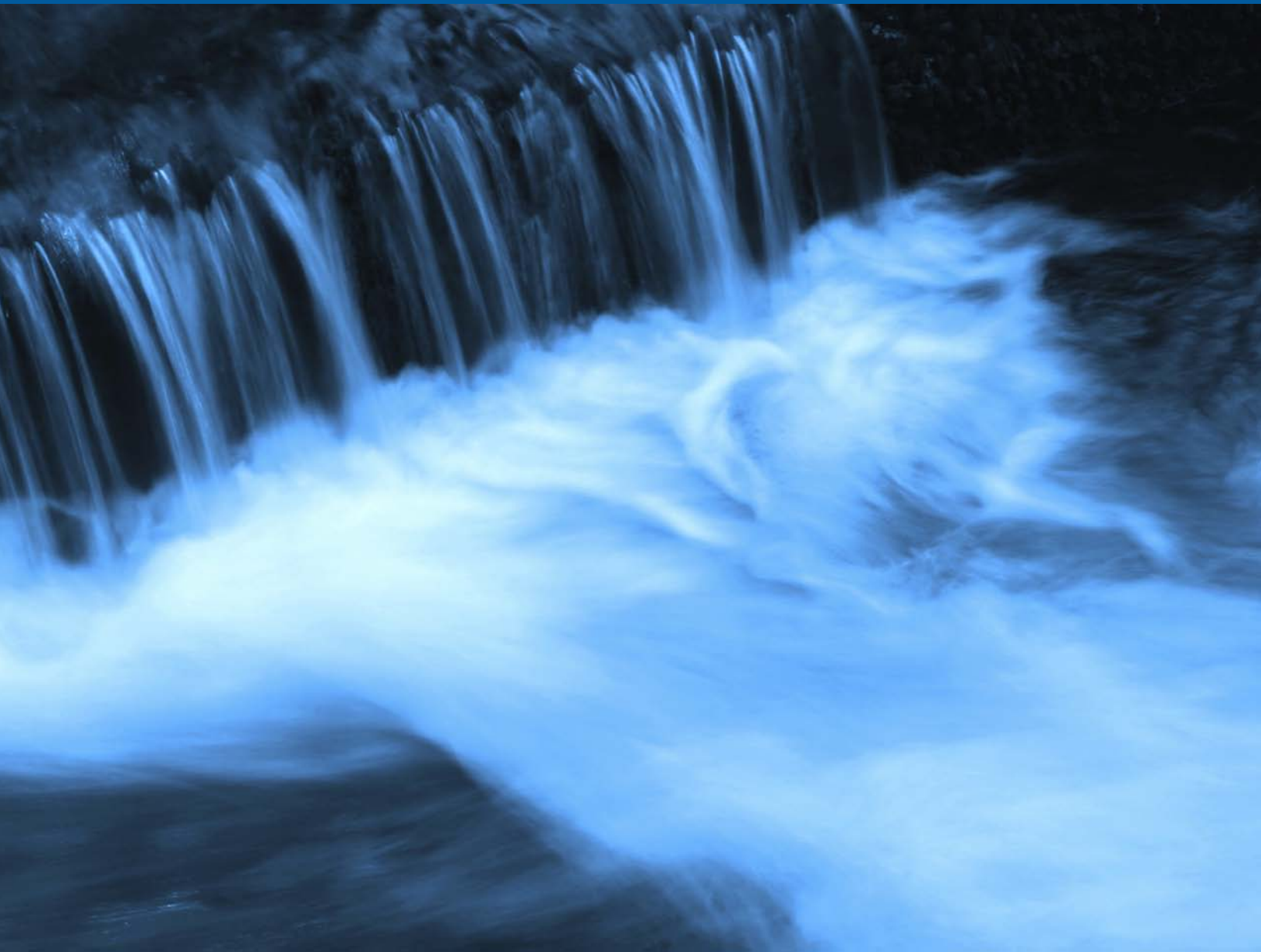


Runoff

The newsletter of the BC Branch of the Canadian Water Resources Association

June 2007 Edition



CWRA ACRH

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Water
Resources
Association

Association
Canadienne
des Ressources
Hydriques

CWRA BC Branch 2006/2007

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- Vice-President - Peter Morgan
- Vice-President - Ed Quilty
- Past President - Paul Whitfield
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Words from the Editor

