

Sebastopol Water Information Group and Blucher Creek Watershed Council Well Monitoring Coordination Agreement

Draft February 2, 2006

Background

The Santa Rosa Plain groundwater subbasin, one of the most “water rich” areas of Sonoma County, may be facing a future of serious groundwater overdraft. All over the county, people are reporting lowering water levels or dry wells, and an increasing number are trucking water to their homes. Two recent studies (Parsons Engineering Science, Inc., 1995, and Kleinfelder Geotechnical Engineering Company, 2000) show depleting groundwater trends in parts of Sonoma County, including the southern Santa Rosa Plain groundwater subbasin. A hydrologic study for Rohnert Park indicates that the water table in the southern Santa Rosa Plain’s groundwater basin (under Rohnert Park) dropped 150 feet between 1979 and 1999. Monitoring data for Sonoma County Water Agency Laguna de Santa Rosa “emergency wells” show drops in lower parts of the subsurface aquifer from their pumping.

With expanding water-intensive agriculture, western Sonoma County residents have sought official groundwater studies. The County Board of Supervisors hired Kleinfelder geotechnical consulting firm only for a groundwater study on groundwater trends in 3 water-scarce areas. The Supervisors also voted to contribute about half the funding for US Geological Survey groundwater studies, first of the Sonoma and Alexander Valleys, and then the Santa Rosa Plain. The first study is complete, but the Santa Rosa Plain study is barely begun and is not expected to finish until about 2009.

The Blucher Creek Watershed is believed connected to the Santa Rosa Plain groundwater subbasin. The watershed’s hills certainly provide recharge to the basin’s aquifers. In 2002, the **Blucher Creek Watershed Council (BCWC)**, a neighborhood volunteer organization, began a project to measure well static levels, as an ongoing monitoring service for property owners in the Blucher Creek Watershed. A stated purpose of the project was to understand **the local** groundwater supply by monitoring fluctuations and cause-effect relationships over time.

Since 2002, some private wells at the edge of the Santa Rosa Plain near Sebastopol have gone dry, and others showed low levels of contamination from old sources--a characteristic indicator of depleting groundwater. In 2003, the **Sebastopol Water Information Group (SWiG)**--a private nonprofit group, associated with the O.W.L. (Open Space, Water, and Land) Foundation began to monitor wells for rural residents close to Sebastopol city limit, to determine the extent and cause of groundwater declines in the area, and to examine groundwater information in public records.

Some SWiG members are experts in computerized water data analysis. In 2003, BCWC and SWiG agreed to provide the expertise for BCWC data reduction, to consist of plotting well water levels on maps and graphs. In general the well water levels will be plotted in relation to sea level, and other calculations may be used to derive the data for plotting--an example is calculated differences between original well driller water level records and more recent well measurements.

As of February __, 2006, SWiG and BCWC will collaborate for collecting well monitoring data under mutually agreed conditions and in close communication between BCWC and SWiG Executive Committees.

BCWC will conduct two well monitoring projects in collaboration with SWiG:

Project 1--monitoring wells, under signed agreements, on a biannual basis, to evaluate long-term water trends in and near the Santa Rosa Plain. The information gathered as part of Project 1 may be disseminated and become public information. The following is the protocol for Project 1.

Project 2--continue monitoring of private wells in the Blucher Creek watershed, in response to BCWC member or other watershed residents' requests. The information collected during this well monitoring will be reported only to the well owners and will not be stored by BCWC or SWiG.

I. Project Structure and Communications:

- A. SWiG's well monitoring committee will oversee data collection and reduction for both SWiG and BCWC. The well monitoring committee will include at least one BCWC member, who reports to the BCWC Executive Committee.
- B. Any qualified member of the well monitoring committee may serve as committee chair.
- C. The chair of the SWiG-BCWC well monitoring committee may recruit well monitoring assistants from both the BCWC and SWiG membership. Qualified well monitors will be trained in the proper procedures, as specified by OWL Foundation Registered Geologists.
- D. The chair of the SWiG-BCWC well monitoring committee will report to BCWC officers and general meetings on project status and any issues facing the project, at least on a semi-annual basis, or as requested. As appropriate, on occasion, he (she) may delegate a SWiG officer to deliver the status reports.

II. Well Owner Agreements:

Project 1-- Each volunteering well owner will be informed of the intended use for the monitoring data, and must grant approval for this usage by signing a release form, to show understanding of the intended uses, including the possibility that the data may be contributed to the ongoing US Geological Survey study of Santa Rosa Plain groundwater. These forms will be held by the Project Coordinator, with copies held by the appropriate Executive Committee (SWiG or BCWC).

