
PRESIDENT'S NOTES

by Rodney Sakrison, Ph.D., President, AWRA Washington Section

Which Way to the Water Policy Frontier?

We had hoped to have several special features in this issue of the Newsletter regarding water policy issues. A roundtable discussion of new rules for water rights administration was going to be convened, and we hoped to have an article on Governor Locke's new Water Policy Initiative. These plans were just a little too far ahead of numerous practical concerns, therefore they have been set aside for this month. We will, however, continue to cover these issues, and we hope to have a high-level water policy speaker at an upcoming dinner meeting.

You may know that Ecology wrote a draft rule, in part to replace Ch. 508-12 WAC. The draft language was distributed in the fall of 1996 to the Water Right Advisory Committee (WRAC), that was formed after the failure of the water right fee bill in 1994. The purpose of the group was to assist Ecology in developing ways to better administer the Water Code (Ch. 90.03 RCW), and it is now being reformulated to assist Ecology in rule development.

My understanding of the current situation is that the Legislature is still in session with numerous bills that affect water resources management (see the related article on page 7 of this issue). The Governor's Office initiative of a Water Summit is waiting in the wings. At the request of legislative leaders it probably won't be announced until near the end of the session. Therefore, Ecology is concerned that further discussion of the rule at this time would be unwise. Assuming the Governor's Office initiative of a Water Summit happens, the draft rule will surely be put on hold, so as not to preempt any discussions or decisions they are likely to make.

It looks like we're headed to yet another water policy roundup. At this point, however, you can't tell which trail we're on or how exactly we'll get there. The dust probably won't settle until just at the end of the session. At present, there doesn't seem to be much chance of a clear agreement between the House and Senate, and with the Governor's office, on which path to take. If the prevailing mood continues, expect the Governor to announce sometime in June that the new start is needed.

Upcoming Events

Saturday, April 26, 1997

9:00—3:00 p.m.

**UW Student Chapter
Stewardship Project:
"Living Fence Planting"**
(see page 5 for details)

Wednesday, April 30, 1997

4:30 p.m.

Board Meeting

Wednesday, May 7, 1997

5:30 — 8:30 p.m.

May Dinner Meeting
(see page 4 for details)



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This newsletter is a publication of the Washington Section of the American Water Resources Association. It is published bi-monthly. This is a forum for members to share ideas and opinions; as such, opinions expressed in the AWRA Newsletter are those of the authors and do not necessarily represent the official position of the Washington Section of AWRA.

Announcements or articles are welcomed for May/June edition of the newsletter. The editor reserves the right to make changes for reasons of length, grammar, legality or clarity. The submittal due date is May 21, 1997. Contact Teresa Platin at (206)-453-5000, or send submittals directly via the following methods:

FAX: 206-462-5957
Internet Mail: tplatin@ch2m.com
(most document/graphic formats are acceptable)

LANDSLIDES DISCUSSED AT MARCH DINNER MEETING

by Pete Sturtevant, Harding, Lawson Associates - Infrastructure

The first AWRA Washington Section Dinner Meeting of 1997 was very well attended. Over 60 attendees packed a room at the Latitude 47 Restaurant to hear Brian Dorwart, of Shannon and Wilson, Inc., give a presentation on landslides and their causes in the Puget Sound Area. This topic was particularly timely due to the extensive series of landslides which occurred in late December and into January of this year. Among other things, those slides damaged the Magnolia Bridge, swept a freight train into Puget Sound and tragically buried a family on Bainbridge Island. A combination of several days of heavy rain and the rapid melting of more than a foot of snow in many areas resulted in an unusually large degree of ground saturation and rapid surface water runoff. This set the stage for the extensive regional landslide episode we experienced.

Brian pointed out that repeated glaciation in the Puget Sound Basin has led to a complex set of soil layers. Well-draining sandy soils overlying a clay layer can be an unstable situation, particular along steep slopes. Following periods of heavy rain, water can build up in the sand layer, reducing its strength. Seepage from springs located at the clay interface can then cause failure of the overlying soil on the face of steep slopes. Property at the top of the slope and below the slide area can be severely damaged as a result.

