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HABITAT PROTECTION & WATER RIGHTS

BALANCING STREAM HABITAT WITH NEW WATER RIGHTS ISSUANCE
WASHINGTON STATE'S WATERSHED MANAGEMENT PROGRAM

by Andrew Graham, HDR Engineering (Olympia, WA)

Overview

Two watershed planning groups in southwestern Washington State have worked with State regulators to develop new approaches for issuing water allocations (new water rights) while protecting fish habitat. First, an extensive planning process was used to define water needs in several tributary basins within the Lower Columbia River Basin. In consultation with the State Department of Fish and Wildlife (Fish & Wildlife), surface water flow and fish habitat conditions were assessed to determine quantities of flow depletion that could be permitted without compromising recovery goals for listed species under the federal Endangered Species Act (ESA). In each tributary basin, specific quantities of flow were "reserved" for future water allocations.

Water users can access these reserved supplies only after meeting stringent conditions designed to avoid, minimize and mitigate impairment of fish habitat and other environmental values. Scoring systems were developed so that highly variable impacts from water development projects could be evaluated on a consistent basis and a wide range of mitigation actions could be reviewed in a structured and transparent fashion. This program is expected to: protect instream resources; improve access to new supplies for water users; and increase the predictability and consistency of mitigation requirements in this region of the state. It may also provide a model for consideration in other regions across the western states.

Background

State legislation passed in 1998 established Washington's Watershed Management Program, administered by the Washington State Department of Ecology (Ecology). The challenge facing the region was how to meet water demands of the region's growing population while ensuring adequate streamflows to meet instream needs, particularly those of ESA-listed salmonids. The program allows water resource management to be organized by river basin or Water Resource Inventory Area (WRIA). Planning groups can be organized in each WRIA or group of WRIAs, with participation by cities, counties, Indian tribes, water utilities, citizens and other interested stakeholders. State funding is provided to support development and implementation of Watershed Management Plans. For more information see Chapter 90.82 *Revised Code of Washington* (RCW) and Ecology's website at: www.ecy.wa.gov/watershed/index.html.

Water Rights & Habitat Protection

Integrated Planning

Supply Needs

"Reservations"

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This article presents a program developed jointly by two groups covering four WRIAs in the Lower Columbia River Basin (Figure 1 below). One group was formed to address the Grays /Elochoman and Cowlitz River Watersheds (WRIAs 25 and 26). Another was formed to plan for the Lewis River and the Salmon Creek/Washougal River Watersheds (WRIAs 27 and 28). State and local agencies as well as citizens participated in both planning groups, and the Lower Columbia Fish Recovery Board (LCFRB) served as lead agency for management purposes. Grant funding was used to hire HDR Engineering as the lead consultant for the watershed plans.

Concurrent with watershed planning activity, LCFRB also developed habitat restoration plans throughout the four WRIAs as well as adjacent areas. These activities provided the opportunity to integrate habitat protection and restoration with water supply planning and other water resource management activities.

Planning Groups Develop a Balanced Strategy

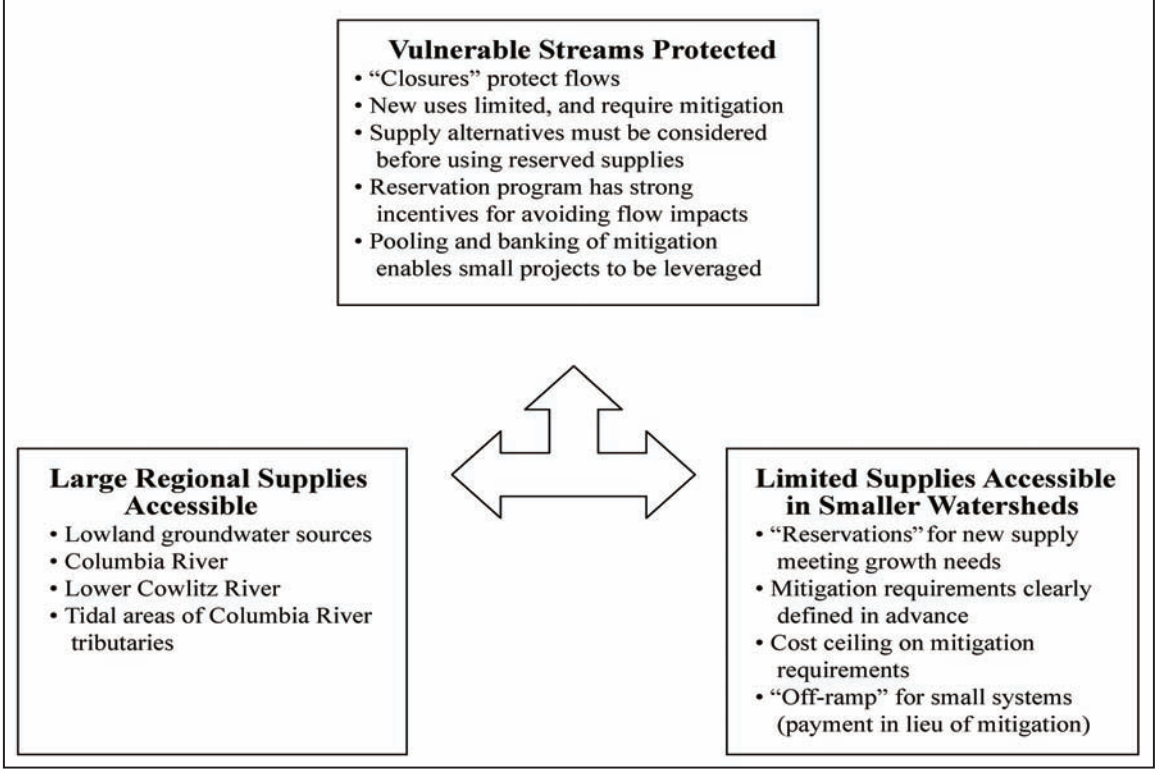
Watershed Management Plans adopted in 2006 for WRIAs 25/26 and 27/28 defined policies to balance streamflow and habitat protection objectives with the need for additional water supplies (*Grays-Elochoman and Cowlitz Watershed Management Plan*, LCFRB, July 2006; and *Salmon-Washougal and Lewis River Watershed Management Plan*, LCFRB, July 2006). These plans identify water resources that can support regional-scale water supply development without harming fish habitat. The plans also recognize that many streams within the region are vulnerable to new supply development, and "close" new allocations to surface or groundwaters affecting those streams. However, where available streamflows can support limited depletions for supply development, water supply "reservations" are defined to permit limited allocations. In order to access these reservations, the effects of access must be mitigated.

Figure 1. Lower Columbia River Basin Water Resource Inventory Areas (WRIAs)

Water Rights & Habitat Protection

Figure 2 summarizes key elements of the water supply and stream habitat protection strategy adopted by the two Planning Units. Ecology is currently taking steps to adopt the stream closures and reservations into State regulations at Chapters 173-525 to 173-528, *Washington Administrative Code* (WAC).

Figure 2. Elements of Water Supply and Stream Habitat Protection Strategy



Application Processing

In order to effectively implement this strategy, the Planning Units determined that specific procedures should be developed for water rights applicants and the state agencies that review requests for new water supply. A Mitigation Subcommittee with members from both Planning Units was formed in 2007 to develop these procedures. This paper is based on the Subcommittee's draft report to the two planning groups (*Integrated Strategy for Implementing Water Right Reservations*, HDR Inc., October 2008 [Draft]). Upon adoption by the two planning groups, Ecology will use these procedures in processing water rights applications within WRIAs 25-28, in consultation with Fish & Wildlife.

"Water Reservation"

"Closed" Streams

A water reservation is a specific quantity of streamflow within a "closed" stream that remains available for potential use in the future. It essentially provides an a priori declaration that water is "available" under the State Water Code for a new water right. Under the proposed regulations, Ecology would be authorized to issue new permits for water use up to the limit of the reservation in each basin or sub-basin.

Reservation Quantity

Reservation quantities were determined during the watershed planning process based on existing streamflow conditions, habitat needs, forecasts of water supply needs, and related factors. Reservations come in two "flavors." Some are specifically associated with specific water users, such as a given city, town or other identified water system. Others are established for categories of users such as private industry, agriculture or small water systems.

Procedure for Accessing Reserved Supplies

Habitat Protection

The Planning Units intend that streamflow and aquatic habitat, even under water reservations, should be protected from unnecessary depletion. A stringent set of conditions were established to carry this out. At the same time, the Planning Units intend that reserved water be available to serve demonstrable needs of growing communities and economic development in WRIAs 25 – 28. To accomplish these dual goals, certain procedures were defined.

Water Rights & Habitat Protection

Requirement to Access

Procedures for accessing reserved water include:

- An Applicant for reserved water must show it is eligible for the reserved supply; define the proposed water supply project; explain how the quantity of water needed was determined; and assess the impact of the proposed water development project on streamflow in any closed streams.
- Applicants must demonstrate that water supply alternatives have been reviewed to determine whether other water sources could meet the same need with less impact to closed streams.
- Where streamflow in closed basins or sub-basins will be reduced by the supply project, the applicant must propose flow-related mitigation actions. These actions must offset at least 50% of the depletion amount with flow restoration at an upstream location, if feasible and economical. The Subcommittee developed a scoring procedure Ecology can use to evaluate "credit" for flow-related mitigation actions (see below).
- Any remaining flow depletion must be offset, if feasible and economical, through habitat/watershed mitigation actions. A separate scoring procedure was developed to evaluate credit for these actions. The scoring procedure is based on comparison between habitat impacts of the flow depletion and benefits of the proposed mitigation actions (see below).

Cost Ceiling

- In order to protect water rights applicants from excessive costs, a cost ceiling was established. The cost ceiling has been recommended to be $2,000 per **a**cre-**f**oot per **y**ear (AFY) of supply. This value will be multiplied by the number of AFY allocated in the water right. Mitigation will be required only up to the limit of this cost ceiling. The ceiling was set at a level that balances economical supplies with habitat protection. Provisions are included to automatically escalate the cost ceiling for inflation annually and to periodically reset the ceiling for future allocations based on updated information.
- If these requirements and other provisions of State law are met, Ecology will be able to issue a permit authorizing the applicant to develop its supply project. Use of the reservation will be documented based on the net quantity of streamflow depletion (quantity not offset by flow-related actions). If water remains unused under the reservation, the applicant can return later with additional applications.

Monitoring

- The applicant must carry out the approved mitigation actions and provide documentation to the State that the actions were consistent with the approved proposal. Monitoring and maintenance will be required for actions that require time to fully develop. In addition, financial guarantees of the mitigation actions will be required as a condition for approval of water rights.

Small Supply Exemption

Off-Ramp for Small Flow Depletion

The Planning Units recognized that the review and analysis required by this procedure may be expensive to carry out and may require specialized expertise. In the case of small water supply projects this can be an unreasonable burden, especially for smaller communities in the watersheds. Therefore, an exemption was created allowing small supply projects to bypass the mitigation procedure. This exemption can be exercised at the choice of the applicant, but only for water rights that would deplete streamflows by a quantity of 0.2 **c**ubic **f**eet per **s**econd (cfs) or less. If the applicant chooses to use this exemption, they can pay into a mitigation fund instead of proposing mitigation actions. The dollar amount of this payment is under discussion, but is expected to be in the tens of thousands of dollars for every one-tenth cfs of net streamflow depletion, per mile of stream affected. This fee is being established based on the average cost for a range of fish habitat mitigation actions carried out in recent years in western Washington. The in-lieu fee will be adjusted from time to time. Funds will be pooled and used to carry out mitigation projects by a suitable fund administrator such as the LCFRB or a State agency.

Mitigation Fund

Credits Banking

Opportunity for Banking Mitigation Credits

The Planning Units recognize that some organizations may find suitable mitigation opportunities long before they need to tap their reserved water supplies. In other cases, a third party may be able to carry out mitigation and make mitigation credits available to water users. The procedures provide for both of these situations by allowing mitigation credits to be banked for the future and/or transferred.

Evaluation Procedures for Flow-Related Mitigation Actions

Evaluation procedures for proposed mitigation projects are critical for implementing the WRIA 25-28 Strategy. The Mitigation Subcommittee spent nearly a year developing suitable procedures for evaluating the two types of required mitigation actions: 1) flow-related actions; and 2) habitat/watershed actions.

Water Rights & Habitat Protection

Flow Mitigation

Weighting Procedure

Depletion v. Mitigation

Watershed Mitigation

The mitigation procedures were designed to:

- be relatively transparent and predictable
- be readily implemented by State agency staff (Ecology and Fish & Wildlife) responsible for reviewing water right applications
- appropriately draw on available data and expert knowledge
- use a structured process that could accommodate a wide variety of proposed mitigation projects

For flow-related mitigation actions, the simplest situation would involve replacing water depleted from a stream with water added upstream through retirement of existing water rights or other actions. If the water depleted and the water added have similar characteristics, then this is a simple volumetric comparison. In many cases, however, the water depleted may have different characteristics from the water added. For example, the length of stream affected will generally be different; the water added may involve a tributary stream while the depletion may occur on a mainstem (or vice versa); the seasonal timing of depletion and replacement may vary; the value of habitat may be different in the affected reaches; or water quality may be different.

A weighting procedure was devised so the value of water replaced could be compared with the value of water depleted. State agency staff is directed to first identify which attributes vary between the flow depleted and the flow replaced. For each attribute that varies, a "depletion weight" is assigned to reflect its relative importance to the comparison. Depletion weights are summed to yield a normalized value of 100. Next, the proposed mitigation action is scored for each of these attributes. A "mitigation weight" is assigned on a relative basis. A mitigation weight higher than the depletion weight reflects higher environmental value from the mitigation. A mitigation weight that is lower than the depletion weight reflects lower environmental value from the mitigation. Mitigation weights and depletion weights are then summed and compared to the normalized score of the depletion weights. This yields a factor representing the value of the flow-related mitigation compared with the flow depletion.

Table 1 provides an example of the weighting procedure for flow-related mitigation actions. In this example, three attributes exhibit strong differences, while the other two do not. The attribute called "LCFRB Tiers" is a representation of habitat quality based on extensive investigation and modeling carried out previously in these watersheds. The scores assigned are without units, designed solely to permit relative comparisons based on consideration of applicable information.

Table 1: Example of Weighting Procedure for Flow-Related Mitigation

Step 1: Select Weighting Factors	**Step 2: Assign Depletion Weights** (normalized to 100 total)	**Step 3: Evaluate Mitigation Weights** (assessed relative to Depletion Weight)
Mainstem/tributary relationship	20	40
Length of stream affected	n/a	n/a
LCFRB Tiers	60	80
Seasonality	n/a	n/a
Water Quality	20	10
Step 4: Sum Weights from Rows	100	130
Step 5: Compare Sums (Relative Value of Mitigation)	130/100 = 1.3	
Assume depletion quantity = 4.0 cfs and flow-related mitigation quantity = 2.0 cfs. However in this example each unit of mitigation is valued higher than each unit of depletion, by a factor of 1.3 So Mitigation Credit is: (1.3) x (2.0 cfs) = (2.6 cfs) The additional 0.6 cfs of mitigation credit reduces the amount of habitat mitigation that is required to address the net streamflow depletion. However it does not reduce the total amount (2.0 cfs) deducted from the reservation.		

Evaluation Procedures for Habitat/Watershed Mitigation Actions

A similar procedure was developed for evaluating habitat/watershed mitigation actions. In this case, mitigation actions will act on other aspects of aquatic habitat or watershed health, instead of on streamflow. This "out-of-kind" comparison is inherently more challenging than evaluation of flow restoration actions. For habitat/watershed actions, a "ledger system" was defined, comparable to a financial comparison between debits and credits. In this system, flow depletion represents "debits" that must be quantified. Debits are scored based on: quantity of flow depletion; river miles affected; the degree to which flow is a limiting factor for fish production; and the importance of the depleted reaches to fish habitat. Based on these factors, a table was developed to calculate a depletion score using a standard point system.

