



# PRESIDENT'S NOTES: INSPIRATION THROUGH A WATER RESOURCES COMMUNITY

By Dustin Atchison, WA-AWRA President

## PRESIDENT'S NOTES:

In the tradition of past winter newsletters, my notes are focused on a summary of the section and more importantly a reflection on what involvement as a board member and president in this great organization has brought me and my career. In reflection, I see a lot of parallels to a recent trip to Monterey to run the Big Sur Half Marathon with my wife and family. I'm not necessarily a big runner and due to time constraints and physical limitations (e.g. injuries don't heal very quickly these days), I did not get much training in before the run. However, the sheer beauty of the scenery (waves crashing on rocks, dolphins playfully jumping, otters and sea lions, actual sunny skies), camaraderie of passionate fellow runners and exhilaration of exercise far outweighed the pain in my feet. It was a particularly inspiring weekend, especially considering the see the pride in my 4 and 6 year olds as they completed a 3K run of their own.

Why am I sharing this story? Because, I see this as an appropriate metaphor for my experience and participation in this section. Like many of our members, I chose my career in water resources because I saw the vital importance water plays in our society and ecology and wanted to play a meaningful role in the protection and management of those resources. However, we cannot always practice in all aspects of water resources. For example, much of my work is centered on what I sometimes call "small water"; stormwater management, green infrastructure, low impact development and stream/wetland restoration. Protection of water resources, however, involves work at many scales and that is specifically what the Washington Section of American Water Resources Association highlights. I have been inspired by the great work of my colleagues in the section and en-

joy exposure to the various avenues in which we share information and policy discourse on a wide range of water resources issues.

Participation in the board has provided me an opportunity to be continually inspired by the passion of my fellow board members and section members. The energy and discourse at the Annual State Conference focused on Future Directions in Water Resources Management held in September reinforces the ideas that while approaches, strategies and opinions may vary, there is a great community of technically proficient professionals who are dedicated to smart protection and management of our resources, whether above ground or below ground and WA-AWRA provides the avenue for advancing that discourse. Participation in the section and board provides a wide array of benefits from technical improvement of your skills, valuable connections in the water resources community and inspiration to do your part in the larger context. Please consider how you can be more involved in this great community by attending meetings, serving on sections or becoming a board member. I want to thank our board and members for their outstanding work this year. It has been a great experience.

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## Upcoming December 11, 2013 Dinner Meeting:

**Dinner Presentation by Brian Walsh, Planning Manager for Puget Sound Partnership  
Following 2014 Board of Director elections and extended year-end social hour**

**Event Details:** December 11, 2013 BOD and Annual Chapter Meeting: 4:30 - 5:30, Social 5:30 - 6:30, Dinner 6:30 - 7:00  
7:00 PM Presentation at Pyramid Alehouse 1201 1<sup>st</sup> Ave S, Seattle <http://www.pyramidbrew.com/alehouses/seattle>

In 2007, the Puget Sound Partnership was created by the Legislature as the backbone organization to connect citizens, governments, tribes, scientists and businesses. The agency is embarking on an amendment to the Puget Sound Action Agenda in 2014. Come and learn more from Mr. Brian Walsh about the amendments to the recovery roadmap and effects on future investments leading to recovery. All are welcome to attend the meeting. WA AWRA Annual Chapter Meeting and Board of Director's Meeting, which will include ~15 minutes for introducing next year's slate of proposed board members and a vote from the attendees.

**REGISTRATION:** Please pay online at [www.waawra.org](http://www.waawra.org) or by check (payable to AWRA-WA Section) with your Name and Contact to: AWRA-WA, PO Box 2102, Seattle, WA 98111. Students FREE with sponsorship (limited quantity available).

## CALL FOR WATER RESOURCES ARTICLES AND ANNOUNCEMENTS

Submissions are welcome for the January 2014 newsletter. The article submittal due date is January 15, 2014. Announcements for water-related events are also welcome and are due January 15, 2014. The editor reserves the right to make changes for reasons of length, grammar, legality or clarity. Contact Jenny Saltonstall at (425) 827-7701 or send submittals direct via email at [jsaltonstall@aesgeo.com](mailto:jsaltonstall@aesgeo.com). We look forward to hearing from you!

### What this State Section is All About!

The Washington State Chapter of the AWRA fosters educational and professional development. **Student support** is provided in the form of two annual student fellowships, sponsorship of a student chapter at the University of Washington, underwriting of a special meeting in the late spring hosted by the student chapter, and other subsidies. **Interorganizational support** is fostered with local, interstate, national, and international organizations. A **newsletter** is published several times per year containing in-depth analysis and editorials on current issues. Several **dinner meetings** are held throughout the year providing good food and good company followed by a presentation by featured guests. **Brownbags** are organized on special issues as they arise. The annual climax is the **Annual Section Fall Conference**. The Conference is the principal funding vehicle for many Section activities, including providing financial support to the Section's Student Fellowship program. A **dedicated board** meets regularly to plan, organize and facilitate events. If you wish to learn more about your Section and/or wish to participate more in Section activities, you will be warmly welcomed. Please contact any of the board members listed on Page 11.

## REPORT ON 2013 AWRA-WA STATE CONFERENCE - FUTURE DIRECTIONS IN WATER RESOURCE MANAGEMENT

By Stephen Thomas, Tyson Carlson, Tyler Jantzen, Peter Sturtevant, Megan Kogut

Water resources management in Washington state has been a much discussed topic for years. But new leadership at the WA State Dept. of Ecology (Ecology) plus several key recent accomplishments and emerging tools for water resources made 2013 a key year to bring together key experts from a number of perspectives to share knowledge regarding water resources management.

Our state conference this year focused on tools, frameworks and discussion on forward progress in policy supporting both, culminating in a spirited panel discussion among experts with diverse backgrounds. Over 120 attendees enjoyed a fast-paced conference followed by a reception at the beautiful and functional Mountaineers Seattle Program Center in Seattle.

