

## PRESIDENT'S NOTES

by Teresa Platin, CH2M HILL, Inc.

During the December Board Meeting, someone mentioned that this January President's Notes could be a list of New Year's Resolutions of sorts. I've got to admit though, I've never been a huge follower of that tradition. It seems to me that to effect change, it takes a vision, a desire and a steady push towards the goal, all things that can and should happen throughout the year, not just at the start of a new year or a new presidency. In the 5 years that I have been involved with AWRA, I've seen tremendous growth in the organization. In large part, this can be attributed to the commitment of our Board members, but it has been the unflagging participation of our membership that has enabled us to accomplish so much. Your new Board of Directors has been hard at work since November, moving forward with the visions and hard work of several years of previous leadership.

In 1998, we had a busy year keeping up with the Endangered Species Act and the implications of the proposed listing of Puget Sound chinook salmon. A series of bi-monthly dinner meetings explored this topic, culminating with the day-long state section Fall Conference, "ESA: Economy, Salmon, Agriculture; Where is the Water". To further encourage the relatively new University of Washington Student Chapter, a joint membership social was held last May at the University. The state section has also expanded its scholarship program in recent years, to award two \$1,500 fellowships to graduate students in Washington State. We look forward to hearing from recipients **Kurt Marx** and **Margaret McCauley** in an upcoming newsletter. Not as visible in 1998, but sure to step into the spotlight this year, were the steady and productive planning efforts for the 1999 AWRA National Conference, to be held here in Seattle in December.

There are many ongoing efforts that this Board of Directors will inherit, enhance and carry to fruition. It is also my hope that along the way, we can reach higher, and create some new initiatives. We look to the 1999 program year as a chance to further understand one of the most pressing issues in the region, the proposed ESA listing; but we are committed to serving the broad and varied interests of this water resources group. We will begin the dinner series with a provocative talk on Sustainability in Water Resources, featuring Jim Wertz, Senior Policy Advisor with the US EPA Region 10 Office of Water.

Already this year, the Finance Committee is looking into the establishment of an endowment for the student scholarship funds. We have carefully weighed the pros and cons of hosting BOTH the 1999 National Conference in December and our regular state section Fall Conference at an earlier date. The decision was unanimous to host a modified event (a half-day or shorter breakfast or dinner seminar) in lieu of the regular Fall Conference. The state section website has undergone some changes, and the newsletter continues to be a source of timely information. And the list goes on. Also noteworthy is the fact that we have had a strong showing of volunteer support from outside the Board, and we hope to cultivate this support and use it to make 1999 not only relevant professionally to our membership, but full of fun and social connection. We encourage your participation – just contact one of the Board members listed inside this newsletter.

Finally, I'd like to note that we have recently said good-bye to a few of our cherished Board Members. **Steve Foster's** retirement from the Board coincides with his retirement from a long and prosperous career with the U.S. Army Corps of Engineers. Steve chaired the dinner meeting committee, and as anyone who has participated can attest, he did a tremendous job. As last year's Fall Conference Co-Chair, **Gwenn Maxfield**, brought invaluable experience and energy to the planning efforts. She and **Rachael Pascal** have both turned over their directorships. We wish them all the best, and thank them for their many contributions to AWRA. With the change in Board composition, we now welcome new members, **Grant Bailey, Logan Harris, Erin Nelson, and Ingrid Wertz.** ~~~

### Upcoming Events

Dinner Meeting  
Thursday, February 23  
5:30 p.m.  
Jim Wertz, EPA

<http://earth.golder.com/waawra/>

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# Municipal Water Group Update

by Steve Hirschey, Washington Department of Ecology

In the summer of 1998 the Washington Department of Ecology established a group of interested parties to participate in a collaborative effort to develop legislation that assures a water supply for the state's growing population in light of the need for water instream for fisheries and other instream values. The state has unprecedented population growth that is likely to continue unabated for some time, and we have a decline of our fisheries resources as evidenced by the existing and looming listings under the Endangered Species Act. In addition, in my opinion, many of our existing institutional structures, both statutory and administrative, governing water resource management are not sufficiently predictable or flexible, nor do they create the accountability of parties to address the challenges of today.

The municipal water and instream (MWIF) flows work group was formed and is composed of sixteen representatives of utilities, local governments, businesses, agriculture, the conservation community, public interest groups, fisheries, and state agencies. The Tribal community was invited to participate but declined. The MWIF group was facilitated, using the ideas of interest based negotiations and had a principal focus on water rights issues related to municipal water supply. The interests the state brought to the table included:

- Certainty for existing rights, clear opportunities and requirements for new source development, and water use that is as efficient as possible;
- Flexibility to move water, combine systems and supplies, and to conjunctively use water on a larger scale so that we can most efficiently provide water for both people and fish; and,
- Accountability for natural resource needs, instream flows, water use, conservation, and effective management of water at all levels, ranging from the private individual to government institutions.

One common interest of the MWIF group was to determine how municipalities and other public water purveyors could have certainty regarding water available for future development and how that water might be shared. A level of certainty is necessary for public water systems to obtain financing for the system's capital facilities as well as to issue letters of water availability to development interests. Outstanding questions that remain are how much certainty is needed, how much certainty does a water right certificate or permit give, and is a water right the "right" vehicle for the certainty needed? In addition, for many years utilities have proposed that transfer of water through interties might be a way to manage water for both fish and people. Two recent Washington State Supreme Court rulings had either

caused concern or raised new questions regarding how a right is created, when can a right be changed, when a right is lost, and what special considerations does the statute afford municipal purveyors. The Court's ruling in Okanogan Wilderness League, Inc. v. Town of Twisp, 133 Wn. 2d 769, 947 P. 2d 732 reaffirmed the idea that water had to be applied to beneficial use prior to its transfer. Since very few proposals to transfer water through an intertie involve water beneficially used, interties are of limited value to meet new demands. A key issue the MWIF group worked on was to describe the circumstances and conditions that would be placed on the movement of unused water under a water right (an inchoate right) if the statutory law was changed.