Water Rights & Habitat Protection

Mitigation Categories

For the "credit" side of the ledger, the value of mitigation must be scored in a manner allowing direct comparison with the debit score. The Mitigation Subcommittee identified five primary categories of mitigation actions that may be proposed.

The five primary mitigation categories include:

1) Side-Channel/Off-Channel Habitat Restoration (measured in acres of restored fish habitat)
2) In-Channel Improvements (measured in square feet of improved fish habitat)
3) Wetland Restoration (measured in acres)
4) Floodplan reconnection (measured in acres)
5) Riparian Preservation and Restoration (measured in acres)

Within each of these five categories a separate scoring system was devised to evaluate the value of the proposed mitigation action. Where mitigation actions can clearly be linked to quantitative measures of stream habitat (e.g. area of improved habitat measured in square feet), the scoring was based on relationships between flow and **w**eighted-**u**sable-**a**rea ("WUA" — based on Instream Flow Incremental Methodology studies conducted in the watersheds). This manner of evaluation applies to the first two categories above. For the remaing three categories, scoring is based on a structured process of professional judgment, exercised within a defined range of points related to specific attributes of the proposed mitigation action.

For each of the five categories, a separate table was developed indicating the factors that should be considered and the range of points that can be awarded for different factors. For example, the importance of available habitat in affected river reaches is one factor that governs the number of points to be awarded.

To complete the evaluation, mitigation points (credits) are compared directly with the depletion points (debits) within the ledger system.

Conclusions

Clear Structure

Determining the appropriate level of mitigation for a given water supply project is inherently challenging. Regulatory decisions on mitigation requirements rely on a combination of agency staff judgment, interpretation of qualitative information and analysis of quantitative data. Under the status quo in Washington State, the structure of these comparisons is not well defined. Applicants and agency staff have no clear means to resolve differing perspectives on the value of mitigation proposals or the impacts of flow depletion.

The procedures outlined here provide a clear structure for evaluation and decision-making. They support improved discussion of the merits of mitigation proposals between applicants and agency staff charged with issuing water development permits. This should allow improved access to water supplies and predictability of mitigation costs, while protecting habitat quality.

The program described here was developed specifically for the affected watersheds of southwestern Washington State, and was based on local conditions. However, many of the elements of this program may be adaptable to other locations that face similar challenges in allocating water supply while protecting environmental values.

For Additional Information:

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Washington State Laws and Rules website: www.ecy.wa.gov/laws-rules/index.html

Andrew Graham leads HDR's water planning services in western Washington. He holds a master's degree in public policy from Harvard University. He is active in municipal water system planning and conservation. Andrew authored Washington State's Guide to Watershed Planning and Management, and has produced watershed plans for the Yakima Basin and tributaries to the Lower Columbia River. Over the years, he has assisted the State's Departments of Health, Ecology and Agriculture with policy and program development. In addition, he recently completed work on a statewide forecast of water needs for the Oregon Water Resources Department.

CWA Suits

CLEAN WATER ACT CITIZEN SUITS

THE PLAINTIFF'S PERSPECTIVE
LIABILITY IS "STRICT" — WHAT'S LEFT TO DISCUSS?

by Michael Chappell, Attorney at Law (Spokane, Washington)

Strict Liability

Strict Liability

As this article's subtitle notes, the federal Clean Water Act (CWA) is a strict liability statute.

What does" strict liability" mean for potential Plaintiffs? Simply put, if Plaintiffs thoroughly investigate and prepare their case they should win every CWA citizen enforcement action. Put another way, Defendants have very few defenses to CWA allegations. As noted in *Sierra Club v. Union Oil Co*., 813 F.2d 1480, 1490-91 (9th Cir. 1987), vacated on other grounds, 108 S. Ct. 1102-03 (1988), judgment reinstated, 853 F.2d 667 (9th Cir. 1988): "The Clean Water Act and the regulations promulgated under it make no provision for 'rare' violations." The onus is therefore on Plaintiffs to minimize potential issues that may derail a case.

Potetial Issues

Possible issues include: Plaintiff standing; "*Gwaltney*" requirements to show ongoing and future likelihood of violations (citation below); mootness; and inadequate notice. Each of these issues is discussed in more detail below, including how to avoid potential problems — but always keep strict liability in mind.

Clean Water Act Background

CWA Goal

For those unfamiliar with the CWA and its regulations, here is a brief statutory background.

Congress specifically stated that the goal of the CWA is to reduce pollution in all US waters and to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The mechanism central to Congress' mandate to reach the fishable, swimmable water quality goal is the CWA's National Pollutant Discharge Elimination System (NPDES) permit scheme (see 33 U.S.C. § 1342). In court in *Arkansas v. Oklahoma*, 503 U.S. 91, 101-02 (1992), found that, "The primary means for enforcing these limitations and standards is the NPDES, enacted in 1972 as a critical part of Congress' 'complete rewriting' of federal water pollution law." The CWA prohibits the discharge of any pollutant by any person except in compliance with an NPDES permit issued by the US Environmental Protection Agency (EPA) or by an EPA delegated State-permitting authority. *Id.*

NPDES Permits

Recognizing potential regulatory limitations in enforcing the CWA's mandate, Congress authorized citizens to initiate enforcement actions against any "person," including an individual, or corporation, "who is alleged to be in violation of the CWA." 33 U.S.C. §§ 1362(5), 1365(a)(1). Therefore, citizens may bring suit against an entity that discharges point source pollution to navigable waters without a valid NPDES permit. The Ninth Circuit in *Association to Protect Hammersley, Eld, and Totten Inlets v. Taylor Resources, Inc.*, 299 F.3d 1007, 1012 (9th Cir. 2002) held that neither the text nor legislative history of the CWA provides the CWA administrator with the exclusive authority to enforce violations of the CWA.

Citizen Suits

Finally, the CWA imposes strict liability on those who violate its provisions. CWA "makes dischargers...'strictly liable' for any violation of a NPDES permit. Thus, neither good faith, impossibility, nor data reporting errors, are accepted as valid defenses to liability, although such factors may be relevant to the penalty phase." *California Public Interest Research Group v. Shell Oil Co*., 840 F. Supp. 712, 714-715 (N.D. Cal. 1993).

Limit on Defense

The Clean Water Act Violations

As noted above, the CWA prohibits the discharge of a pollutant, from a point source, to a water of the United States, unless in compliance with an NPDES permit. 33 U.S.C. § 1342. Each of these elements has been heavily litigated over the years, but in general industrial sites, construction sites, wastewater treatment plants, municipal storm sewer systems, and projects that involve dredging and filling of wetlands all require NPDES permits, provided the facility/system/project discharges pollutants to a water of the United States.

Point Source

Merely discussing "what is a point source" or what is a "water of the United States" could easily be an entire seminar topic on its own. For this article, it is assumed that the facility/system/project discharges from a point source to a water of the United States.

CWA Suits

Investigation of Files

Litigation Costs

Agency Records

Discharge Records

Permit Violations

Sampling

Rain Data

Initial Strategies

HOW DO I RECOGNIZE A POTENTIAL CWA CASE?

The answer to the above question depends in large part on your situation. If you are working with/for an environmental organization, you will find most of your cases from internal investigations or member/citizen complaints. If you are an individual impacted by discharges from a facility, municipality, construction site, etc. you should contact an environmental organization to discuss your problem and potential solutions. Finally, you can investigate the files at the regulatory agency to determine NPDES permit compliance for specific facilities (state agency or EPA if the state does not have NPDES permitting authority).

Regardless of how you discover the specific Defendant involved, once you have done so you must make several commitments prior to investing significant resources in case work-up/investigation. Specifically, you should:

- Retain an attorney or if you are an attorney ensure that you have a viable client.
- Be prepared to fund the litigation (costs are extremely variable, depending on what "type" of facility/system/project is targeted), including expert fees, possibly attorney's fees, and out-of-pocket costs.

Pre-Litigation Investigation

This is most important phase of the enforcement action — remember strict liability. The following is an overview of a typical investigation, including what documents you will review and what work product you will generate before drafting the requisite 60-day notice letter.

Pre-litigation steps include:

- Agency record request: Draft a public record request to the applicable regulatory agency(s) (State Department of Environmental Quality (DEQ), EPA, or the US Army Corps of Engineers).
- Agency record review: During your visit to the regulatory agency, review and copy/scan at a minimum the following documents: NPDES permit(s); all discharge monitoring reports for the past five-years (the statute of limitations for Clean Water Act violations); annual/quarterly reports to the agency for the past five-years; correspondence between agency and discharger; and all notices of violations/administrative penalties assessed by the agency against the discharger.
- Discharger record request: If the discharger is a public entity, send a public record request to the discharger and visit the discharger to scan/copy the above documents. The purpose of the visit to the regulated entity is to ensure a complete investigation file on the discharger and to ensure that the discharger is properly reporting to the agency.
- Discharger financial review: If the discharger is a private entity, conduct a detailed public records review (on Lexis' public records database for example) of the company to ensure it can "afford" the litigation. The discharger must be able to afford the cost of changing its operation to comply with the CWA, and the cost of the litigation itself, including civil penalties and fees (attorney and expert) and costs for both Plaintiff and Defendant. See 33 U.S.C. § 1365.
- Determining violations: Review the documents to determine NPDES permit violations — the violations will be self-reported if the target is a wastewater treatment plant and the violations will have to be "discovered" if the discharger is an industrial or construction site. You will compare reported stormwater discharge data with the applicable permit requirements.
- Sampling: Take a stormwater sample (if the discharger is an industrial or construction site) and compare the sample results to the applicable NPDES permit. The person taking the sample should be experienced in stormwater sampling. A person that is certified to take a sample is preferable. The person taking the sample should never be the attorney, because that person may be required to testify under oath at trial or deposition and provide a declaration during the litigation.
- Violations spreadsheet: Draft an Excel spreadsheet listing each of the violations, including the parameter violated, the permit requirement, the sample result, the date of the violation, and the location of the violation at the facility if applicable (discharge location).
- Industrial or construction rain data: If it is an industrial or construction stormwater investigation, you will need to download five-years of rain data (the National Climatic Data Center is the source I typically use) and draft a rain table to demonstrate days of violations, i.e. "each day it rains more than 0.1 inches (the amount of rain EPA has determined is required to create a discharge) the discharger allowed the discharge of pollutants in violation of its NPDES permit."

CWA Suits

Dredge & Fill

MS4 Cases

- Wastewater treatment violations tables: If it is a wastewater treatment plant investigation, you should draft a table detailing each of the effluent violations (end-of-pipe violations) and another table detailing all storm sewer overflows from the sanitary sewage collection system.
- Dredge and fill cases: If it is a CWA section 404 dredge and fill case, you need to review documents at the Army Corps of Engineer to ensure that the agency complied with 404 requirements (this is an incredibly detailed analysis and typically requires retention of wetlands/hydrology experts).
- MS4 investigations: If it is a **m**unicipal **s**eparate **s**torm **s**ewer **s**ystem (MS4) investigation, ensure that the municipality is complying with its MS4 permit and draft a table of violations detailing all violations of the permit.

Based on your document review, if you conclude that the discharger is violating the CWA your next step is to make sure you have the legal prerequisites for filing a citizen enforcement action. As noted, the main issues are standing, *Gwaltney*, and Mootness.

Standing

Jurisdiction Decisions

Although standing is relatively settled law at this point, it is jurisdictional and can be raised at any stage of the litigation, by the defendant or sua sponte (i.e. unsolicited) by the court. *Friends of the Earth, Inc. v. Laidlaw Envtl. Serv. (TOC), Inc*., 528 U.S. 167, (2000) held that where violations occurred after filing of complaint, but eventually stopped, citizens had standing to sue because they sought to compel future conduct through imposition of penalties and also held that Plaintiffs need not show that the environment was harmed, but that Plaintiffs were harmed by Defendant's conduct. *Ecological Rights Foundation v. Pacific Lumber Co.*, 230 F.3d 1141(9th Cir. 2000) reversed a district court holding that Plaintiffs lacked standing to sue for stormwater violations and held that Plaintiff organization members need not live near the affected creek to have standing; they need only have an interest in the aesthetics of an area. Citing *Laidlaw*, the 9th Circuit held that there is no requirement for regular or continuous use of an area to confer standing.

Moreover, in *Hunt v. Washington State Apple Advertising Comm*., 432 U.S. 333, 343 (1977) an association was found to have standing to bring suit on behalf of its members when: (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit. *Waste Action Project v. Clark County*, 45 F. Supp. 2d 1049, (W.D. Wash. 1999) held Plaintiffs to have standing where members of Plaintiff's organization used waterways for recreational purposes that were polluted by Defendant.

In light of these cases, you should do the following *before* sending a 60-day notice of intent to sue (which you must do before you file your complaint).

Standing Requirements

Pre-60-day notice letter steps:

- Establish that the environmental organization has standing.
- Ensure that the members are willing to participate in the litigation.
- Explain to the members that participation may include the drafting of declarations, and testifying under oath (at a deposition and/or at trial) detailing each of the elements of standing. The witness must be able to articulate the harm suffered, that Defendant "caused" the harm, and that the enforcement action will redress the alleged injury.

My experience is that three-to-five members is a good number for organizational standing. One is all that is required, but you do want some redundancy because again, standing is jurisdictional and if circumstances change for a member over the course of the litigation, Defendants can raise standing and have your case dismissed.

Note that only one Plaintiff must have standing for a case to continue. If you have multiple Plaintiffs, you can maintain the suit if for some reason one Plaintiff loses standing during the lawsuit, but the remaining Plaintiff still has standing.

Gwaltney

CWA ACTIONS FOR WHOLLY PAST VIOLATIONS PROHIBITED

Ongoing Violations

Again, this is relatively settled law and if you properly conduct your investigation, this should not be an issue once you commence your enforcement action.

Gwaltney of Smithfield v. Chesapeake Bay Foundation, 484 U.S. 49, (1987) held that the CWA does not permit citizen suits for wholly past violations, and for the Plaintiffs to have standing, they must have shown the existence of ongoing violations or the reasonable likelihood of continuing future violations.

CWA Suits

As *Gwaltney* prohibits CWA actions that are for wholly past violations, you must choose cases that have a high likelihood of future violations. For example, I would not file a lawsuit if the discharger only has a handful of violations in the past five-years. Ideally, you want a discharger who has numerous violations per year, which then allows you to argue that the discharger has a "reasonable likelihood of continuing future violations." If it is a stormwater case, you should take a stormwater sample immediately after you file the complaint to demonstrate "ongoing violations" thereby eliminating a *Gwaltney* defense.

Mootness

Defendant's Burden

All cases must meet Article III "case or controversy" requirements (US Constitution). Therefore, you need to choose cases that will not become moot during the litigation. This issue typically arises with construction permit stormwater cases where the project is completed during the litigation. Obviously, you need to think of this prior to filing the action. Problems can be prevented by either filing the complaint early in the project, or filing a complaint against developments that have several phases.

On the other hand, *Gwaltney* also held that: "In seeking to have a case dismissed as moot...the defendant's burden 'is a heavy one.' The defendant must demonstrate that it is 'absolutely clear that the allegedly wrongful behavior could not reasonably be expected to recur.' Mootness doctrine thus protects defendants from maintenance of suit...solely on violations wholly unconnected to any present or future wrongdoing, while it also protects Plaintiffs from defendants who seek to evade sanction by predictable 'protestations of repentance and reform.'"

Agency Action

The Defendant may argue that your case is moot because the regulatory agency has or is properly handling the situation. The CWA protects Defendants from dual suits by the EPA and private citizens. Specifically, 33 U.S.C. § 1319(g)(6)(A) provides that:

> Action taken by the Administrator...under this subsection shall not affect or limit the Administrator's...authority to enforce any provision of this chapter; except that any violation...(i) with respect to which the Administrator...has commenced and is diligently prosecuting an action under this subsection, (ii) with respect to which a State has commenced and is diligently prosecuting an action under a State law comparable to this subsection,...shall not be the subject of a civil penalty under subsection (d) of this section or section 1321(b) of this title or section 1365 of this title.

