

HYDRO VISIONS

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GROUNDWATER RESOURCES ASSOCIATION
OF CALIFORNIA

SPRING 1999

Northern San Francisco Bay Area Geology Field Trip

BY JAMES JACOBS, FAST-TEK Engineering Support Services
and PAUL BERTUCCI, CDM Federal Programs Corporation
Field Trip Coordinators and Guidebook Editors

The San Francisco Bay area is one of the more scenic and geologically diverse regions in California. The field trip provided an overview of the regional geology and hydrogeology of selected locations in the northern San Francisco Bay area held in conjunction with the Seventh Annual GRA Meeting. The theme and focus of the trip was an examination of the geologic, hydrogeologic, and other physical features of the Bay area and how they play a role in site assessment, remediation, and managing groundwater resources. On October 24, 1998, 34 attendees including 4 leaders participated on the sold-out trip. The weather started out rainy in the morning, but by lunch time, at the Presidio of San Francisco, the sun was shining.

The field trip included stops at the former Naval Station Treasure Island and the former Army Base at the Presidio of

San Francisco to review the local geologic and hydrogeologic settings, and the status of environmental cleanup and reuse at these facilities. Also included in this trip was an overview of the subsurface setting and water supply history of the East Bay Plain groundwater basin, as well as a tour and discussion of the physiographic and bedrock



The Groundwater Resources Association of California is dedicated to resource management that protects and improves groundwater through education and technical leadership.

setting of the San Francisco Bay area. The field trip overview (Stop 1) was provided by James Jacobs of FAST-TEK Engineering Support Services.

The works and life of William P. Blake, one of the first California geologists, was described by Paul Bertucci of CDM Federal Programs Corporation based on text writ-

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ten by Steve Testa of Testa Environmental. Testa transcribed Blake's field notes and has researched this early California geologist extensively. Blake mapped much of California, including the northern San Francisco Bay area. Blake produced a 1857 Geologic Report and map which stand today as accurate geologic observations that predate modern field and transportation methods as well as the plate tectonics theory.

The vantage point at Lawrence Berkeley Hall of Science in the Berkeley Hills was the site of a discussion by Sandy Figuers of Norfleet Consultants on the East Bay Plain groundwater basin (Stop 2). The historic water use and groundwater resources associated

with the East Bay groundwater basin were examined. Dr. Figuers described the subsurface and depositional controls within the basin.

A significant portion of former marshland on the northern San Francisco Bay fringe was filled by artificial methods, and Treasure Island was representative of the types of challenges groundwater professionals have in

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PRESIDENT'S MESSAGE

BY BRIAN LEWIS



Gene Lubdorff (left) is receiving GRA's Lifetime Achievement Award from Brian Lewis

As I reflect on 1998, GRA has been active. Your association held three successful seminars, contracted for a new web master, provided testimony to a Senate committee on CALFED, served on the Association of California water Agencies (ACWA) groundwater committee, designated as a groundwater Guardian Affiliate by the National Groundwater Foundation, developed a new membership brochure, co-sponsored several groundwater related conferences, conducted a survey of groundwater issues, held monthly branch meeting throughout the state, presented our first "Lifetime Achievement Award", and held an Annual Meeting.

Our Annual Meeting was a highlight. The San Francisco Bay Branch hosted a well organized meeting and field trip. What set this meeting above previous meetings was the collective team effort of so many. Board Member Susan Garcia has sponsored annual meetings in the past. She teamed up with the San Francisco Branch members to create our best meeting.

Any meeting needs a strong program to keep the audience's interest. Linda Spencer and Mary Kean worked on the program. They shared their ideas with Susan who, according to Linda, "Helped to bring the program to a higher level." Clif Davenport and David Abbott, and I am sure others, helped select the meeting location. David Von Aspern assisted with the contract details with the hotel. Jim Ulrick tirelessly handled the registration prior to the meeting and for the two days during the meeting. I enjoyed getting his early emails that listed the num-

ber of registrations. Each email with a higher, more up to date count.... "We have 35 registrants" then 60, then 80, then 105, then 120... James Clark, Mike Maley, Vicki Kretsinger and Carl Hauge also helped with the program and the Annual meeting coordination.

In addition to our Annual Meeting, we had our first GRA field trip. Jim Jacobs and Paul Bertucci were the co-chairs, with help from Greg Bartow, Sandy Figuers, Barney Popkin, Martin Steinpress, and Steve Testa. Rich Satkowski, Jeff Lefkoff, Ali Teghavi and Matt Zidar coordinated the tour of the Bay-Delta Model. The field trip was well coordinated and informative with stops in the Berkeley Hills, a tour of Treasure Island, the Presidio, the Marin Headlands, the Bay-Delta Model, and finally Point Richmond. Two weeks prior to the tour, we had only a few sign-ups. It quickly filled with a waiting list. In retrospect, a lot has happened in 1998.

The year has begun with some sad news. Kevin J. Neese, GRA Board Member and partner with the Santa Barbara law firm of Hatch and Parent, died on February 11 after a short illness. Kevin was 39. Kevin just completed a year term as a board member and was recently re-elected for a three year term. Previously, Kevin served one term as Vice President for the Central Coast Branch of GRA, and two terms as President. He also developed and participated in a series of groundwater management workshops and was co-author of the GRA publication California Groundwater Management. Please see the separate obituary for Kevin on page 5. As one of our newest Board Members, I found Kevin articulate and insightful. When he spoke, we all listened. I might add, he wrote the best overview of California Water Law in GRA's publication, California Groundwater Management. At our April Board meeting, we will be discussing how GRA can honor Kevin.

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editor@grac.org

EXECUTIVE DIRECTOR

Harrison Phipps
Groundwater Resources Association
(530) 758-3656 • e-mail: execdir@grac.org

DIRECTORS

Vicki Kretsinger
Luhdorff and Scalmanini
(530) 661-0109

Anthony M. Saracino
Geoscientific Consulting
(916) 688-5807 • e-mail: saracino@pacbell.net

Paul Dorey
Vista Irrigation District
(760) 724-8811 • e-mail: wngk19@idt.net

Tony Ward
ARCADIS Geraghty & Miller, Inc.
(714) 278-0992 • e-mail: award@gmgw.com

Brian Lewis
Cal/EPA, Dept. of Toxic Substances Control
(916) 323-3632 • e-mail: admin@grac.org

David Abbott
David Keith Todd and Associates
(510) 595-2120 • e-mail: jorysue@msn.com

Susan Garcia
(562) 435-4055 • e-mail: 73661.1162@compuserve.com

Jim Jacobs
Fast-Tech
(510) 232-2728 • e-mail: augerpro@aol.com

EXECUTIVE OFFICERS

President, Brian Lewis
(916) 323-3632
e-mail: admin@grac.org

Vice President, Tim Parker
Cal EPA, Dept. of Toxic Substances Control
(916) 323-3372
e-mail: tkparker@jps.net

Treasurer, Jim Jacobs
Fast-Tech
(510) 232-2728
e-mail: augerpro@aol.com

Secretary, Jim Carter
(310) 618-8889
e-mail: carter55@ix.netcom.com

Editor Floyd Flood
Newsletter e-mail: editor@grac.org

THE 22nd BIENNIAL GROUND WATER CONFERENCE

"INTERCONNECTED WATER SUPPLY IN CALIFORNIA"

The 22nd Biennial Ground Water Conference will be held September 20-21, 1999 in San Diego, California, at the Hyatt Islandia Hotel. This 22nd Biennial Ground Water Conference continues to emphasize that ground and surface water are connected. The program includes a discussion of ground water capitalization, interconnections, ground water supply, ground water recycling, protecting the source, and MTBE. Sessions devoted to urban water use efficiency, ground water recharge, spreading, and injection, water transfers on the Sacramento and Feather Rivers, ground water recycling in the Sacramento Valley, CALFED-Delta issues, and related video presentations are planned.

