



The Water Report™

Water Rights, Water Quality & Water Solutions in the West

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& More!

LAND USE & WATER SUPPLY PLANNING

INTEGRATED PLANNING: SYMPOSIUM EMPHASIZES NEW APPROACH

by MaryLou Smith, Aqua Engineering (Fort Collins, CO)

Introduction

The many benefits arising from the integration of land use planning with water supply planning are being clearly demonstrated in a number of areas throughout the American West. However, such efforts are typically still in their early stages and, while clearly a good idea, are far from being standard procedure.

The Colorado Department of Natural Resources and Western States Water Council (WSWC), two groups keenly interested in such strategies, recently cooperated in presenting a symposium on this subject in Denver. The “*Water and Land Use Planning for a Sustainable Future: Scaling and Integrating*” symposium drew registrants mainly from Colorado and primarily from the water sector, though numerous land use planners and others from states including Utah, Texas, Nevada, Arizona, New Mexico, California, Oregon, Washington and Montana participated as well.

INTEGRATING LAND USE PLANNING & WATER SUPPLY PLANNING

Tony Willardson of WSWC and Jennifer Gimbel, director of the Colorado Water Conservation Board (CWCB), began the symposium by sharing why this topic has become so important to their organizations.

Western States Water Council

For WSWC, the water arm of the Western Governors’ Association, the topic ties directly to two reports western governors adopted recently: “*Water Needs and Strategies for a Sustainable Future*” (2006) and “*Water Needs and Strategies for a Sustainable Future, Next Steps*” (2008). Both documents address water policy and growth, and set priorities for the states.

THE 2008 REPORT STATES THAT:

- States should not overtake local planning, but should establish state policies that facilitate the flow of information from water resource agencies to local planning agencies and that require local governments to create and adopt comprehensive plans that include a water resource element.
- States should offer technical/financial support for watershed groups dealing with water issues associated with growth.
- States should work with stakeholders to find innovative ways of allowing transfers of water from agricultural to urban uses while avoiding or mitigating damage to agricultural economies or environmental values.

Willardson also pointed out that WSWC has established WestFAST — Western States Federal Agency Support Team — to encourage communication between WSWC and nine federal agencies about western water issues, including the issue of better integration of land use planning and water supply planning.

Water Use & Land Use

Water Needs Gap

Decision Tool

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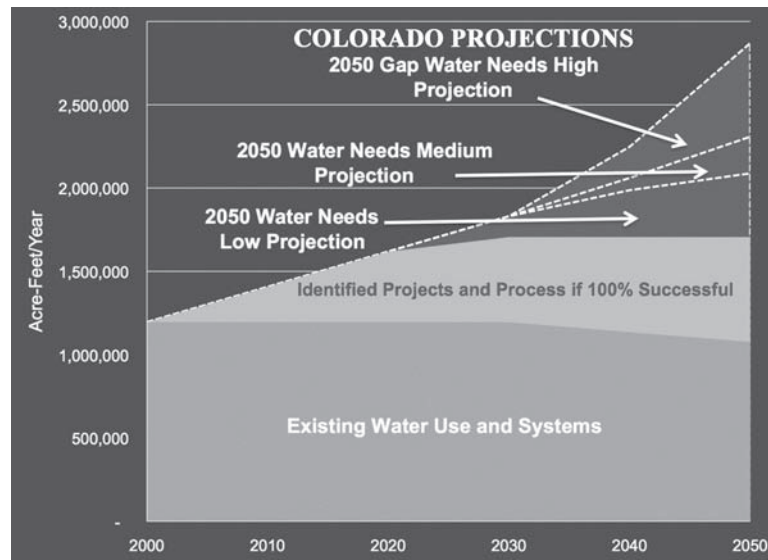
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State of Colorado

Jennifer Gimbel related how Colorado is assertively bringing land use planning and water supply planning together as evidenced by Colorado's Statewide Water Supply Initiative (SWSI) and the Colorado Water for the 21st Century Act (Act). In 2004, SWSI noted that, if present trends are unaltered, Colorado will be at least 20% short of its water needs by the year 2030. Subsequent updates have shown the gap likely to be even larger, especially by the year 2050 when the state's population is expected to have doubled. To address that gap, the state legislature launched the Act, which established: 1) water roundtables in each of the state's nine major water basins; and 2) the Interbasin Compact Committee (IBCC), with representatives from each of the nine basins along with governor and legislature appointees.



To aid in creating solutions, the Colorado Water Conservation Board has built an iterative decision-assisting tool for use in IBCC deliberations. In addition to accommodating anticipated growth, concurrent challenges include mitigating climate change impacts and alleviating the permitting difficulties that identified gap-reducing projects are encountering. Jacob Bornstein of CWCB described that tool as a means for iterating various combinations of supply- and demand-side strategies such as agriculture-to-urban transfers, transbasin transfers, and conservation. The tool also factors in levels of effect from such impacts as oil shale development, climate change, and the success rate of planned storage projects.

LAND USE PLANNING QUESTIONS HAVE SURFACED, INCLUDING:

- Can higher population density help meet future water demands?
- What is the experience of other regional authorities or states involved in trying to affect density?
- What other ideas for better integration of land use and water supply planning might work in Colorado?

To determine how the state might best work with communities dealing with this issue, CWCB has undertaken a project to survey stakeholders, catalogue and compare local statutes, and research other states' practices. Preliminary results were shared by this project's consultant, Lyn Kathlene, with Center for Systems Integration. One key finding relates to whether stakeholders believe there is a role for the state in this issue. Two-thirds believe there is, whereas a third feel it's strictly a local issue. Of those who see a role for the state, a third want it to be via non-regulatory means such as education and collaboration. More respondents favored mechanisms such as intergovernmental agreements compared to mechanisms such as urban growth boundaries.

SETTING the STAGE

John Tubbs, the US Department of Interior's new Deputy Assistant Secretary for Water and Science, applauded the symposium for tackling a tough subject. He lamented that we have not followed John Wesley Powell's advice that drainage basins should form the primary basis for division of land in the West. Tubbs said the first step we should take to reflect the interconnectivity of land use and water supply is "bringing local watershed plans to local planners." The second step is state and federal cooperation. He mentioned that Ann Castle, Assistant Secretary of the Interior for Water and Science, is championing a leadership role for Interior on this issue. Interior is conducting a comprehensive study of three major water basins in the West, including the Colorado River Basin (see Water Briefs, TWR #68).

Water Use & Land Use

New Energy Economy

Strategic Options

"Sharing"

Transportation Tie-In

Expanding Population

New relationships and institutions will be needed, Tubbs emphasized. He cited the example of the "Blackfoot Challenge" in Montana — where a joint effort of landowners, county, state, and local officials "left their egos at the door" to solve mutual problems related to logging, water, ranching and invasive species. He urged participants to solve water problems through cooperation, to "wear a Blackfoot Challenge hat" by focusing on the 80% they could agree on instead of the other 20%.

COLORADO GOVERNOR'S VISION

Colorado Governor Bill Ritter realized during his boyhood that water is Colorado's most important natural resource — his family farmed dryland wheat on what later became a parking lot at Stapleton Airport. He pointed out that 30 million Americans rely on water that originates in Colorado. Ritter said the new energy economy Colorado is pursuing is a template for elsewhere in the country. The climate change prospect of 20% less water in the Colorado River basin in years to come, however, is daunting. His administration's vision is a Colorado that steps up to the plate to tackle its water challenges.

Examples of Colorado confronting its water challenges were cited by the Governor. "We are conducting a water availability study for the Colorado River to be sure we take advantage of what we are allowed under the [Colorado River] Compact." He also noted that the state adopted an instream flow tax credit last year. Conservation is an important part of Colorado's water planning. The state is looking at a number of strategies, including water reuse, while recognizing that downstream users can be impacted by reuse. He cited the City of Aurora's "Prairie Waters Project" as an example of innovative reuse, by which the City is reducing the amount of water they need from other areas.

The governor stressed "sharing" as an important concept. Strategies for sharing under consideration include ways for municipalities to lease water from agriculture so that water is not permanently removed from the land. Ritter said his administration supports transbasin diversions only if they can find a "win-win-win" situation — such that all parts of the state benefit.

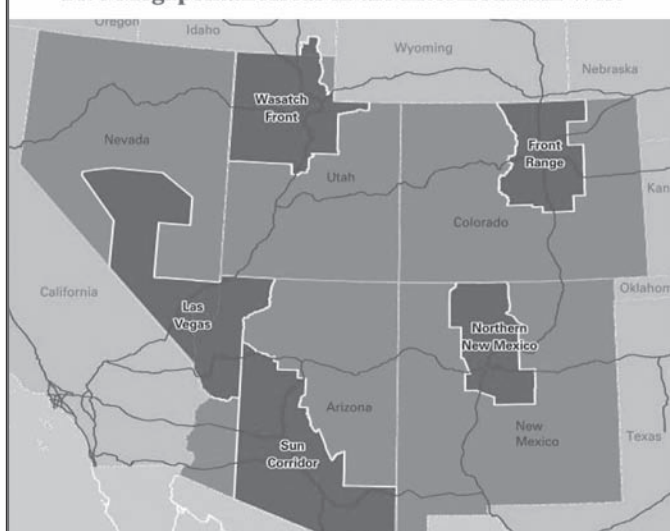
Ritter talked about finding ways to promote urban sustainability and "water wise" development. He said we can't look at land use planning and water use planning as separate silos, and that we need to include transportation planning as well. The new energy economy in Colorado also has repercussions for water.

On the topic of state involvement, Ritter said we need land use planning decisions made at the local level but with consideration of state water policy. He stated that Colorado's oil and gas rules were able to balance local and state interests fairly well, and, "Perhaps that experience can offer us a good framework for balancing of the local and state in terms of land and water."

MOUNTAIN MEGAS & GROWTH in the WEST

Absent due to illness, invited presenter Robert Lang of the Brookings Institution nevertheless added to the symposium. Eric Hecox of CWCB shared some key findings of an important report authored by Dr. Lang. Released in July 2008, *Mountain Megs: America's Newest Metropolitan Places and a Federal Partnership to Help Them Prosper* describes "the new supersized reality of the Intermountain West." The report suggests the federal government needs to take on more of a role to help regional leaders build a "uniquely Western brand of prosperity" that is more sustainable, productive and inclusive than past eras of boom and bust.

Five Megapolitan Areas in the Intermountain West



The "mountain megas" are the urban spaces in five western states extending around Phoenix, Albuquerque, Salt Lake City, Denver, and Las Vegas. Lang believes the West's urban population boom will continue to expand despite the economic downturn because jobs are being created. Of particular interest was Lang's projection that three-quarters of the population in these mountain megas will be living in new houses by 2050. Lang maintains that as the West continues to grow, housing stock will be replaced. Half the new population will be in new houses and half the existing population will be in new houses. We can't stop the growth, he purports, but we can build and site new housing in a more sustainable way. It's not whether we grow, it's where and how we grow.

A related opportunity concerns transportation. Since much of the West is "under-built" in terms of transportation, we have a chance to make better water/land use/transportation decisions. Another positive aspect of strategic growth, Lang points out, is that the West will have a new, stronger political voice as a result of its strong economy.

WATER/LAND USE INTEGRATION in SIX STATES

**Water Use
&
Land Use****Regional
Planning****Energy
Component****Environmental
Needs****New
Reservoirs****Groundwater
Reliance****Local
Authority****Overlapping
Authorities****Texas**

Carolyn Brittin, Deputy Executive Administrator of the Texas Water Development Board, pointed out that Texas is different from other western states in that they are still actively trying to build dams and reservoirs (in addition to other water and wastewater projects). Ongoing drought has been affecting Texas significantly since 1996 and is the main impetus behind planning, she said. Texas created a bottom-up planning process for regional water planning, with the state mediating between regions. The regions are based on river basins and aquifers, as well as political subdivisions. Each planning board looks at demand, supplies, water management strategies, water conservation, and drought management, and makes specific recommendations to the legislature — such as where a reservoir should be sited.

Regions are trying to coordinate water planning with energy planning, entailing the added complication of making industrial as well as agricultural irrigation demand projections. Texas is trying to evaluate existing supply on an apples-to-apples basis from region-to-region and to evaluate water management strategies while considering impacts to agriculture and the environment. They are also taking into account plans by localities within the regions.

Conservation has grown substantially and is now projected to meet 23% of the state's future demand. As in other states, the areas with abundant water are not where most people live. Texas is studying environmental flow needs and correlating water availability and habitat needs. Water providers in Texas are tired of arguing over environmental issues on a place-by-place basis and are reluctant to simply produce more studies. They want decisions made on the basis of what we know now. "How do you meet environmental needs in an over-appropriated basin?" is a prime question.

Texas legislature mandates disallow funding for a water supply project if it is not consistent with regional and state water plans. "But, coordinating water supply planning with land use planning is tricky," Brittin said, "because we don't do land use planning in Texas!" Houston, for instance, has no zoning ordinances. The idea of subdivision approval being dependent on a reliable water supply is unheard of.

Texas is looking to new reservoirs to meet demand. Three sites are currently going through Section 404 permitting, with another coming up. The state legislature identified reservoir sites. The 2007 state water plan recommended a total of 22. US Fish and Wildlife designated a wildlife refuge on one of those sites, resulting in a lawsuit by the state, even though overturning the designation would take an act of Congress. The concern is that a federal official could take action that would ignore the state water plans.

New Mexico

Next up, John Longworth, Chief of the Water Use and Conservation Bureau in the New Mexico State Engineer's Office, feigned amazement at the Texas presentation, "New Mexico is upstream of Texas. You are planning *how many* new reservoirs?" — eliciting laughter from the audience.

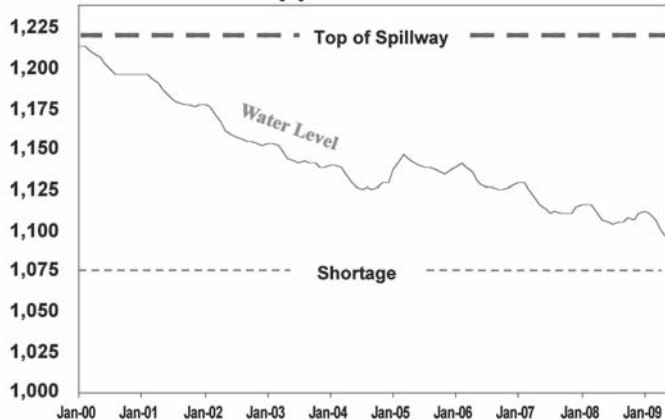
Longworth said water problems in New Mexico range from the Pecos River running extremely low near Fort Sumner in 2002 to the Hatch flood in 2006. Groundwater, which he said is essentially a "mined" resource in New Mexico (i.e. the water level is dropping), is used for 90% of municipal and industrial use. Most of New Mexico's projected population growth (from two million to three million in the near future) will occur along the middle Rio Grande — where there is no more water available. Legal complications also occur due to the needs of Indian tribes and pueblos that have water interests dating back as far as 1349. Climate change is expected to bring hotter temperatures and drier soils.

New Mexico has a state water plan providing a broad-based policy doctrine. According to Longworth, however, it doesn't give the state the authority to do anything. Authority remains at the local level. The state recognizes that land use and water supply need to be integrated, but have no specific authorization to do so. Instead, the state provides a forum for consideration of public welfare concepts and discussion of regional issues.

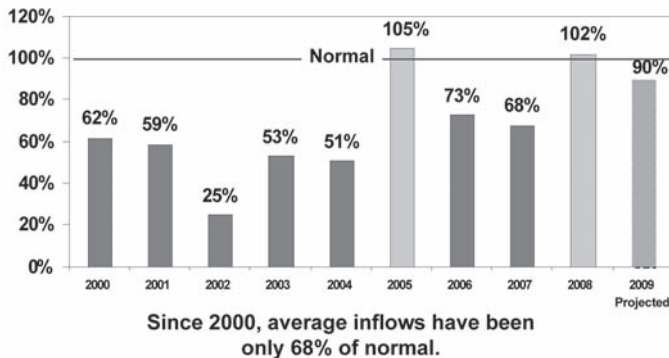
The New Mexico state legislature has given cities and counties overlapping authority. Land use decision-making authority is given to municipalities through the "Municipal Act." Unfortunately, the Municipal Act often conflicts with the "Subdivision Act" administered by the counties. Under the Subdivision Act the State Engineer is only required to give a positive or negative *opinion* based on water availability. Rules made by city councils, villages, and towns concerning subdivisions, however, *require approval* by the State Engineer in order to withdraw groundwater. These authorities are linked under the state water development plan, which also provides the basis for several municipalities to hold unused water rights for future growth, which also "creates a huge mess," according to Longworth.

The Municipal Act requires that the county and city agree on who retains jurisdiction for land planning. Most counties defer to the cities because they have the most money. Albuquerque is an exception, where a combined county/city authority manages Albuquerque's water.

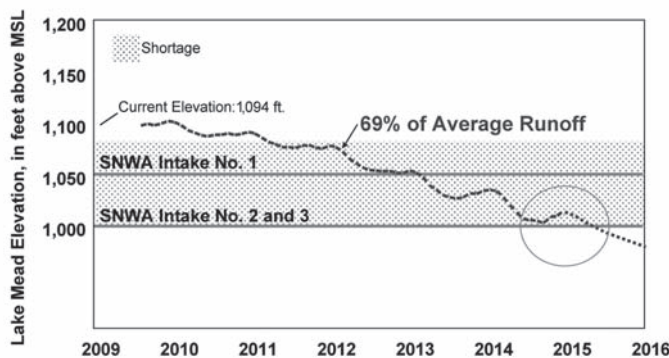
Lake Mead water levels have dropped to record lows.



