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## PRESIDENT'S NOTES

**By Steve Hershey, President, AWRA Washington Section**

With the return of the autumn to Seattle it is easy to see and experience the beautiful natural environment that around us. I trust that you enjoyed your summer and perhaps took some time to enjoy our natural world that water has significantly shaped.

This summer was a time when water policy debates were being shaped for the next several legislative sessions. Last year the Legislature directed a number of studies to be conducted to better inform their policy debates. The list of studies or committees meeting to produce a report includes:

- Tribal and federal water rights,
- Streamlining adjudications,
- Transboundary water rights,
- Water rights records administration,
- The Water Disputes Task Force, and
- Watershed Planning Implementation Committee

The first four topics on the above list will be addressed by reports completed by either the State Department of Ecology or the Solicitor General's Unit of the Office of the Attorney General. The last two (The Water Disputes Task Force, and Watershed Planning Implementation) have committees meeting; the committees will produce a report.

With all of the studies being done, perhaps none is more important than the work of the Water Disputes Task Force. Historically we have resolved our disputes in court. My guess is that with water rights the majority of people will continue to use that venue to air their grievances and seek satisfaction.

The Water Disputes Task Force is being lead by the Attorney General and has tentatively identified the disputes it may examine and make recommendations on. The initial list includes:

- Two-party disputes between individuals concerning the validity, seniority, and/or quantity of their rights. This may also include disputes regarding the potential impairment by one water user of another water user's right.
- Historic claims: disputes involving a claimant who does not hold a permit or certificate, but whose claim pre-dates adoption of the water code and is filed in the claims registry.
- Instream flow disputes that may involve determining whether a particular water right is subject to an in-stream flow or how established flows can be met.
- Federal and Indian reserved rights disputes concerning the existence, validity, and/or scope of federal or Indian reserved rights.
- Water rights management disputes involving State decisions to approve or deny applications for new water rights or applications to change water rights and notices of relinquishment of a water right.
- Water right enforcement disputes in watersheds that have not been adjudicated, includes disputes involving enforcement of terms of water right permits or conditions (e.g., cancellation of permit if water use not developed according to condition in permit); in addition, in watersheds that have been adjudicated, includes disputes involving enforcement of terms of court's final decree.

The Water Disputes Task Force's work is scheduled to be completed in 2003. Information regarding the work of the Water Disputes Task Force should be available on the web and I encourage you to be informed and involved. How we collectively resolve our disputes and disagreements regarding water will only become more important as we move forward in time. ~~~

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### Save The Date !!!

**November 14<sup>th</sup>, 2002**

**AWRA Washington Section**

**Annual Conference**

**"Beyond Watershed Planning"**



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# The Past & Future of the Spokane-Rathdrum Aquifer

By Rachael Paschal Osborn, Center for Environmental Law & Policy and Washington Water Trust

Fourteen thousand years ago, Glacial Lake Missoula swept millions of tons of boulders and cobble onto the Rathdrum Prairie and into the Spokane River Valley, creating a giant gravel bathtub that forms the Spokane Valley-Rathdrum Prairie Aquifer. The SVRP Aquifer is an impressive geologic formation, with significant storage, exceptional transmissivity, and an intimate hydraulic connection with the Spokane and Little Spokane Rivers.

The Aquifer is also an interstate resource, shared between Idaho and Washington and relied upon as a source of drinking water for 450,000 people. The bi-state character of the Aquifer is raising questions in the Spokane-Coeur d'Alene corridor about how to best allocate and manage water resources at a regional level.

Recent events have brought these questions into sharp public focus. Controversial water right applications, a proposed bi-state study of the Aquifer, and a request that Idaho suspend water right processing have heightened the potential for conflict between the states and various stakeholders. This article surveys significant recent events and makes a few predictions for the future of the SVRP Aquifer.

## Sole Source Designation

In 1978, EPA designated the SVRP Aquifer as the second sole source aquifer in the United States. Designation brought substantial funding for local programs to eliminate septic systems and install sewers, create wellhead protection plans, study various aquifer characteristics, and educate the public. Sole source designation applies in both Idaho and Washington, and has unquestionably raised community awareness about the importance of our drinking water source.

## Watershed Planning

With the advent of HB 2514 (RCW Ch. 90.82), Spokane County formed a watershed planning unit that is now planning for future water needs in both the Middle Spokane and Little Spokane watersheds. The technical assessment is nearly complete, includes substantial data about water usage, and a sophisticated modeling process is underway. The watershed plan will extend only to the state line. Idaho has no comparable process.

The hydraulic connection between aquifer and river has very much driven water resources policy in the Spokane watersheds, as elsewhere in Washington. A Department of Fish & Wildlife recommendation to maintain a minimum flow of 2,000 cfs in the Spokane River, combined with a frequently unmet minimum flow in the Little Spo-

kane (codified at WAC Ch. 173-555), has led the Department of Ecology to cease issuing permits in the basins. There is a general understanding that future water rights will likely include some form of mitigation requirements to address impacts of ground water pumping on the rivers.