By Ahmed Mtiraoui

Runoff is a publication of the BC Branch of the Canadian Water Resources Association. It is a scientific and educational newsletter established to encourage and foster interdisciplinary communication among persons of diverse backgrounds working on any aspect of water resources disciplines. Announcements or articles are welcomed for the February, June and October editions of the newsletter. Individuals interested in water resources are encouraged to participate in the activities of the CWRA BC Branch newsletter.

The CWRA British Columbia Branch plays a vital role in Canadian water resources management. In addition to holding conferences, the BC CWRA has distinguished itself by making its view known, in a variety of ways, to governmental agencies responsible for water. A water issues workshop was held by the BC CWRA to solicit views on future governmental water management strategies from diverse participants representing government, industry, academia and non-governmental

organizations. This approach was also followed on a national level for the CWRA report recommending future directions for water monitoring in Canada. I would encourage each of you to contribute to our activities as we get much more in return that we invest.

As a reminder, sponsorship of individual newsletters has been replaced by advertising opportunities ranging from professional card sized ads to three-paged project profiles.

The Branch Communication Sub-Committee is responsible for the publication of Runoff and is always looking for input from all members. If you are interested in helping out on the communication front or if you have any suggestions for the newsletter, please contact Ahmed Mtiraoui at mtiraoui@interchange.ubc.ca



An Important Message About Membership

If you have not registered yet for 2006-2007, but would like to ensure that you continue to receive this newsletter and other benefits of membership, please complete and mail the membership form.

If you would like to have your name removed from our mailing list or a correction made to your mailing label, please respond to CWRA's regular e-mail announcements (with a short note detailing your request).

BC Branch President's Report

By John van der Eerden, P. Eng.

These are exciting times for water resource professionals. While this report is being prepared, the River Forecast Centre of the Ministry of Environment is reporting that snow packs in the Upper Fraser, Nechako, Peace and Skeena Rivers remain at record or near record levels. The Mid Fraser has well above normal snow packs while the North and South Thompson snow packs are both above normal.

Combined with the warm weather we've been experiencing through the end of May and into June, two of the main ingredients for a major freshet event are in place. What remains to be seen is how the weather behaves during the snowmelt period. If we continue to experience prolonged high temperatures and/or significant precipitation, this third ingredient would undoubtedly result in a major event. Regardless, low-level flooding has already occurred in some areas such as the Fraser River at Prince George, Willow River, Baker Creek, and the Bulkley River.

Many of our members are actively engaged in Freshet Preparedness activities including flood forecasting, hydrologic and hydraulic modeling, dyke system upgrades, and emergency response planning. Much of the current dyke upgrading and repairs is the result of Pro-

vincial and Federal funding through the Urgent Flood Mitigation Works Program. This program allocated \$33M to dyke upgrades in the weeks leading up to the 2007 freshet. The water resources community, including local government, private consultants, construction contractors, and suppliers has responded admirably to the task of upgrading the flood defenses. In a period of just over two months, these projects were conceptualized, surveyed, designed and constructed. Not only were the design professionals tasked with understanding the dyke systems and designing appropriate upgrades, numerous other considerations such as dealing with environmental impacts, utility issues, private property encroachments, material selection and sources had to be considered and coordinated. As well, all of these issues had to be addressed while ensuring that the projects adhered to available funding constraints. This is clearly a dynamic situation.