Probably the most common cause of landslides is uncontrolled surface water runoff over unstable slopes. Land development often results in large increases in stormwater runoff. If this concentrated runoff is directed over the edge of a slope, it can quickly erode down into the slope, causing small, steep ravines. It can also saturate loose colluvial soils. During a single large storm, this can trigger a larger landslide. A variation of this phenomenon can occur at a high-flow bypass pipeline (tightline) routed down a steep slope. These tightlines are designed to carry larger flows safely down to the bottom of slide-susceptible slopes. Although intended to prevent the problem mentioned above, these pipes are sometimes improperly anchored or supported. Pipe failure directs large amounts of runoff down the slope, which may in turn cause the very erosion and landslide that the pipe was intended to prevent.

A particularly devastating type of landslide is known as a debris torrent. Over the years, leaves, trees, rocks and soil may build up in the bottom of drainages. A moderate to high flow event can be sufficient to cause a portion of this debris to begin moving downslope. More and more water and debris are picked up as the torrent gathers momentum. This can result in major damage to the waterway, culverts and bridges and to property lying at the mouth of the waterway.

Brian's presentation was filled with many slides showing dramatic scenes of landslide damage. For instance, the famous Perkins Lane in Seattle suffered 17 slides in the past year alone. In some cases slides on the lower slope have triggered new slides further up the slope. ...

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MARCH DINNER MEETING (continued)

It was interesting to note that although a portion of the Magnolia Bridge was damaged in a slide, closing the bridge, the main piers of the bridge survived the slide quite well and are credited with avoiding a much larger slide which could have brought down the bridge. The slide in Southern Snohomish County that pulled a section of the Burlington Northern Railroad tracks into Puget Sound (along with a portion of a train) was particularly worrisome to many geotechnical engineers. It was a massive slide that removed 70 feet from behind the top of the slope in a single event. This slide was a sobering reminder that one's home may not be entirely safe even when built well back from a slope!

Brian stressed that a slide usually results from a combination of factors, some of which man can control. Vegetation can sometimes help to stabilize slopes, but at other times it can reduce the stability of a slope; so tree planting does not always help. For instance, leaning trees can overload a marginally stable slope. When wind rocks the trees, loose soils around the roots can liquefy, contributing to a slide. One of the most important factors in reducing risk of landslide is good control of stormwater runoff. Runoff control and hill slope management must be a cooperative responsibility, shared by both the hilltop owner and his neighbor at the base of the slope. As Brian put it, stormwater management will not eliminate landslide hazard, but will usually buy more time between landslides.

1997-1998 AWRA FELLOWSHIP

The Washington State Section of the American Water Resources Association (AWRA) is seeking nominations for the 1997-98 school year. At their April 24, 1997 meeting the Board of Directors approved offering two fellowships in the amount of \$1500. One fellowship will be awarded to a member of an organized Student Chapter of AWRA. The other is available to any full-time graduate student enrolled at an accredited college or university in Washington State. The fellowships are offered to full-time graduate students completing advanced degrees in an interdisciplinary water resources subject. In addition to the \$1500 cash award, each fellowship includes a one year membership in both the State Section and National AWRA, a one-year subscription to the State Section Newsletter and the National Water Resources Bulletin, and admission to the Washington State Section Fall Conference.

The general criteria for selection of winning applications include:

- The interdisciplinary nature of the course of study and research;
- The effectiveness of the response in communicating research objectives; and
- The potential application of the work to current needs in water resources management.