Below is a summary of the day's presentations. Complete presentation materials for most talks are at <http://waawra.org/Events/Conference2013/Program>.

### KEYNOTE SPEECH

Maia Bellon (Ecology) kicked off the conference with an energetic overview of the current state of affairs, and her vision as the newly appointed Director of Ecology's responsibilities, recent successes, future challenges and long-term goals for water resources management. She explained that with her background as assistant Attorney General and Ecology's Water Resource Program Manager, she is well-poised to take on the current issues with the water rights backlog and with new strategies for managing water resources.

Specifically, she addressed Ecology's need to meet the legislative mandate of at least 500 water right application decisions a year. If Ecology fell short of that goal, its

budget would be reduced by \$500,000 – a significant hit to a program which relies heavily on the State's General Fund. During the mandate's first year (FY 2012), Ecology responded by issuing a total of 860 decisions. The next year Ecology issued 676 decisions (269 change; 401 new). Based on this success, Ecology will maintain the mandate's benchmark. And in an environment of ever-increasing legal complexities, Ecology will also work to streamline the water right permitting process while protecting instream flows and satisfying current and future out of stream needs.

Another challenge is the advancement of water policy in the Yakima Basin, a fully appropriated basin with continued needs for fish and wildlife, irrigation, and municipal water supply. The new administration has made the Yakima River Basin Integrated Plan a top priority, allocating funding in a \$135 million capital budget bill. Scoping and environmental review of several of the key elements of the plan will begin this year.

The challenges in the Yakima Basin are reflected in state-wide water availability issues. The responsibility of planning has been placed on counties and local jurisdictions, which need to evaluate adequacy of water supplies to meet future growth in population and other water needs. The counties must recognize that water availability is not limited to physical availability, but also legal availability. Ecology is currently preparing guidance to help counties fulfill this obligation.

Finally, the pending State Supreme court decision regarding Ecology's use of the "overriding considerations of public interest (OCPI)" test. OCPI allows Ecology to provide

water for out of stream use that might result in diminishment of instream flows. Mostly recently, use of OCPI in setting of instream flows (and reserves) in the Skagit River Basin has been challenged in State Supreme Court. Director Bellon pledged to work with Native American Tribes to protect the instream flows and with local government to find a resolution to water availability issues.

### SESSION 1 DRIVERS & OPPORTUNITIES

*This introductory session was moderated by Tom Ring (Yakama Nation).*

Rachael Paschal Osborn (CELP) provided a view of the state's water resources looking toward 2040. She offered reminders of the impacts of increasing temperatures, increased drought vulnerability, rising sea-level, reduced snow pack, shifts in total and peak stream flows and reduced summer baseflows will have on the region's water resources and economy. She reminded the audience that today's 100-year events are no longer status quo. Population growth (1.2 million additional residents by 2040) will also stress water resources. The prior appropriation approach has led to over-appropriation. In addition, the so called "exempt well" and unlimited stockwatering concepts, highlighted by the over-use and lack of metering, are no longer appropriate. With these issues in mind, Osborn offered a new definition of beneficial use that includes purpose and efficiency. She illustrated the need for a new definition by asking whether the current uses of water of irrigating alfalfa hay for Japanese racehorse feed, corn for ethanol production and potatoes for French fries are "beneficial" considering competing water needs in Washington state and over-appropriation.

Ann Wessel (Ecology) presented a historical overview of the state's instream flow (ISF) rule program as well as its successes, current challenges and solutions. Although an ISF is in many ways similar to a water right (it has a priority date) the intent is not for the limit to be met at all times (in contrast to a water quality limit, for example.) Currently ISFs exist for most western Washington watersheds, and rules are in process for the Cowlitz and Grays-Elochoman in the lower Columbia, and the Little Spokane basins. The ISF program has created rules for nine basins in the last eight years, helped in many cases by the Watershed Planning process. Agreement on the technical methodology for determining limits was also considered a success. Remaining challenges include inadequate staffing and funding, changes in seasonal stream flow patterns and temperatures related to climate change, and proper implementation of rules, which involves coordination with local governments, establishing a reserve, metering and mitigation. Ann indicated that Ecology understands the need for flexibility in rulemaking to account for local conditions and to allow durable solutions.

Rich Hoey (City of Olympia Public Works) gave an overview of what is surely one of the state's landmark water right and management programs. After almost a decade of gridlock in the water rights application process, Olympia collaborated with Lacey and Yelm and the nearby Squaxin Island and Nisqually Indian Tribes to obtain new water rights. Ecology formally approved the water rights in 2012. At the center of Olympia's program is the increasingly vulnerable McAllister Springs, which has provided more than 70 percent of the city's water supply since the

1940s. The collaboration involved improving understanding of the regional hydrology and hydrogeology, then developing and applying a detailed groundwater flow model to predict impacts from changes in groundwater pumping and a shift from the spring to a new high capacity well-field. A key element in the collaborative process has been the concept of shared mitigation to offset these expected impacts. Rich detailed the various mitigation packages. These include recharging reclaimed water from the LOTT facility in the Woodland Creek sub-basin, purchase and retirement of irrigation rights along the upper Deschutes valley, and establishing dam release agreements on the upper Nisqually river with Tacoma Power.



Photo by Tom Ring

### SESSION 2 RE-ALLOCATION & STORAGE

*This session, moderated by Tyson Carlson (Aspect Consulting), presented the technical aspects of three water management "tools".*

Bob Montgomery (Anchor QEA) presented on surface water storage. Surface water storage is not new concept, with over 1,100 dams built across the state, 106 of which are higher than 50 feet. The era of big dam building ended with the 1960s due to costs, environmental and social impacts, and the lack of more good sites for dams. In fact, recently several large dams have been removed. However, increased water demand, lack of supply and increased uncertainty in supply have renewed interest in surface water storage. Current proposed projects include reservoir expansion in the Yakima River Basin, additional flood control in the Chehalis, and pump storage along the Columbia River. Unlike older dams, these projects offer increased fish passage, habitat and watershed protection/restoration and water conservation, gaining the support of many basin stakeholders, fishery co-managers, and conservation groups.