In July of 1998, the Court also ruled in The Department of Ecology v. Theodoratus, 135 Wn. 2d 582, 596, 957 P. 2d 1241 (1998). That court case has, in my opinion, two important ideas. The first is a water right is created by the actual, beneficial use of water. Secondly, the state has the right to condition a permit to affect the public interest, if a permittee applies for an extension to the permit. See the July/Aug/Sept 1998 AWRA newsletter for two articles on the Theodoratus decision. A significant question after Theodoratus relates to the certainty a water right holder has if the water has not been used. Whether or not the Theodoratus decision applies to a municipality is being debated. The state of Washington (Ecology and the Attorney General's Office) believes the decision's analysis of "beneficial use" (i.e., there is no water right established for water that has not been put to use) applies to all inchoate rights including those of municipalities.

The group's goal was to reach consensus on municipal water issues and then to recommend to Ecology a package of recommendations for consideration by the 1999 Legislature. While consensus was not reached, Ecology has used the work of the group as the foundation for proposed legislative language related to the movement of inchoate water. Because of time constraints it was not possible to use the MWIF work group to address issues arising from the Theodoratus case. In response to the Theodoratus decision, Ecology held talks with representatives of the utilities to address the "certainty" issue. While Ecology and the utilities agreed upon a number of points, complete agreement was not achieved between the utilities and Ecology in resolving the perceived problems created by the Theodoratus decision. In both cases, Ecology has used the discussions and ideas talked about to craft proposed legislation has been incorporated into a larger bill to address many facets of water policy in light of salmon and endangered species listings.

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Governor Locke will introduce an omnibus bill on water issues in light of the salmon issues. No doubt it will be very controversial, in part due to the number of issues addressed. Besides crafting a proposed statutory foundation for the transfer of inchoate water and creating certainty for public water suppliers after Theodoratus, the omnibus bill addresses conservation and efficient use of water, reclaimed water and its use, the ground water permit exemption, hydraulic continuity or the interconnection between surface and ground water, enforcement, water rights for instream flows, some land use issues, and last, but not least, funding.

The current ideas related to the transfer of inchoate water are:

- The entity proposing to transfer needs to meet a certain level of efficiency of water use and that same level of efficiency needs to be met by the receiving system;
- The transfer is subject to instream flows being satisfied for the source water body;

- The entity proposing the transfer needs to contribute, either water or money, to restore the aquatic ecosystem. The volume of water or value paid to the state would go into a dedicated fund and be equal to ten percent of the water (or value of the water) proposed for transfer; and
- The use of water is consistent with land use zoning.

No doubt these ideas will be reshaped and modified as we move into the legislative arena. I believe the use of inchoate water rights will become very important as we move towards better water management. How they are used and who benefits are the questions to answer.

For more information about the municipal water group, visit Ecology's web site at [www.wa.gov/ecology/wr/plan/munihome.html](http://www.wa.gov/ecology/wr/plan/munihome.html), or contact Steve Hirschey at e-mail [shir461@ecy.wa.gov](mailto:shir461@ecy.wa.gov). ☞

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## 1998-1999 Washington Section Student Fellowships

Each school year the Washington State Section of AWRA awards two student fellowships. One fellowship is 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. This year's winners are: **Margaret McCauley, a graduate student at the University of Washington; and Kurt Marx, a graduate student at the University of Washington.**

**Ms. McCauley** is currently enrolled in the graduate program at the University of Washington's College of Forest Resources, Ecosystems Sciences Division and College of Engineering, Department of Civil and Environmental Engineering. She is pursuing concurrent degrees. Margaret earned an A.B. in Urban Ecology from Harvard University in 1995. Margaret has a special interest in the role that human activity plays in ecology. Early in her academic career she learned that human impacts on water resources were a critical part of the interaction. Her current project involves examining the role of specific plant species in determining the effectiveness of wetland treatment systems. The study site chosen for Margaret's work is the municipal treatment wetlands at Stanwood, Washington.

The primary focus is on the comparison of removal effectiveness of hard stem bulrush (*Scirpus acutus*) – the chosen wetland species for the system and cattail (*Typha latifolia*) and reed canary grass (*Phalaris arundinaceae*) – volunteer species that have grown up in the wetland. The removal of nitrogen and phosphorus species is a central theme in the work. Margaret is a member of the University of Washington Student Chapter of AWRA. The Fellowship Committee and Board of the Washington State Section of AWRA extend their congratulations to Ms. Margaret McCauley.

**Mr. Marx** is currently enrolled in the Department of Civil and Environmental Engineering at the University of Washington working toward the M. S. in Civil Engineering. Kurt received a Bachelor of Science in Environmental Engineering from Michigan Technological University in 1996. Kurt is also studying the Stanwood wetland treatment system. Kurt's study is directed toward evaluating the overall treatment capability of the multi-cell system. While the overall nutrient removal capability is the area of most concern, the primary focus will be on ammonia due to its toxicity to aquatic organisms. The variable loading to each of the four cells will provide a basis for establishing optimal design and operation parameters for wetland treatment systems. Kurt is the current president of the University of Washington Student Chapter of AWRA. The Fellowship Committee and Board of the Washington State Section of AWRA extend their congratulations to Mr. Kurt Marx. ☞

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# WA Supreme Court Decides Merrill Case

by Sarah Mack, Steel Rives LLP

(Washington Supreme Court No. 64607-4:  
R.D. Merrill Co et al. v. State, Pollution Control Hearings Board et al.)

**Background:** In 1994, Ecology approved consolidation of several domestic, stockwatering, and irrigation rights, as well as two unperfected domestic groundwater permits, for withdrawal from a new groundwater well serving the Merrill's Wilson Ranch planned development project in Okanogan County. (Wilson Ranch consists of the 21-room Freestone Inn, as well as twenty cabin sites.) The Okanogan Wilderness League ("OWL") and Aaron Burkhart appealed Ecology's decision to the Pollution Control Hearings Board ("PCHB").