Information on how to apply for the fellowship will be mailed to Department Heads of appropriate graduate programs during early April. Most financial aid offices will also receive the information. Alternatively, individuals may request information on the award from one of the fellowship committee co-chairs:

Stan Miller
Phone: (509) 456-3604
FAX: (509) 456-4715
e-Mail: smiller@spokanecounty.org

Doug Pflugh
Phone: (206) 727-2220
e-Mail: dpflugh@u.washington.edu

MAY DINNER MEETING: DIANA GALE TO SPEAK ABOUT THE CEDAR RIVER WATERSHED HCP

Maintaining the momentum began by AWRA's March Dinner Meeting, the State Section is pleased to present Dr. Diana Gale, Director of Public Utilities for the City of Seattle. Please join us at Latitude 47 Restaurant on Wednesday, May 7th as Diana discusses the historic proposal for the Cedar River Watershed Habitat Conservation Plan (HCP).

In March, the City of Seattle and a number of State and Federal resource agencies signed an historic "proposal" for an HCP for the Cedar River Watershed. The City must now complete an Environmental Assessment before any final documents can be signed. In the proposal, the City and the State and Federal agencies made a 50-year agreement with three significant parts. First, the agreement sets aside 64% of the Watershed as a permanent reserve area where no logging will occur; second, it sets forth an in-stream flow commitment to protect both water for fish and water for people; third, it proposes a set of measures to protect and enhance the life cycle of salmon on the Cedar River, including improvements in stream habitat, a fish ladder above the Landsburg Diversion Dam and a hatchery to increase sockeye production. The HCP Agreement will be undergoing environmental review, with a goal of adopting a permanent 50-year approach to wildlife preservation by the summer of 1998.

Diana will talk about the HCP and how it will protect both water quality and wildlife in the Cedar Watershed and River. She will present a slide show highlighting the plan from the City of Seattle's perspective.

As the Director of Public Utilities, Diana is responsible for all aspects of the City's utilities,

including water, sewer, drainage, solid waste, engineering services, and utilities creative services. The Department of Public Utilities, created this year, has an annual budget of \$450 million and 1200 employees.

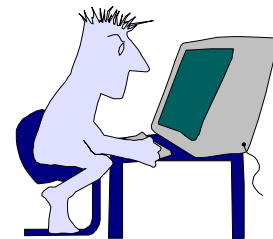
Diana earned her Bachelor's degree in history and political science from Wellesley College, and her Master's and Doctorate Degrees in Urban Planning from the University of Washington. Before becoming Director of Public Utilities, she served the regional area as the Superintendent of Water, delivering water services to 1,200,000 people. Diana has extensive community involvement work in arts and the environment. Currently, she is on the Boards of the Northwest Renewable Resource Center, Leadership Tomorrow, and the Seattle Opera. She is also vice-chair of a national environmental task force for Public Technology, Inc., and she serves on the Washington State Drinking Water Advisory Committee.

AWRA's second dinner meeting of 1997 will be held on Wednesday, May 7, starting at 5:30 p.m. at the Latitude 47 Restaurant on Lake Union in Seattle. Dinner will be served at approximately 6:15, with Diana Gale's presentation beginning shortly thereafter.

Directions: Latitude 47 Restaurant is located on the west shore of Lake Union at 1232 Westlake Avenue North. Take the Mercer Street Exit from I-5. Turn right at the Westlake Avenue traffic light. The restaurant is located about one-half mile after the turn, on the right. Free parking can be found either in front of the restaurant or further along the waterfront.

Have you checked out the AWRA National Web Site? It contains information about National's activities, as well as State Section and Student Chapter news.

Ride the wave and surf the web at <http://www.awra.org/~awra>



UNIVERSITY OF WASHINGTON STUDENT CHAPTER

by Doug Pflugh, University of Washington Student Chapter President

The student chapter officially broke ground with our first general meeting on February 26. The twenty-one in attendance enjoyed an excellent program and refreshments made possible by the State Section's generous "seed money" donation. The talk and slideshow, an introduction to King County's watershed stewardship program from Ray Heller of the Water and Land Resource Division (formerly SWM), will be remembered as setting the tone for the chapter by presenting an interdisciplinary picture of water resource management. The meeting brought in fifteen members, meeting our initial goals.