Chris Pitre (Golder Associates) described Aquifer Storage and Recovery (ASR). ASR captures available surface water, typically during the spring freshet, and places it in a suitable aquifer for short- or long-term storage. The water can then be withdrawn later for beneficial use. The success of ASR depends on a number of factors, including aquifer characteristics, available water, compatible geochemistry, available infrastructure, and the current regulatory framework. Most notably, Pitre described the need for regulatory clarity on how to determine the volume of water that can be recovered (recoverable quantity.) Recoverable quantity is site-specific. Recoverable quantities range from basalt aquifers (>90%) to leaky sand and gravel aq-



uifers (30%). In addition, Chris described challenges in water quality from operation (biofouling, sediment, and air entrainment) and regulatory (anti-degradation of groundwater quality) perspectives. Because of chlorination by-products, permitting of ASR typically requires a robust AKART analysis with an OCPI determination, both of which could be avoided with additional rule making. If so, ASR could provide a future, reliable supply of water at a relative low cost.

Bob Barwin (Ecology), described water banking, which is designed to facilitate the transfer of water rights between willing buyers and sellers through a process with clear procedures and public sanction. Water banks may be managed by Ecology, local government, NGO, or private parties. Barwin provided examples of three water banks: the Walla Walla, Upper Kittitas, and Dungeness. Most notably, the Upper Kittitas water bank(s) have reallocated more than 1,000 acre-feet of water, serving more than 1,700 homes in four years. The cost of obtaining a municipal water right varies with each bank and market conditions, ranging from about \$500 to \$14,000 per home. Water banking is particularly effective for residential use because of the predictable demand, and the ability for a single irrigation right to serve many homes.

#### LUNCH TALK

Tuck Russell, who lives and writes in the Yakima Basin, gave a very different perspective on water use in Washington by discussing and comparing the top ten crops grown commercially in this state. He discussed demand for those crops, which is determined by personal buying habits (in turn dependent on the economy) and by global demand elsewhere. Eastern Washington has both arable land and water, so wheat and other commodities are exported to countries with a shortage of water or a lack of arable land. He also made the case that farmers largely base their decisions on supply and demand of crops, not water. He stated that it would take two consecutive drought years to change that situation. For all the statistics and a few interesting surprises, see the transcript of Russell's talk on our website.



Session 4 Panel. Photo by Tom Ring

#### SESSION 3 FRAMEWORKS AND BASIN SOLUTIONS

*This session, moderated by Jason McCormick (Washington Water Trust), covered examples of comprehensive solutions implemented to address water resource scarcity and rights issues and provided concrete examples of use of some of the tools presented in Session 2.*

Amanda Cronin (Washington Water Trust) presented in-stream flow restoration and water banking in the Dungeness River basin. The closure of the river to new allocation created the demand for a water exchange (or bank) in which existing water rights holders sell or lease their rights for new municipal and other uses. The exchange opened with a reverse auction in which nine accepted bids resulted in 372.6 acres leased and removed from irrigation. Other exchanges involved the acquisition of water rights along nearby streams and the infiltration of that water into the Dungeness basin for mitigation. Water purchasers are then able to purchase water from the exchange via the county. Packages ranging from \$1,000 to \$3,000 are available, with more expensive packages including some irrigation. Approximately 15 to 50 years of growth is supported by the current exchange. One of the lessons learned is the large startup cost for the exchange, which will not likely be entirely recovered with usage fees. Future water exchanges will likely achieve better efficiency and economic sustainability.

Steve Malloch (Western Water Futures) presented the unprecedented stakeholder cooperation that led to the Yakima Basin Integrated Plan. He recognized that the unprecedented cooperation for the Plan was unlikely without the many years of stakeholder disagreement beforehand. Stakeholders realized that the only way to get anything done was to partially satisfy everybody with a balance of many outcomes. This led to what Steve called the "Infamous Seven Elements": reservoir fish passage, structure and operational changes, surface water storage, groundwater storage, water conservation, water marketing, and habitat enhancement and protection. Solutions like this one may be the new paradigm for water appropriate, with many environmentalists accepting new water infrastructure in return for other gains. Still, many challenges remain, including full funding of the \$4 billion plan.

Mike Kaputa (Chelan County Natural Resources Dept) discussed water resource planning in the Wenatchee River and Icicle Creek basins. Watershed planning there began in 1999 and was led by the multi-stakeholder Wenatchee Water Work Group. This group led to the creation of an in-stream flow rule and reservation, adopted in 2009, and a multi-parameter TMDL for dissolved oxygen, pH, DDT, fecal coliform, and temperature. The group coordinates the disbursement of the 4 cfs reserve and acts as the local water control authority. It is currently coordinating cost-reimbursement for processing of water rights applications in the basin. A similar process is beginning for Icicle Creek, where a multi-stakeholder workgroup has convened and is developing guiding principles.

#### SESSION 4 LEADERSHIP, LEGISLATION & POLICIES

This panel session, moderated by Adam Gravley (Van Ness Feldman LLP), included four experts with diverse backgrounds: Sharon Haensley (Squaxin Island Tribe); Laura Merrill (Washington Association of Counties); Tom Webb (Ecology); and Bruce Wishart (Washington Water Futures). Each provided five minutes of perspective before Adam kicked off the questions with a few seeded questions. The range of views included:

- Better use of current laws to maintain minimum in-stream flows

- More cautious local review of development within water-short basins
- Better water resource tools for use by counties
- Closer state relationship with the counties
- Development of a state-level water plan
- Emphasize environmental restoration, along with water supply development
- Provide state funding for development of WRIA-specific surface and groundwater models

A discussion ensued regarding the proper roles of state and local responsibility for water allocation. While local involvement was encouraged, it was pointed out that the law mandates state involvement, which is also often necessary to assure protection of downstream jurisdictions. Water metering was identified as a recurring issue; it can be difficult to implement, but it is essential for allowing effective water management. An extensive discussion occurred over the role of the state in financially supporting detailed basin studies and the start-up of local water banks. Some panel members disagreed with the statement that the recent pattern of state support for several new water banks should be repeated on a state-wide ba-

sis, arguing that the water bank concept has finally matured in this state.