Lake Mead Inflow 2000 - 2009

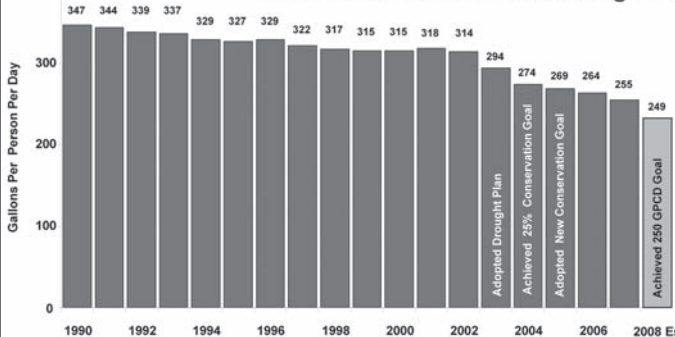


Lake Mead Water Levels & SNWA Access



The SNWA could lose supply access if drought conditions continue.

Southern Nevada conservation gains



Some cities require a developer to secure water rights before developing a subdivision. Inconsistent arrangements around the state are creating havoc, however, including service area disputes. Recent changes in state law include the stipulation that condemnation can't be used for planning purposes and that tribes and pueblos have to be consulted on water availability issues.

Longworth closed by saying that a big, unresolved, question in New Mexico concerning master planning is: when do you need to demonstrate water is available to support aspects of the plan? Not having the answer to that question has led to rescinding commitments, he said.

Nevada

Kay Brothers, Deputy General Manager of the Southern Nevada Water Authority (SNWA), related that when population growth exploded in Las Vegas around 1989, all the area's water supply entities combined to form SNWA. They then filed for groundwater rights as one entity. Every year they must submit a water resource plan before the State Engineer will approve any new subdivisions. Their first plan, submitted in 1996, called for use of Arizona's unused apportionment of Colorado River water until 2025 (when other resources could be drawn on). When Arizona started a banking program to utilize their apportionment, however, SNWA decided to tie into the Arizona water bank.

When Lake Mead's pool dropped precipitously in 1999, everything changed. In the years 2002, 2003, and 2004, flows on the Colorado River were only 50% of normal. That's when SNWA put together a citizen's advisory committee to help formulate a drought plan. Realizing they had 90% of their eggs in the Colorado River basket, SNWA came up with 22 recommendations to diversify their resources, including conservation measures (e.g., turf replacement) and more stringent demand goals. Today, they are meeting the demand goal faster than they expected and using the same amount of water, despite having grown by 400,000 people. Realizing that by 2013, 40% of their capacity in Lake Mead was in jeopardy because their intake location might end up being higher than the receding lake, SNWA is adding a third, lower intake.

SNWA needs to develop other resources. One strategy would require an agreement between Utah and Nevada related to the Snake Valley (see Moon, TWR #67). SNWA has environmental protection activities underway to protect basins from which they are drawing water. They are also looking at "produced water" (a byproduct of the oil and gas industry), vegetation management, and potential desalination. "If growth is coming to the West, maybe the West can learn from Las Vegas," Brothers said.

California

Roderick Walston, an attorney with Best Best & Krieger LLP, said California has traditionally asked: who gets how much water? Questions now center around: how do you coordinate water supply with growth issues? Land use planning cannot function without knowing how much water is available. California now has to ask the question — how do you limit a water supply for one use in order to accommodate other uses? Public trust factors, concerning both consumptive and non-consumptive water uses, have to be taken into consideration according to Walston.

Water Use & Land Use

20-Year
Horizon

Conjunctive Use

Environment Trumps

Political Dynamics

Arizona Sources

Under the 1970 California Environmental Quality Act (CEQA) all projects have to have an Environmental Impact Report (EIR). Local governments have to consider the EIR, but they can approve a project even if it will have negative environmental impact. Court decisions have required that if a project will affect water supplies, the local government must take that into consideration. Projected future uses must also be taken into account.

Under California's urban water management planning act, water agencies must prepare urban water management plans every five years, taking into consideration future water supplies over a 20-year period. Existing and planned future needs must be included. Water agencies are also required to take critical dry years into account. "They have to tell the world if they will have enough water," Walston said.

Under California law, water supply agencies have to prepare a water supply assessment taking into account all future plans. The question they must ask is: "Do we, the water supply agency, have enough water to supply this project for the next 20 years, considering all that we are expecting?" Local governments are only required to take the assessment into account when deciding whether to approve a project. They can approve even if sufficient water is not expected to be available. Local governments regulate land use first. They then create a document that coordinates water supply with land use planning.

Now that the state legislature has gotten involved in water issues, trying to develop a statewide system is a challenge. California does not regulate groundwater. The California legislature doesn't require local governments to do groundwater planning, though they have the option. Walston believes there should be a mandate for all local agencies to undertake groundwater planning. Drought has increased demand. Conjunctive use programs are needed to coordinate surface water and groundwater supply management such that in dry years water is taken from aquifers and in wet years aquifers are recharged. He cited Metropolitan Water District as one entity that is heavily involved in this type of action. The lack of a mandate regarding transferring water from areas of abundant supplies to areas with few supplies is another challenge. Adding to the complication: "Federal environmental standards trump everything, so how do you really plan for your future water supplies? You don't know what endangered species will cause you problems. We have lost one third of our water supplies in the Sacramento/San Joaquin basin because of the need to protect the endangered delta smelt."

CEQA was never envisioned as a water planning statute, only a land use statute, Walston stated. Thus, it doesn't appropriately address long-term water supply planning. The state's Urban Water Management Planning Act resulted in the state legislature requiring cities to consider water supplies when making land use decisions. The legislature has established an overarching set of principles, but hasn't resolved the north/south dispute. Meanwhile, California's initiative process limits the legislature's ability to balance the budget. The question about how to best allocate water supplies is bound up with all the political dynamics. "We haven't found a way to manage these problems from a statewide perspective," Walston said. In 1914, California created an administrative water rights system under which a control board takes all competing interests into consideration in granting water rights based on a public trust doctrine. However, California has not yet found a way to coordinate water supply and land use planning at the state level.

Questions continue concerning the role of the courts in assessing water supplies. Should courts defer to the judgments of local governments on these matters? In California, local governments make decisions and the courts determine if they made good decisions. As opposed to Colorado, where courts are heavily involved, the State Water Resources Board regulates water in California. Comparing the systems, Walston asked, "Which system is better? An administrator making decisions based on expertise, with judges called on if issues come up — or is it better to allow the courts to make the ultimate judgment based on all the evidence brought to it? Should the legislature require local governments to refuse projects if an assessment shows there is not enough water?" States will have to answer all these questions in coming years.

Arizona

Sandy Fabritz-Whitney, Assistant Director of Water Management for the Arizona Department of Water Resources, began by saying that as Arizona grows, it is especially thankful for its Colorado River water. "Thanks so much, Colorado, for sending it down," she quipped, "but we are last in line!" Arizona is growing fast, as indicated by a doubling of its population between 1980 and 2000 — with most of the growth occurring in the driest part of the state.

The Central Arizona Project (CAP) is the first entity to be shut off if there is a shortage on the Colorado River. Arizona's other major sources of water are the Salt River, groundwater, and sewage effluent. Agriculture is the largest water user in the state.

Arizona understands you can improve land use planning by including the environment. "We have

Water Use & Land Use

Supply Rules

taken advantage of opportunities to integrate land use/water supply planning,” Fabritz-Whitney said. In 1980, the legislature passed the Groundwater Management Act as a result of overdrafts and the dependency of Phoenix and Tucson on groundwater (before CAP water was developed). In 1985, the “Assured and Adequate Water Supply Rules” were enacted. These rules require a demonstration of a 100-year water supply for new subdivisions. Lots can no longer be sold in a subdivision unless a sufficient water supply is proven. The water must be continuously available through transmission lines. If groundwater is part of the portfolio, it must proven to be physically available, with limitations on how deep one can go into the aquifer. Groundwater cannot constitute the whole water supply. By 2025, groundwater use must be down to zero. There is a water quality component as well: water must meet drinking water standards and the planned water use must be efficient.

Supply Plan

In 1998 and 2000, a “Growing Smarter Community” planning initiative went into effect and included a water element. In 2004, Arizona adopted its first state drought plan, which includes a water conservation component. An improvement in data was required to determine how much water people were using. Every five years each community over 1,850 people has to produce a drought plan, a water conservation plan, and a water supply plan. The water supply plan is not a token effort. It must show what the water demand will be for the next 20 years and how the community plans to meet that demand.

Challenges in Arizona include a backlash against regulation, such that it is hard to enforce laws. Urban/rural conflict is also a challenge. Water cannot be transferred across basins in Arizona — people are very protective of water resources. The only way to address these concerns is through lots of regional cooperation, which cannot be handled statewide. “We have a better chance of getting cooperation at the regional level than the state,” Fabritz-Whitney said.

Washington

Population Growth

Brian Walsh, Manager of Policy and Planning for the Washington Department of Ecology, said that Washington’s experience is evolving, with case law and opinions from the state attorney general’s office affecting water policy. Washington has 6.5 million people, which makes it the third most populated western state after Texas and California. Most of the population is in the Puget Sound region. The Columbia River Basin — with substantial irrigated agriculture and endangered species’ issues — is projected to grow by two million people in the near future.

Management Act

Washington’s 1990 Growth Management Act was an attempt to contain growth. It addresses the natural resources of critical areas and mandates urban growth boundaries. Regional boards are required to submit plans to the state, including plans for capital facilities. Developers must show how water needs will be met. Previously, local jurisdictions sometimes approved development based on physical availability of water without looking at legal availability. Now, physical and legal availability of water must be proven. Habitat flow critical to recovery of endangered species must also be considered.

Watershed Planning

Washington’s 1998 Watershed Planning Act facilitated the forming of voluntary local groups to look at water supply and prepare a water budget, with consideration of habitat protection. More comprehensive planning was the goal. Central Puget Sound chose not to form a group. Local tribes weren’t interested, so they also passed. Under this Act, 36 watersheds developed plans. Some plans have fallen short, but some are being implemented. The Columbia River Water Management Program is the most comprehensive of these plans.

Municipal water law in Washington reflects a strong interest in defining water rights to provide certainty. Water is to be divided between municipalities, environment, and agriculture. In 2008, the Washington state legislature approved state-wide water banking.

Washington Challenges

CHALLENGES IN WASHINGTON INCLUDE:

- No statewide water plan
- Unadjudicated water rights
- Problematic well permitting issues

Transfers & Opportunities

Washington needs smart off-channel and aquifer storage, according to Walsh. “We have 6,000 pending water rights applications in the state, but we have to face up to the realization that transfers are the only way you are going to get water in the future, because surface water in the state has been fully appropriated since 2005.” Opportunities in Washington cited by Walsh include water banking, reclaimed water, stormwater management, rainwater harvesting, aquifer storage recovery, and low impact development.

LOCAL JURISDICTIONS' PERSPECTIVE

Water Use
&
Land UseCoordination
LackInformation
LackNew Strategic
PlanRegional
ConsortiumUrban Growth
Boundaries

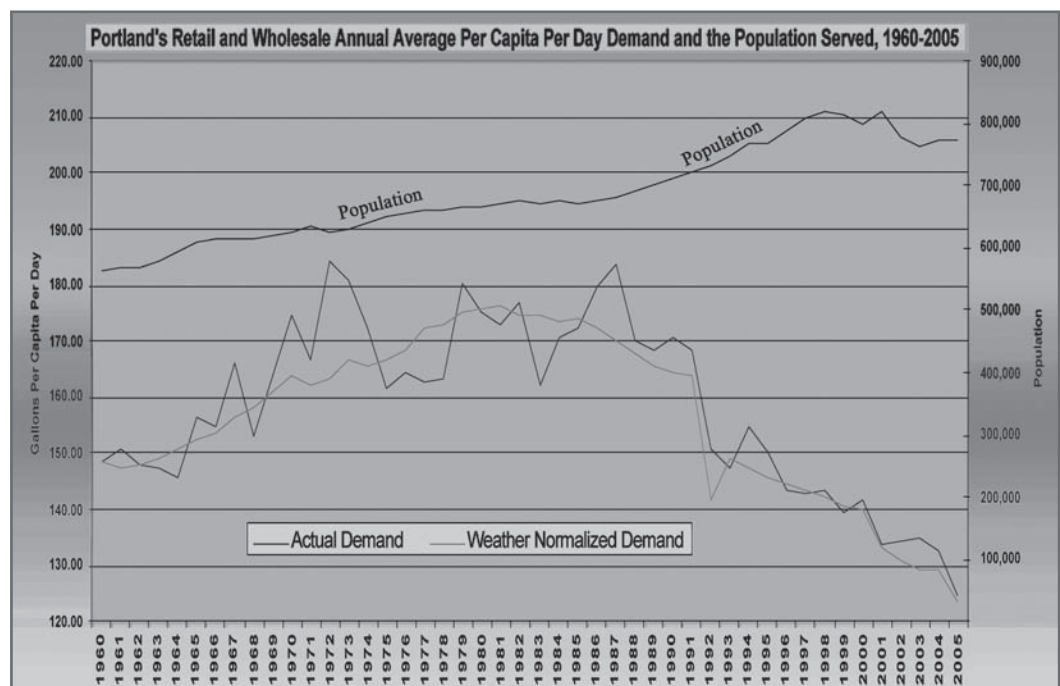
Introducing speakers to provide a local perspective, Julio Iturria, Long Range Program Manager from Colorado's Arapahoe County, pointed out that now may be a particularly good time to work on integrating land use planning and water supply planning. With development slow due to the economy, many jurisdictions are using the time to update their planning.

City of Portland, Oregon

Lorna Stickel, Water Resources Planning Manager for Portland, said the political climate in Oregon encourages finding ways to manage growth while not stifling growth. The topic of limiting growth is very contentious. Statewide land use planning has been mandated since 1972, but there is little formal coordination between required land use plans and water supply planning. The agencies that make land use decisions don't make the water decisions. Lack of information about water resources is an impediment. Any city over 25,000 must have a land use plan, but each community directs their planning process differently. Water supply must be addressed and responses about water availability have to be included in a city's land use plan, but there is no mandated timeframe. Annexation rules frustrate the ability of cities to provide water services. Water belongs to the public in Oregon and is administered by the Oregon Water Resources Department (WRD). Many water providers would rather respond to land use projections than work with land use planners up front on the issue of water availability. WRD and the Water Resources Commission are currently working on a statewide strategic plan that will include a process of identifying water resource issues and challenges related to growth in Oregon, and the relationship between the entities responsible for making decisions about providing water service. Political overlap is a problem in Oregon. Decentralized water and wastewater systems are a challenge as well as water utilities' fixed costs, Stickel said.

Specific to the Portland area, a "Regional Water Providers Consortium" has taken on the role of doing water planning. The Consortium is participating with Metro — an elected regional government — on infrastructure planning. Metro produced an infrastructure study that integrates water issues in several ways, including demand management through compact urban development patterns. Low impact development techniques — such as: rainwater harvesting; green roofs; pervious surfaces; and stormwater infiltration devices — are encouraged and their use is increasing.

Asked whether Oregon's state-mandated urban growth boundaries are a good idea, Stickel responded, "I think they work. If you can gather the political will to make it a statute, it works." Asked about the evidence that compact growth uses less water, Stickel said that "a compact urban form that allows you access to what you need without having to get in your auto is being demanded more and more by younger and older people. It has been shown that compact urban form puts less demand on water infrastructure."