Penalty Action

In *Washington Public Interest Research Group v. Pendleton Woolen Mills, Inc*., 11 F.3d 883, 37 ERC 1806, 1808 (9th Cir. 1993) the court held that the citizen suit was not barred because the language of the statute "unambiguously bars suits only when the EPA has instituted an administrative penalty action."

Timing

If state regulatory agency action is involved, the state law action must include assessment of civil penalties under a comparable state law, and those penalties must be assessed prior to filing of the complaint. In *Long Island Soundkeeper Fund, Inc. v. New York City Dep't of Envtl. Protection*, 27 F. Supp. 2d 380, 383-84 (E.D.N.Y. 1998), where the state had filed after the citizens suit complaint, the court held that the language of CWA made it clear that "state prosecution of the same claims, no matter how diligent, will not preclude a properly filed private action, or require its dismissal."

60-Day Notice Letter

Required Elements

33 U.S.C. § 1365(b) states that "No action may be commenced...prior to sixty days after the Plaintiff has given notice of the alleged violation (i) to the Administrator, (ii) to the State in which the alleged violation occurs, and (iii) to any alleged violator of the standard, limitation, or order..." The notice letter must identify: the responsible party; Plaintiff's name, address, and telephone number; and the location, description, and dates of the violations.

Your case work-up and investigation should identify each of the required elements and must be included in the notice letter. The exact elements depend on the specific case. If it is a stormwater case, you should attach the rain table demonstrating the dates that pollutants are discharged from the site. Further, you might indicate in the notice letter the results of the stormwater samples you took demonstrating the discharge of pollutants. If the action is a sewage overflow case, you should identify several specific examples of discharges in violation of the permit.

Filing Complaint

Finally, I always include language requesting that the discharger contact Plaintiff's attorney prior to expiration of the 60 days. However, no matter where settlement discussions are, you must file the complaint after the 60-day notice period has expired. *Gwaltney* requires post-complaint violations, so you must file the complaint to protect yourself against potential *Gwaltney* defenses.

CWA Suits

Motions to Dismiss

Penalty Trial

Civil Penalties

Fees & Costs

Summary Judgement Motion

Settlement Elements

Post-Complaint Action

LITIGATION OR SETTLEMENT?

Much of what occurs after filing the compliant is dictated by Defendant's conduct. Defendant may file a motion to dismiss under Fed. R. Civ. P. 12(b)(6) challenging venue, jurisdiction, standing, adequate notice, or simply failure to state a claim.

Defendant may (again, think strict liability) decide to immediately talk settlement. Perhaps Defendant wants to keep litigation costs low, is concerned with negative publicity, or actually wants to do the right thing and fix the problem.

In my experience, litigation in every CWA case occurs in two phases, liability first and then the penalty phase. As noted throughout, liability is strict, but penalty determinations are fact intensive and will require expert testimony to inform the Court. In my opinion, the penalty phase is therefore better suited for trial and not summary judgment. In determining the amount of civil penalties, the Court will look at the nature, circumstances, extent, and gravity of the violations, and "with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, economic benefit or savings (if any) resulting from the violation, and such other matters as justice may require. " 33 U.S.C. § 1319(g)(3).

Litigation Track

The provisions set out in CWA Section 309(d), 33 U.S.C. § 1319(d) and the EPA Regulation, Adjustment of Civil Monetary Penalties for Inflation (set forth at 40 C.F.R. § 19.4), authorize civil penalties for each separate violation of the CWA occurring between November 4, 1999 and March 15, 2004 of up to $27,500 per day per violation and civil penalties of up to $32,500 per day per violation for all CWA violations after March 15, 2004. CWA Section 505(d), 33 U.S.C. § 1365(d), provides for the recovery of attorneys' and experts' fees, and costs.

If Defendant litigates or is unreasonable during initial settlement discussions, you need to immediately begin discovery (following the early meeting of counsel to discuss the joint discovery plan and case management schedule). I suggest propounding a request for entry onto land and a request for production of documents. Depending on any potential factual issues that you identified during your investigation (for example, you believe the facility has additional discharge points that are not currently addressed by the facility's Stormwater Pollution Prevention Plan), you may also want to take depositions of defendant and/or employees.

Again, because of the strict liability nature of the statute and the thorough investigation you will have done before filing the complaint, liability can be established relatively quickly after the complaint is filed. If it is a stormwater permit violation case, you might want to get at least one stormwater sample, conduct some preliminary discovery, and then begin drafting/filing a motion for partial summary judgment.

Other CWA cases may require more extensive discovery and expert review (like a wetland's delineation or wastewater treatment plant overhaul), and partial summary judgment may take over a year to establish. It really depends on the nature of your case and the facts involved.

Note that following a successful motion for summary judgment, almost all Defendants will quickly come to you to discuss settlement.

Settlement Track

Again, the timing of settlement talks largely depends on Defendant's willingness to admit fault and seriously discuss the problem. Hopefully, talks occur immediately after the 60-day notice letter is sent, but they may not begin until after liability is established. Regardless of when settlement talks occur in earnest, every settlement I have been involved with has included certain elements.

SETTLEMENT ELEMENTS INCLUDE:

- The Consent Decree must be filed in Federal Court, to allow the Court jurisdiction over the terms of the Decree.
- The Department of Justice and EPA must approve the Consent Decree prior to entry by the Judge. See 40 C.F.R. § 135.5.
- The Consent Decree must require compliance with the Clean Water Act, and contains a framework for compliance.
- The Consent Decree contains funding for monitoring defendant's compliance. This element is included because a typical environmental group does not have the resources to continue to pay attorneys and experts to monitor Defendant's action.

CWA Suits

Mitigation Money

- The Consent Decree must contain either civil penalties paid to the United States Treasury, or preferably, mitigation money in the form of a Supplement Environmental Project paid to an independent third party to benefit the applicable watershed (see EPA's Supplemental Environmental Project guidelines at: http://cfpub.epa.gov/compliance/resources/policies/civil/seps). Note that mitigation money is never paid to the environmental group bringing the enforcement action.
- The Consent Decree must include payment of attorney's fees, expert fees, and out-of-pocket costs.

Each of these elements is required in the Consent Decree/settlement agreement. Although the specifics of each element is negotiable, the element itself must be included if Defendant wants to settle the case.

Conclusion

For the final time — the Clean Water Act is a strict liability statute. Defendants have very few defenses with which to sway the Court. Hold strong and remember that, in the end, the longer Defendants fight the more it will cost them in terms of poor publicity and litigation expenses.

For Additional Information: Michael J. Chappell, Attorney at Law, 415/ 939-3391 or email: Chappell.Law@comcast.net

Michael Chappell has worked in various capacities — student intern, law clerk, and attorney — for eight years at a San Francisco environmental firm specializing in Clean Water Act litigation. He represented grassroots environmental organizations, primarily groups that belong to the Waterkeeper Alliance, in Clean Water Act citizen suit enforcement actions. He worked on over sixty Clean Water Act cases filed in Federal District Courts in California. He also participated in approximately ten National Pollution Discharge Elimination System (NPDES) permit challenges before the California's regulatory agency and, when necessary, in California State Courts. Although his entire previous career was spent litigating in California, wherever appropriate he provides United States Supreme Court or 9th Circuit case citations to ensure they are applicable to Oregon and Washington, as well. In mid-June 2008, Michael opened his own practice in Spokane, Washington.

No Injury

GROUND WATER AVAILABILITY & THE NO INJURY RULE

DOMESTIC WELL OWNERS PROTECTED IN COLORADO

by David Moon, Editor

Overview

Domestic Ground Water Rights

The Colorado Supreme Court recently issued a decision that denied new ground water rights for a subdivision development to protect existing domestic ground water rights. *Buffalo Park Development Company v. Mountain Mutual Reservoir Company*, No. 06SA373, 195 P.3d 674 (Nov. 24, 2008). In 1994, Buffalo Park Development Company (Buffalo Park) filed an application for conditional water rights and an augmentation plan for 205 wells to support five new subdivisions in Jefferson County, Colorado. The wells would be constructed in the Turkey Creek and Bear Creek sub-basins of the South Platte River Basin. Small capacity well owners in the basins opposed the application, asserting that no unappropriated water was available and that the proposed augmentation plan failed to protect the well owners from injury. The District Court for Water Division 1 approved Buffalo Park's application for two of the subdivisions and dismissed it for three of the subdivisions.

Applicant's Burden

The Colorado Supreme Court (Court), in the opinion authored by Justice Gregory Hobbs, held that Buffalo Park Development Company (Buffalo Park) "did not meet its burden of proof" to prove the existence of "available unappropriated water for the ground water rights" for three subdivisions, or, in the alternative, to prove that it proposed "a non-injurious augmentation plan sufficient to protect the vested ground water rights of small domestic well owners who divert from the aquifers between the proposed three subdivisions and the surface waters of Bear Creek and Turkey Creek." *Slip Op*. at 5. The Court also rejected Buffalo Park's contention that the water court did not afford it an adequate opportunity to propose terms and conditions for an augmentation plan and affirmed the judgment of the water court.

Dissent

A dissenting opinion prepared by Justice Coats and joined by Justice Eid turned primarily on whether or not Buffalo Park should have been given an opportunity to propose additional terms and conditions for an augmentation plan that would address the ground water users' potential injuries.

No Injury

Augmentation Plan Purpose

Injury Issue

Vested Rights

Ground Water Injury

Evidence of No Injury

Reasonable Diversion

Expert Witness

Unappropriated Water

Augmentation Plan: Ground Water Users Versus Surface Water Users

Under Colorado water law, an *adequate* augmentation plan would allow an applicant to obtain a new water right in an area where there is no unappropriated water. As explained by the Court in this case, "An augmentation plan is a statutory device for allowing a water diversion structure, such as a ditch or well, to operate out of priority; in contrast to conditional and absolute water rights, augmentation plan decrees do not depend upon or assign priority dates. *Empire Lodge Homeowners' Ass'n,* 39 P.3d at 1155."

Approval of an augmentation plan is covered in part by Section 37-92-305(3)(a), C.R.S. (2008), which states that a plan for augmentation "shall be approved if such…plan will not injuriously affect the owner of or persons entitled to use water under a vested water right or a decreed conditional water right." The statute also provides "the applicant or any person opposed to the application an opportunity to propose terms or conditions that would prevent such injurious effect."

Buffalo Park's 1994 application claimed conditional ground water rights with an appropriation date of September 12, 1994, for 205 new wells for five subdivisions. "It also proposed an augmentation plan utilizing surface water sources to provide replacement water into Turkey Creek and Bear Creek to protect against injury to surface water users, but included no provision for augmentation of the ground water aquifers between the new wells and the surface streams to protect the ground water users." *Id.* at 7-8.

From the beginning of the case, the owners of "existing small capacity wells" in the vicinity of three subdivisions (Mountain Park Homes, Bear Mountain Vista, and Cragmont subdivisions) maintained that there was no unappropriated groundwater for the new applications. The groundwater users also asserted that the proposed augmentation plan was "fatally defective because it provided augmentation water only for surface water users and, thus, failed to prevent injury to the ground water users located between the newly-proposed wells and the surface waters of Turkey Creek and Bear Creek." *Id.* at 4. It should also be noted that the well owners "timely filed to adjudicate their vested small capacity ground water rights, in connection with maintaining their statements of opposition asserting injury." *Id.* at 8 (Footnote 2).

The Court cited its own decision, *Shirola v. Turkey Cañon Ranch Ltd. Liab. Co.,* 937 P.2d 739 (Colo. 1997), for its ruling that "the lowering of ground water levels was evidence of injury to existing small capacity ground water users and the developer failed to propose a plan to add augmentation water to the aquifer to prevent injury caused by its proposed new water use." Therefore, the issues raised by the ground water users "should have been anticipated" by Buffalo Park during trial preparation and they had "ample opportunity throughout the water court proceedings to introduce evidence and propose terms and conditions for an augmentation plan protective of the existing ground water users," according to the Court. *Id*. at 6-7.

The Court did provide an indication of the type of evidence needed in such a situation, when it addressed the failure of Buffalo Park to provide evidence at trial. "It made no evidentiary showing about the timing and amount of depletions and the sufficiency of legally available replacement water, in time and amount, to alleviate injury to the vested ground water rights of the existing well owners in the face of evidence that precipitation infiltrating into the aquifer could not be intercepted without causing injury to existing rights." *Id.* at 37.

Another issue which the Court provided guidance on dealt with the extent of the injury to a ground water user. First, the Court again cited the *Shirola* case at 937 P.2d at 734, then stated that, "Colorado water law requires that ground water appropriators employ a reasonable means of diversion. They cannot simply drill a shallow well and command the aquifer. *Colorado Springs v. Bender*, 148 Colo. 458, 462 366 P.2d 552, 555 (1961). In the present case, Buffalo Park did not demonstrate that homeowners in the area had drilled only to unreasonably shallow depths. To the contrary, the evidence shows that existing wells were drilled to considerable depths or have been re-drilled to such depths." *Id.* at 38-39.

Unappropriated Water and the Burden of Proof

"Good preparation, including good engineering and legal work, are necessary in cases like the one before us if the applicant is going to meet its burden of proof in regard to its claims." *Id.* at 35. Unfortunately for Buffalo Park, its expert witness was precluded at trial from testifying that unappropriated ground water was available for its proposed appropriations, since the water court precluded that testimony for lack of a required pre-trial disclosure. The Court cited *City of Aurora ex rel. Util. Enter.,* 105 P.3d at 610-12 — for its decision that declined to overturn a water court's evidentiary ruling that precluded expert testimony because of the applicant's failure to make necessary disclosures — and found that the water court's preclusion of the expert witness was not an abuse of discretion.

Buffalo Park, as the applicant, failed to carry its burden of proof to "establish that there is unappropriated water available for its proposed wells." In addition, the Court emphasized additional language from the water court's decision that the "burden is upon the Applicant to present sufficient site-specific evidence to rebut the presumptions of stream tributariness and well-to-well hydrologic connection."

No Injury

Sustained Yield

"Can and Will"

Tributary Ground Water Presumption

Imapcts on "Exempt Wells"

Subdivision Applications

No Injury Protection

Id. at 14 (Court citing the water court). The Court specifically noted evidence that the sustained yield of the aquifer was being exceeded and that water levels in the existing wells were continuing to decline significantly. Buffalo Park's expert admitted on cross-examination that "he had no site specific evidence for his theory that precipitation was sufficient to supply both the existing wells and the proposed new wells" and also that "if precipitation recharge was sufficient to exceed withdrawals, the existing wells should not be experiencing falling ground water levels." *Id.* at 12.

This burden of proof arises from Colorado's "can and will" statute that is applicable to the availability of unappropriated water for a conditional appropriation. As the Court pointed out, the statute contains "a threshold requirement that an applicant claiming the existence of unappropriated water for its conditional appropriation must prove this assertion. The plain language of section 37-92-305(9)(b), C.R.S. (2008), precludes a 'wait and see' approach by applicants who assert that conditions may change and meteorological changes will increase the availability of water. See *Colo. Water Conservancy Dist. v. City of Florence*, 688 P.2d 715, 717-18 (Colo. 1984). The applicant must prove that unappropriated water is available based upon conditions existing at the time of the application, in priority, in sufficient quantities, and on sufficiently frequent occasions to enable the applicant to complete the appropriation with diligence and within a reasonable time. *Bd. of Arapahoe County Comm'rs v. United States*, 891 P.2d 952, 962 (Colo. 1995)." *Id.* at 18.