## The Power Plant Cases

In April 2001, two energy corporations set off a cascading series of aquifer events by applying for large water rights from the Idaho Department of Water Resources (IDWR). Cogentrix, Inc. and Newport Generation LLC sought 7 and 10 million gallons per day (MGD), respectively, to water-cool two natural gas-fired power plants proposed for construction in Rathdrum, Idaho, about 5 miles east of the state line. The power plants contemplated a zero discharge design, i.e., they would evaporate 100% of the cooling water.

Community opposition to the plants was nearly universal. A coalition of environmental and labor organizations (represented by the author) protested the water rights and hearings occurred in February and March this year. The Idaho Water Code allows consideration of economic and environmental evidence along with standard hydrogeologic fare, and the protestors raised a variety of issues relating to protection of senior rights, water availability, the applicants' financial solvency, and the local public interest.

Hydrogeologic and water quality studies revealed that pumping from the SVRP Aquifer in north Idaho depletes flow in the Spokane River in Washington state, not far from the state line. In an important pre-hearing ruling, the hearing officer allowed the protestors to present evidence regarding impacts in Washington, including harm to fisheries and recreation in the Spokane River.

The hearings revealed a significant information deficit concerning the Aquifer's water budget. An oft-cited 1991 recharge study needs updating, and the amount of water already allocated and pumped in Idaho is simply not known. Based on this evidence (or lack thereof), the protestors argued that IDWR could not determine whether water was actually available for the power plants.

In July, IDWR denied permits to the power plants based on Idaho's beneficial use criterion, i.e., that water rights may not be contrary to "conservation of water resources in Idaho." The hearing officer described the proposed water use as "short-sighted" given that alternative cooling technologies are available, and in view of future water needs of nearby municipalities.

The power plant applicants did not appeal IDWR's decisions, and the projects are now de-

funct, giving credence to arguments that the projects were speculative and therefore ineligible for Idaho water rights.

### **The Bi-State Study**

The power plant hearings focused a tremendous amount of media attention on the SVRP Aquifer. In early spring this year, the regional chambers of commerce announced a proposal for a bi-state Aquifer study. Ad hoc stakeholder meetings ensued, actively attended by Idaho and Washington business and environmental representatives, hydrologic consultants, university research centers, and federal, state and local agencies. Congress members from both states began looking into federal funding for the study.

Although there is universal consensus that a study is needed, controversy attends the questions of control over funding (which will be routed through the U.S. Geological Survey) and who will oversee the work plan. Idaho prefers a pass-through that would put half the money in its hands to spend as it sees best. Environmental representatives want strong USGS control and a focus on interstate research. In early September, the parties agreed to a statement of principles calling for a 3-way split of the funding between Idaho, Washington and USGS, but also requiring 3-way approval of a work plan.

The U.S. House of Representatives sent a bill to the Senate approving (but not appropriating) \$3.5 million for the study. The Senate Appropriations Committee contemplates a more modest \$500,000 first-year grant that requires the states to match. Larger political issues have delayed the appropriations process, and study funding is not expected to be forthcoming for at least a few months.

### **More Water Right Protests**

While the power plant decisions were pending, large applications for water rights began to arrive at IDWR's Coeur d'Alene office. Concerned about a "water rush," the environmental coalition protested several of the larger proposals, including yet another power plant request to evaporate 3 MGD, and a suite of applications from a small city seeking 19 MGD for future use. Believing a longer term solution is needed, the coalition petitioned IDWR for a moratorium on new water rights pending outcome of the bi-state study.

### **Water Rights Moratoria**

Washington state has not issued a water right from the SVRP Aquifer since the mid-1990s, and is awaiting direction from the watershed planning process. Idaho however, has routinely issued new rights, notwithstanding significant uncertainty about the capacity of the Aquifer. Based on the

Idaho requirement that water allocations may not exceed "reasonably anticipated average annual recharge," IDWR is now considering whether a moratorium on issuance of new water rights is appropriate. Public hearings were held in September and a decision is expected later this year. In the interim, new applications are being accepted, but not processed.

### **The Future of the SVRP Aquifer**

Idaho and Washington are holding water right applications that, at the time of this writing, seek about 90 million gallons per day in new appropriations. Washington has known for some time that the SVRP Aquifer is not being used at a sustainable level. Idaho is just beginning to understand this critical fact. The bi-state study – which at a minimum must analyze recharge, existing water usage and aquifer-river relationships – is a vital step toward understanding what water, if any, is available for future allocations. Notably, per capita water consumption in both states is extremely high, approaching 600-plus gallons per person per day in the summer. Water conservation is an obvious source for future water needs.

When two states make competing claims to the same water body, the law of interstate allocation is triggered. States may negotiate compacts to allocate shared waters, or they can sue each other (such lawsuits originate in the U.S. Supreme Court).

Idaho and Washington have been reluctant to acknowledge the potential conflict over interstate allocation of the SVRP Aquifer. In reality, however, the bi-state study is but the first round in a negotiation process that will last many years. Idaho has a better grasp of this reality, having adopted a harder-edged position regarding state control of the funding, work plan and deliverables. The Department of Ecology's "consensus approach" to the study discussions does not fully acknowledge all that is at stake.