Water Use & Land Use	Boulder, Colorado
Planning Tools	<p>Peter Pollock, representing the Lincoln Institute of Land Policy, spoke about the experience of The City of Boulder and Boulder County in Colorado. Pollock promoted using water supply discussions as the basis for making good land use decisions and enhancing sustainable development, a process that has gotten good results in Boulder. As planners create visions and goals, they can help introduce new management tools, laws and incentives. Comprehensive planning tools include: build-out analysis; alternative future development scenarios; land use suitability analysis; defined service areas; and land use maps.</p>
Master Plans	<p>Boulder has determined that it wants to be a compact, sustainable city, surrounded by open space. City planning goals support those desires, with growth management incorporating transportation, housing, human services, environment, facilities, and more. Boulder has functioning master plans for: source water; treated water; wastewater treatment and collection; and floods and stormwater — all of which are linked to the land use and growth projections. Points of control include: annexation/zoning; building permits; and utility connection permits. Their capital improvements program includes a six-year projection aimed at keeping up with growth.</p>
City/County Cooperation	<p>The City wish to control its growth corresponded well with Boulder County wanting to stay rural. They were able to come to a City/County agreement, unlike many other areas where local governments compete for revenue. One avenue to address this competition is the Denver region's model for transportation, where municipalities specify that if regional objectives are met transportation funding becomes available. Pollock asks: "Why not [the same] for water?"</p>
Infrastructure Requirements	<p>Asked about growth limits, Pollock said that Boulder at one time tried to limit growth by limiting water, but the Colorado Supreme Court wouldn't allow it. Instead, the city defined a service area where a range of services would be provided. Boulder County agreed to be rural and Boulder agreed to be urban. They defined what services must be provided for the urban sector. A whole suite of urban services needs to be provided if you want to annex into the City of Boulder. All choices are made by the community through an intergovernmental agreement with the County.</p>
Aquifer Recharge	<p>The Lincoln Institute issued a report called America 2050 which talks about megaregions in terms of infrastructure development. "What other opportunities need to be addressed at this scale?" Pollock asked. For instance, land use planning integration with transportation is evolving — often with funding incentives attached. "Making sure that water is available [prior to sanctioning development] should be a given, just as much as we assume that every house will have access to a road," Pollock concluded.</p>
Template Needed	Douglas County, Colorado
Ag/Urban Competition	<p>Mark Shively, Executive Director of the Douglas County Water Resource Authority, talked about the rapid growth being experienced by his county, situated south of Denver. Water issues there stem mostly from the fact that they rely almost exclusively upon non-renewable groundwater after the 1980's veto of a major water storage project (Two Forks). Because the area has numerous water providers, including special districts, it is challenging to develop alternative water resources. A 2004 South Metro water supply study showing regional decline in water well levels caused water providers to begin looking at conjunctive use of groundwater and surface water, and aquifer recharge opportunities.</p>
Regional Projects	<p>While Douglas County government has responsibility for land use planning, water supply responsibility falls to the Douglas County Water Resource Authority and the South Metro Water Supply Authority. "We need to develop a template of documents to set expectations for land use applicants on water issues," Shively said. "We can fiddle while Rome burns or we can work together to plan water and energy projects," he said.</p>
	Mayors, Managers & More
	<p>An intriguing array of Colorado panelists was assembled for a session entitled "Two Sides Talking." The dialogue covered a range of issues, but hovered around innovative strategies for sharing water, particularly in respect to water competition between agricultural and urban interests and across Colorado's West Slope/Front Range (of the Rockies) divide.</p>
	<p>Chips Barry, manager of Denver Water, said that though Colorado has experienced relentless West Slope/East Slope water litigation over the past 50 years, both sides support the Green Mountain Pumpback/Wolcott Reservoir project. This project includes a pipeline between Green Mountain and Dillon that will convey more water for use in the Denver metro area while also providing better recreation on the West Slope. He believes the West Slope is beginning to understand that having the Denver area in economic distress is not good for the West Slope.</p>
	<p>The Denver metro area is increasingly working regionally when it comes to water. For example, when Denver Water wanted to enlarge Gross Reservoir, they asked Boulder County if it wanted storage space and</p>

Water Use & Land Use

West Slope Issues

would pay part of the cost. The result is that the City of Boulder, the City of Lafayette, and Denver Water are together paying for and enjoying the benefits of the \$8 million project. "This is the first time ever in Colorado for an arrangement like that," Barry said. Denver Mayor John Hickenlooper emphasized that it is critical to foster cooperation between the two sides of the mountains. "We are going to rise or fall as a state," he said.

Eric Kuhn, Manager of the Colorado River Water Conservation District, noted that the Colorado Basin Roundtable is working on a vision statement that emphasizes the importance of not losing irrigated agriculture and preserving water for non-consumptive uses on the West Slope. "We are not saying 'not one more drop' so much as we are interested in how those drops are collected and delivered — how those drops impact the future of the West Slope." According to Kuhn, "The tools of the past will not work for the uncertainty of the future." Assuming climate change is out there, surplus needs to be built into projections. He commended Denver Water for thinking about how to develop resources in a new way — and being willing to look at a change in culture.

Aurora's Approach

Regional cooperation is key, according to Mark Pifher, director of Aurora Water. Aurora recently adopted a statement addressing water resource development and promoting regional cooperation — though it didn't specifically address integrating land use planning with water supply planning. The City of Aurora is engaged in water conservation programs, reuse strategies, energy saving water treatment technologies, and interruptible supply leasing contracts with farmers. "We have to be looking not just at local land use demands within our communities, but the impact our water supply initiatives have on the areas from which the water comes," Pifher said. Pifher discussed the idea of cooperative arrangements and water sharing in the arena of water infrastructure supply enhancement. Infrastructure is often too expensive for a single entity. Water scarcity and the cost of infrastructure due to long distance transportation will continue to boost costs. When water fees go off the charts, the marketplace will work in our favor, according to Pifher.

Culture Change

"A crisis is a terrible thing to waste," quipped Ed Tauer, Mayor of Aurora. He pointed out that the 2002 drought crisis resulted in a culture change that has folks in his city looking at water differently from the days when they had an ordinance that required citizens to have a certain amount of bluegrass. Development densification and xeriscaping are both responses to crisis. In 2009 the city had people who didn't turn on their lawn sprinklers until July. It was a financial hit for the water utility's fixed costs, but an excellent indication of culture change. Tauer said that the economic viability of the Front Range has a big impact on the West Slope which was unidentified until a few years ago. A sense of emergency fosters partnerships.

Interbasin Compact?

Greg Trainor, director of utilities for Grand Junction, Colorado, stirred things up by suggesting Colorado needs to stage its own version of "Bishop's Lodge." He was referring to the site where the seven Colorado River Basin states hammered out their 1922 Compact agreement. "Let's create an interbasin compact through the IBCC — a new compact between the east and west divisions of the state on how water should be developed moving forward," he said. The basin roundtables set up under Colorado's Water for the 21st Century Act to engage stakeholders could provide a forum. "It isn't enough to just say things will work out. We have to be innovative and visionary in pulling the state together," according to Trainor.

Panel moderator Peter Nichols (attorney with Trout, Raley, Montano, Witwer, and Freeman), asked: "Does support for the regionalism we have been hearing about extend to the idea of a West Slope/East Slope agreement like Greg Trainor is recommending?" Pifher responded that while the concept of an interbasin compact is good, it would be hard to enforce due to the number of players. Pifher prefers an intergovernmental agreement. Mayor Tauer noted that agreements don't last unless you can "figure out a way that I am going to do better working with you than on my own." Chips Barry said the idea of an interbasin compact can't work because roundtables don't have authority to make any decisions. Trainor countered that the roundtable process is generating a group of educated people, but that solutions will take several generations of learning. A compact, he said, is "an agreement on principles of how to get where we want to be."

State v. Local Control

Nichols also posed the question: "We have heard here that the state legislature in California gives more state direction to water agencies than we have in Colorado. How would that play in Colorado? How would having a water wholesaler work in Colorado?" Kuhn answered that maybe Colorado needs a procedural floor, such as a base level of conservation. He added, "If we identify the need for a large storage facility which is multiple purpose, then there should be a state public financing mechanism." Mayor Tauer favored a local approach. "Talking face-to-face with folks down in the Arkansas Basin about water leasing is a lot more enjoyable than lobbying at the state legislature," he said. He doesn't believe the state will ever have money to finance storage. He said that encouraging contiguous growth was a COG (council of governments) initiative but such an approach wouldn't work for putting water into land use plans. "That can be done better at the local level," he said.

Water Use & Land Use

Increasing Density

Sustainable Practices

Developer's Viewpoint: "Consistency"

Regional BMPs?

Infrastructure Funding

DEVELOPER & NGO PERSPECTIVE

Urban development patterns must be studied in order to plan and design solutions for water wise communities, according to the Sonoran Institute's Clark Anderson. Anticipated growth must be addressed. A "no growth" scenario is really a "no action" scenario. Unmanaged growth may create significant impacts we can't eliminate. Minimizing such impacts includes increasing density, which can lower water demand and protect natural infrastructure.

Communities should consider where they are *not* going to grow — onto a riparian area or a flood plain, for instance. However, where and how we grow is the more important question. Creating a compact community through redevelopment and infill is an opportunity to reinvest in our communities. Anderson gave as an example the redevelopment of the former Stapleton Airport, noting that the water community needs to put pressure on reforming and retooling local zoning codes to promote mixed use and higher density. "Regional coordination is critical for achieving these goals," he said.

Speaking about sustainable developments were both Conor Merrigan from C2 Green Development Services and Drew Beckwith with Western Resource Advocates. Merrigan pointed out that LEED — which promotes sustainable buildings — will soon have a LEED for Neighborhood Development professional designation which landscape architects and others can earn. It includes the promotion of smart location and linkage, wetland, and water body conservation. Beckwith talked about Western Resource Advocates' report — "*New House, New Paradigm*" — which relays information about water smart communities throughout the west — including Civano, Arizona, Oshara Village, New Mexico, and Sterling Ranch in Douglas County, Colorado. [See: www.westernresourceadvocates.org] At Sterling Ranch, developers plan to supply the needs of five households with just an acre-foot of water — more than twice the efficiency of nearby developments. Anderson referred to land use planning as a new source of water supply. "It's feasible and it's desirable," he said.

Doug Scott, vice president of Shea Properties and a member of IBCC during its first three years, brought a viewpoint drawn from both experiences. While he recognizes the need for innovative approaches to solve land use and water supply challenges, he reminded conferees that economic sustainability is important too. Infill development can be very expensive, he said. It takes four years to get infill redevelopment zoning compared to a year and a half of permitting to start on fresh new land. He pointed out that the way our economy works you can double someone's water bill and that will still be less expensive than paying for a big water savings improvement up front. "This limits our ability to spend a lot on building green," he said. Scott said that developers are looking for consistency, lead time, incremental steps, and realistic regulations. Regulations give developers a uniform market for competition, he said, but inconsistency in regulations from one place to another leads developers to "shop" from one locality to another to find what they need. That causes competition between areas instead of cooperation. The bottom line is that a developer cannot afford to build where it costs more to build than the market will pay.

LAND USE PLANNING NEEDS

Graham Billingsley, a planner for 30 years, said planners are visionaries and facilitators, but most planners don't know about water supply. Most don't know what a water resource inventory is or anything about their watershed. The result is that comprehensive plans often aren't really comprehensive in that they don't consider water availability. Most planners work for one particular city and don't have any motivation to look at issues regionally. "What you do in your city may affect someone else, for instance those downstream, but planners typically don't have any sense of that," he said. A few communities have all the water they need, but most communities are more interdependent with others. Regional "best management practices" should be established. Such practices should address where development should take place, taking into consideration riparian buffers, nitrate load regulations, as well as ordinances pertaining to flood plains and stormwater management. Water resources planning needs to seriously engage citizens.

SPECIAL DISTRICTS

Special districts were discussed by Tom Grimshaw, an attorney with Grimshaw and Harring. He said special districts (Colorado has 1800) are becoming more prevalent since they often can fund infrastructure for new development more efficiently and economically than municipalities. A special district cannot be formed without the approval of a municipality or county. Special districts in Colorado do not have any land use power. They can promulgate water plans but not land use or zoning plans, so they shouldn't be an impediment to comprehensive plans. "How can we bring special districts into the land use planning process, given their autonomy?" Grimshaw said that Douglas County has an ongoing mechanism for dialogue with special districts, but he is not aware of that happening in other areas. Legislation may be needed to encourage such dialogue, he said.

Water Use & Land Use

New Development Requirements

Unilateral Decisions

Growth Drivers

Landscape Design

Incentive Programs

Denver Growth

Corps Decisions

COLORADO LEGISLATORS PERSPECTIVE

Colorado State Representative Kathleen Curry discussed successful legislation she designed — Colorado House Bill 08-1141 — which requires local entities approving new development to take water supplies into consideration. Some have said the bill wasn't needed because counties already had to get state engineer verification of water availability before approving subdivisions. Curry noted that special districts and municipalities are now included. She cited the situation in Pagosa Springs where the city council was offering vested rights to developers to encourage building, without the water and sanitation district knowing how they were going to meet the water demand. She said the district sent the city council a letter informing them about the new law and saying they were supposed to be communicating with one another. "So maybe the legislation has at least been a springboard for communication," she said.

State Representative Clair Levy expressed concern that local governments make decisions unilaterally about how and where to grow. There is no direct legal authority between the state and local jurisdictions on these issues. She said the state hasn't used the power it has because of the local lobby and because the state has not articulated a policy on land use. Levy believes we can deal with growth, congestion, air quality, and future demand for water if we foster more compact development.

Curry pointed out that both tax policy and private property rights are drivers in how growth occurs in Colorado. With municipalities depending on sales tax revenue to fund increasing costs, they are forced to compete for development they may not be prepared for in terms of water. In regard to private property rights, landowners get to choose what they want to do with their land. While the rules of the game should not fundamentally altered midstream, "We might be able to create incentives for changes," according to Curry. There is a role for the state. For instance, the state is already involved in helping communities and small towns who don't have a water engineer on staff, Curry noted. Rather than mandates from the top, an incentive driven process respectful of local control works better. To take this to the next level, "I would pull the municipal and county folks together and ask them how the state can help. I should have done more of that in designing the bill," Curry said.

COLORADO DEPARTMENT OF LOCAL AFFAIRS & the DENVER REGIONAL COUNCIL OF GOVERNMENTS

Susan Kirkpatrick and Andy Hill from the Colorado Department of Local Affairs (DOLA) joined Jennifer Schaufele of Denver's Regional Council of Governments (DRCOG) to discuss the services their respective agencies provide communities pertinent to land use and water supply planning. Hill pointed out that the strong tradition of local control in Colorado has led to each community having customized its own solutions. "When we try to impose statewide solutions, we run into unintended consequences," she said. DOLA gives financial and technical assistance to Colorado communities for planning, and invests in infrastructure (among other things). For example, DOLA funded the development of a water efficient landscape design code. It is available on their website along with a county modeling code and a municipal modeling code (www.dola.state.co.us).

DOLA Director Kirkpatrick said that DOLA uses tools like technical assistance to entice positive behaviors by local governments. People listen to DOLA because they provide funding. DOLA is working to use its grants to incentivize programs to enhance sustainable living in the state, including efficient use of water. Increasingly, their focus is on funding infrastructure and sustainable development projects designed for the long-term. DOLA especially favors projects where communities form strategic partnerships to solve problems. An example of that is Eagle Place in Lafayette. With a \$400,000 loan from DOLA and a \$100,000 grant from the Governor's energy office, a 60-unit low energy, reduced rent, multifamily project was built.

DRCOG is the third oldest regional organization of its type in the nation. Their job is planning for growth in the Denver region, according to Jennifer Schaufele, its Executive Director. Their membership includes 56 local government jurisdictions, covering almost 6,000 square miles. While DRCOG doesn't deal specifically with water supply, much of what they do affects it. For instance, through the efforts of DRCOG, Denver's urban growth area had expanded only 900 square miles instead of an earlier projected 1200 — with positive implications for water supply and water quality, as well as for transportation.

FEDERAL VIEWS & INITIATIVES

Chandler Peter, who coordinates National Environmental Policy Act processes for the US Army Corp of Engineers (Corps), noted that the Corps suffers from "the tyranny of incremental decision making." The Corps is a regulatory agency, which means they are reactionary by design. Planning is not their role. Instead, they utilize the products of planners as they make decisions about proposed projects. The Corps has to understand project needs in order to make an informed decision. Water needs translate directly to

Water Use & Land Use

Needs Analysis

Quality Impacts

Low Impact Development

Forests' Water Benefits

Species Recovery

Federal Outreach

WestFAST Cooperation

effects on aquatic resources, for instance. In needs analysis, the Corp considers: demand rates; reliability criteria; conservation measures; growth projection and land use plans; system operations; and current water supply portfolios. The Corps can only authorize the least damaging alternative. "Water supply projects don't always meet with success in the regulatory permit process," Peter said, "but the Corps wants to avoid a lengthy and expensive process leading to denial of permit." To improve the permit process, they are testing the integration of a collaborative method with the permit process. A test case for Shared Vision Planning is being conducted currently in Colorado for the Halligan-Seaman reservoir expansion project, which is being pursued by the cities of Fort Collins and Greeley.

Representing the US Environmental Protection Agency (EPA), Bert Garcia talked about his agency's role in water supply projects via the federal Clean Water Act's Section 404 permit process. Section 404 calls for no discharge into waters of the US unless it's the least damaging alternative. EPA's job is to see if biological, physical, and chemical impacts have been identified and to determine how harmful impacts can be avoided, minimized or mitigated. Water supply decisions are increasingly resulting in water quality impacts, because a small change in flow can have a big impact on water quality. "What we are seeing is adverse water quality effects not being addressed, a very narrow range of alternatives, a lack of consideration of conservation, and little view of cumulative impacts," he said.

The solution Garcia promoted is to "sit down and talk." He said Colorado's Department of Natural Resources recently sat down with EPA and came to agreement on the need to educate one another. EPA needs to better understand what water managers are up against, and water managers need to look at environmental issues earlier.

Garcia also promoted low impact development as a land planning approach that can reduce development hydrologic impacts. Green infrastructure (such as the incorporation of vegetative soils, green roofs, urban forests, and on-site stormwater management) can be used to mimic the natural system.

EPA has been involved in the integration of land use planning with water supply planning since 2006, Garcia noted. Their motivation is the information disconnect they see between decision-makers in land use and water supply. However, EPA is beginning to see new integrative approaches in some states and localities.

Few people are aware of the importance that national forests play in providing sustainable supplies of clean water, according to Randy Karstaedt of the US Forest Service (USFS). More than 80% of the surface water supply in the US comes from rural and forest lands. We should all seek better ways to work together to make land use decisions that affect clean water. USFS is partnering with state and local governments and NGOs to look at the most critical watersheds and make them more resilient to such things as catastrophic wildfire and insect damage. USFS is also looking at the potential for developing economic incentives and new markets for restoring the health of watersheds to improve water quality. A Colorado example cited by Karstaedt is USFS' partnership with a private enterprise (Vail Associates) to undertake restoration of the watershed damaged from the devastating Hayman Fire.