The 22nd Biennial Ground Water Conference will offer a concurrent session format which will address the professional needs of those who attend the traditional ground water conference as well as the members of the Groundwater Resources Association of California. The conference will feature a Keynote Address, plenary sessions, and lunchtime speakers. Participants may attend either concurrent session and may switch sessions as they deem appropriate. There will be a vendor and poster exhibit at the Monday evening reception.

A brochure detailing the conference's program, registration process, and accommodation information will be mailed in April

1999 and a brochure detailing the actual program will be mailed in August 1999. For questions regarding conference details, contact Jeff Woled at the Centers for Water and Wildland Resources, (530) 752-8050, or jlwoled@ucdavis.edu.

CONFERENCE SPONSORS:

University of California Centers for Water and Wildland Resources

California Department of Water Resources
State Water Resources Control Board

Groundwater Resources Association of California

Water Education Foundation

GRA Short Course Announcement Principles of Groundwater Flow and Transport Modeling

Tenatively planned for May 11-13, CSU Sacramento and June 28-30, CSU Fullerton. Instructors: Graham E. Fogg, Ph. D., and Thomas Harter, Ph.D.

This course is going to be limited to 26 students. If you are interested, contact GRA to secure a spot. For more information, contact GRA at admin@grac.org or Harrison Phipps at (530)758-3656 voice/fax. If we get enough interest based on this announcement, GRA will not print a flyer to reduce the course cost. Call or email for details.

The use of computer modeling tools has become a standard practice in many groundwater investigations. Groundwater resources evaluation, groundwater quality assessment, contamination site assessment and remediation, environmental impact review, and other groundwater related activities increasingly rely on computer models as a means of understanding groundwater flow and the fate of contaminants in the subsurface. This shortcourse will introduce the conceptual principles and practical aspects of groundwater modeling in an intuitive and accessible manner to professional consultants,

technical personnel in engineering/geology firms and irrigation/water districts, regulatory agency specialists and managers, and those in the legal community specialized on groundwater issues. The course assumes that participants are familiar with the basic principles of groundwater dynamics. The course objective is to demystify the use of groundwater models by providing a solid understanding of the principles, methods, assumptions, and limitations of groundwater models, and hands-on experience with the planning, preparation, execution, presentation, and review of a modeling project. The first half of the course reviews the concepts of groundwater flow and transport, finite difference and finite element methods, and various available software for groundwater flow and transport modeling, pre- and postprocessing. The second half of the course features various exercises based on the USGS MODFLOW flow model and a compatible transport model. Exercises include site-specific models as well as basin/watershed wide models. At the end of the course, participants should be able to professionally plan, supervise, and/or review groundwater modeling projects.

New Board Member Elected/Re-Elected to Three Year Term

Jim Jacobs, C.H.G., has been elected to the Board. Jim served the San Francisco Branch as Past President, President, Vice President and Technical Chairman. He coordinated the GRA 1998 Meeting Field Trip and guidebook. He has a BA and MA in geology and 20 years of experience. Other leadership posts include: President of FAST-TEK Engineering Support Services, Past President of AIPG (California Section), CCGO Charter Board Member and President of the Independent Environmental Technical Evaluation Institute (Upcoming MTBE Book).

"As the premier California groundwater association, GRA should be politically active and comment publicly on controversial water supply and contamination issues. To attract younger members, GRA should continue to be a source of low-priced meetings, classes and workshops. The Board must become more inclusive of members throughout the state. I will bring new ideas and a business-savvy attitude about professional activities, publications and services." Please welcome Jim as our newest Board Member.

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Bay Area Geology Field Trip

Continued from page 1

assessing and remediating contamination releases in this type of environment. Treasure Island, constructed in 1936-37, served various maritime uses, is composed completely of artificial fill (Stop 3). Barney Popkin of Tetra Tech EMI discussed the environmental evaluation and site restoration of the former Navy base at Treasure Island. The future of the base was also examined.

The Presidio of San Francisco is now part of the Golden Gate National Recreation Area (Stop 4). In over 220 years of operation, this Army base has been built on the fractured Jurassic Franciscan melange sequence as well as on Quaternary surficial deposits. Three main groundwater basin areas are present at the Presidio and beneficial use designations and water quality goals were developed for each. Due to the various shallow lithologies and different types of contaminants, numerous assessment and remediation strategies have been developed by the consultants working at the Presidio. Martin Steinpress of Montgomery Watson Americas, Inc. discussed some of the environmental issues and how the geology and

hydrogeology of the Presidio affects the environmental restoration activities.

The San Francisco Bay-Delta Model stop provided a unique opportunity to examine a three dimensional physical model of the San Francisco Bay and Delta surface water system (Stop 5). The model was built by the U.S. Army Corps of Engineers to study and test the physical effects of tidal changes, ocean and river flows and currents, sediment movement as well as the interaction and mixing of salt and fresh water. This stop was coordinated by Paul Bertucci.

The Mesozoic Franciscan Complex is the regional basement formation in the San Francisco Bay area and underlies the Tertiary and Quaternary sediments of the East Bay Plain, Treasure Island, and the Presidio of San Francisco. The Marin Headlands provided an opportunity to see classic exposures of Franciscan radiolarian chert and pillow basalt (Stop 6). Paul Bertucci provided an overview of the tectonic setting and discussed the geology and depositional origin of Franciscan rocks.

The final stop of the day was a highest elevation in Point Richmond where many of the San Francisco Bay features were clearly visible. Dr. Figuers closed out the field trip with a review of the day.

GRA wishes to thank the other co-sponsors of the fall field trip: the California Section of the American Institute of Professional Geologists and the San Francisco Chapter of the Association of Engineering Geologists. In addition, the following companies helped with the field trip: FAST-TEK Engineering Support Services, CDM Federal Programs Corporation, Tetra Tech EMI, Norfleet Consultants, and Montgomery Watson Americas, Inc., and Testa Environmental. ♣

Sponsor Acknowledgment 1999

GRA operations are funded through membership dues and donations made by members and their affiliated companies.

We would like to recognize those that have contributed to GRA's future in 1999:

Founder (\$1,000+)

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UC Cooperative Extension Groundwater Hydrology Program

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Fran Borcalli

Groundwater Tour Set for April

The Water Education Foundation will include a Groundwater Tour as part of their 1999 California Water Tours program. Statewide issues such as groundwater use and management, sea water intrusion in coastal aquifers, conjunctive use and watershed management are discussed on the two-day tour scheduled for April 22 & 23, 1999.

Also included is a discussion of the efforts to reach a water-sharing agreement between East Bay Municipal Utility District and Stockton East Water District, and visits to a landfill and the Napa Valley, a farming region heavily dependent on groundwater.

For more information, contact WEF at (916) 444-6240. ♣

Exam Announcement

Hazardous Substances Engineering Geologist

(Engineering Geologist Series)

The Department of Toxic Substances Control is offering an OPEN-(Continuous Testing) exam for the Hazardous Substances Engineering Geologist series. The Department's primary responsibilities are to regulate hazardous waste management activities; clean up contaminated sites; and support the development of waste reduction, recycling, and treatment as alternatives to land disposal of hazardous waste.

