

Armand Ruby
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SUMMARY OF EXPERIENCE/QUALIFICATIONS:

Over 25 years of experience in the field of environmental science, featuring:

- ◆ A reputation for effective facilitation, skillful problem-solving, strong analytical abilities, and production of high quality work products.
- ◆ Excellent oral and written communications skills; extensive writing, editing, and public speaking experience, for both technical and non-technical audiences.
- ◆ Extensive supervisory experience with professional/technical staff and volunteer groups.
- ◆ In-depth knowledge of federal and state water quality regulations.
- ◆ A diverse range of experience in various environmental disciplines.

Primary areas of expertise/current activity:

- Surface Water Quality Assessment/Monitoring
- Sediment Quality Assessment/Monitoring
- Watershed Analysis/Assessment/Management
- Stormwater Monitoring/Data Analysis/Management
- Environmental Impact Assessment
- Regulatory Compliance/Permitting Assistance

Additional areas of expertise/past activity:

- Wetlands Evaluations
- Hazardous Waste Management
- Air Quality/Atmospheric Deposition

EMPLOYMENT HISTORY:

2004 – Present: Consulting Environmental Scientist, Capitola, CA

Independent consultant specializing in water quality issues, particularly those relating to surface water and sediment quality monitoring and assessment, stormwater monitoring and management, watershed-based analysis, and water quality impacts assessment. Known for development of innovative analytical approaches to water quality problems.

Current/Recent Representative Consulting Projects:

- **Regulatory Assistance, County of Sacramento Stormwater Program.**
Analyze and prepare comments for Sacramento County on TMDLs and other regulatory issues. Provide technical assistance on stormwater runoff quality issues, including detention basin sediment monitoring and management.
- **Review and Analysis of LTMAP Data, San Francisquito Creek Watershed.**
Compiled, organized and analyzed all water quality data produced by the Long Term Monitoring and Assessment Plan from four creeks within the San Francisquito Creek watershed from 2001-2006, presented analysis and interpretation of results and recommended modifications to the program.

- **Coordinator, Diazinon/Toxicity Work Group, Clean Estuary Partnership (CEP), San Francisco Bay/Estuary.** Coordinated/facilitated the CEP's Diazinon/Toxicity Work Group, supporting implementation of the Water Quality Attainment Strategy for Diazinon and Pesticide-Related Toxicity in Bay Area Urban Creeks. Developed a regional urban creeks monitoring plan and oversaw implementation of same in 2005. Analyzed urban creek data, including water and sediment chemistry and toxicity test results, and produced comprehensive report.
- **Yolo Bypass Watershed Planning Project.** Senior technical advisor for CalFed grant-funded project to develop a comprehensive water quality management plan for the Yolo Bypass. Organized, facilitated and coordinated stakeholder advisory group for the project. [While with LWA served as consultant project manager and designed and oversaw the project's complex water quality monitoring program, including water and sediment chemistry and toxicity testing; see below.]
- **Discharge Characterization Project, Sacramento Stormwater Program.** Performed statistical characterization of discharges, including development of regression equations to relate runoff quality to hydrological factors, coupled with continuous simulation modeling to produce an updated assessment of mass loadings from urban runoff discharges. Results are separated by wet and dry weather, urban drainage area, and major receiving water destination.
- **Review and Analysis of Corporation Yard Stormwater Monitoring Program, City of Folsom.** Compiled, organized and assessed all data produced to date by the Corp Yard stormwater monitoring program, and provided recommendations for improvement of runoff quality and the monitoring protocols.
- **Review of Stormwater Monitoring Program, Santa Rosa.** Performed a review of the regional NPDES permit monitoring program for the City of Santa Rosa, one of the permittees. Assessed data collection methods and compared recent activities with standard practices for MS4s and with expressed preferences of Regional Water Quality Control Board staff.
- **Water Quality Attainment Strategy, Clean Estuary Partnership (CEP), San Francisco Bay/Estuary.** Developed a scope of work for preparation of a WQAS for Diazinon and Pesticide-Related Toxicity in SF Bay for the CEP.
- **Identification of Pollutants of Concern, San Bernardino County Stormwater Program.** Evaluated all available stormwater discharge and receiving water quality monitoring data, applicable regulations (NPDES Permit, Basin Plan, California Toxics Rule), local CWA Section 303(d) listings, and other factors related to the potential impacts of stormwater discharge constituents upon the beneficial uses of local receiving waters, and derived prioritized list of POCs.