When asked what water management in 2040 might look like, panelists foresaw the strengthening and refinement of some recent trends: substantial improvements in water use efficiency and better local collaboration to address water issues. Several repeated a thought expressed by Rachael Paschal-Osborn in an earlier session: the state, or economic forces, may begin to favor proposed irrigation water uses that support higher-value, less water-intensive crops, such as grape vineyards over alfalfa hay. When asked about the biggest water challenge faced by Washington, the panel offered two issues: climate change and lack of leadership on water resource issues.

#### NEXT YEAR'S CONFERENCE

We're already planning for next year's conference, taking into account all of the great feedback we received in the survey handed out during this conference about the program, future topics, venue and catering. Do you want to be on the conference committee? We always welcome programming and logistical support. Please contact Megan Kogut at [mbkogut@gmail.com](mailto:mbkogut@gmail.com) if you're interested in participating.

*Thanks to everybody who helped make the 2013 conference such a success, especially our sponsors. You can find presentations and the program for this and other past conferences on our website.*

### Basin Sponsors



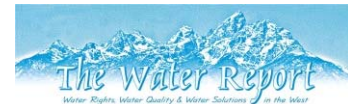
### Watershed Sponsors



### Stream Sponsors



### Media Sponsor



## 2014 SPONSORSHIP OPPORTUNITIES

By Scott Kindred, WA-AWRA Section Past President

Now is the time to consider sponsoring the Washington Section of AWRA to receive the full annual benefit of your sponsorship. In addition to the traditional benefits associated with the annual state conference, we now offer benefits throughout the entire year, including free memberships and recognition of your company at dinner meetings, in emails and newsletters, and on the website. Further details are available on our website. By becoming a conference sponsor, you will earn the recognition and

gratitude of water resource professionals throughout our state. We also encourage our corporate sponsors to consider other opportunities for their voice to be heard by writing articles for the newsletter or presenting at one of our dinner meetings or the state conference. We welcome your feedback to make our events as interactive and valuable as possible for our members. If you have any questions or need additional information, please contact Scott Kindred ([skindred@aspectconsulting.com](mailto:skindred@aspectconsulting.com)).

## AWARD FOR OUTSTANDING CONTRIBUTION TO WATER RESOURCES GOES TO PETE STURTEVANT

Please join us in congratulating Pete Sturtevant on winning this year's Outstanding Contribution to Washington's Water Resources Award. As a very active participant in the section, the board enthusiastically selected Pete on a "double secret ballot" to be this year's recipient.

Pete has 34 years of professional experience specializing in the field of hydrology and water resources and a passion for service to others. Pete's career began in California and Nevada, including several years as a planner with the Clark County (Nevada) Department of Comprehensive Planning, where he prepared and managed numerous environmental impact statements (EISs) and assessments, flood studies and drainage designs. Pete has prepared water supply studies for locations around the United States and has a wide range of experience in assessing nonpoint source pollution for river basins in multiple states including the Northwest. Recently, Pete has had the opportunity to expand his work and service internationally through his energetic contributions to Engineers without Borders (Bolivia), Ecologists without Borders (Cambodia) and project work (Saudi Arabia, Korea and Indonesia). Pete particularly embodies the spirit of the Outstanding Contribution to Washington's Water Resources Award through his continued contributions to the state section. Pete was a member of the Chapter Board from 1996 to 2011, was the Section President in 2000, was Co-Chair for two AWRA National Conferences held in Seattle in 1999 and 2005, and has remained as an active member of this organization. This past year Pete served on the conference planning and on the fellowship committee where he has enthusiastically evaluated students for the fellowship awards. Pete thrives on a good challenge, whether it's organizing an annual state confer-

ence for AWRA, helping students bring improvements to a village in South America, or completing the renowned Ptarmigan Traverse, a 40 mile off-trail trip along the crest of the North Cascades that passes through some of the most rugged terrain in Washington State. In all these endeavors he brings a spirit of teamwork, creativity, and good humor.

Pete states [tongue in cheek] that in addition to the previous, but perhaps more important, are the little-known achievements during Pete's long and illustrious career. For instance...the original idea to remove the two Elwha dams, that was Pete's; the Pleistocene Floods that repeatedly ravaged Eastern Washington, Pete speculated that theory decades ago; global warming and the receding glaciers in the north Cascade, In the early 1970s, Pete mentioned that something odd might be going on; and the federal listing of the Puget Sound King Salmon in 1999, a federal bureaucrat might have overheard Pete's very similar suggestion earlier in the decade. The List goes on and on. In summary, Pete was quite shocked and surprised when he received the award.

In his nomination, Pete was lauded for the enthusiasm and technical expertise that he brings to the discourse and activities that the section sponsors. Pete frequently volunteers for the jobs that nobody else wants, and selflessly donates his time and energy to make these events happen. The institutional knowledge, programming ideas and execution that he has brought to the organization have been priceless. Pete's mentorship and passion about water resources has inspired many colleagues.

**Thank you, Pete!**

## AWRA – WASHINGTON SECTION ANNUAL MEETING

The AWRA Washington Section will convene its annual meeting and conduct elections for the 2014 Board of Directors at the December 11<sup>th</sup>, 2013 Chapter meeting in to be held at the Pyramid Ale House in Seattle.

The Board of Directors consists of up to fifteen directors, plus the past president. All members are welcome to attend the annual meeting and to nominate other candidates. The biographies for the director slate are on pages 7 and 8.

Board members are expected to actively participate and support the following activities:

- Attending monthly board meetings
- Refining section policies
- Running dinner meetings
- Organizing the annual conference
- Securing articles for newsletters
- Supporting the student chapter and establishing new student chapters
- And other activities.