The Department offices are located in Sacramento, Berkeley, Clovis (Fresno), and the Los Angeles area (Glendale and Cypress). The Department employs nearly 1000 staff. We currently have vacancies for 12 geologists, primarily in Cypress, but also in Sacramento and Berkeley. The salary range is: A - \$2868-3319, B - \$3283-3988, C - \$3869-4702.

To apply for a position with the Department, applicants must first compete in this exam or be a current state employee. The last open exam was December, 1996. To apply, complete a standard State application (Form 678) indicating that you are applying for the

Hazardous Substances Engineering Geologists examination. Forms may be downloaded from the State Personnel Board's web site: <http://spb.ca.gov>. Send your completed form to:

Mary Ellen Lucero
Human Resources Branch, Room 4490
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

Exams will be given on a continuous basis, as needed. It is anticipated the first exams will be in April/May 1999 time frame. Once your application is received, you will be scheduled for an interview. These interviews will most likely be conducted in Sacramento, Berkeley, and the Los Angeles area (Cypress). The location of your interview will be the location closest to the address reflected on your application; however, you may request another location if it is more convenient. For more information about the Department, visit our web site: <http://www.dtsc.ca.gov> ♣

President's Message

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To assist GRA, our Executive Director, Harrison Phipps is increasing his time from one-fifth to half time. Harrison is working to increase our membership and keeping us updated on legislative issues. He also is working to make the Board more effective by preparing informative agenda packets that allow the board to focus on groundwater issues rather than the details of running an 800 member statewide organization. As a Board member and current President, I find Harrison invaluable to our organization.

We are beginning our eighth year as a Statewide organization. GRA relies on the time and energy of countless volunteers. It is to the credit of our volunteers that GRA has been successful. Our statewide organization will continue to incorporate the ideas of our branch leadership into our statewide organization. At our Annual Meeting, we attempted to recognize some of the efforts of our membership. To all the volunteers and members, your efforts are important.

As a direct measure of our efforts, GRA recently received an anonymous donation of \$1,000 to continue our work.

Some of you have been helping for years or are new to the organization. On behalf of the Board of Directors, thank you. To our new members, we welcome your future involvement. To continue well into the next millennium, we need to work together so we have more successes like our Annual Meeting. Please join me in the important mission of GRA, *...dedicated to resource management that protects and improves groundwater through education and technical leadership.* Consider joining one of our new committees, recruiting a new member, writing an article for our newsletter, or giving a talk at one of our Branch meeting. You have already helped, though, by your recent membership renewal. Best wishes and health in 1999. ♣



Kevin J. Neese
1960-1999

Kevin J. Neese, GRA Board Member and partner with the Santa Barbara law firm of Hatch and

Parent, died on February 11 after a short illness. He was 39 years old. Kevin had been a GRA Board member since 1997 and was co-author of GRA's California Groundwater Management handbook. He previously served one term as Vice President for the Central Coast Branch of the GRA, and two terms as President. He has also served the GRA through the development and participation in a series of groundwater management workshops.

Kevin was born in Wisconsin and received his Bachelor of Science in geology from the University of Wisconsin in 1981. He received his Master of Science in geology from Louisiana State University in 1984 and his Juris Doctor from Tulane Law School, graduating cum laude in 1991.

Kevin began his career as geologist in New Orleans for Exxon Company and joined the Hatch and Parent law firm after graduating from Tulane. He became active in the California water community and a major portion of his practice involved water rights and water quality law.

Kevin made many significant contributions to GRA, not the least of which were his creativity and energy. His insight and knowledge of groundwater issues, combined with his integrity and sense of humor, made him one of the most effective and well respected members of our organization. He will be sorely missed.

Kevin is survived by his mother, Rosemary Neese of Fillmore, brother, Doug Neese of Houston, his wife Fariba and two children, Tasha, five, and Patrick, eight. Donations may be made to the Kevin J. Neese Memorial Trust, care of Hatch and Parent, 21 East Carrillo Street, Santa Barbara, California, 93101. ♣

GRA Recognized in National Groundwater Program

BY HARRISON PHIPPS, Executive Director GRA

The National Groundwater Foundation officially recognized GRA as an Affiliate in the Groundwater Guardian Program during their annual national conference held recently in Anaheim, California.

According to the Foundation, "A Groundwater Guardian Affiliate is an entity at the state, regional or other level that works to promote shared responsibility for groundwater protection". GRA joins the Water Education Foundation, the Association of Groundwater Agencies, and the Mission Springs Water District as Affiliates in California.

When do you know a community is ready for Groundwater Guardian? In general, communities have joined when:

They have a "sparkplug" - a highly motivated person who believes participation in the Groundwater Guardian program may be useful for their community. They could be educators who want to involve their students, water system people who could use support for their efforts and programs, or government representatives who want their community to receive recognition for its accomplishments.

An existing group adopts Groundwater Guardian as part of their activities. In many communities groups already exist who address environmental issues. Groundwater Guardian has proven to be an excellent way to motivate these groups to focus on groundwater and maintain a commitment to groundwater protection. The Guardian program can also be used to re-energize a group that has lost its momentum.

In the future, Source Water Assessments will be made available to all communities - we



hope the availability of the assessments will help stimulate interest is groundwater and motivate communities to use the Groundwater Guardian program to facilitate their community outreach, education and protection programs.

As a Groundwater Guardian Affiliate, GRA is encouraging its members to seek communities that may be interested in joining the national program. Do you live in a community, or know of a community, that could benefit from protecting their groundwater? For more information contact GRA Executive Director, Harrison Phipps or Rachael Herple at The Groundwater Foundation (402) 434-2740. Their web site is <http://www.groundwater.org>, E-mail rachael@groundwater.org.

Pictured above from left to right are Sharon Lien, Orange County Water District and conference host, Cindy Kreifels, the Groundwater Foundation, Harrison Phipps, GRA Executive Director, Susan Garcia, GRA Board Member and Tom Schwartz, Orange County Board of Supervisors.

Board Member Elected/Re Elected

Continued from page 3

Susan Garcia, R.G., was re-elected as a Board Member. She previously served as our immediate Past President of GRA at the statewide level and Past President of the Southern California Branch. She has chaired or co-chaired several annual meetings and short courses. She has an AB and MA in Geology and currently is working on a teaching credential. We are fortunate to have Susan as a continuing board member.

PBMS: not a Hormonal Disease

BY BART SIMMONS

Why PBMS?

PBMS stands for Performance-Based Measurement System, an idea whose time may be here. On October 6, 1997, U.S. EPA announced its intention to implement PBMSs in all of its programs, to the extent feasible. PBMSs intend to get away from the use of prescriptive, cookbook-like test methods, many of which are outdated. The use of prescriptive methods has discouraged the development and use of new technologies, since the developers and the labs had to jump through many hoops to get approval of new technologies at the national, state, and local level. Additional motivation was provided by Congress - H.R. 3065 was introduced in November 1997 by Zoe Lofgren, who represents Silicon Valley, including many of the lab instrument manufacturers. The bill is co-sponsored by Ellen Tauscher, whose district includes other instrument manufacturers in Walnut Creek. The bill, called "Less Pollution Through Technology Act of 1997," would require U.S. EPA to establish a PBMS to encourage the development of new environmental monitoring technologies. The bill has not progressed far, and may not; Lofgren has a serious distraction: she is on the House Judiciary Committee, which will be deciding whether to impeach the President. Regardless of the fate of the bill, EPA appears to be earnest in its attempt to make PBMS work. All of the EPA programs were ordered to write PBMS Implementation Plans, and to implement them by Fall 1998. To date, plans have been written by the Office of Air and Radiation, the Office of Solid Waste and Emergency Response; the release of the plan from the Office of Water and Groundwater appears to be imminent. The plans first identify methods which should not be modified, so-called "method-defined measurements," like the Toxicity Characteristic Leaching Procedure, because the result de-

pends on following an exact protocol. For other methods, the plans will generally allow labs to modify procedures and self-certify that they meet to-be-established Measurement Quality Objectives. For new methods or major revisions, there will still be the option of submitting methods to EPA for review and approval.

