
JOHN G. ARONSON

PROFESSIONAL HISTORY

- AATA International, Inc., 1989 to present - 15+ years
- Riverside Technology, Inc., 1985 to 1989 - 4+ years
- Environmental Research and Technology, Inc., 1973 to 1985 - 12+ years

EDUCATION

- Graduate studies - Environmental Engineering, Statistics, Natural Sciences, Colorado State University
- M.S. Zoology-Limnology, University of Nebraska-Lincoln
- B.S. Biology, Nebraska Wesleyan University
- EPA Training Grant-Civil Engineering Minor-Waste Treatment, UNL
- Continuing Education Program, German Languages, CSU
- NASDS SCUBA Certification Program

MEMBERSHIPS AND AFFILIATIONS

- American Water Works Association
- American Water Resources Association
- American Society of Limnology and Oceanography
- American Fisheries Society - Certified Fisheries Scientist #1590
- American Association for the Advancement of Science
- Arizona Water and Pollution Control Association
- Colorado Mining Association
- Ecological Society of America - Certified Senior Ecologist #254
- Phycological Society of America
- Society of Environmental Toxicology and Chemistry
- Water Environment Federation:
 - Ecology Committee - Past Chairman
 - Toxics & Biomonitoring Workgroup
 - Sediment Workgroup
- North American Diatom
- North American Lake Management Society
- Society of Petroleum Engineers - Environmental Program Committee
- Russian American Chamber of Commerce - Director/Executive Committee
- American Chemical Society

MANAGEMENT AND TECHNICAL SPECIALTIES

President and Director - Responsible for technical, administrative, and financial management of environmental consulting firm, specializing in environmental management and permitting. Comprehensive project management duties for mining, oil and gas, utility, manufacturing, government, and other clients. Technical areas of expertise include limnology and aquatic ecology, fisheries, phycology, ornithology, environmental impact and risk assessment, water quality, eutrophication and watershed management and water quality modeling. Mr. Aronson has served as Program Manager and Principal Water Quality Consultant to a wide variety of domestic and international clients over the past 30 years. Mr. Aronson serves as Principal-in-Charge for large, comprehensive environmental management and permitting programs in the U.S. and in many foreign countries. He is involved in a wide variety of environmental permitting, regulatory, and policy related issues at the local, state, federal, and international levels. Mr. Aronson is considered one of the world's leading water quality consultants dealing with NPDES, NEPA, CERCLA, RCRA, and international regulations.

REPRESENTATIVE PROJECT EXPERIENCE

Compañía Minera Antamina

Yanacancha Copper-Zinc-Molybdenum Project, Ancash Department, Peru

Principal-In-Charge: AATA serves as a principal water quality and ecotoxicity consultant for this large copper-zinc-molybdenum mining complex at 4200 meters elevation in the Andes Mountains. Conducted water quality criteria review and ecotoxicity assessment of mine discharges on receiving waters. Performed technical evaluation of the proposed Ayash Fish Farm in terms of the design, operations and potential water quality impacts from mine discharges.

Buryatzoloto Gold Mine Environmental Inspections - European Bank for Reconstruction and Development, and Buryatzoloto Mining Company, London, Moscow, and Ulan Ude

Providing environmental, health, and safety inspections and management recommendations for two underground gold mines in Buryatia, Russian Federation. Conducted inspections of the Zun Holba and Irokinda mines, prepared report and recommendations for consideration by EBRD and Buryatzoloto.

PT Adaro Coal Mine Due Diligence Project, Kalimantan, Indonesia

Mission Energy Company, Irvine, California

Assoc: Mr. Yohan Sumaiku, Colorado School of Mines

Principal-In-Charge: AATA conducted an environmental due diligence analysis of the PT Adaro coal mining project in Kalimantan, Indonesia. Mr. Aronson and Mr. Sumaiku traveled to the mine site located north of Banjarmasin, Kalimantan, and investigated all of the operations pertinent to the coal mining program. Ground-level and aerial investigations of the mine, maintenance, haul road, river load out, river

transport route, camps, and ocean loadout areas were conducted. A detailed environmental due diligence report was prepared.

Tar Creek Superfund Site - Rural Operable Unit #4 - Blue Tee Corp. and PRPs, Northeastern Oklahoma - Principal-In-Charge for Remedial Investigation/Feasibility Study of Rural Operable Unit #4 in historic lead/zinc Tri-State Mining District. Working as RI/FS coordinator satisfying interdisciplinary work group including USEPA Region 6, Oklahoma Dept. of Environmental Quality, USGS, US Army Corps of Engineers, US Fish and Wildlife Service, BIA, BLM, Quapaw Tribe, among others.