### THE 2013 BOARD OF DIRECTORS PRESENTS THE BELOW CANDIDATES FOR THE 2014 BOARD.

- Dustin Atchison
- Becky Crompton
- Tyson D. Carlson
- Tyler Jantzen
- J. Scott Kindred
- Megan Kogut
- Felix Kristanovich
- Allison MacEwan
- Jason D. McCormick
- Stan Miller
- Racheal Moss
- Tom Ring
- Jennifer Saltonstall
- Stephen D. Thomas



## CANDIDATE BIO'S

**Dustin Atchison** – Dustin is a professional engineer with 15 years of experience as a water resource engineer primarily with consulting firms, specializing in stormwater management in the State of Washington. He has expertise in the emerging field of green infrastructure. Dustin has consulted on effective implementation of green infrastructure through policy, planning, design, modeling and maintenance to sustainably meet multiple objectives through stormwater design. Dustin's additional work in water resources includes stream restoration design, hydraulic and hydrologic modeling, sustainability and water rights. In his personal time he likes to do anything outdoors including hiking, climbing, soccer, ultimate Frisbee, garden gnomes, and playing with his son and daughter.

**Tyson D. Carlson** – Tyson is a Senior Hydrogeologist with Aspect Consulting with 13 years of experience specializing in water resource development and water rights. Serving private and public sector clients, Tyson's water rights experience includes both new appropriations – municipal, agriculture, fish propagation, and commercial/industrial purposes – and transfer/change of existing rights, including use of the State's Trust Water Right Program (TWRP) for purposes of in-stream flow, habitat, and mitigation through water banking. Tyson's strong background in analytical and numerical groundwater modeling is often used in the development of site-specific conceptual models describing groundwater-surface water interaction, saline intrusion, well hydraulics, and aquifer sustainability. These skills are also used in Tyson's work in large-scale hydrogeologic characterization – such as regional tunnel alignments, contaminant fate and transport modeling, and construction dewatering design. Tyson has a BS in Soil, Water, and Environmental Science and a MS in Hydrology from The Univ. of Arizona. Outside of the office, he can be found skiing the deepest of Cascade powder, on his bike, or fly fishing his favorite waters.

**Becky Crompton** – Becky is a hydrologist at Golder Associates. She has a B.S. in Engineering Management and M.S. in Hydrology from the University of Arizona. While earning her M.S., she was employed at the Water Resources Research Center where she gained experience writing newsletter articles focused on water related issues. In July 2013, she joined Golder Associates in the Redmond office. Her work at Golder has involved design and modeling of stormwater treatment systems, low impact development, water rights, and water balance modeling. Outside of work, she enjoys scrapbooking, hiking, and skiing.

**Tyler Jantzen** – Tyler is a professional engineer with 6 years of experience working for CH2M HILL. He has served on the Chapter's Conference Committee for the past four years. He has experience in a wide variety of water resources engineering topics, including hydrologic and hydraulic modeling, flooding issues, stream restoration, climate change adaptation, storm water planning and design, and Superfund cleanup. Tyler is especially adept at using state-of-the-art geographic information systems and large publicly available datasets to analyze complex water resources issues. He has a MS in water resources engineering from the Univ. of Texas at Austin and a BS in civil engineering from Gonzaga Univ. His thesis covered the implementation of a statewide hydrologic information system for Texas. Outside of work, Tyler enjoys time with his family, hiking, kayaking and playing lawn games.

**J. Scott Kindred** – Scott is a hydrogeologist with 20 plus years of consulting experience, primarily in the areas of hydrogeology, stormwater infiltration, and environmental site assessment and remediation. His clients have included industrial and mining facilities, private and public developers, nuclear facilities, PRP groups, and military installations. With expertise in hydrogeology, contaminant fate and transport, geotechnical engineering, and civil stormwater design, Scott provides a unique multidisciplinary perspective in addressing the range of issues associated with stormwater infiltration. Scott has a Bachelors degree in geology from Brown Univ. and a Masters degree in civil engineering from Massachusetts Institute of Technology. He is a registered P.E. in Washington State. Mr. Kindred is currently working on climbing the 100 highest peaks in Washington State, an objective that he should have started much earlier when he was younger and stronger.

**Megan Kogut** – Megan is a research scientist at UW School of Oceanography. She uses isotope chemistry to explore mechanisms of coral growth for the purposes of predicting the effects of ocean acidification on coral and improving understanding of coral as records of past climate changes. She has also taught environmental policy, natural history and chemistry at UW Tacoma. She has ten years of experience with various environmental programs and permits. She has a BS in chemistry from the University of Washington and a PhD in environmental chemistry from MIT. In her free time, she sails, runs trails and volunteers locally.

**Felix Kristanovich** – Felix is a senior water resources manager with ENVIRON in Seattle, Washington. He has 25 years of professional experience in the United States and abroad where he has worked on numerous watershed analysis and streamflow restoration projects, water quality monitoring programs, environmental impact studies, hydrologic field investigations, floodplain analysis, and design and modeling of storm water systems. Recently, Felix has been working on application of ecosystem services in floodplain management, streamflow and habitat restoration, and sustainable development in Central America and the US. Felix has been actively involved in several professional societies, including AWRA, where he has served on the Board for the last five years as Secretary, Treasurer, and 2010 Board President. Felix organized technical field trips during the 2005 and 2009 AWRA National Conference in Seattle, and was the co-organizer of several National AWRA conferences. Felix volunteered his time on Whidbey Island where he spearheaded numerous watershed restoration projects. Felix and his wife June enjoy backpacking, hiking, and telemark skiing with their two fantastic dogs Storm and Bear here in the Washington Mountains, and sea kayaking around Puget Sound and in Alaska. Felix and June also enjoy landscape photography and are season ticket holders to the Seattle Opera.