1992 – 2004: Larry Walker Associates, Davis, California

Vice President (2003-04); Associate (1997-2003); Senior Scientist (1992-97)

Managed projects involving surface water quality, storm water management, watershed management, and regulatory compliance assistance. Designed and managed water quality monitoring and assessment projects, ranging from focused studies of individual control measures to complex, watershed-wide, multi-year programs. Oversaw data management, data analysis, and reporting activities. Developed and applied tools used to identify pollutants of concern, investigate pollutant sources, evaluate controls, and assess program effectiveness. Provided permitting and regulatory assistance to public agency clients.

Representative Projects with Larry Walker Associates:

- **Caltrans Stormwater Program.** Managed production of the comprehensive *Guidance Manual: Stormwater Monitoring Protocols*. Oversaw development of the Caltrans Stormwater Database, including associated graphical user interface and related data analysis tools. Managed production of the comprehensive, statewide *Discharge Characterization Study Report*, as well as other statistical and data analysis projects. Oversaw annual report production for *Annual Data Summary, Three Year Action Plan* and other reports.
- **Yolo Bypass Watershed Planning Project.** Managed CalFed grant-funded project to develop a comprehensive plan for water quality management in the Yolo Bypass. Developed, facilitated and coordinated stakeholder advisory group (SAG). Oversaw design and implementation of watershed-wide monitoring program and QAPP, including monitoring for water and sediment chemistry and toxicity. Developed list of Pollutants of Concern with the SAG.
- **Stormwater Monitoring and Research Agenda, California Stormwater Quality Association (CASQA).** Helped develop comprehensive plan to provide strategic guidance in all areas of stormwater monitoring, research and data management, and presented agenda to CASQA (then the Stormwater Task Force).
- **San Francisquito Creek Long Term Monitoring and Assessment Plan.** Co-author of a comprehensive plan to monitor and assess the physical, hydrological, chemical, biological and social attributes of the SF Creek watershed.
- **Calleguas Creek Watershed TMDL Development.** Oversaw Technical Tools team, responsible for water quality modeling, data management, and development of graphical user interface for empirically-based water quality model.
- **Calleguas Creek Characterization Study.** Managed planning and implementation of Surface Water Element of coordinated watershed monitoring program, involving water quality measurements of receiving waters and point and non-point source discharges, toxicity testing, and bioassessment.
- **Fresno-Clovis Storm Water Quality Monitoring Program.** Managed multi-year project involving monitoring of receiving waters, urban runoff, and detention basin effectiveness. Directed data analysis projects involving comprehensive evaluations of detention basin pollutant removal effectiveness, and in-depth assessments of San Joaquin River spatial and temporal variability.
- **Sacramento NPDES Stormwater Permit Monitoring Program.** Managed multi-faceted project involving urban runoff discharge characterization and management, and special studies of BMP effectiveness. Developed statistically-based methods for discharge characterization and program effectiveness assessment. Developed constituent of concern (COC) identification and reduction programs. Oversaw comparative assessment of proprietary structural controls. Produced comparative analysis of detention basin pollutant removal effectiveness.
- **Stormwater Mass Loading Analysis and Modeling, San Bernardino County.** Managed development and application of empirical model of pollutant loadings from urban runoff based on land uses within San Bernardino County.
- **Ventura County-wide Stormwater Quality Management Program.** Assisted in development of county-wide NPDES monitoring program, data analysis strategy, and Constituent of Concern (COC) Identification program.

- **Demonstration of Gasoline Fueling Station Best Management Practices**, County of Sacramento. Oversaw design and implementation of monitoring program to characterize gasoline station runoff, identification of BMPs to reduce runoff pollutant loadings, and assessment of pollutant removal effectiveness.
- **Pollutant Loading Reduction Program**, City of Davis. Oversaw stormwater monitoring program, including monitoring plan review, storm tracking, and supervision of field and laboratory activities.
- **NPDES Stormwater Permit Applications, Part 2**: Cities of Bakersfield, Oxnard and Stockton, and County of Ventura. Designed monitoring programs to characterize urban runoff in compliance with NPDES permits and federal stormwater regulations.
- **Southport Sewage Collection and Treatment Facilities Focused EIR**, City of West Sacramento. Evaluated water quality impacts of proposed new sewage treatment facilities.
- **Effluent and Receiving Water Quality Assessments**, Sacramento County. Analyzed monitoring data to determine whether POTW effluent discharges cause or contribute to violations of receiving water quality objectives.