Jasper County Superfund Site and TriState Mining District

EMS, Fort Collins

Principal-In-Charge - AATA conducted environmental monitoring and ecotoxicity testing for aquatic ecosystems of the Jasper County Superfund Site as part of CERCLA related studies for RI/FS purposes. Conducted periphyton (attached algae) investigation at 13 stream locations in Center Creek, Turkey Creek, Shoal Creek and the Spring River in Jasper and Newton Counties, MO, and Cherokee County, KS. Periphyton community structure and biomass were statistically analyzed at upstream reference sites and downstream sites affected by historical zinc and lead mining activities and byproducts. Other ecological metrics evaluated among sites included Shannon-Weiner diversity, evenness, Bray-Curtis Percent Dissimilarity, species richness and percent relative abundance.

Confidential Client - Project Manager for a soil sampling program to determine the horizontal and vertical distribution of a heavy metal in soils near mine tailings.

Project Manager for zinc and cadmium site-specific water quality criteria development studies utilizing EPA Water Effect Ratio toxicity testing protocols for the Jasper County CERCLA Designated Areas (DA) near Joplin, MO. The Jasper County DA drains a historic lead and zinc mining district. Conducted multiple on-site acute aquatic toxicity studies using fathead minnows and *Ceriodaphnia dubia* to assess potential ambient water acute toxicity from abandoned mine runoff in the Spring River, Center Creek, Turkey Creek and Short Creek. Phase I TIE/TER. Na₂EDTA chelation tests were conducted on site waters which were acutely toxic to assess cationic metal toxicity. Water Effect Ratio (WER) toxicity tests were to be conducted on site waters that were not acutely toxic to develop site specific water quality criteria for zinc and cadmium.

Cherokee County Superfund Site, Kansas - Conducted an aquatic toxicological review for an ecological risk assessment concerning zinc from mine tailings on the Baxter Springs and Treece Subsites, Cherokee County CERCLA Site, Kansas. Assisted in developing a site-specific water quality criterion for zinc. Analysis included interpretation of data in support of potential acclimation of resident warm water fishes in combination with review of site water quality data.

Eagle Picher Industries, Inc. - Project Manager for site-specific water quality criteria development studies for Eagle Picher’s stormwater permit to assess potential impact of runoff on aquatic life in Lone Elm Hollow and Turkey Creek. Conducted seasonal aquatic field studies on a reference site, Lone Elm Hollow and Turkey Creek to determine potential impacts of stormwater runoff from former lead smelting site. Preliminary use attainability analyses, recalculation of national water quality criteria for site-specific criteria, water quality and aquatic ecological field surveys, stormwater acute toxicity studies, and a screening level risk assessment were conducted in support of site-specific water quality criteria development for Eagle Picher stormwater discharge.

Zaamar Gold Mining EA, Mongolia

WM Mining LLC for Khan Resources, Denver and Ulan Baatar

Principal-In-Charge. AATA serves as principal environmental management consultant to Khan Resources on large placer mining project on Tuul River, Mongolia. Modernization of the placer mining operations to high environmental standards is underway, based upon EIA and EMMP prepared for OPIC.

Dukat Silver Project, Magadan Oblast, Russia

Pan American Silver Corporation

Assoc: Eastern Scientific Research Institute for Gold and Precious Metals (VNII-1), Magadan, Russia

Principal-In-Charge: AATA served as the principal environmental management and permitting contractor for this large silver mining project in the Russian Far East. AATA was responsible for all environmental coordination, preparation of EIA and OVOS documents, bank liaison with International Finance Corporation (IFC), monitoring, modeling, and permitting.

Kuranakh Gold Mining Project, Sakha Republic, Yakutia, Russia

Echo Bay Mines/Newmont Mining Company, Denver, Colorado

Principal-In-Charge. AATA served as the principal environmental management, permitting, and technical services consultant for development of project environmental documents including baseline investigations, monitoring, modeling, and impact assessment preparation.

Kubaka Gold Mining Project, Magadan Oblast, Russian Federation

Cyprus Amax Minerals Company and Omolon Gold Mining Company

Assoc: Institute for Biological Problems of the North (IBPN)

Eastern Scientific Research Institute for Gold and Precious Metals (VNII-1)

Principal-In-Charge: AATA served as Environmental Management and Permitting Contractor for the first Western/Russian joint-venture gold mining project in the Magadan Oblast, Russian Far East. Responsible for the management of the “Expertiza” environmental permitting process, environmental monitoring, and compliance planning. Organized a local environmental team using specialists from local research institutes. Completed baseline environmental monitoring programs.

