

## **MEETING NOTES | April 10, 2014**

### **Santa Rosa Plain Basin Advisory Panel**

#### **MEETING IN BRIEF**

##### **Announcements.**

- Consultant Tim Parker offered numerous announcements pertaining to state-wide water policy developments. (See Attachment A.)

##### **Meeting Overview.**

- A team of USGS scientists presented the USGS Study (Part II) to the Panel and fielded questions.
- Facilitator Marci DuPraw (CCP) and Pam Kuhn (The Water Agency) provided a progress report on behalf of the Community Forums Planning Committee and elicited feedback on draft publicity materials.
- Technical consultant Tim Parker and Project Manager Marcus Trotta oriented the Panel to revised draft Section 6 (Implementation) of the Groundwater Management Plan (GMP) and invited Panel feedback on it.

#### **The next Panel Meeting will take place May 8, 9:00-12:00, at 35 Stony Point Rd, Santa Rosa.**

Topics: The May Panel meeting will focus on review of the full draft GMP, including the Executive Summary, to confirm that it is ready to share with the public via the May community forums as a consensus work product of the Panel, fine-tuning plans for the community forums, and discussing the possible establishment of a subcommittee to pursue funds for implementation of specific project recommended in the GMP.

#### **MEETING SUMMARY**

##### **USGS Presentation on Model Report (Part II of USGS Study)**

Dr. Linda Woolfenden provided a PowerPoint presentation on the USGS Model Report (part II of the USGS study supporting the development of the GMP. Her colleagues, Dr. Tracy Nishikawa and Dr. Claudia Faunt, joined her afterwards in fielding questions from Panel members and observers. Technical consultant Tim Parker also helped answer questions. Dr. Woolfenden's slides are available via the following Dropbox link:

[https://www.dropbox.com/s/vgxzz4ztsw5sdg/SRP\\_Meeting\\_USGS041014b.pdf](https://www.dropbox.com/s/vgxzz4ztsw5sdg/SRP_Meeting_USGS041014b.pdf)

Dr. Woolfenden began by describing the way in which the model had been developed, the assumptions and limitations associated with it, and the fact that there is inevitably some uncertainty associated with any model. She then shared modeling results focusing on: (1) the conceptual model which forms the basis of the computer model; (2) model inputs; (3) calibration of the model; (4) model results, including four hypothetical climate scenarios, ranging from drier to wetter climate conditions. The model calibration period and results cover the years 1976 through 2010 and the climate change scenarios cover the years 2010 through through 2040. Precipitation becomes more variable under all four scenarios. Groundwater pumping goes up 25-40% over the historic levels under various scenarios. Under some scenarios, groundwater recharge shows a net increase over this timeframe, and

under other scenarios it shows a net decrease. Temperature increases under all scenarios, with exponential increases taking place after 2040 due to global warming. Under most scenarios, streamflow declines; the model indicates that some segments of “gaining” streams (fed by groundwater) convert to “losing” streams (where more water is lost from the stream to groundwater than the other way around).

Dr. Woolfenden also showed the net change in groundwater storage under four different situations based on the 1976 to 2010 model runs, as follows:

- a. Long-term average (1976-2010) = net decrease of 3,300 acre feet per year;
- b. Short-term average (2004-2010) = net decrease of 4,800 acre feet per year;
- c. Dry year (2009) = net decrease of 20,800 acre feet; and
- d. Wet year (2006) = net increase of 19,400 acre feet.