The chapter is now looking forward to solidifying and expanding this membership base through a variety of activities this spring. Key among these will be an environmental stewardship project (to coincide with Earth Day) and a joint social with the State Section. This late spring social will be held on campus and feature a presentation by faculty on current and recent research. It is tentatively scheduled for the last week of May. (More details will follow soon!) We will also be initiating an "internship clearinghouse" program to meet the needs of students and professionals. Please see the accompanying article by Ute Gigler for more details.

In closing, I want to again extend our appreciation to the members of the State Section for your support during our early days. Thanks!

Registration in the Student Chapter is open to all UW students. Annual dues are \$5.00. Any questions, suggestions, or support for the Student Chapter can be directed to Doug Pflugh at 781-8252 (home), 727-2220 (work), or dpflugh@u.washington.edu (e-mail).

April 26th (9:00 a.m. — 3:00 p.m.)

UW Student Chapter Stewardship Project with the King Conservation District "**Living Fence Planting on a Tributary of the Snoqualmie River.**" This project is intended to create a living fence to keep livestock out of the Snoqualmie River, yet remain in place during recurrent flooding. Please join us for some meaningful and fun volunteer work open to all AWRA members and friends/family. For more information, contact Sarah Ogier, UW Student Chapter Treasurer, at (206) 320-1147.

NEW UW STUDENT CHAPTER INTERNSHIP PROGRAM

by Ute Gigler, Student Section Secretary

The American Water Resources Association Student Chapter at the University of Washington and the AWRA Washington State Section are announcing a newly arranged internship program, which begins in April, 1997. The program is built with the support of the State Section and it will benefit internship providers in the public and private sectors, Student Chapter members and the University student community at large. The internship program is intended to provide professional working opportunities to students searching to apply and refine their skills, while providing qualified part-time assistance to employers.

The internship program is based on a two-way information exchange system.

1. Interested student chapter members will submit their resumes to a pool of resumes which can be accessed by internship providers in need of assistance. Students whose skills match those

of the provider will be contacted to arrange the internship.

2. When internships become available, internship providers can send a description of job requirements and needed skills to the Student Chapter. Interested students whose skills match those required by the position will contact the provider and further arrangements can be made.

Student chapter members are largely graduate students in the fields of Civil Engineering, Landscape Architecture and Urban Planning with a strong interest in various aspects of water resources. Students from fields such as Forest Resources, Fisheries, Geology, Hydrology and Biology are also being recruited.

Although internship parameters vary widely, the following suggested guidelines, ...**CONTINUED**

INTERNSHIP PROGRAM (continued)

based on interviews with internship providers and the Center for Career Services at the UW, are provided to assist your understanding of the program.

Internship Provider: A firm, agency or non-profit organization offering an internship position to members of the AWRA UW Student Chapter.

Duration: 2 months - 1 or more years.

Hours: 10 - 20/week is customary.

Costs to Finance an Intern: \$10-\$14/hour, depending on experience and requirements of the assigned position. Internships can also be on a volunteer basis, for credit or work study.

Health Care Benefits: The provision of such benefits is rare.

Opportunities and Constraints: Internships should provide opportunities to both the student and the

internship provider. An ideal placement would allow the student to work in his/her area of interest, develop and enhance skills, carry considerable responsibility and make contacts in the professional world. The student is often expected to have the background to complete the required work as extensive, on the job training as part of the internship is rather rare. In some cases the student may be interested in developing a thesis or professional project based on their internship. In some cases, students are hired on a project-specific basis, in other cases to provide needed assistance on a variety of projects or on-going tasks. Both graduate and undergraduate students could be eligible for any particular position. If a distinction is made, it should be advertised on the job announcement.

APPLICATION INFORMATION

Firms, agencies, non-profits and others interested in providing an internship to student chapter members should contact: Ute Gigler, Secretary AWRA UW Student Chapter
Department of Urban Design and Planning
University of Washington
Box 355740, Seattle, WA 98195.