1986 – 1992: Consulting Environmental Scientist, Davis, CA and Huntington, MA

Specialized in water quality issues, including surface water quality, acid deposition effects, groundwater contamination, erosion and sedimentation control, and wetlands delineation and evaluation. Also performed asbestos surveys, air quality evaluations, and noise impact evaluations for public and private sector clients. Contributed to numerous environmental impact reports under CEQA/NEQA, involving impact assessment and development of mitigation measures for air quality, environmental noise, and water quality. Also helped protect ecologically sensitive areas through the development of conservation land trusts.

1983 – 1986: Water Resources Research Center, University of Massachusetts, Amherst, MA
Statewide Coordinator and Co-principal Investigator, Acid Rain Monitoring Project (ARM)

Managed statewide, multi-year surface water quality research project designed to assess the impact of acid deposition upon surface waters in Massachusetts. Supervised ARM Project professional and technical staff, and coordinated statewide volunteer organization of 1000 sample collectors and 75 local laboratories. Developed extensive QA/QC program. Designed project database and directed data analysis effort. Co-authored project reports, and presented findings at technical meetings, public events, and news media events. Also co-authored *Design of a Drinking Water Quality Monitoring Program*, designed to assess drinking water degradation in distribution systems and household plumbing for surface and groundwater supplies. Awarded the “President’s Award” in 1986 for outstanding service to the University.

1980 – 1983: A.R. Lombardi Associates, Vernon, Connecticut

Environmental Scientist/Staff Ecologist

Conducted environmental impact assessments for various civil/environmental engineering projects, and public and private development projects. Developed hazardous waste management plans and groundwater monitoring programs for industrial/manufacturing and landfill facilities. Provided permitting assistance for sanitary sewer design projects and hazardous waste facilities. Performed groundwater contamination studies, limnological studies, wetlands evaluations. Designed erosion and sedimentation control programs.

1978 – 1980: Hamilton Standard, Windsor Locks, Connecticut

Environmental Analyst

Researched and evaluated industrial wastewater treatment practices and in-process controls to identify Best Available Technology (BAT) for national USEPA Effluent Guidelines Development programs. Contributed extensively to draft development documents used to establish effluent limitations for specific industries, including the Battery Manufacturing, Copper and Brass Manufacturing, Electroplating, Photographic, and Electrical and Electronic Components Manufacturing industries.

EDUCATION:

Master of Science, Zoology (Ecology), 1986, University of Connecticut, Storrs, CT
Master's Thesis: *The Effects of Acid and Aluminum on Rainbow Trout Embryos.*

Bachelor of Arts, Biology (Ecology Concentration), 1977, Cornell University, Ithaca, NY

MISCELLANEOUS SKILLS AND EXPERIENCE:

Computer skills include extensive experience with word processing, spreadsheet, database, communications, and statistical software packages.

Teaching experience includes the following courses:

- *Acid Rain Seminar* (graduate seminar), University of Massachusetts, Amherst
- *Acid Deposition* (college course), Hampshire College, Amherst, MA
- *Hands On Computers* (college seminar), Hampshire College, Amherst, MA
- *Environmental Geochemistry* (college course), Hampshire College, Amherst, MA
- *Environmental Science* (college course), Holyoke Community College, Holyoke, MA
- Plus various other short seminars and public presentations

CURRENT/FORMER PUBLIC SERVICE ACTIVITIES:

Board of Directors, Riparian Improvement Organization (RIO), Davis, CA
Monitoring and Science Sub-committee, CA Stormwater Quality Assoc. (CASQA)
Alternate, SWRCB Public Advisory Group for AB 982 (AB 982 PAG)
Babe Ruth Baseball Coach, Woodland, CA
Little League Baseball Coach, Davis and Woodland, CA
Director, Davis Waldorf School Adult Choir, Davis, CA
Singer, Sacramento Opera Chorus, Sacramento, CA
Board of Trustees, Davis Waldorf School, Davis, CA
Volunteer Construction Coordinator, Hartsbrook Waldorf School, Hadley, MA
Board of Directors, Biodynamic Farmland Conservation Trust, Amherst, MA
Coordinator, Biodynamic Food Coop of Fair Oaks, Fair Oaks, CA