Meg Estep, Chief of the Division of Water Resources for the US Fish and Wildlife Service (FWS), spoke about her agency's responsibility to protect plants and animals from becoming extinct. Under the candidate conservation program, FWS works with landowners to implement a management program so that they can proceed with their plans while working to preserve species. Their "safe harbor" policy promotes recovery on non-covered lands when landowners want to cooperate but don't want to get stuck by calling attention to a potential species of concern on their property. She discussed the Platte River Recovery Program — an agreement between the states of Wyoming, Colorado, and Nebraska to preserve habitat for endangered species — as an example of how FWS works with stakeholders to resolve water challenges.

The panel was asked what federal involvement in local land use planning and planning for future long-range water allocation decisions might look like. Chandler Peter said the Corps wants to keep communication open, even to the extent of receiving summaries of land use planning meetings. "We don't have time to attend the meetings," he said, "but we would like to be made aware of what folks are thinking." The Corps wants to intersect, or at least communicate with, the state to stay informed about what's going on. Bert Garcia suggested EPA wants to provide an outreach role — to be sure local land use folks are aware of the water quality issues associated with their planning efforts.

It was reiterated that the Western States Water Council has established a means for communication and cooperation among the nine federal agencies in regard to water issues in the west. WestFAST (Western States Federal Agency Support Team) has been in effect for one year. Realizing that the local level is the best place for opportunities for coordination and cooperation, the agencies get together to discuss issues that affect local groups in the West. "We're all trying to do the right thing, get to the same place," said Jonne Hower, WestFAST coordinator. The formal channel to WestFAST is through WSWC but states can access WestFAST directly.

Water Use & Land Use

Solutions Summary

SYMPOSIUM PARTICIPANT INPUT

The symposium included a series of breakout sessions in which participants met in small groups to formulate action ideas. Jewlya Lynn and Lyn Kathlene from Center for Systems Integration, and CWCB's Jacob Bornstein shared the summary of solution-based themes that emerged. Conferees agreed that those doing land use planning and water supply planning need: more information; communication; coordination; integration; and more implementation. Some attendees believe we need more regulation. Most believe we need more regionalization.

One group wrote "Start to better engage and inform, create a better understanding of what is already available, what tools exist. Evaluate and characterize gaps and consequences of actions. From this effort, which can be shared by the state and its many partners — public and private — better legislation can be developed to regulate and manage smarter growth."

PARTICIPANT RECOMMENDATIONS AND OBSERVATIONS INCLUDED:

- States should not dictate what local entities do, but state standardized data collection and a clearinghouse of best management practices is needed
- Master planning efforts should be cross-referenced
- Educating the public would help politicians and agencies when they need to make hard decisions
- Convene stakeholders and build political will
- Help local governments understand and communicate with one another, with county government, and with the state
- Work toward real action and useful meetings; agree to help one another accomplish mutual goals
- Promote revenue sharing for better coordination of growth
- Engage the private sector; use some of the tools they have developed; ease some regulations
- Create links between land use and water supply agencies to facilitate working together on growth
- Integrate water into current land use plans
- Get everyone rowing in the same direction: integrate and consolidate city, county and utility enterprises
- Utilities may say we can supply only this many people, so don't grow beyond that
- Pay more, use less
- Transition to xeriscaping
- Help communities better understand what the true cost/benefit ratio is of potential implementation strategies
- Consider changing state law to give more impetus to implementation methodologies
- Attach more strings to funding
- Top down state role as regulator okay so long as it doesn't stifle discussion and collaboration
- Local government should not fear regulating the private sector
- State has a regulatory role to level playing field
- Incentive-based regulation is needed to get local governments to achieve smart growth principles
- Gray water policies needed
- Tax law reform needed to reduce competition between jurisdictions for development
- Strategize what regulations would deliver the most bang for the buck
- Regionalization needs to be truly comprehensive, including land, water, transportation, and energy
- Utilize the 208 planning process, which is for addressing water quality issues because water quality is a really important part of the land/water planning nexus
- Look for good models in other areas that seemingly don't have anything to do with the water
- Start Acting, Keep Talking

Organizers closed the symposium by calling it a "kickoff for integration." CWCB and Western States Water Council will be looking for opportunities to build on what was learned and use it as a springboard for further dialogue.

FOR ADDITIONAL INFORMATION:

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SYMPOSIUM PROCEEDINGS / CWCB REPORT: Symposium proceedings and the CWCB research project report will be released in November. To receive notice of the release, email Rebecca Kahn of the Center for System Integration: rebecca@csi-policy.org

MaryLou Smith is Vice President of Aqua Engineering, Inc. in Fort Collins, Colorado. She works with stakeholder groups throughout the West to facilitate dialogue about complex water policy issues.

Coalbed Methane

State Engineer's Jurisdiction

Basin Attributes

PRODUCED WATER & REGULATORY STRUCTURE

COLORADO STRUGGLES WITH COALBED METHANE JURISDICTION AND CONTROL

by Michelle Henrie, Attorney (Albuquerque, NM)

Introduction

The *Vance v. Wolfe* litigation (205 P.3d 1165 (Col. 2009)) started in November 2005, but controversy surrounding coalbed methane production in the HD Mountains of Southern Colorado had been brewing for years. For those opposed to drilling, water was one of many factors of concern. Following the Colorado Supreme Court's ruling in *Vance*, coalbed methane production wells and — potentially — conventional oil and gas production wells throughout the entire State of Colorado fall within the administrative jurisdiction of the Colorado State Engineer. What this means and how this administrative jurisdiction will be applied, is now being decided.

Background of Gas Development in the San Juan Basin

Geologically, the San Juan Basin extends over 6,700 square miles, from the San Juan Mountains (near Durango, Colorado) to the San Pedro Mountains (near Cuba, New Mexico). [The larger, hydrologic drainage basin of the San Juan River (map, this page) is also called the "San Juan Basin." In this article, "San Juan Basin" means the geologic basin rather than the hydrologic basin.] The San Juan Basin was formed by sediments that were deposited in ancient shallow seas. These sediments included decayed organic matter that became buried. Volcanic activity from the San Juan Mountains created heat and pressures that transformed the buried organic material into oil and natural gas. The San Juan Basin is the second-largest natural gas deposit in the United States. Within the San Juan Basin, commercial coalbed methane production occurs primarily in the Fruitland Formation, which is a Late Cretaceous period, coal-rich formation, present throughout most of the San Juan Basin.

Conventional gas exploration began in the San Juan Basin in the early 1900s. In 1921, the first commercially successful gas well was drilled near Aztec, New Mexico. Additional development continued through the 1930s and 1940s. By the 1950s, deeper drilling methods resulted in thousands of wells in the San Juan Basin. Drilling of conventional gas reservoirs continued until 1982 when gas prices dropped.

Meanwhile, although methane gas was known to exist in the San Juan Basin since 1924, and was produced beginning in 1951, coalbed methane development was overshadowed by conventional gas drilling and production until the 1990s. Beginning with the passage of the Crude Oil Windfall Profits Tax Act of 1980, coalbed methane development became an increasing focus in the San Juan Basin. By the late 1980s, there were as many coalbed methane wells being drilled in the San Juan Basin as conventional gas wells. By 1991, coalbed methane

production in the San Juan Basin exceeded conventional gas production. By 1996, the San Juan Basin was one of the largest producing coalbed methane areas in the world.

However, with boom comes concern. In the early 2000s, local government, newspapers, and citizen groups raised concerns about viewsheds, noise, traffic, airborne dust, road damage, groundwater contamination, methane gas seeps, coal fires, and other issues. At the same time, the United States Geological Survey continued to produce annual projections stating that there were trillions of cubic feet of undiscovered energy resources that remained in the San Juan Basin.

The Northern San Juan Basin Coal Bed Methane Project

The "Northern San Juan Basin" refers to that portion of the San Juan Basin situated in La Plata and Archuleta Counties, Colorado, not including the Southern Ute Reservation. Totalling 125,000 acres, the Northern San Juan Basin consists of: 7,000 acres of Bureau of Land Management (BLM)-administered land; 49,000 acres of US Forest Service (USFS)-administered land; 9,000 acres of private lands with federal minerals; and 60,000 acres of state or privately held (fee) lands with non-federal minerals.

San Juan Hydrologic Drainage Basin



Boom Concerns

Undiscovered Resources

Land Ownership

Coalbed Methane

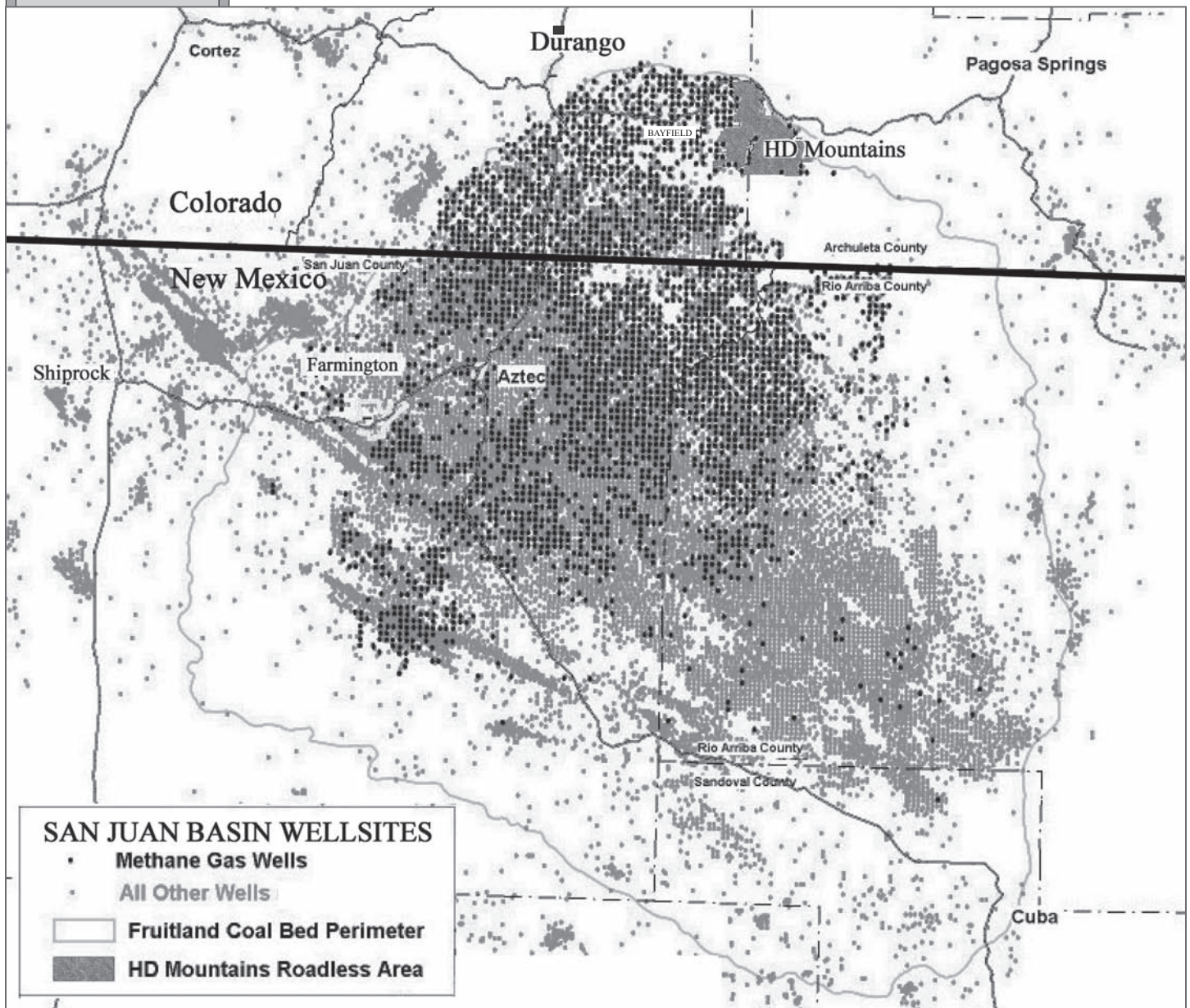
Federal Project

Surface Water & Groundwater Impacts

Durango, Colorado, is outside of the Northern San Juan Basin. Bayfield, Colorado, about 18 miles east of Durango, sits in the heart of the Northern San Juan Basin. East of Bayfield, within the Northern San Juan Basin, lie steep, mostly roadless mountains named for a cattle brand — i.e., the HD Mountains, which cover about 40,000 acres.

In the 1980s, management plans adopted by BLM and USFS identified all federal lands in the Northern San Juan Basin as “suitable” for oil and gas leasing. In 1991, BLM and USFS issued an Environmental Impact Statement (EIS) allowing dozens of new coalbed methane wells to be drilled on federal land in the HD Mountains. Due to the steep slopes, only a handful of these wells were actually drilled.

In 2000, BLM and USFS began considering the “Northern San Juan Basin Coal Bed Methane Project” (Project) — a plan to drill 170 new coalbed methane wells on existing leases in the La Plata County portion of the Northern San Juan Basin. In 2001, the Project was revised to add approximately 140 drill sites on existing leases in the Archuleta County portion of the Northern San Juan Basin. The Draft Environmental Impact Statement (EIS) for the Project stated that “[b]efore CBM development in the northern San Juan Basin, discharge from the Fruitland aquifer to the Animas, Florida, Pine and Piedra Rivers totaled approximately 195 acre-feet per year, [and] modeling by Cox et al. (2001) has demonstrated that CBM development has and will continue to intercept groundwater that would normally discharge to these rivers.” In other words, the Draft EIS recognized that the proposed coalbed methane production would reduce groundwater discharge to surface water streams. By correlation, the proposed coalbed methane production also would reduce groundwater levels and potentially affect existing water wells.



Coalbed Methane

Water Quality & Quantity Concerns

Water-Bearing Zones

Final EIS

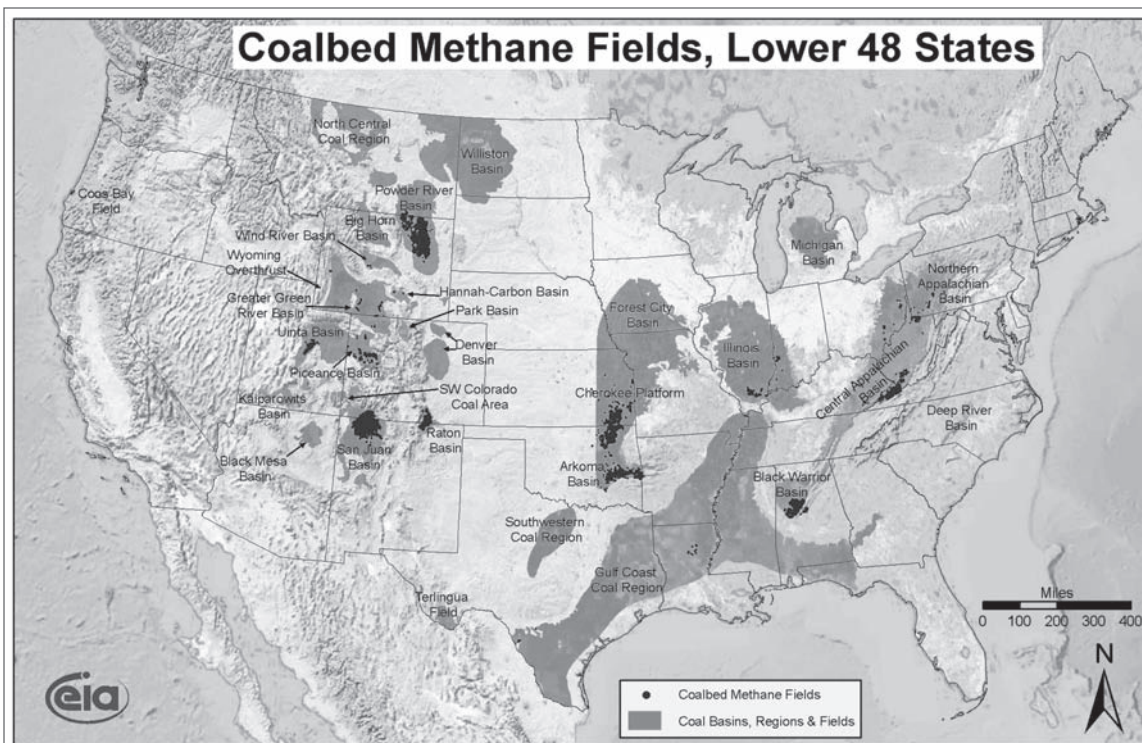
Buffer Zone Need

BLM and USFS held public meetings in Bayfield in the summer of 2004 to discuss the Project, which now proposed development of about 300 new wells, plus an estimated additional 125 miles of access roads and pipelines. Issues addressed in connection with the EIS process included property values, noise, visual impacts, tax revenues, water depletions, impacts on vegetation, wildlife, roadless values, archaeological resources, air quality, and water.

At public meetings conducted by BLM and USFS in Bayfield in the summer of 2004, community members (including *Vance* plaintiffs Bill Vance and Jim Fitzgerald) raised concerns about their springs drying up as a result of drilling coalbed methane wells. Water quality concerns were also raised about methane seepage into water wells. These concerns were heightened near the outcrop areas where the Fruitland Formation surfaces.