## CANDIDATE BIO'S

**Allison MacEwan** – Allison is an Associate Water Resources Engineer with Shannon and Wilson in Seattle, Washington. She has over 25 years of professional experience working in the Pacific Northwest and across the United States on projects related to watershed planning and management, water resources systems analysis, ecosystem restoration design, levee systems, flood risk management, conjunctive use, water rights, drought management, and hydrologic and hydraulic analysis. She is a registered Professional Engineer in Washington, and a Certified Floodplain Manager. Allison holds a BA in Engineering Science from Dartmouth College and a MSE in Civil and Environmental Engineering from the Univ. of Washington. Allison enjoys hiking, river rafting, and exploring the Pacific Northwest.

**Jason D. McCormick** – Jason is a Project Manager with Washington Water Trust, and is a native of Eastern Washington with roots in the towns of Brewster, Tonasket, Yakima and Zillah. He joined the Water Trust in 2008 and works from the Ellensburg office. Prior to joining Washington Water Trust, Jason worked as a permit writer for the newly formed Office of Columbia River with Washington State Department of Ecology. Jason holds a B.A. in Geography and Land Studies from Central Washington Univ. where he graduated Cum Laude. When he isn't working he enjoys spending time with his young son, pursuing steelhead and Salmon with a fly rod, hunting, hiking, and backpacking.

**Stan Miller** – Stan is semi-retired, and currently doing water resources consulting as Inland Northwest Water Resources. Prior to venturing into retirement, Stan held the position of Program Manager for Spokane County's Water Resources Section in the County Utilities Division of the Public Works Department for over 20 years. The prime focus of Water Resources is the regional aquifer protection program. In that capacity he worked toward integrating the groundwater protection efforts of all municipalities and water purveyors using the Spokane Valley-Rathdrum Prairie Aquifer. 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. Stan is a long-time member of the AWRA Board and a past-president of the Chapter. Away from work, Stan enjoys canoeing, backpacking, running, and working on the restoration of a turn-of-the-century home.

**Rachel Moss** – Rachel is an environmental chemist who specializes in water, soil, and sediment forensic assessments at G-Logics, Inc. She has over five years' experience in academic and state environmental chemistry laboratories where her work included the development of novel methods for low-level detection of phosphorus in vulnerable lakes. For her contribution to phosphate sensor research, she received a PhD in environmental chemistry from the University of Wisconsin-Madison in 2012. Since moving to the Pacific Northwest in late 2012, she has been involved in several community environmental efforts, including working with volunteer teams on Bainbridge Island for field sampling of streams, sediments, and benthic macroinvertebrates. She is currently a committee member for the the Young Environmental Professionals (YEP) Olympic Chapter that organizes mixers for new environmental career professionals. Rachel has also been an organizer or volunteer in five 2013 environmental topic conferences, including those on water resources management, stormwater, sediments, and CERCLA/MTCA law.

**Tom Ring** – Tom is a hydrogeologist with the Water Resources Program of the Yakama Nation. He has held this position since 1990 and, in that role, has worked on a variety of projects involving groundwater and surface water quantity and quality, water rights, irrigation and fisheries issues and planning for future water needs. Previously he worked for the Water Resources Program at the Washington Department of Ecology. Tom has Bachelors and Masters of Science degrees in geology from Central Washington Univ. and Northern Arizona Univ. respectively. He has taught geology and hydrogeology classes at Central Washington Univ. and is a licensed geologist and hydrogeologist in Washington State. When not working, he enjoys hiking, climbing, and skiing in the mountains of the west.

**Jennifer Saltonstall** – Jenny is hydrogeologist at Associated Earth Sciences, Inc. with 15 years experience in hydrogeology, geology, and geologic hazards assessments for both private and public sector clients. She has expertise in geologic mapping of complex stratigraphy; sustainability through storm water infiltration; developing conceptual ground water flow models; surface water – ground water studies; and ground water monitoring programs. She is a regular contributor at technical conferences and has been an invited speaker on infiltration components for "green" storm water management seminars. She received her bachelor's degree at Pacific Lutheran Univ. in Geosciences and is a licensed Geologist and Hydrogeologist in Washington. Jenny enjoys spending time with her husband and kids going car-camping, climbing, playing/watching soccer and working on growing vegetables the kids will eat.

**Stephen D. Thomas** – Stephen is a hydrogeologist in the Seattle office of Shannon & Wilson, Inc., where he manages the firm's groundwater group. He has 22 years experience as a consultant in the areas of geologic and water resources. He manages and performs technical aspects of hydrogeological investigations for groundwater resources development, wellhead protection and groundwater management, groundwater contamination and waste disposal, dewatering, mining and environmental projects. A native of the United Kingdom, Stephen moved to Seattle in 2001, having previously lived in Los Angeles since 1992. He holds a BSc in Geology from the Univ. of Cardiff (Wales) and a MSc in Hydrogeology from the Univ. of Birmingham (England), and is a licensed hydrogeologist in the states of Washington and California. Stephen enjoys many outdoors activities, particularly rugby football, cycling and open-water swimming, and annoying his neighbors with his guitar playing.



## REVIEW OF OCTOBER MEETING: UPDATING THE WASHINGTON IRRIGATION GUIDE

Presented by Melissa Downes, Ecology and Dan Haller, Aspect Consulting  
Review by J. Scott Kindred, WA-AWRA Section Board Member

Melissa Downes with the Washington State Department of Ecology and Dan Haller with Aspect Consulting LLC gave a presentation on updates to the Washington Irrigation Guide (WIG) in Ellensburg, Washington. This is likely the first AWRA-WA dinner meeting in Ellensburg (at least in recent history) and reflects the chapter's continued success in expanding our events and membership outside the Seattle area.

The WIG provides crop irrigation requirements for a range of crops and a range of locations across the state and is used to conduct consumptive use evaluations and can affect estimates of annual consumptive quantity, impairment, and trust water. The presentation began with a history of crop irrigation requirements in the state of Washington. The first attempt at these requirements (Circular 512) provided crop irrigation requirements for 28 locations and 18 different crops. This was followed up by Washington Irrigation Requirements, Estimates and Methodology (EB 1513), which was published in 1982 and provided crop irrigation requirements for 40 locations and 39 crops. The WIG was published a few years in 1985 and updated in 1997 and is the document most used today. It includes crop irrigation requirements for 90 locations and 40 different crops and is based on 29 years of NOAA weather data.