What is PBMS?

Several groups are trying to figure out what the new system should look like. The National Environmental Laboratory Accreditation Conference (NELAC) has stated its intent to incorporate PBMS into the NELAC standards, which are being used in the National Environmental Laboratory Accreditation Program (NELAP), and the Quality System Standards include draft PBMS checklists (the latest standards and proposed standards can be downloaded from the NELAC website: <http://www.epa.gov/ttn/nelac>). The Environmental Laboratory Advisory Board, which represents the lab industry and regulated industry, has created a PBMS Committee, chaired by Jerry Parr, to make recommendations to EPA and to NELAC. The Committee has created a list of "Essential Elements" for PBMS, including Legal Defensibility, Flexibility, and Cost Effectiveness (for a copy, contact Jerry Parr: catalyst@eazy.net). The ELAB Committee is now trying out hypothetical pilot projects to see how PBMS would work. One pilot project, involving testing wastewater from a pharmaceutical manufacturer, has revealed how difficult it is to reconcile testing required by the Clean Water Act, Resource Conservation and Recovery Act (RCRA), and Clean Air Act. Each of these Acts has created its own set of test methods, often for the same chemicals in the same matrix.

Another group working on PBMS is the Methods and Data Comparability Board, which was created by the Intergovernmental Task Force on Monitoring, which make

recommendations to improve water monitoring programs nationwide. The Methods Board is co-chaired by the U.S. Geological Survey and U.S. EPA. The Methods Board PBMS group is led by Andy Eaton, of Montgomery-Watson. The Committee has created a straw dog, or "Reservoir Dog," which outlines what should be included in a PBMS.

Implementation Pains

The PBMS implementation plans have encountered opposition from some of the EPA Regional Offices, and some of the state lab accreditation programs. The critics worry about losing prescriptive methods, and some view the federal effort as an "unfunded mandate" on states and local governments. There is common concern that considerable training will be needed for lab auditors, regulatory agency staff, contractors, and other data users.

How Will PBMS Change Your Life?

There is certainly momentum in the direction of PBMS. Methods will become more flexible, and based more on program needs than the default method criteria. This means that project managers from both the public and private sectors will need to learn more about what data quality is really needed for a specific project. If this all happens, there will be opportunities for technology developers to gain acceptance for new and improved measurement technologies. ●

Bart Simmons, Ph.D., is chief of the Hazardous Material Laboratory, Department of Toxic Substances Control, Berkeley, CA. His email address is bsimmons@ix.netcom.com.

1998 ANNUAL MEETING



At GRA's Annual Meeting, several companies were recognized for their long-time support to GRA. Pictured from left to right: Paul Dorey, Vista Irrigation District, David Von Aspern, Wallace-Kuhl & Associates, Vicki Kretsinger, Luhdorff and Scalmanini, Gary Boettcher from ARCADIS Geraghty & Miller, Kurt Balasek, Wallace-Kuhl & Associates, and Brian Lewis, Department of Toxic Substances Control. Not present to receive the award, Steven Goldberg, Downey, Brand Seymour and Rohwer, and Janie McGinn, DrawingBoard Studios, Inc. These companies and organizations have supported GRA since its inception.

GRA WISHES TO THANK OUR 1998 ANNUAL MEETING VENDORS

1. Clean Environment Equipment, Alan Yasser, 1133 Seventh Street, Oakland, CA 94607 (510) 891-0880. Clean Environment Equipment provides down-well equipment for groundwater remediation and landfill leachate and condensate fluid pumping including many types of pumps and skimmers. SampleEase pumps for groundwater monitoring are also available

2. Columbia Analytical Services, Inc. Cristina Rayburn, 3334 Victor Court, Santa Clara, CA 95054, (408) 748-9700. Columbia Analytical Services, Inc. is a certified analytical lab network providing high-quality, cost-effective and innovative chemical and biological testing for environmental, quality, process and product testing applications. Specialties include: Ordnance, PCB Congeners, DDT Metabolites, P450 RGS Toxicity Screening, dioxin, sediment, tributyltin, industrial hygiene, indoor air, summa canister, chamber, air stack, field and direct push sampling, immunoassay, EPA cluster rule analysis, pulp and paper testing, method development, forensics, validation services, data management and Y2K services.

3. Enviro-Tech Services Fred Ousey, 4851 Sunrise Dr., #101 Martinez, CA 94557 (925) 370-1541 (925) 370-8037. Enviro-Tech Services provides quality environmental products for purchase and rental.

4. In-Situ, Inc., Jim Broderick, 210 S. 23rd Street, Laramie, WY 82072, 800 446-7488. Manufacturer of data acquisition systems for monitoring water level and water quality. Ideal for groundwater surface water applications as well as aquifer characterization. Telemetry available.

5. Instrumentation Northwest, Bob Shea, 4620 Northgate Blvd., #170 Sacramento, CA 95834, 800 776-9355. Suppliers of quality groundwater monitoring and sampling equipment since 1982. Sales, service, and rentals available.

6. Precision Sampling, Derrik Sandberg, 47 Louise Street, San Rafael, CA 94901, 415 456-9875, 451 456-9897 (fax). Precision specializes in continuous core soil, groundwater, soil gas sampling; Multi-level well installation; Tools include the Enviro-Core, Waterloo Profiler, and Geo-Tech CPT systems.

7. Sequoia Analytical, Kevin Calcagno, Business Development Manager, 404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, Fax (925) 988-9673. Sequoia Analytical provides comprehensive testing capabilities for groundwater, drinking water, wastewater, soil and solid waste samples. Four locations are available in Northern California.

8. SimulProbe Technologies, Inc. Noah R. Heller, M.S., R.G., President, 354 Bel Marin Keys Blvd., Suite F Novato, CA 94949 800 553-1755 Fax (415) 883-8788. The SimulProbe allows the user to obtain simultaneous, insitu samples of soil, soil gas and groundwater. It provides much higher data quality and integrity.

9. Slope Indicator Company, Larry Lewis, 3450 Monte Villa Parkway, Bothell, WA 98021-8906, (425) 806-2200, Fax (425) 806-2200. Slope Indicator manufacturers a full range of structural and geotechnical sensors for monitoring tilt, displacement, pressure, and strain in concrete, steel, rock and soil.

10. Westbay Instruments Inc. Bill Black, #115-949 W. Third Street, North Vancouver, BC V7P 3P7, 800 663-8770. Multi-level groundwater monitoring systems for improved characterization and monitoring of aquifer conditions. For groundwater resource management, contaminant investigations, nuclear waste management, and geotechnical projects.