Installed, operate, and maintain high-tech meteorological and hydrological monitoring stations. Provided technology transfer and training to local specialists. Completed the environmental documentation necessary for successful permitting of the project, including the Russian Environmental Analysis Report (OVOS). Achieved Oblast level and Moscow level Expertiza approval for the project.

Pokrovskoye Gold Mining Project, Amur Oblast, Russian Federation

Homestake Mining Company and P.M. Tokur Zoloto Mining

Assoc: VPT and Amur KNII

Principal-In-Charge: AATA served as Environmental Management Contractor for the feasibility phase environmental investigations of the Pokrovka Gold prospect near Tygda, Amur Oblast, Russian Far East. Conducted two field investigations of local physical, chemical, and biological characteristics of the mine site. Assessed baseline water quality, local fisheries, plants, and wildlife of the area. Completed Environmental Analysis Report (OVOS) for the project, and performed liaison with International Finance Corporation.

Aginskoe Gold Mining Project, Kamchatka Oblast, Russian Federation

ASARCO/KINROSS Mining and KamGold Mining Company

Assoc: OVOS Committee, IBPN, KamchatNIRO, Institute for Ecological Problems

Principal-In-Charge: AATA served as the principal Environmental Management and Permitting Contractor for the project located near Milkovo on the Kamchatka peninsula of the Russian Far East. Conducted winter and summer environmental surveys, including local fisheries and water quality. Completed Environmental Analysis Report (OVOS), achieving Oblast-level and Moscow-level approval. Organized team of local specialists to assist in the Expertiza process. Performed detailed limnological and fisheries investigations of the Aga Creek, Kopylye River, and Kopylye Lake, including remote, unattended monitoring of pH, Conductivity, Depth, Temperature, and Turbidity using modern CR10X datalogger coupled with YSI 6820 water quality sonde (system integration and programming by AATA).

Julietta Gold Mining Project, Magadan Oblast, Russian Federation

Arian Resources/MPH Consultants and Omsukchan Gold Mining Company

Assoc: IBPN, VNII-1, and GOT Consultants

Principal-In-Charge: AATA served as the principal Environmental Management and Permitting consultant for the gold mining project located near Omsukchan, Magadan Oblast, Russian Far East. Completing the Expertiza environmental permitting process. Conducted environmental baseline studies and Environmental Analysis Report (OVOS) in support of Expertiza permitting. Field investigations included disciplines of botany, hydrology, geology, chemistry, mammalogy, ichthyology, ornithology, reclamation, and hydrobiology.

Batu Hijau Copper/Gold Mining Project, Sumbawa, Indonesia

P.T. Newmont Nusa Tenggara and Newmont Mining Corporation

Assoc: Qipra Galang Kualita, Southwest Labs, TAI Environmental Consultants

Principal-In-Charge: AATA serves as a principal Environmental Management and Technical consultant for this large copper/gold mining complex in Sumbawa, Indonesia. Provided review of environmental baseline investigations, environmental management planning, and integrated physical, chemical, and biological modeling of waste discharges to the Indian Ocean. Set up field laboratory capabilities for analysis of degradable parameters such as COD/BOD, bacteria, and other water quality parameters.

Mongolian Uranium Mining Project, Mongolia

WM Mining Company and Uranium Resources, Inc.

Assoc: Local Mongolian institutes and contacts

Principal-In-Charge: AATA serves as the principal Environmental Management Consultant for this Western/Mongolian uranium project located in northeastern Mongolia. Conducted site investigations and environmental due diligence analysis for the existing Russian-operated top-secret facilities.

Myanmar Copper Mining and Milling Project, Monywa, Myanmar

MinCorp Ltd. for Ivanhoe Myanmar Holdings Ltd.

Assoc: HydroTriad and InterMountain Labs

Principal-In-Charge: AATA was the principal Environmental Management and Technical consultant to the first western/Myanmar joint venture mining project near Monywa, Myanmar. AATA installed and is operating through its local associates a high-tech meteorological monitoring station at the site. AATA has conducted two environmental baseline investigations of the site, including sampling and observation of water quality, hydrology, vegetation, wildlife, forests, and other ecological attributes.

Expeditions 1-6 - Environmental River, Delta, and Ocean Studies

Freepoint Indonesia, Inc.

Program Manager: Interdisciplinary environmental assessment of mill tailings discharge upon downstream freshwater, estuarine, marine and semi-aquatic environments, Irian Jaya, Indonesia. Project logistics; equipment procurement and mobilization; sampling design and implementation; data analysis and interpretation; report preparation including ecological impact assessment. Project was unique in that it involved environmental assessment activities over a continuum from near an equatorial glacier to a tropical marine system.