The need to update the WIG is based on the following factors: 1) There is another 20+ years of climate data and better screening of the data, 2) The availability of standardized methods for estimating evapotranspiration (the ASCE standardized Penman-Monteith method is used), 3) New crops and updated crop coefficients, and 4) a need for better geographic delineation. The updated WIG is based on much better weather information from a larger number of locations. In addition, weather station data

was carefully reviewed to eliminate anomalies, interpolate missing data, and eliminate weather stations that were affected by heat sources or wind and rain shadowing.

Crop irrigation requirements based on the new WIG tend to be 0 to 20% lower than the old WIG, although there are examples of the new WIG providing higher estimates. For now, while the new WIG is being finalized, the old WIG remains in use. However, once it is finalized, it will be the governing method for estimating consumptive use for crops unless there is a compelling scientific basis to use something else.



With over 30 attendees from all corners of the state, this event was considered a success and we hope to make dinner meetings in Ellensburg an annual event. The Starlight Lounge worked well for this event, and next time we plan to provide more food and spread it around the room so it's easier to access.

## BECOME A CORPORATE DINNER MEETING STUDENT SPONSOR

By Scott Kindred, WA-AWRA Section Past President

AWRA-WA is offering a unique opportunity to support students, by offering firms the chance to sponsor students to attend our monthly evening dinner meetings free of cost.

The AWRA-WA Dinner Meeting Student Sponsorship shows support for the professional development of students intending to pursue water resources as a profession. In addition, your firm will be recognized at the event as an AWRA-WA Dinner Meeting Student Sponsor, earning the appreciation of our members.

Our intent is to provide opportunities for interested students to gain exposure to timely water resource issues and professional networking opportunities. Corporate AWRA-WA Dinner Meeting Student Corporate sponsorship includes the following: sponsorship of a single student is \$30 and firms can sponsor an unlimited number of interested students. Our goal is to sponsor every interested student. Students will be selected on a first come first serve basis. Corporate sponsors will have public acknowledgment of sponsorship during the meeting.

# NEED DATA? SENTRY INTERNET HAS THE SKINNY ON WASHINGTON WATER SYSTEMS

By Chris Cooper and Kitty Wiseman, Source Water Protection Program, Office of Drinking Water, Washington State Department of Health

Sentry is an online database where anyone can get information about public water systems in Washington State. The Department of Health Office of Drinking Water offers this tool so the public can get the information needed to make wise decisions about drinking water. It's a great way to learn about all the work that goes into providing drinking water to consumers in a safe reliable manner.

Users can get specific information about one water system or general data about groups of water systems. For example, you can search by location, water system type, source type, or population to see all the drinking water systems that meet those criteria.

Users must agree not to use the information for commercial purposes. Visit Sentry Internet at:

<http://www.doh.wa.gov/DataandStatisticalReports/EnvironmentalHealth/DrinkingWaterSystemData/SentryInternet.aspx>.

## ALWAYS CURRENT

Data from the Office of Drinking Water's internal database constantly refreshes Sentry Internet. Every week, the database stores water quality sample results submitted by laboratories, water system information updated by operators, operator certification requirements, and water system operational requirements to determine a water system's compliance with federal and state drinking water regulations. Staff check this information continually to ensure it's accurate.

## SYSTEM-SPECIFIC INFORMATION

To get information about a specific water system, you will need the drinking water system name or ID number. You can get this information from a water bill, homeowner's association, or the water system. If you don't have the number, try using criteria such as city name

Sentry Internet displays water information on the following screens:

- **Compliance Actions:** Compliance actions against the water system.
- **Operating Permits:** Status of the water system's operating permit.
- **Operators:** Information about the designated water system operator.
- **Reports:** Water Facilities Inventory and Pre-Adequacy reports.
- **Water Use Efficiency:** Annual Water Use Efficiency reports.
- **General Information:** Water system type, contact information, location, population, connections, capacity, and so on.
- **Source Information:** Source type (well, spring, surface water), well depth, intertie information, usage, well tag number, treatment information, and so on.
- **Samples:** History of samples taken and results.
- **Exceedences:** Samples that exceeded state water quality standards

If you have questions or need help with Sentry Internet, please contact Chris Cooper at the Office of Drinking Water by phone (360) 236-3115 or email [Chris.Cooper@doh.wa.gov](mailto:Chris.Cooper@doh.wa.gov).

Active Number of Washington State Group A and Group B Water Systems		
Public Water Systems by Type:	Number	Total
Community	2,229	
Nontransient noncommunity (NTNC)	323	
Transient noncommunity (TNC)	1,548	
Total Group A Water Systems		4,100
Total Group B Water Systems		13,255
Total Group A & Group B Water Systems		17,355

## MANY DIFFERENT USES AND BENEFITS FROM SENTRY INTERNET

**Consumers** can learn about the water system that supplies drinking water to them. They can also check the system's water testing results to see what's in their drinking water. Students may use water quality and chemical data in research studies.

**Consultants** hired to help water systems can download the most recent Water Facility Inventory for a water system, or review water quality data to produce the annual Consumer Confidence Report.

**Lending institutions and realtors** seek information about a water system's capacity to provide water for new hookups, water quality data, and whether the Department of Health approved the system.

**Local Health Jurisdictions** review recent county information in sanitary surveys and water facility inventories. They also can get updated contact information for water systems.

**Electric, sewer, and cable utilities** use contact information to notify water system owners or operators before they start constructing or excavating in the area.

**Water system owners and operators** can review and update their systems' most recent Water Facility Inventory, use data to produce their annual Consumer Confidence Report, and verify that their water quality data is accurate and current.