➤ **Discussion:**

- Question: Would it be possible to run the model based on the recent Russian River tree ring study showing climate variations and calibrate it to historical rainfall in this area? It seems like having that locally-“ground-truthed” context would help community members in this area understand the implications of this data.  
Response: Yes, that would be possible without too much difficulty. However, combining the two efforts might introduce additional sources of uncertainty into the results.
- Question: Did the USGS groundwater budget include the need to retain water in-stream (e.g., in the Russian River)?  
Response: Available streamflow data for streams within the Santa Rosa Plain Watershed is incorporated into the model and groundwater budget. However, the Russian River is located outside of the model area.
- Question: Can USGS say whether one of the four hypothetical climate change scenarios is more likely than the others?  
Response: No. All the climate change scenarios are theoretical solutions with increasing uncertainty the further out you go in time, and are equally possible based on the global climate change models.
- Question: did USGS include primarily perennial streams in the model?  
Response: No; the model included intermittent streams as well. There may be some minor tributaries that were not included, but generally, it is fairly comprehensive.
- Question: Did USGS take into consideration different degrees of conductivity, depending on groundwater depth? Is the shallow layer most conductive? Is there a difference in the effect of pumpage on streamflow, depending on the depth of the well?  
Response: The model goes down to a depth of 1,800 feet in the plains area of the basin – possibly more in the mountains. In general, hydraulic conductivity does decrease with depth and wells that are simulated within the shallower layers are more closely connected with streamflow.  
Question: Can USGS estimate the total volume of groundwater stored beneath the Santa Rosa Plain?  
Response: No. There is a huge volume of groundwater, but most of it is inaccessible due to the cost that this would entail. For that reason, the key numbers to pay attention to are changes in water budget components, such as groundwater storage and groundwater discharge to streams. The main limiting factor on how much groundwater is available is the point at which groundwater levels drop

below wells and streams. Most wells are within 300-400 feet of the surface (although a few go as deep as 1500 feet). Key take-away messages from this modeling study are that: a) groundwater and surface water are closely connected; and b) small, subtle decrease in groundwater levels may decrease streamflows, so we may well see changes in surface water flows if we don't carefully manage our groundwater.

- Question: You mentioned that USGS had to make some adjustments in calibrating the model to reflect agricultural and rural domestic groundwater pumping. Were there other variables that were adjusted as part of that calibration process?  
Response: Yes, there were quite a few variables that went into the calibration process, including land use, crop types, and water demand associated with specific crop types, hydrological and vertical connectivity, streambed conductance, and whether or not wells are perforated.
- Question: Should we be concerned about land subsidence, as is being experienced in the San Joaquin Valley, if we lose more groundwater storage?  
Response: The Technical Advisory Committee (TAC) and Panel have looked at this and do not think significant subsidence is likely because the soil types in the Santa Rosa Plain generally do not appear susceptible to subsidence, are very different than in the San Joaquin Valley, and less prone to compression. The draft GMP includes a recommendation to monitor for land subsidence; we could go further and recommend a satellite study, but that would be very expensive. Given that the TAC considers significant land subsidence unlikely, the TAC and Panel have concluded it is not a high enough priority to recommend such a large investment.
- Question: Are all the streams included in this study "blue line" streams (e.g., "first order" streams according to the National Hydrologic Data Set)?  
Response: Yes.
- Question: How did USGS deal with difference in the timing of use and inflow (e.g., if they occur at different times of the year)?  
Response: The stress periods in the model are monthly, while the results are annual, so that timing consideration is incorporated into the model.
- Question: Did USGS look at differences in streams with respect to their vulnerability to base flow changes?  
Response: Yes, in terms of annual average.
- Question: Are there any indicators that we could watch for, as time goes by, to tell us which of the four hypothetical climate scenarios is actually transpiring?  
Response: No. They are just four theoretical possibilities. Reality is unlikely to follow any one of them exactly. We'll have to pay attention to a mix of indicators going forward, such as temperature, greenhouse gas emissions, precipitation, streamflow, and groundwater elevations. We need better precipitation, pumping, and depth-dependent groundwater data. Once the GMP is approved and we move into the implementation phase, we may want to pick one scenario to start with – perhaps a conservative one – and factor in groundwater supply and demand projections, which the USGS study did not consider. (Weather variability makes that challenging.) We will probably need to look at data gaps that need to be filled. We may want to run different model scenarios to address future variations in conjunctive management (e.g., different ways to balance use of surface water and groundwater).

Technical consultant Tim Parker explained that this USGS model is very robust, and the calibration process described is normal procedure. He noted that the results of this modeling

study will be used to analyze various possible management scenarios in the next phase of the Panel's work (after the GMP is approved). Dr. Nishikawa said that the final report, some 350 pages in length, will be available on-line by Monday.

