussion about which portions of the projects could be shared. What they do will be available to the BIG. Mr. Fisher expressed interest in sitting on the TAC for this groundwater model.

Ms. Adamson talked about the ability to model and see what our effect is on stream flows. The recent water bond has funds for restoration and would a recycled water project that restores habitat would increase grant funding ability, i.e. habitat restoration.

Mr. Tana felt that would be a compelling application for funding.

Director Hoernschemeyer was glad to see that the model mentions steam flows and evaluating the impact of pumping and recharge and injection scenarios. Fish need more attention.

Ms. Adamson noted there will be support for HydroMetrics from USGS in doing the model. There will be a separate proposal for support costs in the range of \$50,000 - \$100,000. There will be another proposal from USGS to do a project the SqCWD has budgeted for to try to identify where the seawater interface is which will make this model more valuable.

Mr. Wigginton would like to understand the level of effort and cost for the two years identified in the proposal. At the end of the second cycle would the model be complete? Will another consultant review the model to see whether that's the one that is going to be adopted? Will that take another year?

Mr. Tana answered that a model that will answer the questions as outlined is proposed to be completed in the two year time period. As far as further review, the idea is to have the TAC doing review during the development process as it goes along. Additional questions that could be future work, integrating the USGS's work looking for seawater interface would be additional work as that study won't be completed in the two year time frame.

Director Jaffe asked if the model would be predicting where the interface is.

Mr. Tana said that there could be an estimated interface in the Aromas area where seawater intrusion is seen in the monitoring wells. In the Purisima area, the intention is to use the protective elevations as the goal for basin recovery and management.

Director Jaffe asked if HydroMetrics has done similar work before and of this scope and what was their experience.

Mr. Tana replied that they have worked on several models throughout California and that two years is a reasonable time frame based on experience.

Mr. Wigginton asked about water quality data and putting it into the framework of 1984 to 2014. The dates match exactly the last wet cycle. We are going into a dry cycle of the last three years which would then flow for some time. A model would be created for a wet cycle. Could that be used for 20-35 year dry cycle? Would the elevation and sustenance of the groundwater level be such that this could be usable no matter we are in a long dry cycle or a long wet cycle?

Mr. Tana noted that for different climatic regime it won't be as well tested. He felt it was important to include data through 2014 water year because it has been such a dry year to try and simulate these conditions. It's reasonable use of the model to test what the effect of longer term climatic cycles would be.

Director Jaffe noted he works with modelers and has done modeling himself and asked about not using all of the data for calibrating; to calibrate with part and validate with another part. He asked how the model would be validated. How would you test the model if all the data is used to create?

Mr. Tana noted their philosophy is to use all the available good data to calibrate the model but one place where validating the model could work is this dry period the past couple of years. The model can be revised as new data comes in.

Director Hoernschemeyer added that this is a scientific process. One test is that you make a prediction of what results you can expect and then you can compare the data. You could use a model to predict what would happen in the groundwater in the next year if the rainfall was x or y.

Mr. Bracamonte asked if they were able to look at the PVWMA model overlap and be able to compare data and verify.

Mr. Tana said data could be compared but would not verify this model against the PVWMA model. His understanding of the overlap of their model is that they were not focused that area; it's more of a boundary so they were not concerned about calibrating that area. He would be hesitant to verify what we are doing with that model.

Ms. Adamson asked if that would prevent us from being able to get an accurate picture of what our outflow is to Pajaro with the groundwater model.

Mr. Tana replied that the Central Model does have that boundary so for what is assumed for that boundary they can potentially estimate flow to Pajaro Valley.

Brian Lockwood shared information regarding their water model. The PVWMA model focuses on the alluvial layer and the Aromas Red Sands which they broke into an upper and lower aquifer. Part of the Purisima is also in the model. 500 meters are modeled. Their model could be used to help establish boundary conditions for this new model but not to verify. The TAC was immensely important for developing the model. The Managed Aquifer Recharge (MAR) study with Andy Fisher was done in the Pajaro Valley and was very useful for them. In Santa Cruz County there were mapped recharge zones that had been around for a long time. They were able to use PVWMA's model which was developed by the USGS and is publicly available. The MAR suitability study helped to redefine where the best recharge areas are in Pajaro Valley. Having more people use the model helps to pick out if there are problems. Presently PVWMA is working towards an update to the model. He would encourage HydroMetrics to consider the USGS's consolidated version of several mod-flows called One Water Hydrologic Model (OHM). He noted that agencies build models, use them, then shelve them and they are not easily upgraded. The new code would allow for easier updates by staff. When it came to doing the calibrations and predictions that information went through the TAC and one of the ways they knew whether or not the model was performing well was comparing the simulated water level elevations to observed water level elevations in key monitoring wells. In their case, they developed the model which ran from 1964 through 2009. In order to use it in their basin management planning effort they had to develop a base case from that model. That was a separate effort and took the prior 30 years of hydrology and flipped to be 30 year into the future. From that they were able to put in different scenarios. Once the model is done it becomes a tool to test different water management scenarios. In response to Director Jaffe's of whether the model has resulted in any basin management decisions, Mr. Lockwood noted that the Board formed an ad-hoc basin management planning committee in late 2010 after the model was completed. That committee worked from 2011 – 2013 to come up with different projects and program that could be used to stop groundwater overdraft and halt seawater intrusion. The model was used to test the different scenarios. The Board then looked at results and recommendations from the ad-hoc committee.