Programs of this nature lead to long working hours for those involved and take a toll on an individual's personal life. These individuals should be congratulated for their efforts. As well, programs of this nature do not do justice to the magnitude and importance of our dyking systems. The cost to upgrade dykes is a small fraction of the cost of the



infrastructure that they protect, let alone the loss of economic activity and productivity that would occur should a major dyke breach occur. For this reason, the Canadian Water Resources Association will promote long term stable funding to continue upgrades to the flood defenses within British Columbia. We should not be faced with emergency dyke upgrades when major freshets are anticipated. Rather, we should have a high level of confidence in our dyking system such that preparedness in the weeks leading up to a major freshet event is focused on dyke inspections and emergency response should a major breach occur.

It is with this backdrop that we are hosting a Freshet Event Social on June 12, 2007. During this social evening we will hear the latest information on the flood threat presented by the Inspector of Dikes. In addition, we will hold our annual AGM and elect a new Board of Directors. Since this social event is hosted at the Inn at New Westminster Quay, in a room overlooking the Fraser River, we encourage you to attend and share your experiences with colleagues while observing the Fraser River during a period of elevated water levels. ♦

Workshop Announcement

Mountain Pine Beetle and Watershed Hydrology Workshop: Preliminary Results of Research from BC and Alberta

*Date: July 10, 2007**

Location: Ramada Inn, Kelowna, BC

FORREX, the BC Ministry of Forests and Range and the Canadian Water Resources Association - BC Branch are collaborating to organize a 1-day workshop on the hydrologic effects of the Mountain Pine Beetle. The objective of the workshop is to present preliminary research results from ongoing research projects in BC, Alberta and elsewhere.

Presentation and discussion topics will cover the latest measurements of changes in snow and rain interception, soil moisture, and stand-scale water yield, as well as the results of a range of modelling projects to predict changes in streamflow from small to large watersheds. Progress on the development of field and mapping tools to assist in forest retention and salvage planning will also be covered.

The workshop registration has already reached the facility capacity, and no more registrations will be accepted.

For more information, please contact Todd Redding, FORREX (todd.redding@forrex.org)

* Please note that the following day there will be a workshop providing research updates from the Upper Penticton Creek Watershed Experiment. This workshop will be held at the same venue and will not have a registration fee.

CWRA-BC Annual General Meeting Tuesday, June 12, 2007

The CWRA-BC Annual General Meeting will be held on Tuesday, June 12 at the Inn at Westminster Quay in the Hyack Room South.

The proposed agenda for the evening will be as follows:

- Reception will begin at 6:00 pm.
- Annual General Meeting 7:00 pm.
- Presentation (Neil Peters - Inspector of dikes) with regard to

Fraser River freshet at 7:30 pm.
• Doors close at 10:00 pm.

Appetizers will be served and a cash bar will be available.

There is no cost for CWRA members. A \$20 charge will be applied to non-members wishing to attend.

Please RSVP to Kristi McKay at kmckay@tol.bc.ca or (604) 532-7338 by June 8, 2007.

All Committees are entitled to assign a Chair and Vice Chair to the

Board of Directors. Until our Code of Conduct document is finalized, the selection process for these positions is up to the discretion of the individual committee.

• Active committees are: Project WET, CSHS, SYP, SAAM.

• Inactive Committees are: Biology, Coastal, Floodplain Management

• The chair and vice-chair of inactive committees can be added to the Board later in the year as they become active.

Please forward the names of the committee chair and vice chair to Paul Whitfield.

For directions on how to get to the Inn at Westminster Quay please refer to the attached link <http://www.innatwestminsterquay.com/location.html>.

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BC Branch Sub-Committees and Working Groups

Over the past two years we have been taking actions to provide more opportunities for active participation of all our members. We see active participation in all our seminars and conferences, frequently with great enthusiasm. However, there are often gaps in time where our members do not feel actively engaged. Modeled on the national structure that sponsors CSHS and CANCID, the BC CWRA has recently developed a series of sub-committees that focus on areas of interest and direct relevance to our members. These subcommittees are intended to increase the opportunities for all CWRA members to become involved and actively participate in an area of interest to you. As well, we welcome suggestions on the formation of additional subcommittees. We encourage each of you to become involved in a group that interests you.