If Idaho rejects the moratorium request and continues to issue new water rights, the likelihood of interstate litigation increases dramatically. That would be an unfortunate outcome, because it will decrease state flexibility to craft watershed-wide solutions. Local communities in Idaho and Washington are deeply interested in protecting the SVRP Aquifer and the rivers connected to it, and will be at the table pursuing those interests, wherever that table may be.☺

*Rachael Paschal Osborn is a public interest lawyer in Spokane, representing environmental organizations, labor unions, tribes and small communities on water law matters in Idaho and Washington. She is co-founder of the Center for Environmental Law & Policy and Washington Water Trust.*

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# Case Study of Development of Site Specific Water Quality Criteria

By Dan Hennessy, Anchor Environmental

The Clean Water Act (40CFR§130-131) and Idaho Code (IDAPA 58.01.02§275) provide for and encourage the review of existing water quality criteria, and, where appropriate, the development of site-specific criteria. On the South Fork Coeur d'Alene River (South Fork) above Canyon Creek, the Idaho acute and chronic criteria for cadmium, lead, and zinc were sometimes exceeded. However, biological monitoring data demonstrate the presence of self-sustaining populations of resident Westslope cutthroat trout (RWC) and benthic macroinvertebrate community composition similar to regional reference areas. This discrepancy between chemical and biological monitoring data supports the case for developing site-specific water quality criteria. The U.S. Environmental Protection Agency (EPA) and the State of Idaho conducted two meetings in 1993 that resulted in an understanding in principle of the need to develop site-specific criteria for the South Fork upstream of Canyon Creek. The State's goal in developing site-specific criteria upstream of Canyon Creek was to allow better management, using water quality criteria that are reflective of supported uses (IDEQ 1993).

This article highlights the overall study design that framed five years of toxicity testing to develop site-specific ambient water quality criteria for lead and zinc. The steps used to derive the site-specific criteria and an example of the zinc criterion are also presented. Cadmium was also studied, but because site-specific toxicity test data were similar to those in the national criteria database, site-specific criteria for cadmium were not developed. The proposed hardness-dependent maximum and continuous concentrations were based on site-specific toxicity test data and were supported by peer-reviewed scientific literature and supplemental site-specific data. The process and procedures for developing the data set necessary to determine site-specific water quality criteria for cadmium, lead, and zinc for the South Fork were based on EPA guidance and comments, and ASTM standard test methods

The study process consisted of two phases. Phase 1 was a series of range-finding tests designed to identify the one or two resident species most sensitive to each metal of interest. The most sensitive species identified in Phase 1 were then used in the second phase of testing. The Phase 2 definitive tests were designed to develop more precise toxicity estimates. The high-precision toxicity estimates derived from

tests using the most sensitive resident species provide data appropriate to develop hardness-adjusted site-specific criteria for the protection of aquatic resources in the South Fork. These data, along with confirmatory metals mixture testing provide the basic data set necessary for development of site-specific criteria for the reach of the South Fork above Canyon Creek.

All testing was conducted at the Hale Fish Hatchery near Mullan, Idaho. This facility was converted to a laboratory for the duration of the project. All toxicity test exposures were conducted using site water.

Following a thorough review of available water quality and biological information, the study design was developed. Since EPA's resident species procedure (RSP) addresses organism sensitivity and water quality differences, it was adopted as the foundation for our conceptual approach. The overarching approach for the study design was as follows:

- Identify resident species for testing
- Conduct bioassays with range-finding exposures to identify the most sensitive species
- Conduct definitive bioassays with the most sensitive species, including acute and chronic exposures
- Conduct testing across a range of water quality conditions
- Conduct metals mixture testing to verify that proposed site-specific criteria are protective in combination
- Determine acute and chronic site-specific criteria

The approach was a deviation from EPA's RSP because the criteria were based on direct results of testing with the most sensitive resident species and were not derived using the final acute value (FAV) equation.

A review of the species present in the South Fork and St. Joe River showed that three groups of organisms were not present, would not be expected to be present, or were not feasible test organisms:

- A third family in the phylum Chordata
- A planktonic crustacean
- A benthic crustacean

Only two families of native resident fish were found in the study area, Salmonidae (RWC and mountain whitefish [*Prosopium williamsoni*]) and Cottidae (shorthead sculpin). The trout and the sculpin were selected for study. Two non-indigenous fish species were also found, brook

trout (*Salvelinus fontinalis*) and rainbow trout (*Oncorhynchus mykiss*). The primary objective of the Idaho Department of Fish and Game (IDFG) is to manage the South Fork drainage for wild populations of RWC. The introduction of non-indigenous competing species has played a significant role in the decline of native RWC in the system. Harvest regulations and stockings are managed to attempt to limit these competing, introduced species. Non-indigenous species that can be invasive and compete with indigenous species were not considered resident species for the purposes of inclusion in site-specific criteria development.