### **Revised Draft GMP Section 6 (Implementation).**

Technical consultant Tim Parker and Project Manager Marcus Trotta oriented attendees to revisions in Section 6 of the draft GMP since the Panel last reviewed it. Changes were relatively minor – primarily formatting (e.g., adding sample projects to Figures 6-3 through 6-8). They invited feedback at this time, but also indicated that further edits could be emailed to them through Friday, April 18.

- Question: Why are the projects in Figure 6-10 for “non-viticulture agriculture” only? Ironically, the photo illustration in that figure is of a vineyard!  
Answer: Viticulture agriculture is already practicing water conservation.  
Response: We shouldn't assume there are no further steps that sector can take.
- Suggestion: Please make the font for Table 6-1 be made much larger, since it is difficult to read. Anything else you can do to make its meaning more transparent and visually accessible would be good. It currently comes across as pretty unintelligible.
- Suggestion: Regarding Table 6-1, page 6-8, line 92, maybe we could put this item in green, reflecting the Winegrape Commission's recent pledge to be sustainable.

### **Progress Report on Spring Community Forums**

Facilitator Marci DuPraw and Pam Kuhn provided a progress report on behalf of the Community Forums Planning Committee. She reported that, as a result of excellent teamwork by all committee members, dates, locations, and speakers have been lined up for all four forums, as follows:

- **Sebastopol**: May 12 | 6:00-8:00pm  
Sebastopol Community Center, 390 Morris Street, Sebastopol, CA 95472
- **Windsor**: May 14 | 6:00-8:00pm  
Windsor Library Forum Hall, 9291 Old Redwood Hwy, Windsor, CA 95492
- **Rohnert Park/Cotati**: May 21 | 6:00-8:00pm  
Rohnert Park City Council Chambers, 6750 Commerce Blvd., Rohnert Park, CA, 94928
- **Santa Rosa**: May 28 | 6:00-8:00pm  
City of Santa Rosa Utilities Field Office, 35 Stony Point Road, Santa Rosa, CA 95401

The forum leads (particular Panel members) are continuing to work on securing sponsors and promoting the events. The Planning Committee, facilitated by Rich Wilson, will continue working into early May to ensure the format and agenda are just right. A dry run is being scheduled, to ensure that the presentation will be engaging for a lay audience. Marci distributed talking points for use by all attendees in getting the word out to the public about these forums. Pam Kuhn (Water Agency) distributed draft publicity materials, inviting feedback during this meeting and beyond. She noted that, per earlier Panel feedback, the draft press release no longer references the Sonoma Valley Groundwater Management Plan since Panel members indicated that circumstances giving rise to these two plans are too different to compare them. Also per earlier Panel feedback, Pam would like to include quotes from a diverse array of stakeholders, and would value Panel suggestions for quotes and/or candidates to quote, especially from representatives of agriculture, cities, and rural residential

wells. (She asked for feedback on the flyer by Monday, April 14, suggestions related to quotes by Friday, April 18, and feedback on the GMP “overview” brochure by COB Thursday, April 24).

### **Discussion:**

- Suggestion: The community forum presentation needs to appropriately convey the importance of the GMP. In a past presentation, a presenter made the point that the Santa Rosa Plain groundwater budget has an average annual deficit of about 2000 acre feet; that didn’t sound like a significant problem.  
Response: OK, that’s helpful feedback. We need to get across the problem of declining stream flows. Maybe it will help to show the overall groundwater trend first, and to make the point that the deficit becomes cumulative if we get a series of dry years.
- Suggestion: Please give the Panel an opportunity to review and comment in advance on the presentation that will be used for the community forums.  
Response: Good idea. We’ll distribute it to the Panel after the dry run (which is currently being scheduled).
- Suggestion: Please put the publicity materials for the forums on-line so we can easily download them.
- Correction: On the “From the Ground Up” publicity flyer, where the co-sponsors are listed, there is a word missing from the group listed as “Sebastopol Information Group.” It is the “Sebastopol **Water** Information Group.”
- Suggestion: On the “GMP overview” brochure, replace the photo with a map of the basin.
- Suggestion: Have a big map of the basin on an easel at the forums – ideally, showing major streets so that visitors can locate their homes on the map.
- Comment: The League of Women Voters is available to help with any or all of these forums if desired.
- Suggestion: Use the word “forums” consistently throughout the publicity materials, not “meetings.”
- Question: What do we mean by “sponsors”?  
Answer: Their role is to help publicize the events. It is not meant to convey that they have politically endorsed them, nor that they have helped fund GMP development or implementation.  
Response: Maybe it actually would be more appropriate to use the word “endorse” or “support.”  
Response: We’d have to go back to all of them to see if they are ok with a change in that word, since we used “co-sponsor” in talking to them about their role so far. That would be a lot of work!  
Response: Then maybe we could say the events are “co-sponsored by the Panel and others,” but not list the names of the others.  
Response: We could do that. We should list the members of the Panel somewhere, but probably not on the flyer because that would take up so much room.  
Resolution: This issue was deferred to the Community Forums Planning Committee to consider and resolve due to time limitations.