**PCHB Decision:** A change to one pre-1945 groundwater right was disallowed since it was an exempt groundwater use. (This decision predated the 1997 legislation on consolidation of exempt well rights.) The PCHB also disallowed a change to one 10-acre irrigation right claim on the Wilson homestead property, stating that it had never been perfected and/or it had been abandoned. Ecology had determined that this claim represented a right separate from that of the Early Winters Ditch Company, whose adjacent ditch has been used to convey irrigation water to the Wilson property since at least the 1940's. The PCHB found no evidence that a separate diversion under this right had been constructed, and if it had been perfected through construction of a separate diversion, the right had long since been abandoned in favor of water supply from the Early Winters Ditch Company. The PCHB imposed modest reductions for change under two other existing rights, but confirmed the transfer of those rights.

**Superior Court Decision:** On appeal to the Okanogan County Superior Court in 1996, the PCHB decision was affirmed except for the 10-acre Wilson irrigation right, reinstating Ecology's change authorization for that right. Judge Burchard ruled that the PCHB had impermissibly imposed on the water right holder the burden of proving that the right had been perfected through establishment of a separate diversion point. Judge Burchard also overruled the PCHB's alternative determination that, even if this right had been perfected, it had been long since abandoned through use of the Early Winters Ditch Company diversion, ruling that the PCHB's conclusion was contrary to Washington case law holding that the means of diversion under a water right may be changed without losing the right.

**Supreme Court Decision:** The Supreme Court heard oral argument on October 14, 1997. On January 7, 1999, the Court issued its unanimous decision including the following key holdings:

1. **Ecology's tentative determination of the validity of a water right prior to acting on a change application is proper and does not amount to a de facto adjudication prohibited under the "Sinking Creek" case.** Burkhart argued that "Sinking Creek" case prohibited Ecology from approving Merrill's change applications because it required a de facto adjudication of rights to use waters of Early Winters Creek and the Methow River. The Court rejected the argument and explained: "Quantification of the right and whether the right has been relinquished or abandoned in whole or in part are matters the Department must address in deciding whether to approve a transfer or change application."
2. **The public trust doctrine does not provide an independent source of authority for water rights decision-making apart from the provisions of the Water Code.** OWL argued that Ecology's approval of Merrill's change applications violated the public trust doctrine. The Court noted that the Washington Supreme Court has never held that the public trust doctrine applies to groundwater or non-navigable water. (The Court did not address OWL's argument that the public trust doctrine covers groundwater which is in hydraulic continuity with navigable surface water.) Also, the duty to apply the public trust doctrine rests with the State of Washington, not any particular agency.
3. **The quantity of water available for change is not determined by the amount beneficially used immediately prior to the change application. Rather, the proper inquiry is the extent to which the water right was perfected through beneficial use, and whether all or any portion of the right has been relinquished or abandoned.**
4. **A transferred right need not be limited to the season in which the right has been beneficially used.** The Court apparently assumed that the right was entirely seasonal, but held that RCW 90.03.380 "implicitly" allows a change from seasonal use to year-round use, so long as there is no detriment or injury to other water rights.
5. **RCW 90.44.100 allows amendment of an unperfected groundwater permit to change the well location, the manner of use, or the place of use of water.** The Court stated: "By expressly allowing amendment of a permit, RCW 90.44. 100 plainly contemplates that an unperfected water right may be involved. It follows that water may not actually have been beneficially used."

**6. In determining whether the requirements are met for an amendment to a ground-water permit under, the "availability" of water is determined as of the time the water right holder applied for the original permit.** OWL argued that RCW 90.44.100 requires findings "as in the case of an original application," including availability; OWL argued that water is no longer available for appropriation in the Methow River Basin. The Court rejected this argument: "By providing that priority is maintained after an amendment, RCW 90.44.100 evidences legislative intent that the time for determining the availability of water subject to appropriation is the time a permit is applied for." The Court held that the changes to the unperfected ground-water permits satisfied all statutory requirements.

**7. The Superior Court is reversed, and the PCHB's decision reinstated, as to the Wilson irrigation right.** The Court upheld the PCHB's determination that the 10-acre irrigation claim on the Wilson homestead property is not subject to change, holding that the right was never perfected. The Court did not address the Superior Court's conclusion that the PCHB improperly shifted the burden of proof from the appellants to Merrill on the issue of whether this right was not perfected. The Court also did not address the PCHB's alternative ruling that, even if perfected, this right had been abandoned because the property had been irrigated with water from the Early Winters Ditch since at least the 1940's.

**8. The PCHB must hold further proceedings to make factual determinations regarding whether the Willis irrigation right has been abandoned or relinquished.** Opponents asserted to the PCHB that Merrill's water rights had been abandoned or relinquished. The PCHB granted summary judgment to Merrill on the ground that nonuse of water could not give rise to relinquishment or abandonment because Merrill's predecessors consistently intended to use the existing water rights on the property for the Early Winters ski resort. The Court held that the PCHB should have allowed the appellants to present evidence at the hearing on the issues of abandonment and relinquishment of this water right. The Court overturned the summary judgment ruling, remanded the Willis claim to the PCHB for further evidentiary proceedings, and provided the following interpretations of relinquishment statutes:

**8a. To qualify as "sufficient cause" for nonuse of a water right under the relinquishment statutes, the "operation of legal proceedings" must prevent the use of the water.** The Court construed very narrowly the "operation of legal proceedings" excuse for nonuse in the relinquishment statute, RCW 90.14.140(l)(d), holding that "the fact that a legal proceeding exists involving a water right holder's land or development plans does not in itself compel application of the exception."