Phone and fax number 729-1530, e-mail: ugigler@u.washington.edu.

Please send an internship listing that contains a list of qualifications, a job description, a contact person, address, phone and fax number, salary, number of hours of work/week and a starting and closing date. If you are interested in accessing the pool of student resumes, contact Ute Gigler.

SUPREME COURT ISSUES SPLIT DECISION IN HILLIS v. ECOLOGY

by Adam Gravley, Preston Gates & Ellis LLP

On March 6, 1997, the State Supreme Court decided 5 votes to 4 that the Department of Ecology could use a watershed priority system to process water rights decisions. Hillis v. Department of Ecology involved review of a decision of the Kittitas Superior Court that ordered Ecology to "immediately investigate" the Hillis's water rights application and not to undertake any watershed assessments until it had decided all pending ground water applications. The Hillises had applied in 1992 for ground water permits necessary for a residential development, and Ecology said that it would be five more years before it could investigate their application. The Superior Court agreed with the Hillises that this 8-year delay in issuing permit decisions breached Ecology's statutory duty to investigate applications in a timely fashion.

In reversing the trial court, the Supreme Court majority concluded that Ecology had acted within its authority and reasonably under the circumstances in deciding to "batch" applications by watershed. The court noted that there are about 5,000 water right applications pending statewide and 2,000 pending in the region, of which 1,178 were filed before the Hillis applications. In response to legislative budget cuts, Ecology began to decide groups of applications in geographical areas. Ecology ranked the state's basins in order of priority for conducting watershed assessments, which were then used to make the batch decisions, and Ecology generally resolved not to make any decisions in basins before

... **CONTINUED**

HILLIS v. ECOLOGY (continued)

completion of the relevant watershed assessment. The majority recognized that Ecology has a duty to timely investigate applications, but the duty is limited by the funding provided by the legislature. The majority opinion criticizes the legislature and states that it is "difficult to understand" how the legislature could acknowledge the water rights permitting backlog and yet reduce funding. Justice Guy authored the majority opinion, and he was joined by Justices Dolliver, Johnson, Smith, and Talmadge.

In dissent, Justices Alexander, Durham, Madsen, and Sanders would have ruled against Ecology because the agency failed to fulfill its mandatory duty to process the Hillis applications. In a colorful dissenting opinion, Justice Sanders contends that citizens have statutory and constitutional rights to receive prompt permit decisions from government agencies that condition the use of private property. Justice Sanders notes that the Hillises have endured "severe economic and emotional hardship" and will likely lose their entire investment as a result of Ecology's delay, which the dissenting justices argue was not excused by legislative inaction.

Finally, all nine justices were in agreement in ruling against Ecology on a technical but significant administrative procedure issue. That is, Ecology violated the Administrative Procedure Act's rule-making procedures when it adopted the watershed system for processing applications. The court found that Ecology's method for prioritizing basins and its decision to make completion of a watershed assessment a precondition to issuing decisions on a batch of water right permit applications constituted new "qualifications or requirements" that must be adopted by rule. The court concluded that Ecology's decisions made without rule making must therefore be invalidated. Ecology must complete the formal rule-making steps to ensure adequate public input before taking further action under the watershed processing system.

STATUS OF SELECTED WATER BILLS IN THE WASHINGTON STATE LEGISLATURE

by Chris Pitre, Hydrogeologist, Pacific Groundwater Group

Judy Turpin, a lobbyist for the Washington Environmental Coalition, gave a talk at the Washington Hydrologic Society on March 19, 1997. She discussed some of the water resources bills making their way through the State legislature. This was a particularly good time for Judy to share her insights on the process since this was the last day for bills to pass the house of origin. Unlike last year, during which many bills were put forward but very few actually passed, a number of bills are expected to be enacted this year. Some of the currently active bills are described here and can be reviewed at www.leg.wa.gov/pub/billinfo.