Long-term Environmental Monitoring Program (LTEMP)

Freepoint Indonesia, Inc.

Program Manager responsible for design, installation, and operation of LTEMP at FII mine and mill operations, Irian Jaya, Indonesia. Hydrological and meteorological monitoring systems were designed using the latest solid-state data loggers and installed at strategic locations from sea level to +12,000 feet elevation. A unique

feature of the LTEMP is the use of ultrasonic sensors for river stage and sea level monitoring.

Goldenbell Mining Corporation

Pine Tree Project Baseline Studies

Senior Aquatic Ecologist: Responsible for aquatic ecology component of a comprehensive water resources baseline study for proposed open pit and underground gold mine near Mariposa, California. Prepared input to appropriate sections of the California Environmental Impact Report.

Syar Industries, Napa, California

Russian River Aggregate Study

Principal Aquatic Ecologist: Managed project for water quality and aquatic ecology on the Russian River near Healdsburg, California. Proposed methods of fisheries habitat enhancement to coincide with aggregate extraction from the Russian River.

Ridgeway Mining Company

Project Manager: Provided review of NPDES permit, and preparation of expert witness testimony regarding aquatic impacts from a proposed gold mine in South Carolina.

Salt Creek CO2 Enhanced Oil Recovery EA

Anadarko Petroleum Corporation-Howell Petroleum Company, Wyoming

Principal-In-Charge. AATA served as principal environmental management and permitting consultant for fast-track EA under BLM NEPA rules. Baseline investigations, laboratory analysis, impact assessment, and report production were performed and a FONSI obtained in less than 6 months.

Sakhalin II Integrated Service Provider

Sakhalin Energy Investment Company, Yuzhno-Sakhalinsk, Russia

Principal-In-Charge. AATA is partnered with Royal Haskoning in this large 3-year contract to provide health, environmental, safety, and security support to one of the world's largest oil and gas development projects on Sakhalin Island, Russian Far East. AATA is responsible for all Russian and USA content for an HSES program that spans over 1000 km, including offshore platform, undersea pipelines, 840km oil and gas pipelines, LNG terminal, and all ancillary activities.

Tengizchevroil Environmental Support Program

Tengizchevroil (TCO) ChevronTexaco, operators, Tengiz, Kazakhstan

Principal-In-Charge and Senior Environmental Impact Assessment Consultant. Provided wide range of interdisciplinary environmental support to TCO operations in Kazakhstan related to existing and proposed projects.

Patuha Geothermal Project, West Java, Indonesia

California Energy Company & Himpurna Power, Patuha Power Ltd.

Assoc: Qipra Galang Kualita, Institut Teknologi Bandung (ITB), CORE Labs

Principal-In-Charge: AATA served as the principal Environmental Management and Permitting Contractor for this greenfields geothermal power exploration and development project located in the Mt. Patuha region, Bandung, West Java, Indonesia. Provided management and coordination of ITB baseline investigations, UKL/UPL, RKL/RPL, and AMDAL activities. Responsible for management of the AMDAL process, including creation of workable environmental management and monitoring plans.

Dieng Geothermal Project, Central Java, Indonesia

California Energy Company & Himpurna California Energy, Ltd.

Assoc: Qipra Galang Kualita, Institut Teknologi Bandung (ITB), CORE Labs

Principal-In-Charge: AATA served as the principal Environmental Management and Permitting Contractor for this large geothermal power exploration and development project located in the Dieng Plateau region of Central Java. Of primary environmental concern was effective management of high hydrogen sulfide concentrations and local impacts. Provided management and coordination of ITB auditing, UKL/UPL, RKL/RKL, and AMDAL activities. Responsible for management of the AMDAL process, including creation of workable environmental management and monitoring plans.

Cuiabá Gas Pipeline Project

Overseas Private Investment Corporation (OPIC), owners ENRON, Shell, Transredes

Principal-In-Charge and Chief Environmental Inspector: On-site environmental inspection and monitoring of 640 km gas pipeline project from Bolivia to Brazil. Management of field teams to conduct continuous on-site investigations of construction and installation of 18" gas pipeline through various environments. Instituted satellite linked intelligent digital photo system to capture digital images for quasi-realtime reporting of photographic documentation from the field.

BP Tangguh Gas Project

BP Indonesia

Principal-In-Charge and Onshore environmental manager for large USD\$5B gas project, Irian Jaya, Indonesia. Provided onshore coordination of local Indonesian technical specialists for onshore environmental investigations and operations. Includes shoreline approaches, LNG facility trains, compressors, camps, and new town development assessment. Indonesian environmental impact analysis (ANDAL) preparation.