The Fruitland Formation is composed of interbedded sandstone, siltstone, shale, carbonaceous shale, and coal. The Fruitland Formation coal deposits are believed to result from peat that accumulated on sandstone platforms along the coast of a shoreline. These beds tend to be relatively porous due to the coal itself, which has closely spaced fractures (cleats) developed during coal formation that allow water to move through the coal, as well as the interbedded sandstone, in which the large voids between particles can be saturated with water. These coal-beds / water-bearing zones are up to 80 feet thick and may contain large amounts of relatively clean water, which means that the Fruitland Formation coal beds are considered “aquifers” in the northern portion of the San Juan Basin where much of the remaining ground formations tend to be waterless shales.

The Record of Decision (ROD) announcing the selection of modified Alternative 7 from the Final EIS for the Northern San Juan Basin Coal Bed Methane Project was issued April 4, 2007. The Final EIS greatly reduced the number of authorized coalbed methane wells and roads. It barred coalbed methane drilling from critical areas with potential landslide hazards, slope stability, erosion, and watershed impacts. However, it allowed development of new coalbed methane wells within 1.5 miles of the Fruitland Formation outcrop in Archuleta County. This is an area that many local residents believe is a needed buffer zone because, based on effects felt near the outcrop in La Plata County, there are concerns about: (a) methane seeps contaminating homes and water wells; and (b) drawdown of springs and water wells. The USFS proposes a “stepwise” approach: approximately 16 wells would be drilled, the wells would be monitored for — among other factors — effects to springs and domestic water wells. If the data indicates “identifiable and measurable undesirable effects,” then subsequent wells could be conditioned. The ROD has been appealed to District Court by San Juan Citizens Alliance, Oil and Gas Accountability Project, Colorado Environmental Coalition, Colorado Wild and The Wilderness Society.



Source: Energy Information Administration based on data from USGS and various published studies

Updated: April 8, 2009

Coalbed Methane

Declaratory Judgement Action

Discharge to Rivers

Diverted Groundwater

The Declaratory Judgment Action: Water Court Level

In November 2005, while the Northern San Juan Basin Coal Bed Methane Project Draft EIS was being revised by USFS and BLM, Bayfield residents Bill and Beth Vance and Jim and Terry Fitzgerald filed a declaratory judgment action in the Water Court (District Court) in Durango. According to court documents, the Vance Ranch is located in Archuleta County near the summit of Yellow Jacket Pass, and the Fitzgerald Ranch is located in LaPlata County below the HD Mountains. The declaratory judgment named as defendants the Colorado State Engineer (originally Harold D. Simpson, now Dick Wolfe) and the Division Engineer of Water Division 7 (originally Scott Brinton, now Rege W. Leach). The Colorado State Engineer is the Director of the Division of Water Resources, a position appointed by the Colorado Governor.

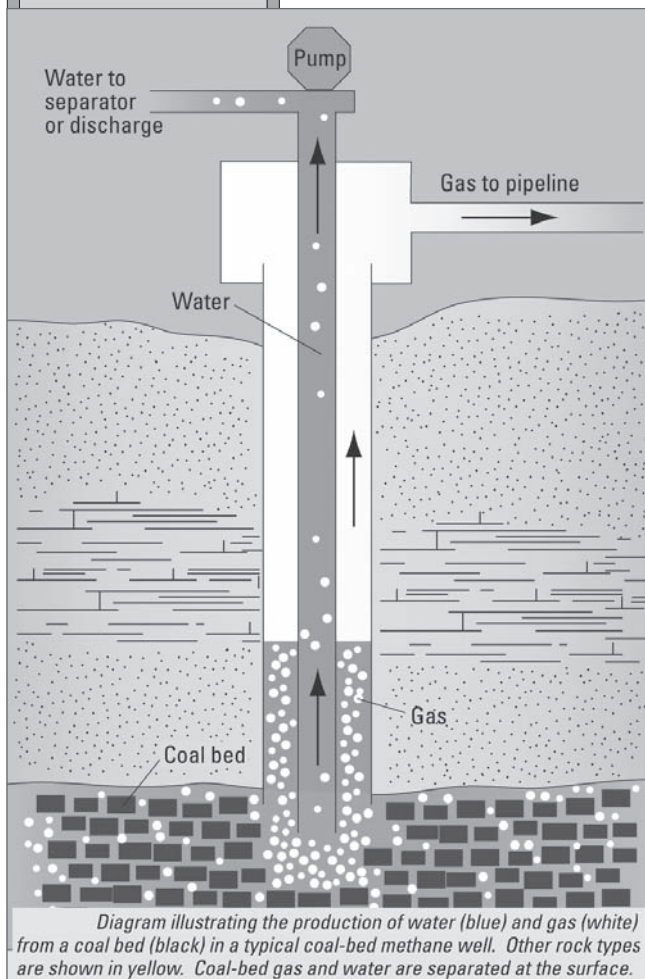
A declaratory judgment action allows plaintiffs to ask the court to declare the rights, duties, or obligations of each party in the dispute. The court's decision becomes legally binding as to the duties, rights, or obligations of the parties. However, such actions do not result in any damage award or injunctive relief.

Technically, the declaratory judgment action was legally separate from the EIS process concurrently under consideration by BLM and USFS for the Northern San Juan Basin Coal Bed Methane Project. However, the plaintiffs' declaratory judgment action clearly benefitted from the studies, reports and conclusions compiled by BLM and USFS in the EIS process (essentially at no cost to the plaintiffs). The Draft EIS for the Project acknowledged that coalbed methane development "has and will continue to intercept groundwater that would normally discharge to these rivers." This is a critical starting point — one that resonates with the legal presumption in Colorado law that all groundwater is tributary, i.e., connected, to surface water. While a legal presumption can be rebutted, a presumption sets the burden of proof, requiring anyone arguing that a groundwater source is nontributary to prove their claim.

The plaintiffs essentially argued that coalbed methane development reduced the amount of water available to senior water users, and therefore the State Engineer should have required permits for the development and water court-approved plans of augmentation. The Vance Ranch has water rights to tributaries of the over-appropriated Piedra River with appropriation priority dates back to 1952, and the Fitzgerald Ranch has water rights to tributaries of the over-appropriated Pine River with priority dates back to 1970. According to court documents, the Vance Ranch and the Fitzgerald Ranch have coalbed methane development on their fee land or on adjacent land. The Draft EIS specifically named the Piedra and Pine Rivers as having been affected by coalbed methane production. In addition, plaintiffs pointed out that after water is diverted in the course of coalbed methane production, the diverted groundwater is reinjected into deeper aquifers making it unavailable to senior vested water rights.

The State Engineer and intervener BP America Production Company (BP) argued that water withdrawn as a byproduct of coalbed methane was simply water withdrawn as a nuisance, i.e., removed because it was in the way of accessing the methane resource. Unless and until that water was put to a second use — a beneficial use such as irrigation — it did not require a permit from the State Engineer. This interpretation is consistent with Colorado's statute that requires no permit for mine dewatering unless and until the removed water is put to a separate beneficial use. That is, mine dewatering itself is not considered a "beneficial use" under Colorado water law. This interpretation also is consistent with the State Engineer's longstanding interpretation, on which energy producers have relied, and should be entitled to deference, the State Engineer and BP maintained.

The Water Court Judge, Gregory G. Lyman, agreed with plaintiffs in an opinion issued in July of 2007. The Water Court essentially said that because water is withdrawn as a necessary part of the production process, water is in fact being "beneficially used" and the State Engineer has a non-discretionary duty to administer water rights according to the prior appropriation system. Further, the Judge rejected the State Engineer's argument about deference. Colorado court rules allowed the State Engineer and BP to appeal the matter directly to the Colorado Supreme Court (Supreme Court) — which they did.



Coalbed Methane

Effect of Decision

Legislation Passed

"Beneficial Use"

Legislative Shelter

Even though the Colorado Supreme Court had not yet ruled when the Colorado Legislature convened in its 2009 session, the legislators recognized the administrative hurdle facing the State Engineer who is required to come into compliance with the Water Court's ruling within 60 days after the Supreme Court affirms a ruling. As of December 2008, there were approximately 4,600 active coalbed methane wells in Colorado. The effect of the Water Court's ruling was to require operators of all 4,600 active coalbed methane wells to either: (1) prove their source water was "nontributary," as discussed below; or (2) for "tributary" source water which is administered within the prior appropriation system, apply for a water well permit, which includes demonstrating that: (a) all depletions resulting from such withdrawal will be replaced pursuant to an augmentation plan or substitute water supply plan; or (b) the well can be operated in a manner that will not cause injury to vested water rights.

House Bill 09-1303: (1) directed the State Engineer to make rules regarding when a gas well should be treated as tapping "nontributary" water, as discussed below; (2) determined parameters under which the State Engineer may issue a permit for a proposed coalbed methane well within 600 feet of an existing well without the normally-required public hearing; and (3), for coalbed methane wells tapping tributary groundwater, created a "time out" by delaying the State Engineer's administration until March 31, 2013.

This bill was introduced in March. It passed the House before the Supreme Court issued its decision on April 20th. The Senate passed an amended bill on April 28th. After passing the House, the amended bill was sent to the Governor in May and signed into law in June.

The Colorado Supreme Court Decision

On April 20, 2009, the Supreme Court issued its opinion in *Vance* affirming the Water Court. The majority decision followed the logic of the Water Court: if the use of water in coalbed methane production is a "beneficial use" then the use falls within the system administered by the State Engineer and the Water Courts. The Supreme Court determined that the use of water in coalbed methane production is an "integral" part of the coalbed methane process, i.e., coalbed methane producers "rely on the presence of the water to hold the gas in place until the water can be removed and the gas captured... Without the presence and subsequent extraction of the water [coalbed methane] cannot be produced," and such water use is therefore a "beneficial use." Having found "beneficial use," the Supreme Court then treated this finding as the first step onto the regulatory path.

Big Picture Issues Raised by the Supreme Court's Decision

Prior to the *Vance* decision, most people — including the Colorado State Engineer — believed that coalbed methane drilling and production was wholly regulated by the Colorado Oil and Gas Conservation Commission (COGCC). Thus, disposal of water produced as a byproduct to oil and gas development was regulated by COGCC, and the State Engineer's jurisdiction was triggered only when a person sought to use this byproduct "produced" water instead of disposing of it per COGCC regulations. An example of such use would be when residential developers partnered with the Wellington Oil Company in Larimer County, Colorado, to treat produced water and supply it for municipal use.

Although there are more than 3,600 coalbed methane wells in Colorado, practically none sought permits from the State Engineer prior to drilling a well due to this commonly accepted understanding. Had anyone tried to do so, there would likely be no form and no process for even considering such a request.

The effect of the *Vance* decision is to allow any person to challenge the State Engineer's interpretation of the scope of his jurisdiction through a declaratory judgment proceeding. Keep in mind that throughout the Western "prior appropriation" states, there are uses of water that have not fallen under prior appropriation systems because the use was not considered to be a "beneficial use."

Historically and generally speaking, the prior appropriation system is all about how to vest a water right. A water right is a quantifiable and predictable right to use water, e.g., at a certain location, for a certain purpose, in a certain amount. Without knowing that one has a perpetual, protectable right to continued use of water, a person cannot make investments based on the use of that water. Prior appropriation systems recognize that once a water use vests into a water right, an earlier vested "prior" right (senior right) is superior to a later vested "junior" right.

Extracting Methane / Produced Water

Methane binds (adsorbs) to coal, lining the inside of pores within the coal, and it is held in place by hydrostatic water pressure.

To extract the adsorbed methane, an operator drills a hole into the coal bed. (The drill hole is cased and cemented like a water well or oil and gas well to protect shallower aquifers from co-mingling with the coal-bearing target aquifer.) As the water is pumped out of the coal bed, the water pressure diminishes, and the methane held in place by water pressure is released (desorbs) and flows with the water, up the well, to a gas-water separator. After separation, the methane is treated (compressed) and typically shipped to a natural gas pipeline.

The water byproduct (produced) is subject to permitting and/or regulation, and may be disposed of by re-injection or evaporation. Alternatively, if the water quality is good or the water can be treated, the water byproduct may be permitted for use as regular water (e.g., stock water, irrigation, or municipal water).

Coalbed Methane

Water Right "Vesting"

New Mexico Process

Impacts on Instream Flows

Reallocation Transfers

Water Administration

Vance Approach

Oil & Gas Wells

Compliance

In the early days of prior appropriation systems, courts wrestled with questions of vesting. For instance: does one acquire a water right by simply forming an intent to use water or must a person actually do something to evidence their intent? Because prior appropriation systems were based on the principle that natural resources should be productively used, a mere intent to use water was insufficient. As a threshold step, one needed to evidence that intent through a diversion or other act taken by the claimant to appropriate water. Diversion alone, however, is not sufficient to vest a water right. Again, considering that these legal systems are based on the principle that natural resources should be productively used, the nature of the water use also had to be considered. If water was being "wasted," the use could not be legally protected and the water could be given to another person who will productively use it. Traditionally, "waste" is the opposite of "beneficial use." Some states defined these terms legislatively, others have simply allowed courts to decide on a case-by-case basis. The final important question for vesting of a water right is the amount of water vested for perpetual use. Only the amount of water placed to "beneficial use" vests. Water use that is "waste" does not vest. Moreover, water that fails to continue being used beneficially is subject to claims of abandonment or forfeiture.

To illustrate these traditional prior appropriation principles, consider the process under New Mexico law. In New Mexico, a "permit" is simply permission to take the first step in the vesting process. Vesting requires a person to prove a diversion by filing a "Proof of Completion of Works." Within a reasonable period of time, a person needs to file a "Proof of Beneficial Use" (PBU). The PBU proves up the quantity of water placed into beneficial use. Only after an acceptable PBU has been filed is a person eligible for a "license" to continued use of the water right.

Returning to the *Vance* decision, the Supreme Court's ruling is fascinating because it starts with "beneficial use" and uses a principle that traditionally related to vesting as a jurisdictional threshold. The full implications of this decision are still being discovered. Outside of the oil and gas industry — which is discussed below — there are other considerations as well. For example, water rights holders have advocated for environmental uses of water to be recognized as "beneficial uses" in order to allow water to be put to these uses without subjecting a water right to a claim of abandonment or forfeiture (e.g., wildlife habitat, instream flow). Will current unregulated uses of water for these purposes now require a water right?

On the other hand, there is a real on-the-ground difference between the early days of prior appropriation systems and today. Many natural water systems are now fully appropriated. That is, every drop of water every single year belongs to somebody for use in accordance with their water right. In plentiful years, every water rights holder gets her share. In less plentiful years, as between any senior and any junior user, the junior user must forego his water use and allow the water to be used by the senior user. In many of these water systems, there is no new appropriation possible — there is only the reallocation of water rights through the purchase and retirement of uses at one location to transfer the use to another location. In this world, vesting may be less important than protecting what has vested.

Historically, disputes between water users were handled in the regular courts, just like any other dispute about property rights. Over time, legislatures granted to state administrative agencies, such as State Engineers, jurisdiction over water in a step-by-step process. Groundwater jurisdiction typically was granted later than surface water jurisdiction, and not all waters automatically fell within an agency's jurisdiction (e.g., non-tributary waters, water of a certain character, water in certain geographic areas, etc., may be excluded). After a state administrative agency acquired jurisdiction over water, it also became charged with protecting senior water rights from encroachment, and either these agencies or specific water courts became the forum for avoiding (via adjudication) or hearing disputes between water users.

The *Vance* situation is interesting because the plaintiffs did not challenge another water user directly in the court system. Instead, they sued the State Engineer using a declaratory judgment proceeding. As noted by the dissenting opinion in the *Vance* decision, this approach opens the door to similar actions taken through declaratory judgments. Interestingly, the Wyoming Supreme Court declined to open the door in a similar lawsuit brought in Wyoming as a declaratory judgment action against the State Engineer involving administration of coalbed methane waters. See *William F. West Ranch, LLC v. Tyrrell*, 206 P.3d 772 (Wyo. 2009).

Important Nuances in the Supreme Court's Decision

It is important to realize that the State Engineer has taken the position that the *Vance* decision applies to every oil and gas well in Colorado, not just coalbed methane wells. This means that not only 4,600 coalbed methane wells, but also more than 34,000 existing traditional oil and gas wells, would need to come into compliance prior to April 1, 2010, or risk the State Engineer declaring the wells out of compliance and instituting remedial action.

To come into compliance under the *Vance* decision, operators must either: (a) prove that an existing coalbed methane or oil and gas well is drawing water from a nontributary aquifer (called a "nontributary ground water determination") and obtain a nontributary water well permit; or (b) obtain a tributary water well permit and offset any out-of-priority water use caused by that well through an approved augmentation plan or substitute water supply plan, which must be submitted no later than April 1, 2010.

**Coalbed
Methane****Hydrologic
Connection****"Nontributary"
Groundwater****Rulemaking****"Tributary"
Groundwater
Requirements****Nontributary Ground Water Determinations**

The first step for each well operator will be an analysis of whether the source aquifer is nontributary. In Colorado, groundwater is "tributary" to surface water when it is hydrologically connected to the surface water. "Nontributary" groundwater, by contrast, is proven to be hydrologically unconnected to surface water. The proof is generally, but not exclusively, based on modeling. The proof must establish that over 100 years of continuous pumping, the impact on the surface stream will be no greater than 1/10 of 1% of the pumping rate per year. In addition, "nontributary" groundwater must be located outside the boundaries of any designated groundwater basin in existence on January 1, 1985.

