

Topics and Ideas for Future Groundwater Committee Projects

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The groundwater committee is planning future projects to support site cleanup and groundwater protection efforts and groundwater basin planning. Deliverables would include staff tools, education, and outreach materials such as guidelines, fact sheets, technical notes, evaluation reports, etc. Information collected and compiled would be posted on the Water Board's website where appropriate to facilitate dissemination, discussion, and feedback.

Since our last major project was completed (May 2003, Comprehensive Groundwater Protection and Beneficial Use Evaluation for the South Bay Basins), the committee has heard from various local agencies, consulting firms, USEPA, and water districts (our groundwater partners) on groundwater use and supply issues, conjunctive gw-sw management, innovative cleanup technologies, and groundwater protection programs. It's now time for the committee to prioritize and select a future project (or projects) and begin work.

Summary of Topics

1. Groundwater Protection & Beneficial Use Evaluation for the Livermore-Sunol or Napa-Sonoma Valley Basins - These projects would be similar to the South Bay Report in scope and purpose. Local agency commitments for support and/or resources would need to be assessed before selection could be made. As with the SBR, a stakeholder process could be advantageous to flesh out the scope and sensitive issues, particularly if such a project could form the basis of future basin plan amendments.
2. GAMA Summary Report for Region 2 - This would include compiling existing but underutilized GAMA and groundwater vulnerability assessment results and conclusions for basins within Region 2. Currently that includes Livermore Valley, Niles Cone, Santa Clara Valley, San Mateo Plain, and Napa, Sonoma, and Petaluma Valleys. The goal of our project would be to compile the Region 2 results and conclusions in an easy to review and access format to help staff manage establish cleanup goals and priorities for sites and give us a better understand of the quality of the resources we're protecting. Data, results, and conclusions could also be linked to our website for better dissemination and use by the public. As a State Board-supported project, the more we can use the results, the better. Ultimately, this project could provide support for future basin plan amendments addressing background water quality, threats, protection efforts, and priorities. The USGS will return in 2007 to conduct more in-depth studies, including emerging contaminants testing, on the Westside basin, San Mateo Plain, Santa Clara Valley, Niles Cone, and portions of the East Bay Plain.
3. Bulletin 118-Type Report for Region 2 - This topic is potentially quite nebulous and could be similar in its goal to the GAMA summary report for Region 2. Such an effort would be an

ongoing work-in-progress as information collected, reviewed, and periodically posted to our website until a report can be prepared. Like DWR's Bulletin 118, such a project would describe basin geography and geology, compile current groundwater use information, and compile current groundwater quality data from public supply wells via GAMA and other sources. Such a project would compile information on groundwater management/supply agencies, management plans, yield, etc. Such a project would start as a broad data collection/compilation effort and could eventually drill down to more detailed levels such as private water use/quality, recharge projects, etc.

4. Drycleaner Cleanups / Drycleaner Cleanup Fund - At our last meeting, Roger Papler nominated this issue for consideration once again. The SBR recommendations include (1) convene a multi-agency task force to develop and implement a pilot project in a selected city to determine the feasibility of inventorying and ranking current and historical drycleaners based on potential water quality threats, and (2) support legislative efforts directed at funding California's participation in EPA's State Coalition for Remediation of Drycleaners (<http://www.drycleancoalition.org>) and eventual development of a statewide drycleaner monitoring and remediation program.

Tom Mohr and the SCVWD are finalizing a "Drycleaner Study" aimed largely at the first SBR recommendations. There is no recent news on AB698 (drycleaner cleanup fund), which reportedly died in committee in 2003. Since then, GRA has held two symposia on the subject and attendance/interest was strong. At one of these events in 2004, there was heated discussion about the City of Lodi leaky sewer line PCE case (see article in the spring, 2004 Hydro Visions issue). In that case, historic drycleaners are believed to have leaked PCE, which then entered the City's sewer system where it was redistributed and leaked again, ultimately impacting one City drinking water well and threatening others. The Water Board (Region 5) issued a CAO to several parties including the City and a drycleaner. This case has also spurred a product liability lawsuit aimed at the manufacturers of PCE, similar to what happened with MTBE.