The Court held that the Board should have applied a narrower legal standard in determining whether the "operation of legal proceedings" excused any nonuse of water, agreeing with Burkhardt and Ecology that "the exception requires that the nonuse of water be attributable to the legal proceedings, i.e., that the legal proceedings prevent the use of the water."

**8b. To qualify for the "determined future development" exemption under the relinquishment statutes, a firm development plan must be fixed prior to the end of the first five-year period of nonuse.** Water rights are exempt from relinquishment for nonuse if water rights are held for a "determined future development" to take place within 15 years of July 1, 1967, or the date of the last beneficial use of water. The Court adopted the PCHB's interpretation of this statute requiring the development plan to be "fixed conclusively or authoritatively" before five years of nonuse have elapsed.

**8c. The "determined future development" exemption additionally requires "some affirmative steps" toward realization of fixed development plans, but not necessarily completion, within 15 years of the last beneficial use of water.** "Completion of development within 15 years should not be required because some projects will require a lengthy development period, particularly where extensive environmental review and construction are involved..." The water right holder must proceed in the exercise of reasonable due diligence within the 15-year period. Evidence of actual implementation are: permit applications, notifying the Department of plans to use the water right in connection with a future development, physical development such as clearing land or commencing construction, and acquiring additional lands, rights or materials, but not feasibility plans.

**Finally:** The Court did not question the sufficiency of the uncontroverted evidence before the PCHB of the significant steps taken by the Early Winters Resort proponents to realize their development plan. Moreover, while the Court did not specifically address what is required of a water right holder who is faced with litigation preventing "actual implementation" of his fixed development plan, the Court's enunciation of a requirement of "reasonable due diligence" signals a flexible standard that should take into account all relevant circumstances -- including lengthy and burdensome litigation intended to stop a project.

The full court opinion is available through a link on the web page of the Washington Section AWRA at <http://earth.golder.com/waawra/>. ☺

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# Skagit River Estuary Salmon Habitat Restoration Project

by Logan Harris, Northwest Indian Fisheries Commission

With a critical estuary habitat restoration project now approved for the Skagit River's delta, state and tribal fisheries managers are hopeful private landowners will be inspired to increase voluntary salmon recovery efforts.

Last fall the Washington Fish and Wildlife Commission considered restoration options at the Deepwater Slough site of the Skagit Wildlife Refuge ranging from complete opening of all 400 acres of estuarine salmon habitat unavailable due to diking, to preserving its fully-diked freshwater status for waterfowl. Commissioners voted for a compromise that will restore 300 acres of salmon habitat skirting the south fork of the Skagit River. The work, expected to begin next summer, will involve re-engineering the dike system at a cost of \$1.9 million.

"This action marks a dramatic change in the management of the delta," said Bob Everitt, who manages the Washington Department of Fish and Wildlife's (WDFW) Puget Sound region. "It has been managed primarily to benefit waterfowl for 50 years, and now we are going to help fish while continuing to support waterfowl that provide viewing and hunting opportunities."

Skagit System Cooperative (SSC), the fisheries management consortium of the Swinomish, Upper Skagit, and Sauk-Suiattle tribes, initiated the effort to restore delta habitat six years ago. In 1996, SSC completed the "Deepwater Slough Restoration Feasibility Analysis," which presented the range of options. SSC advocated full restoration.

"We are disappointed the commission didn't do everything they could have done, but we are encouraged that the state made a significant contribution to the restoration of key habitat at Deepwater Slough," said Lorraine Loomis, SSC Fisheries Manager. "We look at it as a step in the right direction. Hopefully, local landowners will see this commitment and consider the types of things they can do to recover salmon."

Most of the property adjacent to the lower Skagit River and its tributaries—where traditional salmon habitat is most affected by land use practices—is in private hands. Without the cooperation of private landowners in efforts like re-establishing riparian habitat and opening up fish passage, true watershed recovery will be extremely difficult. "We are asking private landowners to follow our example and do everything they possibly can to benefit fish," said Everitt.

The Skagit River Delta is among the most critical areas of habitat affected by land use. It is estimated that the delta has lost more than 80% of its

intertidal wetlands. This habitat loss accounts for 62% of the total tidal wetland loss for all rivers in the Puget Sound. The proposed listing of chinook salmon as "threatened" under the Endangered Species Act makes the habitat even more critical.

Restoring the Skagit delta area will be important to chinook because the Skagit River system historically has produced Puget Sound's largest wild runs. The salmon spawn in the upper reaches of the Skagit as well as its tributaries, and many migrate via the Skagit's north fork. Juvenile chinook feed and find refuge in the south fork's delta. Two stocks of wild coho also use the watershed.

Larry Wasserman, SSC environmental services director, said the project will produce immediate benefits for salmon by opening blocked habitat and improving habitat over time. "We estimate that 88,000 chinook smolts will result from this project once vegetation has recovered...[this] will produce additional adult returns in the thousands," he said.

WDFW will seek \$584,000 from partners and state funds earmarked for fish passage as its share of the \$1.9 million restoration. The rest of the money will come from the Corps of Engineers. The cost of the project raised some eyebrows because full restoration would have been much less expensive—about \$200,000. Supporters of full restoration suggested money saved could be used to purchase or restore wetlands upstream, where they could benefit both fish and wildlife.

The argument presented by hunting interests in favor of the compromise was that it provided additional fish habitat and retained upland freshwater hunting and viewing opportunities. The property was initially bought with duck stamp revenues explicitly for providing those opportunities.

The commissioner vote was 4-3 in favor of a compromise to pull back dikes at the site rather than complete dike breaching and full restoration. Commissioners that supported the compromise cited their feeling that building the dikes was a reversible action, while completely flooding the site was not.

"This project will represent the largest wetland habitat restoration project for salmon in Washington State and perhaps the West Coast," said Lisa Pelly, chair of the commission. "I fully expect the commission to become more involved in major salmon habitat issues in the months and years ahead. We've learned that reducing harvest levels alone is not enough to restore troubled salmon runs."