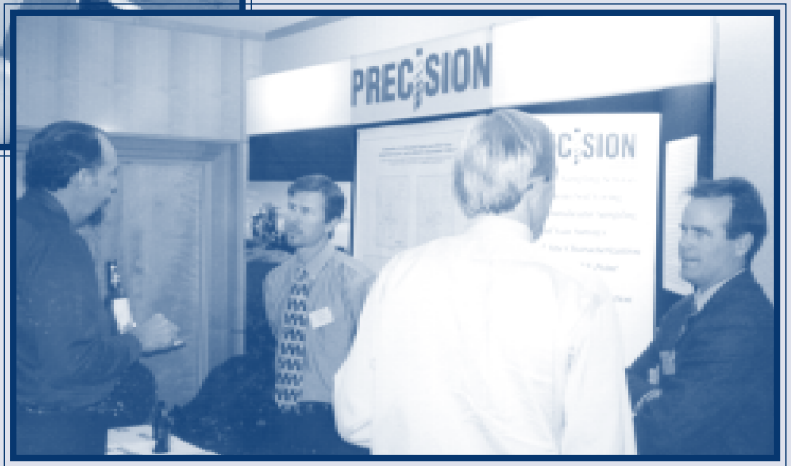
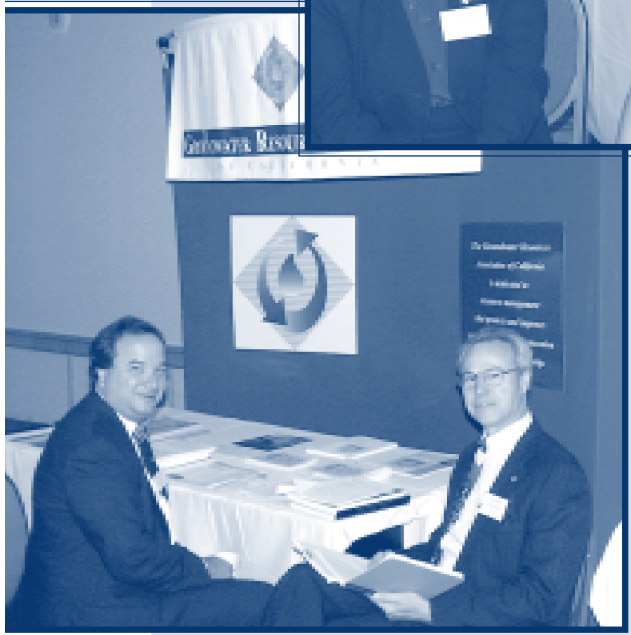
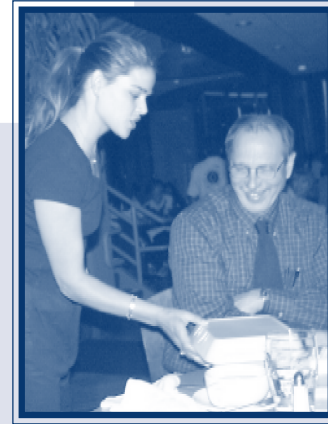
11. Groundwater Resources Association of California Harrison Phipps, 601 Villanova Dr. Davis, CA 95616-1827, (530) 758-3656. Protecting and improving groundwater through education and technical leadership.

State and Federal Agencies

12. California Department of Health Services, Leah Walker, Drinking Water Program, Technical Unit 50, D Street, Suite 200 Santa Rosa, CA 95404, (707) 576-2295. The Drinking Water Source Assessment and Protection Program has been prepared in response to the Safe Drinking Water Act which requires states to develop a program to assess sources of drinking water and encouraging states to establish protection programs.

13. US Environmental Protection Agency, Region IX Judy Bloom, 75 Hawthorne St., WTR-9, San Francisco, CA 94114, (415) 744-1829, Fax (415) 744-1235. Informational materials related to the Safe Drinking Water Act and the Clean Water Act.

14. Department of Toxic Substances Control, James Stettler, DTSC, 700 Heinz Avenue, Bldg. F., Suite 200, Berkeley, CA 94710, (510) 540-3739. Information related to waste minimization and CAL-EPA programs. ♻️



Membership Drive

BY HARRISON PHIPPS

GRA has launched its 1999 membership drive. We are reaching out to those we know who work with groundwater in California and inviting them to join the growing number of people who use GRA as a forum for networking, obtaining and sharing information on groundwater and advocating for its protection and wise use. Our newly designed color Membership Guide is being mailed to prospective members. If you know of someone who might be interested in joining GRA, contact us and we will see that they receive a Membership Guide.

Current GRA members should have already received a member renewal invoice for their 1999 dues. You may have noticed that Regular Member dues have risen, for the first time since GRA was founded in 1992, to \$60 per year.

Membership dues are used to cover the costs of services to GRA members, production and

mailing of HydroVisions, administrative costs associated with running the organization, development of education seminars and an annual meeting. Additional funds from grants, contributions, and fund raising efforts will enable GRA to develop more public outreach and education efforts, college scholarships, and production of a second edition of California Groundwater Management.

Currently, GRA has over 750 members from government agencies, universities, consulting firms, non profit organizations, businesses, special interest groups, and the public—a diversity that encourages balance and provides credibility.

Your support of GRA is truly appreciated. We are looking forward to a year filled with education seminars and the GRA co-sponsored 22nd Biennial Groundwater Conference being planned for September 20 & 21, 1999 in San Diego.

Your commitment allows GRA: To educate new decision-makers in the California legislature about the importance of groundwater. Conduct seminars and conferences for groundwater professionals who desire to stay out-in-front on issues, research, and trends affecting the industry. Look ahead and form alliances with organizations that share our interest of protecting and improving California's valuable groundwater resources.

Membership Information

Supporting Member	85.00
Regular Member	60.00
Associate Member	50.00
Business Member (for 3 employees)	125.00
Corporate Sponsor	250.00

Please send member renewals to:

GRA PO Box 1446 Sacramento, CA 95812 🌱

GRA FORMS SPEAKER'S BUREAU

Educating the public on California groundwater issues is a goal of GRA. To help achieve this goal, we have formed a Speaker's Bureau which will provide our members an opportunity to educate the public on groundwater issues. We are compiling a list of individuals who are well versed in groundwater issues and would be interested in being a speaker for various public and private organizations. This list will be made available to organizations and will also be posted on our web site. Organizations interested in using GRA's Speaker Bureau services, will be asked to provide travel expenses and associated speaker fees.

Individuals interested in being listed as part of GRA's Speaker Bureau should provide us with the following information: Name, Occupation/Credentials, Contact Information, such as, phone, fax and e-mail address, Proposed Groundwater Related Topics, Preferred Areas to Speak, Preferred Times to Speak, i.e., Breakfast, Lunch, Dinner, or other, Speaker Fee (if any), Brief Biosketch Identifying Educational and Professional Experience (not to exceed 100 words), Photograph (optional).

Please send the above information to: GRA's Speakers Bureau, Attn: Tim Parker, P.O. Box 1446, Sacramento, CA 95812 or E-Mail it to admin@grac.org.

Join us in conveying technical information to the public by placing your name on GRA's Speakers Bureau list. 🌱

Branch Contacts

San Francisco Bay Branch

e-mail: sf.branch@grac.org

President: Clifton Davenport

Waterstone Environmental
(510) 533-6710

Vice-President: Linda Spencer

S.F. Bay Regional Water Quality Control Board
(510) 622-2420

Secretary: Jim Ulrick

Ulrick & Associates
(510) 848-3721

Treasurer: David Abbott

David Keith Todd Consulting Engineers
(510) 595-2120

Membership Chair: Mary Kean

(510) 865-9949

Member At Large: Jim Jacobs

Fast-Tech
(510) 232-2728

Southern California Branch

e-mail: social.branch@grac.org

President: Lou Reimer

Tait & Associates
(714) 560-8200

Vice President: Paul Parmentier

IT Corp
(949) 660-7510

Treasurer: Doug Harriman

AGRA
(714) 779-2591

Secretary: Carmen Guzman

ARCADIS Geraghty & Miller
(714) 278-0992

Member At Large: Steve Zigan

Environmental Resolutions
(949) 457-8952

Sacramento Branch

e-mail: sac.branch@grac.org

President: Barbara Heinsch

EMCON Associates
(916) 928-3300

Vice President: J.C. Isham

EMCON Associates
(916) 928-3300

Secretary: Richard Schatz

LAW Engineering & Environmental Services
(916) 979-7871

Treasurer: David Von Aspern

Wallace•Kuhl & Associates, Inc.
(916) 372-1434

Member At Large: Tim Parker

CAL/EPA DTSC
(916) 323-3372

Member At Large: Steve Phillips

USGS
(916) 278-3002

South San Joaquin Valley Branch

Gary Corbell
Welenco, Inc.
(805) 834-8100

NEW MEMBERS

WELCOME! New members that have joined GRA since September 1998.