This project needs to assess the reasons why AB698 stalled and who opposed it and why. Creative funding sources need to be identified as well as a mechanism for spurring/stimulating drycleaner fund legislation.

5. GW Plume Discharges to Surface Water Bodies - This topic focuses on evaluating and providing guidance on technical and regulatory approaches to assessing and mitigating threats to surface water bodies from groundwater plumes. This would technical and regulatory policy issues such as address applicable cleanup criteria vs. distance, dilution/attenuation, evaluation methods etc. A starting point may be compiling what we've done before in this area and what can be done based on available technology.
6. "Smart" Infiltration and Recharge for Stream Protection and Storm Water Management - Advocate for more local, wet-weather infiltration and recharge projects as a way to increase

storage, maintain better dry-weather habitat and creek flows, and manage storm water. Currently, our storm water and stream protection programs advocate this. Furthermore, we will eventually need new storage space as water demands increase and as we potentially lose surface storage due to global-warming induced snow-pack loss. Increasing wet-weather recharge is akin to conjunctive use of GW & SW, although actually using shallow groundwater may not be realistic due to a myriad of water quality issues. On one hand, higher water tables are good for creeks, biota in and around creeks, urban trees, etc, and could also lead to higher sustained groundwater supplies. On the other hand, higher water tables could cause flooding of basements, increased risk of liquefaction during earthquakes, and possible water quality problems as water tables intersect sewer lines and other vadose zone sources. In some cases higher water tables could make cleanup more difficult. This project would involve review of local agency policies and ordinances on infiltration and recharge. It would also involve review of examples where this approach has been applied and how the risk (i.e., to groundwater quality/cleanup) vs. benefit (i.e., to sw bodies/habitat/water supply) played out, and could bring together two conflicting strands of water management thinking - that recharge is good, so long as it is of the most pristine quality.

7. Mapping of Projects Involving Land Disposal/Recharge of Effluent and Reclaimed/Recycled Water - Due to concerns about emerging contaminants such as personal care products, it is difficult to know what the threat is to groundwater from the collective permitting of land disposal and recharge projects involving treated or untreated effluent. The first step toward understanding the potential impacts would be to identify and map such projects and catalog important factors such as quantity and quality of the effluent. Much of this information potentially exists in permits and WDRs, so it could be more of a compilation project.
8. Low-Risk NFA for Solvent Sites - Can guidelines be developed addressing the factors that define "low-risk" solvent sites? Could such guidelines address the situations/circumstances when NFA or other interim milestones would be appropriate for low-risk sites before MCLs are reached? This topic has been the subject of past joint division meetings and conference panels. Florida has a drycleaner program that identifies sites where MNA is the presumed remedy. In 1999 national evaluation was performed on solvent plumes to identify those factors that control and define plume behavior. These and other resources provide the underpinnings for development of regulatory guidelines on this topic.
9. E-Plume Reporting - Some progress was made in 2004/05 but this project has mostly been stalled. In 2004, a meeting was held with Kevin Graves at State Board and the State's GeoTracker vendor to discuss their interest in integrating the E-plume mapping/reporting with GeoTracker. Kevin was very interested in making E-plume reporting an optional feature of GeoTracker that Regions could require (if desired) and would provide the programming resources if we drew up the specifications. In 2005 Jeff drafted the specifications. One potentially confounding issue is the planned but largely unknown integration of GeoTracker with CIWQS. Next steps need to be fleshed out. As a reminder, the scope of this project is

to eventually include all non-fuel plumes region-wide and show iso-concentrations contours for standard benchmarks, such as the MCL, 1, 10, 100, 1000, 10,000 ppb, etc. This project will provide a key management tool to help transcend the individual case paradigm and allow for better evaluation of regulatory program effectiveness. Note that the SCVWD already has a similar project in which they digitize plume maps created by consultants/dischargers that have been scanned or otherwise converted to TIFF, JPEG, or PDF formats. These plume maps should be available via the internet.

