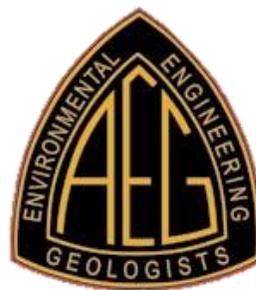


December 2017



Joint GRA/AEG Meeting Announcement



AEG Sacramento Section



Annual Holiday Mixer and Raffle! Wednesday, December 13, 2017



Location: Aviator's Restaurant, 6151 Freeport Blvd, Sacramento, CA 95822
Lots of free parking! [Link to map](#)

Speakers: John Fio, Hydrologist, Hydrofocus, Inc.

Topic: "Technical Consensus and Multi-Party Sustainability Planning,
Westside Groundwater Basin"

Meeting Sponsor: Confluence Environmental, Inc.



Holiday Raffle:

We will be holding our traditional holiday raffle! One ticket will be included with each registration. Additional tickets will be for sale at:

- \$1 each for up to 5 tickets
- \$5 for 6 tickets
- \$10 for 13 tickets.

Please bring prizes that geology and engineer-types will love (rocks, minerals, books, beer, wine...). All proceeds will benefit geology students in the local area, so be generous and help support our next generation of geologists.

Agenda:

5:30–6:30pm – Social hour
6:30–7:30pm – Dinner
7:30–8:30pm – Speaker & Questions
8:30–8:45pm – Raffle

Meeting Cost:

Members: \$30
Non-Members: \$35
Students: \$10
Please RSVP by 12/11/2010. A \$3 surcharge will be applied to walk-ins. The FIRST five students to RSVP are free.

Student Sponsorships welcomed! Sponsor a student for \$20 (suggested).

RSVP at <http://www.aegsacto.org/meetings/signup/>
or email: chase.white@conservation.ca.gov

“Technical Consensus and Multi-Party Sustainability Planning, Westside Groundwater Basin”

**Wednesday, December 13, 2017 (Annual Joint GRA and AEG Holiday Meeting)
presented by: John Fio, Hydrologist, HydroFocus, Inc.**

The Westside Groundwater Basin located in San Francisco and northern San Mateo counties has been a reliable source of drinking and irrigation water for over 100 years. The basin also includes Lake Merced, which is a surface expression of the groundwater table and significant recreational and natural resource. For the past 20 years, coordinated groundwater management among multiple agencies and stakeholders exemplifies successful sustainability planning for water supply and groundwater dependent ecosystems, and demonstrates effective use of best management practices, monitoring, water budgets, conceptual models and groundwater-flow modeling.

The Westside Basin Groundwater-Flow Model serves as an important consensus building tool and an overarching platform for directing data collection and estimating water budgets for management efforts. HydroFocus developed and documented the USGS MODFLOW model to maximize accessibility and facilitate review by multiple interested parties, stakeholders and technical experts. Stakeholder involvement has promoted the exchange of new data and creative insights about recommended model use, data collection, and model improvements. The peer review process has also effectively identified model limitations.

In 2002, interested agencies, stakeholder groups and individuals provided input for initial model development. The primary objectives included data assembly, monitoring assessment, and preliminary quantification of storage responses to changes in basin inflows and outflows. Updated versions of the model have been employed to estimate water budgets, identify data needs, refine monitoring, and plan groundwater development and conjunctive use projects.

Since 2002, the model has been updated three times to increase reliability. The first update reflected new borehole data, water level monitoring, aquifer tests, and pilot conjunctive use project results. Subsequent updates incorporated new insights from multiple well cluster sites which provided detailed information on the depth distribution of groundwater levels in shallow, intermediate, and deep basin water-bearing zones. Quantitative comparisons of the four model versions provide practical insight into the relationships between expanded data collection, model improvement, and the reliability of model-calculated water budgets. The recent determination of groundwater age using tritium and helium, and water sources using water isotopes (oxygen-18 and deuterium) provided important insights about the age and source of shallow zone recharge which shall be incorporated into future model updates.

About our Speaker:

John Fio is Vice President and a founding principal of HydroFocus, Inc. His experience includes almost ten years of research and project leadership with the USGS, and more than 20 years in private consulting. His tool box includes numerical flow and transport modeling, geochemical modeling, and chemical, isotopic, and age-dating techniques.

About Confluence Environmental, Inc.:

Confluence Environmental, Inc. is committed to providing the highest level of sampling, technical field services and construction support at competitive rates. Our field experience, superior equipment and expertise ensure that jobs run safely, smoothly, and efficiently. Complicated sites with intensive protocol and coordination needs are our specialty. We offer support in all aspects of field management from performing general maintenance to sampling, installation and demo. While groundwater monitoring and sampling has been our premier service we some of our additional service features include: pressure grouting, concrete coring, concrete flag or sidewalk replacement and quality hot asphalt repair. Based project demands we can complement your company's existing field staff, or operate independently. Confluence Environmental is a CPUC certified WBE and California State Certified Small Business. We maintain C-8, C-12 and C-57 Licenses with HAZ - Hazardous Substance Removal Certification and is ISNetworld® and PICS certified. We provide services throughout California and the greater Western States.