The guidelines we are using is that a new group can be formed provided it has at least 10 CWRA members, has Terms of Reference that include meeting on a “regular” basis, and contributes to the existing

programs of the Branch through offering workshops, seminars or field trips open to all. They may also be involved in organizing conference sessions. We are looking for interest to form three more working groups: Biology, Coastal Waters and Flood-

plain management. If interested in Coastal Waters, please contact Edwin Wang at 604- 875-6391. For the others, please contact John van der Eerden at 604-293-1411.



Current subcommittees include the following:

Automated Aquatic Monitoring	Ed Quilty <ed@AquaticInformation.com>
Communications	Peter McCann <Peter.McCann@bchydro.bc.ca>
Hydrology	Graham Lang <graham.lang@bchydro.com>
Geomorphology	Channa Pelpola <channa.pelpola@jacqueswhitford.com>
Project Wet (Water Education)	Paul Whitfield <paul.whitfield@ec.gc.ca>
Student Chapter (BC Chapter of the CSHS)	Cindy Starzyk <cstarzyk@eos.ubc.ca>
Awards	Paul Whitfield <paul.whitfield@ec.gc.ca>



Geomorphology Sub-Committee

By Channa Pelpola

channa.pelpola@jacqueswhitford.com



MISSION STATEMENT

Our mission is to advance the science and standards of practice of geomorphology through an interdisciplinary approach.

Our group will:

- promote geomorphology as a discipline and encourage the use of geomorphology in scientific and engineering projects;
- facilitate discussion and exchange of ideas between geomorphology professionals in the CWRA including scientists, engineers, and academia;
- provide a forum within the CWRA to present geomorphology applications, solutions, and lessons learned; and,
- create opportunities for profes-

sional development and technical information sharing through conferences and workshops.

The BC Branch of the CWRA is organizing a two day workshop late summer. The workshop will be held at Carnation Creek on the west coast of Vancouver Island on Monday Sept 24th – Wednesday Sept 26th, 2007. The theme of the two day workshop includes geomorphology and biology based presentations of historic and on-going research.

Attendees will arrive Monday evening to Bamfield Marine Station, and the workshop will commence Tuesday, shuttling groups of up to 15 people through stations with guest speakers. Wednesday will include a tour of the Carmanagh watershed to compare and contrast the differ-

ence between a logged and natural watershed. Speakers on both days will include seasoned professional geoscientists, biologists, and graduate students. The workshop is intended for professionals in geosciences, biology, water resources, forestry, and those interested in learning about one of the most important research sites on the west coast.

Registration information is forthcoming and will be organized through FORREX. Those interested in volunteering for the workshop, submitting speaker requests, or attending are asked to contact Channa Pelpola at cpelpola@jacqueswhitford.com or 604.412.2971 for more information. ♦

Carnation Creek Workshop Committee

Position

Workshop Chair - Coordinator
Financial Director
Facilities Director
Audio Visual Coordinator
Transportation Logistics
Volunteer Organizer
Speaker Coordinator
Registration Coordinator
Advertising/Publicity
Workshop Materials Coordinator

Lead

Rowland Atkins
Rowland Atkins
Craig Nistor

Channa Pelpola

Mike Miles
Rick Guthrie

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Automated Aquatic Monitoring Sub-Committee (SAAM)

By Ed Quilty

ed@aquaticinformatics.com



The SAAM committee has continued to move through 2007 with good momentum. At our last SAAM meeting on April 25, we had a lively and important dialogue centered on one of our core mission areas: comparing and resolving regional, national, and international standards for data collection. The discussion focused the recently released B.C. Environment standards and the most current U.S. Geological Survey standards:

- Resources Information Standards Committee. 2006. Continuous Water-Quality Sampling Programs: Operating Procedures. Prepared by Watershed and Aquifer Science, Science and Information Branch, BC Ministry of Environment. www.gov.bc.ca/risc/pubs/aquatic/waterqual/assets/continuous_waterqual.pdf
- Wagner, R.J., Boulger, R.W., Jr., Oblinger, C.J., and Smith, B.A. 2006. Guidelines and standard procedures for continuous water-quality monitoring –Station operation, record computation, and data reporting: U.S. Geological Survey Techniques and Methods 1-D3, p. + 8 attachments. [\[pubs.water.usgs.gov/tm1d3\]\(http://pubs.water.usgs.gov/tm1d3\)](http://</div><div data-bbox=)

Though these standards are similar, some subtle but important differences were identified – and it was these differences that drove an extended dialogue that has continued since the April meeting.

During the first week of June, several SAAM members traveled to the Newfoundland to participate in a workshop hosted by Newfoundland and Labrador Environment entitle “Real-Time Water Quality Monitoring Workshop, 2007”. The workshop was held at the Capital Hotel in St. John’s and covered a diverse range of topics including:

- regional perspectives from the Provincial agencies and private industry in Newfoundland, Nova Scotia, Yukon, and British Columbia;
- national perspectives from Environment Canada;
- new technologies in instrumentation;
- data management, analysis and reporting; and
- QA/QC (the omnipresent discussion!).

QA/QC discussions continued on the BC and USGS standards mentioned earlier, and also on protocols followed in the Maritimes. There was also a good discussion on how Canadian expertise in this field is being leveraged on international projects, such as the NATO/ESO Nile project in Egypt lead by Newfoundland Environment folks. Workshop presentations can be found at: http://www.env.gov.nl.ca/Env/env/waterres/WQMA/RT-WQM_Workshop_2007/

Looking ahead at summer 2007, SAAM will focus its attention on issues relating to data correction and analysis. SAAM will also increase efforts to establish a more national presence, working more closely with other regional aquatic monitoring groups such as those in the Maritimes. The next SAAM meeting will be in July.

About SAAM:

SAAM committee members include a cross section from the water industry, including hydrologists, biologists, water resource engineers, government and academic researchers, sensor manufacturers, and software developers. SAAM’s goals are:

- to develop an open discussion forum for sharing of ideas and information on emerging technologies in the field of automated water monitoring;
- to disseminate research and practical case studies in the field of automated water monitoring;
- to provide leadership in areas relating to data management

and assessment issues, including comparing and resolving regional, national, and international standards for data collection, management, and analysis;

- to promote and educate on the field of automated water monitoring.

With these goals in mind, SAAM develops and hosts workshops and

training seminars and also contributes interesting case studies, technology advances, and industry news to issues of Runoff.

For more information contact Ed Quilty at 604-873-2782 or ed@aquaticinformatics.com.



Upcoming Events

June 25-28, 2007

Science and Technology: Implications for Water Management. 10th Annual CWRA National Conference
<http://www.cwra.org/>
Saskatoon

July 10, 2007

Mountain Pine Beetle and Watershed Hydrology Workshop
http://www.selkirk-management.com/mpb_and_water_hydrology.html
Ramada Inn, Kelowna

July 11, 2007

The Upper Penticton Creek Watershed Experiment: Results of a paired watershed study into the effects of forest management on water resources
<http://www.forrex.org/news/event.asp?pkey=210>
Kelowna

September 18, 2007

Source Water Protection: Making It Work In B.C.
http://www.apeg.bc.ca/prodev/events/sourcewater_sept.html
Richmond

Sept 24-26, 2007

Carnation Creek Workshop
West Coast of Vancouver Island

October 4-5, 2007

Transnational Boundary Issues in Water Resources
Museum of History and Industry, Seattle

December 10-14, 2007

2007 AGU Fall Meeting
<http://www.agu.org/meetings>
San Francisco

April 16-18, 2008

Water Technologies Symposium 2008** (**WaterTech** 2008)
<http://www.esaa-events.com/watertech/>
Fairmont Chateau Lake Louise