BRANCH	FIRST	LAST	COMPANY
CC	Gerald E.	Weber	G.E. Weber, C.E.G.
CC	Ryan	Zukor	Padre Associates, Inc.
CC	Richard	Lichtenfels	San Luis Obispo County Environ Health
OS	Jim E.	Studer	Duke Engineering & Services
SAC	Michael J.	Keenan	BSK Associates
SAC	William E.	Rowe	Calif. Dept. of Toxic Substances Control
SAC	Paul	Carpenter	Calif. Dept. of Toxic Substances Control
SAC	Robert J.	Swartz	Calif. Dept. of Water Resources
SAC	Jean	Woods	Calif. Dept. of Water Resources
SAC	Mary E.	Meays	California Energy Commission
SAC	Deborah	Spangler	CSU, Chico Research Foundation
SAC	Robert	Donlan	Ellison & Schneider
SAC	Harold Bud	Duke	EMCON
SAC	Steve	Strait	EMCON Associates
SAC	William G.	Shipp	GRA Student Member
SAC	Steven	Haugen	Kings River Conservation District
SAC	David J.	Guy No.	Calif. Water Agencies
SAC	Brett G.	Wyckoff	RWQCB Central Valley
SAC	Larry	Kleinecke	Versar, Inc.
SC	David L.	Sumner	Beaumont-Cherry Valley Water District
SC	Ivette M.	Munoz	Camp Dresser & McKee, Inc.
SC	Greg	James	County of Inyo Water Dept.
SC	Mark	Zeko	Environmental Eng. & Contracting, Inc.
SC	James	Leist	Environmental Eng. & Contracting, Inc.
SC	John	Shaffer	Environmental Eng. & Contracting, Inc.
SC	Robert	Ruscitto	Fluor Daniel GTI
SC	Wendell	Bradford	Foothill Engineering
SC	Glenn A.	Brown	GRA Member
SC	Roger A.	Niemeyer	Hargis + Associates
SC	Kenneth R.	Patton	Patton and Associates
SC	Douglas M.	Hahn	Perliter & Ingalsbe
SC	Kevin	McGillicuddy	Roscoe Moss Manufacturing Co.
SC	Karen T.	Zachary	Semptra Energy, Env. & Safety
SC	Estela	Rubio	Valley County Water District
SC	Alfonso	Contreras	Valley County Water District
SC	Dolores	Holguin	Valley County Water District
SC	Larry A.	Walton, Sr.	Valley County Water District
SC	Mariana	Lake	Valley County Water District
SC	Zach	McReynolds	Western Water Company
SFB	Matt	Katen	Alton Geoscience
SFB	Ron	Scheele	Cambria Environmental Technology, Inc.
SFB	Tom	Magney	Cambria Environmental Technology, Inc.
SFB	Leslie	McDonough	Cambria Environmental Technology, Inc.
SFB	Joe	Theisen	Cambria Environmental Technology, Inc.
SFB	Alisa	Lemay	Cambria Environmental Technology, Inc.

California Water Plan Update

BY HARRISON PHIPPS, Executive Director

The Department of Water Resources has recently released the final version of California's Water Plan update. The plan assesses California's water needs and evaluates water supplies to quantify the gap between future water demands and water supplies. The plan also presents a statewide overview of current water management activities and provides water managers with a framework for making decisions.

Statewide groundwater overdraft is estimated to have increased 160,000 acre feet per year above the 1990 base year reported in the last update in 1993. Most of the statewide overdraft occurred in the San Joaquin and Tulare Lake Regions, two regions where surface water supplies have been reduced in recent years by Delta export restrictions, CVPIA implementation, and Endangered Species Act requirements. CVP contractors in these regions who rely on Delta exports for their water supplies have experienced supply deficiencies of up to 50% subsequent to implementation of export limitations and CVPIA requirements. Many of these contractors have turned to groundwater pumping for additional water supplies. This long-term increase in groundwater extractions exacerbated a short-term decline in water levels that resulted due to the 1987-92 drought.

Groundwater overdraft is expected to decline from 1.5 million acre feet per year to 1.1 MAF/yr statewide by the year 2020. Overdraft in the Central Coast Region is expected to decline as demand shifts from groundwater to imported State Water Project supplies, provided through the recently completed Coastal Branch of the California Aqueduct.

The reduced acreage in irrigated agriculture in drainage problem areas on the west side of the San Joaquin Valley is expected to reduce groundwater demands in the San Joaquin and Tulare Lake Regions by 2020.

Increases in groundwater overdraft are expected in Sacramento, Placer, and El Dorado Counties of the Sacramento River Region.

The water plan, also referred to as Bulletin 160-98, forecasts water shortages in California by the year 2020, as did the previous update. The water management options identified in the current plan would reduce, but not eliminate future shortages.

According to the water plan, conservation and recycling alone are not enough to meet California's future needs. The plan included all of the conservation and recycling measures likely to be implemented by 2020. Adding supply augmentation options identified by California's water purveyors still

leaves a shortfall in meeting forecasted future demands. By 2020, average year shortages are expected to be 200,000 acre feet per year and drought year shortages 2.7 MAF/yr.

Copies of Bulletin 160-98 may be purchased for \$25 plus tax from:

California Department of Water Resources
PO Box 942836
Sacramento, CA 94236-0001

The next HydroVisions due date for articles is May 1, 1999. We welcome your articles and photos. Articles may be e-mailed to:

editor@grac.org

A Combined Version of the Department of Water Resources' (DWRs) Well Standards Published in Bulletin 74-81 and Bulletin 74-90 is Now Available

Ever try to look up a well drilling issue in Bulletin 74-90 only to find that you need Bulletin 74-81 too, in order to get the whole story?

When DWR put together 74-90, it was published as a set of revisions to 74-81. Diamond Well Drilling has now combined the two. Bulletin 74-81 is in Courier type. What was edited out of 81 is in Courier strike out. (That is important because Bulletin 74-90 was never officially adopted by DWR, making 74-81 still the official guideline.) The revisions in Bulletin 74-90 are bold Times Roman. In addition, there are annotations based on field conditions for well drilling.

The combined version costs \$35 for GRA members (\$45 for nonmembers) and is available at:

Diamond Well Drilling Co. Attn: Dave Fulton
1660 Old Airport Road Auburn California
95602 800-995-9355 FAX 530-823-2377

Editor's note: This combined version has not been peer reviewed by GRA or DWR.

Lifetime Achievement Award Presented to E.E. (Gene) Luhdorff, JR.

At our 7th Annual Meeting, Gene Luhdorff was presented with GRA's Lifetime Achievement Award. Gene was joined by his wife Sue at the lunchtime award's ceremony. The following is a brief summary of Gene's contributions to the groundwater industry.