**For More Information:** Logan Harris, Northwest Indian Fisheries Commission, (360) 424-8226. ☞

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# Sustainability and Water Resources: An Overview

by Andrea C. Volkmann, P.E., CH2M HILL

Whether you work in engineering, government, education, or industry, "sustainability" is the buzzword of the decade and, many hope, the new millennium. The term embodies connotations as broad as those of "peace" and "science" and expresses the possibility that people (and their businesses and communities) can learn to live in dynamic balance with the natural environment. What exactly is "sustainability," and how does it apply to water resources? This article addresses these questions.

To many, the groundswell of interest in sustainability is the next evolutionary step of the environmental movement. Sustainable strategies tend to move beyond regulatory compliance and emphasize "meeting the needs of this generation without compromising the ability of future generations to meet their own needs" (UN Commission on Environment and Development). In other words, sustainability means balancing the needs of the business community, the natural environment, and various social factors (health, access to jobs, poverty, etc.) in a way that leads to prosperity, while respecting the earth's natural cycles and meeting the needs of all people.

If this sounds like a tall order, it is! What this sweeping definition masks, however, are the infinite number of old and new actions that move our society towards a sustainable future. Familiar examples include waste minimization, water conservation, energy conservation, pollution prevention, air emissions reductions, wetlands mitigation, streambank restoration, engineered wetlands, green building materials and design, and construction recycling. New practice areas under the sustainability umbrella include measures addressing the Endangered Species Act, living system wastewater treatment technologies, and carbon sequestering and emission credits. By no means are these lists exhaustive!

Adding to the definition above, three key ideas differentiate sustainability from the current approach to the built and natural environment:

***First, sustainable thinking is systems thinking.***

For the built environment to integrate with the cycles of the natural world, people must think of problems in terms of the systems they involve, and change their scale of observation and activity to consider the larger scales of ecosystems: watersheds, bioregions, oceans, continents, planet. For example, the decline of ocean fisheries cannot be understood from the perspective of a single river, estuary, or watershed. Rather, the problem involves a complex system of watersheds, rivers, oceans, migratory patterns, and biological processes, to name just a few factors. Through the nature of their work, water resources professionals have learned

to think systemically and can help other professionals do the same.

***Second, sustainable thinking is long-term thinking.*** So many of humanity's activities, such as carbon output, nuclear waste production, and sediment contamination, have long-lasting and unforeseeable consequences (e.g. global warming). Artificially short time frames of responsibility or investment may also result in practices harmful to the planet. For example, by nature of their business, developers seek short-term financial gain from land sales, but are not invested in the development's long-term impact on the environment. Yet developers are involved in the planning stages, when the development's effects on the environment can best be considered and mitigated. Recent salmonid listings under the Endangered Species Act now provide the critical link between early development planning and consideration of long-term environmental impacts. As one of the professional groups whose work is most directly involved with regional salmonid listings, water resources practitioners will play an important role in creating more sustainable future developments.

***Third, sustainable thinking provides a platform for innovation.***

As a new paradigm, sustainability challenges old ways of thinking and asks us to find solutions that exceed current expectations. For example, sustainable thinking spawned the idea for eco-industrial parks. These are designed parks in which the resident companies use each other's waste products in symbiotic fashion, for the financial benefit of all. In essence the group of companies behaves like an *industrial* ecosystem. In these parks, water conservation and water quality are one of the primary considerations. For example, reductions in water consumption are made possible by rainwater collection and use, graywater reuse, biologically-oriented wastewater treatment (living systems, engineered wetlands, and aquaculture), and water-conserving facility equipment.

**Summary:** This article has introduced how sustainability and water resources are related. It proposes that a sustainable society will result from systems thinking and long-term solutions that integrate economy, environment, and community in innovative ways. By adopting sustainable approaches to their work, water resource professionals will play an important part in helping people and their businesses live in balance with the natural environment.

**For Further Information:** Andrea Volkmann, CH2M Hill, (425) 453-5000. ☞

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# UW Student Chapter Begins Third Year

by Kurt Marx, President, AWRA University of Washington Student Chapter

This is the third year for the University of Washington Student Chapter of AWRA. Goals for this year include increasing our membership, expanding our involvement, and carrying on the traditions of the Chapter. The Chapter has been growing since its inception in early 1997. Current membership is approximately 18 undergraduate and graduate students from various University of Washington academic departments.

Past President Erin Nelson has handed me the reins of this young and diverse organization. Erin now serves on the State Chapter Board of Directors. Karen Comings returns this year as our Student Chapter Secretary. Dalius Gilvydis rounds out our executive board as Treasurer.

Several Chapter members volunteered at or attended the Washington Section Fall Conference on November 12, 1998 at the Seattle Art Museum. The conference was an excellent opportunity for our membership to meet numerous professionals in the water resources field, as well as learn about how pending Endangered Species Act (ESA) listings will affect the Northwest. The ESA will be an interesting and challenging regional issue for members leaving the UW for the "real world".

Our next Student Chapter meeting will be on January 21, 1999 from 12:30 to 1:30 at UW HUB. We are pleased to have Ray Hoffman from Seattle Public Utilities (SPU) as a tentative speaker. Mr. Hoffman handles regional affairs and negotiations at the SPU Office of Strategic Policy for Seattle. He will be speaking on sustainable water use issues such as Seattle's current plan to reduce personal water use by 1% to pre-empt the need for an additional wastewater treatment plant.

Activities in 1999 for the Student Chapter include the Joint Social with the State Section and the AWRA National Conference. The Joint Social will be held in May at the beautiful Waterfront Activities Center on the UW campus. This annual event brings together students, professors, and professionals in the water resources field for an evening of good food and great speakers. The Student Chapter will assist the State Section in preparing for the National Conference next December.