Later in the opinion, the Court went into additional detail regarding an applicant's burden of proof: "The applicant for an augmentation plan bears the initial burden of producing sufficient evidence at trial to establish a prima facie case that the proposed depletion will be non-injurious." *Id*. at 21. Application of this "burden" in factual situations concerning potential injury to existing ground water users was further explained by the court. "Appropriators of tributary ground water are entitled to protection for their appropriations, as are surface water appropriators. *City of Thornton v. Bijou Irrigation Co.,* 926 P.2d 1, 80-82 (Colo. 1996). In overappropriated aquifer/surface water systems, Colorado law presumes that the proposed conditional depletions of tributary ground water by well pumping will result in material injury to other appropriators utilizing the same water source. *City of Aurora ex rel. Util. Enter.,* 105 P.3d at 607." *Id.* at 22-23.

"Exempt Wells"

"Exempt wells" are receiving more and more attention in the western US, with the usual concern being the impact of vast numbers of new exempt wells on existing water rights. In this case, however, the situation is reversed with the small capacity ground water users opposing an application for new ground water rights due to the impact on their existing rights. To establish an "exempt well" in Colorado, if the "return flow from the single family residential household use is returned to the same stream system in which the well is located, the State Engineer is entitled to presume that this use will not materially injure the vested water rights of others." Id. at 26; see Section 37-92-602(3)(II)(A), C.R.S. (2008). Thus, to obtain a right to use water from an exempt well, the owner is not subject to the normal "no injury" rule. That presumption, however, does not apply to subdivision ground water appropriations proposed after June 1, 1972 (Section 37-92-602(3)(b)(III), C.R.S. (2008)).

These "exempt well" owners are entitled to protect their established rights. In Colorado, "the owners of small capacity ground water wells hold vested ground water rights, obtained when they complete their wells and put the ground water to beneficial use. They are exempt from having to apply to the water court for recognition of their water rights and from priority administration by the water officials. Yet, they are entitled to protection of their water rights when new conditional ground water uses or augmentation plans are proposed pursuant to the 1969 Act and the well permit provisions of the Groundwater Management Act." *Id.* at 26-27 (citing *Shirola*, 937 P.2d 749-52).

"The owner of a vested small capacity ground water right may contest the adequacy of a proposed subdivision well augmentation plan through a statement of opposition in the case, and file for adjudication of his or her in-house residential ground water right's antedated priority date. *Shirola*, 937 P.2d at 754." *Id.* at 28.

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David Moon practiced water law in Eugene, Oregon with the Moon Firm until recently. He previously practiced in Bozeman, Montana with Moore, Refling, O'Connell & Moon. He is currently an editor of The Water Report and the Oregon Insider. Mr. Moon received his undergraduate degree at Colorado College and his JD at the University of Idaho Law School. He is a member of the Oregon, Idaho and Montana Bars. Mr. Moon practiced water law for over 28 years in Montana and Oregon.

Aquifer Recharge

Winter Source

Feasibility Study

Declining Groundwater

Curtailment of Rights

AQUIFER RECHARGE AND RECOVERY

ASSESSING POTENTIAL IN THE UMATILLA BASIN

by Said Amali, Ph.D., PE, IRZ Consulting LLC (Hermiston, Oregon)

Introduction

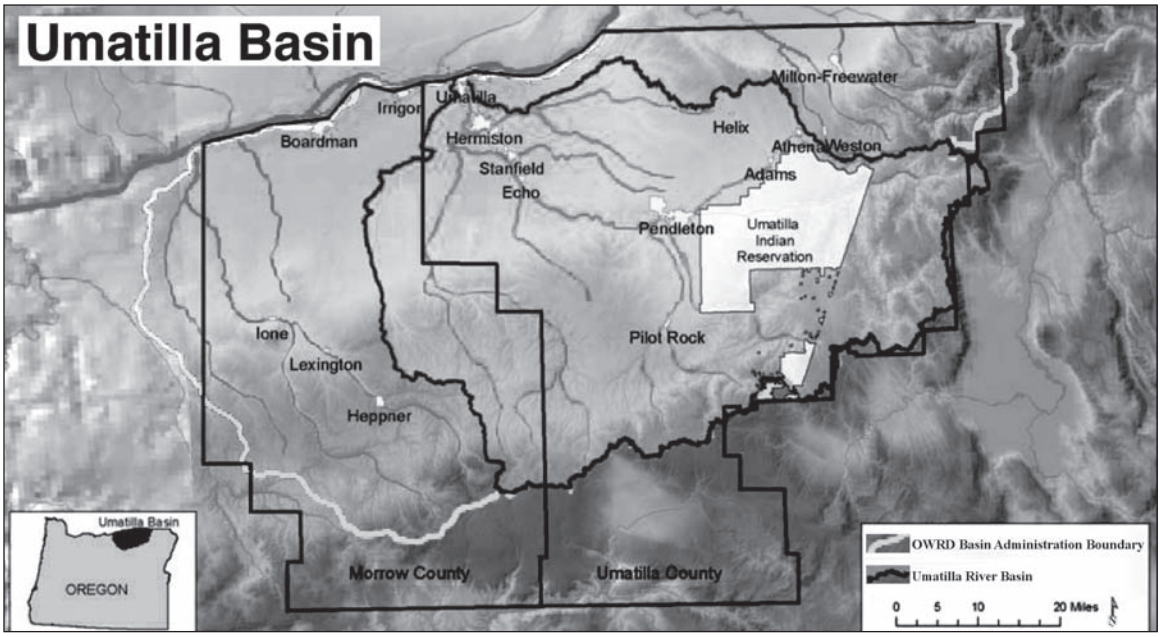
A group of agricultural interests, Native American Tribes, counties, ports, and the State of Oregon are in the process of completing a feasibility study to store more than 100,000 **a**cre-**f**eet (AF) of winter stream flow from the Columbia River in the lower Umatilla River Basin of northeast Oregon for later recovery (see Map). In terms of the amount of water to be stored, the project under study is the largest in the Pacific Northwest and one of the largest in the US. The proposal is truly unique in that it provides for a complex mix of benefits to local, regional, tribal, and State stakeholders. It would accomplish these goals within a highly interconnected, multiple-jurisdiction regulatory structure. For these and other reasons, the project also faces multiple constraints.

Aquifer storage of surface waters for later recovery provides potable water for a number of municipalities elsewhere in the nation, in Oregon's Willamette Valley, and for the City of Pendleton in the upper part of the Umatilla River Basin (Basin). Also in the Basin, such systems augment summer irrigation water supplies on a limited scale.

The feasibility study is being completed considerably ahead of schedule due to close working relationships amongst the stakeholders and with the consulting team. The study finds that the project is feasible and would benefit from a price tag that is significantly less than alternatives (i.e. surface dams). Upon completion of the feasibility study by June 2009, the project can immediately enter the permitting and design phases to allow construction to begin on a very expedited schedule. In this respect, this project is highly desirable in the current State and federal economic climate as it is projected to significantly increase local and State revenues associated with increased agricultural production.

Background

In the 1970s and 1980s, declining groundwater levels in the shallow alluvial and deeper basalt aquifers in the northern (lower) portion of the Umatilla River Basin led the Oregon Department of Water Resources (OWRD) to designate several areas of the lower Basin under a State process which identifies "Critical Groundwater Areas" (CGAs) in need of special attention. (See ORS 537.730 and OWRD website: www.wrd.state.or.us/OWRD/GW/gw_critical_allocations.shtml). There are approximately 60,000 acres of farmland within these CGAs. Currently, approximately 180,000 AF of total certificated groundwater rights within the CGAs are subject to curtailment of pumping due to overdraft in both the alluvial and basalt aquifers. Due to curtailment, only approximately 50,000 AF (about 28%) of the total water rights are met annually, leaving a need for additional groundwater of approximately 130,000 AF every year.



Aquifer Recharge

Unreliable Source

Over the last four decades, efforts have been organized by the local stakeholders and State agencies to find solutions to stabilize groundwater levels and reduce adverse impacts of irrigation water curtailment to the local economy. In the mid-1970s a group of local growers formed the County Line Water Improvement District with the sole purpose of designing and implementing a relatively small-scale project to recharge a shallow alluvial aquifer with water diverted from the Umatilla River. Since then an average of approximately 6,000 AF of water have been stored and withdrawn for irrigation purposes every year. However, the reliability of this water source is always at the mercy of river flow of the Umatilla River. The recharge volumes have fluctuated from a low of nearly 600 AF to a high of more than 10,000 AF between 1976 and 2008. Nevertheless, the success of this project in increasing irrigation water supplies through aquifer recharge has provided a great impetus to consider the current study for a much larger project using winter flows of the Columbia River.

Environmental Benefits

Beginning in 1998, a series of studies were conducted in the Echo Meadows reach of the Umatilla River. These studies focused on the potential for using winter diversions to recharge shallow aquifers with the purpose of increasing summer river flow. The findings of these projects have focused much attention on the viability of using aquifer recharge to achieve significant environmental benefits.

In another set of projects in the lower Basin, two growers have been diverting winter flows from a local tributary to the Umatilla River — when flow is available — and storing it in deeper basalt aquifers. They pump the stored water during the growing season for irrigation purposes. These two projects have shown the practicality and feasibility of storing water in the basalt aquifers in the area.

Columbia River Source

Other studies have documented the unreliability of Umatilla River flow to provide adequate excess water for storage, but that the Columbia River does have more than sufficient winter flow to supply water for storage, ranging from approximately 15,000 to 119,000 cubic feet of water per second during the "availability months" of September, October, January, February, and March when water is available for appropriation.

Editor's Note: In Oregon, OWRD makes a determination of "water availablility" to insure that water is available from the source in excess of existing water rights, using an 80% "exceedance" factor (i.e. water must be available at least 80% of the time). This is based on an administrative rule that defines when a water source is considered to be "Over-Appropriated." Oregon Administrative Rules 690-400-0010 (11)(a): '"Over-Appropriated" means a condition of water allocation in which: (A) The quantity of surface water available during a specified period is not sufficient to meet the expected demands from all water rights at least 80 percent of the time during that period; or (B) The appropriation of groundwater resources by all water rights exceeds the average annual recharge to a groundwater source over the period of record or results in the further depletion of already over-appropriated surface waters." Thus, when the source is "over-appropriated" no new water right will be granted. See also ORS 537.150(4)(b).

Legislative Funding

2008 Legislation for Study Project

Drawing lessons the earlier projects noted above, significant local planning efforts and much discussion with Oregon agencies resulted in a shared vision of the potential merits of the recharge of local aquifers as a viable storage mechanism to provide for later use. This vision was given financial support by the State through Senate Bill 1069, which was signed into law in early 2008 by Governor Ted Kulongoski as the "Umatilla Basin Regional Aquifer Recovery Assessment." OWRD retained a team of consultants led by IRZ Consulting LLC of Hermiston and assisted by GSI Water Solutions, Inc. and HDR, Inc., both of Portland, Oregon. The feasibility study project began immediately thereafter in April 2008. The study is due to be completed by June 2009.

Groundwater Rights, Flow Augmentation and Recharge

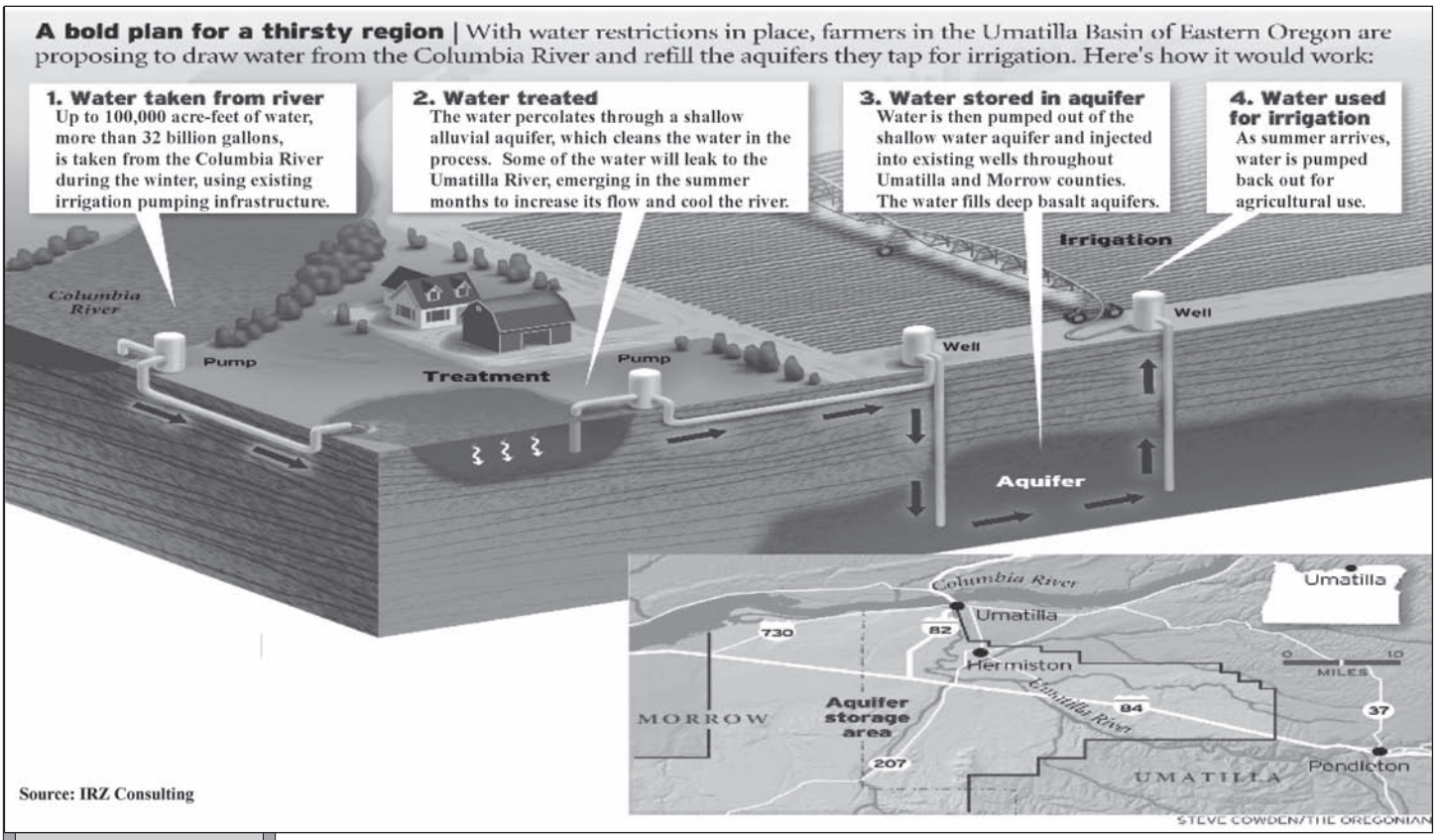
In a nutshell, the project involves diverting water south from the Columbia River during the months water is available (listed above) to recharge a large shallow alluvial aquifer. Wells in the alluvial aquifer will allow continuous pumping of the stored water throughout the year. The pumped water can either go directly to farms (during the growing season) or provide for additional storage in basalt aquifers (during winter).

The overall concept and design of this aquifer recharge and recovery project must of necessity address a number of factors.