### **Action Items**

Panel members are asked to:

- Submit and further feedback on the “community forums flyer” to Pam Kuhn ([Pamela.Kuhn@scwa.ca.gov](mailto:Pamela.Kuhn@scwa.ca.gov)) by Monday, April 14.

- Submit any further feedback to Pam Kuhn ([Pamela.Kuhn@scwa.ca.gov](mailto:Pamela.Kuhn@scwa.ca.gov)) on the GMP “overview” brochure by COB Thursday, April 24.
- Submit suggestions for quotes and/or candidates to quote, especially from representatives of agriculture, cities, and rural residential wells, to Pam Kuhn ([Pamela.Kuhn@scwa.ca.gov](mailto:Pamela.Kuhn@scwa.ca.gov)) by COB Friday, April 18.
- Submit any further edits regarding Section 6 to Tim Parker ([tim@pg-tim.com](mailto:tim@pg-tim.com)) or Marcus Trotta ([Marcus.Trotta@scwa.ca.gov](mailto:Marcus.Trotta@scwa.ca.gov)) by COB Friday, April 18.
- Schedule briefings with your colleagues and/or constituents to ensure they are comfortable with the final draft GMP.

**Attachments** *(attached as separate file):*

- A. Legislative and Policy Update – 04/10/2014 *(Provided by Consultant Tim Parker)*

**Participants**

**Presenters**

- Claudia Faunt, PhD
- Tracy Nishikawa, PhD, PE
- Linda Woolfenden, PhD

**Panel Members**

- Garrett Broughton, Town of Windsor
- Joe Gaffney, City of Sebastopol & Sonoma County Alliance
- Curt Nichols, the Construction Coalition
- Tito Sasaki, Sonoma County Farm Bureau
- Elizabeth Cargay, Well Owner & Foothills of Windsor Homeowners Association
- Rocky Vogler, City of Santa Rosa
- Michael Burns, Resident, Santa Rosa
- Rue Furch, Sebastopol Water Information Group (SWIG) and Sierra Club
- Margaret DiGenova, Cal American Water Company
- Jane Nielson, Sonoma County Water Coalition and O.W.L. Foundation
- Mark Calhoon, Fircrest Mutual Water Company
- Pete Parkinson (retired), County of Sonoma permit and resources Management Department
- Kara Heckert, Sonoma Resource Conservation District
- John McArthur, City of Rohnert Park
- Maureen Geary, Federated Indians of Graton Rancheria
- Bill Keene, Sonoma County Agricultural Preservation & Open Space District
- Keith Abeles, Community Alliance of Family Farmers
- Damien O’Bid, City of Cotati
- John Nagle, EJ Gallo/Sonoma County Winegrape Commission

**Observers**

- Mark Nordberg, DWR
- Doug McIlroy, Rodney Strong
- Brad Petersen, Silver Oak Cellars
- Sandi Potter, Sonoma County
- David Vossler, GHD
- Beth Lamb, NCRWQCB

**Staff**

- Marcus Trotta, Water Agency (Project Manager)
- Tim Parker, Parker Groundwater (Technical Consultant)
- Marci DuPraw, Center for Collaborative Policy (Facilitator of Panel & Funding Subcommittee)
- Pam Kuhn, Water Agency