

AB 303 Scope with ABAG additions

ABAG/SFEP/Napa Co. RCD/BALANCE HYROLOGICS Proposal for AB 303 Funding

Project Lead: ABAG/SFEP

Project team members: Kathleen Van Velsor, Senior Environmental Planner, Leigh Sharp, Napa County Resource Conservation District, Barry Hecht, Balance Hydrologics, Carol Thornton, ABAG/SFEP, ABAG support staff

Grantor: State of California Department of Water Resources

Amount: \$250,000

No project match required.

Project length: 18 months beginning in 2005

Members of the partnership to determine the value of their in-kind contributions.

Expressions of support for the proposal to be secured by the partners.

Carneros Ground water Framework Program Goals

Promote improved understanding of ground water beneath Carneros, such that residents of the area and others can better understand its source, flow quality, and limitations. Included in this goal would be the goal of promoting improved understanding of the relationship between groundwater and surface water issues, especially in regards to water usage.

- ✚ Identify the foreseeable factors which may limit ground-water use during periods of stress, and suggest means of addressing these issues
- ✚ Enable informed, consensus-based use of the Carneros-area aquifers, supporting ground-water stewardship paralleling the recently-developed watershed plan;
- ✚ Coordinate, exchange information and avoid duplication of effort by consulting with county, regional, state and federal planning and engineering staff and policymakers as the Carneros area study progresses;
- ✚ Provide a draft framework for the implementation of workable solutions for the sustainable use of ground water in the Carneros area of Napa County, including the development of basin management objectives;
- ✚ Explain where and when the local ground-water system differs from, or is similar to, neighboring aquifers beneath the Napa and Sonoma Valley floors.

Carneros Ground water Framework Program Objectives

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- Characterize the limits of the ground-water basin, laterally and with depth, and describe the nature of the boundaries or how water flows near them;
- Enhance then sustain the existing ground-water monitoring program developed by local residents, providing opportunities to standardize protocols and low-key professional guidance;
- Identify opportunities and constraints for meeting water-supply needs, minimizing effects of wells on neighbors;
- Evaluate how water quality affects actual water use, and identify existing water-quality limitations, including boron;
- Discuss how proposed ground water sustainability projects in the Carneros are integrated to produce an optimal public benefit;
- Assess supply interruptibility and other vulnerabilities, and outline logical steps to improve reliability using local, regional, state and other resources;
- Provide a ‘ground watershed’ framework to be included in the RCD’s watershed plan;
- Identify opportunities for recharge, including creating additional agricultural ponds, wetlands and zones
- Characterize the linkage, if any, between flows in the creek and water levels in the shallow aquifer;
- Resources allowing, explore whether ground water flows to the tidal wetlands, or whether sub flows to these shallow aquifers are met solely from the Sonoma and Napa River alluvial aquifer systems

Hydro-geotechnical and Planning/Management Approach

Emphasis will be on using and coordinating existing information, with some new research, including much of what has been collected by community volunteers and RCD staff. This information will form the basis for a framework and updated planning and management efforts related to historical, current and projected ground water availability and condition in the Carneros area of Napa County. Considerable water-level and water-quality information also exists in prior reports, which merit collection. Basin boundaries will be identified, and linked as best possible to existing watershed boundaries for Carneros Creek. It is likely that the groundwater basin will extend further, both westward into the Huichica watershed and southward beneath the landward edge of the tidal marshes. Understandable geologic maps and hydro geologic sections will be compiled. The boundaries and climatic information will be used to develop water budgets for ‘design years’ of varying rainfall, and for periods of persistent drought or high rainfall. Based on these results, data needs for hydro geologic framework information and data describing fluctuations in water levels and water quality will be identified, and used to expand and recast the existing monitoring program developed by community members.

Hydro-geologic, Environmental Planning and Communications Work Tasks

1. Develop coordinated communication and outreach program to involve and educate stakeholders in the Carneros area and others about the research effort and ground water planning and management options;

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2. Convene a ground water technical discussion group to meet regularly to review archived and new data for the purpose of making research, planning and management recommendations and presenting technical findings to a public body designated by the County of Napa;
3. Assemble ground water data (historical data and maps; existing logs, RCD/NRCS work, recent records, 1980 analysis, subsequent studies, watershed studies, CIMIS and CDEC records, GAMA research, and other relevant material);
4. Conduct monitor and observer training, as needed, to facilitate accurate and reliable data collection;
5. Characterize basin boundaries (and decide how to address the sliver of Sonoma Co which may be within them);
6. Establish continuous flow gages on Carneros and Huichica Creeks to measure seasonal and downstream variations and operate for two successive winters;
7. Formalize existing water budgets developed locally, expand them to four year types (wet, normal, dry, critically dry) and to protracted droughts, possibly wet periods if high ground water is an issue, or if recharge during such periods controls water level or water quality;
8. Identify a likely regular monitoring network and program and link it to the existing 3 years of monitoring data (including bi-monthly or quarterly), and an auxiliary or supplemental monitoring program (once a year observations, or wells or streams and sloughs checked only during droughts).
9. Identify key data gaps, indicating which ones can be filled during the AB303 grant, and those which will be worked on later;
10. Implement the monitoring program additions (new wells, or video logging of existing monitoring wells whose depth or perforation intervals are not known);
11. Implement modified protocols, establish a data-keeping archive, create monument reference points on each well, seep/spring, pond or stream used;
12. Develop draft hydro geologic framework and planning report, including maps, hydro geologic sections, and changes over time, water quality; with emphasis on how Carneros is different from adjacent Napa and Sonoma Valley floor aquifers.
13. Describe expected future demands on water in the basin and opportunities and constraints for water use, water conservation opportunities (existing and potential), recycled water use opportunities and conjunctive management;
14. Integrate knowledge of existing ground water management and planning tools with the draft framework report ;
15. Coordinate the preparation of a Power Point presentation and prepare web site materials for purposes of incorporating new data and informing the general public and elected officials about the work of the project team;
16. Attend public meetings to present framework and new ground water information and analysis and answer questions about the framework/watershed planning process;
17. Host several field trips in Carneros and elsewhere in the County to encourage policymaker interest in project progress and framework program development;
18. Ensure compliance with the California Environmental Quality Act and consistency with current plans and programs;
19. Quarterly project management reports, and a final project management report.

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