Director Jaffe commented on possible alternatives and scenarios where pumping is shifted to Central Water District.

Mr. Bracamonte noted that Central Water District's board will be reviewing that on Tuesday night.

Ms. Adamson clarified new wells will not be drilled but water would be transferred if it would help the basin.

MOTION: Don Hoernschemeyer; Second; John Benich: To approve the proposal from Hydrometrics WRI to develop a Soquel Aptos Basin Groundwater Model with costs share based on 2014-2015 member cost share. Motion passed unanimously.

Mr. Tana was thanked for his participation in tonight's discussion and exited the conference call.

Other Discussion

Director Hoernschemeyer asked Ms. Adamson about the Grand Jury responses from the BIG. Ms. Adamson noted the joint response was already submitted. Individual responses need to be sent directly by each BIG board member. Once the Grand Jury has all responses they will be posted on their website.

6. INFORMATION ITEMS

6.1 Oral staff reports

Soquel Creek Water District

Ms. Adamson reported the following:

- A staff level meeting is in the works for the current BIG membership together with the potential invited members to talk about updating bylaws and agreements. Russell McGlothlin has submitted a proposal to provide legal assistance in this effort. The City of Santa Cruz has not accepted the invitation as of this time; they want to see what the larger committee will look like.
- USGS will be here to discuss support of the groundwater model and the seawater interface location project. After review by the BIG those proposal will need to go to the individual boards.
- The \$7.6 billion water bond was signed today for. Another \$15 million for central/north coast projects was added. The north coast is defined as the Marin/Sonoma area and the central coast is here to Santa Barbara.
- The groundwater legislation is still pending with one more amendment made. Changes include an added definition of deminimus pumpers; that is anyone who is residential that pumps less than 2 afy. The mandate for metering wells has been removed.
- There will be an agenda item for the September 2nd SqCWD board meeting to amend the Urban Water Management Plan (UWMP) to meet the State's requirements on daytime watering. This is already in the water waste ordinance but not in the UWMP.

Central Water District

Mr. Bracamonte reported the following:

- Central Water District's (CWD) Board has approved notification to their customers to cut back. Since that notice went out customer use has been down up to 27% compared to the prior year.
- August 19th the CWD Board will be considering a toilet rebate program and will most likely approve it.
- Banners thanking customers will be put out
- Customers will be asked what types of rebates and other conservation measures they would like to assist them in conserving water.
- CWD has received calls for speakers. One of their large developments has allowed half of their greenbelt to go dry.
- CWD will pass a resolution at their next meeting with regards to conservation measure to comply with State regulations.

County of Santa Cruz

Mr. Ricker reported the following:

- On August 19th there will be two items on the Board of Supervisors agenda. One is the invitation to join the BIG. There will be some discussion of the letter from SqCWD's request for assistance for the groundwater emergency. Two members of the Board of Supervisors will be appointed to discuss the groundwater emergency with SqCWD.
- Another item is an urgency measure, to go into effect immediately, to increase the County's water conservation requirements adding two measures to limit outside watering hours between 10am – 5pm and limiting outside watering to two days per week to mirror what the State Water Board adopted.

Additional Oral Communications

Director Jaffe asked Ms. Adamson to discuss the report presented to SqCWD by Todd Engineering regarding peer review of the hydrologic studies done by HydroMetrics. The peer review agreed the basin is in overdraft. It agreed the right measures to determine what the protective levels are. They differed in the sustainable yield figures. Better information can be obtained with a groundwater model. SqCWD's Board accepted the report and recommended staff further investigate septic recharge and asked the two hydrologist prepare an executive summary of the differences between their reports and what it would take to determine the where the differences come from and how to deal with it. Ms. Adamson will bring the peer review report to a future BIG meeting for the committee to review.

Mr. Heichel noted that he has talked with Rich Persoff at Pajaro Valley. They are building a 1 million gallon tank to smooth out their delivery of recycled water and discussed agricultural watering at night. He suggested

extending a pipeline to use recycled water for night-time irrigation at the Seascope golf course and Seascope Green.

Mr. Lockwood talked to Mr. Heichel's idea noting that there is funding through the IRWM to construct a 1.5 million gallon tank at the recycled water facility. The pipeline extends as far north as Sunset Beach. PVWMA's delivered water area can service an area that uses 10,000 afy. The capacity that their facility can produce which includes recycled water (4,000 afy), water from a management aquifer recharge and recovery project (250 afy) and connection to City of Watsonville potable supply and some potable wells. All that goes into the distribution system and out to the growers. They have been trying to increase customer demand to take more of that water. There is not enough water to meet at the summertime demand for the farms. The operators have instituted, during the peak month periods, that one county gets water in the day time and another county gets water in the nighttime. Part of the problem is it's not safe to irrigate during the night. The idea of building the extra storage is to run the treatment facility at night, store that water, and deliver it in the day. Current PVWMA has an anti-export ordinance which would need to be reviewed. There is a question of whether or not there is truly excess water. Their current demand is 10,000 afy and supply is approximately 5,000 afy. The basin management plan does call for building more storage tanks in the future.

7. **ADJOURNMENT**

Being no further business, the meeting was adjourned at 7:35 p.m.

SUBMITTED BY:

APPROVED BY:

Karen Reese, Board Clerk

Kim Adamson, General Manager
Soquel Creek Water District