For more information on the AWRA University of Washington Student Chapter, email [awra@u.washington.edu](mailto:awra@u.washington.edu) or check out our web site at <http://students.washington.edu/awra/>. ☺

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## Swamp Creek Project

by Karen Comings, University of Washington

One of the goals of the AWRA Student Chapter at the University of Washington is to participate in some form of environmentally related community service each year. Last year the Student Chapter adopted Swamp Creek as a continual community service project. The Swamp Creek site is part of the King County Habitat Partners Program, which encourages community volunteers to adopt a habitat restoration project and help maintain it until maturity. Participating in this program benefits the Student Chapter in two ways. Because the project is on-going, it eliminates the need to seek out a different community service each year. Also, the continuity of the project provides the group with a sense of ownership and pride in being able to witness the continuous improvement of this site.

Swamp Creek flows south through the Bothell area before joining up with the Sammamish River at the north end of Lake Washington. The riparian area at the lower end of Swamp Creek below Bothell Way has for many years been vegetated only with reed canary grass and blackberry leaving the stream open to direct sunlight. In the early spring of 1998, King County planted both banks with spruce and cedar saplings in an effort to improve habitat in this urban stream. In order for this restoration to suc-

ceed, however, the young trees need a little help from community volunteers.

The task the AWRA student chapter has taken on is to periodically visit the site and clear away the ever-present reed canary grass and blackberry that threaten to overtake the small saplings. Our first visit was in early summer of 1998. Bob Spencer from King County met us on site and walked us around the planted areas explaining what needed to be done. The next time we made it out to the creek was in the fall. Again we walked from tree to tree trampling down reed canary grass and cutting back the rampant blackberries. We are hoping to make our next visit sometime in the early spring before the blackberries put out their leaves. This early visit may allow us to find trees that had become shrouded in brambles by last years growth. If this sounds like fun and you are interested in lending a hand, you can contact us at [awra@u.washington.edu](mailto:awra@u.washington.edu) and we will keep you informed about our next site visit. ☺

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*Thank You!*

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**President: Teresa J. Platin** – Teresa is a water resources engineer and project manager with CH2M HILL in Bellevue. Her primary interests are in surface water hydrology, stormwater conveyance and treatment, and wetland systems. She is involved in a number of stormwater comprehensive planning efforts for local municipalities, as well as design projects for state and local jurisdictions. A graduate of both The Ohio State University, and the University of Washington, Teresa is an active participant in volunteer science education programs in elementary schools. She lives in Newcastle, with her husband and 2-½ year old daughter.

**Vice President: Peter Sturtevant** – Pete is a Senior Water Resources Engineer at CH2M HILL in Bellevue. Working primarily on drainage and stream restoration projects, his experience in the fields of water resources and environmental impact assessment has included water supply studies, point and nonpoint water quality assessments, flood control, wastewater and water reuse projects. A proud Husky Alumni, Pete enjoys hiking, canoeing, sailing, and other water related activities in the Great Northwest.

**Treasurer: Mike Wert** – Mike is Vice President and Manager of the Water Resources and Utilities Division at Shapiro and Associates, Inc. of Seattle. His career has involved the planning of water supply, stormwater, wastewater, hydroelectric, and transportation facilities in the Pacific Northwest. Mike, his wife, and daughter reside in Kirkland and enjoy fishing and boating in Puget Sound and hiking or horseback riding in the Cascades and Okanogan County.

**Editor: Chris Pitre** – Chris is a hydrogeologist with Golder Associates. He works primarily in water resource management, including assessment, characterization, development, and protection, as well as environmental work, for both the public and private sectors. Chris' current focus is the integration of multiple disciplines into complete resource management. In his spare time, Chris can be found working on community projects and home improvements.

**Secretary: Fran Solomon** – Fran is a Senior Ecologist at the King County Department of Natural Resources, where she manages fish habitat enhancement and stream restoration projects. She earned her Ph.D. in Fisheries from the University of Washington and has extensive experience in developing and implementing action plans that address water quality, contaminated sediment, and fish habitat issues in urban bays, lakes, and streams. Outside of work, Fran mentors young women and girls who are interested in science careers. Fran and her husband live in Seattle and enjoy traveling, bicycling, backpacking, theatre, and music.

**Director: Adam Gravley (Past President)** – Adam practices environmental and municipal law, with a concentration on water law, in the Seattle office of Preston, Gates and Ellis. He represents business, local government, and individual clients on all types of water rights matters. Adam lives in Seattle with his wife and two daughters and enjoys hiking, skiing and playing basketball.

**Director West: Grant Bailey** – Grant is Managing Principal of the 20 person Bellevue office of Jones & Stokes Associates. With a background in marine biology, water quality and energy, his work has included outfall studies, energy facility siting, NEPA/SEPA EISs on freeways, oil terminals, transmission line routing and cogeneration facilities. Grant has a daughter at Western Washington University and another at home, in Seattle, with his wife Julie. He spends as much time as possible on or near the water fly fishing, canoeing and driving across Lake Washington twice a day.

**Director: Chris Cleveland** – Chris, a vice president with Brown and Caldwell, manages the Olympia office and conducts projects in the areas of water reuse, watershed planning, utility competitiveness, and wastewater management for private and public entities. Chris, his wife, and

their children live in the Olympia area and enjoy spending time together as a family, gardening, hiking, golfing, and playing basketball.

**Director: Logan Harris** – Logan is an information and education officer with the Northwest Indian Fisheries Commission. As senior water rights holders in most Puget Sound watersheds, the tribes are heavily involved in watershed management and recovery. Logan provides outreach and public relations services for tribal natural resource programs and recovery efforts. He attended the University of Oregon and was a newspaper reporter for 11 years before joining the NWIFC. Logan lives in Mount Vernon and is engaged to be married next year.