What follows below is a brief discussion of selected water resources bills based on Judy's talk and my own quick review. Please forgive any mistakes in conveying Judy's views, and be sure to check on the current status of particular bills that you are interested in. After the close of session on April 27, Judy will write a follow up article on the final and tangible results. Following the formal title of each bill described below, is a secondary title and the bill's status. The

bills are presented in general order of likelihood of passage into law.

HB2013 Developing an existing ground water right (Supplemental wells; passed 95-1, Senate 48-1)

This formalizes, clarifies and eases the process of applying for installation of supplemental wells. A supplemental well is used to backup a primary well but does not increase the total amount of water to be withdrawn. This bill is likely to become law.

SB5725 Reclaimed water bill (Whose property is it?; passed Senate 49-0, House 96-0)

This bill addresses ownership of waste water, and was initiated in large part as a result of Metro (Seattle) wanting to reuse treated waste water. Since Metro's discharge is directly to Puget Sound, it would seem reasonable to allow reuse. The trouble is that, in areas that do not discharge directly to the ... **CONTINUED**

STATUS OF WATER BILLS (continued)

Sound (or the Pacific), such waste water would otherwise augment stream flow or recharge groundwater. In such cases, ownership of such water or whether reuse requires a water right, is not so clear. This bill proposes that waste water is the property of the waste water treatment facility, and does not require an additional water right. This bill is likely to become law.

SB5785 Consolidation of exempt wells (Six-packs; passed Senate 48-0, House 98-0)

This bill proposes the issuance of a formal consolidated water right to a purveyor to replace exempt wells. Some developments that cannot obtain water right permits have resorted to installing multiple exempt wells. Exempt wells allow the supply of water to multiple domestic dwellings from one well as long as the well use does not exceed 5,000 gallons per day (gpd) or irrigation of more than 1/2 an acre. The most common configuration arrived at in practice is six houses per well ("six packs"). Issuance of a consolidated right would be conditioned upon relinquishment of the right to establish any future exempt wells on the properties serviced by the consolidated right.

This bill stimulated much lively discussion at the meeting since it reconfirms the exempt well as a "back door" to obtaining water rights. It was supposed that this bill passed on the assumption that there is no net increase in water usage by granting such a right. It was pointed out by a member of the audience that the exercise of matching six houses to a well (the most common configuration) may run into the exempt limitation of irrigation of more than 1/2 an acre when watering of lawns is considered. Furthermore, the 5,000 gpd limitation was originally intended to meet fire flow needs. Typical per capita daily usage is on the order of 120 gpd. Consolidating exempt rights would lower the maximum volume pumped if the new volume is based on need, rather than on the full exempt volume. This bill is likely to become law.

SB5505 Directing the department of ecology to assist growing communities in securing safe and reliable water sources (Passed Senate 49-0, in the House)

This bill is mostly a "feel good" bill that directs Ecology to assist growing communities in securing safe and reliable water sources. Given Ecology's staffing and budget problems, it is unlikely that Ecology will be able to do much, and there is no incentive and no "or else" in this bill if Ecology is not successful in securing such resources.

HB1272 Establishing Conservancy Boards (Conservation and rights transfer: passed House 96-0; in the Senate)

This bill is intended to encourage conservation and redistribution of existing rights. It is proposed that water rights holders with excess capacity place a portion of their water right into a "brokerage house" for transfer (lease or sale) to others. The income from such leasing or sale would encourage water rights holders to implement conservation measures and free up water to alleviate the pressure and demand by those in need of water. Such transfers would be submitted to a board (which is envisioned to operate on the county scale) and have to be approved by Ecology before becoming final. Preliminary efforts along this vein have not worked well since rights holders are nervous about losing their rights, despite assurances to the contrary.