Thinking Beyond the Pipes and Pumps – New report offers solutions to urban water scarcity in Canada

Oliver M Brandes, Tony Maas and Ellen Reynolds

Water scarcity is the new reality for a growing number of Canadian communities. Just ask anyone from Tofino on BC's "wet coast" where the town was on the verge of closing its doors last September due to a water shortage. Or ask the folks in the Prairies who wonder where their water will come from when the Rocky Mountain glaciers are gone. Even communities in the Great Lakes Basin are facing water limits—with some like Guelph and the Region of Waterloo drawing up plans to plumb big pipes to tap the lakes.

Many regions across the country anticipate hotter and dryer summers as climate change impacts escalate. Communities in the Okanagan Valley, for example, depend heavily on the snow pack and spring runoff to fill their reservoirs. As the climate warms, water supplies will likely be less abundant and less reliable; at the same time, water demands for landscaping, agricultural irrigation and industrial processes will increase. Coupled with population growth and rapid urbanization, climate change has put water in competition with oil as the strategic resource of the century.

Thinking Beyond Pipes and Pumps

A new report from Water Sus-

tainability Project at the University of Victoria's POLIS Project on Ecological Governance offers some possible solutions to urban water scarcity in Canadian communities.

Thinking Beyond Pipes and Pumps: Top 10 Ways Communities Can Save Water and Money profiles innovative alternatives to the current "dam it, pump it and pipe it" approach to water management.

It identifies a new kind of infrastructure—one that goes beyond the existing physical infrastructure of water pipes, pumps and reservoirs to include innovative physical components, such as reuse and recycling and rainwater harvesting, and policies and programs designed specifically for water conservation. The emphasis is on decentralized technologies and on the "social infrastructure" of strategic long-term planning and community-based engagement.

This practical guide is intended to inspire and facilitate action. Based on three years of research by the Water Sustainability team at the POLIS Project, it was created for elected officials, community leaders and water managers. It is alive with examples of successful water conservation initiatives such as the South-east Kelowna Irrigation District's agricultural metering pilot project,

which reduced annual water allotments by 27 per cent and Dockside Green, a new community in Victoria being designed for conservation. By illustrating the potential, *Thinking Beyond* urges communities to take water security to the next step—to look "beyond the pipes and pumps" and develop new ways of managing water that offer opportunities for big savings, of both water and money.

The booklet begins with The POLIS Top 10—a list of immediate opportunities for communities to take action. The list includes standard water saving measures such as metering, volume-based pricing, education and fixture rebates, along with more cutting-edge strategies such as rainwater harvesting, reuse and recycling, community-based social marketing and urban design for water conservation.

The full potential of the Top 10 lies in strategic integration of the many complementary and synergistic options. For example, as water prices increase and volume-based pricing encourages conservation, efficient fixtures, reuse technologies and rainwater harvesting become significantly more cost-effective and desirable. So, while specifics may vary from place to place, the general concepts of each strategy can be integrated to create an effective water



The POLIS Top 10

10. Fix the leaks & reduce waste by detecting and repairing leaks through integrated water audit and maintenance programs.

9. Stop flushing the future by installing efficient toilets, faucets and showerheads and water-saving dishwashers and washing machines that provide the same water services using less water (and energy).

8. Make managing demand part of daily business by implementing ongoing water conservation programs and hiring permanent staff with technical skills and understanding in fields such as economics, psychology and education.

7. Link conservation to development by making water infrastructure funding and development permits contingent on demand management planning and action.

6. Price it right by implementing “full cost” prices with volume-based pricing structures that ensure equitable access and that reflect the importance and value of water.

5. Plan for sustainability by initiating strategic water

planning that looks 10 to 50 years into a community's future, involves all stakeholders, and places ecological health at its core.

4. Look to the sky for rainwater as the source by promoting decentralized infrastructure to harvest rainfall and by creating outdoor (Xeriscaped) spaces that rely primarily on precipitation for irrigation.