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

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

**Director: Erin Nelson** – Erin is a graduate student at the University of Washington, studying water resources at the Center for Urban Water Resources Management in the Department of Civil and Environmental Engineering. She is the Past President of the AWRA UW student chapter and worked for eight years as a geological engineer prior to returning to school for graduate studies.

**Director: Rod Sakrison** – Rodney Sakrison is a water resources professional with the Washington State Department of Ecology. He has twenty years of experience in the Water Resources and Water Quality Programs. He has recently been appointed the Watershed Lead for the Upper and Lower Skagit Basins, Island County and San Juan County, where he will be coordinating watershed planning and salmon recovery efforts. Prior to joining Ecology he worked at King County, the Seattle District Corps of Engineers, and the Muckleshoot Indian Tribe.

**Director: Ingrid Wertz** – Ingrid is a Water Resources Engineer/Scientist with Taylor Associates in Seattle where she works primarily on stormwater monitoring, NPDES compliance, and water quality and quantity monitoring in general. Her work experience also includes project permitting and Superfund site investigations. She received her MSE in Environmental Engineering and Science from the University of Washington and was a Guest Researcher in the Limnology Department at Lund University in Sweden. When not outside collecting samples in the rain, Ingrid enjoys backpacking, telemarking, traveling, and ultimate (frisbee that is). ☺

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

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Submissions are welcome for the Jan/Feb 1999 newsletter. The submittal due date is January 8, 1999. The editor reserves the right to make changes for reasons of length, grammar, legality or clarity. Contact Chris Pitre at (425) 883-0777, or send submittals directly via:

Internet Mail: [cpitre@golder.com](mailto:cpitre@golder.com) (most document/graphic formats are acceptable)

Recent newsletters are available on: <http://earth.golder.com/waawra/>

## What this State Section is All About!

The WA 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, and underwriting of a special meeting in the late spring hosted by the student chapter and other subsidies.

**Interorganizational support** is fostered with local, interstate and international organizations.

A **bimonthly newsletter** is published 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 a **Fall Conference** in November which is the principal funding vehicle for many Section activities, including providing financial support to the Section's Student Fellowship program.

A **dedicated board** of 15 members meets regularly to plan, organize and facilitate events.

The Washington Chapter has been selected to host the **1999 National AWRA Conference** in Seattle.

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 in the side board to the left.

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# Stillaguamish Tribal Battle Effects of Landslides

by Logan Harris, Northwest Indian Fisheries Commission

After years spent trying to slow a massive Deer Creek landslide and preserve what salmon and steelhead remained in the DeForest Creek Basin, the Stillaguamish Tribe and others are now working on habitat projects to boost fish numbers that are beginning to bounce back.

The latest is a silviculture project designed to reintroduce large conifer trees to the basin. The trees provide important shade and contribute to the large logjams needed to create deep pools in the stream leading to the North Fork of the Stillaguamish River. "The idea is to speed up the process of recovering this damaged basin," said Priscilla Shipley, Stillaguamish Tribal Chair. "When the land and the fish are hurting, we are hurting. The Deer Creek area has tremendous cultural significance to the tribe."

For the past 15 years, the Stillaguamish and Tulalip tribes, state and federal agencies, timber interests, and sportfishing groups have worked to stabilize the landslide in the DeForest Creek Basin. More than 3 million cubic yards of sediment have entered Deer Creek since the landslide began in 1983. Salmon spawning, rearing, and resting habitat was destroyed when stream channel grading caused sediment to fill in the deep pools needed by fish.

The large conifers—primarily western red cedars—critical to the basin's riparian zone were blown out by the slide or previously logged, and thin alder trees have grown in their place. This has led to higher velocities and warmer water temperatures that are also bad for fish. Local sportfishing groups have tried to help by creating artificial shade protection using logs and black plastic.

Deer Creek was once world-famous for its summer steelhead runs, but fish habitat was in such poor shape prior to 1990 that the creek's steelhead run was decreasing by 50 percent per generation and fish managers were predicting the run would be extinct by the year 2000. "We felt it was now or never for a change in land management practices and restoring what was already damaged," said Pat Stevenson, Stillaguamish Environmental Coordinator.

Erosion continues, but the volume has decreased significantly in recent years, helped in part by U.S. Forest Service efforts to limit logging above the slide, retire unused logging road, and improve mainline roads with bridges and culverts. Also credited is state-of-the-art drainage systems put in place by Olympic Resource Management, the Department of Ecology, and the Stillaguamish Tribe.

Coupled with flooding events that actually benefited the stream by scouring out sediment, Deer Creek's fish habitat has begun to improve and steelhead and salmon numbers have reversed their downward trend.

"Pools that were ankle deep in the mid to late '80s are now nice deep pools that should support a lot of fish," said Stevenson.

"In the 1990s the fish numbers began to stabilize and we're starting to see an increase now," said Curt Kraemer, district fish biologist for the Washington Department of Fish and Wildlife. "On one fly over in 1990, I spotted less than 100 adult steelhead in the basin. In the same fly over in 1994, I saw about 500 fish."

That's still well below what the creek traditionally supported. Now the trick is getting steelhead and salmon numbers to, if not pre-slide numbers, something close. One way is to continue to improve the battered habitat.

The tribe wants to see how conifer trees thrive in the basin using different planting strategies for western red cedar on as many as 50 plots within the thick alder canopy bordering the Deer Creek mainstem. The plots would range from clear cuts to 100 percent cover, with differing amounts of trees and species. The tribe wants to put in permanent bench marks that can be monitored for 20 years.

"We want to get a feel for whether actively managing the riparian zone is a good idea," said Stevenson. "Within 20 years we should begin to see if the fruits of our labor are paying off."

The Stillaguamish Tribe is paying for the silviculture project with money from a \$500,000 Centennial grant Stevenson successfully obtained from the state Department of Ecology. Part of the money was spent on engineers charged with studying the slide and developing a range of options for reducing the sediment loading problems caused by the slide. The interagency group decided on a basin-wide sediment approach, which is where the tribe's riparian project fits in.