Planktonic crustaceans are not adapted to moving water and are not found in high-gradient lotic environments. Based on monitoring data from the Idaho Department of Environmental Quality (IDEQ) and the U.S. Geological Survey, benthic crustaceans such as amphipods and isopods were not present in the South Fork, nor in areas of similar habitat in the St. Joe, North Fork Coeur d'Alene, and Clearwater rivers.

Although amphibians were present in the South Fork, their numbers precluded their collection for use in testing. A review of relevant toxicological data in EPA's ECOTOX database demonstrated that amphibians were less sensitive than trout, so criteria protective of trout would be protective of amphibians. The Coeur d'Alene Basin ecological risk assessment also made the determination that trout were more sensitive than amphibians to cadmium, lead, and zinc.

Since the diversity of families specified by EPA guidance could not be met, species were selected to represent a range of ecologically important fish and macroinvertebrate species typical of high-gradient streams in the intermountain west.

The following steps were used to derive the site-specific criteria. The criteria for zinc, presented below in Table 1, were derived from data generated from over thirty toxicity tests. Because there is no difference in acute and chronic toxicity to zinc, the CCC and CMC are the same.

**Step 1:** Use EC50s to evaluate whether site-specific acute test values for resident species

differ from those in EPA's national criteria data sets for cadmium, lead, and zinc. If not, default to EPA aquatic life criteria (ALC).

Table 1. Comparison of organisms identified specifically in the guidance versus the resident species utilized for site-specific criteria development.

Organisms Required by EPA Guidelines	Resident Organisms Used to Develop Site-Specific Criteria	
The family Salmonidae in the class Osteichthyes	Westslope cutthroat trout ( <i>Oncorhynchus clarki lewisi</i> )	
A second family in the class Osteichthyes	Shorthead sculpin ( <i>Cottus confusus</i> )	
A third family in the phylum chordata	Not applicable	
A planktonic crustacean	Not applicable	
A benthic crustacean	Not applicable	
An insect	Ephemeroptera	Baetidae
		Ephemerillidae
		Heptageniidae
		Leptophlebiidae
A family in any order of insect or any phylum not already represented	Gastropoda:	Planorbidae
		Physidae
	Plecoptera	Perlodidae
		Chloroperlodidae
	Trichoptera	Hydropsychidae

- **Step 2:** Determine site-specific regression relationship between hardness and toxicity
- **Step 3:** Determine species mean acute values (SMAVs) for all test species at a standard hardness level and determine the most sensitive resident species
- **Step 4:** Use the SMAV for the most sensitive species to determine the criterion maximum concentration (CMC)
- **Step 5:** Derive the hardness-dependent CMC equation using the hardness-toxicity slope and the concentration protective of the most sensitive species
- **Step 6:** Derive the hardness-dependent CCC equation using the hardness-toxicity slope and applying an ACR to the SMAV of the most sensitive species. ~~~

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**Mary Von Broeke and others** at Idaho Department of Fish and Game

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# June Dinner Meeting Summary

By Anne Savery, Vice President, AWRA Washington Section

Sandra Clinton from the University of Washington's Center for Streamside studies spoke at the AWRA dinner meeting in June. The title of her talk was "Down under – The importance of hyporheic zones in river ecosystems". The hyporheic zone, the interface between ground and surface waters, is one of the subsystems that is important for determining ecosystem structure and function. Sandra summarized research projects from the Queets River, Olympic National Park, and demonstrated the role of hyporheic zones in rivers. The groundwater-surface water interactions of the hyporheic zone control the pattern of nutrient concentrations in streams, impact stream productivity, moderate surface water temperatures, and harbor a diverse community of invertebrates.

Liz Ritzenthaler and Rick Edwards studied the movement of nutrients, ammonia, nitrate and phosphorous, through the hyporheic zone. Nutrients are important for primary production in a river ecosystem. Water from the mainstem traveled underneath the terrace, picked up nutrients produced by a stand of alders, and upwelled into the back channel, where the nutrients were rapidly uptaken by algae. Karen Fevold looked at algae abundance in the channels of the Queets and found more algae in sites with hyporheic upwellings than in an area without exchange or downwelling. This patchy distribution is due to nutrient enrichment. It was possible to identify areas of hyporheic upwelling on the Queets River back channels by looking for patches of algae. Vegetation was determined to have an effect on nutrient contents in the hyporheic zone. Bare cobble sections had higher levels of phosphorous while areas with alder growing had higher nitrogen levels.

Scott Bechtold examined nitrogen availability in different riparian soils, which would become available to the hyporheic zone. Bechtold collected soil water in a lysimeter and hyporheic water in wells and tracked nitrate movement from riparian soils during a storm. He found that soils in a 65-year-old alder forest contained more nitrate than soils in young alder or spruce forest. Subsurface soils leach stored nitrogen produced by alders and associated mycorrhizae into the back channel area of the study site. The Queets River floodplain is comprised of a patchwork of age classes and species of trees, which is maintained by the river moving back and forth. Each patch contributes varying levels of nutrients to the hyporheic zone.