3. Reclaim, reuse and recycle water to better match water quality to end uses.

2. Design communities for conservation with water sensitive urban design—limiting sprawling lawns, promoting “green” infrastructure, and requiring all land use decisions to be assessed for watershed impacts.

1. Educate, educate, educate by implementing outreach and education programs that go beyond information dissemination to engage and inspire citizens to permanently change behaviour.

See *Thinking Beyond Pipes and Pumps* at www.waterdsm.org for more details.

conservation program for just about any community.

Comprehensive and long-term water conservation programs are the new water infrastructure; they are the best option for meeting growing water demands. These programs, built around innovative efficiency-based technologies, pricing that promotes conservation, interactive education and engaged citizens, are the foundation of 21st century urban water management.

This does not mean doing without. Instead it is about taking a long-term approach with a focus on holistic water resource management and a water ethic that permeates all of what we do—from decisions to

water our lawns (or have lawns at all) to the local councillor deciding how our community will grow in the face of a very real, and limited, water budget.

Not only is this approach better for the environment, it is cheaper in the long run—and in this way becomes the only sustainable option.

ABOUT POLIS and WSP

Oliver M Brandes, Tony Maas and Ellen Reynolds work at the Water Sustainability Project at the POLIS Project on Ecological Governance at the University of Victoria and have authored the report *Thinking Beyond Pipes and Pumps: Top 10 Ways Communities Can*

Save Water and Money. Available at: www.waterdsm.org. Contact POLIS at polis@uvic.ca for copies of the booklet.

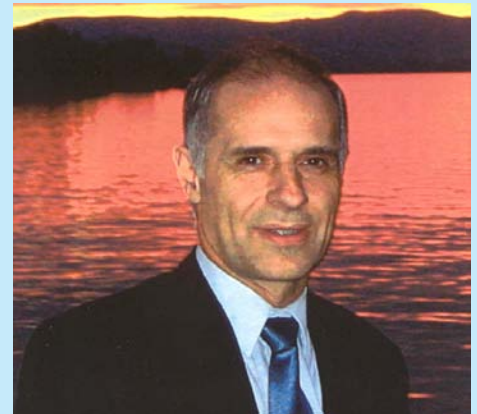
The POLIS Project on Ecological Governance is a research-based organization at the University of Victoria in BC. Among the many research centres investigating and promoting sustainability worldwide, POLIS represents a unique blend of multidisciplinary academic research and community action. <www.polis-project.org> The Water Sustainability Project was created in January 2003. <www.waterdsm.org>.

CWRA Memorial Scholarship

Yaroslav Shumuk was a highly skilled water resources engineer specializing in hydrology, hydraulic modelling, river engineering and river morphology. He worked on major water resources project with all levels of government, the mining industry, and the forest industry. Over his career he was involved in projects for all the major rivers in British Columbia including the Fraser, Columbia, Thompson, Peace, Stikine and Skeena. Yaroslav passed away on 7th January, 2006 after a year long battle with brain cancer. He is remembered by his friends, colleagues, his wife, Ann, and children, Larissa, Keira and Daniel.

As a tribute to his dedication to water resources in British Co-

lumbia and to continue his legacy of mentorship to young professionals, donations are being made to the CWRA Memorial Scholarship in his name. This scholarship is managed by the CWRA and is awarded annually to a student studying water resources at a Canadian University.



If you wish to contribute to the scholarship donation, please send a cheque made payable to the Canadian Water Resources Association.

Canadian Water Resources Association
280 Albert Street, Suite 900
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Please note on the cheque "CWRA Memorial Scholarship – Yaroslav Shumuk". CWRA will issue tax receipts for donations greater than \$10.



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CWRA BC Branch Newsletter – Runoff Advertising Opportunities

Runoff is our digital newsletter with circulation to over 1000 Branch members, affiliates and friends via email. It is also posted on the CWRA website for public viewing. The branch plans to publish Runoff three times yearly in February, June and October.