Sakhalin II Oil and Gas Project

Sakhalin Energy Investment Company (Marathon Oil Company)

Onshore environmental manager responsible for management of over 65 Russian technical specialists in preparation of environmental baseline studies for 750km oil

and gas pipelines. Responsible for management of all onshore environmental activities, contracting, supervision, report preparation, laboratory analysis, and QA/QC.

Azerbaijan Early Oil Project

European Bank for Reconstruction and Development (EBRD). Owners, BP Amoco, Exxon, and participants in AIOC Project, Azerbaijan and Georgia

Principal-In-Charge and Chief Environmental Inspector: Initial Audit and Completion Audit, AIOC Project for EBRD. Performed initial environmental review and completion audit for USD\$14B oil project, which included Chirag offshore platform, undersea pipelines, Sangachal and Supsa terminals, and two major oil pipelines (northern and western routes). Inspected all major facilities and prepared summary completion report according to EBRD requirements. Provided Completion certificate for compliance with all local, national, and international environmental requirements and standard industry practices.

Orenburg Gazprom Eastern Field Development Program, Russia

JSC STIMUL/Avalon International, Inc.

Principal-In-Charge and Project Manager: AATA performed an Environmental Impact Assessment for the Eastern Orenburg Field Development Program for submission to the Overseas Private Investment Corporation (OPIC). The project was completed successfully in 7 weeks from start to finish, AATA's most rapid performance on a major EIA effort. Remote sensing analysis using LANDSAT-TM data was used to supplement field observations and measurements.

PlusPetrol Environmental Audits, Argentina

Mobil Oil, S.A.

Principal-In-Charge and Project Manager: AATA performed environmental audits for 62 Pluspetrol oil and gas operational facilities and properties in northern and central Argentina. Environmental audits were performed on exploration sites, production fields, and refineries. AATA evaluated the potential environmental liabilities from each property reviewed for possible purchase of former YPF properties by Mobil. The following sites were reviewed:

- Neuquen District - Centenario, Aquada Baguales, and El Porvenir Fields and Facilities that were former YPF properties
- Palmar Largo Field and Facilities (150 km east of Tartagal)
- Ramos Field and Facilities (west of Tartagal)
- Refinor Refinery at Campo Duran
- Tucuman Power Plant Site

La Ceiba Project, Venezuela

Mobil/Veba/Nippon/CVP

Principal-In-Charge: AATA and our local associates, Ingenieria Caura S.A., performed environmental permitting and management services on the La Ceiba

project in western Venezuela. The AATA / Caura team performed the environmental permitting and documentation for 3D and 2D seismic exploration, baseline studies, exploration wells and production facilities.

Petrolera Cerro Negro Project, Venezuela

Lagoven, S.A., Mobil Oil Corporation, and Veba Oil

Principal-In-Charge: AATA and our local associates, Ingenieria Caura S.A., performed environmental permitting and management services for the Cerro Negro Heavy Oil Field Project. The Cerro Negro Heavy Oil Project near Morichal involved environmental permitting of 3D seismic exploration, appraisal and production well development, a new pipeline north to Jose, Venezuela and an upgrader facility at Jose. The AATA / Caura team prepared the environmental permitting documents, including EIA for seismic exploration, appraisal wells, production wells, pipeline and upgrader. We also developed the Geographic Information System for the project.

Bolivian Oil Exploration Project, Rio Madre de Dios, Bolivia;

Mobil Oil S.A.

Assoc: Missouri Botanical Gardens;

Principal-In-Charge: AATA conducted environmental baseline, impact assessment, and reclamation programs for the geological exploration of a large tract of Bolivian rainforest within the Rio Madre de Dios River drainage in northern Bolivia. AATA performed several field investigations, and introduced new rain forest management and reclamation techniques to successfully restore disturbed sites within the rainforest ecosystem.

Venezuela Heavy Oil Project - Environmental Reconnaissance Phase

Mobil Oil S.A.

Assoc: Sr. Jose Ochoa Iturbe and Ingenieria Caura S.A., Caracas

Principal-In-Charge: AATA conducted environmental reconnaissance level investigations of the proposed sites of the Mobil Oil S.A. heavy oil project in Venezuela. AATA conducted field investigations to identify existing environmental conditions and liabilities occurring all throughout the project area. AATA operated an office in Caracas, Venezuela in cooperation with Ingenieria Caura S.A., a well-known local environmental engineering consultancy.

Argentina Oil Exploration Project, Rincon de los Sauces, Argentina

Mobil Oil S.A.