Sandra Clinton started a study in microbial ecology (bacteria) because they change the chemical

makeup of the subsurface flow. She installed 54 PVC wells (piezometers) 6 feet deep on the terrace between the mainstem and the back channel. The terrace was forested with patches of old growth conifers, young alder and old alder. Clinton and Holly Coe sampled wells for microbes, water chemistry and insects. Clinton was able to predict the flow paths of water through the hyporheic zone by drawing contour lines created from measuring water elevation in the wells. She found that winter flows are more distinct than summer flows, as there is a higher gradient. Additionally, water in different flow paths had different residence times. This is important in the sense that it shows that flow paths change and have contact with different riparian soils between seasons. This change in residence time and flow magnitude in turn influence which nutrients are introduced into the river and hyporheic zone.

It is often assumed that production in Pacific Northwest streams is low due to a lack of nutrients. Clinton argues otherwise, "Microbial production really responds to nutrient inputs and can be a target for ecologically productivity". Based upon inputs from the varying soil types and the species and age of forests, microbial production increases and decreases along a flow path. Hundreds of meters of flow can have really high rates of production due to increased inputs of nutrients, which also affects surface water productivity. She recommends that hot-spots of productivity, microbial and algal, be focused on for further study for stream productivity.

Holly Coe's work on hyporheic invertebrates (hy-perheos) on the Queets River revealed a great diversity of insects. Coe found a diverse community of invertebrates in the hyporheic zone, entirely different from stream environments. The movement of hyperheos through the soils of the hyporheic zone maintains the conductivity of those soils. The interaction between invertebrates and microbes in the hyporheic zone stimulate microbes to produce, which in turn liberates nutrients from the zone and adds to the productivity of a stream system.

Clinton closed by saying that western Washington rivers have hyporheic zones, which are operating on a range of scales, from pool to riffle, between mainstem and back channel, floodplain and valley floor. High flows move nutrients from the riparian area to surface water by increasing hyporheic exchange. Interactions with riparian soils and the patchwork mosaic of forest in a floodplain influence productivity in the hyporheic zone and surface water. ☞

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**TAKE NOTE!!!!!!**

**2003 AWRA Washington Section board elections will be held at the close of the Annual Conference.**

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# Congress Acts to Protect the Public Water Supply from Terrorist Attacks

By Catherine Drews and Adam Gravley, Preston Gates Ellis, LLC

People require a safe and reliable supply of potable water. Deliberate acts against the public water supply could have devastating impacts on human health, safety, and the economy. For example, just one month after the tragic events of September 11, a utility district in California reported that thieves had stolen several maps describing the water supply infrastructure for 22 San Francisco Bay area cities, including Oakland and Berkeley, along with a tool used to open water valves. Other potential targets of public water systems include intentional water contamination, attacks on infrastructure, computers and automated systems. How secure are our public water supplies and what can be done to improve security? Recently Congress and the President enacted a law directly addressing this issue.

On June 12, 2002, the President signed into law H.R. 3448, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002. Title IV of the Act requires water systems serving a population greater than 3,300 persons to assess system vulnerabilities to terrorist or other intentional attacks. Vulnerability assessments address infrastructure, facilities, electronics, computers, automated systems, the use and storage of chemicals, and the operation and maintenance of the system. By August 1, 2002, EPA will provide baseline information to affected water systems regarding what types of terrorist acts or other intentional acts are probable threats.

Water systems performing vulnerability assessments must certify they have conducted the assessment and submit their assessments to EPA according to following schedule:

March 31, 2003, for systems serving a population of 100,000 or more;

December 31, 2003, for systems serving a population of 50,000 or more but less than 100,000, and;

June 30, 2004, for systems serving a population greater than 3,300 but less than 50,000.

Additionally, these water systems must prepare an Emergency Response Plan that incorporates the result of the systems' vulnerability assessment and provides plans and procedures in the event of a terrorist attack. The Act does not require water systems to submit their assessments and plans to state or local authorities.

The government correctly addressed the confidentiality of these documents. The Act exempts vulnerability assessments from disclosure under the Freedom of Information Act, or FOIA. However, H.R. 3448 provides that details of the assessments may be discussed with state and local officials,

provided to Congress, and used in adjudicatory proceedings. Washington State recently also exempted vulnerability assessments and other similar reports from its Public Disclosure Act, when the governor signed Substitute Senate Bill 6439 into law.

EPA will provide some financial and technical assistance to prepare vulnerability assessments. The Act authorizes Congress to appropriate \$160 million in 2002 and additional funds for 2003 through 2005 for utilities to conduct vulnerability assessments, revised emergency plans, and upgrade system security. EPA may use \$5 million to provide grants to small water systems (those serving less than 3,300 persons) to provide guidance on conducting vulnerability assessments, preparing emergency response plans, and addressing threats from terrorist attacks. EPA may also issue \$5 million in grants to correct vulnerabilities, when the agency determines a present and urgent security need.

This new law presents new legal questions. Some areas of potential liability include: inadequate vulnerability assessments, allegations of negligently implemented security measures, or vulnerability assessments that fall into the wrong hands. Although this is an emerging area of law, other cases involving terrorism and public water systems may provide analogies. For example, after the 1996 bombing of the World Trade Center, injured parties brought lawsuits against the New York Port Authority under theories of premises liability and torts. Likewise, suits against water systems generally proceed under tort theories. Performing a vulnerability assessment and preparing and implementing a remediation plan will help to demonstrate reasonable care—the touchstone on tort liability—on behalf of the water system.