Runoff offers two advertising opportunities:

- General Advertisement: Quarter page and business card size spaces

are available.

- Project Profile: An article highlighting a project involving your company or organization. Your corporate logo can be clearly visible on this page and the profile will be clearly acknowledged as a paid advertisement.

Total advertisement space allocated within Runoff is limited to 2 letter-sized pages plus one project profile per issue. The space is allocated on

a first come first serve basis. The CWRA reserves the right to refuse any advertisement or project profile that we believe is inappropriate for the newsletter.

All submission and enquiries should be directed to the Runoff Editor listed below: Enquiries and advertisement submissions: Ahmed Mtiraoui. at mtiraoui@interchange.ubc.ca.

Advertising Rates for 2007/2008

	Size	Rate*
Project Profile	3 pages (including all graphics)	\$ 400
1/4 page	3 3/8" w x 4 7/8" h	\$ 150
Professional card	3 1/2" w x 2" h	\$ 75

Your advertisement must be submitted electronically by the deadline for each issue. Submission deadline are:

Issue Date	Submission Deadline
October	September 20th
February	January 20th
June	May 20th

Requirements for the advertisement

- Your advertisement must be provided in one of the following formats: JPEG, TIFF, or BITMAP.

* (GST extra)

Requirements for project profile

The criteria for the project profiles are:

- Topic must be of interest to CWRA members.
- The profile must be informative about water resources issues and may be technical in nature.
- The author is personally re-

sponsible for the accuracy of the article.

The profile must be submitted to the editor electronically (in both MS Word and PDF file formats) and should include a brief biography of the author(s) and contact information. Note that the biography will not be published.

The profile should be typed in Times New Roman 11 pt and single

spaced. Articles must be less than 1000 words and may include photos or other graphics. The profile including all graphics cannot exceed 3 lettersized pages. All graphics must be captioned and sources should be cited for any photographs. Runoff reserves the right to edit with respect to length, clarity and conformity with the editorial guidelines.



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CWRA BC Branch Newsletter – Runoff

Call for article submissions

Runoff is our digital newsletter with circulation to over 1000 Branch members, affiliates and friends via email. It is also posted on the CWRA website for public viewing. The branch plans to publish Runoff three times yearly in February, June and October.

We welcome the submission of water resources related articles for our feature articles. A feature article is different from a project profile in that no company name or logo should be highlighted in the feature article. The writer and his/her company are acknowledged as the author. In a project profile, both the company name and the logo may be clearly visible.

For each Runoff issue, we will select 2 to 4 articles to publish. If your article is selected, a free business card sized advertisement space for you or your company will be provided in appreciation. The articles are selected based on our expected interest to our members. If the topic is not time sensitive and we receive more than 4 suitable articles, we may (with your permission) publish the article in a later issue.

Other requirements for the feature article include the following:

- The article should reflect current issues or changes in water resources in BC.
- Topic must be of interest to our members.
- The article must be informative about water resources issues and may be technical in nature, but the article must not promote a company or a product.
- The author is personally responsible for the accuracy of the article.

Articles must be submitted to the editor electronically (in both MS

Word and PDF file formats) and should include a brief biography of the author(s) and contact information. Note that the biography will not be published. The article should be typed in Times New Roman 11 pt and single spaced. Articles must be less than 1000 words and may include photos or other graphics. The article including all graphics cannot exceed 3 letter sized pages. All graphics must be captioned and sources should be cited for any photographs. Runoff reserves the right to edit with respect to length, clarity and conformity with the editorial guidelines.



Your article must be provided to the editor electronically by the submission deadline for each issue. Submission deadlines are:

Issue Date	Submission Deadline
February	January 15th
June	May 15th
October	September 15th

All submissions and enquiries should be directed to the Runoff editors. Enquiries and advertisement Submission: Ahmed Mtiraoui at mtiraoui@interchange.ubc.ca