Gene was born in San Jose (1930). His father, Gene Sr., worked for the John Bean Co., which later became the Peerless Pump Co. Division of the FMC Corporation. His father was involved in the early design and manufacture of the deepwell turbine pump. His family moved to Woodland (c. 1940) and established the family-owned E.E. Luhdorff Co. Pump, and later well drilling business. Gene learned the well and pump business as a teenager, shoveling gravel into annular spaces, test pumping wells, and repairing pumps. Gene ultimately enrolled in the Irrigation Science program (later the Water Science & Engineering, then Land Air & Water Resources, and now Hydrologic Sciences), where he graduated in the early 1950's.

After a stint in the Navy, he joined his Dad in the Luhdorff Co. where they grew it into a multi-disciplinary well drilling, pump and irrigation business in California and several Western States (notably Washington and Arizona.) Gene was possibly most noted in those times (1950's - 1970's) for his aggressive acceptance and application of the principles of proper well design to achieve sand control, and in his marketing of such wells when many in the industry adamantly insisted that such could not be done (and certainly not guaranteed.) He also was one who understood early the principles of well hydraulics and applied them to the proper design of pumps for installation in wells, particularly for lengthy pumping cycles. In the irrigation field, Gene was a pioneer in the application of drip irrigation in the vineyards of the Napa Valley.

In 1968, Gene was asked by the Peace Corp to teach volunteers the principles of well drilling in six weeks. It was Gene's usual practice not to let someone run a drill rig unless they helped on the rig for at least five years. Somewhat overwhelmed with what he was being asked to do, he agreed to help teach volunteers the basic principles of well drilling. Several of his graduates helped install wells in India and Africa where previously potable water was not available. Several volunteers were later hired by Gene to work for the family business after they returned from the Peace Corp.

Ultimately, Gene sold the family-owned business (150 employees and monthly sales of one million dollars) to the Layne Western Co in 1976 and subsequently stayed on as Vice-President and Western Regional Manager for two years before leaving to provide consulting engineering on groundwater and wells. In late 1979, he co-founded the Luhdorff and Scalmanini, Consulting Engineering firm that still bears his name and continues the type of work which he conducted in groundwater, wells, pumps, and water resources engineering.

Gene was a multi-term President of the Associated Drilling Contractors of Califor-

nia, a contributor and reviewer of the original Bulletin 74 Water Well Standards, and technical reviewer of the University of California's Bulletin on the Design, Construction, Operation and Maintenance of Wells and Pumps. Gene has consulted and taught on the subject of well design and construction around the world, notably in Japan, South America, and India. He taught numerous individuals in the State Department of Water Resources, and later through the University of California Extension for 15 years. As a hobby while he travelled, he frequently took pictures of wells from around the world. Frequently, Gene included these pictures to help illustrate a point about proper well design (or how not to do it.)

Gene was uniquely educated (practically and theoretically). He could interpret and apply many principles of ground-water hydrology at a pioneering time, long before we had the current multitude of geologists, hydrologists, and engineers practicing in the general groundwater field. Reflecting back twenty years ago, his business partner, Joe Scalmanini said, "When we started in business in 1979, no one could do what Gene could do." Looking back over the last twenty years, Joe said, "that statement is still largely true today."

GRA was pleased to honor Gene at our Annual meeting as a pioneer and contributor to the groundwater industry.

Editor's note: GRA would like to thank Joe Scalmanini for help in preparing this article. ♠



Gene Luhdorff Jr. is surrounded by (L to R) Joe Scalmanini, Brian Lewis, Sue Luhdorff, Vicki Kretsinger, and Harrison Phipps. The award was presented at GRA's Annual Meeting.

Legislative Corner

BY HARRISON PHIPPS
Executive Director

Legislative Update for the 1998 Session Signed into law by the Governor

AB 609 - (Margett) Provides that entities responsible for groundwater replenishment, recycled water producers, and retail water suppliers may jointly study feasibility of using recycled water for groundwater recharge.

AB 681 - (Machado) Provides that all owners of hazardous substance release sites be notified prior to cleanup, site closure, or other corrective action. Requires regulatory agencies to take all reasonable steps necessary to accommodate landowner participation in the cleanup or closure process.

AB 1909 - (Wayne) Expands financing from the California Pollution Control Authority to include remediation, soil excavation and removal, extraction and treatment systems for groundwater, soil vapor, gas, or leachate. Redefines pollution to include soil or groundwater pollution resulting from release of hazardous materials at sites with a reasonable potential for beneficial reuse.

AB 2019 - (Kuehl) Enacts the Stormwater Enforcement Act of 1998 and tightens enforcement measures targeting dischargers of stormwater that have not obtained NPDES permits.

SB 1765 - (Peace) Appropriates \$235 million for Colorado River management measures including various groundwater storage projects along the Colorado River Aqueduct and lining portions of the All American and Coachella canals.

SB 1852 - (Kelley) Requires a regional water quality control board to prohibit discharges from individual disposal systems that overlie the Mission Creek Aquifer or the Desert Hot Springs Aquifer in Riverside County.

SB 2198 - (Sher and Leslie) Creates a statewide cleanup fund for drinking water contaminated by MTBE and other oxygenates. Provides \$20 million over three years for treatment, purchase of replacement water, investigation of possible sources of contamination, and research.

SB 2240 (Senate Committee on Environmental Quality) Appropriates funds to the Department of Toxic Substances Control for the unified hazardous waste program. Revises some fee schedules and charges for hazardous waste management programs.

AB 2023 - (Gallegos) Provides immunity from liability for injuries occurring in groundwater recharge spreading grounds if certain conditions are met.

Resolutions Clean Water Day - (McPherson) Designates August 15 as Clean Water Day.

Gasoline - (Johannessen) Memorializes Congress to enact legislation that permits California to implement its own reformulated gasoline rules in lieu of federal regulations provided federal Clean Air Act requirements are met.

Conservation - (Wayne) Designates May as Water Awareness Month to promote water conservation and understanding of the importance of water in California.

Vetoed by the Governor SB 1033 - (Sher) Would have required a primary drinking water standard for perchlorate by January 1, 2000 and required the Department of Health Services to submit various reports on perchlorate to the Legislature.

SB 1875 - (Hayden) Would have required the principal mandate of the Metropolitan Water district of Southern California to be development and implementation of conservation, recycling, groundwater storage and replenishment, and alternative supply programs.

Introduced Legislation 1999 By Harrison Phipps, Executive Director

AB 137 (Firebaugh) School facilities: certification from the Department of Toxic Substances Control Would require school district boards to obtain a certification from the DTSC by January 1, 2001, and at least once every 5 years thereafter, stating that the schoolsite has been analyzed and surveyed for hazardous substance contamination. Requires schoolsites determined to contain dangerous levels of these materials to develop a remediation plan.

AB 237 (Machado) Recycled water Would require the State Water Resources Control Board to award grants for conducting or financing water recycling studies, investigations, and research and development. Would require the board, in consultation with local agencies, affected industry, and other interested parties, to conduct a study, to assess the impacts of discharges from residential water softeners and other sources of salinity on the quality of surface water and groundwater and water recycling. Requires the board to submit the study to the Legislature by 2001.

AB 303 (Thomson) Groundwater Study Existing law authorizes specified local agencies to adopt and implement groundwater management plans pursuant to specified provisions. This bill would declare that additional study of groundwater resources is necessary to better understand how to effectively manage groundwater to ensure the safe production, quality, and proper storage of groundwater in the state.

AB 710 (Calderon) Perchlorate Would require the Department of Health Services to establish a demonstration project regarding the removal of perchlorate from drinking water, and would appropriate \$500,000 for that purpose from the General Fund to the department.