Principal-In-Charge: AATA conducted an environmental review of geological exploration activities in the high desert of Argentina in an area near Rincon de los Sauces. Mr. Aronson and Dr. Rolando Vadas (former AATA Latin American Coordinator) traveled to Argentina to evaluate the ecological aspects of the project area and local Mobil and contractor operations. Reclamation assessment for disturbed desert vegetation was a focus of the investigations.

Canaday Steam Generating Facility, Lexington, Nebraska

Nebraska Public Power District, Columbus, NE

Assoc: Jacobson Helgoth Consultants, Lincoln and Omaha, NE

Principal-In-Charge and Principal Scientist: AATA was responsible for a 316(a) demonstration type project in support of modification of thermal limits at the Canaday Steam Generating Plant. AATA provided thermal impact analysis including extensive temperature simulation modeling using USEPA model CORMIX, based upon client-collected data. AATA assisted the client in dealing with the Nebraska Dept. of Environmental Quality on regulatory issues related to the thermal limits of the NPDES permit.

Hamilton Reservoir Management Program -Rawhide Generating Station

Platte River Power Authority, Fort Collins, CO

Principal-In-Charge and Principal Scientist: AATA was retained by PRPA to conduct specific limnological investigations and assessments of the water quality in Hamilton Reservoir, a 500-acre cooling reservoir for the 250MWe coal fired power plant. The control of condenser scaling is critical, and depends upon limnological management using physical, chemical, and biological controls. AATA assessed the impacts of changing water sources upon the limnology of the reservoir and the operation of the plant. Mr. Aronson first worked as a consulting limnologist on Hamilton Reservoir in 1985. Managed project for interdisciplinary study and review of cooling reservoir aeration and chemical stability project. Evaluated effects of aeration on eutrophication and pH. Prepared reservoir operational management plan.

Philadelphia Electric Company (PECO)

Point Pleasant Project 316(a) Thermal Demonstration Project

Program Manager for monitoring phase of 316 (a) Thermal Demonstration Project.

Organized installation and operations of comprehensive thermal monitoring program in East Branch Perkimen Creek. Managed team comprised of Advanced Aquatic Technology Associates and on-site consultants to maintain monitoring network. Project achieved 100% data capture. Were able to save PECO Energy an estimated total of US\$57M in capital and operating expenses for the Limerick Nuclear Generating Plant by modifying permit conditions and requirement for chilling of discharge, while at the same time improving the trout-stocked fishery of the East Branch Perkiomen Creek.

Missouri Basin Power Project

Basin Electric Power Cooperative and Participants

Conducted baseline investigations and downstream impact assessment study to predict impacts of Greyrocks Reservoir operations on critical whooping crane habitat in the Central Platte Valley of Nebraska. Worked with MBPP, U.S. Army Corps of Engineers, National Wildlife Federation, State of Nebraska, and other parties to arrive at settlement of Federal District Court Case. In related work, coauthored paper entitled "Monitoring, Maintenance, Rehabilitation and Enhancement of Critical Whooping Crane Habitat, Platte River, Nebraska."

Omaha Public Power District

Fort Calhoun Station Nuclear Monitoring Project

Aquatic Ecologist and Lab Manager: Managed periphyton and macroinvertebrate lab study in support of 5-year thermal monitoring report for the Nuclear Regulatory Commission on behalf of client. Evaluated all biological sampling techniques, results, and statistics. Provided recommendations for future monitoring.

Carroll County Nuclear Project, Mississippi River, Savannah, Illinois

Commonwealth Edison Company

Project Manager: Managed multidisciplinary aquatic baseline investigations for proposed nuclear power facility on the Mississippi River near Savannah, Illinois, including extensive water quality, fisheries, and ichthyoplankton studies. Established a field office and aquatic laboratory at Bellevue, Iowa, Lock and Dam #12, Mississippi River. Conducted quantitative mussel study for intake structure siting using SCUBA techniques.

Public Service Company of Oklahoma

Black Fox Station, Inola, Oklahoma

Project Manager: Served as PM for multidisciplinary environmental studies for a proposed nuclear plant in Inola, Oklahoma. Conducted extensive aquatic and terrestrial ecological studies of the plant site, and of the Verigris River and its tributaries, including water quality, fisheries, phytoplankton, periphyton, macroinvertebrate, vegetation and wildlife studies. Analyzed currents using drogoue deployment and recapture. Have supported client in evaluation of site and environs for past 20 years.

Los Alamos National Laboratory NPDES Permitting and Toxicity Management Program

Los Alamos National Laboratory - Santa Fe Engineering Ltd.