10. Vertical Conduits - The South Bay Report (SBR) recommendations include: (1) Document the success of the ACWD program and use it as an example for other areas, particularly in the South Bay, (2) Develop guidance on searching for vertical conduits, (3) Require conduit searches at the time groundwater impacts are identified. The committee discussed development of a "Fact Sheet" or "Technical Notes" document for distribution to local planning/permitting agencies and for in-house use. The Fact Sheet should provide the necessary guidance on searching for and sealing vertical conduits and advocate for programs similar to what ACWD's tri-cities use. Model language for vertical conduit searches for cleanup Orders and enforcement letters would also be developed. Since ACWD already has a program in place and since we have the "Berkins" memo, this project should be straight forward. In addition to "traditional" vertical conduits such as abandoned wells we now have conduits such as wick drains, cathodic protection wells, and geoexchange wells to deal with.
11. GW Website - The groundwater website is potentially a high visibility product. Some progress was made in 2004/05. A flowchart, site map, and prototype website were developed and previewed by the committee. The purpose and function of such a website were discussed and the committee concluded that an internet (vs. intranet) site would offer greater value, particularly in disseminating information, reports, guidance, etc. to the public, soliciting feedback, and explaining who we are and what we do. The current issues are how to integrate this product with the existing Water Board's internet website, and exactly what the organization and content should look like. Management buy-in is critical at an early stage. We should also research the potential for student help.
12. City/County General Plans - The SBR recommends listing the priority groundwater protection elements that a general plan should include and encourage cities to include these elements when updating their general plans. The committee discussed developing a "Fact Sheet" or similar to facilitate this. The fact sheet would describe issues of concern for groundwater protection and provide examples of language or topics for general plans to increase awareness of groundwater protection concerns. It may also include discussion of how to identify "vulnerable" areas and provide the most recent maps for groundwater basin/recharge zone/watershed boundaries. One example is a fact sheet currently being developed by the Groundwater-Surface Water Interaction subcommittee for outreach to municipalities regarding storm water management including "smart" infiltration of storm water for groundwater protection.

13. Leaking Sewer Lines - This topic has significant overlap with drycleaner cleanups since historic drycleaners often discharged solvents directly to sewers. The committee initially considered follow-up on this topic but ultimately concluded it would require a good deal of research time and effort better suited for a dedicated student intern (see SBR for specific recommendations).
14. Institutional Controls and Risk Management - The SBR recommends that the Water Board maintain an updated list of cases with institutional controls and make it accessible online. As of January 2003, AB2436 requires this for non-UST cases. A database is being developed for UST sites in Geotracker. DTSC currently has a database of landuse covenants and there is a company called Terradex that tracks ICs for a fee. The concept of a distributed work model was discussed whereby we would encourage Cities and building departments to track such information since they are generally in the loop during redevelopment and are in the best enforcement position via approval/denial of development permits. A related topic is exploring the nexus between construction, geotechnical, and environmental projects, and is about addressing ways for better communication between regulatory agencies and landuse planning and permitting agencies regarding site/plume locations, site restrictions, permit/development notifications, etc. Vertical conduits search requirements will also cover some of this ground since it uses building permits as a mechanism for action.
15. Emerging Contaminants Process/Evaluation - do we have/need a process to proactively identify and address problems early on?
16. Bayside Landfill Threats and Policy Development - A draft evaluation on this topic was prepared in 2002/03 but since then has stalled.
17. Remediation Performance and Effectiveness
18. Mass flux reduction as an interim remedial goal
19. Vapor intrusion Issues?

Things to Consider When Selecting a Project

- What motivates you?
- What is the problem and why should the committee address it?
- What are the resources needed to accomplish the project?
- What degree of stakeholder involvement will it require?
- How long will it take?
- What are the likely roles and time commitments for Water Board committee members and our GW partners?

Guidance on Guidance

- Identify topics where guidance is needed and where it already exists
- If necessary, form a workgroup or subcommittee with goal of preparing deliverables for committee review & discussion
- Use “Technical Notes” or “Fact Sheet” formats
- Tackle “low-hanging fruit” first to build credibility and encourage interest & participation
- Prepare proposal to facilitate buy-in; present at committee and division meetings
- Keep development process visible
- Use “plain English” as much as possible, particularly in documents for outreach and education
- Clearly present agency expectations/goals
- Make reference to existing materials whenever possible
- Use “guidelines” instead of “guidance” whenever possible
- Head off claim of underground regulation by making all guidance voluntary and by keeping it “draft”