Project Factors

Major project factors include:

- the sheer volume of water to be diverted
- constraints on source water availability and timing of access
- regulatory mandates to achieve treatment of the imported water before it can be injected into drinking water aquifers
- the need to use existing water supply canals and pipelines
- the locations of farms where water will be used relative to the recharge locations

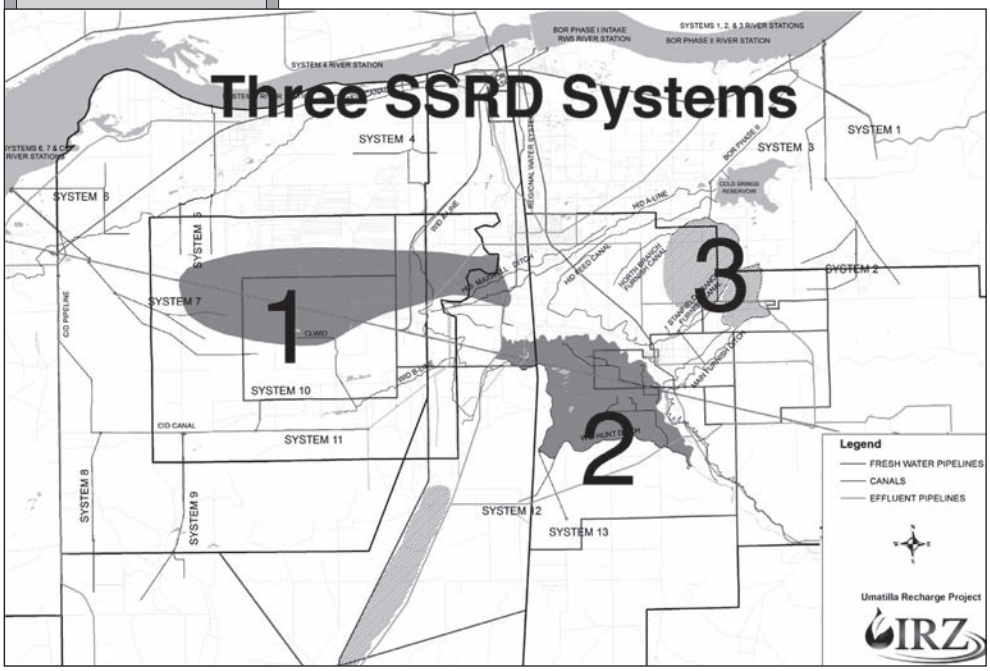


Stream Flow Augmentation

Approximately two-thirds of the imported Columbia River water will be used to satisfy unmet irrigation groundwater rights in the Basin. The remaining one-third of the imported water is intended to provide significant flow augmentation to the perennially-low Umatilla River summer flows to: enhance fisheries resources; replenish over-drafted basalt aquifers; and improve groundwater and surface water quality. Finally, approximately 1,000 AF of water will be recharged into basalt aquifers to augment existing domestic water supplies.

Higher Value Crops

The additional irrigation water supplied by the project will increase agricultural output of the Basin. Just as important, the reliability of this source will allow the current mix of crops to shift to a much higher-value mix. The project study is also evaluating the actual increases in farm-gate and food processing revenues, and other ripple effects to regional and State economies.



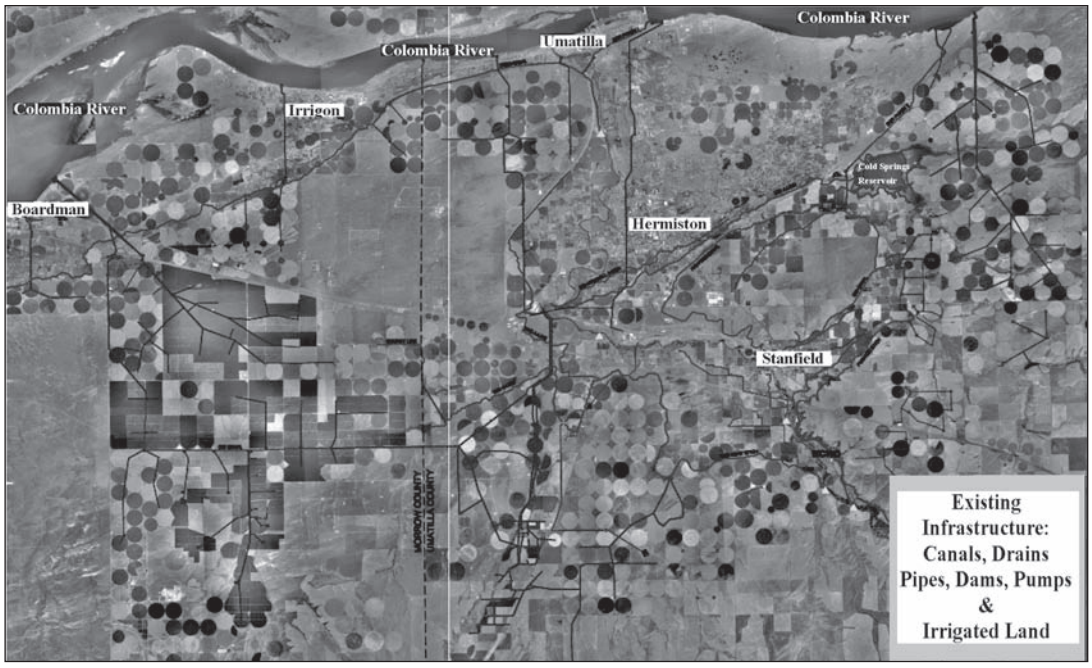
The studies indicate that to provide the CGAs with imported water, three Supply, Storage, Recovery, and Distribution (SSRD) systems can be developed. The SSRD1 system will provide water to the CGA areas west of the Umatilla River, SSRD2 system to a smaller area south, and SSRD3 system to the area east of the river (see map). The darker areas shown on the map depict locations and the general extent of the shallow alluvial aquifers deemed suitable for recharge. The selection was made based on considerations of geology, groundwater flow system characteristics, water quality, presence and capacity of existing water supply infrastructure, and land use. Currrently, the SSRD1 system appears to be the "low hanging fruit" part of the project and will be the main subject of the discussion below.

Aquifer Recharge

Pumping Rates

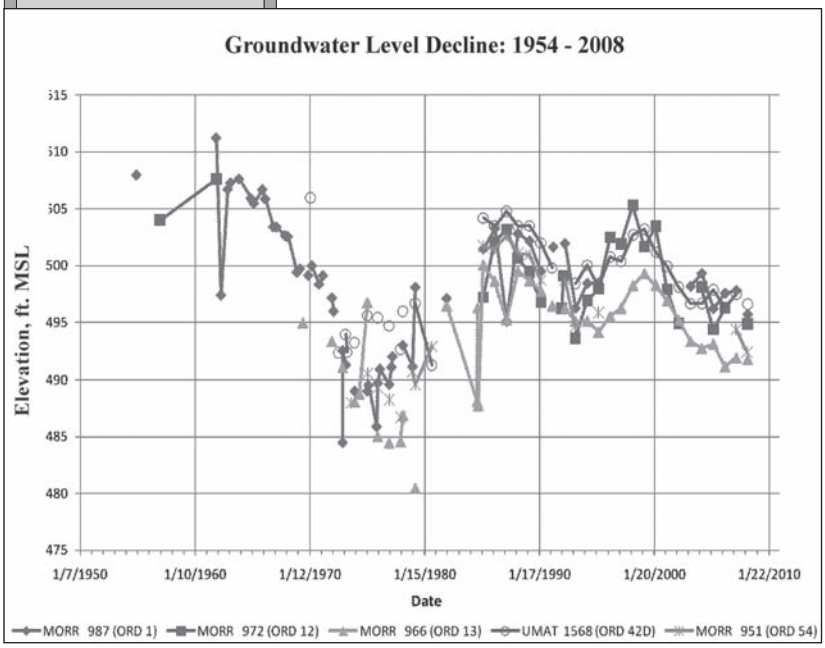
Presence and capacity of existing water supply infrastructure in or near the CGAs was a key component of this study. It was realized early in the study that if all pumping out of the Columbia River and conveyance to recharge locations had to be accomplished via new systems, the full project would prove to be infeasible. This is due to the relatively high rates of pumping out of the Columbia River — up to nearly 560 cubic feet per second — which would have to be maintained over a 90-day period to divert volumes of up to 100,000 AF during the limited winter months. It is also due to approximately 1,000 feet of head gain from the Columbia River to the highest elevation parts of the CGAs that would receive water. The existing infrastructure includes many private and federal (Bureau of Reclamation) pump stations on the Columbia River, canals, and pipelines, with sufficient capacities.

Existing Infrastructure



ASR & AR

In Oregon, Oregon Administrative Rules (OAR) 690-350 govern permitting for Aquifer Storage and Recovery (ASR) and Artificial Groundwater Recharge (AR). In the context of this project, ASR applies to injection of water into the relatively deeper basalt aquifers which underlie the CGAs and provide the bulk of the groundwater use, and AR applies to surface recharge of surficial alluvial aquifers. The AR/ASR rules also include water quality (OAR 340-040) and water treatment requirements (OAR 333-061) by reference. Furthermore, all or parts of provisions of Oregon Revised Statutes (ORS) 537.135 and 143, OAR 690-033, 690-310, 690-507, 340-044, and OAR 690-009 must also be accommodated in this project.



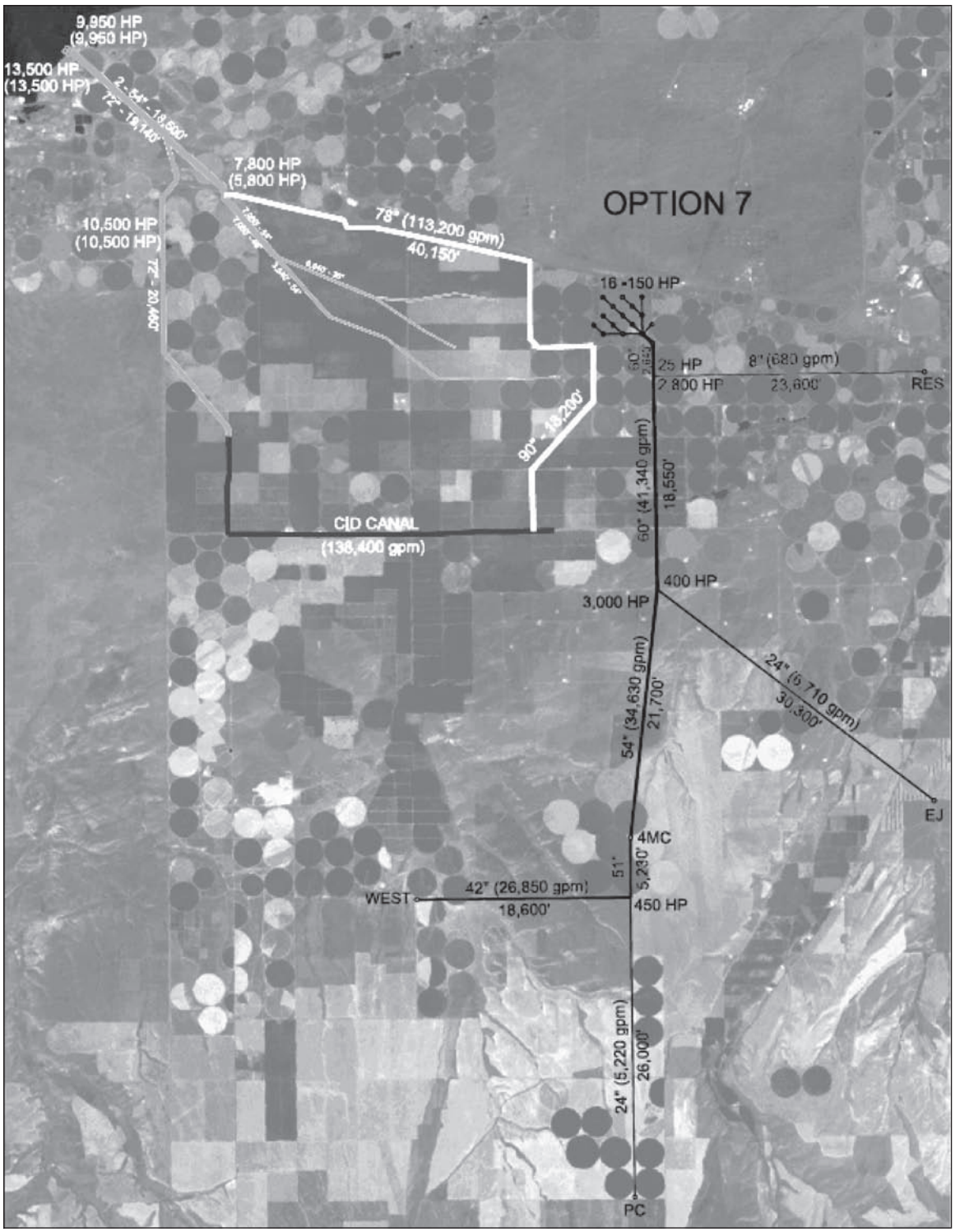
Aquifer Considerations and Potential

A major component of these rules is adequate understanding of the aquifers that are the subject of AR and ASR. Available information regarding extent and capacity of the target aquifers was reviewed. Additional data collection better defined the geology, groundwater flow system, and water quality of both river source water and native groundwater. The available water level data for the alluvial aquifer subject to recharge by the SSRD1 system shows an available potential capacity of more than 75,000 AF. This estimate was derived by examining the decline in groundwater levels since the start of groundwater pumping in the late 1950s. The data indicate that groundwater levels have declined by more than 10 feet between 1954 and 2008 (see graph). A study by OWRD during the recharge project conducted by the County Line Water Improvement District indicated that storage of up to 7,500 AF of water per foot of water rise in wells is possible in this aquifer.

Aquifer Recharge

Storage Distribution

The water stored in the alluvial aquifer will form the main storage "account" to be distributed to a variety of uses. Based on available hydrogeological information, part of the stored water will naturally flow toward the Umatilla River and increase the river's baseflow. Another part will be pumped out directly by growers via local wells. Up to 1,000 AF of the stored water will be pumped out for injection elsewhere into the basalt aquifer to augment drinking water sources for domestic users. The remainder will be pumped via well fields, booster stations, and conveyance piping to farms with curtailed groundwater rights for either direct irrigation use during irrigation seasons or injection into basalt aquifers until they can be used in the future. Several engineering options have been considered for the SSRD1 system. The "conceptual" system to store the full amount of 100,000 AF from the Columbia River and distribute it to areas of use is shown below.



Aquifer Recharge

Injected Water (ASR)

The water pumped out of the alluvial aquifer for irrigation forms the ASR source water for injection into basalt aquifers. An investigation of the capacities of the underlying basalt aquifers to receive and store the injected water indicated that an injection rate of approximately 1,500 gallons per minute is achievable. Furthermore, evaluations of information regarding geologic structures, groundwater flow system, water quality, and well yields in the CGAs suggest that the ASR "potential" in these aquifers is sufficient to store the required volumes (see map below). The available information suggests that the injected water will primarily remain in an envelope around the injection wells and be available for withdrawal later in the year.

Nitrate Issues

The source of ASR water going into the basalt aquifers has to meet water quality criteria and be treated if data shows high levels of biological contamination. The alluvial aquifer data collected so far is well distributed spatially to represent native groundwater quality prior to recharge and also the surface water to be imported. This data shows that nitrate is the only compound-of-interest that is present in native groundwater at some locations at levels of up to approximately 17 milligrams per liter (mg/L). The SSRD1 system needs to be designed to dilute the native groundwater to achieve a blended-water nitrate level of less than 5 mg/L to meet State water quality requirement. Additionally, cost estimates have been developed to disinfect the pumped alluvial groundwater against microbiological contamination, if monitoring shows that it is needed.