Program Manager: NPDES permitting support program at Los Alamos National Laboratory, Los Alamos, New Mexico. Provide technical water quality aquatic ecology, and risk assessment support regarding implementation of biomonitoring at LANL. The LANL permit covers 129 different outfalls of various types, and thus represents one of the most complex NPDES permits in the U.S. Design of a Toxicity Management Program that includes state-of-the-art toxicity screening analyses and ecological risk assessment.

Point Pleasant Pumping Project, Pennsylvania

North Penn/North Wales Water Authorities

Program Manager: Principal water quality consultant, and expert witness for NPDES permitting of Delaware River diversion project, including specialized studies of North Branch Neshimany Creek and Lake Galena. Prepared Ecological Assessment Report, Thermal Impact Assessment Report, and IFIM Report. Provided expert witness testimony to win case over 23 intervenors.

Denver Water Department

System-wide EIS Reservoir Water Quality Review

Managed project that analyzed water quality data for the South Platte, Williams Fork and Blue River drainages in Colorado. Reviewed and revised post-project reservoir water quality projections. Conducted limnological modeling study for impact assessment of existing reservoirs (Cheesman, Dillon, Green Mountain, Gross, and Chatfield) and proposed reservoirs (New Cheesman, Eastbrook, and Two Forks). The modeling effort utilized the Canfield-Bachman and Clean Lakes models. Key member of Interagency Water Task Force comprised of EPA, State of Colorado, Corps of Engineers, and Denver Water Department.

Denver Water Department

Two Forks Water Quality Base Case Prediction

Project Manager: Managed project that included water quality modeling for predictive limnology of the proposed Two Forks Reservoir, a 1.1 million acre-foot reservoir located on the South Platte drainage, Colorado. Utilized Corps of Engineers WQRRS model.

Denver Water Department

208 Planning Area Review and Testimony

Project Manager: Performed reconnaissance of water quality impacts in the Region 12 Planning Area of Colorado (Summit, Grand, Routt, Pitkin, Eagle, and Jackson Counties). Reviewed 208 Areawide Water Quality Management Plan and presented expert witness testimony before the Colorado Water Quality Control Commission on water quality impacts in the area.

Denver Water Department

System-wide and Site-Specific EIS

Project Manager: Ongoing project providing limnological, water quality, and other support to the Denver Water Department. Activities include consultation on water quality, eutrophication, and general limnological monitoring and modeling, as well as water resource planning and support, impact assessment support, and field data collection support. Performed downstream impact assessment for threatened and endangered species.

Denver Water Department and Summit County Participants

Lake Dillon Eutrophication Control Project

Project Manager: Managed project to evaluate over 50 different alternatives for point and non-point source phosphorous control in the Lake Dillon watershed. Evaluated existing data and provided modeling analysis using eutrophication models including Dillon Clean Lakes model. Managed engineering and costing analyses to rank various alternatives.

City of Phoenix and Participants Water Quality and NPDES Permitting Support

Program Manager and principal water quality consultant: Provided senior level water quality management support to the cities of Phoenix, Mesa, Scottsdale, Glendale, and Youngtown (Sub-Regional Operating Group) for NPDES permitting of the 91st Avenue Wastewater Treatment Plant. Biomonitoring testing, toxicity persistence evaluation, permit negotiations, alternative test species development and expert witness testimony support.

Water Quality Monitoring, Taste and Odor Evaluation, Permitting

Salt River Project, Tempe, Arizona

Program Manager: Provided senior level water quality support for a project to develop a state-of-the-art water quality monitoring system to be located on SRP canal supply system. Major project activities include pollutant and indicator monitoring equipment evaluations, system integration, communications, acute event alarms, point and non-point source analysis, and sampling records. Provided expert consulting to support submittal to USEPA Region 9 on water quality management of blended surface and groundwater supplies.

City of Prescott and Black & Veatch

Watson Lake Restoration Project

Program Manager and principal water quality consultant: Provided support to the City of Prescott for point and non-point source water quality management of Granite Creek, water quality standard setting, and restoration of Watson Lake.

Pima County Wastewater Management Department; Tucson, Arizona

NPDES permitting and expert witness testimony support regarding implementation of biomonitoring. Co-project manager for Toxicity Control Program.

Biological Assessment/Section 7 Consultation on the Lahontan Cutthroat Trout Big Springs Project, Nevada

Freeport/McMoRan Gold Company

Senior Aquatic Scientist: Conducted detailed biological/aquatic ecology investigation in the Upper North Fork Humboldt River in Nevada. Detailed fisheries studies included specimen collection and U.S. Forest Service Level III physical habitat analysis. Laboratory analysis was performed on aquatic benthic samples, fish species, and water quality. Prepared Biological Assessment Report on Lahontan Cutthroat Trout.