Water systems can reduce their exposure to potential liability by preparing a vulnerability assessment, developing a plan to correct system vulnerabilities, implementing institutional controls, and limiting access to documents. Also, structuring the vulnerability assessment as a governmental policy decision can help guard against liability arising from its preparation. However, this area of law is evolving and is very fact-specific.☺

*For more information contact Catherine Drews (catherined@prestongates.com) and Adam Gravley (adamg@prestongates.com) at Preston Gates Ellis at (206) 623-7580. Catherine Drews is a current AWRA Board member. Adam Gravley is a former Board member, and past president of AWRA.*

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# 2003 Board of Director Elections

November 14<sup>th</sup>, 2002

Immediately following the November 14<sup>th</sup> AWRA Washington Section Annual Conference, the AWRA Washington Section will be conducting elections for the 2003 Board of Directors. All members are welcome to attend and to nominate other candidates, including themselves, for any of the positions. The 2002 Board of Directors are pleased to present the following candidates:

## Executive Directors

**President: Anne Savery** – Anne is the Hydrologist for the Tulalip Tribes. She earned a B.A. in Biology from the University of Virginia and has a Master of Science in Forest Engineering from the University of Washington. She is currently conducting research on the influence of large woody debris on the hyporheic zone of the Pilchuck River. She is a member of the Technical Committee of the Snohomish Basin Salmon Recovery Forum and serves on the board of the Washington Hydrological Society. Anne enjoys backpacking, skiing, gardening, and scuba diving.

**Vice- Joe Mentor:** Joe is the Principal Member of the Mentor Law Group, PLLC in Seattle, Washington. Joe concentrates his law practice in the areas of water resources, land use, natural resources development and Indian law. Joe has worked extensively with public agencies, Indian tribes and private companies to achieve their legislative, policy, business and environmental compliance objectives. Joe has extensive experience working on legislative issues both at the federal and state levels. Joe was a primary draftsman for the Columbia River Gorge National Scenic Area Act, the Washington Wilderness Act and amendments to the Federal Power Act, the Clean Air Act and numerous laws applicable to federally-recognized Indian tribes.

**Secretary: Peter Sturtevant** – Pete is a Senior Water Resources Engineer at CH2M HILL in Bellevue. Working primarily on drainage and stream restoration projects, his experience in the fields of water resources and environmental impact assessment has included water supply studies, water quality assessments, flood control, wastewater and water reuse projects. A proud Husky alumnus, Pete enjoys hiking, canoeing, sailing, and other water related activities in the Great Northwest. Pete co-chaired the AWRA National Conference, which was held in December 1999 in Seattle.

**Newsletter Editor: Chris Pitre** – Chris is a senior water resources project manager at Golder Associates Inc. in Redmond. He has undergraduate degrees in chemistry and geology, a graduate degree in hydrogeology, and is a registered professional geologist/hydrogeologist. He is involved in over 10 watershed planning projects in Washington State under RCW 90.82. Chris participated in the drafting of new state Aquifer Storage and Recovery (ASR) regulations and is active in several advanced ASR projects. Chris co-chaired the 1997 WA-AWRA conference on stream flows, and was the section newsletter editor from 1998-2001. Sherry and Zephyr bring joy into Chris's life, and when he is left alone, he does house chores.

**Treasurer: Catherine A. Drews** – Catherine is an attorney with the law firm of Preston Gates and Ellis, LLP. Catherine practices in the environmental and land use development department, where she focuses her practice on water quality and resources, shorelines, wetlands, and facility siting. Catherine earned her B.S. in Natural Resource Conservation from the University of Washington College of Forest Resources and, afterwards, attended the University of Washington School of Law. Before coming to Preston, Catherine was a law clerk for the Honorable Judge Robin Hunt, Washington State Court of Appeals, Division II. Catherine is an avid tennis player and a novice golfer. She and her husband enjoy traveling, hiking, birdwatching, and winemaking.

**Past President: Stephen Hirschey** – Steve works with the Washington Department of Ecology's Water Resources Program. Steve earned his B.S. in Natural Sciences from St. John's University, and his M.S. in Environmental Studies from the Evergreen State College. He has experience working with instream flow studies, water right administration, and more recently, state water policy, legislation development, and rule adoption. Steve is married and the father of nine year-old Olivia, and eight year-old David. In his leisure time, Steve enjoys snow-skiing, hiking, and camping.

## Directors

**Philip Beetlestone** – Philip is a Water Resources Engineer/Hydrogeologist with Golder Associates, Inc. in Redmond. He primary works in the areas of water rights, watershed planning, water supply and the power plant permitting. He has a Master of Science in Civil Engineering from Colorado State University. He is currently involved with watershed planning, water rights analysis, power generation facility permitting, and water supply. When not working, Philip enjoys travel, backpacking, telemarking, rock climbing, and cooking. Philip was the section newsletter editor for 2002.