## CALL FOR STUDENT MENTORS AND INFORMATION FOR STUDENTS

### STUDENT MENTORING

AWRA, Washington section is always looking for professionals and others to mentor graduate students in the AWRA student chapter.

Students are busy too, so the commitment may consist of nothing more than a coffee or lunch once a month or once a quarter. Providing a little perspective on studies and career choices can go a long way for students. If you are interested in mentoring, email Megan Kogut at [mbkogut@gmail.com](mailto:mbkogut@gmail.com) with questions or a short biography for posting on the AWRA website.

### STUDENT DINNER SPONSORSHIP

AWRA-WA is pleased to present students the opportunity to attend our dinner meetings free of charge. Our meetings feature an informative presentation by a guest expert on a timely water resource issue. The events are well-attended and offer lively conversation and professional networking opportunities.

Student sponsorship will be offered on a first come first serve basis and the number sponsored seats will depend on the number of corporate sponsorships obtained for each dinner meeting.

## ANNOUNCEMENTS

### AWRA Events

The Washington Section of AWRA holds regular dinner meetings, including a social hour, dinner, and a speaker.

**State Events** – <http://waawra.org/>

**Regular Dinner Meetings** – see [http://waawra.org](http://waawra.org/) for up-to-date schedule

**National Events** – [www.awra.org](http://www.awra.org)

### Other Water Resources Events

USGS Tacoma Water Science Seminars:

<http://wa.water.usgs.gov/seminar/seminar.html>

### Links To Other Local Water Resources Related Associations

American Fisheries Society-Washington British Columbia Chapter:

<http://wabc-afs.org>

Center for Environmental Law and Policy: <http://www.celp.org/>

Northwest Environmental Business Council: <http://nebc.org>

Pacific Rivers Council <http://pacificrivers.org/>

Puget Sound Partnership <http://www.psp.wa.gov>

River Restoration Northwest <http://www.rrnw.org/>

Society of Inland Northwest Environmental Scientists

<http://www.spokanesines.org/>

Seattle ASCE Water Resources:

[http://seattleasce.org/committees/water\\_resources.html](http://seattleasce.org/committees/water_resources.html)

Washington Water Research Center: [www.swwrc.wsu.edu/conferences.asp](http://www.swwrc.wsu.edu/conferences.asp)

Washington Hydrologic Society <http://wahydro.org>

Washington Water Trust: <http://washingtonwatertrust.org>

The Water Report: <http://thewaterreport.com/>

### 2013 AWRA-WA BOARD MEMBERS

President: **Dustin Atchison**  
(425) 453-0730  
[dustin.atchison@ch2m.com](mailto:dustin.atchison@ch2m.com)

Vice-President: **Megan Kogut**  
(206) 650-2418  
[mbkogut@gmail.com](mailto:mbkogut@gmail.com)

Treasurer: **Stephen Thomas**  
(206) 632-8020  
[SDT@shanwil.com](mailto:SDT@shanwil.com)

Secretary: **Tyler Jantzen**  
(206) 470-2245  
[Tyler.Jantzen@CH2M.com](mailto:Tyler.Jantzen@CH2M.com)

Editor: **Jennifer Saltonstall**  
(425) 827-7701  
[jsaltonstall@aesgeo.com](mailto:jsaltonstall@aesgeo.com)

Past President: **Scott Kindred**  
(206) 838-6589  
[skindred@aspectconsulting.com](mailto:skindred@aspectconsulting.com)

Director: **Tyson Carlson**  
(206) 838-5832  
[tyson.carlson@aspectconsulting.com](mailto:tyson.carlson@aspectconsulting.com)

Director: **Steven Hughes**  
(206) 826-4474  
[Steve.Hughes@hartcrowser.com](mailto:Steve.Hughes@hartcrowser.com)

Director: **Felix Kristanovich**  
(206) 336-1681  
[fkristanovich@environcorp.com](mailto:fkristanovich@environcorp.com)

Director: **Allison MacEwan**  
206-695-6691  
[aam@shanwil.com](mailto:aam@shanwil.com)

Director: **Jason McCormick**  
(509) 607-3513  
[jason@washingtonwatertrust.org](mailto:jason@washingtonwatertrust.org)

Director: **Stan Miller**  
(509) 455-9988  
[samillerh2o@comcast.net](mailto:samillerh2o@comcast.net)

Director: **Tom Ring**  
(509) 865-4946  
[ringt@yakama.com](mailto:ringt@yakama.com)

Director: **Matt Stumbaugh**  
[matt.stumbaugh@gmail.com](mailto:matt.stumbaugh@gmail.com)

Director: **Bailey Theriault**  
(425) 883-0777  
[Bailey\\_Theriault@golder.com](mailto:Bailey_Theriault@golder.com)

Director: **Brian Walsh**  
(503) 475-7248  
[bwalsh902@yahoo.com](mailto:bwalsh902@yahoo.com)

UW Student Rep: **Christina Curtis**  
[christinacurt@gmail.com](mailto:christinacurt@gmail.com)

UW Faculty Advisor:  
**Bob Edmonds**  
[bobe@u.washington.edu](mailto:bobe@u.washington.edu)

The Board of AWRA-WA seeks to provide through this newsletter a full range of views on water resource issues. Opinions expressed in this newsletter do not necessarily reflect the views of individual Board members, the section membership, or their employers.



American Water Resources Association, Washington Section  
P.O. Box 2102  
Seattle, WA 98111-2102

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*Special Thanks to Associated Earth Sciences, Inc. for word processing support on this newsletter.*

## 2013 MEMBERSHIP / CHANGE OF ADDRESS FORM

( ⌂ please circle, as appropriate ↗ )

Annual membership in the state chapter costs \$35.

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 a board member.

2013 Membership Dues: \$35.00.

**Preferred Method: Pay via Paypal on our website: <http://waawra.org/>.**

**For Checks:** please make payable to **AWRA Washington Section.**

Mail to: American Water Resources Assoc. WA. Section  
P.O. Box 2102  
Seattle, WA 98111-2102

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.