The riparian project came about when information put together by consultant 10,000 Years Institute included research about the basin's riparian zone, mass wasting and fisheries, and later developed into a salmon restoration strategy for Deer Creek. The report evolved into a full-blown watershed analysis with written prescriptions to protect Deer Creek from future logging and road-building activities.

"Our hearts were saddened when Deer Creek was so greatly damaged, but we are encouraged to see that it will be protected in the future," said Shipley.

**For More Information:** Logan Harris, Northwest Indian Fisheries Commission, (360) 424-8226. ❧

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# February Dinner Meeting

## Sustainable Development Practices for Water Resources

### Jim Wertz (USEPA Water Office)

On Tuesday, February 23, Jim Wertz, Senior Policy Advisor in the Office of Water at the United States Environmental Protection Agency will be the featured dinner speaker at the first AWRA dinner meeting of 1999. Formerly Director of the Sustainable Communities Program at the EPA, Jim worked to organize the national effort to design the EPA's "Sustainable Development Challenge Grant" program for supporting grass roots efforts for promoting sustainable development efforts in the United States. He has fourteen years of experience in environmental management, and he currently has primary responsibility for developing the policies that will enable the integration of the Clean Water Act with the Endangered Species Act.

Jim's presentation is sure to entertain and inform. He will begin with excerpts from the EPA's CD-Rom "Sustainability – Holistic Perspectives for the Next Century." In his presentation, he will address the EPA's role in sustainability, both locally, and at the National level, through the President's Council. He plans to discuss local pilot projects for a Northwest perspective, and his challenging work in making the concept broadly understood within the agency and elsewhere. In his new role in the Office of Water, Jim is beginning to formulate policy to address the complicated connection between the proposed Endangered Species Act listing of Puget Sound chinook salmon and the Clean Water Act. He will bravely venture into this murky water by framing the question and some avenues of discus-

sion about Sustainability's role in ESA and the Clean Water Act.

As a special introduction of the featured speaker, Andrea Volkman, the Sustainable Development Practice Leader at CH2M HILL, will provide an overview on the concept of balancing the economy, the natural environment, and social factors, while meeting necessary human consumption and use needs.

Please join us at 5:30 pm for socializing and no-host bar service. Dinner will be served at 6:15, followed by Andrea's introduction and Jim's presentation. The meeting will adjourn at approximately 8:30 pm.

Pre-registration for the meeting is requested (\$22.00 for members, \$25.00 for non-members). Walk-ins will be accepted as space allows, for a \$5.00 surcharge. Make checks payable to AWRA Washington Section, and mail them by February 18 to Julianne Ewings, CH2M HILL, PO Box 91500, Bellevue, Washington, 98009-2050. Please indicate your dinner preference of peppercorn steak with new potatoes or teriyaki vegetables with steamed rice. Both options are served with a spinach salad.

Directions: Latitude 47 Restaurant is located on the west shore of Lake Union at 1232 Westlake Avenue North in Seattle. Take the Mercer Street Exit from I-5. Turn right at the Westlake Avenue traffic light. The restaurant is on the right, about ½ mile after the turn.

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## Meetings/Conferences

*[Editor's note: Announcements of other organizations are included here. To include your announcement, contact [cpitre@golder.com](mailto:cpitre@golder.com). Links to these organizations and further details are provided through our web page at <http://earth.golder.com/waawra/>.*

January 25 & 26♦"Hearings on the Source Water Assessment Program Under the Safe Drinking Water Act" ♦Washington State Department of Health (Jan. 25 at Spokane Community College, Spokane; and Jan. 26 at Dept. of Labor and Industries, Tumwater; both 4-6 pm)♦Contact (360) 236 3151.

February 2♦"Research Relevant to ESA Recovery: Analytical Framework"♦NOAA, NMFS, Northwest Fisheries Science Center♦Contact Su Kim at (206) 860-3200.

February 17♦"Hydraulic Continuity: Findings of the Legislative Advisory Committee", Speakers: Joseph Jones (USGS) and Bob Anderson (Golder Associates)♦Washington Hydrologic Society Meeting♦Contact Llyn Doremus at (206) 244-8640.

February 18♦"City of Bellevue Lakemont Blvd. Construction and Stormwater Treatment", Speaker: Bill Taylor♦ASCE Water Resources Committee Meeting, HDR in Bellevue♦12-1 pm♦Contact Fritz Timm (425) 519-6500.

March 17♦"Current Legislative Activity Related to Water Resources"♦Washington Hydrologic Society♦Contact Llyn Doremus at (206) 244-8640

### NEW SECTION FOR NEWSLETTER

Starting with the March/April issue of the AWRA Washington Section newsletter, there will be a new section called the "kiosk" in which members can share good news about their careers, e.g. new jobs, promotions, grants, publications, and awards. Please send all submissions for the "kiosk" to the newsletter editor, Chris Pitre at [cpitre@golder.com](mailto:cpitre@golder.com).

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## 1999 Membership Application / Change of Address Form

( ⌘ please circle, as appropriate ↗ )

Annual membership in the state chapter costs \$25.

(If you attended the 1998 Fall Conference, you are a member for 1999 – Welcome!)

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

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

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

Check if you would like to be actively involved on a committee during 1999.  
You will be contacted to determine what committee involvement you would like.

1999 Membership Dues (through October 1999): \$25.00. **Checks only.** Please make check payable to **AWRA Washington Section.**

Mail to: AWRA, Washington Section  
c/o Mike Wert, Shapiro & Associates  
101 Yesler Way, Ste. 400  
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The American Water Resources Association is a scientific and educational non-profit organization established to encourage and foster interdisciplinary communication among persons of diverse backgrounds working on any aspect of water resources disciplines. Individuals interested in water resources are encouraged to participate in the activities of the Washington Section.

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

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