Capital Cost & O&M

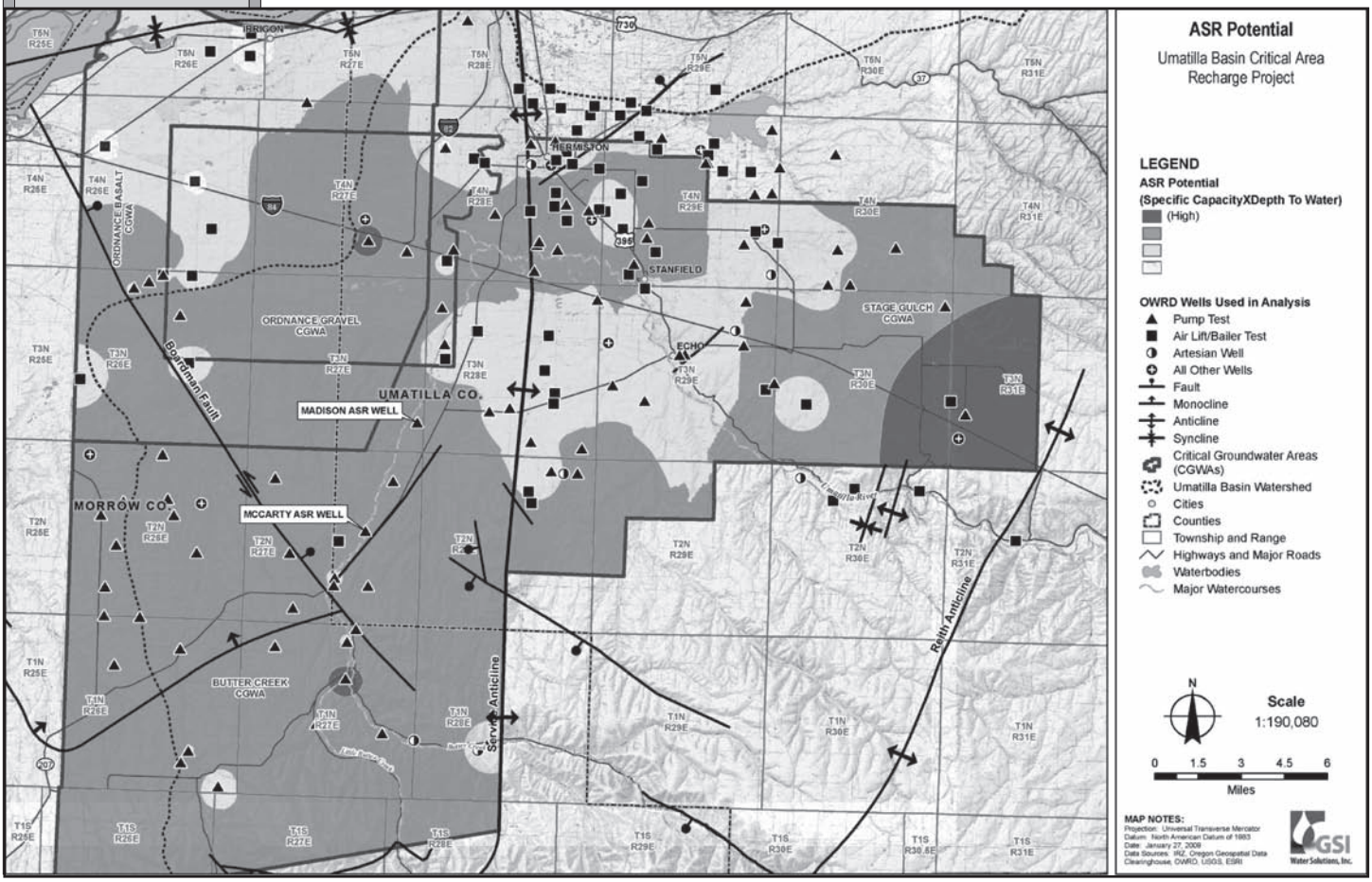
Conclusion

The development of the conceptual SSRD systems allows for a range of "planning-level" cost estimates. For the options considered, the capital cost of the full system is less than $1,000 per AF of water pumped out of the Columbia River. The annual cost of **o**peration and **m**aintenance (O&M) of these systems ranges from $80 to $100 per AF. By comparison, the capital cost of dams to store the same volume of water is typically on the order of $3,000 to $4,000 per AF and higher. Compared to what growers currently have to pay for water annually, the O&M cost range of $80-$100 per acre foot, although relatively high, is within an acceptable range and will be reduced as additional system refinements are developed.

The stakeholders agree that the concepts considered in this feasibility study provide the best set of solutions to achieve their multi-layered goals at the least cost and within a reasonable schedule.

For Additional Information:

Said Amali or Fred Ziari, IRZ Consulting LLC, 541-567-0252, or e-mail: saida@irz.com or fred@irz.com.



Dr. Said Amali has more than fifteen years of direct experience in water resources evaluations/planning and environmental quality impact assessments/mitigation. He cherishes the challenges of multi-discipline and multi-stakeholder projects, especially when science, policy development, and public relations are intertwined. Since joining IRZ Consulting LLC, he has focused on securing environmentally responsible and sustainable water resources for the agricultural community in the Umatilla Basin of northeastern Oregon. He is the project manager for the Umatilla Basin Regional Aquifer Recovery Assessment involving assessments of Columbia and Umatilla Rivers water supply, groundwater aquifer characterization, stream and groundwater quality, fisheries resources, regulatory framework and water rights, and engineering design of water supply and distribution systems. His other projects have included water and watershed planning programs, wastewater reuse, and environmental compliance services for a broad range of contamination scenarios.

WATER BRIEFS

PERIPHERAL CANAL PUSH CA
GOVERNOR'S PANEL AND TNC REPORT

On December 31, 2008, the cabinet-level Delta Vision Committee (Delta Vision) issued its final report to Governor Arnold Schwarzenegger, recommending immediate action to address environmental and water supply problems in the Delta, including beginning construction of a new Delta conveyance to pipe water around the Sacramento-San Joaquin Delta by 2011. The report stresses the urgency of the water crisis facing California, and calls for accelerated action to improve habitat, water quality and water supply reliability in the Delta. The report on its first page states that one of the recommended "fundamental actions" for a sustainable Delta is a "new system of dual water conveyance through and around the Delta to protect municipal, agricultural, environmental, and the other beneficial uses of water..."

On January 7, The Nature Conservancy (TNC) released a report expressing conditional support for building a peripheral canal in the Delta. In TNC's "Sacramento-San Joaquin Delta Conservation Strategy," the group states that "a peripheral canal, designed and operated to promote a healthy Delta ecosystem, must be part of a comprehensive Delta solution." However, the group's support for an alternative conveyance is contingent upon a new and independent agency being formed to govern the Delta, to ensure the canal is operated to enhance the environment as well as protecting water supplies.

The Peripheral Canal has long been an extremely controversial proposal that has divided various water interests in California. The Water Report recently published a detailed article by Dante Nomenilli in TWR #53, that provides one perspective of this controversy for those unfamiliar with the proposal.
For info: Delta Vision Report available at: http://resources.ca.gov/docs/08-1231_Delta_Vision_Committee_Implementation_Report.pdf; TNC Report on its website: www.nature.org/ >> Newsroom Jan. 7

TRIBAL APPEAL AZ
SNOWBOW L PETITION FILED US SUPREME COURT

On January 5, Tribes & environmental groups in Arizona filed a unified petition with the US Supreme Court to hear an appeal in a precedent setting legal battle concerning religious freedom and the ecological integrity of the holy San Francisco Peaks. The slopes of the San Francisco Peaks, located near Flagstaff, Arizona, have been at the center of a lengthy battle that has pitted economic interests on public lands against environmental integrity, public health and cultural survival. Arizona Snowbowl, a small private ski business that leases land from the US Forest Service, is attempting to expand current development and use millions of gallons of treated sewage effluent to make artificial snow.

The Tribes' primary arguments have focused on religious freedom issues by utilizing the Religious Freedom Restoration Act (RFRA) of 1993 (42 U.S.C. §§ 2000bb et seq.), which they had hoped would provide the necessary legal protection where other laws such as the American Indian Religious Freedom Act have failed.

In a ruling on August 8, 2008, the 9th Circuit Court "en banc" panel overturned an earlier 9th Circuit decision that found for the Tribes. The divided en banc panel found that using treated effluent to make snow for skiing on an admittedly sacred site posed no "substantial burden" on the Plaintiffs' exercise of religion in this case, based primarily on specific statutory language in RFRA. See Moon, TWR #55 for a detailed discussion of that opinion.

According to Jack Trope of the Association on American Indian Affairs (representing the Hualapai Tribe and others), the petition was filed "to clarify the law and interpret it in a manner that would require the government to show a compelling interest in this case (and similar cases) before it can implement its land management decision. We do not believe that the government can show that approval of the Snowbowl development is in fulfillment of a compelling governmental interest."
For info: Petition and 9th Circuit decision available at: www.savethepeaks.org/

SEDIMENT EVALUATION NW
CORPS' DRAFT FRAMEWORK COMMENT PERIOD OPEN

The US Army Corps (Corps) released a Public Notice regarding the Draft of the Final Sediment Evaluation Framework (SEF) for the Pacific Northwest. The Draft is available for public comment and three public information meetings are scheduled (see Calendar, this TWR). The SEF is being developed jointly by the Portland, Seattle and Walla Walla Districts of the Corps, National Marine Fisheries Service, US Fish & Wildlife Service, EPA Region 10, Oregon Department of Environmental Quality, Washington Department of Ecology, and the Idaho Department of Environmental Quality.

WATER BRIEFS

The SEF is a regional guidance document that provides a framework for the assessment and characterization of freshwater and marine sediments in Idaho, Oregon and Washington. The SEF presents a framework for sediment sampling, testing and data interpretation. Additionally, the document provides the basis for evaluating the suitability of dredge material for unconfined open water or other disposal options. See Fuji & Cumberland, TWR #21.

The Regional Sediment Evaluation Team (RSET), a multi-agency federal and state team, completed the most recent updates to the SEF over a two-year period. Notable changes include the combination of Chapters 4 and 5 into one comprehensive chapter and updates to Chapter 6. Major changes were made to Chapter 8 and two new bioaccumulation appendices were added. Chapter 8 now includes numeric target tissue levels for bioaccumulative compounds protective of fish, wildlife, and human health. This represents a significant change from past practices on the proposed approach to addressing bioaccumulation.

Comments must be received or postmarked no later than close of business on March 25, 2009. The final version of the SEF is due to be published in May 2009.

For info: Marci E. Cook, Corps, 503/808-4765 or email: Marci.E.Cook@usace.army.mil; SEF is available at the Corps' Portland District website: www.nwp.usace.army.mil/pm/e/rset.asp

HYDRO PROJECT SETTLED WA

SKOKOMISH TRIBE CLAIMS RESOLVED

Tacoma Power, the Skokomish Tribal Nation and state and federal agencies signed historic settlement agreements for Tacoma Power's Cushman Hydroelectric Project on January 12, 2009. The agreements resolve a $5.8 billion damages claim and long-standing disputes over the terms of a long-term license for the Cushman Hydroelectric Project, which is located on the Skokomish River. The licensing settlement agreement concludes nearly two years of negotiations and decades of contention between Tacoma Power, the Skokomish Tribal Nation and the many state and federal agencies that will oversee the implementation of the terms of the agreement. (See Moon, TWR #31).

The Skokomish Tribal Nation will receive money and lands from Tacoma Power, including: a $12.6 million one-time cash payment; 7.25 percent of the value of electric production from the Cushman No. 2 powerhouse (with minimum and maximum amounts set); transfer of land valued at $23 million, including Camp Cushman on Lake Cushman, the 500-acre Nalley Ranch and Saltwater Park on Hood Canal; plus ecosystem restoration payments (including 25% of the funds annually that are necessary for the Army Corps of Engineers to conduct the Skokomish River Basin Ecosystem Restoration and Flood Damage Reduction General Investigation, up to $400,000 in any year with a total limit of $1.2 million).

The licensing agreement, once accepted by the Federal Energy Regulatory Commission (FERC), will allow Tacoma Power to operate the generating resource for another 40 years (FERC Project #460). Tacoma Power also will have the opportunity to construct an additional generator to capture some of the energy from the restoration flows being released into the North Fork Skokomish River (powerhouse to be added to Cushman Dam No. 2).

The original federal license for the Cushman Project expired in 1974. Tacoma Power has operated the project under short-term licenses while the parties litigated relicensing. In 1998, FERC issued a license that was broadly appealed. This licensing agreement resolves the settlement parties' disputes by proposing modifications to the 1998 license. Settlement agreement signers include Tacoma Power, Skokomish Tribal Nation, Bureau of Indian Affairs, National Marine Fisheries Service, US Forest Service, US Fish & Wildlife Service, Washington Department of Fish and Wildlife and Washington Department of Ecology.

A very detailed Settlement Agreement also includes provisions for the return of Skokomish Tribe cultural resources (artifacts, records and reports); minimum impoundment elevations; an annual water budget of 160,000 AF to sustain minimum flows in the Lower North Fork of the Skokomish River and the North Fork Skokomish River with higher flow releases scheduled when certain flow levels are exceeded; a water quality enhancement plan; Habitat Restoration Account (beginning with $3.5 million with additional payments of $300,000 per year five years later); diversion structure removal and culvert replacement; Fish Habitat and Monitoring Plan; downstream and upstream fish passage requirements; and a Flow Damage Reduction and Mitigation Fund ($150,000 deposited in the fund for each year of the Project).

For info: Settlement details, including copies of documents, on Tacoma Power's website: www.mytpu.org/newsroom/power-news/tacoma-power-signs.htm

CLIMATE & WATER US FEDERAL REPORT

WATER MANAGEMENT STRATEGIES

Two federal science agencies, the US Geological Survey (USGS) and the National Oceanic and Atmospheric Administration, collaborated with the nation's principal Federal water management agencies, the US Army Corps of Engineers and the Bureau of Reclamation, to explore strategies to improve water management by suggesting processes to improve tracking, anticipating, and responding to hydrologic effects of climate change. The 76-page report, *Climate Change and Water Resources Management: A Federal Perspective*, and a cover letter, can be down loaded on-line at the website listed below.

The purpose of this interagency report is to describe strategies to improve water management and planning in light of what is known about climate change. It also addresses what is not known. The report documents some of the innovative approaches that are being put to use today to help water managers make effective decisions in light of the added uncertainties

WATER BRIEFS

that climate change presents. Water managers can use this report to support their efforts to provide water to communities and farms, generate power for cities, sustain ecological systems, or protect lives and homes from floods.

KEY POINTS IN THE REPORT INCLUDE:

- the best available scientific evidence based on observations from long-term monitoring networks indicates that climate change is occurring, although effects differ regionally
- water managers need to consider the many sources of uncertainty and drivers of change, including demographic change, changes in the way people use water, declining amounts of groundwater in storage in some regions, and demands for water to meet ecological goals
- long-term monitoring networks are critical for detecting and quantifying climate change and its impacts
- predictive modeling and ongoing monitoring are both needed to narrow the range of uncertainty about the future of water resources, and thus approaches need to continue to evolve to improve the quality of water management decisions.

The report describes current understanding and practice in dealing with these issues and points the way forward for responsible water management in the face of climate change.

For info: Matthew Larsen, USGS, 703/ 648-5215

USGS WEBSITE: http://pubs.usgs.gov/circ/1331/

UNDERGROUND STORAGE OR

OWRD REPORT RELEASED

The Oregon Water Resources Department (OWRD) recently placed its January 2009 "Inventory of Potential Below Ground Storage Sites" Report on its website. OWRD staff has constructed an inventory of potential water storage opportunities in Oregon, including both above and below-ground sites. In this first phase, the project team collected as much existing information as possible so that WRD can serve as a clearinghouse for storage information. No attempt was made during this stage to assess the ecological or economic feasibility of these projects. OWRD is providing this information so that communities can avoid "reinventing the wheel," in terms of site investigation. This information will also help the state identify and prioritize possible future projects.

The Oregon Water Supply and Conservation Initiative gives OWRD an opportunity to take a bird's eye view of water demands and water availability throughout the state, and to strategically develop the tools, methodologies, and budgets required to ensure that those who need water — both in-stream and out-of-stream — will have access to the resource for generations to come.

The Below Ground Storage Assessment Report study collected existing aquifer data about more than 50 hydrogeologic units statewide. A weighted aquifer rating system assessing the physical capacity of aquifers to accept water into storage indicates that approximately 30% of aquifers are highly suitable. A secondary analysis of storage capacity suggests there is more than 8.4 x 107 acre-feet of potential underground storage available statewide, based on storage coefficient, depth to static water level and aquifer extent.