Prior to *Vance*, the State Engineer had no rules, regulations, policies or procedures in place to handle the now inevitable requests by thousands of well operators for nontributary ground water determinations. At the end of August, the State Engineer instituted rulemaking proceedings. The proposed rules address not only case-by-case requests for nontributary ground water determinations that facilitate the mining of minerals, but also proposes to delineate areas of the state where the State Engineer shall presumptively regard groundwater withdrawn to facilitate or permit the mining of minerals as either "tributary" or "nontributary" without the necessity of a case-by-case analysis. This latter proposal, designating "tributary" or "nontributary" groundwater at a basin- or formation-wide level, is a practical response to the simple reality that the State Engineer's Office does not have the staff, resources and models that are needed to process nearly 40,000 individual well permit applications prior to March 31, 2010.

Under the rulemaking proceedings — styled as "Rulemaking for Produced Nontributary Ground Water" — party status already has been granted and no new parties are likely to be allowed to submit testimony. The hearing officer has ruled that the proceedings will be bifurcated. Track 1 of the proceedings covers the State Engineer's proposed rules as well as any alternate proposed rules applicable to coalbed methane production wells (but not conventional oil and gas production wells). For Track 1, all proposed alternate rules, prehearing statements, expert reports, and written witness testimony were due in October, and the final hearing is scheduled to begin December 2, 2009. Track 2 of the proceedings covers alternate proposed rules for conventional oil and gas production wells. For Track 2, proposed alternate rules, prehearing statements, expert reports, and written witness testimony are due in November, and the final hearing is scheduled to begin January 4, 2009. [More information is available at the State Engineer's website: <http://water.state.co.us/wateradmin/NontribGw.asp>]

The State Engineer initially hoped to complete the public hearing on the proposed rules by the end of October so that the rules could be published this December and become effective by January 1, 2010. However, this schedule is already trailing by several months.

After adoption of new rules for nontributary ground water determinations, and after the source water for a particular well has been determined "tributary," the well operator will have two options. One option is to appeal the determination that groundwater is tributary. The State Engineer's proposed rules are silent as to whether an appeal would be handled *de novo* by a water court, and what happens to the well in the interim. [Editor's Note: *de novo* ("anew") means that the water court would essentially conduct a new proceeding and could hear all factual issues anew.] Alternatively, a second option is to submit an augmentation plan or substitute water supply plan to the State Engineer no later than April 1, 2010. (This legislative "drop dead" date remains in place unless and until the legislature extends it regardless of when the rulemaking proceedings conclude.) Where an entire basin or formation is determined to be "tributary," it would stand to reason that a basin-wide plan of augmentation or substitute water supply plan could be approved — and aggregated approaches such as this may be the only way that the State Engineer can fulfill his requirements in the short time that remains.

Conclusion

The *Vance* case illustrates how a concern in one corner of the state, in response to a specific project proposal, can explode to change how whole industries are regulated throughout the state. The *Vance* decision is not without its criticisms and as noted above the Wyoming Supreme Court has already declined to extend its effect into Wyoming. Nevertheless, the *Vance* decision is the law of Colorado. The Colorado Legislature attempted to facilitate implementation of *Vance* by extending the timeframes for compliance. However, even with these extended timeframes, and despite great effort by many people, the administrative rulemaking is running behind schedule.

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COLORADO BAR ASSOCIATION WEBSITE — *Vance v. Wolfe*, 205 P.3d 1165 (Col. 2009) is available online at: www.cobar.org/opinions/opinion.cfm?opinionid=7123&courtid=2.

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EPA/CWA Enforcement

Enforcement Action Plan

Plan Purposes

EPA Challenges

"Wet Weather" Sources

Inconsistent State Efforts

CWA Jurisdiction

Targeted Enforcement

CLEAN WATER ACT ENFORCEMENT

EPA ISSUES NEW ACTION PLAN

by Tyson Kade and John Iani, Van Ness Feldman (Seattle, WA)

Introduction

On October 15, 2009, the US Environmental Protection Agency (EPA) issued an Enforcement Action Plan (EAP), which explains how the agency intends to strengthen federal and state enforcement of the Clean Water Act (CWA). In the EAP, the EPA describes the existing water quality and enforcement challenges and identifies the following three major themes for action: (1) target enforcement to the most important water pollution problems; (2) strengthen oversight of clean water enforcement performance; and (3) improve accountability and transparency. EPA also identified three short-term actions that it will take to address known compliance and water quality issues.

Background

On July 2, 2009, EPA Administrator Lisa Jackson charged the EPA Office of Enforcement and Compliance Assurance (OECA) with "revamping" the clean water enforcement program to ensure that the nation's waters are adequately protected. Specifically, Administrator Jackson asked OECA to improve federal and state enforcement performance, enhance public awareness of CWA violations and corrective actions, and better incorporate modern technology into the collection, use, and dissemination of EPA data. Based on its review of the enforcement program, OECA noted that, while improvements have been made, many communities face significant water quality problems, the universe of diffuse pollution sources is expanding, and the EPA's ability to identify and correct serious problems is limited.

In the EAP, the OECA identifies the many challenges that affect EPA's enforcement efforts to improve water quality. Notably, the significant expansion of the National Pollutant Discharge Elimination System (NPDES) program over the years, from approximately 100,000 to one million sources, presents challenges to EPA's regulation and enforcement efforts. In addition, EPA lacks adequate information on significant segments of the NPDES-regulated universe, such as violations, impacts on local water bodies, and states' compliance and enforcement efforts. Also, there is an incomplete inventory of "wet weather" sources, such as concentrated animal feeding operations (CAFOs), industrial and municipal stormwater entities, and occurrences of significant sewer overflows that occur during storms or other wet weather events and very limited information concerning actions individual states are taking to address violations at these sources.

The OECA also acknowledged that, while EPA oversight has focused primarily on the largest direct discharge facilities, there still exists a significant rate of noncompliance at these facilities and there has been a reduced emphasis on ensuring compliance by smaller facilities. Further, state enforcement of CWA violations has not been diligent or consistent across the country, allowing many violators to go unpunished and creating a competitive disadvantage for states that are enforcing the law. Finally, EPA noted that recent Supreme Court decisions, in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers and Rapanos v. United States*, have increased confusion about the scope of the agency's CWA jurisdiction. EPA has requested that Congress clarify this jurisdictional confusion by amending the CWA to crystallize the definition of water bodies subject to CWA coverage. Presumably, such a legislative change would vastly increase the CWA's scope and breadth.

Enforcement Action Plan's Three Major Themes

To address the issues identified by the OECA, the EAP contains the following three major themes for action, which each include specific actions that EPA will implement.

1) Target Enforcement to the Most Important Water Pollution Problems

In an effort to reshape state and federal enforcement programs, EPA acknowledges that "[n]ew approaches are needed to revamp our enforcement program to tackle violations of existing law by the sources of pollution posing the biggest threats to water quality and public health while we maintain and improve on the progress we have already made." EPA recognizes that the current enforcement policies do not adequately consider the entire regulated community and do not always allow for appropriately tailored responses to water quality violations.

Under this theme, EPA will develop and implement a new approach for ensuring appropriate responses to water quality issues and NPDES violations at all regulated facilities. In doing so, EPA has pledged to

**EPA/CWA
Enforcement****New Tools**

work with states by establishing an EPA/State Work Group to assess the regulated universe and determine appropriate responses. EPA will assess the regulated sectors to determine if water quality problems are due to regulatory, permitting, or compliance issues. Responses will then be tailored to that sector and specific water quality challenges, and may include enforcement actions, revisions of problematic regulations, or the modification or reissuance of permits. To implement this approach, EPA will develop new tools, such as by linking environmental information to compliance data, to integrate information and assist in targeting discharges for compliance monitoring and enforcement. EPA will also establish clear and transparent expectations for state programs to assist in the implementation of this new approach, and will work with state programs to commence appropriate enforcement actions.

**Oversight
of States****2) Strengthen Oversight of Clean Water Enforcement Performance**

EPA retains the responsibility to ensure that states are protecting water quality and consistently enforcing CWA requirements. EPA has acknowledged that “where states are not acting to issue protective permits or are not taking enforcement actions to achieve compliance and remove economic incentives to violate the law, EPA needs to act to strengthen those programs to protect public health and the environment.” EPA will take action to ensure that state and federal NPDES programs make improvements to create equitable protection of the public, a level playing field for competing businesses, and fairness across states regarding enforcement actions.

**Performance
Standards**

Under this theme, EPA will develop clear expectations for acceptable performance for water permitting and enforcement programs and define how that performance will be measured. These expectations will form the basis of performance metrics for permitting and enforcement which will be released to the public to improve accountability. Once developed, EPA will use these expectations as a basis for negotiating consistent enforcement agreements with each state, replacing the outdated, inconsistent, and problematic Memoranda of Agreement that were entered into between EPA and the states over a 30-year period as each of the 46 states and the one territorial agency received NPDES approval. EPA will also incorporate these new expectations and metrics into a variety of formal planning processes between federal and state officials.

**Minimum
Expectations**

While EPA is designing its new approach and expectations, it will assess whether states are meeting minimum expectations for NPDES program performance. In situations where a state is underperforming, EPA is committed to disapproving permits and initiating enforcement actions against dischargers to address serious violations.

**Complete Data
Availability****3) Improve Accountability and Transparency**

EPA acknowledges that it lacks nationally consistent and complete data on permitted facilities, discharges, and compliance status of most facilities, affecting the ability to identify violations, take appropriate enforcement actions, and disseminate information to the public. While EPA recognizes that transparency is a powerful, self-policing tool, and can serve as an effective driver for improved performance and accountability, there is a need to develop new methods to collect, analyze, use, and make information available to the public in a cost-efficient and effective manner.

**Electronic
Reporting
(DWRs)**

Under this theme, EPA will require electronic reporting from facilities that are required to submit reports to a regulatory agency. This will allow EPA to receive information more quickly and efficiently, enable real-time targeting of serious violations, reduce the reporting burden for permitted facilities and agencies, improve data quality, and provide more information to the public. As an initial step, EPA will develop a rule to require the electronic submission of discharge monitoring reports (DMRs). EPA will also explore the feasibility of requiring the electronic submission of other reporting from facilities and authorized states. In the interim, EPA will make additional data that is not enforcement confidential available to the public to improve transparency.

Enforcement Action Plan's Short-Term Actions**CAFO
Enforcement**

EPA also identified three short-term actions it can take to address known compliance and water quality issues. First, EPA will pursue new strategies to enforce existing rules limiting pollution from CAFOs. EPA believes, based on significant public comment, that it must move now to reduce pollution and address violations caused by these feeding operations. Second, EPA will revisit the division of work with states, given existing resource problems, to utilize the combination of existing data and targeting tools to pursue known violations. Third, EPA will aggressively push for immediate electronic reporting.

Regional Lead

EPA has designated EPA Region 9 (San Francisco) as the lead region for the EAP implementation. Region 9 will coordinate EPA's effort to assess the relationship between impaired water bodies and the

EPA/CWA Enforcement

Impairment

Greater Scrutiny

Enforcement Risk

compliance rates for point sources. For example, if San Francisco Bay is impaired for mercury, EPA will reexamine point sources with discharge limits on mercury. Assessment will be conducted to determine whether the source limits are in compliance and, if so, whether those limits are stringent enough. Following that review, EPA will then look to other non-point sources of mercury into San Francisco Bay to determine what steps need to be taken to resolve the mercury impairment. Clearly, all dischargers should be prepared for more focused scrutiny from the EPA.

Implications

The EAP represents an attempt by EPA to reemphasize the importance of diligent and consistent enforcement of CWA requirements. As a result, compliance activities at NPDES-permitted facilities will likely be subject to greater scrutiny at both the state and federal level. Notably, regulated entities should expect an increase in monitoring, compliance, and enforcement-related actions. This will particularly be the case for entities that are deemed to make a greater contribution to water pollution problems. In addition, based on EPA's intent to make enforcement more consistent on a state-by-state basis, regulated entities in states with lax enforcement are likely to be subject to increased scrutiny. Regulated entities will also have to follow new requirements for electronic data submission, which may increase the risk for CWA enforcement action as the relevant regulatory agencies and general public gain greater access to compliance data.

In addition, it appears that EPA intends to revise the Memoranda of Agreement it entered into with each state receiving authority to implement the NPDES program. While these revisions will implement standard performance metrics on a nationwide basis, the changes could have significant effects at the state level as implementation of the NPDES program will change on a state-to-state basis. In the interim, EPA has indicated that it will be more likely to initiate enforcement actions in states that have historically been underperforming in NPDES enforcement.

Conclusion

Beyond the changes discussed above, it is unclear what the long-term effect of the EAP will be. EPA recognizes that enforcement is not the only answer to the problems affecting the nation's waters, as many sources causing water quality impairments are not addressed by the current regulations. If EPA makes additional changes to its regulations, or Congress addresses the scope of CWA jurisdiction in response to the recent Supreme Court decisions, the existing nature of the NPDES program could be significantly altered.

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EPA WEBSITE: www.epa.gov/compliance/civil/cwa/cwaenfplan.html

John Iani, Van Ness Feldman (Seattle, WA), is available to represent clients in developing and structuring business and commercial endeavors, as well as to provide counseling on project development, energy, natural resources, fisheries, and environmental issues before Congress, federal and state agencies, regulatory bodies, and the courts. Prior to joining Van Ness Feldman in August 2004, John Iani served as the Regional Administrator for Region 10 of the US Environmental Protection Agency. As Regional Administrator from 2001 to 2004, Mr. Iani was responsible for managing EPA's programs in Alaska, Idaho, Oregon, and Washington. From 1993 to 2001, Mr. Iani was Vice President and General Counsel at UniSea, Inc., a leading seafood company. From 1990 to 1993 he served as President of the Pacific Seafood Processors Association, representing the interests of the twenty largest seafood processing companies in the Pacific Northwest and Alaska. Mr. Iani also served on the Secretary of Commerce's Marine Fisheries Advisory Committee and participated in committees for the North Pacific Fishery Management Council.

Tyson Kade, Van Ness Feldman (Seattle, WA), has a practice focusing on energy, environmental, and natural resources matters, with a special emphasis on Endangered Species Act, climate change, electronic and hazardous waste, fisheries, and FERC relicensing issues. Prior to joining Van Ness Feldman, Mr. Kade served as a judicial intern for The Honorable James L. Robart in the US District Court for the Western District of Washington. Mr. Kade was also a law clerk with the Environment and Natural Resources Division of the US Department of Justice. Prior to law school, Mr. Kade served as a fisheries management specialist with the National Marine Fisheries Service. In this position, he gained experience drafting environmental impact statements and fisheries regulations, as well as assisting with Endangered Species Act section 7 consultations.

WATER BRIEFS

**INTERBASIN TRANSFERS NV
GROUNDWATER RIGHTS REJECTED**

On October 15, Judge Norman Robison of Nevada's 7th Judicial District issued an order vacating the Nevada State Engineer's 2008 decision (Ruling #5875) that had granted the Southern Nevada Water Authority (SNWA) permits to divert over six billion gallons of groundwater per year from three valleys in eastern Nevada to the Las Vegas area for its use (Case No. 0830008). As noted in the Order, the case involves "the competition for water between the urban landscape of Southern Nevada and its rural brethren." Order at 7. The Order is the latest activity that began in 1989 when SNWA's predecessor, the Las Vegas Valley Water District, filed multiple applications to transfer groundwater from several rural basins in southern and east-central Nevada (SNWA originally sought 34,752 acre-feet). The case was remanded back to the State Engineer for further proceedings on the proposed permits consistent with the Order.

Ruling #5875 partially granted SNWA's applications, approving a transfer of 18,755 acre-feet of water annually to SNWA from Cave, Delamar and Dry Lake valleys. The permits were intended to provide water for the first phase of a 285-mile pipeline across eastern Nevada, projected to cost between \$2 billion and \$3.5 billion.

Judge Robison's Order strongly criticized the State Engineer's ruling and found that it was arbitrary, oppressive and a manifest abuse of discretion. On the issue of water availability, the Judge noted that the State Engineer "acknowledged within his ruling that all water rights previously available in the three basins at issue had already been fully distributed...then declared that the perennial yields available within the three basins had increased, thereby creating additional acre-feet annually ("afa") available for distribution." *Id.* at 5. The Judge later found: "In the past, the State Engineer required specific empirical data before taking the significant step of allowing existing water to be transferred out of basin. In Ruling No. 5875 however, the State Engineer was satisfied by normative, predictive data without detailing why

that change was acceptable. While this may have resolved the water management problem presented by the applications, the sudden resolution of simply 'printing more money' or mining for water by declaring that more afa was available when viewed through a new prism, without explanation as to what changed to allow the new approach, presents the essence of an arbitrary decision." *Id.* at 7.

The Judge also found fault with the State Engineer's decision to reserve .5 acre-feet per year for each projected residential house in the three valleys, despite the fact that 2 acre-feet per year is the allowable residential use under N.R.S. 534.180. The Judge found that the State Engineer's findings and conclusions were "simply based on his belief. No evidence was cited for the conclusions, let alone substantial evidence, with the State Engineer citing instead to his management perspective." *Id.* at 3, 7.

The Judge's view of the impact of the State Engineer's ruling is best summed up by his statement that "the State Engineer's ruling results in an oppressive consequence for the basins affected, with the State Engineer simply hoping for the best while committing to undo his decision if the worse occurs despite the exceedingly long time required to reach equilibrium and the effects that will eventually spread out from the basin of origin and affect the down-gradient basins." *Id.* at 8.