**Scott Bender** – Scott is the Principal of Bender Consulting in Seattle, Washington and is a hydrogeologist with over 15 years of experience with the U.S. Geological Survey, Morrison-Knudsen, and Shannon & Wilson. He has a Masters degree in Hydrogeology from the University of Idaho and a B.S. in Geology from the University of Washington. His current work focuses on water rights, litigation support, and groundwater control. He has won ASCE Engineering Excellence Awards for his groundwater control system designs for projects at the U.S. Embassy site in Bogota, Columbia and at the Boston Central Artery in Boston, Massachusetts. Scott is a native Seattleite and enjoys fishing, hiking, and skiing.

**Brian Drost** – Brian has 27+ years of experience with the U.S. Geological Survey. He currently is the WA District Groundwater Specialist at the USGS Water Resources Division Office in Tacoma. Brian received his B.A. in Geology from the State University of New York at Binghamton and his M.S. in geology from the University of Pennsylvania. He has published 30 reports on the water resources of Washington, specializing in groundwater quantity studies and ground-water modeling. Brian is a certified Professional Hydrogeologist (American Institute of Hydrology) and a licensed Geologist and Hydrogeologist with the State of Washington. He is a Board Member and former Secretary/Treasurer of the Washington Hydrologic Society and has served on the last two organizing committees for the Symposium on the Hydrogeology of Washington State. During this past year as a WA AWRA Board Member, Brian was impressed with the organization's management and operation and is looking forward to a second term on the Board.

**Tom Martin, P.E.** – Tom is a water resources engineer at Foster Wheeler Environmental with 27 years experience in environmental consulting. In 1981, Tom received a B.S. from the University of Vermont where he became immersed in hydropower and salmon restoration in New England. Since moving to the Northwest in 1991, Tom has worked with attorneys, scientists and planners on projects involving watershed planning, EIS studies for power and resort developments, and stream restoration. He enjoys brewing, basketball, history, and exploring with his family. Tom resides in Kenmore. He represents AWRA on Seattle Public Utility's Citizen Advisory Committee for Creeks, Drainage and Wastewater.

**Stan Miller** – Stan is Program Manager for Spokane's regional aquifer protection program. This program works toward integrating the groundwater protection efforts of all municipalities and water purveyors using the Spokane Valley-Rathdrum Prairie Aquifer; the program is administered through the Spokane County Public Works Department, Utility Division. In addition to working on this program at the administrative level, Stan has developed technical information and conducted local studies on the potential impacts of storm water infiltration on ground water quality and the interaction of the Spokane River and the Spokane Valley Aquifer. Away from work, Stan enjoys canoeing, backpacking, running, and working on the restoration of a turn-of-the-century home.

## New Nominees

**Cindy Baker** – Cindy has worked as a public and private sector professional in the Pacific Northwest for more than 20 years. Her experience in water resources began with conducting research in the Cedar River Watershed and continued by managing engineering review (surface water and roads) for King County, co-authoring a *Surface Water Design Manual* and a Sensitive Areas Ordinance, project managing watershed management plans for Pierce County, and managing hydrologic studies, biological assessments and other water resources studies. Ms. Baker holds a Bachelors and Masters degree. She was also appointed by the King County Council to the Water Quality Citizen's Advisory Board. Her goal is to remain in water resources and to actively participate in American Water Resources Association.

**Carolyn Butchart** – Carolyn is a Stormwater specialist with CH2M Hill in Bellevue Office

**Tim Flynn** – Currently holds a position with Aspect Consulting

## Cynthia Walcker

**Paul Wetherbee** - Paul is a hydrologist with HDR, Inc. He primarily does basin planning work, either for water resource planning studies, water quality improvement projects, or ecosystem restoration planning studies. Paul is interested in helping to shape and inform the regional discussion on water resources with solid technical information presented in a clear and understandable fashion. He has worked on integrating models for basin planning so that multiple criteria can be evaluated in water resource planning decisions. He has a Master of Science in Forest Hydrology from the University of Washington, a Master of Science in Geology from the University of Wisconsin – Madison and a Bachelor of Arts in Geology from Carleton College in Minnesota. He is married and the proud father of 2 great kids. His hobbies include biking, fly fishing, skiing, brewing beer, working in the garden, or cooking.

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# Upcoming Events

The Washington Section AWRA holds regular dinner meetings, including a social hour, dinner, and a speaker. Other meetings and conferences are listed on our website, <http://earth.golder.com/waawra/default.htm>.

November 14<sup>th</sup>

## Save the Date!!!!

**The Washington Section AWRA Annual Meeting** at the Seattle Art Museum.

- Conference Topic: "Beyond Watershed Planning"
- All member meeting and 2003 Board of Director Elections

**The Washington Section AWRA Annual Meeting** is **November 14, 2002** at the Seattle Art Museum. This year's conference is titled Beyond Watershed Planning. For more information visit our website at <http://earth.golder.com/waawra/default.htm>.