OWRD 's website also contains tools for both Above Ground Storage Sites and Below Ground Storage Sites that allows one to list sites by county and/or basin, view them on a map, see detailed information about the site, and view associated documents such as maps, studies, graphs, etc.

For info: OWRD website at: www.wrd.state.or.us/ >> click on Oregon Water Supply and Conservation >> click on "Below Ground Storage Assessment Report"

GROUNDWATER WELLS OR

EXEMPT USE REPORT

The final report of the Exempt Use Ground Water Well Policy Work Group, prepared by Oregon Consensus, was recently released (see "1/2/09 Draft"). Oregon Consensus convened a group of stakeholders to discuss and potentially reach consensus on issues related to the state's exempt use groundwater well policies. These issues have been the subject of proposed legislation in past legislative sessions.

The members present at the end of the meeting reached consensus on the following topics: (1) Location of new wells - Allow the Water Resources Department to get specific exempt well water locations for new wells, the specific mechanics of which should be informed by the Well Drilling Advisory Council, then the Ground Water Advisory Council and finally, the Water Resources Commission; and (2) Funding for Data Collection and Research - The Legislature ought to provide increased funding for the Water Resources Department to collect data and conduct studies for better groundwater resource management.

For info: Oregon Consensus website at: www.orconsensus.pdx.edu/08-005ExemptGroundwaterWell.php; Full Report available at: http://lists.oregonstate.edu/pipermail/oregon-water-list/attachments/20090114/7ed0c39a/attachment.pdf

KLAMATH WATER OR

COMPENSATION RECONSIDERATION

OREGON SUPREME COURT TO RULE

On January 29, 2009, the Supreme Court of Oregon agreed to decide three issues of State law which will likely determine whether Klamath farmers can recover compensation from the United States for refusing to release water to them in 2001. The state law issues arose in a federal class action suit filed on behalf of 1,400 farm families and 13 water districts seeking $100 million against the United States for the taking of their water, which the Bureau of Reclamation kept in Klamath Lake to help the endangered sucker fish. The trial court dismissed the suit in 2007, holding that the Klamath farmers had no property right in Klamath Project water under Oregon law. The case is now on appeal to the Federal Circuit Court of Appeals in Washington, DC, which in July asked the Oregon Supreme Court to decide whether Oregon law gives Klamath farmers a property right in Klamath Project water.

WATER BRIEFS

"We are very pleased that the Oregon Supreme Court has agreed to decide whether Klamath water users have any property rights under Oregon law," said Nancie G. Marzulla, attorney for the farmers and districts. "We think the trial court got Oregon law wrong, and that the Oregon Supreme Court is the proper court to correctly interpret Oregon law." The federal government had opposed certification of these issues to the Oregon courts, arguing that the Federal Circuit Court of Appeals should instead accept the federal trial court's interpretation of Oregon law.

THE THREE ISSUES INVOLVED ARE:

1) Whether, assuming that the United States appropriated water rights for the Klamath Project pursuant to the 1905 Oregon statute, that statute precludes other persons from obtaining a beneficial or equitable interest in those rights.
2) Whether, under Oregon law, beneficial use by the person who receives the water from the Klamath Project is sufficient to give that person a beneficial or equitable interest in the water.
3) Whether, under Oregon law, anyone may assert either a legal or an equitable property interest in water from the Klamath Project without first having gone through the pending state water rights adjudication.

For info: Nancie Marzulla, Marzulla Law, 202/ 822-6760

MARZULLA LAW WEBSITE: www.marzullalaw.com.

INSTREAM AGREEMENT CO

WATER RIGHTS AGREEMENT
GUNNISON NATIONAL PARK

On December 31, 2008, Judge Steven Patrick of the water court in the Gunnison River basin (Colorado) entered a decree formally adopting an agreement between the United States, conservationists, water users, the State of Colorado, and others that will recognize and protect water rights for river flows in Black Canyon of the Gunnison National Park. After more than 30 years of dispute, this action resolves one of Colorado's most contentious water rights battles. The decree finalizes the settlement agreement reached last June.

The final settlement creates a flow regime that includes annual peak flows and shoulder flows — tied to natural water availability — plus a year-round base flow of 300 cubic feet per second. According to a press release from Western Resource Advocates (WRA), one of the participants in the federal case and water rights negotiations, the "flow regime will protect the water-dependent resources of the Black Canyon and help restore the ecological balance in the river system disrupted by three federal dams immediately upstream of the Park."

In 2003, conservation groups successfully challenged an agreement between the State of Colorado and federal agencies that would have prevented protective flows. In late 2006, a federal court judge rejected the 2003 agreement as violating several provisions of federal law.

For info: Bart Miller, WRA, 303/ 444-1188 x219

INSTREAM FLOW CO

PITKIN COUNTY WATER RIGHTS
CO WATER TRUST AGREEMENT

As the result of a collaborative effort among Pitkin County, the Colorado Water Conservation Board (CWCB), and the Colorado Water Trust (CWT) there will soon be more water for fish in the Roaring Fork River basin. Pitkin County has agreed to allow numerous water rights it owns to stay in Pitkin County's local rivers and streams. The County will do this by placing those water rights into a trust to be managed by the CWCB for use in Colorado's Instream Flow Program. This deal is the first of its kind and is intended to set a precedent for many more to come. The CWCB considered the deal at its January meeting.

For info: Amy W. Beatie, CWT, 720/ 570-2897

CWT WEBSITE: www.coloradowatertrust.org.

CLIMATE PREDICTION US

LA NIÑA AND EL NIÑO
NOAA ALERT SYSTEM

The National Oceanic and Atmospheric Administration's (NOAA's) Climate Prediction Center issued the first La Niña advisory under its new El Niño Southern Oscillation (ENSO) Alert System in early February. NOAA forecasters expect La Niña to influence weather patterns across the United States during the remainder of the winter and into the early spring.

Defined as cooler than normal sea surface temperatures in the central and eastern equatorial Pacific Ocean, La Niña impacts the weather globally. La Niña's opposite is El Niño, or warmer than normal ocean temperatures. These changes in ocean temperatures alter the tropical wind and rainfall patterns with far reaching implications.

"The typical weather patterns associated with La Niña and El Niño affect many industries including agriculture, transportation, energy, shipping and construction," said Michael S. Halpert, deputy director of the Climate Prediction Center. "The ENSO Alert System will succinctly inform industry, government agencies, academia and the public about the onset and status of La Niña and El Niño. This system will also help decision makers plan for the potential effects presented by these conditions."

According to NOAA, La Niña conditions have been present since late December, but it is too early to say exactly how strong the event will be and precisely how long it will last. However, for the next few months La Niña is expected to bring milder and drier than average conditions to the southeastern and southwestern states. It is also expected to bring wetter-than-average conditions to the Ohio and Tennessee valleys, and cooler than average temperatures to the Pacific Northwest.

The new ENSO alert system includes La Niña and El Niño watches and advisories which the Climate Prediction Center will issue when specific conditions exist.

The ENSO watches and advisories are now part of the ENSO Diagnostic

WATER BRIEFS

Discussion, which is issued by the Climate Prediction Center on the Thursday falling between the 5th and 11th of every month.
For info: ENSO Alert System website: www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory.

MUNICIPAL STORMWATER WA

LOW IMPACT DEVELOPMENT PERMIT REQUIREMENTS

In a ruling posted on February 2nd, the Washington State Pollution Control Hearings Board (Board) again affirmed stormwater regulations promoting **l**ow **i**mpact **d**evelopment (LID) in municipal stormwater permits issued by the Washington Department of Ecology (Ecology). This ruling addressed Phase II municipal stormwater permits which cover 98 smaller municipalities across the State and portions of 12 counties in urban areas around those cities. Last August, the Board required greater use of LID techniques, where feasible, in Ecology's Phase I municipal stormwater permits which cover the State's most populated areas in Clark, King, Pierce, and Snohomish Counties, as well as Seattle and Tacoma.

Environmental advocates viewed Ecology's approach as not adequate to solve the problem. Local governments, industrial site operators and builders viewed these same requirements as costly and difficult to comply with. Originally, appellants raised more than 40 separate appeal issues over the Ecology's municipal stormwater permits. While Ecology prevailed on most of the appeal issues, the Board directed Ecology to make some permit modifications designed to encourage broader use of LID techniques.

Low-impact development includes use of vegetation, porous pavement, rain gardens, vegetated roofs, and other projects that collect rainwater. The result is less polluted runoff that flows downstream into lakes, rivers, creeks and Puget Sound.

Ecology has stated that polluted stormwater from runoff is a major threat to Puget Sound and to the State's urban waters. It carries a toxic mix of pollution downstream into the state's lakes, rivers and marine waters. Uncontrolled stormwater can carry muddy water downstream that can suffocate salmon and salmon egg nests. It can also cause flooding and slope failures that threaten people's homes and the environment.
For Info: Sandy Howard, Ecology, 360/ 407-6408 or email: srud461@ecy.wa.gov
ECOLOGY WEBSITE, Board determinations about State stormwater permits are online at: www.ecy.wa.gov/programs/wq/stormwater/municipal/appeals.html

DAMS & TEMPERATURE WA/ID

MOU ADDRESSES SPOKANE RIVER

The states of Idaho and Washington and the Coeur d'Alene Tribe have entered into a Memorandum of Understanding (MOU) on working together to study how the flow from the Post Falls Dam in Idaho affects water temperature in the Spokane River.

Four state agencies and the tribe's lake management department have signed the agreement, which makes the working relationship between the jurisdictions more formal and clear during the life of the study. The agencies include the Washington Department of Ecology and Department of Fish and Wildlife, and the Idaho Department of Environmental Quality and Idaho Fish and Game.

The Post Falls Dam is located on the Spokane River, immediately upstream from the Idaho/Washington border.

The MOU references the monitoring study and outlines both a decision-making process and a dispute resolution process. The monitoring study will be conducted by Avista Corp. and will occur over a five-year period. It could result in modifying the assigned minimum discharge that will flow from the Post Falls Dam to support the Spokane River.

"It's the tribe's hope that this study will better define the summer flows needed to be most protective for the river's fish," said Phil Cernera of the Coeur d'Alene Tribe.

Regional Director Grant Pfeifer with the Washington Department of Ecology (Ecology) said, "We hope this agreement will simplify the study process and alleviate the need for any federal intervention to resolve interstate or tribal issues associated with river flows."

Idaho Department of Environmental Quality issued a Water Quality Certification for Avista Corp.'s Post Falls Dam in Idaho on June 5, 2008. Called a "401 Certification" after a section of the federal Clean Water Act, the certification ensures that the dam will not harm water quality The certification is required in the dam-relicensing process conducted approximately every 30 to 50 years by the Federal Energy Regulatory Commission.

Water quality certifications can include special conditions and requirements on the structure or operation of a dam to prevent harm to water quality.

In this case, the Post Falls Dam 401 certification increased the required minimum discharge for the Post Falls Dam. The monitoring study was included as a special condition in the Post Falls Dam 401 certification to evaluate the new minimum discharge. It requires that Avista Corp. conduct the five-year monitoring study at the Post Falls hydroelectric facility. The study concerns the relationship of flow and water temperature.

Water temperature is an important water quality factor because many kinds of fish and other aquatic life need cold temperatures.
For info:
Jani Gilbert, Ecology, 509/ 329-3495 or email: jagi461@ecy.wa.gov;
Doug Robison, Washington Dept. of Fish and Wildlife hydropower coordinator, 509/ 892-1001 x322 or email: robisdlr@dfw.wa.gov;
Phil Cernera, Coeur d' Alene Tribe, 208/ 660-8144 or email: philc@cdatribe-nsn.gov
MOU WEBSITE: http://spokaneriver.net/wp-content/uploads/2008/11/monitoring-plan-mou.pdf

WATER BRIEFS

NPDES RULING AZ / WEST

"*PINTO CREEK*" APPEAL DENIED - US SUPREME COURT

On January 12, the US Supreme Court (Court) denied an appeal from Carlota Copper Company (Carlota), a copper mining company that had received an NPDES permit to divert waste into Pinto Creek. The permit was granted despite the fact that the creek had already been declared "impaired" due to excessive copper contamination from historical mining activities and was on Arizona's 303(d) list of the Clean Water Act (33 U.S.C. § 1313(d)), as a water quality limited stream. By denying the appeal, the Court let stand a ruling by the 9th Circuit — which found that EPA had erred in issuing the NPDES permit in the first place — and thereby remanded the case back to EPA. *Friends of Pinto Creek v. EPA*, 504 F.3d 1007 (9th Cir. 2007) (*Pinto Creek*). The 9th Circuit also held that there were errors of law in the application of the National Environmental Protection Act (NEPA). [See Water Brief, TWR #45 and Jungreis, TWR #46.]

Carlota had sought permission to empty waste into Pinto Creek, a tributary to Roosevelt Lake, which is one of Phoenix's drinking water sources. EPA issued a permit to Carlota to discharge dissolved copper into Pinto Creek, even though the creek is "impaired" due to a high level of copper. The NPDES permit included two conditions: (1) requiring additional groundwater discharges to augment the stream flow into Pinto Creek; and (2) an offset provision whereby Carlota would be required to remediate sources of copper loading from an upstream inactive mine site called the Gibson Mine. Part of Carlota's operation plan also included constructing diversion channels to route Pinto Creek around the mine, as well as groundwater cutoff walls to block the flow of groundwater into the mine.

The Friends of Pinto Creek (FPC) and other environmental groups, however, sued EPA under the NPDES permitting program (40 CFR. § 122.4), which provides that no permits may be issued to a new source if the discharge "will cause or contribute to the violation of water quality standards."

The National Association of Homebuilders (NAHB) and other industry groups filed an amicus brief with the Court. That organization was worried about the precedent due to its major impact on NAHB's members, especially in the Ninth Circuit states (CA, WA, OR, AZ, ID, AK, NV & HI). Sediment is the main pollutant in stormwater discharges from construction sites and numerous waterbodies in the country are impaired due to sediment. According to NAHB's website, "under the Ninth Circuit's ruling, no CWA [Clean Water Act] permits can be issued, and thus no land can be develop[ed] where runoff would enter a sediment impaired waterbody," unless specific prerequisites set out by the 9th Circuit were all met. The Ninth Circuit explained that there is an exception to that rule when: (1) a TMDL has been developed for the waterbody; (2) the TMDL shows that remaining pollutant load allocations allow for the discharge; and (3) existing discharges are subject to "compliance schedules" designed to bring the waterbody into compliance with the water quality standard (see NAHB website: www.nahb.org/).

The 9th Circuit held that "The plain language of the first sentence of the regulation [40 CFR. § 122.4] is very clear that no permit may be issued to a new discharger if the discharge will contribute to the violation of water quality standards." The 9th Circuit decision also addressed the offset condition as follows: "The EPA contends that the partial remediation of the discharge from the Gibson Mine will offset the pollution. However, there is nothing in the Clean Water Act or the regulation that provides an exception for an offset when the waters remain impaired and the new source is discharging pollution into that impaired water." *Slip Op.* at 13515.