For info: Order available at: http://media.lvrj.com/documents/Order_Vacating_and_Remanding_SE%27s_Ruling.pdf

**RAINWATER POLICY WA
INTERPRETIVE STATEMENT RELEASED**

The Washington Department of Ecology (Ecology) issued a policy statement on October 12 clarifying that state residents can collect and store rooftop or guzzler collected rainwater for on-site use without having to go through the permit (water right) process of RCW 90.03. The new rainwater policy also clarifies that Ecology intends to *regulate* the storage and use of subsequent new rainwater harvesting systems, if and when the cumulative impact of such new systems are likely

to negatively affect instream values or existing water rights.

To qualify as rooftop collected rainwater, the roof collecting the rainwater must be part of a fixed structure above the ground with a primary purpose other than rainwater collection for a beneficial use. A "guzzler" is a device used to catch and store rainwater to provide drinking water for wildlife, livestock, or birds.

For info: Kurt Unger, Ecology, 360/407-7262 or kung461@ecy.wa.gov; Interpretive Policy Statement available at: <http://www.ecy.wa.gov/programs/wr/hq/rwh.html>

**ENERGY & ENVIRONMENT US
TRIBAL CLEARINGHOUSE**

A new section on biomass energy development has been added to the Tribal Energy and Environmental Information Clearinghouse website. The new section includes discussion of biomass energy, environmental impacts associated with biomass energy development, mitigation measures to avoid or reduce biomass energy development impacts, and information about applicable federal laws and regulations.

The TEEIC website provides information about the environmental effects of energy development on tribal lands. The site includes information about energy resource development and associated environmental impacts and mitigation measures; guidance for conducting site-specific environmental assessments and developing monitoring programs; information about applicable federal laws and regulations; and federal and tribal points of contact. The US Department of the Interior is funding the development of the TEEIC through the Assistant Secretary of Indian Affairs' Office of Indian Energy and Economic Development.

For info: Clearinghouse website: <http://teeic.anl.gov>

**GROUNDWATER AZ
URANIUM CONTAMINATION AGREEMENT**

Cyprus Tohono Corporation (Cyprus), a former Phelps Dodge subsidiary, has agreed to fund an estimated \$6 million groundwater investigation at the Cyprus Tohono

WATER BRIEFS

Mine Site, a copper mine southwest of Casa Grande, Arizona. The agreement requires Cyprus to thoroughly investigate the groundwater and pay future oversight costs incurred by EPA. Cyprus, in consultation with the Tohono O'odham Nation and EPA, is voluntarily investigating uranium-contaminated groundwater at the site. EPA, Tohono O'odham and Cyprus were scheduled to meet to formalize the groundwater investigation on October 20.

The 10,505-acre copper mine is located 32 miles south of Casa Grande on the Tohono O'odham Nation near North Komelik. Mining operations on the property have occurred sporadically since the 1880s, but large-scale open-pit mining of copper oxide ore began in the 1950s, and underground mining began in 1970.

For info: Margot Perez-Sullivan, EPA, 415/ 947-4149 or Perezsullivan.margot@epa.gov

CRITICAL HABITAT CA/OR

NOAA GREEN STURGEON DESIGNATION

On October 9, NOAA's Fisheries Service (NMFS) issued a final Rule designating critical habitat, including the Columbia River estuary, for the southern distinct population segment (DPS) of North American green sturgeon to ensure its survival and recovery. The species spawns in California's Sacramento River and migrates along the west coast of the United States and Canada. The designation is a result of a 2007 settlement agreement arising out of a lawsuit filed by the Center for Biological Diversity to secure critical habitat.

In April 2006, the southern DPS of North American green sturgeon was listed as threatened under the Endangered Species Act (ESA). The listing was due in part to the degradation of the primary spawning habitat in the Sacramento River and the declining numbers of green sturgeon. ESA requires designation of a critical habitat whenever a species is listed for protection. A critical habitat designation only applies when federal projects, permits or funding are involved and does not apply to activities on private land that do not involve a federal

agency. Private land owners may continue to use the habitat as long as their activities do not require a federal permit, receive federal funding, or involve a federal project.

NOAA's Fisheries Service designated the following areas as critical habitat: Coastal US marine waters within 360 feet depth from and including Monterey Bay, California, north to Cape Flattery, Washington, including the Strait of Juan de Fuca, to the US border with Canada; the Sacramento River, lower Feather River, lower Yuba River, the Sacramento-San Joaquin Delta and Suisun, San Pablo, Humboldt, and San Francisco bays in California; the lower Columbia River estuary; and Coos Bay, Winchester Bay, Yaquina Bay, and Nehalem Bay, Oregon; and Willapa Bay and Grays Harbor, Washington. The areas designated comprise approximately 320 miles of freshwater river habitat, 897 square miles of estuarine habitat, 11,421 square miles of coastal marine habitat, 487 miles of habitat in the Sacramento-San Joaquin Delta, and 135 square miles of habitat within the Yolo and Sutter bypasses, part of the Sacramento River Flood Control Project.

The rule did exclude a number of areas from designation (14 units out of 41 units considered) because the economic benefits of exclusion outweigh the benefits of inclusion and exclusion will not result in the extinction of the species. Additional areas were also excluded based on impacts on national security and impacts on Indian lands. The areas excluded from the designation comprise approximately 0.2 km (0.1 mi) of freshwater habitat, 2,945 km² (1,137 mi²) of estuarine habitat and 1,034,935 km² (399,590 mi²) of marine habitat. **For info:** Melissa Neuman, NMFS SW Region, 562/ 980-4115; Steve Stone, NMFS NW Region, 503/ 231-2317; Rule available with details in the Federal Register, 10/9/09 (Vol. 74, No. 195)

USFWS EXPENDITURES US

THREATENED & ENDANGERED SPECIES

The US Fish & Wildlife Service recently released its report on expenditures for threatened and

endangered species for fiscal year (FY) 2007 (Oct. 2006-Sept. 2007). This report represents a compilation of reasonably identifiable expenditures for the conservation of listed species reported independently by the various Federal and State agencies. Expenditures for FY 2007 are reported for 1250 threatened and endangered species of the 1291 species that were listed under United States jurisdiction in 50 CFR Part 17 as of September 30, 2007. Expenditures for candidate species or other species not listed in 50 CFR Part 17 as of the end of each fiscal year are not included in this report. In addition, other types of expenses, such as those for litigation, generally are not reported and are not included.

Total expenditures reported for FY 2007 were \$1,663,370,090, of which \$1,568,067,030 was reported by Federal agencies and \$95,303,060 was reported by the States. Species are ranked in the summary by the total expenses incurred by federal and state agencies: five of the top 10 are salmon, and the cumulative total for the top ten is \$342.5 million. These totals do not include land acquisition costs. The Steller sea lion topped the list with a total of \$53,232,788 spent.

For info: Report at: www.fws.gov/endangered/pdfs/expenditures/2007_expenditures.pdf

ENDOCRINE DISRUPTORS US

PESTICIDE CHEMICALS

EPA has issued the first test orders for pesticide chemicals to be screened for their potential effects on the endocrine system. Endocrine disruptors are chemicals that interact with and disrupt the hormones produced or secreted by human and animal endocrine systems, which regulate growth, metabolism and reproduction. "After years of delay, EPA is aggressively moving forward by ordering the testing of a number of pesticide chemicals for hormone effects," said Steve Owens, assistant administrator of EPA's Office of Prevention, Pesticides, and Toxic Substances. "These new data will be carefully evaluated to help identify potential hormone disruptor chemicals."

WATER BRIEFS

On October 21, EPA made available the battery of scientific assays and test guidelines for conducting the assays, as well as a schedule for issuing test orders to manufacturers for 67 chemicals during the next four months. The data generated from the screens will provide robust and systematic scientific information to help EPA identify whether additional testing is necessary, or whether other steps are necessary to address potential endocrine disrupting chemicals. Testing, conducted through the agency's Endocrine Disruptor Screening Program, will eventually expand to cover all pesticide chemicals. **For info:** Skip Anderson, EPA, 202/564-9551 or anderson.skip@epa.gov; EPA screening program: www.epa.gov/endo

STORMWATER PENALTIES ID IDAHO TRANSPORTATION DEPARTMENT

EPA announced that it has issued the Idaho Transportation Department (ITD) and Parsons RCI, Inc. (Parsons RCI) a Complaint seeking \$65,000 in penalties for numerous storm water violations associated with a project near Sandpoint, Idaho. EPA alleges that based on an inspection in early 2009, ITD and Parsons RCI were operators of the Sandpoint Bypass construction site along US-95. EPA inspectors observed violations of the National Pollutant Discharge Elimination System (NPDES) Stormwater Construction General Permit. Those violations included having an incomplete stormwater pollution prevention plan; failure to initiate necessary stabilization measures, and failure to implement proper sediment controls.

According to Edward Kowalski, Director of the Office of Compliance and Enforcement in Seattle, ITD is no stranger to the Agency's stormwater enforcement program. "Idaho Transportation Department is somehow not getting the message," said EPA's Kowalski. "Over the past five years, ITD and its contractors have paid over \$1 million in penalties for violations of the Clean Water Act. Their environmental management program needs to be upgraded so they can avoid future penalties."

ITD and Parsons RCI must file an Answer to the Complaint with the Regional Hearing Clerk in Seattle within thirty (30) days after service of the Complaint.

For info: Chae Park, EPA, 206/ 553-1441 or park.chae@epa.gov; EPA's stormwater permitting program at: http://cfpub1.epa.gov/npdes/home.cfm?program_id=6

MINING WITHDRAWAL CA/OR FEDERAL LANDS PROTECTION

In letters to US Secretary of Agriculture Tom Vilsack and US Secretary of the Interior Ken Salazar, Governor Ted Kulongoski on October 15 called for greater protections of the Siskiyou Wild Rivers area in southwest Oregon by calling for the reinstatement of the withdrawal of mining, first proposed by the Clinton administration in 2001. The withdrawal was not finalized by the Bush administration. Without the withdrawal, the area is subject to the 1872 federal mining law which does not reflect modern environmental protections or assure adequate royalties to public coffers, according to a press release from Kulongoski's office.

"California recently banned the use of suction dredge mining, the same type of destructive mining that is used in southwest Oregon. We are very concerned that the suction dredge miners are now heading for Oregon." (Letter to Salazar). It appears that the Governor's fears are not unfounded. The New 49ers, a group dedicated to gold prospecting, features the "Fantastic New Suction Dredging Opportunity in Southern Oregon" on its home page (www.goldgold.com). The opening line of that website page states: "Within days after Governor Schwarzenegger signed Senate Bill 670 into law, we were already in planning to launch a week-long group dredging sampling program onto the Rogue River in Southern Oregon. This was going to be a vitally important mission for The New 49ers."

In his letter, Governor Kulongoski also repeated his call for updating of the 1872 law and for permanent protection of the Siskiyou Wild Rivers area by congressional action designating it

as a wilderness area. Citing a letter he sent to Oregon's congressional delegation in 2008, the Governor stressed the significance of the Wild Rivers landscape and ecosystems and his specific concern that a recent ban on dredge mining in California could result in new threats of mining to the Wild Rivers area of Oregon.

For info: Anna Richter Taylor, Governor's Office, 503/ 378-6169; Governor's website: http://governor.oregon.gov/Gov/P2009/press_101509.shtml

ENVIRONMENTAL CRIME UT 20-YEAR SENTENCE

Larkin Baggett, 54, formerly of Salt Lake City, Utah, was sentenced to 20 years in the US District Court in Key West, Florida on October 14, for illegally dumping pollutants in violation of federal clean water and hazardous waste regulations, and for illegally possessing firearms and aggravated assault on law enforcement officers, the US Environmental Protection Agency (EPA) and the Department of Justice announced. Baggett's sentence included the maximum jail term for the Clean Water Act and Resource Conservation and Recovery Act violations.

According to court records, Baggett instructed his employees to dispose of industrial wastes illegally. One of the wastes, nonylphenol, is a powerful organic chemical and heavy-duty industrial cleaner that is toxic to aquatic life. In September 2007, Baggett was indicted on charges related to illegally dumping various pollutants onto the ground and into a drain that led to the treatment plant operated by the South Davis Sewer Improvement District in West Bountiful, Utah between October 2004 and April 2005. The treatment plant had a permit to discharge treated effluent to the Jordan River, which empties into the Great Salt Lake. Baggett's actions allegedly caused the plant to violate permit limits for acute toxicity 22 times. Previously, government officials from the local sewer district prohibited Baggett's company from discharging to the sewer system because its wastes had routinely exceeded limits for certain pollutants.

WATER BRIEFS

In April 2008, two months before his trial, Baggett became a fugitive when he failed to appear in court, as required by the conditions of his release and bond. In December 2008, EPA received a tip from the public regarding his potential whereabouts after Baggett was listed on the EPA's fugitive website (www.epa.gov/fugitives). Last March, Baggett assaulted EPA and other law enforcement officers when they attempted to arrest him in Marathon, Florida.

For info: Deb Berlin, EPA, 202/564-4914 or berlin.deb@epa.gov; Information on the Baggett case: www.epa.gov/fugitives/fugitives-captured.html

STORMWATER LIMITS WA INDUSTRIAL FACILITIES RUNOFF

The Washington Department of Ecology (Ecology) on October 21 placed new limits on pollution in stormwater runoff from industrial facilities, affecting approximately 1,200 permitted facilities across the state. New changes under the state's new industrial stormwater permit reduce how much copper and zinc the industries can have in their stormwater discharges.

Copper and zinc harm salmon and aquatic life. Copper is commonly found in brake pads, paints and many industrial materials and can cause salmon to lose their ability to sense the presence of predators and spawning grounds. Zinc is pervasive in industrial settings, washing off chain link fences and galvanized roofs. Zinc binds with silt and can harm or suffocate fish.

"We know that meeting these new permit requirements in the real world will be a challenge for some facilities and we will provide technical assistance," said Kelly Susewind, who manages Ecology's water quality program. Ecology will hold workshops in January 2010 educating people about the new permit requirements. It also plans to publish new stormwater sampling guidance and industry-specific guidance.

Approximately 70 percent of the state's industrial stormwater general permit holders are in the 12 counties that border Puget Sound. The new

permit goes into effect January 1, 2010. Industries will have until mid-May to submit their first quarter 2010 stormwater discharge monitoring reports. Industries will have until July 1 to implement certain newly required practices, including: vacuum-sweeping of paved surfaces once every three months; keeping dumpsters under cover and lid closed when not in use; cleaning catch basins when they are full; and inspecting all equipment for leaking fluids and taking leaky machinery out of service until repaired.

For info: Industrial Stormwater website: www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html

SAFE DRINKING WATER MT SUMMARY OF EPA ACTIONS

EPA Region 8 issued nine administrative orders and settled or litigated three penalty actions in Montana from April 1 through September 30, 2009, against public drinking water systems under the Safe Drinking Water Act (SDWA). EPA also issued an emergency administrative order in Indian country in Montana.

Although Montana is authorized to implement the drinking water program under SDWA, except in Indian country areas, EPA retains authority to take federal action against public water systems in the state that violate SDWA and its regulations. EPA and Montana have developed a joint work-share arrangement whereby EPA provides federal assistance with selected enforcement cases. EPA and Montana work together to identify the public water systems against which EPA will take federal action.

An administrative order requires the public water system to comply with the drinking water regulations and includes action items for returning to compliance. EPA issued administrative orders to the following Montana public water systems: Black Angus Casino (Kalispell); Carter Choteau Water District (Carter); Luccock Methodist Church Camp (Livingston); Potomac Bible Church, Inc. (Bonner); Rivershore Mobile Home Park (Great Falls); Shady Nook Trailer Court (Dillon); Shaker's Steak & Ale (Whitefish); Sphinx Mt.

Mobile Home Park (Corwin Springs); and United Methodist Camp on the Boulder (McLeod).

EPA issues a penalty action when a public water system violates an administrative order. The penalty amount is based on a combination of the seriousness of the violations and the size of the population at risk, among other factors. EPA settled penalty actions for the following public water systems with the penalty amount noted: Oak Ridge Estates (Billings) - \$3,825; China Wok/Bank of the Rockies (Townsend) - \$1,000. EPA also litigated a penalty for Lincoln Road RV Park (Helena) for \$3,000.

EPA has direct implementation authority for Indian country areas. EPA issued one emergency administrative order in Indian country in Montana from April 1 to September 30. On April 15, EPA issued an emergency order to the East Bay Subdivision water system on the Flathead Reservation when the distribution system lost pressure. In such situations, potentially harmful contaminants can enter the distribution system through cracks and leaks in the pipes. The East Bay Landowners Association took necessary precautions to protect the residents during the pressure loss, and multiple tests conducted after service was restored proved the water to be safe for normal use.

For info: Lisa Kahn, EPA, 303/312-6896 or kahn.lisa@epa.gov

WATER LEASES CA SCOTT RIVER WATER TRUST

The Scott River Water Trust (Trust), the first water trust in California, is dedicated to improving instream flows for salmon and steelhead while protecting the community's family farms. The Trust announced on October 26 that its efforts to secure over 400 acre-feet of water in early October from Scott Valley ranchers have helped Chinook salmon migrate up one of the Klamath River's most important salmon and steelhead tributaries. An extremely dry year created challenging flow conditions for fish passage. The Trust's effort is significant because the amount of added water helped the

WATER BRIEFS

flows reconnect through the dry reaches of the Scott River in Scott Valley. Some water users are also donating water, such as Farmer's Ditch Company in the upper river. The week of October 26 Chinook salmon successfully started spawning far upstream of the previously dry reaches, with steelhead also moving up.