**November 3-7, 2002. 2002 AWRA Annual Conference**, Philadelphia, Pennsylvania  
<http://www.awra.org/meetings/Philadelphia2002/>

**November 14, 2002. 2002 Washington Section AWRA Annual Conference**, Seattle, Washington,

**November 13-16, 2002. National TMDL Science and Policy Conference**, Phoenix, Arizona,  
<http://www.wef.org/pdffiles/TMDL2002flyer.pdf>

**November 21-22, 2002. 11th Annual Water Law Seminar**. Seatac, Washington. Washington State Bar Association (206)-727-8320

**December 8-11, 2002. AGWSE Annual Meeting and Conference: "Linking Surface and Subsurface Hydrology: From Science to Technology"** in conjunction with Ground Water Expo, Las Vegas, Nevada.

**April 8-10, 2003. 4th Symposium on the Hydrogeology of Washington State**. Tacoma, Washington (253)-428-3600, ex. 2683 or (360)-202-7073. <http://www.ecy.wa.gov/events/hg/index.htm>

**June 23-26, 2003. World Water and Environmental Resources Congress 2003**. Philadelphia, Pennsylvania. <http://www.asce.org/conferences/ewri2003/>

**June 29-July 2, 2003. AWRA 2003 International Conference, Watershed Management for Water Supply Systems**. New York City, New York. Abstracts due November 15, 2002. <http://www.awra.org/>

**October 19-22, 2003, American Institute of Hydrology 2003 Annual Meeting and Conference: "Achieving Sustainable Water Resources in Areas Experiencing Rapid Growth"**, Atlanta Georgia.

**AWRA** holds National, Regional, and State Conferences. Further information on future meeting schedules can be found on the AWRA Website <http://www.awra.org/meetings/>

**The Northwest Geological Society** (<http://www.scn.org/nwgs/>) holds meetings or field trips. A list of the planned meetings and trips is <http://www.scn.org/nwgs/joust/calendar.htm>

**The Washington Hydrologic Society** holds monthly meetings. Further information is available from Brian Drost at (253) 428-3600 ex. 2642 (<mailto:bwdrost@usgs.gov>) or Llyn Doremus (360) 592-2632 (<mailto:ladoremus@aol.com>).

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# AWRA-Washington Section Annual Conference

## "Beyond Watershed Planning"

**November 14, 2002**  
**at the Seattle Art Museum**

**Who should attend:** Representatives from all levels of governments, business, and academia, including consultants, tribal communities, attorneys, and concerned citizens involved or interested in water resources in the state of Washington

-----Detach & mail in with registration-----

### **Washington AWRA 2002 Annual Conference Registration**

- Pre-registration (includes year 2003 Section membership) - \$100
- Student pre-registration (includes year 2003 Section Membership) - \$25
- Walk-ins will be accepted subject to space limitations (includes year 2003 Section Membership) - \$125

Name \_\_\_\_\_ Title \_\_\_\_\_  
Affiliation \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone (\_\_\_\_\_) \_\_\_\_\_ Fax (\_\_\_\_\_) \_\_\_\_\_  
E-Mail \_\_\_\_\_@\_\_\_\_\_

- Please check here if you do not want to be on a list if attendees to be provided at registration.

**Checks only.** Please make payable to:  
"AWRA Washington Section".

**No credit cards or purchase orders, please.** Refunds up to November 4, 2002, less a \$40 administration fee.

**Please mail checks by November 8, 2001 to:**

### **AWRA Conference Registration**

c/o Mentor Law Group, PLLC  
1100 Market Place Tower  
2025 First Avenue  
Seattle, WA 98121

For questions regarding the Conference, contact conference co-chairperson Tom Martin by phone: (425) 482-7600 or email: [tmartin@fwenc.com](mailto:tmartin@fwenc.com)

More conference information can be found on our website at [earth.golder.com/waawra/](http://earth.golder.com/waawra/)

**2002 Membership Application / Change of Address Form**

( ☒ please circle, as appropriate ↗ )

Annual membership in the state chapter costs \$25.

(If you attended the 2001 November Conference, you are already a member for 2002 – Welcome!)

Name \_\_\_\_\_ Position \_\_\_\_\_ Affiliation \_\_\_\_\_

Street Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone(\_\_\_\_\_) \_\_\_\_\_ Fax(\_\_\_\_\_) \_\_\_\_\_ E-mail \_\_\_\_\_ @ \_\_\_\_\_

Please indicate if you prefer to receive your newsletter electronically.

Check -----if----- you would like to be actively involved on a committee.

You will be contacted by one of the board members.

2003 Membership Dues: \$25.00. **Checks only.** Please make check payable to **AWRA Washington**

**Section.**

Mail to: AWRA, Washington Section  
c/o Mentor Law Group, PLLC  
1100 Market Place Tower  
2025 First Avenue  
Seattle, WA 98121

The American Water Resources Association is a scientific and educational non-profit organization established to encourage and foster interdisciplinary communication among persons of diverse backgrounds working on any aspect of water resources disciplines. Individuals interested in water resources are encouraged to participate in the activities of the Washington Section.

*Special thanks to Golder Associates Inc. for word processing and graphics support on this newsletter.*

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Seattle, WA 98121

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