AB 732 (Machado) Water transfer clearinghouse Would require the California Water Commission to appoint a task force, with prescribed membership, to review third-party impacts of water transfers and to investigate the establishment of a water-transfer clearinghouse. Would require the task force to report to the Legislature and the Governor regarding those matters, on or before December 1, 2000. These provisions would be repealed as of January 1, 2001.

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Introduced Legislation 1999

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AB 980 (Ducheny) conjunctive use Would authorize the Department of Water Resources to provide grants to local public agencies for feasibility studies, conjunctive use facilities, local pilot projects, and other facilities that are integral to the implementation of a conjunctive use plan or project, and for the acquisition of land for conjunctive use projects. The bill also would authorize the department to provide grants to local public agencies for their share of the cost of construction of conjunctive use facilities that provide multipurpose benefits of significant statewide interest.

AB 1239 (Leonard) and SB 413 (Burton) Safe drinking water & flood prevention This bill would enact the Safe Drinking Water, Clean Water, Flood Prevention, and Water Supply Act. Would authorize State General Obligation Bond in the amount of \$2,050,000,000 to finance safe drinking water, flood protection, and water quality, and water supply program.

AB 1277 (Thomson) Local agency water supplies (1) Would require the local agency formation commission, to request a copy of recently adopted urban water management plans. Would require the assessment of projected water demand. (2) Would require the commission to consider water supply assessment in the review of a proposal for a change of organization or reorganization of local government agencies. (3) Would require the commission, in considering the ability of a public water system to serve customers outside areas in which water is currently provided, to recognize the obligation of a public water system to grant a priority to water resources for proposed low-income housing developments. (4) Provides reimbursement for costs.

SB 47 (Sher) Hazardous substance account: extension. Under prior law, the Carpenter-Presley-Tanner Hazardous Substance Account Act, which was repealed on January 1, 1999, imposed liability for hazardous substance removal or remedial actions. This bill would repeal and reenact the act, thereby extending the effect of the act indefinitely.

SB 60 MWD (Hayden) Water conservation & recharge Would require the Metropolitan Water District of Southern California to place increased emphasis on sustainable, en-

vironmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures. Would require MWD, in cooperation with others, to participate in considering programs of groundwater recharge and replenishment, watershed management, habitat restoration, and environmentally compatible community development utilizing the resource potential of the Los Angeles River, the San Gabriel River, or other southern California rivers, including stormwater runoff from these rivers.

SB 89 (Escutia) Environmental quality: minority and low-income populations. Would require the Secretary for Environmental Protection, by April 1, 2000, to convene a Working Group on Environmental Justice, comprised of representatives from each environmental agency for the purpose of identifying disproportionately high and adverse human health or environmental effects on minority populations or low-income populations, and providing guidance to state agencies that implement, administer, and enforce environmental laws in the state.

SB 192 (Perata) MTBE Would make it unlawful to sell motor fuel that contains at least 1% methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), or tertiary amyl ether (TAME) unless a sign or label is displayed correctly stating the contents of the motor fuel. Provides that, by December 1, 1999, no person shall sell, offer for sale, dispense, supply, offer for supply, or transport gasoline containing MTBE.

SB 272 (Leslie) MtBE Would make it a misdemeanor for any person to sell gasoline containing MTBE.

SB 324 (Escutia) Facilitates remediation of brownfields Existing law authorizes a redevelopment agency to take necessary action to remedy or remove a release of hazardous substances from property within a project area. This bill would delete the requirement that the property be located within a project area. Would require the Department of Toxic Substances Control to prepare a feasibility study examining financial and other incentives to facilitate the restoration and reuse of contaminated property.

SB 390 (Alpert) & SB 989 (Sher) Waste Discharge Permits and well reports 1. Would require operators of underground storage tanks to install an environmental monitoring system at facilities located in 1) A groundwater area designated as vulnerable in a regional board's water quality control plan. 2) The delineated 10-year time of travel area around a public water supply well

for which a drinking water source assessment has been completed, or 3) A one-half mile radius around a drinking water supply well when a vulnerable area has not been defined for the well in (1) or (2). 2. This bill would prohibit the state board from adopting any regulation that requires the addition of any oxygenate to motor vehicle fuel unless the regulation is subject to a multimedia evaluation conducted by the California Environmental Policy Council. 3. The bill would authorize the Secretary for Environmental Protection, in consultation with the state board, the State Water Resources Control Board, and regional water quality control boards, to phase out the use of MTBE on a regional basis on a date before January 1, 2002, if the secretary determines that the phase out will not adversely affect the price or supply of gasoline in the region in which the phase out will occur. Makes it a misdemeanor to sell gasoline containing MTBE or any other ether-based oxygenate on or after January 1, 2002. 4. Existing law requires well completion reports be filed with the Department of Water Resources within 30 days after well construction or alteration is completed. Under existing law, those reports may not be made available to the public, except to a person who obtains a written authorization from the owner of the well. This bill would also allow a person performing an environmental cleanup study under order from a regulatory agency to obtain a report.

SB 598 (Costa) UST Under existing law, claimants who did not obtain a permit to operate or own an underground storage tank on or before January 1, 1990, are required, under certain circumstances, to obtain a level of financial ability twice as great as would otherwise be required under law, as a precondition to receiving payment from the State Water Resources Control Board. This bill would exempt from that requirement an underground storage tank that is located in a county that did not implement an underground permit storage tank-permitting program prior to January 1, 1990.

SB 960 (Costa) Groundwater basin Existing law defines the term "groundwater basin" for the purposes of prescribed provisions that authorize local agencies to establish programs for the management of groundwater. That definition excludes a basin in which the average well yield is less than 100 gallons per

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minute. This bill would revise that definition to exclude a basin in which the average well yield, excluding domestic wells that supply water to a single-unit dwelling, is less than 100 gallons per minute.

SB 970 (Costa) The Water Rights Protection and Expedited Short-Term Water Transfer Act of 1999 Would provide that the transfer of water shall not cause, or be the basis for, a forfeiture, abandonment, or modification of any water right, contract right, or other right to the use of that water.

January 1999 marks the beginning of the present legislative session that spans 1999-2000. If you are interested in joining GRA's Legislative committee, contact Harrison Phipps execdir@grac.org.

An abbreviated version of the 1999 Legislative calendar is given below. January 4-Legislature reconvenes, January 22-Last day to submit language to Legislative Council, February 26-Last day to introduce bills, March 25-Spring recess, April 5-Recess ends, June 4-Last day for bills introduced in 1999 to pass out of the house of origin, June 15-Budget must be passed, September 10-Last day for each house to pass bills, October 10-Last day for the Governor to sign or veto bills passed by the Legislature.

DATES & DETAILS

1999 Board of Directors' Meeting Date

All Members Welcomed

April 18, 1999	Luhdorff and Scalmanini Sunday Woodland, CA
May 11-13	Groundwater Modeling Tuesday-Thursday Short Course CSU Sacramento, CA (see page 3)
June 28-30	Groundwater Modeling Monday-Wednesday Short Course CSU Fullerton, CA (see page 3)

August 7, 1999	Fast-Tech Saturday Point Richmond, CA
September 20-21 Monday-Tuesday	Biennial Groundwater Conference San Diego, CA
November 6, 1999 . . .	Wallace-Kuhl Saturday West Sacramento, CA



GRA Offers Lapel Pins



Actual Size (Gold Color)

If you would like to buy a lapel pin, attend your nearest branch meeting or order a pin now. Pins cost \$7.00 at a branch meeting or \$8.00 through the mail. Send your checks to: GRA, P.O. Box 1446, Sacramento, CA 95812



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Thank you for your help.