The data collected from well owners who have agreed to the use of their water level data in maps and graphs will be added to SWiG's observational base. Each well owner will receive a statement of the recorded static water level of their well and the date of the measurement.

Project 2-- Any well owner who wants their well monitored may arrange for a well water level measurement from the SWiG-BCWC Project for a small donation (see

below). Neither SWiG nor BCWC will retain the data, nor record the locations of those wells.

III. Project Data Collection and Management Protocols:

A. General

For both projects, well water-level data will be collected by SWiG-BCWC well monitor(s) in accord with scientifically-valid procedures, guided and overseen by the O.W.L. Foundation's Registered Hydrologists.

B. Data collected for Project 1 will include:

- Property owner name and address
- Latitude, longitude, and elevation of well
- Well construction date, if available
- Well water level at construction, if available
- Height of the well's port above (or below?) the ground surface
- Date well measured
- Static water level measured

Background information, especially the water level in a well when it was drilled, if available--is helpful for understanding groundwater changes through time. If well owners lack this information, well monitors will provide standard forms for requesting the original well driller's reports from the State. These forms will name SWiG as a recipient of the well driller data. Upon receipt, the Project Coordinator shall provide this information to the well owner.

Other useful background information include unreversed changes in nearby creeks, streams or springs.

To ensure that the data are legally admissible, data sheets will be reviewed and signed by a Registered Hydrologist.

C. Project I Data Management

Each BCWC well measured for Project 1 will be assigned a coded identification, which will be stored with the water levels from each monitoring. Construction date and original water levels, if available, will be added to this file. A separate ID file will contain the code number, owner(s) name(s), address(es), and location data (latitude, longitude, and elevation above seal level), which will be collected only one time.

Access to the ID file will be limited to the Project Coordinator. No data reduction experts will ever see the well owner's names.

After each set of measurements, the groundwater monitors will provide data sheets, bearing well water monitoring data (water levels, date, and time) and the corresponding ID code, to the Project Coordinator. The Project Coordinator will enter the new data into a computer spreadsheet or database, matching the code numbers. Location data will be added from the ID file by matching code numbers, only for data reduction and plotting on maps, using hydrologic

computer software. The maps will show roads but will not have elevations or property line boundaries. The working files for map plotting will not be stored.

The membership of both groups, and particularly participating well owners, will be invited to BCWC and SWiG meetings and public forums, for reports on the data and observed trends.

IV. Equipment:

The monitoring projects will use equipment belonging to both BCWC and SWiG, including high-quality tape meters, and calibrated sonic well meters, as appropriate for each well, as well as other equipment that either group may purchase in future. Well locations will be measured with SWiG's GPS units. Well elevations will be determined from a stable-base 1:24,000-scale U.S.G.S. "Two Rock" topographic map. Equipment care and storage will be arranged by mutual agreement between the groups.

V. Process & Protocols:

The static water level of all wells will be measured in accordance with standard hydrological practices (see above). BCWC insures that all well monitors are fully trained to use the calibrated tape meter and to calibrate the sonic meter, as appropriate, and to sanitize instruments, as necessary prior to and after each measurement. Homeowners are encouraged to participate in the process, and are required to verbally confirm the date and time of their next well measurement with the Project Coordinator.

VI. Monitoring Costs:

Project 1-- Dues-paying BCWC members who agree to participate in the formal "SWIG groundwater supply study" project will not be required to pay additional fees or make donations to participate in this study. However, due to the expressed desire of BCWC to support and collaborate with SWIG on this project, as outlined in this agreement, BCWC will in good faith duly consider and vote on contributing an amount to SWIG each year. The amount will be based on a fair representation of BCWC member participation and project costs, as presented by SWIG to the BCWC, during SWIG's semi-annual project reports at the BCWC general meetings, as prescribed in the "Project Structure and Communications" section of this agreement.

Project 2-- Blucher Creek Watershed residents may request a well-level measurement of their well at any time. Any dues paying BCWC member will not be required to pay additional fees or make donations to obtain the measurement. Other residents will be asked to join and donate \$10 to 35 in membership fees to the Blucher Creek Watershed Council.

VII. Future Adjustments:

A. The Executive Committees of the collaborating groups (SWiG and BCWC) may propose changes to the design or operation of the project, or to the agreement itself at any time. The proposed changes will be adopted or not, following votes that accord with the by-laws of the respective groups.

- B. Project 1 is still highly experimental and unproved. After reducing and analyzing data, the Project Coordinator and hydrologic experts may suggest the need to adjust the size of the data base, either to enlarge or restrict it. Such proposed changes must be discussed with both SWiG and BCWC executive Committees, and may be submitted for formal membership votes if so requested, but by agreement need not be formally adopted.