The Trust temporarily leases water from those with active water rights to keep water instream, instead of diverting it through ditches. By foregoing the allowed use of their ditches for livestock water during part of October, ranchers had to use alternative means to water their cows, costing them time and money. Financial compensation is provided for the value of their lost agricultural production or added costs.

The Water Trust's program has become an important part of ensuring sufficient instream flows for the migration, spawning and rearing needs of the fisheries. Water conservation efforts to help these fish year-round are also done through landowner projects by the Siskiyou Resource Conservation District (RCD).

For info: Trust website: www.scottwatertrust.org

REASONABLE WATER SUPPLY CO

PLANNING PERIOD, BURDEN OF PROOF & SPECULATIVE FLOWS

On November 2, the Colorado Supreme Court (Supreme Court) reversed a judgment of the Water Court for a second time in *Pagosa Area Water & Sanitation District v. Trout Unlimited* (Case No. 08SA354; 11/2/09)(*Pagosa II*: see 170 P.3d 307 (Colo. 2007)). The case involves the burden of proof regarding the amounts of water "reasonably necessary" for the Pagosa Area Water and Sanitation District and the San Juan Water Conservancy District (Districts) "to serve their reasonably anticipated needs for a reasonable water supply planning period." *Slip Op.* at 3.

In the opinion issued by Justice Gregory Hobbs, the Supreme Court upheld the "Water Court's determination that a 50-year water supply planning period to the year 2055 is reasonable." The Supreme Court, however, agreed with Trout Unlimited's assertion that current evidence in the record does not support the conditionally-decreed amounts of water. The Supreme Court returned the case to Water Court for additional evidence regarding specified decree provisions and a determination of water amounts reasonably necessary to serve the Districts reasonably anticipated needs in the 2055 period, above its current water supply.

The pertinent Colorado water law was noted in the opinion at 4-5: "The essential function of the water court in a conditional decree proceeding is to determine the amount of available unappropriated water for which the applicant has established a need, a future intent, the ability to actually use, and, under the 'can and will' test, a substantial probability that its intended appropriation will reach fruition. *Pagosa I*, 170 P.3d at 317. Section 37-92-305(9)(b), C.R.S. (2009), addressing the 'can and will' test provides that [n]o claim for a conditional water right may be recognized or a decree therefore granted except to the extent that it is established that the waters can be and will be diverted, stored, or otherwise captured, possessed, and controlled and will be beneficially used and that the project can and will be completed with diligence and within a reasonable time."

Trout Unlimited contended that the standards the Supreme Court set out in *Pagosa I* required the Districts to introduce additional evidence to support a planning period greater than the year 2040. The Supreme Court agreed and then found that "in light of the Water Court's remand finding that the year 2055 and not a longer period is a reasonable planning period in this case, a finding we uphold, we also determine that the Districts should be allowed an additional opportunity to introduce evidence demonstrating the conditionally-decreed amounts of water reasonably necessary to serve their reasonably anticipated needs for the 2055 planning period."

The Supreme Court reiterated some of its guidance from *Pagosa I* regarding the burden of proof required in such a case. "The ultimate factual and legal issue in a governmental agency conditional appropriation case involves how much water should be conditionally decreed to the applicant above its currently available water supply. *Id.* [at 317] A governmental entity has the burden of demonstrating three elements in regard to its intent to make a non-speculative conditional appropriation of unappropriated water: (1) what is a reasonable water supply planning period; (2) what are the substantiated population projections based on a normal rate of growth for that period; and (3) what amount of available unappropriated water is reasonably necessary to serve the reasonably anticipated needs of the governmental agency for the planning period above its current water supply. *Id.* at 313." (*Pagosa I* at 313).

Judge Hobbs' opinion also found fault with some "speculative" elements decreed to the Districts for instream flows and thus, rejected those parts of the Water Court decree. "The record contains no evidence that the Colorado Water Conservation Board intends to increase its existing instream flow appropriation in a way that might impact the Districts' use of water in their municipal system for the 2055 planning period. In addition, although authorized by the recreational in-channel diversion statute to make in-channel diversion appropriations of their own, the Districts have not chosen to do so. Instead, they have attempted to appropriate water quantities they may not need within their service system in order to obtain a priority over a potential City of Pagosa Springs kayak course. Moreover, conjecturing that the U.S. Forest Service might require bypass flows in addition to the existing adjudicated Colorado Water Conservation Board instream flow water right, the Districts claim appropriation amounts they wish to divert and then release back to the stream." *Slip Op.* at 24-25.

For info: *Pagosa II* complete case available at: www.courts.state.co.us/supct/supct.htm

The Water Report

CALENDAR

November 15-19 WA
AWWA Water Quality Technology Conference & Exposition, Seattle. Washington State Trade & Convention Center. For info: Conf. website: www.awwa.org/Conferences/

November 16 WA
Advanced Stormwater Management & Permitting, Seattle. WA Convention Ctr. For info: Holly Duncan, Environmental Law Education Center, 503/ 282-5220, email: hduncan@elecenter.com or website: www.elecenter.com

November 16-17 CA
Eminent Domain Seminar, San Francisco. For info: CLE International, 800/ 873-7130 or website: www.cle.com

November 16-17 CA
Conservation Easements Seminar, San Francisco. For info: CLE International, 800/ 873-7130 or website: www.cle.com

November 16-17 TX
H2O4Texas: The Water Event, Fort Worth. Omni Hotel. For info: www.texaswater.org/waterfortexas/index.html

November 16-18 LA
National Brownfields 2009 Conference, New Orleans. Morial Convention Ctr. For info: www.Brownfields2009.org

November 17 OR
DEQ Toxics Reduction Workshop, Portland. The Ambridge, 1333 Martin Luther King, Jr. Blvd.. Sponsored by Oregon DEQ. For info: Chris Gannon, DEQ, 503/ 229-5622 or www.deq.state.or.us/WQ/SB737/toxicsworkshop.htm

November 17 OR
Moral & Political Challenges of Climate Change Address, Portland. UO in Portland. For info: Wayne Morse Center, 541/ 346-3700 or www.waynemorsecenter.uoregon.edu

November 17-18 DC
Carbon Economy: New Opportunities for Green Business, Washington. For info: The Economist website: <http://carboneconomy.economist.com/>

November 17-19 MT
68th Annual Convention of the Montana Assoc. of Conservation Dists., Lewistown. For info: Jeff Tiberi, 406/ 465-8813 or email: jtiberi@macdnet.org

November 17-19 CA
Water Information Management & Climate Change Symposium, San Diego. Hilton San Diego Mission Valley. Sponsored by Western State Water Council & California DWR. For info: WSWC website: www.westgov.org/wswc/WIMS09registrationform.doc

November 18 WA
Changes Affecting Hydropower Projects Seminar, Seattle. Washington State Trade & Convention Center. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

November 18 OR
Model Toxics Control Act Seminar, Portland. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

November 18-19 CA
Stormwater Regulations in California Course, San Diego. For info: NWETC, 206/ 762-1976 or website: <http://nwetc.org>

November 18-19 WA
Construction Site Erosion & Pollution Control, Bellevue. UW Bellevue. For info: UW Engineering website: www.engr.washington.edu/epp/cee/wet.html

November 18-20 TX
National Water Resources Assn Annual Conference, San Antonio. Hilton Palacio del Rio. For info: www.nwra.org/

November 23-24 Brazil
Water, Innovation, Technology & Sustainability Conference, Manaus. Organized by UNM School of Management. For info: UNM website: <http://witsmanaus.mgt.unm.edu/>

December 1-2 DC
Small Hydro Power, Washington. Intern'l Trade Center. Supported by National Hydropower Assoc. For info: www2.greenpowerconferences.co.uk

December 1-4 CA
Assn of California Water Agencies Fall Conference: "Unite to Make It Happen", San Diego. Town & Country Resort & Convention Center. For info: ACWA, 916/ 441-4545 or website: www.acwa.com

December 1-4 OR
Solutions for Water Management Challenges: OWRC Conference, Hood River. Hood River Inn. Sponsored by Oregon Water Resources Congress. For info: OWRC, 503/ 363-0121 or www.owrc.org

December 2 WA
Solar Power Seminar: Projects & Permitting, Seattle. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

December 2-3 CA
Corporate Water Footprinting Conference, San Francisco. Le Meridien. Sponsored by Action for a Sustainable America. For info: ASA, 819/ 459-1162 or www.greenpowerconferences.com

December 2-4 TX
30th Annual International Irrigation Show, San Antonio. Henry B. Gonzalez Convention Ctr. For info: Irrigation Assn website: www.irrigation.org

December 3 OR
The Natural Step for Sustainability Workshop, Salem. For info: April Knudsen, The Natural Step Network, 503/ 241-1140 x1# or www.thenaturalstep.org/usa

December 3 OR
Water Rights Academy, Bend. Bend Riverhouse, 3075 N. Business 97. Sponsored by Water for Life & Schroeder Law Firm. For info: Helen Moore, WFL, 375-6003, email: helen.moore@waterforlife.net or website: www.waterforlife.net

December 3-4 CO
NEPA Seminar, Denver. For info: CLE International, 800/ 873-7130 or website: www.cle.com

December 3-4 NM
Land Use Law Seminar, Albuquerque. For info: CLE International, 800/ 873-7130 or website: www.cle.com

December 4 CA
Water Resources Planning & Urban Growth Course, Sacramento. Sutter Square Galleria, 2901 K Street. For info: UC Davis Extension, 800/ 752-0881 or website: <http://extension.ucdavis.edu>

December 7-8 OR
Northwest Environmental Conference & Tradeshow, Portland. Red Lion Hotel on the River. Presented by Assoc. Oregon Industries, ODEQ, NEBC & Wash. Dept. of Ecology. For info: NEBC, 503/ 227-6361 or website: www.nebc.org

December 8-9 MT
Montana Agriculture 5th Annual Conference, Billings. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

December 9-10 WA
Designing Compensatory Mitigation & Restoration Projects Course, Lacey. For info: Coastal Training: www.coastaltraining-wa.org

December 9-10 WA
Delineation of Ordinary High Water Marks & Ordinary High Water Lines, Seattle. NWETC Hdqtrs, 650 South Orcas Street. For info: NWETC website: <http://nwetc.org>

December 9-11 NV

Colorado River Water Users Association Conference, Las Vegas. For info: www.crwua.org

December 9-11 TX

Texas Water Law Institute, Austin. Hyatt Regency on Town Lake. For info: Margie Novak, UT School of Law, 512/ 232-1166, email: mnovak@law.utexas.edu or www.utcle.org/conferences/WL09

December 10-11 OR

NEPA: Climate Change, Cumulative Impacts & Compliance, Portland. Marriott City Center. For info: CLE International, 800/ 873-7130 or website: www.cle.com

December 10-11 CO

Water Marketing Seminar, Denver. Ritz-Carlton. For info: CLE International, 800/ 873-7130 or website: www.cle.com

December 10-11 OR

Oregon Land Use Law 13th Annual Conference, Portland. World Trade Center, 121 SW Salmon. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

December 10-11 CO

NEPA: Writing the Perfect EA/ FONSI or EIS Course, Denver. For info: NWETC, 206/ 762-1976 or website: <http://nwetc.org>

December 10-13 LA

NGWA Ground Water Expo & Annual Meeting, New Orleans. For info: Cliff Treyens, NGWA, 800/ 551-7379, email: ctreyens@ngwa.org or website: www.ngwa.org

December 15-16 OR

Introduction to Aquatic Toxicology Course, Portland. For info: NWETC, 206/ 762-1976 or website: <http://nwetc.org>

December 15-16 NC

Sustainable Land Development Conference, Asheville. Grove Park Inn. For info: www.ldb突破throughs.com/

December 16 CA

CEQA Streamlining Toolbox Course, Sacramento. Sutter Square Galleria, 2901 K Street. For info: UC Davis Extension, 800/ 752-0881 or website: <http://extension.ucdavis.edu>

December 16 OR

Developing Oregon's Integrated Water Resources Strategy Presentation, Portland. Lucky Lab Beer Hall, 1945 NW Quimby. Sponsored by Oregon Section of American Water Resources Assoc. For info: Brenda Bateman, OWRD, 503/ 986-0879 or brenda.o.bateman@wrds.state.or.us

December 16-17 CA

Western Governors' Association Winter Meeting, San Diego. Hotel del Coronado. For info: Karen Deike, WGA, 303/ 623-9378 or www.westgov.org

January 5-7 Ecuador

Sixth Int'l Conf. on Environmental, Cultural, Economic & Social Sustainability, Cuenca. University of Cuenca. For info: Conf. website: <http://onsustainability.com/conference/>

January 8 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

January 12-13 CO

2010 Tamarisk Symposium, Grand Junction. For info: www.colostate.edu/Depts/CoopExt/TRA/2010Tamarisk.shtml

January 13 WA

State Environmental Policy Act (SEPA) Seminar, Seattle. Renaissance Hotel. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

January 20-22 DC

The New Green Economy: Aligning Science, Education & Markets Conference, Washington. International Trade Center. 10th National Conference on Science, Policy & the Environment. For info: Conf. website: <http://ncseonline.org/conference/greeneconomy/>

January 21-22 NC

Stormwater Management in the Carolinas, Charlotte. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

January 21-22 CA

NEPA Seminar, San Francisco. For info: CLE International, 800/ 873-7130 or website: www.cle.com

January 25-26 TX

2010 UIC Conference, Austin. Intercontinental Stephen F. Austin. Sponsored by Ground Water Protection Council. For info: GWPC website: www.gwpc.org/meetings/uic/uic.htm

January 25-26 TX

Wind Energy Seminar, Austin. For info: CLE International, 800/ 873-7130 or website: www.cle.com

January 26-27 CA

Intro to Managing Environmental Data w/ Microsoft Access 2007 Course, Los Angeles. Japanese American Cultural & Community Ctr, 224 South San Pedro Street. For info: NWETC, 206/ 762-1976 or website: www.nwetc.org

January 27-29 CO

Colorado Water Congress' 52nd Annual Conference, Denver. Hyatt Regency Tech Center. For info: CWC: <http://colowc.com>

January 28 CA

Managing Environmental Data w/ Microsoft Access 2007 Course, Los Angeles. Japanese American Cultural & Community Ctr, 224 South San Pedro Street. For info: NWETC, 206/ 762-1976 or website: www.nwetc.org

January 28 OR

Solar Power: Projects & Permitting Seminar, Portland. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

January 28 WA

Wetlands in Washington Seminar, Seattle. Renaissance Hotel. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

January 28-29 WA

Endangered Species Act Seminar, Seattle. Washington State Trade & Convention Ctr. Webcast Available. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

February 1-2 TX

Texas Wetlands Seminar, Austin. For info: CLE International, 800/ 873-7130 or website: www.cle.com

February 4 IL

Carbon Credits Seminar, Chicago. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

February 4-5 AZ

Solar Power Seminar, Phoenix. For info: CLE International, 800/ 873-7130 or website: www.cle.com

February 10 WA

TMDLs in the Spokane Basin Seminar, Spokane. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

February 10-11 WA

Construction Site Erosion & Pollution Control, Shoreline. For info: UW Engineering website: www.engr.washington.edu/epp/cee/wet.html



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CALENDAR

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February 16 **GA**

Carbon Credits Seminar, Atlanta. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

February 16-18 **WA**

Creating Thriving Rural & Urban Communities Through Ecological Restoration Conference, Marysville. Tulalip Convention Ctr. For info: www.ser.org/sernw/Conference2009.asp

February 17 **WA**

UW Water Center's 20th Annual Review of Research, Seattle. UW Seattle Campus. For info: <http://water.washington.edu/Outreach/Events/AnnualReview/annualreview.html>

February 17 **GA**

Solar Power Seminar, Atlanta. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

February 17-19 **CA**

ABA Water Law Conference, San Diego. US Grant Hotel. Sponsored by American Bar Association. For info: ABA website: www.abanet.org/environ/calendar/

February 18 **OR**

Water Rights Seminar, Portland. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or www.theseminargroup.net

February 18-19 **Ontario**

2010 International Conference on Stormwater & Urban Water Systems Modeling, Toronto. For info: Computational Hydraulics Int'l website: www.computationalhydraulics.com/

February 18-19 **GA**

Georgia Wetlands & Water Law Seminar, Atlanta. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

February 21-24 **Costa Rica**

21st Century Watershed Technology: Improving Water Quality & the Environment, San Jose. Ramada Plaza Herradura. Sponsored by American Society of Agricultural & Biological Engineers. For info: ASABE website: www.asabe.org/meetings/water2010/index.htm

February 21-25 **SC**

2010 Land Grant & Sea Grant National Water Conference, Hilton Head Island. Marriott Hilton Head Resort. Sponsored by National Water Program. For info: NWP website: www.usawaterquality.org/

February 23-25 **DC**

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 25-26 **MD**

Water Quality in the Chesapeake, Baltimore. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

February 25-28 **OR**

Public Interest Environmental Law Conference, Eugene. UO Law School. For info: www.pielc.org/pages/home.html

February 26 **OR**

27th Annual Benefit Dinner & Auction: The Freshwater Trust, Portland. Art Museum. For info: www.thefreshwatertrust.org

March 2-4 **NV**

2010 NWRA Annual Conference, Las Vegas. Golden Nugget Hotel. Sponsored by Nevada Water Resources Association. For info: NVWRA, 775/ 473-5473 or website: www.nvwra.org/