HB 2054 Watershed planning and water resource management. (Passed House 61-35; in the Senate)

Planning groups would be composed of about 20 representatives, or more, from all government levels from the State on down, tribes, purveyors and other stakeholders. The smallest area would consist of one Water Resources Inventory Area (WRIA) but could consist of several WRIsAs. The group would prepare a plan containing a characterization of the resources, possibly recommend changes in minimum in-stream flows, identify future resource needs, and recommend habitat conservation and mitigation measures. Funding would be provided through Ecology. It is less likely that this bill will become law since it did not pass the Senate unanimously.

... CONTINUED

STATUS OF WATER BILLS (continued)

SB5783 Changing provisions relating to public water systems. (Perfection; passed Senate 34-15; in the House)

This bill is intended to allow more flexibility with respect to perfection of municipal water rights and to streamline the process with the Growth Management Act. Since municipalities are implementing conservation measures, they may not perfect their water rights within the time stated on their applications. This would be a disincentive to conservation if they were to lose their rights as a result. Therefore, perfection of beneficial use is defined in this bill by installed capacity and 20-year demand projections in a State-approved water system plan, not on actual use. It is less likely that this bill will become law since it did not pass the Senate unanimously.

HB2050 Determination of Impairment (Hydraulic continuity; passed House 59-35; in the Senate)

This bill covers a wide range of important issues, including transfers, supplemental rights, and in particular, defining surface water impacts. It proposes that a groundwater source may be approved if the supply to surface water is diminished by less than 1/10 of 1% of the extracted water on an annual basis. Cumulative impacts may not reduce by more than 1% the

supply to a surface water body. Although the criteria appear clear, the language appears to allow interpretations that may be inconsistent with its apparent intent. Also, it is not clear how such impact would be technically quantified. For example, stream gages typically are accurate to approximately 5%, while achieving some computer model input parameters with less than an order-of-magnitude of precision is considered good.

The senate is also considering alternate criteria of surface water impact to be defined as follows:

- The cone of depression of a well in an unconfined aquifer encroaches upon the surface water body within six months;
- A well in a confined aquifer causes a measurable head reduction in the shallowest aquifer within 50 feet of a surface water body; or
- Groundwater withdrawal causes measurable reduction in the surface water flow.

This is a significantly different set of criteria from those passed by the House. Since there is significant controversy over this bill, and since it did not pass the House unanimously, it is not as likely that this bill will become law.

[Editor's note: One of AWRA's goals this year is to achieve more interaction with other compatible organizations.]

WASHINGTON HYDROLOGIC SOCIETY SPEAKER ANNOUNCEMENT

Kim Sherwood of the Washington Department of Ecology will speak on the Effect of Food Substances on Biogeochemistry. For more information, contact Chris Pitre at (206) 329-0141.

SECOND SYMPOSIUM ON THE HYDROGEOLOGY OF WASHINGTON STATE

This symposium will be held August 25-27, 1997 at the Evergreen State College. They will host 3 days of paper presentations, workshops, field trips, and poster sessions. In 1995, they had over 350 groundwater scientists in attendance at the first symposium. They are seeking field trip coordinators and volunteer help. Registration information will be available in March and the Abstract Deadline is April 1, 1997. Abstract Information will be available in February. For more information contact Nadine Romero at (360) 407-6116, but preferably through e-mail, nrom461@ecy.wa.gov. For web page and previous Symposium Abstracts, see <http://www.wa.gov/ecology>.

**AWRA WASHINGTON SECTION
1997 MEMBERSHIP APPLICATION**

NAME: _____
ORGANIZATION: _____
MAILING ADDRESS: _____
E-MAIL ADDRESS: _____

Check if you would like to be actively involved on a committee during 1997. You will be contacted to determine what committee involvement you would like.

1997 Membership Dues (through October 1997): \$25.00. Please make check payable to **AWRA Washington Section**.

Mail to: American Water Resources Association, Washington Section
c/o Mike Wert, Shapiro & Associates
101 Yesler Way, Suite 400
Seattle, WA 98104

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 CH2M HILL, Bellevue, for their word processing and graphics support on this newsletter.

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