For info: Roger Flynn, Western Mining Action Project, 303/ 823-5738

FRIENDS OF PINTO CREEK WEBSITE: 9th Circuit case available at FPC website: http://sites.google.com/site/pintocreek/

CALENDAR

February 16 OR
Ephemeral Wetland Construction Workshop, Portland. Tualatin Hills Park. For info: Elke Wind, 250/ 716-1119, email: ewind@telus.net or conference website: www.torontozoo.com/adoptapond/pdfs/nwparc.pdf

February 17-18 England
3rd Annual Climate Change Summit, London. Regents Park Marriott. Sponsored by the Ethics Corporation. For info: Conference website: www.ethicalcorp.com/climate/10

February 18 WA
The Water Center Annual Review of Research, Seattle. UW - Seattle Campus. For info: The Water Center, 206/ 543-6920 website: http://water.washington.edu/

February 18 WA
Tactics for Selecting Underground Injection Control (UIC) Management Actions in a Down Economy: Washington Hydrologic Society Meeting, Seattle. Northwest Environment Training Center. For info: Laurie Morgan, 360/ 407-6483 or email: lmor461@ecy.wa.gov

February 18 OR
Columbia River Basin Toxics Reduction Working Group Meeting, Portland. Columbia River Inter-Tribal Fish Commission, 729 NE Oregon. For info: EPA website: http://yosemite.epa.gov/R10/ECOCOMM.NSF/columbia/trwg

February 18
Water Quality Infrastructure: Economic Recovery Workshop, Webcast. 1-3pm. Access at: www.calepa.ca.gov/broadcast/. For info: SWRCB, 916/ 327-9978 or website: CleanWaterSRF@waterboards.ca.gov

February 18-19 CO
Design & Construction of Wells Course, Denver. Sponsored by National Ground Water Assn. For info: NGWA, 800/ 551-7379, email: customerservice@ngwa.org, or website: www.ngwa.org

February 18-19 NV
2009 Tamarisk & Russian Olive Research Conference, Reno. Grand Sierra Resort. For info: Tamarisk Coalition website: www.tamarisk.colostate.edu

February 18-20 CA
ABA Water Law Conference - 27th Annual, San Diego. Hotel del Coronado. American Bar Association Conference; Sponsored in part by The Water Report. For info: ABA website: www.abanet.org/

February 19 ID
Sediment Evaluation Framework for the Northwest Public Information Meeting, Boise. Idaho DEQ State Office, 1410 N. Hilton, Conf. Rm.B. Comment Deadline March 25. For info: Marci E. Cook, Corps, 503/ 808-4765, email: Marci.E.Cook@usace.army.mil or website: www.nwp.usace.army.mil/pm/e/rset/asp

February 19 CA
Low Impact Design Approach to Stormwater Management Course, Davis. Da Vinci Bldg., 1632 Da Vinci Ct.. For info: ABA website: www.abanet.org/

February 19 CO
Water Law for Real Estate Attorneys, Denver. Webcast in Colorado Springs & Grand Junction. For info: Colorado BAR website: www.cobar.org/

February 19-20 Ontario
18th Annual International Conference on Stormwater & Urban Water Systems Modeling, Toronto. For info: Bill James, CHI, 1-519/ 756-0197, email: info@computationalhydraulics.com or website: www.computationalhydraulics.com

February 19-20 GA
2009 Georgia Wetlands & Water Law Update Conference, Atlanta. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

February 19-20 CO
"AG to Urban Transfers of Water: Can Ditch Companies Come Out Ahead?", Pueblo. Sponsored by The Ditch & Reservoir Company Alliance (7th Annual Convention). For info: DARCA, 970/ 412-1960, email: john.mckenzie@darca.org or website: www.darca.org

February 21 CA
Planning & Environmental Law, Sacramento. Sutter Square Galleria, 2901 K St. For info: UC Davis Extension website: http://extension.ucdavis.edu

CALENDAR

February 23-24 FL
5th Conference on Hydrogeology, Ecology, Monitoring, and Management of GW in Karst Terrains, Safety Harbor. Sponsored by National Ground Water Assn. For info: NGWA, 800/ 551-7379, email: customerservice@ngwa.org, or website: www.ngwa.org

February 23-24 CA
NEPA Seminar: Climate Change, Cumulative Impacts & Compliance, San Diego. Omni Hotel. For info: CLE International, 800/ 873-7130 or website: www.cle.com

February 23-24 CA
Introduction to Groundwater & Watershed Hydrology: Monitoring, Assessment & Protection Short Course, Orange. Doubletree Anaheim. Sponsored by Groundwater Resources Ass'n of California and U of Cal. Cooperative Extension. For info: GRA website: www.grac.org

February 23-26 South Africa
Implementing Environmental Water Allocations Conference, Port Elizabeth. For info: Conference website: http://ewa.innercirclestudios.co.za/

February 23-26 CA
SWMOA - 2009 Annual Symposium, Costa Mesa. Sponsored by SW Membrane Operator Ass'n. For info: SWMOA, 888/ 463-0830, email: admin@swmoa.org or website: www.swmoa.org

February 24-26 DC
2009 Assn of California Water Agencies Washington D.C. Conference, Washington. Washington Court Hotel. For info: ACWA, 916/ 441-4545 or website: www.acwa.com

February 24-27 WA
Pacific Salmonid Recovery Conference 2009, Seattle. For info: NW Environmental Training Center website: www.nwetc.org

February 25 CA
Clean Water Act Section 404: Nationwide & Other Specialized Permits, Sacramento. Sutter Square Galleria, 2901 K Street. For info: UC Davis Extension website: http://extension.ucdavis.edu

February 25 WA
FEMA's Implementation of the BiOp on the National Flood Insurance Program in Puget Sound, Seattle. Pyramid Ale House. AWRA-WA Program. For info: Jacqueline Krug, 425/ 649-7124 or email: jklu461@ecy.wa.gov

February 25 FL
Karst Aquifer Characterization & Restoration Course, Safety Harbor. Sponsored by National Ground Water Assn. For info: NGWA, 800/ 551-7379, email: customerservice@ngwa.org, or website: www.ngwa.org

February 25-26 CA
Groundwater Monitoring Conference: Design, Analysis, Communication & Integration with Decision Making, Orange. Doubletree Hotel. Sponsored by Groundwater Resources Ass'n of California. For info: GRA website: www.grac.org/

February 25-26 OR
Oregon Water Resources Commission Meeting, Salem. WRD, 725 Summer Street NE, Conf.Rm. 124. For info: Cindy Smith, OWRD, 503/ 986-0876 or website: www.wrd.state.or.us

February 26 FL
Ground Water Management Issues in Florida Forum, Tampa. Doubletree Hotel Tampa Westshore. Sponsored by National Ground Water Assn. For info: NGWA, 800/ 551-7379, email: customerservice@ngwa.org, or website: www.ngwa.org

February 26 CO
Western Climate Policy Forum: Charting the Path Ahead Forum, Denver. Hyatt Regency Denver at the CO. Convention Ctr.. Sponsored by the Climate Registry. For info: CR website: www.theclimateregistry.org/

February 26 WA
Sediment Evaluation Framework for the Northwest Public Information Meeting, Seattle. Seattle District Corps Office, Galaxy Rm.1st Fl., 4735 East Marginal Way South. Comment Deadline March 25. For info: Marci E. Cook, Corps, 503/ 808-4765, email: Marci.E.Cook@usace.army.mil or website: www.nwp.usace.army.mil/pm/e/rset/asp

February 26-27 CA
California Wetlands Seminar, San Francisco. Fairmount Hotel. For info: CLE International, 800/ 873-7130 or website: www.cle.com

February 26-27 NV
Nevada Water Law Conference, Reno. Grand Sierra Resort. For info: CLE International, 800/ 873-7130 or website: www.cle.com

February 26-27 CO
Climate Change and the New Frontiers of Urban Development, Boulder. UC School of Law. Sponsored by the Law School & the Leeds School of Business. For info: Conference website: www.colorado.edu/law/elevate/

February 26-27 NM
14th International Water Conservation & Xeriscape Conference, Albuquerque. Marriott Pyramid Hotel. For info: Xeriscape Council website: www.xeriscapenm.com

February 26-March 1 OR
Public Interest Environmental Law Conference, Eugene. University of Oregon, Knight Law Center. For info: Conference website: www.pielc.org

February 26-March 1 CO
Ski CLE: University of Denver Sturm College of Law Conference, Keystone. Topics include: Climate Change & Natural Resources in the West; Recreation, Preservation & Resource Non-Use. For info: College of Law website: www.law.du.edu/skicle09

February 27 CA
Making Effective Use of Mitigated Negative Declarations Course, Sacramento. Sutter Square Galleria, 2901 K St.. For info: UC Davis Extension website: http://extension.ucdavis.edu

March 4-5 VA
Water Quality Committee DC Meeting - Western States Water Council, Alexandria. Crowne Plaza Old Town Alexandria. For info: Cheryl Redding, WSWC, 801/ 561-5300, email: credding@wswc.state.ut.us or website: www.westgov.org/wswc/meetings.html

March 4-7 CA
27th Annual Salmonid Restoration Conference: "Elements of Watershed Restoration", Santa Cruz. For info: Conference website: www.calsalmon.org

March 5 OR
Risk Management for Watershed Councils Seminar, Salem. Sponsored by Network of Oregon Watershed Councils. For info: John Moriarty, 541/ 682-8323 or website: www.oregonwatersheds.org/

March 5 CA
Water Transfers & Supply Development Seminar: Meeting California's Growing Water Needs, Santa Barbara. Fess Parker's DoubleTree Resort. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

March 5 OR
The Challenges of Modeling Interactions of Climate Change, Ecosystem Trajectories & Land Use Decisions Conversation, Eugene. Bowerman Center for Environmental Law, 5pm. For info: ENR , 541/ 346-1395, email: enr@uoregon.edu or website: www.law.uoregon.edu/org/enr

March 5 WA
Managing Stormwater in Washington, 2nd Annual Northwest Environmental Council (NEBC) Conference, Tacoma. New Stormwater Regulations, Programs & Management Solutions. For info: Sue Moir, NEBC, 503/ 227-6361 or website: www.nebc.org

March 5-6 CA
NEPA Seminar: Climate Change, Cumulative Impacts & Compliance, San Francisco. Grand Hyatt. For info: CLE International, 800/ 873-7130 or website: www.cle.com

March 5-6 NV
Family Farm Alliance 21st Annual Meeting & Conference, Las Vegas. Monte Carlo Resort & Casino. For info: Family Farm Alliance website: www.familyfarmalliance.org

March 6 CA
Carbon Credits Seminar, Los Angeles. Millenium Biltmore Hotel. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

March 6 OR
Risk Management for Watershed Councils Seminar, Medford. Sponsored by Network of Oregon Watershed Councils. For info: John Moriarty, 541/ 682-8323 or website: www.oregonwatersheds.org/

(continued from previous page)

March 6-7 UT
Wallace Stegner: His Life & Legacy - Fourteenth Annual Syposium, Salt Lake City. Marriott University Park Hotel. Sponsored by the Wallace Stegner Center for Law, Resources & the Environment. For info: Stegner Center, 801/ 585-3440 or website: www.law.utah.edu/stegner

March 7-10 DC
Blue Vision Summit, Washington. For info: David Helvarg, Blue Front Campaign, 202/ 387-8030 or email: helvarg@bluefront.org

March 9-12 CA
19th Annual AEHS Meeting on Soils, Sediments and Water, San Diego. Marriott Mission. For info: Brenna Lockwood, AEHS, 413/ 549-5170 or website: www.aehs.J2com/conferences/westcoast/index.htm

March 10 OR
Risk Management for Watershed Councils Seminar, La Grande. Sponsored by Network of Oregon Watershed Councils. For info: John Moriarty, 541/ 682-8323 or website: www.oregonwatersheds.org/

March 11 OR
Risk Management for Watershed Councils Seminar, Bend. Sponsored by Network of Oregon Watershed Councils. For info: John Moriarty, 541/ 682-8323 or website: www.oregonwatersheds.org/

March 12 WA
Carbon Credits Seminar, Seattle. The Westin Seattle. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

March 12 WA
Salmon Summit 2009: 21st Century Economics - The Value of Our Salmon, Bellingham. St. Luke's Community Health Education Center. For info: Conference website: www.n-sea.org/

March 12-13 VA
Ecosystem Services Conference, Charlottesville. For info: Neil Clark, 757/ 657-6450 x406, email southeast@vt.edu or website: www.cpe.vt.edu/esmes/index.html

March 12-13 CO
Colorado Water Law Seminar, Denver. Ritz-Carlton. For info: CLE International, 800/ 873-7130 or website: www.cle.com

March 12-15 CO
38th Annual Conference on Environmental Law, Keystone. Keystone Conference Center. Sponsored by American Bar Assn. For info: ABA website: www.abanet.org/

March 13 CA
Conjunctive Use of Groundwater & Surface Water, Sacramento. Sutter Square Galleria, 2901 K Street. For info: UC Davis Extension website: http://extension.ucdavis.edu

March 15-22 Turkey
5th World Water Forum: Istanbul 2009 —"Bridging Divides for Water", Istanbul. For info: World Water Forum website: www.worldwaterforum5.org/

March 16 OR
Environmental Cleanup Seminar, Portland. For info: Holly Duncan, Environmental Law Education Center, 503/ 282-5220, email: hduncan@elecenter.com or website: www.elecenter.com

March 16-18 CA
Green California Summit, Sacramento. Sacramento Convention Center. For info: Cindy Dangberg, Summit, 626/ 577-5700 or website: www.green-technology.org/gcsummit

March 17 AZ
Best Practices in Stakeholder Engagement for Water Resources Planning Conference, Tucson. University of Arizona Student Union. For info: Sharon Megdal, WRRC, email: smegdal@cals.arizona.edu or website: www.cals.arizona.edu/AZWATER

March 17 OR
Oregon Dam Safety Workshop, Wilsonville. Wilsonville Conf. Center. Sponsored by Oregon Water Resources Depart.. For info: Arla Heare, OWRD, 503/ 986-0829, email: Arla.L.Heare@wrd.state.or.us or website: www.wrd.state.or.us >> Dam Safety

March 17-21 IL
WQA Aquatech USA 2009, Chicago. Donald E. Stephens Convention Ctr. For info: Lori Watkins, Aqutech, 630/ 505-0160 or website: http://wqa-aquatech

March 18 AZ
NEPA & EIS Seminar, Phoenix. Wyndham Phoenix Hotel. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

March 19 CA
Water Resources Planning & Urban Growth, Davis. Da Vinci Bldg., 1632 Da Vinci Ct.. For info: UC Davis Extension website: http://extension.ucdavis.edu

March 19 OR
Update on Oregon University System Climate Research Institute Conversation, Eugene. Bowerman Center for Environmental Law, 5pm. For info: ENR , 541/ 346-1395, email: enr@uoregon.edu or website: www.law.uoregon.edu/org/enr

March 19-20 VA
Climate Change Regulation & Policy Conference, Arlington. Waterview Conf. Center. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

March 22-24 CA
California Section Annual Conference Water ReUse, San Francisco. Intercontinental Mark Hopkins. Sponsored by Water ReUse Association. For info: Water ReUse website: www.WateReuse.org

March 24-25 CA
Groundwater Salinity Conference, Sacramento. Radisson Hotel. Sponsored by Groundwater Ass'n of California. For info: GRA website: www.grac.org

March 25 WA
Redevelopment of Contaminated Property Seminar, Seattle. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

March 25-27 NC
National Pretreatment & Pollution Prevention Workshop, Charlotte. Hilton University Place. Sponsored by National Association of Clean Water Agencies. For info: NACWA website: www.nacwa.org

March 25-28 WA
The Pacific Northwest in a Changing Environment: Northwest Scientific Ass'n Annual Meeting, Seattle. University of Washington. For info: Conference website: http://www.vetmed.wsu.edu/

March 26 D.C.
Washington Roundtable 2009 - Interstate Council on Water Policy, Washington. L'Enfant Plaza Hotel. For info: ICWP website: www.icwp.org/cms/

March 26-27 OR
Oregon Wetlands Seminar, Portland. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

March 27-27 CA
Geothermal Energy in the West Conference, Los Angeles. Millenium Biltmore Hotel. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

March 30-31 CA
California Coastal Law Seminar, Los Angeles. Hyatt Regency Century Plaza. For info: CLE International, 800/ 873-7130 or website: www.cle.com

The Water Report
Water Rights, Water Quality & Water Solutions in the West
260 N. Polk Street • Eugene, OR 97402