Environmental Diagnostics, Inc., Burlington, North Carolina

Technical Market Research Project

Project Manager: Managed project for technical market research concerning the application of monoclonal antibody monitoring system for environmental pollutants including dioxin, PCB's, TCE, VOC's, pesticides, and other pollutants.

Environmental Analysis of Cuchara Valley 201 Facilities Plan

Taranto, Stanton, Tagge; Denver, Colorado

Project Manager and Senior Aquatic Ecologist: Managed project to complete Environmental Analysis Report for a wastewater treatment facility serving the town of Cuchara, Colorado and Cuchara Valley Ski Resort. Detailed analysis of water quality and aquatic ecology was completed to determine impacts of effluent on downstream beneficial uses.

Union Camp Corporation

Eastover Mill Project

Principal Aquatic Ecologist: Evaluated potential eutrophication and water quality effects of grassroots pulp and paper mill project on downstream aquatic systems including the Wateree River and Lake Marion, South Carolina. Prepared expert witness testimony in support of permit application and litigation.

Proctor and Gamble Company

Buckeye Cellulose Project

Aquatic Ecologist: Evaluated potential downstream eutrophication and water quality effects of new pulp and paper mill on the Flint River and Lake Blackshear, Ogelthorpe, Georgia. Conducted videotape interview for regional media coverage.

U.S. Army Corps of Engineers, Sohio Alaska Petroleum Company, and Partners

Endicott Development Project EIS

Environmental Risk Assessment Task Manager responsible for comprehensive analysis of oil spill probabilities, trajectories, and weathering. Used a combination of USCG and MMS models to characterize oil spill dispersion, evaporation, and spreading. Updated historical oil spill statistical data base, predicted probabilities of spills for project alternatives and components, and evaluated different spill alternatives.

Metropolitan Denver Sewage Disposal District

Segment 15 Platte River Use Attainability Study

Principal Aquatic Ecologist: Conducted modified use attainability study of Segment 15 of the South Platte River, Colorado. Evaluated previous modeling efforts using QUAL-II water quality water model, attainability of water quality goals and standards, and aquatic ecology of the reach.

Northern Tier Pipeline Company and Partners

Northern Tier Pipeline and Marine Terminal - Hydrostatic Testing

Permit Manager: Responsible for NPDES permitting of hydrostatic test water discharges, following Alyeska Pipeline precedents at Region 10, EPA.

J.R. Simplot Company

Portneuf River Study

Principal Investigator: Conducted aquatic environmental impact assessment of ammonia effluent on indigenous periphyton, macroinvertebrates, and fish of the Portneuf River, Idaho.

ADDITIONAL UTILITY AND WATER QUALITY PROJECTS

- Newton Station Cooling Reservoir Study
- Iatan Station Environmental Studies
- Monticello Nuclear Aquatic Monitoring Studies
- Cooper Nuclear Station Field Studies
- Union Camp Prattville Mill Aquatic
- Union Camp Franklin Mill Eutrophication Study
- McClelland-Kerr Arkansas Navigation Study
- Port of Catoosa Fish Kill Investigation
- North Platte River Pipeline Crossing Permitting
- Barr Lake Eutrophication Assessment
- Fossil Creek Reservoir Eutrophication Review
- Navarin Basin COST Well Project

ADDITIONAL ACCOMPLISHMENTS

- Project Manager for preparation of video presentation, “The Silent War,” winner of a 1989 Telly Award for Best Public Documentary, City of Phoenix and Sub-Regional Operating Group.
- Author, “Watershed Management in Russia and the Former Soviet Union.” in Watershed Management, (edited by the late Bob Reimold) McGraw-Hill. New York. 1998.
- Invited Lecturer, “International Environmental Permitting.” University of Denver Law School, 1998.
- Invited Lecturer, “Comparative Analysis of Russian Environmental Regulations,” Randol Gold Forum, 1998.
- Invited Lecturer, “Managing Russian Environmental Technical Specialists To Meet International Standards” Sakhalin Oil & Gas Conference, London, 1998.
- Invited Lecturer, “The Environmental Management Program (EMP) Disconnect - An Important Operational Phenomenon” Society of Petroleum Geologists Environmental Health and Safety Meeting, Caracas, Venezuela, 1998.
- Foreign Language Competencies: Spanish, German, Russian, Bahasa Indonesia, Burmese, French
- Finisher: New York City Marathon, 1986.
- Finisher: Los Angeles Marathon, 1988.